TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT: City of Star Harbor

PERMIT NUMBER: New Permit

Indicate if each of the following items is included in your application.

	Y	N
Administrative Report 1.0	☒	☐
Administrative Report 1.1	☒	☐
SPIF	☐	☐
Core Data Form	☒	☐
Technical Report 1.0	☒	☐
Technical Report 1.1	☒	☐
Worksheet 2.0	☐	☐
Worksheet 2.1	☐	☐
Worksheet 3.0	☒	☐
Worksheet 3.1	☒	☐
Worksheet 3.2	☐	☐
Worksheet 3.3	☐	☐
Worksheet 4.0	☐	☐
Worksheet 5.0	☐	☐
Worksheet 6.0	☐	☐
Worksheet 7.0	☐	☐

	Y	N
Original USGS Map	☒	☐
Affected Landowners Map	☒	☐
Landowner Disk or Labels	☒	☐
Buffer Zone Map	☒	☐
Flow Diagram	☒	☐
Site Drawing	☒	☐
Original Photographs	☒	☐
Design Calculations	☒	☐
Solids Management Plan	☒	☐
Water Balance	☒	☐

For TCEQ Use Only

Segment Number _____ County _____
Expiration Date _____ Region _____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

APPLICATION FOR A DOMESTIC WASTEWATER PERMIT ADMINISTRATIVE REPORT 1.0

If you have questions about completing this form please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 29)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	$350.00 ☐	$315.00 ☐
≥0.05 but <0.10 MGD	$550.00 ☒	$515.00 ☐
≥0.10 but <0.25 MGD	$850.00 ☐	$815.00 ☐
≥0.25 but <0.50 MGD	$1,250.00 ☐	$1,215.00 ☐
≥0.50 but <1.0 MGD	$1,650.00 ☐	$1,615.00 ☐
≥1.0 MGD	$2,050.00 ☐	$2,015.00 ☐

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed Check/Money Order Number: 11437

Check/Money Order Amount: $550.00

Name Printed on Check: City of Star Harbor - Utility Fund

EPAY Voucher Number:

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 29)

☐ New TPDES

☐ Major Amendment *with* Renewal

☐ Major Amendment *without* Renewal

☐ Renewal without changes

☒ New TLAP

☐ Minor Amendment *with* Renewal

☐ Minor Amendment *without* Renewal

☐ Minor Modification of permit

For amendments or modifications, describe the proposed changes:

For existing permits:

Permit Number: WQ00

EPA I.D. (TPDES only): TX

Expiration Date:

Section 3. Facility Owner (Applicant) and Co-Applicant Information (Instructions Page 29)

A. The owner of the facility must apply for the permit.

What is the Legal Name of the entity (applicant) applying for this permit?

City of Star Harbor

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/

CN: 600631246

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44.*

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

B. Co-applicant information. Complete this section only if another person or entity is required to apply as a co-permittee.

What is the Legal Name of the co-applicant applying for this permit?

Not applicable

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN:

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44.*

Prefix (Mr., Ms., Miss):

First and Last Name:

Credential (P.E, P.G., Ph.D., etc.):

Title:

Provide a brief description of the need for a co-permittee:

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0.

Attachment: 1

Section 4. Application Contact Information (Instructions Page 30)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

Check one or both: ☒ Administrative Contact ☐ Technical Contact

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Glenn Breisch

Credential (P.E, P.G., Ph.D., etc.): Professional Engineer

Title:

Organization Name: Wasteline Engineering, Inc.

Mailing Address: 208 South Front Street

City, State, Zip Code: Aledo, TX 76008

Phone No.: 817-441-1300 Ext.: Fax No.: 817-441-1033

E-mail Address: gbreisch@wasteline-eng.com

Check one or both: ☐ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 30)

Provide two names of individuals that can be contacted throughout the permit term.

A. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Glenn Breisch

Credential (P.E, P.G., Ph.D., etc.): Professional Engineer

Title:

Organization Name: Wasteline Engineering, Inc.

Mailing Address: 208 South Front Street

City, State, Zip Code: Aledo, TX 76008

Phone No.: 817-441-1300 Ext.: Fax No.: 817-441-1033

E-mail Address: gbreisch@wasteline-eng.com

Section 6. Billing Information (Instructions Page 30)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

Section 7. DMR/MER Contact Information (Instructions Page 31)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (EPA 3320-1) or maintain Monthly Effluent Reports.

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Tommy Posey

Credential (P.E, P.G., Ph.D., etc.):

Title: Utility Director

Organization Name: City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

DMR data is required to be submitted electronically. Create an account at: https://www.tceq.texas.gov/permitting/netdmr/netdmr.html.

Section 8. Public Notice Information (Instructions Page 31)

A. Individual Publishing the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address

☐ Fax

☒ Regular Mail

C. Contact person to be listed in the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Phone No.: 903-489-0091 Ext.:

E-mail: starharbor@yahoo.com

D. Public Viewing Information

If the facility or outfall is located in more than one county, a public viewing place for each county must be provided.

Public building name: Star Harbor City Hall

Location within the building: Front Desk

Physical Address of Building: 99 Sunset Boulevard

City: Malakoff County: Henderson

Contact Name: Warren Claxton

Phone No.: 903-489-0091 Ext.:

E. Bilingual Notice Requirements:

This information **is required** for **new, major amendment, and renewal applications.** It is not required for minor amendment or minor modification applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☐ Yes ☒ No

   If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?

   ☐ Yes ☒ No

3. Do the students at these schools attend a bilingual education program at another location?

   ☐ Yes ☒ No

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☒ No

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program?

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 33)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN**

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

Star Harbor WWTP

C. Owner of treatment facility: City of Star Harbor

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix (Mr., Ms., Miss):

First and Last Name: Tarrant Regional Water District

Mailing Address: 804 East Northside Drive

City, State, Zip Code: Fort Worth, TX 76102

Phone No.: 817-720-4324 E-mail Address: rick.carroll@trwd.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: 2

E. Owner of effluent disposal site:

Prefix (Mr., Ms., Miss):

First and Last Name:

Mailing Address:

City, State, Zip Code:

Phone No.: E-mail Address:

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment:

F. Owner of sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant):

Prefix (Mr., Ms., Miss):

First and Last Name:

Mailing Address:

City, State, Zip Code:

Phone No.: E-mail Address:

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment:

Section 10. TPDES Discharge Information (Instructions Page 34)

A. Is the wastewater treatment facility location in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new permit application**, please give an accurate description:

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

City nearest the outfall(s):

County in which the outfalls(s) is/are located:

Outfall Latitude: Longitude:

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☐ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment:

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge.

Section 11. TLAP Disposal Information (Instructions Page 36)

A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☒ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

The wastewater treatment facility will be located 3,050 feet west of the intersection of Briarwood and FM3062, northwest of the City of Malakoff and 3,500 feet south of the intersection of FM 3062 and Jupiter Road in Star Harbor in Henderson County.

B. City nearest the disposal site: Star Harbor

C. County in which the disposal site is located: Henderson

D. Disposal Site Latitude: 32°11'40.08"N Longitude: 96° 3'25.10"W

E. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

The effluent will be piped from the treatment facility to a holding pond via six inch pipe. From there, the effluent will be piped north via six inch pipe along Farm to Market 3062 until it reaches the Star Harbor Golf Course to be applied by spray irrigation.

F. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained:

The potential rainfall runoff would flow into Cedar Creek Lake.

Section 12. Miscellaneous Information (Instructions Page 37)

A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☐ Yes ☒ No ☐ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application:

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Amount past due:

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Amount past due:

Section 13. Attachments (Instructions Page 38)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☒ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☒ Original full-size USGS Topographic Map with the following information:

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)

- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☒ Attachment 1 for Individuals as co-applicants

☐ Other Attachments. Please specify:

Section 14. Signature Page (Instructions Page 39)

If co-applicants are necessary, each entity must submit an original, separate signature ***page.***

Permit Number: New Permit

Applicant: City of Star Harbor

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that I am authorized under 30 Texas Administrative Code § 305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory name (typed or printed): Warren Claxton

Signatory title: Mayor

Signature: Warren Claxton, Mayor Date: 6/22/2021
(Use blue ink)

Subscribed and Sworn to before me by the said Warren Claxton
on this 22nd day of June, 20 21.
My commission expires on the 23rd day of Nov., 20 24.

Adabeth Shumate
Notary Public

ADABETH SHUMATE
Notary ID #7076068
My Commission Expires
November 23, 2024

Henderson
County, Texas

DOMESTIC ADMINISTRATIVE REPORT 1.1

The following information is required for new and amendment applications.

Section 1. Affected Landowner Information (Instructions Page 41)

A. Indicate by a check mark that the landowners map or drawing, with scale, includes the following information, as applicable:

- ☒ The applicant's property boundaries
- ☒ The facility site boundaries within the applicant's property boundaries
- ☒ The distance the buffer zone falls into adjacent properties and the property boundaries of the landowners located within the buffer zone
- ☒ The property boundaries of all landowners surrounding the applicant's property (Note: if the application is a major amendment for a lignite mine, the map must include the property boundaries of all landowners adjacent to the new facility (ponds).)
- ☐ The point(s) of discharge and highlighted discharge route(s) clearly shown for one mile downstream
- ☐ The property boundaries of the landowners located on both sides of the discharge route for one full stream mile downstream of the point of discharge
- ☐ The property boundaries of the landowners along the watercourse for a one-half mile radius from the point of discharge if the point of discharge is into a lake, bay, estuary, or affected by tides
- ☒ The boundaries of the effluent disposal site (for example, irrigation area or subsurface drainfield site) and all evaporation/holding ponds within the applicant's property
- ☒ The property boundaries of all landowners surrounding the effluent disposal site
- ☐ The boundaries of the sludge land application site (for land application of sewage sludge for beneficial use) and the property boundaries of landowners surrounding the applicant's property boundaries where the sewage sludge land application site is located
- ☐ The property boundaries of landowners within one-half mile in all directions from the applicant's property boundaries where the sewage sludge disposal site (for example, sludge surface disposal site or sludge monofill) is located

B. ☒ Indicate by a check mark that a separate list with the landowners' names and mailing addresses cross-referenced to the landowner's map has been provided.

C. Indicate by a check mark in which format the landowners list is submitted:

☐ Readable/Writeable CD ☒ Four sets of labels

D. Provide the source of the landowners' names and mailing addresses:
http://iswdatacorp.azurewebsites.net/

E. As required by *Texas Water Code § 5.115*, is any permanent school fund land affected by this application?

☐ Yes ☒ No

If **yes**, provide the location and foreseeable impacts and effects this application has on the land(s):

Section 2. Original Photographs (Instructions Page 44)

Provide original ground level photographs. Indicate with checkmarks that the following information is provided.

- ☒ At least one original photograph of the new or expanded treatment unit location
- ☐ At least two photographs of the existing/proposed point of discharge and as much area downstream (photo 1) and upstream (photo 2) as can be captured. If the discharge is to an open water body (e.g., lake, bay), the point of discharge should be in the right or left edge of each photograph showing the open water and with as much area on each respective side of the discharge as can be captured.
- ☒ At least one photograph of the existing/proposed effluent disposal site
- ☒ A plot plan or map showing the location and direction of each photograph

Section 3. Buffer Zone Map (Instructions Page 44)

A. Buffer zone map. Provide a buffer zone map on 8.5 x 11-inch paper with all of the following information. The applicant's property line and the buffer zone line may be distinguished by using dashes or symbols and appropriate labels.

- The applicant's property boundary;
- The required buffer zone; and
- Each treatment unit; and
- The distance from each treatment unit to the property boundaries.

B. Buffer zone compliance method. Indicate how the buffer zone requirements will be met. Check all that apply.

- ☒ Ownership
- ☐ Restrictive easement
- ☐ Nuisance odor control
- ☐ Variance

C. Unsuitable site characteristics. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC § 309.13(a) through (d)?

☒ Yes ☐ No

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION

DOMESTIC TECHNICAL REPORT 1.0

The Following Is Required For All Applications

Renewal, New, And Amendment

Section 1. Permitted or Proposed Flows (Instructions Page 51)

A. Existing/Interim I Phase

Design Flow (MGD):

2-Hr Peak Flow (MGD):

Estimated construction start date:

Estimated waste disposal start date:

B. Interim II Phase

Design Flow (MGD):

2-Hr Peak Flow (MGD):

Estimated construction start date:

Estimated waste disposal start date:

C. Final Phase

Design Flow (MGD): 0.060

2-Hr Peak Flow (MGD): 0.240

Estimated construction start date: January 1st, 2021

Estimated waste disposal start date: July 1st, 2021

D. Current operating phase: Not applicable

Provide the startup date of the facility: Not applicable

Section 2. Treatment Process (Instructions Page 51)

A. Treatment process description

Provide a detailed description of the treatment process. **Include the type of**

treatment plant, mode of operation, and all treatment units. Start with the plant's head works and finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed in the permit, a description of *each phase* must be provided.** Process description:

This is an extended aeration wastewater plant. This plant consists of an aeration basin, clarifier, chlorinator, aerobic digester, and pump tank. The treated effluent will be piped to Star Harbor Golf Course to be used for irrigation purposes.

Port or pipe diameter at the discharge point, in inches: Six

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) **of each treatment unit, accounting for *all* phases of operation.**

Table 1.0(1) – Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Please see attachment	7	for treatment units.

C. Process flow diagrams

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: 8

Section 3. Site Drawing (Instructions Page 52)

Provide a site drawing for the facility that shows the following:

- The boundaries of the treatment facility;
- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and
- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: 9

Provide the name and a description of the area served by the treatment facility.

The treatment facility will be serving the City of Star Harbor.

Section 4. Unbuilt Phases (Instructions Page 52)

Is the application for a renewal of a permit that contains an unbuilt phase or phases?

Yes ☐ No ☒

If yes, does the existing permit contain a phase that has not been constructed within five years of being authorized by the TCEQ?

Yes ☐ No ☐

If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases.

Section 5. Closure Plans (Instructions Page 53)

Have any treatment units been taken out of service permanently, or will any units be taken out of service in the next five years?

Yes ☐ No ☒

If yes, was a closure plan submitted to the TCEQ?

Yes ☐ No ☐

If yes, provide a brief description of the closure and the date of plan approval.

Section 6. Permit Specific Requirements (Instructions Page 53)

For applicants with an existing permit, check the *Other Requirements* or *Special Provisions* of the permit.

A. Summary transmittal

Have plans and specifications been approved for the existing facilities and each proposed phase?

Yes ☒ No ☐

If yes, provide the date(s) of approval for each phase: The summary transmittal letter is currently under review.

Provide information, including dates, on any actions taken to meet a requirement or provision pertaining to the submission of a summary transmittal letter. Provide a copy of an approval letter from the TCEQ, if applicable.

B. Buffer zones

Have the buffer zone requirements been met?

Yes ☒ No ☐

Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation

relevant to maintaining the buffer zones.

There are no further actions necessary to maintain buffer zone requirements.

C. Other actions required by the current permit

Does the *Other Requirements* or *Special Provisions* section in the existing permit require submission of any other information or other required actions? Examples include Notification of Completion, progress reports, soil monitoring data, etc.

Yes ☐ No ☒

If yes, provide information below on the status of any actions taken to meet the conditions of an *Other Requirement* or *Special Provision.*

D. Grit and grease treatment

1. Acceptance of grit and grease waste

Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?

Yes ☐ No ☒

If No, stop here and continue with Subsection E. Stormwater Management.

2. Grit and grease processing

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.

3. Grit disposal

Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?

Yes ☐ No ☐

If No, contact the TCEQ Municipal Solid Waste team at 512-239-0000. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

4. Grease and decanted liquid disposal

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-0000.

Describe how the decant and grease are treated and disposed of after grit separation.

E. Stormwater management

1. Applicability

Does the facility have a design flow of 1.0 MGD or greater in any phase?

Yes ☐ No ☒

Does the facility have an approved pretreatment program, under 40 CFR Part 403?

Yes ☐ No ☒

If no to both of the above, then skip to Subsection F, Other Wastes Received.

2. MSGP coverage

Is the stormwater runoff from the WWTP and dedicated lands for sewage disposal currently permitted under the TPDES Multi-Sector General Permit (MSGP), TXR050000?

Yes ☐ No ☐

If yes, please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:

TXR05 or TXRNE

If no, do you intend to seek coverage under TXR050000?

Yes ☐ No ☐

3. Conditional exclusion

Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?

Yes ☐ No ☐

If yes, please explain below then proceed to Subsection F, Other Wastes Received:

4. Existing coverage in individual permit

Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?

Yes ☐ No ☐

If yes, provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.

5. Zero stormwater discharge

Do you intend to have no discharge of stormwater via use of evaporation or other means?

Yes ☐ No ☐

If yes, explain below then skip to Subsection F. Other Wastes Received.

Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.

6. Request for coverage in individual permit

Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?

Yes ☐ No ☐

If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?
Yes ☐ No ☐

If yes, a Sewage Sludge Solids Management Plan is required. See Example 5 in the instructions.

G. Other wastes received including sludge from other WWTPs and septic waste

1. Acceptance of sludge from other WWTPs

Does the facility accept or will it accept sludge from other treatment plants at the facility site?
Yes ☐ No ☒

If yes, attach sewage sludge solids management plan. See Example 5 of the instructions.

In addition, provide the date that the plant started accepting sludge or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

2. Acceptance of septic waste

Is the facility accepting or will it accept septic waste?

Yes ☐ No ☒

If yes, does the facility have a Type V processing unit?

Yes ☐ No ☐

If yes, does the unit have a Municipal Solid Waste permit?

Yes ☐ No ☐

If yes to any of the above, provide a the date that the plant started accepting septic waste, or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the septic waste, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

3. Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)

Is the facility accepting or will it accept wastes that are not domestic in nature excluding the categories listed above?

Yes ☐ No ☒

If yes, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 58)

Is the facility in operation?

Yes ☐ No ☒

If no, this section is not applicable. Proceed to Section 8.

If yes, provide effluent analysis data for the listed pollutants. ***Wastewater treatment facilities*** complete Table 1.0(2). ***Water treatment facilities*** discharging filter backwash water, complete Table 1.0(3).

Note: The sample date must be within 1 year of application submission.

Table 1.0(2) - Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
$CBOD_5$, mg/l					
Total Suspended Solids, mg/l					
Ammonia Nitrogen, mg/l					
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l					
pH, standard units					
Dissolved Oxygen*, mg/l					
Chlorine Residual, mg/l					
E.coli (CFU/100ml) freshwater					
Entercocci (CFU/100ml)					

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
saltwater					
Total Dissolved Solids, mg/l					
Electrical Conductivity, µmohs/cm, †					
Oil & Grease, mg/l					
Alkalinity ($CaCO_3$)*, mg/l					

*TPDES permits only

†TLAP permits only

Table 1.0(3) - Pollutant Analysis for Water Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity ($CaCO_3$), mg/l					

Section 8. Facility Operator (Instructions Page 60)

Facility Operator Name: Tommy Posey

Facility Operator's License Classification and Level: Classification C

Facility Operator's License Number: WW0031467

Section 9. Sewage Sludge Management and Disposal (Instructions Page 60)

A. Sludge disposal method

Identify the current or anticipated sludge disposal method or methods from the

following list. Check all that apply.

- ☐ Permitted landfill
- ☐ Permitted or Registered land application site for beneficial use
- ☐ Land application for beneficial use authorized in the wastewater permit
- ☐ Permitted sludge processing facility
- ☐ Marketing and distribution as authorized in the wastewater permit
- ☐ Composting as authorized in the wastewater permit
- ☐ Permitted surface disposal site (sludge monofill)
- ☐ Surface disposal site (sludge monofill) authorized in the wastewater permit
- ☒ Transported to another permitted wastewater treatment plant or permitted sludge processing facility. If you selected this method, a written statement or contractual agreement from the wastewater treatment plant or permitted sludge processing facility accepting the sludge must be included with this application.
- ☐ Other:

B. Sludge disposal site

Disposal site name: City of Log Cabin WWTP

TCEQ permit or registration number: WQ0014158001

County where disposal site is located: Henderson

C. Sludge transportation method

Method of transportation (truck, train, pipe, other): Truck

Name of the hauler: Spanky's Septic

Hauler registration number:

Sludge is transported as a:

Liquid ☒ semi-liquid ☐ semi-solid ☐ solid ☐

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 60)

A. Beneficial use authorization

Does the existing permit include authorization for land application of sewage sludge for beneficial use?

Yes ☐ No ☒

If yes, are you requesting to continue this authorization to land apply sewage sludge for beneficial use?

Yes ☐ No ☐

If yes, is the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)** attached to this permit application (see the instructions for details)?

Yes ☐ No ☐

B. Sludge processing authorization

Does the existing permit include authorization for any of the following sludge processing, storage or disposal options?

Sludge Composting	Yes ☐	No ☒
Marketing and Distribution of sludge	Yes ☐	No ☒
Sludge Surface Disposal or Sludge Monofill	Yes ☐	No ☒
Temporary storage in sludge lagoons	Yes ☐	No ☒

If yes to any of the above sludge options and the applicant is requesting to continue this authorization, is the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)** attached to this permit application?

Yes ☐ No ☐

Section 11. Sewage Sludge Lagoons (Instructions Page 61)

Does this facility include sewage sludge lagoons?

Yes ☐ No ☒

If yes, complete the remainder of this section. If no, proceed to Section 12.

A. Location information

The following maps are required to be submitted as part of the application. For each map, provide the Attachment Number.

- Original General Highway (County) Map:

  Attachment:
- USDA Natural Resources Conservation Service Soil Map:

  Attachment:
- Federal Emergency Management Map:

  Attachment:
- Site map:

  Attachment:

Discuss in a description if any of the following exist within the lagoon area. Check all that apply.

- ☐ Overlap a designated 100-year frequency flood plain
- ☐ Soils with flooding classification
- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment:

If a portion of the lagoon(s) is located within the 100-year frequency flood plain, provide the protective measures to be utilized including type and size of protective structures:

B. Temporary storage information

Provide the results for the pollutant screening of sludge lagoons. These results are in addition to pollutant results in Section 7 of Technical Report 1.0.

Nitrate Nitrogen, mg/kg:

Total Kjeldahl Nitrogen, mg/kg:

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg:

Phosphorus, mg/kg:

Potassium, mg/kg:

pH, standard units:

Ammonia Nitrogen mg/kg:

Arsenic:

Cadmium:

Chromium:

Copper:

Lead:

Mercury:

Molybdenum:

Nickel:

Selenium:

Zinc:

Total PCBs:

Provide the following information:

Volume and frequency of sludge to the lagoon(s):

Total dry tons stored in the lagoons(s) per 365-day period:

Total dry tons stored in the lagoons(s) over the life of the unit:

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec?

Yes ☐ No ☐

If yes, describe the liner below. Please note that a liner is required.

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the

lagoon(s):

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)

  Attachment:
- Copy of the closure plan

  Attachment:
- Copy of deed recordation for the site

  Attachment:
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment:
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment:
- Procedures to prevent the occurrence of nuisance conditions

  Attachment:

E. Groundwater monitoring

Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)?

Yes ☐ No ☐

If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment.

Attachment:

Section 12. Authorizations/Compliance/Enforcement

(Instructions Page 63)

A. Additional authorizations

Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc?

Yes ☐ No ☒

If yes, provide the TCEQ authorization number and description of the authorization:

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

Yes ☐ No ☒

Is the permittee required to meet an implementation schedule for compliance or enforcement?

Yes ☐ No ☒

If yes to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:

Section 13. RCRA/CERCLA Wastes (Instructions Page 63)

A. RCRA hazardous wastes

Has the facility received in the past three years, does it currently receive, or will it receive RCRA hazardous waste?

Yes ☐ No ☐

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

Yes ☐ No ☒

C. Details about wastes received

If yes to either Subsection A or B above, provide detailed information concerning these wastes with the application.

Attachment:

Section 14. Laboratory Accreditation (Instructions Page 64)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements:

- The laboratory is an in-house laboratory and is:
  - periodically inspected by the TCEQ; or
  - located in another state and is accredited or inspected by that state; or
  - performing work for another company with a unit located in the same site; or
  - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

The applicant should review *30 TAC Chapter 25* for specific requirements.

The following certification statement shall be signed and submitted with every application. See the *Signature Page* section in the Instructions, for a list of designated representatives who may sign the certification.

CERTIFICATION:

I certify that all laboratory tests submitted with this application meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.*

Printed Name: Warren Claxton

Title: Mayor

Signature: Warren Claxton

Date: 6/22/2021

DOMESTIC TECHNICAL REPORT 1.1

The following is required for new and amendment applications

Section 1. Justification for Permit (Instructions Page 66)

A. Justification of permit need

Provide a detailed discussion regarding the need for any phase(s) not currently permitted. Failure to provide sufficient justification may result in the Executive Director recommending denial of the proposed phase(s) or permit.

The City of Star Harbor is currently connected to the City of Malakoff's sewer system. The City of Malakoff has requested to discontinue sewer services, which requires the City of Star Harbor to operate independently. Phase I is requesting a flow of 60,000 gallons per day (gpd). The City of Star Harbor has 349 existing connections with an average flow of 130 gpd. These 349 existing connections generate 45,370 gpd. Keeping with the TCEQ 75-90 rule, a 60,000 gpd flow has been requested.

B. Regionalization of facilities

Provide the following information concerning the potential for regionalization of domestic wastewater treatment facilities:

1. Municipally incorporated areas

If the applicant is a city, then Item 1 is not applicable. Proceed to Item 2 Utility CCN areas.

Is any portion of the proposed service area located in an incorporated city?

Yes ☐ No ☐ Not Applicable ☐

If yes, within the city limits of:

If yes, attach correspondence from the city.

Attachment:

If consent to provide service is available from the city, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the city versus the cost of the proposed facility or expansion attached.

Attachment:

2. Utility CCN areas

Is any portion of the proposed service area located inside another utility's CCN area?

Yes ☐ No ☒

If yes, attach a justification for the proposed facility and a cost analysis of expenditures that includes the cost of connecting to the CCN facilities versus the cost of the proposed facility or expansion.

Attachment:

3. Nearby WWTPs or collection systems

Are there any domestic permitted wastewater treatment facilities or collection systems located within a three-mile radius of the proposed facility?

Yes ☒ No ☐

If yes, attach a list of these facilities that includes the permittee's name and permit number, and an area map showing the location of these facilities.

Attachment: 10

If yes, attach copies of your certified letters to these facilities **and** their response letters concerning connection with their system.

Attachment: 11

Does a permitted domestic wastewater treatment facility or a collection system located within three (3) miles of the proposed facility currently have the capacity to accept or is willing to expand to accept the volume of wastewater proposed in this application?

Yes ☐ No ☒

If yes, attach an analysis of expenditures required to connect to a permitted wastewater treatment facility or collection system located within 3 miles versus the cost of the proposed facility or expansion.

Attachment:

Section 2. Organic Loading (Instructions Page 67)

Is this facility in operation?

Yes ☐ No ☒

If no, proceed to Item B, Proposed Organic Loading.

If yes, provide organic loading information in Item A, Current Organic Loading

A. Current organic loading

Facility Design Flow (flow being requested in application):

Average Influent Organic Strength or BOD_5 Concentration in mg/l:

Average Influent Loading (lbs/day = total average flow X average BOD_5 conc. X 8.34):

Provide the source of the average organic strength or BOD_5 concentration.

B. Proposed organic loading

This table must be completed if this application is for a facility that is not in operation or if this application is to request an increased flow that will impact organic loading.

Table 1.1(1) - Design Organic Loading

Source	Total Average Flow (MGD)	Influent BOD_5 Concentration (mg/l)
Municipality	0.060	200
Subdivision		
Trailer park - transient		
Mobile home park		
School with cafeteria and showers		
School with cafeteria,		

Source	Total Average Flow (MGD)	Influent BOD_5 Concentration (mg/l)
no showers		
Recreational park, overnight use		
Recreational park, day use		
Office building or factory		
Motel		
Restaurant		
Hospital		
Nursing home		
Other		
TOTAL FLOW from all sources	0.060	
AVERAGE BOD_5 from all sources		200

Section 3. Proposed Effluent Quality and Disinfection (Instructions Page 68)

A. Existing/Interim I Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l:

Total Suspended Solids, mg/l:

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l:

Other:

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l:

Total Suspended Solids, mg/l:

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l:

Other:

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 200

Total Suspended Solids, mg/l: 190

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l:

Other:

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: 1-4 mg/l after twenty minutes detention time at peak flow

Dechlorination process:

☐ Ultraviolet Light: seconds contact time at peak flow

☐ Other:

Section 4. Design Calculations (Instructions Page 68)

Attach design calculations and plant features for each proposed phase. Example 4 of the instructions includes sample design calculations and plant features.

Attachment: 12

Section 5. Facility Site (Instructions Page 68)

A. 100-year floodplain

Will the proposed facilities be located above the 100-year frequency flood level?

Yes ☒ No ☐

If no, describe measures used to protect the facility during a flood event. Include a site map showing the location of the treatment plant within the 100-year frequency flood level. If applicable, provide the size and types of protective structures.

Provide the source(s) used to determine 100-year frequency flood plain.

FEMA FIRM 48213C0300E

For a new or expansion of a facility, will a wetland or part of a wetland be filled?

Yes ☐ No ☒

If yes, has the applicant applied for a US Corps of Engineers 404 Dredge and Fill Permit?

Yes ☐ No ☐

If yes, provide the permit number:

If no, provide the approximate date you anticipate submitting your application to the Corps:

B. Wind rose

Attach a wind rose. **Attachment**: 13

Section 6. Permit Authorization for Sewage Sludge Disposal (Instructions Page 69)

A. Beneficial use authorization

Are you requesting to include authorization to land apply sewage sludge for beneficial use on property located adjacent to the wastewater treatment facility under the wastewater permit?

Yes ☐ No ☒

If yes, attach the completed Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)

Attachment:

B. Sludge processing authorization

Identify the sludge processing, storage or disposal options that will be conducted at the wastewater treatment facility:

☐ Sludge Composting

☐ Marketing and Distribution of sludge

☐ Sludge Surface Disposal or Sludge Monofill

If any of the above sludge options are selected, attach a completed DOMESTIC WASTEWATER PERMIT APPLICATION: SEWAGE SLUDGE TECHNICAL REPORT (TCEQ Form No. 10056).

Attachment:

Section 7. Sewage Sludge Solids Management Plan (Instructions Page 69)

Attach a solids management plan to the application.

Attachment: 14

The sewage sludge solids management plan must contain the following information:

- Treatment units and processes dimensions and capacities
- Solids generated at 100, 75, 50, and 25 percent of design flow
- Mixed liquor suspended solids operating range at design and projected actual flow
- Quantity of solids to be removed and a schedule for solids removal
- Identification and ownership of the ultimate sludge disposal site
- For facultative lagoons, design life calculations, monitoring well locations and depths, and the ultimate disposal method for the sludge from the facultative lagoon

An example of a sewage sludge solids management plan has been included as Example 5 of the instructions.

DOMESTIC WORKSHEET 3.0

LAND DISPOSAL OF EFFLUENT

The following is required for all permit applications

Renewal, New, and Amendments

Section 1. Type of Disposal System (Instructions Page 77)

Identify the method of land disposal:

- ☐ Surface application
- ☒ Irrigation
- ☐ Drip irrigation system
- ☐ Evaporation
- ☐ Evapotranspiration beds
- ☐ Other (describe in detail):
- ☐ Subsurface application
- ☐ Subsurface soils absorption
- ☐ Subsurface area drip dispersal system

NOTE: All applicants without authorization or proposing new/amended subsurface disposal MUST complete and submit Worksheet 7.0.

For existing authorizations, provide Registration Number:

Section 2. Land Application Site(s) (Instructions Page 77)

In table 3.0(1), provide the requested information for the land application sites. Include the agricultural or cover crop type (wheat, cotton, alfalfa, bermuda grass, native grasses, etc.), land use (golf course, hayland, pastureland, park, row crop, etc.), irrigation area, amount of effluent applied, and whether or not the public has access to the area. Specify the amount of land area and the amount of effluent that will be allotted to each agricultural or cover crop, if more than one crop will be used.

Table 3.0(1) - Land Application Site Crops

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N
Bermuda	22	60,000	Y

Crop Type & Land Use	Irrigation Area (acres)	Effluent Application (GPD)	Public Access? Y/N

Section 3. Storage and Evaporation Lagoons/Ponds (Instructions Page 77)

Table 3.0(2) - Storage and Evaporation Ponds

Pond Number	Surface Area (acres)	Storage Volume (acre-feet)	Dimensions	Liner Type
1	3	6	335 x 400	Synthetic

Attach a copy of a liner certification that was prepared, signed, and sealed by a Texas licensed professional engineer for each pond.

Attachment: Not yet constructed

Section 4. Flood and Runoff Protection (Instructions Page 77)

Is the land application site within the 100-year frequency flood level?

Yes ☐ No ☒

If yes, describe how the site will be protected from inundation.

Provide the source used to determine the 100-year frequency flood level:

FEMA FIRM 48213C0300E

Provide a description of tailwater controls and rainfall run-on controls used for the land application site.

There shall be a 6-inch-high by 12-inch-wide earthen berm constructed around the perimeter of the application site to prevent potential runoff of applied effluent.

Section 5. Annual Cropping Plan (Instructions Page 77)

Attach an Annual Cropping Plan which includes a discussion of each of the following items. If not applicable, provide a detailed explanation indicating why.

Attachment: 15

- Soils map with crops
- Cool and warm season plant species
- Crop yield goals
- Crop growing season
- Crop nutrient requirements
- Additional fertilizer requirements
- Minimum/maximum harvest height (for grass crops)
- Supplemental watering requirements
- Crop salt tolerances
- Harvesting method/number of harvests
- Justification for not removing existing vegetation to be irrigated

Section 6. Well and Map Information (Instructions Page 78)

Attach a USGS map with the following information shown and labeled. If not applicable, provide a detailed explanation (on a separate page) indicating why.

Attachment: 16

- The boundaries of the land application site(s)

- Waste disposal or treatment facility site(s)
- On-site buildings
- Buffer zones
- Effluent storage and tailwater control facilities
- All water wells within 1 mile of the disposal site or property boundaries
- All springs and seeps onsite and within 500 feet of the property boundaries
- All surface waters in the state onsite and within 500 feet of the property boundaries
- All faults and sinkholes onsite and within 500 feet of the property

List and cross reference all water wells shown on the USGS map in the following table. Attach additional pages as necessary to include all of the wells.

Table 3.0(3) - Water Well Data

Well ID	Well Use	Producing? Y/N	Open, cased, capped, or plugged?	Proposed Best Management Practice
Please	See		Choose an item.	Attachment 16
			Choose an item.	
			Choose an item.	
			Choose an item.	
			Choose an item.	

If water quality data or well log information is available please include the information in an attachment listed by Well ID.

Attachment: 17

Section 7. Groundwater Quality (Instructions Page 79)

Attach a Groundwater Quality Technical Report which assesses the impact of the wastewater disposal system on groundwater. This report shall include an evaluation of the water wells (including the information in the well table

provided in Item 6. above), the wastewater application rate, and pond liners. Indicate by a check mark that this report is provided.

Attachment: 18

Are groundwater monitoring wells available onsite? Yes ☐ No ☒

Do you plan to install ground water monitoring wells or lysimeters around the land application site? Yes ☐ No ☒

If yes, then provide the proposed location of the monitoring wells or lysimeters on a site map.

Attachment:

Section 8. Soil Map and Soil Analyses (Instructions Page 79)

A. Soil map

Attach a USDA Soil Survey map that shows the area to be used for effluent disposal.

Attachment: 19

B. Soil analyses

Attach the laboratory results sheets from the soil analyses. **Note:** for renewal applications, the current annual soil analyses required by the permit are acceptable as long as the test date is less than one year prior to the submission of the application.

Attachment:

List all USDA designated soil series on the proposed land application site. Attach additional pages as necessary.

Table 3.0(4) - Soil Data

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number

Soil Series	Depth from Surface	Permeability	Available Water Capacity	Curve Number

Section 9. Effluent Monitoring Data (Instructions Page 80)

Is the facility in operation?

Yes ☐ No ☒

If no, this section is not applicable and the worksheet is complete.

If yes, provide the effluent monitoring data for the parameters regulated in the existing permit. If a parameter is not regulated in the existing permit, enter N/A.

Table 3.0(5) - Effluent Monitoring Data

Date	30 Day Avg Flow MGD	BOD_5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated

Date	30 Day Avg Flow MGD	BOD_5 mg/l	TSS mg/l	pH	Chlorine Residual mg/l	Acres irrigated

Provide a discussion of all persistent excursions above the permitted limits and any corrective actions taken.

DOMESTIC WORKSHEET 3.1

SURFACE LAND DISPOSAL OF EFFLUENT

The following is required for new and major amendment applications. Renewal and minor amendments applicants may be asked for the worksheet on a case by case basis.

Section 1. Surface Disposal (Instructions Page 81)

Complete the item that applies for the method of disposal being used.

A. Irrigation

Area under irrigation, in acres: 22

Design application frequency:

hours/day 1 **And** days/week 3

Land grade (slope):

average percent (%):≤1

maximum percent (%):2

Design application rate in acre-feet/acre/year: 3

Design total nitrogen loading rate, in lbs N/acre/year: 240

Soil conductivity (mmhos/cm): 10.0

Method of application: Spray

Attach a separate engineering report with the water balance and storage volume calculations, method of application, irrigation efficiency, and nitrogen balance.

Attachment: 20

B. Evaporation ponds

Daily average effluent flow into ponds, in gallons per day: 60,000

Attach a separate engineering report with the water balance and storage volume calculations.

Attachment:

C. Evapotranspiration beds

Number of beds:

Area of bed(s), in acres:

Depth of bed(s), in feet:

Void ratio of soil in the beds:

Storage volume within the beds, in acre-feet:

Attach a separate engineering report with the water balance and storage volume calculations, and a description of the lining.

Attachment:

D. Overland flow

Area used for application, in acres:

Slopes for application area, percent (%):

Design application rate, in gpm/foot of slope width:

Slope length, in feet:

Design BOD_5 loading rate, in lbs BOD_5/acre/day:

Design application frequency:

hours/day: **And** days/week:

Attach a separate engineering report with the method of application and design requirements according to *30 TAC Chapter 217*.

Attachment:

Section 2. Edwards Aquifer (Instructions Page 82)

Is the facility subject to *30 TAC Chapter 213*, Edwards Aquifer Rules?

Yes ☐ No ☒

If yes, attach a report concerning the recharge zone.

Attachment:

WASTELINE ENGINEERING, INC.

Attachment Index

WASTELINE ENGINEERING, INC.

Attachment 1 – Core Data Form - 10400

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600631246		RN

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	7/1/2021

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
City of Star Harbor	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
		75-1427199	617045687

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	13. Independently Owned and Operated?
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:	99 Sunset Boulevard							
	City	Malakoff	State	TX	ZIP	75148	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	starharbor@yahoo.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(903) 489-0091		(903) 489-2105

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Star Harbor WWTP

STAR HARBOR PERMIT APPLICATION 054

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County								

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The wastewater treatment facility will be located 3,050 feet west of the intersection of Briarwood and FM3062 in The City of Malakoff.

26. Nearest City	State	Nearest ZIP Code
Malakoff	TX	75148

27. Latitude (N) In Decimal:	32.177622		28. Longitude (W) In Decimal:	-96.052836	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
4952		221320	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

34. Mailing Address:	99 Sunset Boulevard							
	City	Malakoff	State	TX	ZIP	75148	ZIP + 4	

35. E-Mail Address:	starharbor@yahoo.com

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(903) 489-91		(903) 489-2105

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	New Permit			

SECTION IV: Preparer Information

40. Name:	Jeremy Face	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 441-1300		(817) 441-1033	jface@wasteline-eng.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	The City of Star Harbor	Job Title:	Mayor	
Name *(In Print)*:	Warren Claxton		Phone:	(903) 489- 91
Signature:	Warren Claxton		Date:	6/22/2021

Attachment 2 – Lease Agreement

FIRST AMENDMENT TO MEMORANDUM OF UNDERSTANDING

This First Amendment to Memorandum of Understanding (the "First Amendment") is made and entered into on this 10th day of May, 2021, between Tarrant Regional Water District, a Texas Water Control and Improvement District ("TRWD"), and the City of Star Harbor, Texas, a municipality of the State of Texas ("Star Harbor") (which parties are also sometimes referred to herein individually as a "Party" and collectively as the "Parties").

RECITALS

A. On or about September 8, 2017, TRWD and Star Harbor entered into that certain Memorandum of Understanding (the "Memorandum"), pertaining to Star Harbor's construction and operation of wastewater treatment facilities on property owned by TRWD near Cedar Creek Reservoir.

B. Certain terms and conditions of the Memorandum must be revised and amended to accommodate the construction and operation of the Proposed Facilities.

C. The Parties desire to enter into this First Amendment to memorialize and evidence the Parties' agreement to amend the Memorandum.

D. All capitalized terms not otherwise defined in this Amendment shall have the same meanings as are set forth in the Lease and Concession Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants, agreements, and undertakings herein set forth, the recitals set forth above, which are not recitals only but form an integral part of this First Amendment, and other good and valuable consideration, TRWD and Star Harbor do hereby agree as follows:

1. TCEQ Permitting. Prior to submitting any permit application or draft or proposed permit to the Texas Commission on Environmental Quality for the issuance or amendment of any permit for the construction and/or operation of the Proposed Facilities or any other facility affecting the Proposed Facility Site, including, without limitation, a Pollutant Discharge Elimination System Permit, Star Harbor shall submit such application and/or such draft or proposed permit to TRWD for TRWD's written approval. By giving such approval, TRWD shall not assume any responsibility or liability with respect to such application, proposed or draft permit, or any design or plans relating thereto. The Proposed Facilities be designed, permitted, and constructed in accordance with the following minimum standards:

A. after a two and one-half inches (2.5") rain event (in any twenty-four (24) hour period), no discharge to the irrigation field will be allowed until no rainfall has occurred in a subsequent forty-eight (48) hour period;

B. any holding pond to be constructed on the Proposed Facility Site shall have the capacity to store treated water for 120 days during wet weather conditions with a minimum of a one-foot freeboard; and

C. additional treated water holding capacity will be included on the golf course prior to the operation of the wastewater plant.

2. **Revision of Easement. The Easement Instrument attached to the Memorandum as Exhibit "1" thereto is hereby amended and replaced in its entirety with the Wastewater Treatment Facility Easement Agreement attached hereto as Exhibit "1" and incorporated herein by reference and all referenced to "Easement Instrument" in the Memorandum shall mean and refer to the Wastewater Treatment Facility Easement Agreement attached hereto and incorporated by reference herein. The term "Proposed Facility Site" as used in the Memorandum or this First**

Amendment shall mean and refer to the real property owned by the District and described in the Wastewater Treatment Facility Easement Agreement attached hereto as Exhibit "1."

3. Merger; No Other Amendment. The terms of the Memorandum and this Modification shall survive the execution, delivery, and recording of the Easement Instrument and shall not be merged therein. Except as specifically modified or amended herein, all terms, provisions and requirements of the Memorandum shall remain as written, and as amended from time to time.

4. Counterparts. This First Amendment may be executed in one or more counterparts, and may be exchanged by electronic mail, facsimile, or other electronic means. It is stipulated and agreed that any counterpart containing a signature or electronic or facsimile signature of the authorized representatives of the TRWD and Star Harbor shall be deemed an original for all purposes.

IN WITNESS WHEREOF, the Parties have caused this First Amendment to Memorandum of Understanding to be executed on their behalf by their duly authorized representative.

TRWD:	**STAR HARBOR:**
TARRANT REGIONAL WATER DISTRICT, a Texas Water Control and Improvement District	CITY OF STAR HARBOR, TEXAS, a municipality of the State of Texas
By: _____	By: _____
Name: R. Steve Christian	Name: Warren Clayton
Title: Real Property Director	Title: Mayor

P:\TRWD\Easements\Star Harbor\First Amended MOU 04-28-21-Clean.docx

EXHIBIT "1"

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

WASTEWATER TREATMENT FACILITY EASEMENT AGREEMENT

STATE OF TEXAS §
§ **KNOW ALL MEN BY THESE PRESENTS:**
COUNTY OF HENDERSON §

That **TARRANT REGIONAL WATER DISTRICT**, a Water Control and Improvement District, a body politic and corporate under the laws of the State of Texas (herein called "Grantor"), whose mailing address is P. O. Box 4508, Fort Worth, Texas 76164-0508, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration to Grantor in hand paid by the **CITY OF STAR HARBOR, TEXAS**, a municipality of the State of Texas (herein called "Grantee"), whose mailing address is P.O. Box 949, Malakoff, Texas 75148, the receipt and sufficiency of which are hereby acknowledged, has BARGAINED, GRANTED AND CONVEYED, and by these presents does BARGAIN, GRANT AND CONVEY, unto the said Grantee a non-exclusive easement (the "Easement") on, over, under and across the real property that is described by metes and bounds on Exhibit A and depicted on Exhibit B (the "Land").

The terms and conditions of this Wastewater Treatment Facility Easement Agreement (the "Agreement") are as follows:

1. Easement Only. This Agreement conveys an easement estate only in the Land. Except for the conveyance of easement rights as set out herein, no other interest in the fee estate is being conveyed to Grantee. This means that all other surface and mineral rights owned by Grantor are not included in this grant of the Easement. Notwithstanding the foregoing, and except as relates to any outstanding oil, gas, or other mineral lease in effect on the Effective Date hereof, Grantor waives all rights to use the surface of the Land for the purposes of exploring, developing, mining or drilling for oil, gas and other minerals in, on or under the Land. The foregoing waiver of surface rights shall not be construed to prohibit Grantor from using the surface of any lands, other than the Land, for activities related to the development or production of the oil, gas and other minerals in and under the Land by pooling or directional or horizontal drilling under the Land from well or mine sites located on lands other than the Land but that enter or bottom under the Land.

2. Permitted Use. The Easement is for the purpose of allowing Grantee, at Grantee's sole cost, expense, and risk, to survey, construct, reconstruct, operate, maintain, inspect, alter, repair, replace and relocate within the Land a wastewater treatment plant facility and necessary

appurtenant facilities (collectively, the "Facilities") Grantee may not use the Land for the disposal of treated wastewater or permanent storage of treatment residuals.

3. Approval of Plans. The Facilities authorized hereunder shall be constructed pursuant to plans and specifications (the "Plans") to be submitted to Grantor prior to the commencement of construction thereof. No operations relating to the construction, reconstruction, or replacement of the Facilities shall be commenced until the Plans therefor have been submitted to and approved in writing by Grantor. Grantor, by giving such approval, shall not assume any responsibility or liability with respect to such Plans. Grantor's approval of any Plans is subject to the terms and conditions of that certain Memorandum of Understanding dated September 8, 2017 between Grantor and Grantee, as amended by First Amendment to Memorandum of Understanding dated May 10, 2021.

4. Permits. Grantee shall be responsible for all permits and costs related to initial construction, repair and subsequent maintenance and/or replacement of the Facilities. By its acceptance and recordation hereof, Grantee represents and warrants that it has obtained (or will have obtained prior to the exercise of any rights hereunder) all permits, authorizations, and approvals required by any governmental authority, and shall **release and hold harmless** Grantor, its officers, directors, agents, servants, employees, representatives, affiliates, contractors, subcontractors of any tier, and attorneys, and their respective successors and assigns (hereinafter the "Grantor Released Parties"), from and against any claim, assertion, right, lien, penalty or enforcement action arising from Grantee's breach of the agreements and warranties contained in this Paragraph.

5. Maintenance by Grantee. From and after the date of this Agreement, Grantee shall be solely responsible for the maintenance, including mowing, of the Land and Grantee shall at all times cause the Land, the Facilities, and any improvements constructed thereon to be kept, operated, and maintained in a safe condition and in full compliance with all applicable federal, state, municipal, and other laws, statutes, regulations, ordinances, and orders.

6. Taxes and Assessments. Because Grantee is a municipality and the grant evidenced hereby is limited to Grantee's public purposes, the parties anticipate that the Land shall be exempt from ad valorem or other taxes. However, in the event the Land or Facilities or Grantee's or Grantor's interest therein shall be made subject to any form of taxation or assessment during Grantee's occupancy, use, or ownership thereof, Grantee shall assume and discharge all of such taxes and assessments.

7. Performance of Work. Grantee agrees that all work performed in connection with the rights granted herein to survey, construct, reconstruct, operate, maintain, inspect, alter, repair, replace and relocate the Facilities shall be performed in a good and workmanlike manner, lien-free, and in compliance with all applicable laws, statutes, regulations, ordinances and orders of any governmental authority having jurisdiction over the Land. Grantee shall keep the Land free and clear at all times of all liens of any type.

8. Reservations and Exceptions to Grant. The Easement is expressly made subject to (i) any and all visible and apparent easements and rights-of-way over or across the Land, whether of record or not; (ii) any and all existing restrictions, reservations, covenants, conditions, oil and

gas leases, mineral severances, and other instruments, other than conveyances of the surface fee estate, that affect the Land and are shown of record in Henderson County, Texas; (iii) all reservations, restrictions, covenants, terms and conditions contained herein; (iv) any and all zoning laws, regulations, and ordinances of municipal and other governmental authorities relating to the Land, but only to the extent that they are still in force and effect; (v) the rights of Grantor, the public, and any third-parties to use any roads, drives, or other rights-of-way crossing the Land and Grantor's right to pedestrian and vehicular ingress and egress over, under, through and across the Land as necessary or convenient to Grantor in the exercise of Grantor's public duties or projects, such rights being hereby reserved and excepted from this conveyance, and (vi) the right of Grantor to store and flow water on, in and over the Land, such rights being hereby reserved and excepted from this conveyance (collectively, the "Permitted Exceptions").

9. Term and Automatic Reverter. The term of this Agreement is for five (5) years from the Effective Date (the "Primary Term") unless Grantee has substantially completed the construction of the Facilities before the expiration of the Primary Term, and thereafter diligently completes such construction, and for so long thereafter as Grantee uses the Land for the operation of such Facilities thereon for the treatment of municipal wastewater. Should Grantee fail to substantially complete the construction of the Facilities before the end of the Primary Term, or should Grantee fail to thereafter diligently complete such construction, or should Grantee cease to use the Land for the operation of the Facilities constructed thereon for the treatment of municipal wastewater, for a period of one (1) year after the Primary Term, then the Easement granted herein shall automatically terminate and all rights of Grantee in this Agreement shall cease so that Grantor has all the rights in the Land that it had before the execution of this Agreement.

10. Release of Easement(s). In the event of a termination of the Easement under Paragraph 9, Grantee agrees to execute and deliver to Grantor a document in recordable form releasing Grantee's rights in the Land, but the failure to execute and deliver such a document shall not affect Grantor's ownership of the Land free and clear of any claims, rights, or privileges of Grantee. If Grantee fails or refuses to execute and acknowledge a release in recordable form within thirty (30) days after Grantor's written request therefor, Grantor may execute, acknowledge and record a notice in the Real Property Records of Henderson County, Texas, which will have the force and effect of a release by Grantee. In the event of a termination under Paragraph 9, Grantor will, subject to Paragraph 11 below, acquire title to any and all improvements then located the Land. Grantee's obligation under this Paragraph 10 shall survive termination of the Easement.

11. Removal Upon Termination. In the event of a termination under Paragraph 9, Grantee, upon the request of Grantor, shall, at Grantee's sole cost and expense, remove all Facilities and other improvements and property of Grantee placed by Grantee within the Land, and Grantee shall restore the surface of the Land, and any currently existing improvements thereon, to the same condition as existed on the Effective Date. Grantee's obligation under this Paragraph 11 shall survive termination of the Easement.

12. Background Checks. Upon request of Grantor, Grantee shall perform background checks on all employees, contractors, subcontractors, and third parties retained by Grantee who

access or perform work on the Land and provide copies of such background checks to Grantor. Background checks shall be at the expense of Grantor and shall be performed by a qualified vendor approved by Grantor. In the event a background check discloses information that Grantor, in its sole discretion, deems unsatisfactory, Grantee agrees to immediately cease using said employee, contractor, subcontractor, or third party on the Land.

13. Access to Grantor's Secured Areas. Grantee's officers, directors, and employees may access the portions of the Land located within the boundaries of Grantor's fenced or secured area(s) without advance notice to Grantor if background checks have been performed on such officers, directors, and employees, copies of any reports thereof have been provided to Grantor, and Grantor has not notified Grantee that such background checks were unsatisfactory to Grantor. Prior to any other officer, director, employee, or agent of Grantee accessing any portion of the Land located within the boundaries of Grantor's fenced or secured area(s), Grantee shall, except in an emergency, provide Grantor with at least twenty-four (24) hours' notice of Grantee's desire for access thereof. Such notice must be given via (i) e-mail addressed to #security@trwd.com and (ii) telephone at 817-335-2491. In addition, except in an emergency, Grantee shall obtain Grantor's advance written consent at least twenty-four (24) hours before Grantee allows within any portion of the Land located within the boundaries of Grantor's fenced or secured area(s) any third party, including contractors or subcontractors whom Grantee is using or intends to use to install, operate or maintain equipment or to perform any modification, renovation, improvement or construction of the Facilities. Grantor, at its sole discretion, may refuse access to any person(s) whom Grantor has not granted in writing pre-authorization to enter the Land or Grantor's property. Notwithstanding, and in addition to, any other termination rights in this Agreement, Grantor may immediately terminate this Agreement if Grantee fails to follow the required notice procedures or if Grantee allows un-authorized persons to enter any portions of the Land fenced or secured by Grantor.

14. Safety & Security. Grantee and Grantee's officers, directors, employees, agents, contractors, and subcontractors will comply at all times while on the Land with all applicable safety and security protocol requirements, as may be amended, which have been communicated by Grantor in writing to Grantee. Notwithstanding, and in addition to, any other termination rights in this Agreement, Grantor may immediately terminate this Agreement if Grantee fails to follow the required safety and security protocols.

15. Insurance. Grantee shall procure and maintain at all times, in full force and effect, a policy or policies of insurance to provide coverage for all risks related to the use, occupancy, condition, maintenance, existence or location of the Land and the construction, installation, operation, maintenance or condition of the Facilities. Such required insurance shall include insurance in the minimum amounts set forth below:

Insurance Type	Amount
Commercial General Liability	General Aggregate $2,000,000
Workers' Compensation	As provided by statute
Employers' Liability	$500,000

Automobile Liability CSL $1,000,000

All policies required under this Paragraph 15 shall be submitted to Grantor electronically at insurance@trwd.com on Standard ACCORD Forms; all required insurance policies, except for workers' compensation, shall be endorsed to include Grantor as an additional insured and to provide that coverage shall be on a primary, non-contributory basis to any similar coverage of Grantor; and all required policies shall be endorsed to provide a waiver of subrogation in favor of Grantor and its subsidiaries, officers, directors and employees. Grantor reserves the right to change, from time to time, the type or types of insurance and the minimum amounts thereof required of Grantee under this Paragraph 15 and Grantee agrees to comply with any such changed insurance requirements. Except for workers' compensation coverage, Grantee hereby waives any and all rights of subrogation by, through, or under it against Grantor or any related party by any insurance carrier or other third person. Notwithstanding, and in addition to, any other termination rights in this Agreement, Grantor may immediately terminate this Agreement if Grantee fails to comply with the terms of this Paragraph 15.

16. RELEASE. **Grantee, on behalf of itself, its successors and assigns, hereby releases, relinquishes, and discharges, and, to the fullest extent permitted by law, agrees to indemnify and hold harmless Grantor Released Parties from and against any and all claims, demands, liabilities, suits, causes of action, obligations, damages, injuries, losses, penalties, costs, and expenses (including, without limitation, attorneys' fees, court costs, consultant fees, expert fees, and other litigation-related expenses), of whatsoever kind or character, of any person or entity whomsoever, directly or indirectly resulting from, arising out of or in connection with, or relating to (i) any use or occupation of the Land by Grantee or any of its officers, directors, agents, servants, employees, contractors, or subcontractors; (ii) any condition of the Land or any condition of the structures, equipment, facilities, or other improvements situated on or under the Land; (iii) the construction, installation, reconstruction, reinstallation, operation, maintenance, repair, alteration, replacement, survey, inspection, relocation or removal of the Facilities and any buildings or other facilities; or (iv) any damage to or destruction of any of the Facilities and any buildings and other facilities. This release extends to and includes any and all claims for bodily injury, death, sickness, disease, property damage or destruction, consequential damage, or economic loss caused to or suffered by any person or property, including Grantee, and Grantee's agents, servants, employees, contractors, subcontractors or any other person or entity, except to the extent caused by willful misconduct of Grantor or any of its officers, directors, agents, servants, employees, contractors, or subcontractors. This release is not limited to damages, compensation, or benefits payable under insurance policies, workers' compensation, disability benefit acts, or other employee benefit acts. This release shall survive termination of the Easement.**

17. Condition of Land. It is understood and agreed that the Easement in the Land is being conveyed **"AS-IS" and "WHERE-IS"** and Grantee accepts the Land in its current condition with all faults and defects, known or unknown. Grantee acknowledges that Grantor has not made and does not hereby make any representations or warranties of any character, express or implied, with respect to the condition of such Land, including any warranty that the Land is inhabitable or is fit for any particular purpose, and Grantee acknowledges that Grantee

accepts this Agreement without relying upon any such representation or warranty by Grantor or by any other person.

18. Environmental Contamination. During the term of the Easement, Grantee will keep the Land free of spills or releases of any chemicals, materials or substances which violate applicable law and arise from Grantee's operations, including, without limitation any chemicals or substances that (i) are polychlorinated biphenyls (PCB's), (ii) are hazardous wastes under the Resource Conservation and Recovery Act (42 U.S.C. 6921, et seq.) or regulations adopted thereunder, (iii) are hazardous substances as defined in the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601, et seq.) or regulations adopted thereunder, (iv) are radioactive, (v) are asbestos, (vi) are urea formaldehyde, or (vii) are petroleum products for vehicle, generator, heating or other purposes (collectively, "Hazardous Materials"). Grantee shall not discharge any materials or substance into Cedar Creek Reservoir.

19. Additional Consideration. As additional consideration for Grantor's conveyance of the Easement, Grantee agrees to install, at Grantee's sole cost and expense, a municipal water main pipeline connection and a sanitary sewer main pipeline connection (collectively, the "Connections") to Grantor's property known as "Lee Park," which is generally located north of the Cedar Creek Reservoir dam and more particularly depicted on Exhibit C attached hereto an incorporated herein by reference. Grantee will complete the installation of the Connections no later than the termination of the Primary Term of this Agreement. The Connections will be installed in a good and workman-like manner utilizing pipeline materials, sizes, and designs common of Grantee's other water and sanitary sewer main pipelines installed or replaced in the vicinity of and contemporaneously with the Connections. Grantor may terminate this Agreement should Grantee fail to install the Connections in the time and manner provided in this Paragraph.

20. Prohibition on Assignment. This Agreement may not be assigned by Grantee, in whole or in part, without the prior written consent of Grantor. Any purported assignment without such written consent shall be void and of no force or effect.

21. Acceptance of Agreement. By signing this Agreement, Grantee has agreed to and accepted the terms, conditions, benefits, and obligations contained herein. Grantor has agreed to grant the Easement in reliance upon Grantee's representation that Grantee agrees to and accepts the terms, conditions, benefits, and obligations contained herein.

22. Binding Effect. The terms and provisions of this Agreement shall inure to the benefit of and be binding upon Grantor and Grantee and their respective successors and permitted assigns, and shall be covenants running with the land.

23. Entire Agreement. This Agreement contains all of the agreements between the parties respecting the subject matter hereof, and no prior representations or statements, verbal or written, have been made modifying, adding to or changing the terms of this instrument.

24. Amendments. No amendments, modifications or revisions of this Agreement shall be effective unless made in writing, dated subsequent to the date hereof, and signed by the parties hereto, or their respective successors or assigns.

25. Remedies Not Exclusive. It is not intended hereby to specify (and this Agreement shall not be considered as specifying) an exclusive remedy for any default, but all such other remedies existing at law or in equity may be availed of by any party hereto and shall be cumulative. Recognizing, however, that failure in the performance of any party's obligations hereunder could not be adequately compensated in money damages alone, each party agrees in the event of any default on its part that each party shall have available to it the equitable remedy of mandamus and specific performance, in addition to any other legal or equitable remedies which also may be available to such party.

TO HAVE AND TO HOLD the Easement in the Land, together with all and singular the rights and appurtenances thereto in anywise belonging, unto Grantee, its successors and assigns, for the Primary Term and for so long thereafter as such Easement is used for the purposes stated herein and subject to the terms hereof, and upon cessation of such use, all rights, titles, and interests vesting in Grantee, its successors and permitted assigns, by virtue hereof shall automatically cease and determine as provided herein. All warranties that might arise by common law, as well as the warranties in Section 5.023 of the Texas Property Code (or its successor), are hereby excluded.

EXECUTED to be effective this _____ day of _____, 2021 (the "Effective Date").

GRANTOR:

TARRANT REGIONAL WATER DISTRICT, a Water Control and Improvement District

By: _____
R. Steve Christian
Real Property Director

STATE OF TEXAS §
§
COUNTY OF TARRANT §

The foregoing instrument was acknowledged before me on this _____ day of _____, 2021, by R. Steve Christian, Real Property Director of TARRANT REGIONAL WATER DISTRICT, a Water Control and Improvement District, on behalf of said District.

_____
Notary Public, State of Texas

GRANTEE:

CITY OF STAR HARBOR, TEXAS, a municipality of the State of Texas

By: Warren Claxton
Name: Warren Claxton
Title: Mayor

STATE OF TEXAS §
§
COUNTY OF HENDERSON §

The foregoing instrument was acknowledged before me on this 10th day of MAY, 2021, by Warren Claxton, the Mayor of the CITY OF STAR HARBOR, TEXAS, a municipality of the State of Texas, on behalf of said City.

ADABETH SHUMATE
Notary ID #7076068
My Commission Expires
November 23, 2024

Adabeth Shumate
Notary Public, State of Texas

P:\TKWD\Easements\Star Harbor\Easement-Rev 04-28-21-Clean.docx

Exhibit "A"

Easement Exhibit for a Proposed Wastewater Treatment Plant

July 12, 2017 – AN02575-ESMT

Revised April 28, 2021

BEING a 3.644 acres variable width utility easement over and across the M. SANCHEZ SURVEY, ABSTRACT No. 697, Henderson County, Texas; being over and across that certain Tarrant County Water Control And Improvement District Number One tract of land described in Volume 486, Page 426, Deed Records, Henderson County, Texas: and being further described by metes and bounds as follows:

BEGINNING at a point in the monumented west line of Farm-to-Market Highway No. 3062 (a paved surface) and in the called east line of said Tarrant County Water Control And Improvement District Number One tract, for the northeast and beginning corner of this easement. Whence the northwest corner of the P. TUMLINSON SURVEY, ABSTRACT No. 755 is calculated to bear S 80°33'14" W 5318.79 feet, the southwest corner of said Tarrant County Water Control And Improvement District Number One tract is calculated to bear S 00°40'51" E 799.76 feet, and a found concrete monument at an ell corner of said F.M. Highway No. 3062 bears S 00°40'51" E 819.84 feet.

1) THENCE S 00°40'51" E 50.00 feet along said west line of F.M. Highway No. 3062 and Tarrant County Water Control And Improvement District Number One tract to a point, for the southeast corner of this easement.

THENCE over and across said Tarrant County Water Control and Improvement District Number One tract the following:
2) S 89°19'09" W 44.67 feet to a point for a corner of this easement;
3) S 54°33'10" W 335.40 feet to a point for a corner of this easement;
4) S 00°47'20" E 359.66 feet to a point for a corner of this easement;
5) S 89°12'40" W 520.21 feet to a point for a corner of this easement;
6) N 00°47'20" W 137.39 feet to a point for a corner of this easement;
7) N 89°12'40" E 110.80 feet to a point for a corner of this easement;
8) N 00°47'20" W 120.00 feet to a point for a corner of this easement;
9) N 89°12'40" E 173.57 feet to a point for a corner of this easement;
10) N 54°33'10" E 603.19 feet to a point for a corner of this easement;
11) N 89°19'09" E 60.32 feet to the POINT OF BEGINNING.

Notes:

1) A survey sketch accompanies this description.
2) Bearings, Distances, and/or Areas derived from GNSS observations performed by Texas Surveying, Inc. and reflect N.A.D. 1983, Texas State Plane Coordinate System, North Central Zone 4202 (GRID).

Patrick Carter, Registered Professional Land Surveyor No. 5691
Texas Surveying, Inc. – Aledo Branch
P.O. Box 651 – 208 S. Front Street, Aledo, TX 76008
aledo@txsurveying.com – 817-441-5263 (LAND)
AN02575-ESMT – July 12, 2017

TEXAS SURVEYING INC.
Aledo branch – 817-441-5263
Firm No. 10194122 Aledo@txsurveying.com

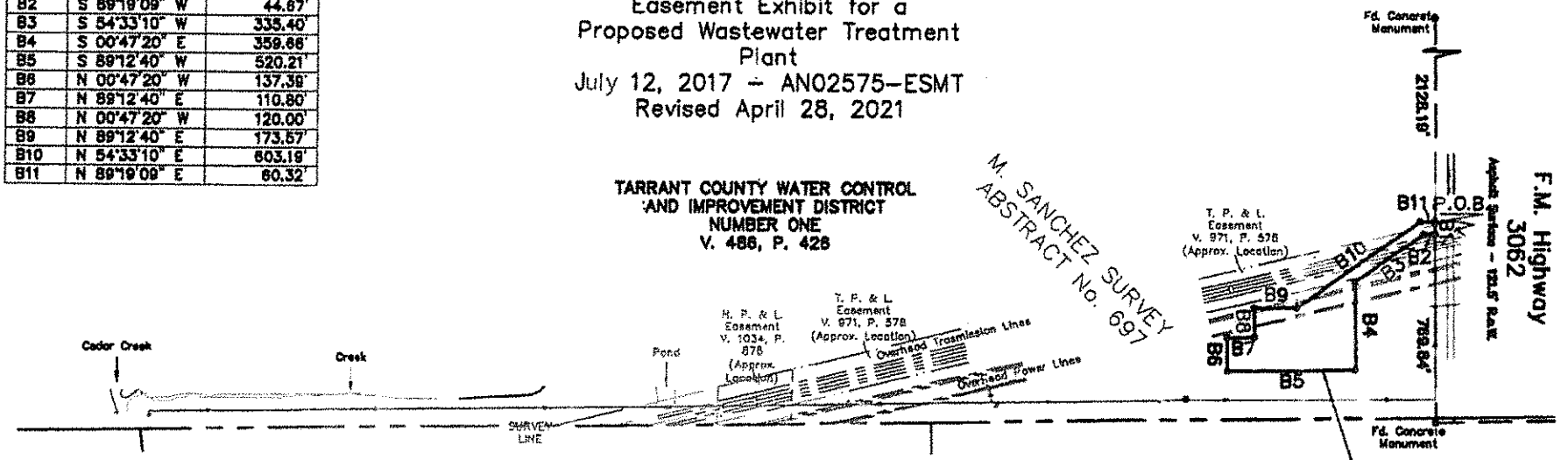
STAR HARBOR PERMIT APPLICATION 069

Label	Bearing	Distance
B1	S 00°40'51" E	50.00'
B2	S 89°19'09" W	44.67'
B3	S 54°33'10" W	335.40'
B4	S 00°47'20" E	359.66'
B5	S 89°12'40" W	520.21'
B6	N 00°47'20" W	137.39'
B7	N 89°12'40" E	110.80'
B8	N 00°47'20" W	120.00'
B9	N 89°12'40" E	173.57'
B10	N 54°33'10" E	603.19'
B11	N 89°19'09" E	60.32'

Exhibit "B"

Easement Exhibit for a Proposed Wastewater Treatment Plant

July 12, 2017 – AN02575–ESMT
Revised April 28, 2021



1" = 500'

Notes:

1) No abstract of title or title commitment was provided to this surveyor. Record research performed by this surveyor was made only for the purpose of determining the boundary of this property and of the adjoining parcels. Record documents other than those shown on this survey may exist and encumber this property.

2) Underground utilities were not located during this survey. Call 811 and/or Utility Providers before excavation or construction.

3) Please consult all applicable governing entities regarding rules & regulations, that may affect construction on this property.

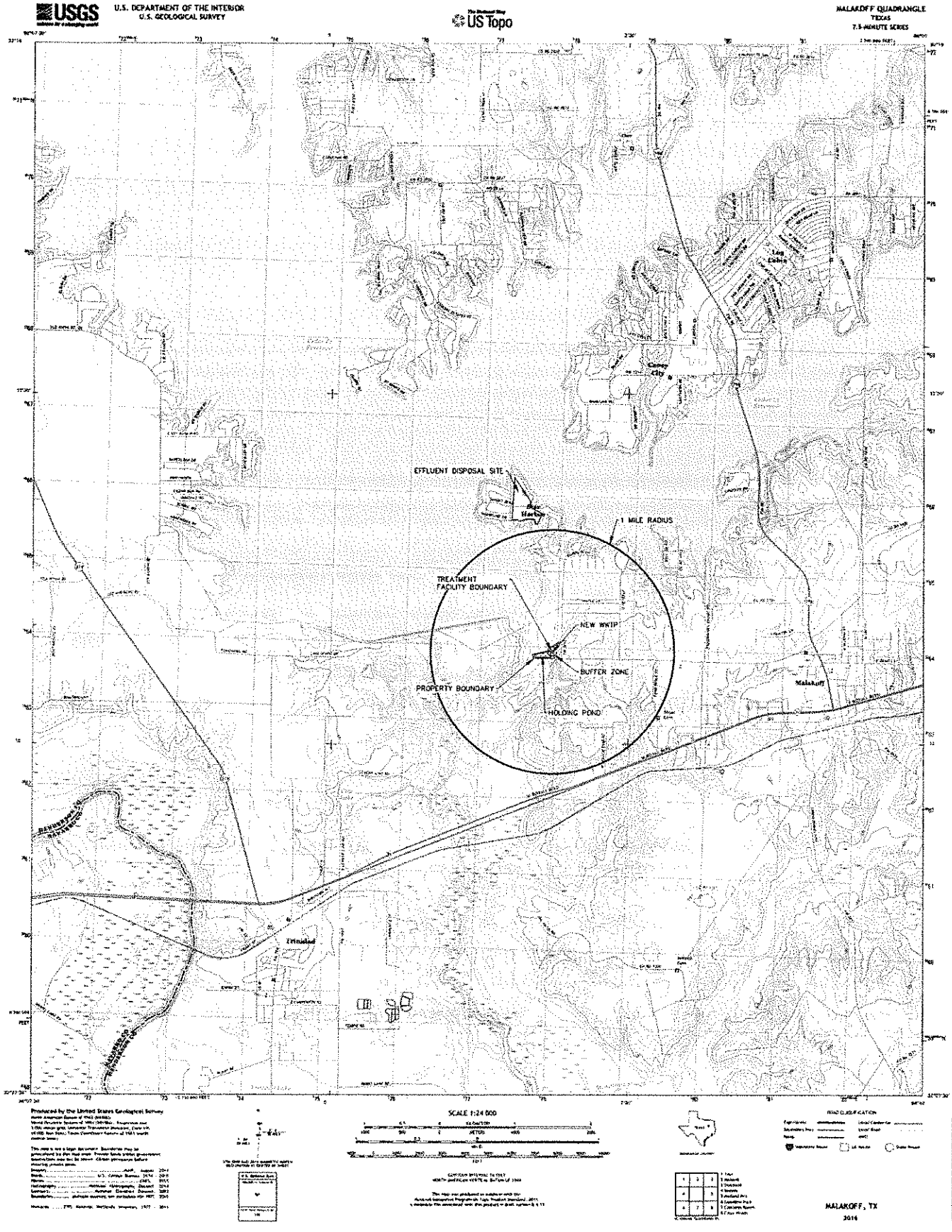
4) All corners are points, unless otherwise noted.

5) Bearings, Distances, and/or Areas derived from GNSS observations and reflect N.A.D. 1983, Texas State Plane Coordinate System, North Central Zone 4202 (GRID).

TEXAS SURVEYING INC.
Aledo branch – 817–441–5263
Firm No. 10194122 – Aledo@txsurveying.com

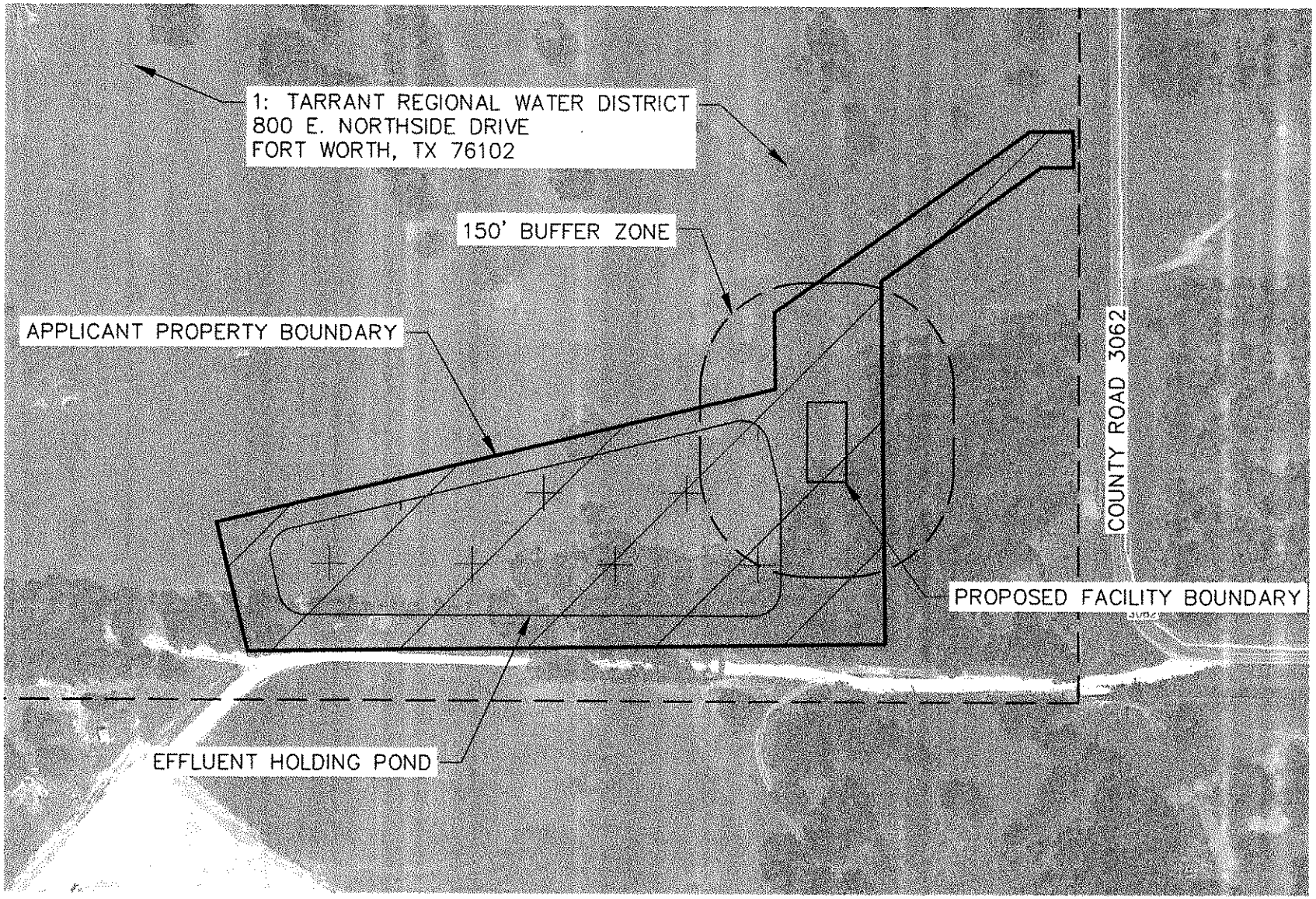
Jupiter
Farm-To-Market Road 3062
Maple
Maple
Potable Water Connection
Sanitary Sewer Connection
Exhibit "C"
MAP PRODUCED ON <8/29/2017> BY TRWD <USERNAME>

Attachment 3 – USGS Map


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES
EFFLUENT DISPOSAL SITE
1 MILE RADIUS
TREATMENT FACILITY BOUNDARY
NEW WWTP
BUFFER ZONE
PROPERTY BOUNDARY
HOLDING POND
Malakoff
Trinidad
Log Cabin
Camp City
SCALE 1:24 000
MALAKOFF, TX
2016

WASTELINE ENGINEERING, INC.

Attachment 4 – Affected Landowner Map



0 200 400

GRAPHIC SCALE IN FEET

STAR HARBOR PERMIT APPLICATION 074

Date: June 2021 J.A.F.
Drawn by: G.B.
Designed by: G.B.
QA: 221XX
Project Job#:

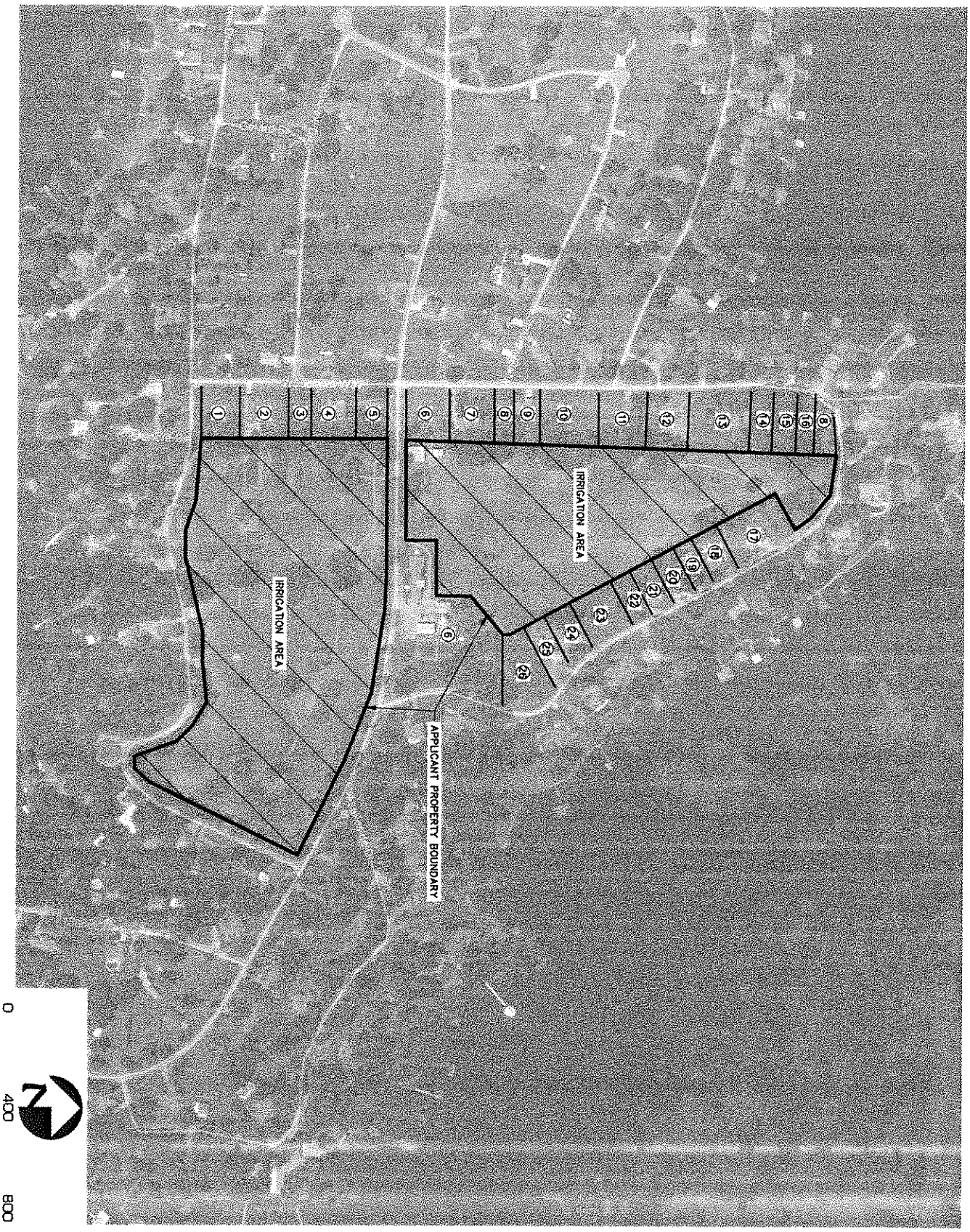
WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

LANDOWNER INFORMATION

ATTACHMENT
A4.1

STAR HARBOR PERMIT APPLICATION 075



0 400 800
GRAPHIC SCALE IN FEET

ATTACHMENT A4.2

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

LANDOWNER INFORMATION 2

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date:	June 2021
Drawn by:	J.A.F.
Designed by:	G.B.
QA:	G.B.
Project Job#:	221XX

Landowner List

#	Name	Address	City, State Zip
1	KATHY & RICHARD MARTAIN	1 WOODLAWN WAY	MALAKOFF, TX 75148
2	AUSTIN LEGACY LLC	5 WOODLAWN WAY	MALAKOFF, TX 75148
3	RANDY K & PAULA S HOLMES	5 WOODLAWN WAY	MALAKOFF, TX 75148
4	STEPHEN M & PATRICIA J NORRED	13 WOODLAWN WAY	STAR HARBOR, TX 75148
5	LORI ANN & ANDREW LEE BETZ	102 SUNSET BLVD	MALAKOFF, TX 75148
6	CITY OF STAR HARBOR TRUSTEE	PO BOX 949	MALAKOFF, TX 75148
7	DON ROBERT & PATSY RODEN	25 WOODLAWN WAY	MALAKOFF, TX 75148
8	BRIAN & RYAN CONDLEY	65 SHORELINE DRIVE	MALAKOFF, TX 75148
9	TANYA SUE DEVANEY	29 WOODLAWN WAY	MALAKOFF, TX 75148
10	MARION ADOREE FARLEY SMITH	404 S MASTER DRIVE	DALLAS, TX 75217
11	SHERRY & CARL MCGRAW	74 SHORELINE DRIVE	MALAKOFF, TX 75148
12	BRIAN & LINDSEY RODRIGUEZ	2100 FORDHAM CV	AUSTIN, TX 78723
13	WILLIAM J & LANELL RICHARDSON	64 SHORELINE	MALAKOFF, TX 75148
14	ZEMLER TRUST	5030 ESPLANADE BLVD	HIGHLAND VILLAGE, TX 75077
15	MURPH INVESTMENTS LLC	40 ARMSTRONG DRIVE	FRISCO, TX 75034
16	CHRIS & SUSAN CHILDS	300 HAWKS RIDGE TRAIL	COLLEYVILLE, TX 76034
17	DONALD LEE & SHARON DENISE CONDLEY	38 SHORELINE DRIVE	MALAKOFF, TX 75148
18	JIMMY & ANN CARGIL	PO BOX 1200	ATHENS, TX 75751
19	RODGER & LINDA DUDLEY	32 SHORELINE DRIVE	MALAKOFF, TX 75148
20	CARMEN & ARLTON DEVANEY	30 SHORELINE DRIVE	MALAKOFF, TX 75148
21	TAMMY LYNN MARQUEZ	28 SHORELINE DRIVE	MALAKOFF, TX 75148
22	WATKINS EIRMA R ESTATE	4305 SAN PEDRO COURT	MIDLAND, TX 79707
23	CLAYTON & PAYTON SPOOR	232 WINN ROAD	SUNNYVALE, TX 75182
24	BYRON H POOL	20 SHORELINE DRIVE	MALAKOFF, TX 75148
25	EDWARD & BARBARA KING	18 SHORELINE DRIVE	MALAKOFF, TX 75148
26	RICKEY & JULIA DORRIS	16 SHORELINE DRIVE	MALAKOFF, TX 75148

Attachment 5 – Original Photographs

STAR HARBOR PERMIT APPLICATION 078

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

PHOTO MAP

ATTACHMENT
A5.1

WASTELINE
ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date: June 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 2212XX

STAR HARBOR PERMIT APPLICATION 079

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

PHOTO MAP

ATTACHMENT
A5.2

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date: June 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 221XX


Photo 3

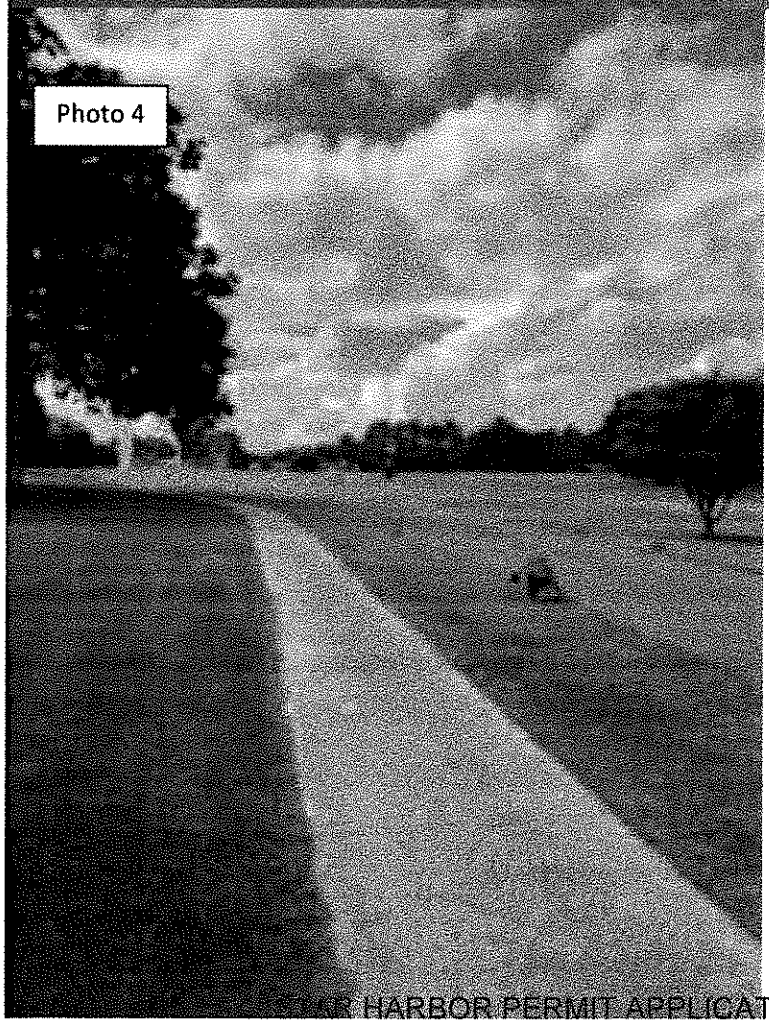


Photo 4

ATTACHMENT 5.3 – SITE PHOTOS

Attachment 6 – Buffer Zone Map

STAR HARBOR PERMIT APPLICATION 083

ATTACHMENT A6

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

BUFFER ZONE MAP

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date: June 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

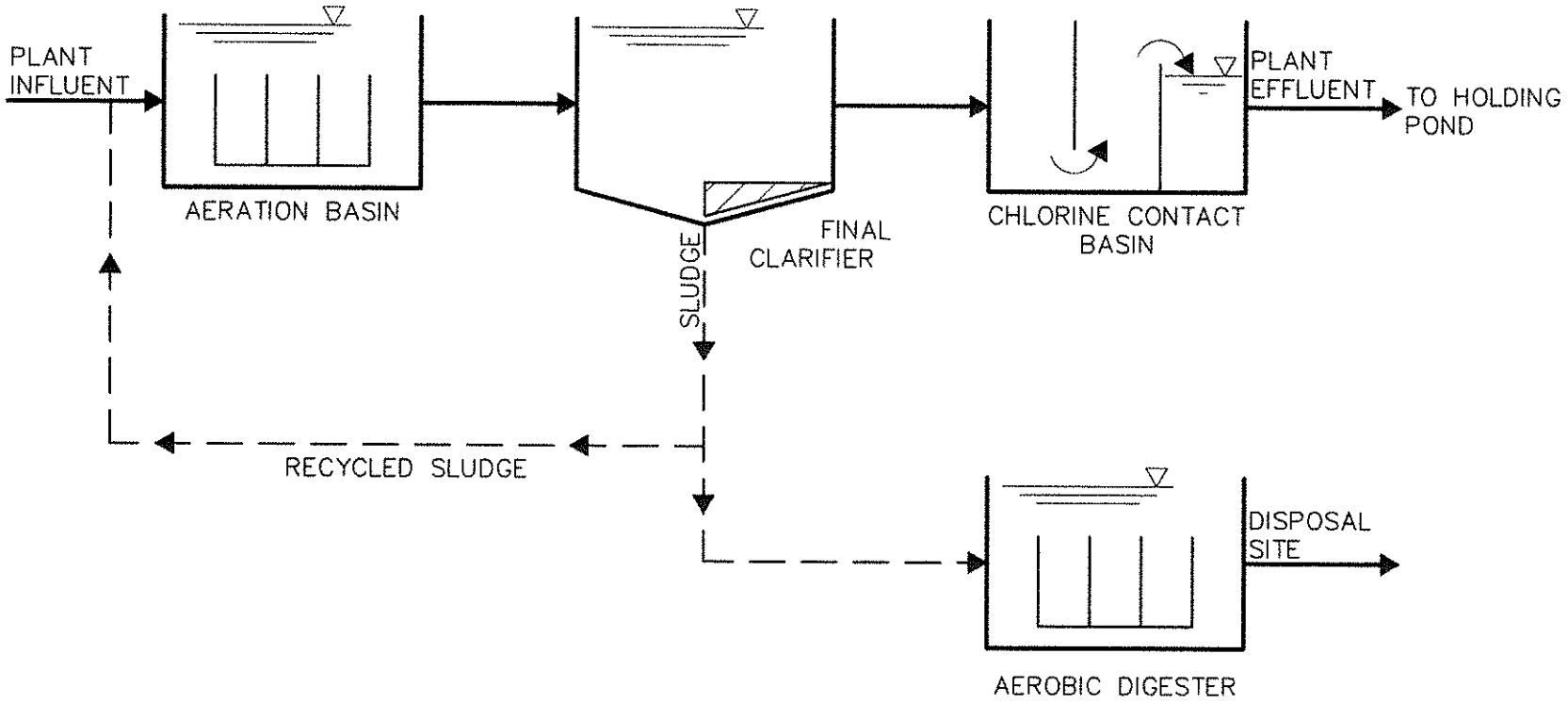
Attachment 7 – Treatment Units

Treatment Units

Initial Phase - 0.060 MGD

Type of Unit	Number of Units	Size (Depth, Width, Length)
Aeration Basin	1	57'L x 12'W x 10'6"D
Sludge Holding	1	27'L x 12'W x 10'6" D
Chlorine Contact	1	12'L x 12'W x 5' D
Clarifier	1	24' Dia x 12'D

Attachment 8 – Flow Diagram



FLOW DIAGRAM

Date: June 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

FLOW DIAGRAM

ATTACHMENT
A8

Attachment 9 – Site Drawing

ATTACHMENT A9

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

SITE DRAWING

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date: July 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

STAR HARBOR PERMIT APPLICATION 089

Attachment 10 – Nearby WWTP

STAR HARBOR PERMIT APPLICATION 091

ATTACHMENT A10

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

NEARBY WWTP

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date: July 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

Nearby Wastewater Treatment Plants

#	Name	Permit Number	Address	City, State Zip
1	City of Malakoff WWTP	WQ0010738001	300 SOUTH MOSES	MALAKOFF TX 75148

Attachment 11 – Letters from nearby WWTP

THE AL LAW GROUP

David J. Tuckfield
12400 W. Highway 71, Suite 350-150
Austin, Texas 78738

Partner
(512) 576-2481
Fax: (512) 366-9949

June 30, 2020

Via electronic delivery

Geoffrey P. Kirshbaum
Terrill & Waldrop
810 West 10th Street
Austin, Texas 78701
Ph: (512) 474-9100
Fax: (512) 474-9888
gkirshbaum@terrillwaldrop.com

Re: Notice of City of Malakoff's Resolution to terminate its wastewater service to its outside city customers in Star Harbor effective November 1, 2020.

Offer to Participate in SOAH Mediation

Dear Mr. Kirshbaum:

This letter is to formally apprise you of two actions taken by the City of Malakoff ("Malakoff") during its duly noticed meeting held on June 29, 2020.

I. NOTICE OF TERMINATION

First, the City Council directed me to send a Notice of Termination. Therefore, please accept this letter as formal notification to your client the City of Star Harbor ("Star Harbor") that the City of Malakoff will terminate wastewater service to the City of Star Harbor on November 1, 2020.

As you know, until its expiration in 2016, a formal contract between the Malakoff and Star Harbor governed Malakoff's provision of wastewater services to Star Harbor. That contract expired 4 years ago and to date the parties have been unable to reach an agreement as to mutually acceptable terms for Malakoff to continue providing services to Star Harbor residents.

As I'm sure you are aware, Malakoff is not obligated to provide wastewater services to Star Harbor and Star Harbor is not in Malakoff's CCN. Malakoff believes it is in the best interest of its own residents to cease service to Star Harbor.

Malakoff recognizes that it will take some time for Star Harbor to make alternative arrangements for the provision of wastewater services to its residents. To allow for that transition, Malakoff will

continue to offer service to Star Harbor for four months (until November 1, 2020). This should provide sufficient time for the City of Star Harbor to arrange for pump and haul facilities/services or to find alternative service providers.

II. OFFER TO PARTICIPATE IN SOAH MEDIATION

Additionally, the City Council voted unanimously to authorize City Administrator Ann Barker, Councilman Vince Bailey, and the Public Works Director Wes Beck to participate in SOAH mediation with the City of Star Harbor in an attempt to resolve PUC Docketed Case No. 50433, contingent upon agreement by Star Harbor to stay proceedings in PUC Docket No. 50433 during the pendency of that mediation. Certainly, if the City of Star Harbor agrees to such mediation, we will schedule it and conduct it as quickly as possible so as to minimize the time of the stay.

Sincerely,

David Tuckfield
Partner
The AL Law Group, PLLC
12400 West Highway 71
Suite 350-150
Austin, TX 78738
(512) 576-2481
dtuckfield@allawgp.com

Attachment 12 – Design Calculations

City of Star Harbor
WASTEWATER TREATMENT PLANT

DESIGN SUMMARY
June 03, 2021

The wastewater treatment facility which is discussed in this design summary will have an average daily flow capacity of 0.060 MGD.

The Extended Aeration process followed by enhanced solids separation has been selected for use. This process consists of a continuous circuit in which the mixture of raw wastewater and returned sludge is continually aerated. Air supply droplines and diffusers will be installed to provide the required oxygen for biological activity.

Using the current Texas Commission on Environmental Quality design criteria, the treatment plant will be designed such that the total aeration volume is 53,700 gallons. Air will be supplied at the rate of 2.22 cubic feet (2.4 lb. O_2) per minute per pound of BOD_5 applied per day.

In keeping with the TCEQ criteria, the clarifier will have an effective surface area of approximately 502 square feet and a total weir length of approximately 84 linear feet.

The sludge holding tank will have a total volume of 25,400 gallons. Air will be supplied to the sludge holding tank at a rate of 30 cfm per 1,000 cubic feet of volume in order to maintain an aerobic condition and to keep the solids in suspension.

DESIGN PARAMETERS

Average Daily Flow	60,000 gallons
Peak 2-hour Flow (4Q)	240,000 gallons per day rate
Population Equivalent	600
BOD_5 loading	200 mg/l @ 100 gpcd
Space loading (aeration zone)	15 lbs. BOD_5/1,000 cf
Space loading (sludge holding tank)	20 cf/lb of BOD_5/1,000 cf
Surface loading (clarifier)	800 gpd/sf @ peak flow rate
Detention Time (clarifier)	2.2 hours @ peak flow rate

Weir loading (clarifier)	20,000 gpd/lf @ peak rate
Air supply (aeration zone)	2.22 cfm/lb. BOD_5
Air supply (sludge holding tank)	30 cfm/1,000 cf of volume

UNIT FEATURES

Aeration Zone	53,700 gallons
Sludge holding tank	3,400 cubic feet
Clarifier	502 sf eff. surface area
Blowers	2 @ 364 cfm each

CHECK LOADING REQUIREMENTS

A. BOD_5 loading = 200 X 0.060 MGD X 8.34

= 100 lbs./day

B. Space loading @ 15 lbs. BOD_5/1,000 cf of volume (aeration zone)

$\frac{100 \text{ lbs}}{15}$ X 1,000 = 6,672 cf

Volume of aeration zone = 7,182 cf 57'-0" lg

Actual space loading = 13.93 lbs. BOD_5/1,000 cf volume

C. Space loading @ 20 cf/lb BOD_5 (sludge holding tank)

20 X 100 = 2,000 cf

Volume of sludge holding tank = 3,400 cf 27'-0" lg

D. Surface loading @ average daily flow (clarifier) 24'-0" dia

$\frac{60{,}000 \text{ gpd}}{502 \text{ sf}}$ = 120 gpd/sf

E. Weir loading @ average daily flow (clarifier)

$\frac{60{,}000 \text{ gpd}}{84 \text{ lf}}$ = 714 gpd/lf

F. Air supply @ 2.22 cfm/lb. BOD_5/day (aeration zone)

2.22 X 100 = 222 cfm

G. Air supply @ 30 cfm/1,000 cf (sludge holding tank)

$\frac{30}{1,000}$ X 3,400 = 102 cfm

H. Total air supply = Process air (222 cfm + 102 cfm + airlift pumps (40 cfm))

= 364 cfm

DESIGN PARAMETERS for CHLORINE CONTACT BASIN

Peak flow rate	240,000 gallons per day rate
Detention time	20 minutes
Chlorine residual	1.0 mg/l, minimum 4.0 mg/l. minimum

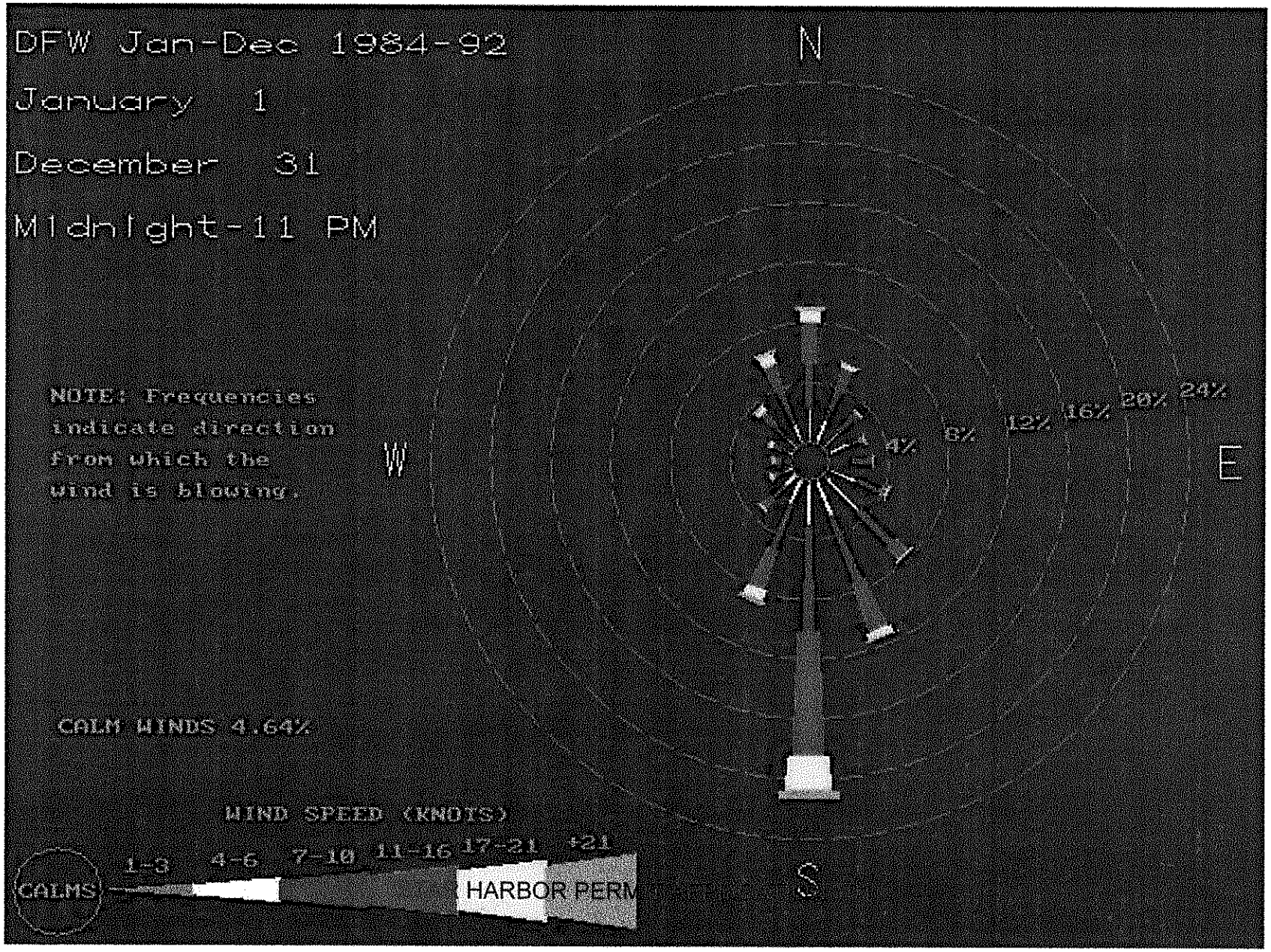
Volume required = $\frac{240,000 \text{ gpd X } 20 \text{ minutes}}{1440 \text{ minutes}}$

= 3,333 gallons

The chlorine contact basin with a volume of 3,590 gallons shall be provided. The approximate chlorine dosage of 10 mg/l should maintain a chlorine residual amount of 1.0 mg/l in the effluent.

10 mg/l X 0.060 MGD X 8.34 = 5 lbs/day

Attachment 13 – Wind Rose


DFW Jan-Dec 1984-92
January 1
December 31
Midnight-11 PM
NOTE: Frequencies indicate direction from which the wind is blowing.
N
W
E
S
4%
8%
12%
16%
20%
24%
CALM WINDS 4.64%
WIND SPEED (KNOTS)
CALMS
1-3
4-6
7-10
11-16
17-21
+21
HARBOR PERM

Attachment 14 – Sewage Sludge Solids Management Plan

WASTELINE ENGINEERING, INC.

Solids Management Plan

Influent Design Flow: 0.060 MGD
Influent BOD Concentration: 210 mg/L
Aerobic Digester Volume: 25,433 gallons
Aeration Basin MLSS: 2,000 to 4,000 mg/L

Sludge Production

Solids Generated	100% flow	75% flow	50% flow	25% flow
Pounds of Influent BOD_5	101	76	50	25
Pounds of Digested Dry Sludge Produced*	35	26	18	9
Pounds of Wet Sludge Produced	1,747	1,308	874	437
Gallons of Wet Sludge Produced	1,275	956	638	319

*Assuming 0.35 pounds of digested dry sludge produced per pound of influent BOD5 at average temperatures and 2.0% concentration in the digester.

Sludge will be wasted from the RAS flow stream to the aerobic digester. Sludge solids will be stabilized in the digester; supernatant will be decanted from the digester and returned to the facility headworks for treatment.

Sludge Removal Schedule

Removal Schedule	100% flow	75% flow	50% flow	25% flow
Days Between Sludge Removal**	20	26	40	80

**To be determined by operator.

Liquid digested sludge will be removed from the digester for disposal as required. The calculated mean cell residence time (MCRT) for the digester storage volume of 22,600 gallons will be approximately 271 days at 100% capacity and annual average digested sludge production of 8 ppd. The hauler and facility to process the generated digested sludge will be determined at a future date.

Attachment 15 – Annual Cropping Plan

WASTELINE ENGINEERING, INC.

Cropping Plan

The only crop present will be Bermuda and will have an irrigated area of approximately 22 acres.

The growing season for each grass crop will be year-round.

Nutrient requirements for each crop:

Crop	Nitrogen (lbs/acre-yr)	Phosphorus (lbs/acre-yr)	Potassium (lbs/acre-yr)
Bermuda / Rye	50 – 400	35 – 45	225

Data was taken from Table 7.5, Nutrient Uptake Rates for Selected Crops in *Natural Systems for Waste Management and Treatment*, 2nd Edition by Sherwood C. Reed, Ronald W. Crites, E. Joe Middlebrooks. *Coastal Bermuda data was used for the grass crop nutrient requirements data

No additional fertilizer application will be required. The effluent will provide adequate nitrogen to sustain a healthy crop.

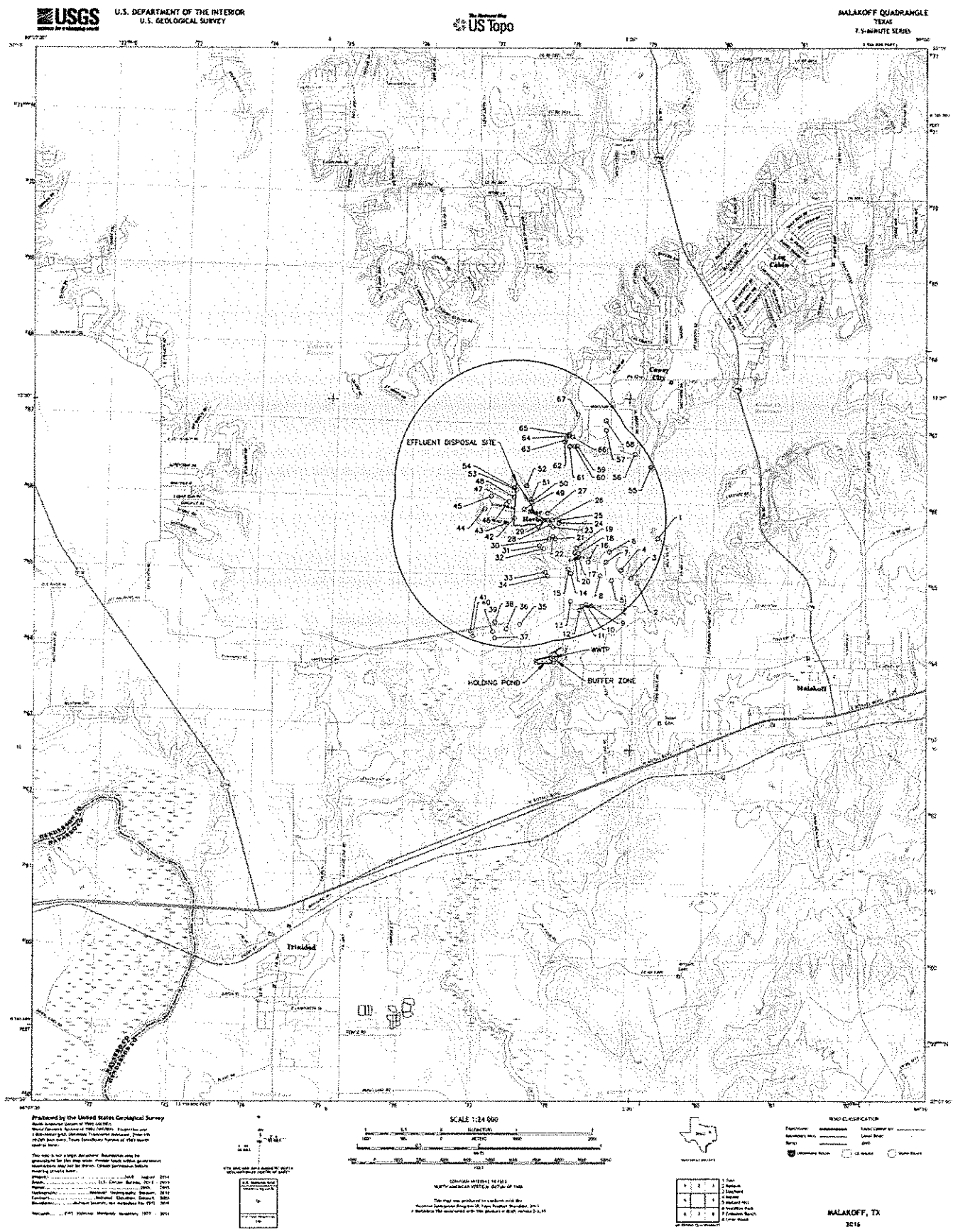
No supplemental watering should be required.

Pasture grasses have a salt tolerance that ranges between 6.0 and 8.0 millimhos/cm at 25°C.

The grass will be cut between 3 – 4 times each year to allow for a full cycle of the growth and maturation phase in order to utilize the maximum evapotranspiration rates of the crop.

The crop(s) will not build up nutrients since the level of nitrogen uptake is considerably higher than the nitrogen concentration being introduced into the soils, approximately 2.9 times higher.

Attachment 16 – Well and Map Information


USGS
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES
EFFLUENT DISPOSAL SITE
HOLDING POND
WWTP
BUFFER ZONE
Malakoff
Trinidad
Log Cabin
Cayuga
Produced by the United States Geological Survey
SCALE 1:24 000
MALAKOFF, TX
2016

Attachment 18 – Groundwater Quality Technical Report

WASTELINE ENGINEERING, INC.

Groundwater Quality Technical Report

The purpose of this report is to provide documentation which illustrates the proposed regulated activities will not negatively impact the quality of groundwater.

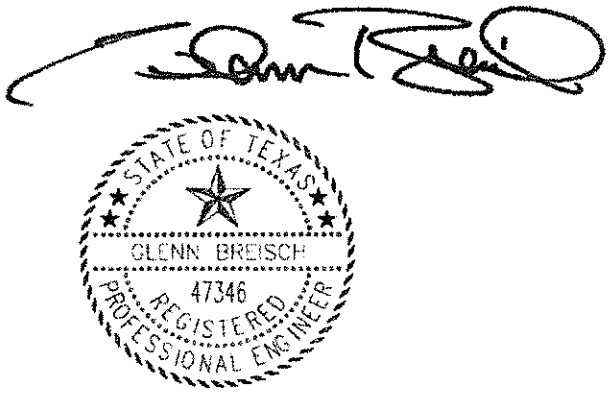
The groundwater resources in the project area primarily include the northern portion of the Carrizo-Wilcox Aquifer. After reviewing the water table and screen intervals of the wells in the area, the Carrizo-Wilcox is considered to be confined. This Northern region is composed of sediments that are part of a gulf-ward thickening wedge of Cenozoic sediments deposited in the East Texas Basin and the Houston Embayment of the Gulf Coast Basin primarily the Quaternary period consisting of gravel, sand, silt and clay; contiguous terraces of different ages separated by a solid line. The soil types around the project area include Axtell Loam, and Styx loamy fine sandm.

Each of the 67 water wells within a one-half mile radius of the application site boundary have been located on a USGS 7.5 Minute Topographical Map. Twenty one of these wells are being used for domestic purposes, and six are used for public supply. It is recommended that all appropriate buffers should be maintained through the lifetime of this permit. The well logs indicate the average depth to groundwater to be between 54 feet to 180 feet in depth, with an average of 127 feet. Screen intervals for these wells begin around 206 feet and end as deep as 330 feet. For further information regarding the well casing, yield, static elevation, water quality, and age, please refer to the well logs.

From the water balance submitted in the original application, we can see that the maximum average application rate was determined to be 3 in/month. Effluent shall be applied at agronomic rates to ensure contaminants do not seep below the root zone. In an effort to prevent groundwater contamination, we will be surrounding the perimeter of the application site by a six-inch-high by twelve-inch-wide earthen berm to prevent runoff of applied effluent. There will also be a 4 foot wide berm surrounding the holding pond which will slope away from the pond at a four to one ratio for a distance of 18 feet to prevent any runoff into the stored effluent. Considering this is a new permit,

there is no pond liner certification at this time. Once construction has been completed on the effluent storage pond, Wasteline Engineering shall supply the Texas Commission on Environmental Quality with a certification stating that the pond liner meets TCEQ specifications.

Based on the information above, it is our opinion that the construction of the Star Harbor wastewater treatment plant will not negatively impact the quality of groundwater in the area.



Attachment 17 – Water Quality Data

Attachment 19 – Soil Map

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Henderson County, Texas

STAR HARBOR PERMIT APPLICATION 113

December 17, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Entire Golf Course)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Henderson County, Texas
Survey Area Data: Version 18, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 27, 2017—Nov 18, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Entire Golf Course)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Axtell loam, 1 to 5 percent slopes	7.5	34.6%
2	Axtell loam, 5 to 12 percent slopes	2.4	11.3%
35	Styx loamy fine sand, 1 to 5 percent slopes	11.7	54.1%
Totals for Area of Interest		**21.6**	**100.0%**

Map Unit Descriptions (Entire Golf Course)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Henderson County, Texas

1—Axtell loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2shgb
Elevation: 250 to 650 feet
Mean annual precipitation: 42 to 43 inches
Mean annual air temperature: 63 to 65 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Axtell and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Axtell

Setting

Landform: Stream terraces, stream terraces, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Clayey alluvium of pleistocene age derived from mudstone

Typical profile

A - 0 to 8 inches: loam
Btss - 8 to 34 inches: clay
Btkss - 34 to 53 inches: clay loam
Btky - 53 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R087AY003TX - Claypan Savannah
Hydric soil rating: No

Minor Components

Silawa

Percent of map unit: 13 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear, convex
Across-slope shape: Convex
Ecological site: R087AY005TX - Sandy Loam
Hydric soil rating: No

2—Axtell loam, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2shg8
Elevation: 250 to 650 feet
Mean annual precipitation: 42 to 43 inches
Mean annual air temperature: 64 to 65 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Axtell and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Axtell

Setting

Landform: Stream terraces, stream terraces, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear, convex
Parent material: Clayey alluvium of pleistocene age derived from mudstone

Typical profile

A - 0 to 9 inches: loam
Btss - 9 to 18 inches: clay
Btk1 - 18 to 46 inches: clay
Btk2 - 46 to 80 inches: sandy clay loam

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R087AY003TX - Claypan Savannah
Hydric soil rating: No

Minor Components

Silawa

Percent of map unit: 13 percent
Landform: Stream terraces, stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear, convex
Across-slope shape: Convex
Ecological site: R087AY005TX - Sandy Loam
Hydric soil rating: No

35—Styx loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: dbjx
Elevation: 180 to 500 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 240 to 270 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Styx and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Styx

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy and loamy alluvium of pleistocene age derived from mixed sources

Typical profile

H1 - 0 to 12 inches: loamy fine sand

H2 - 12 to 22 inches: loamy fine sand
H3 - 22 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 42 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R087AY006TX - Sandy
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Attachment 20 – Water Balance

WATER BALANCE FOR Star Harbor - Final Phase (0.060 MGD)
Henderson County, Texas

TEXAS COMMISSION on ENVIRONMENTAL QUALITY METHOD
30 TAC 210.24(b) FIGURE 1 - TABLE 1 &
30 TAC 309.20(b)(3)(A) - TABLE 2

1 Month	2 Average Regional Precipitation (in)	3 Average Runoff (in)	4 Average Infiltrated Rainfall (in) (2) - (3)	5(a) Evapo-transpiration Crop 1 (in) Burmuda/Rye x acres	Crop 1 Area (ac)	5(b) Evapo-transpiration Crop 2 (in) x acres	Crop 2 Area (ac)	Total Area of Application for Month	5 Evapo-transpiration Area Average (in)	6 Required Leaching (in)	6(a) Adjusted Leaching (in)	7 Total Water Needs (in) (5) + (6)	8 Effluent Needed in Root Zone (in) (7) - (4)	9 Net Evaporation From Reservoir Surface wrt application area (in)	10 Effluent to be Land Applied (in) (8)/K	11 Consumption from Reservoir (in) (9) + (10)	
January	3.10	1.14	1.96	1.90	22.0	0.00	0.0	22.0	1.90	0.00	0.23	2.13	0.17	-0.12	0.20	0.08	Ja
February	3.46	1.40	2.06	2.19	22.0	0.00	0.0	22.0	2.19	0.02	0.23	2.42	0.36	-0.14	0.42	0.28	Fe
March	3.85	1.69	2.16	3.37	22.0	0.00	0.0	22.0	3.37	0.14	0.23	3.60	1.44	0.03	1.69	1.72	M
April	4.28	2.03	2.25	4.12	22.0	0.00	0.0	22.0	4.12	0.22	0.23	4.35	2.10	0.07	2.47	2.54	Ap
May	4.99	2.61	2.38	4.74	22.0	0.00	0.0	22.0	4.74	0.28	0.23	4.97	2.59	0.00	3.05	3.05	M
June	3.88	1.71	2.17	5.58	22.0	0.00	0.0	22.0	5.58	0.40	0.23	5.81	3.64	0.40	4.28	4.68	Ju
July	2.47	0.72	1.75	6.46	22.0	0.00	0.0	22.0	6.46	0.56	0.23	6.69	4.94	0.78	5.81	6.59	Ju
August	2.36	0.65	1.71	6.25	22.0	0.00	0.0	22.0	6.25	0.54	0.23	6.48	4.77	0.72	5.61	6.33	Au
September	3.30	1.28	2.02	4.79	22.0	0.00	0.0	22.0	4.79	0.33	0.23	5.02	3.00	0.35	3.53	3.88	Se
October	4.12	1.90	2.22	3.75	22.0	0.00	0.0	22.0	3.75	0.18	0.23	3.98	1.76	0.08	2.07	2.15	Oc
November	3.89	1.72	2.17	2.48	22.0	0.00	0.0	22.0	2.48	0.04	0.23	2.71	0.54	-0.10	0.64	0.54	No
December	3.84	1.68	2.16	1.99	22.0	0.00	0.0	22.0	1.99	0.00	0.23	2.22	0.06	-0.20	0.07	-0.13	De
Totals	43.54	18.53	25.01	47.62		0			47.62	2.71	2.76	50.38	25.37	1.87	29.84	31.71	

Constants

Design Effluent Flow

0.06 MGD 0.18 Ac.-ft/day

67.2 Ac.-ft/yr

Seasonal Crop Coverage Areas

Crop #	Crop Growing Season	Area, acres
1. Bermuda/Rye	January - December	22
		22

Salts Balance Data For Leaching Calculations

Ce, electrical conductivity of effluent

1.06 millimhos/cm @ 25 deg.

Ci, maximum allowable conductivity of soil solution

10.0 millimhos/cm @ 25 deg.

Ri, electrical conductivity of infiltrated rainfall

4.7 millimhos/cm @ 25 deg.

Estimated/Assumed Irrigation Efficiency, %

Total Application Area

22 acres (for water balance)
22 acres (for storage)

Estimated Surface Area of Reservoir

3.00 acres (manually iterate with calculated until equal)

Runoff Constants

76.7 NRCS curve number

3.0 S'

Maximum Applica

(based on Nitrogen Ba

888.89 in

Maximum Applica

(based on Water Balar

3.05 in

Maximum Applica

(based on Agronomy)

2.49 in

Evapotranspiration

Month	Ft Worth	Waco	Tyler	Project**
January	2.50	2.47	2.16	2.38
February	2.82	2.82	2.59	2.74
March	4.31	4.35	3.98	4.21
April	5.38	5.18	4.88	5.15
May	6.05	6.05	5.68	5.93
June	7.28	7.23	6.42	6.98
July	8.56	8.50	7.16	8.07
August	8.23	8.43	6.77	7.81
September	6.23	6.32	5.41	5.99
October	4.72	5.03	4.31	4.69
November	3.11	3.26	2.94	3.10
December	2.56	2.55	2.35	2.49
Total	61.75	62.19	54.65	59.54

Net Water Evaporation

Month	Evap	Precip
January	2.20	3.10
February	2.50	3.50
March	4.00	3.80
April	4.80	4.30
May	5.00	5.00
June	6.80	3.90
July	8.20	2.50
August	7.70	2.40
September	5.90	3.30
October	4.70	4.10
November	3.20	3.90
December	2.30	3.80
Total		

response to comments 1

treatment plant, mode of operation, and all treatment units. Start with the plant's head works and finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed in the permit, a description of *each phase* must be provided.** Process description:

This is an extended aeration wastewater plant. This plant consists of an aeration basin, clarifier, chlorinator, aerobic digester, and pump tank. The treated effluent will be piped to an effluent storage pond, thence the Star Harbor Golf Course to be used for irrigation purposes.

Port or pipe diameter at the discharge point, in inches: Six

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) **of each treatment unit, accounting for *all* phases of operation.**

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
Please see attachment	7	for treatment units.

C. Process flow diagrams

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: 8

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?
Yes ☐ No ☒

If yes, a Sewage Sludge Solids Management Plan is required. See Example 5 in the instructions.

G. Other wastes received including sludge from other WWTPs and septic waste

1. Acceptance of sludge from other WWTPs

Does the facility accept or will it accept sludge from other treatment plants at the facility site?
Yes ☐ No ☒

If yes, attach sewage sludge solids management plan. See Example 5 of the instructions.

In addition, provide the date that the plant started accepting sludge or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Other:

B. Interim II Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l:

Total Suspended Solids, mg/l:

Ammonia Nitrogen, mg/l:

Total Phosphorus, mg/l:

Dissolved Oxygen, mg/l:

Other:

C. Final Phase Design Effluent Quality

Biochemical Oxygen Demand (5-day), mg/l: 10

Total Suspended Solids, mg/l: 15

Ammonia Nitrogen, mg/l: N/A

Total Phosphorus, mg/l: N/A

Dissolved Oxygen, mg/l: N/A

Other: N/A

D. Disinfection Method

Identify the proposed method of disinfection.

☒ Chlorine: 1-4 mg/l after twenty minutes detention time at peak flow

Dechlorination process:

☐ Ultraviolet Light: seconds contact time at peak flow

☐ Other:

Section 4. Design Calculations (Instructions Page 68)

Attach design calculations and plant features for each proposed phase. Example 4 of the instructions includes sample design calculations and plant features.

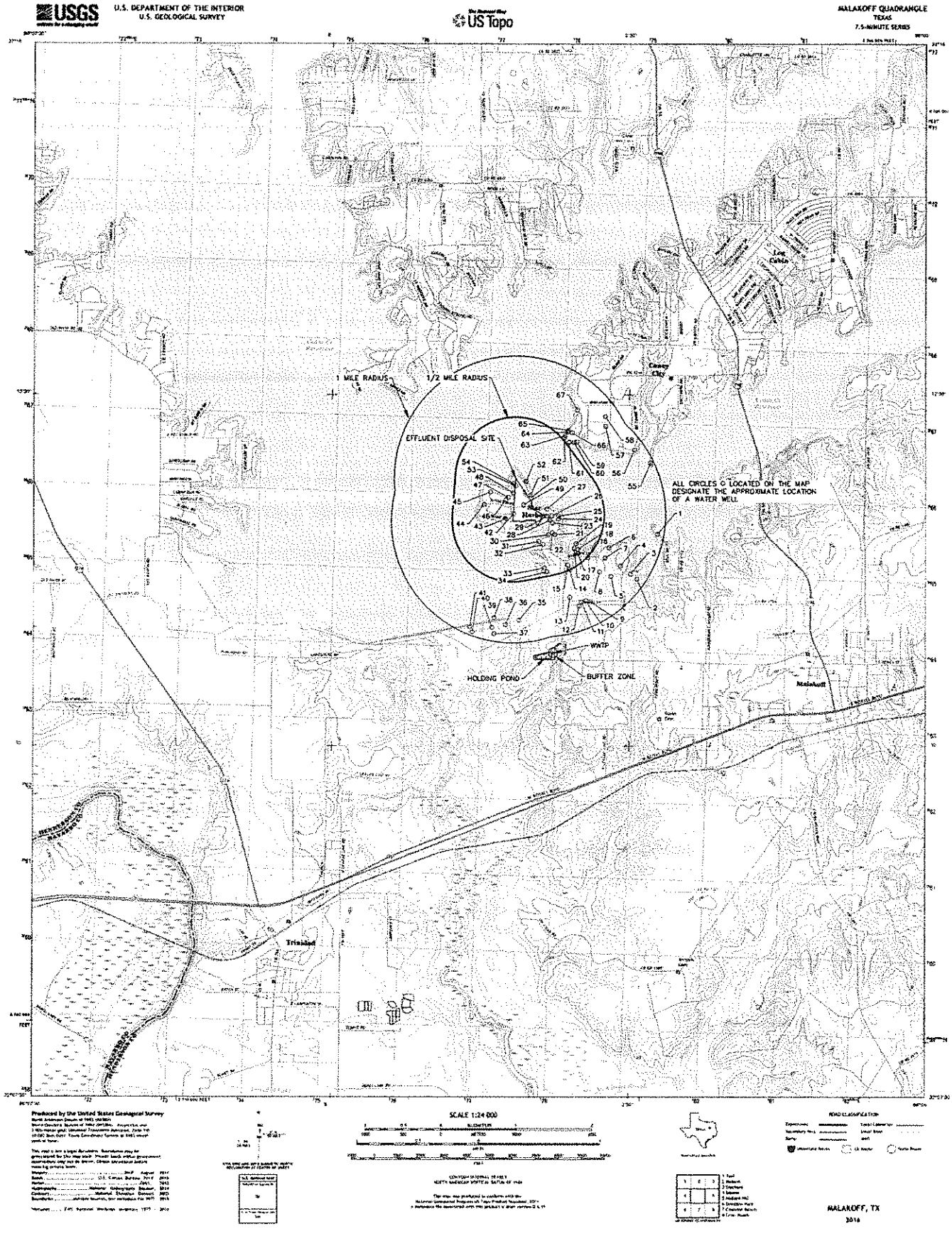
Attachment: 12

Treatment Units

Initial Phase - 0.060 MGD

Type of Unit	Number of Units	Size (Depth, Width, Length)
Aeration Basin	1	57'L x 12'W x 10'6"D
Sludge Holding	1	27'L x 12'W x 10'6" D
Chlorine Contact	1	12'L x 12'W x 5' D
Clarifier	1	24' Dia x 12'D
Holding Pond	1	700' x 250'

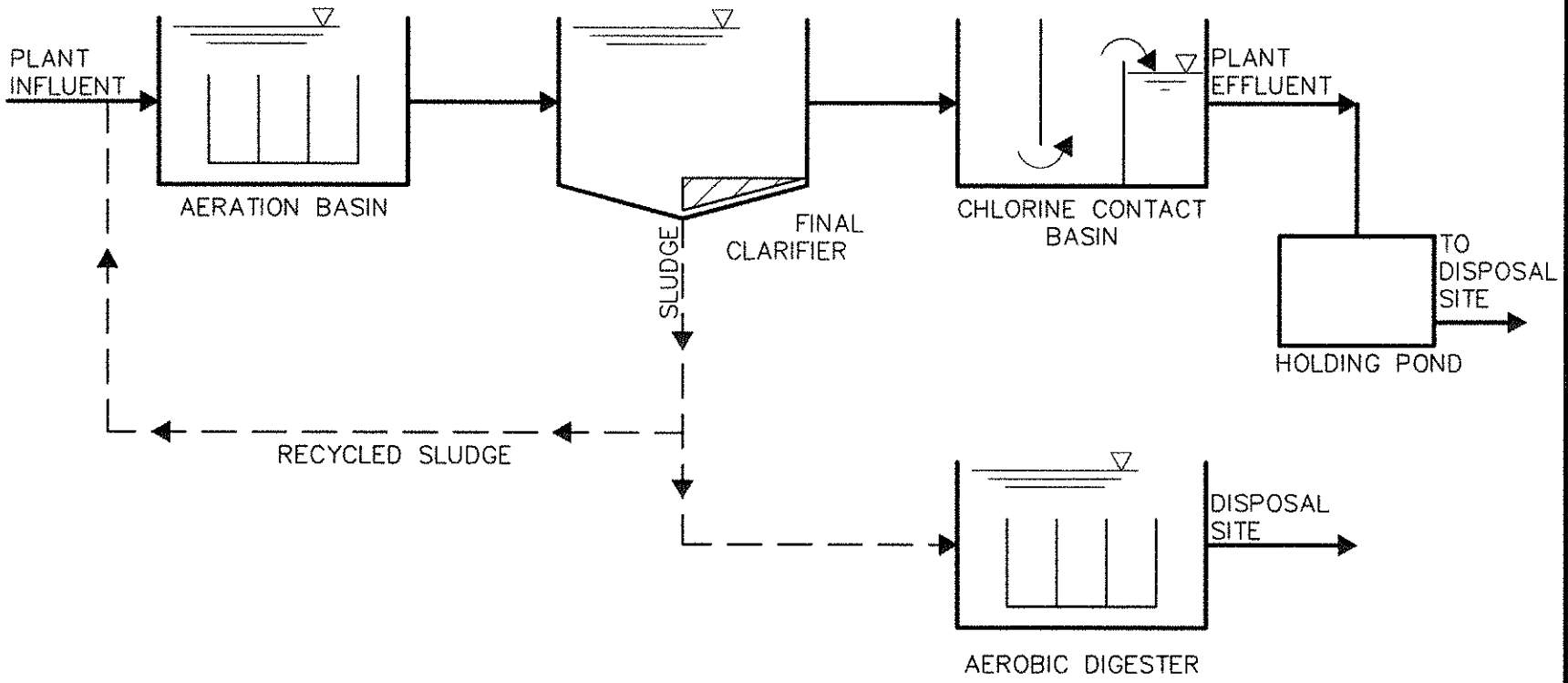
response to comments 2


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES
1 MILE RADIUS
1/2 MILE RADIUS
EFFLUENT DISPOSAL SITE
ALL CIRCLES O LOCATED ON THE MAP DESIGNATE THE APPROXIMATE LOCATION OF A WATER WELL
WWTP
HOLDING POND
BUFFER ZONE
Malakoff
Trinidad
Cedar Creek Lake
Caney City
Produced by the United States Geological Survey
SCALE 1:24 000
MALAKOFF, TX
2018

Treatment Units

Initial Phase - 0.060 MGD

Type of Unit	Number of Units	Size (Depth, Width, Length)
Aeration Basin	1	57'L x 12'W x 10'6" D
Sludge Holding	1	27'L x 12'W x 10'6" D
Chlorine Contact	1	12'L x 12'W x 5' D
Clarifier	1	24' Dia x 12' D
Holding Pond	1	700' x 250' x 6' D



FLOW DIAGRAM

Date: July 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

FLOW DIAGRAM

ATTACHMENT
A8

Well and Map Information

#	Well ID	Well Use	Producing? (Y/N)	Open, Cased, Capped, or Plugged?
15	178297	Irrigation	Y	N/A
17	225193	Irrigation	Y	N/A
18	535008	Irrigation	Y	N/A
19	235331	Irrigation	Y	N/A
20	218029	Irrigation	Y	N/A
21	176654	Irrigation	Y	N/A
22	235328	Irrigation	Y	N/A
23	456980	Irrigation	Y	N/A
24	190227	Irrigation	Y	N/A
25	193086	Irrigation	Y	N/A
26	503716	Irrigation	Y	N/A
27	178301	Irrigation	Y	N/A
28	535141	Irrigation	Y	N/A
29	153733	Irrigation	Y	N/A
30	176655	Irrigation	Y	N/A
31	236702	Closed-Loop Geothermal	Y	N/A
32	494147	Irrigation	Y	N/A
33	423635	Irrigation	Y	N/A
34	215282	Irrigation	Y	N/A
42	263268	Irrigation	Y	N/A
43	58148	Monitor	Y	N/A
44	195437	Domestic	Y	N/A
45	484351	Domestic	Y	N/A
46	438529	Irrigation	Y	N/A
47	196904	Irrigation	Y	N/A
48	555568	Domestic	Y	N/A
49	3356503	Public	Y	N/A
50	179227	Irrigation	Y	N/A
51	179229	Irrigation	Y	N/A
52	178292	Irrigation	Y	N/A
53	534994	Irrigation	Y	N/A
54	176649	Irrigation	Y	N/A

STATE OF TEXAS WELL REPORT for Tracking #236702

Owner:	**Richard & Mary Loftus**	Owner Well #:	**No Data**
Address:	**41 Sundown Trail Star Harbor, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 27" N**
Well Location:	**41 Sundown Trail Star Harbor, TX 75148**	Longitude:	**096° 03' 16" W**
Well County:	**Henderson**	Elevation:	**335 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Closed-Loop Geothermal**

Drilling Start Date: **9/13/2010** Drilling End Date: **11/11/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4.75**	**0**	**250**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Grouted**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**250**	**24 sand**
	0	**250**	**6 Grout**

Seal Method: **Sand and Grout mix**

Sealed By: **Carlos Salguero**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Unknown**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **Unknown**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Unknown**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Loop Tech**

2928 SH 19
Huntsville, TX 77320

Driller Name: **Ralph A. Cadwallader** License Number: **2026**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	10	Clay
10	20	Sand
20	130	Clay
130	150	Sand
150	250	Clay and Shale mix
14 wells at 250		

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
1"	New	HDPE 3408 U bend Loop	from 0-250ft

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 236703
Submitted on: 11/29/2010

STATE OF TEXAS WELL REPORT for Tracking #235331

Owner:	**Mark Harding**	Owner Well #:	**1**
Address:	**19 Crescent Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**19 Crescent Star Harbor, TX 75148**	Latitude:	**32° 11' 26" N**
		Longitude:	**096° 02' 57" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **10/27/2010** Drilling End Date: **10/27/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**145**	**195**	**Gravel**	**16/30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**145**	**15 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **22**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **87 ft.** below land surface, and **0 GPM** artesian flow on **2010-10-28**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **180**

Well Tests: **Pump** **Yield: 20 GPM with 60 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 145

Submitted on: 11/11/2010

	Strata Depth (ft.)	Water Type
Water Quality:	155	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
2		Clay
55		Sand/gravel
64		Shale
120		Sandy Shale
130		Shale
155		Sandy Shale
195		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 155 SDR-17
4.5	N	PVC	Screen 155 - 195 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #235328

Owner:	**Keith & Jennifer Massingill**	Owner Well #:	**1**
Address:	**50 Sunset Blvd. Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**50 Sunset Blvd Star Harbor, TX 75148**	Latitude:	**32° 11' 31" N**
		Longitude:	**096° 03' 09" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **10/25/2010** Drilling End Date: **10/25/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**145**	**195**	**Gravel**	**16/30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**145**	**16 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **15**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **80 ft.** below land surface, and **0 GPM** artesian flow on **2010-10-26**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Pump** **Yield: 25 GPM with 65 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 147

Submitted on: 11/11/2010

	Strata Depth (ft.)	Water Type
Water Quality:	152	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
1		Clay
12		Sand
31		Clay
43		Sand
70		Shale / Lignite
90		Sandy Shale
100		Sand
115		Shale
145		Sandy Shale
150		Rock
152		Sand
195		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 155 SDR-17
4.5	N	PVC	Screen 155 - 195 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #225193

Owner:	**Henry Valente**	Owner Well #:	**1**
Address:	**1 Crescent Dr. Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**1 Crescent Star Harbor, TX 75148**	Latitude:	**32° 11' 22" N**
		Longitude:	**096° 02' 56" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **7/13/2010** Drilling End Date: **7/13/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**192**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**140**	**192**	**Gravel**	**16/30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**12**	**5 Cement**
	130	**140**	**5 Ben-Chips**

Seal Method: **Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **60**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **85 ft.** below land surface, and **0 GPM** artesian flow on **2010-07-14** Measurement Method: **Unknown**

Packers: **Plastic 12'**

Type of Pump: **Submersible** Pump Depth (ft.): **180**

Well Tests: **Pump** **Yield: 20 GPM with 75 ft. drawdown after 4 hours**

Well Report Tracking Number: 225193
Submitted on: 7/31/2010

	Strata Depth (ft.)	Water Type
Water Quality:	150	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
3		Clay
14		Sand
18		Sandy Clay
24		Clay
63		Gravel
65		Shale
75		Sand
78		Shale
112		Sandy Shale
130		Shale
148		Sandy Shale 40%
156		Sandy Shale 80%
165		Sandy Shale 90%
192		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC - Blank	0 - 152 SDR-17
4.5	N	PVC - Screen	152 - 192 .020

Well Report Tracking Number 215193
Submitted on: 7/31/2010

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #218029

Owner:	**Wyatt Parkins**	Owner Well #:	**1**
Address:	**#11 Crescent Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**#11 Crescent Malakoff, TX 75148**	Latitude:	**32° 11' 24" N**
		Longitude:	**096° 02' 58" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **3/25/2010** Drilling End Date: **3/25/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**140**	**195**	**Gravel**	**16/30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**145**	**13 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **25**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **85 ft.** below land surface, and **0 GPM** artesian flow on **2010-03-25**

Measurement Method: **Unknown**

Packers: **None**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Pump**

Yield: 20 GPM with 70 ft. drawdown after 6 hours

	Strata Depth (ft.)	Water Type
Water Quality:	152	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
2		SandyClay
4		Clay
52		Gravel
68		Shale
115		Sandy Shale
122		Shale
152		Sand
163		Shale
170		Sandy Shale
182		Sand
195		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 155 SDR-17
4.5	N	PVC	Screen 155-195 .020

Well Report Tracking Number: 218039
Submitted on: 5/31/2010

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 218039
Submitted on: 5/31/2010

STATE OF TEXAS WELL REPORT for Tracking #215282

Owner:	**Gary Vermillion**	Owner Well #:	**1**
Address:	**21 Jupiter Rd. Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**21 Jupiter Rd. Star Harbor, TX 75148**	Latitude:	**32° 11' 14" N**
		Longitude:	**096° 03' 12" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **3/4/2010** Drilling End Date: **3/4/2010**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**145**	**195**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**5 Cement**
	130	**145**	**8 Ben-chips**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **70**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **86 ft.** below land surface, and **0 GPM** artesian flow on **2010-03-05**

Measurement Method: **Unknown**

Packers: **Plastic 10'**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 25 GPM with 60 ft. drawdown after 3 hours**

	Strata Depth (ft.)	Water Type
Water Quality:	150	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **loc changed by twdb, 9/26/12**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
2		Clay
15		Sandy Clay
33		Clay
55		Gravel
69		Shale
110		Sandy Shale
117		Sand
132		Shale
150		Sand
155		Sandy Shale
172		Sand
195		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 155 SDR-17
4.5	N	PVC	Screen 155 - 195 .020

STAR HARBOR PERMIT APPLICATION 157
Submitted on: 5/7/2010

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #196904

Owner:	**Richard & Delores Koziol**	Owner Well #:	**1**
Address:	**8 Starview Dr.** **Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**8 Starview Dr.** **Star Harbor, TX 75148**	Latitude:	**32° 11' 46" N**
		Longitude:	**096° 03' 32" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **9/2/2009** Drilling End Date: **9/2/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**13 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **12**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **82 ft.** below land surface, and **0 GPM** artesian flow on **2009-09-03**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 30 GPM with 18 ft. drawdown after 4 hours**

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Submitted on: 10/22/2009

	Strata Depth (ft.)	Water Type
Water Quality:	142	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
6		Sandy clay
25		Clay
55		Sandy Clay
65		Gravel
75		Shale
82		Lignite / Clay
90		Sandy Shale
105		Shale
142		Sandy Shale
160		Sand
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

Well Report Tracking Number: 196914
Submitted on: 10/22/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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(512) 334-5540

Well Report Tracking Number: 196004
Submitted on: 10/22/2009

STATE OF TEXAS WELL REPORT for Tracking #195437

Owner:	**Jack Hearn**	Owner Well #:	**No Data**
Address:	**136 Shoreline Dr Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**136 Shoreline Dr Star Harbor, TX 75148**	Latitude:	**32° 11' 43" N**
		Longitude:	**096° 03' 44" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **2/9/2007** Drilling End Date: **2/11/2007**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**90**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**65**	**90**	**Gravel**	

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**8**
	60	**65**	**2**

Seal Method: **pressure tremie**

Sealed By: **CWS**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **owner**

Surface Completion: **Alternative Procedure Used**

Water Level: **24 ft.** below land surface on **2007-02-11** Measurement Method: **Unknown**

Packers: **none**

Type of Pump: **Submersible** Pump Depth (ft.): **80**

Well Tests: **Pump** **Yield: 25 GPM with 40 ft. drawdown after 2 hours**

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Submitted on: 10/6/2009

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St
Athens, TX 75751

Driller Name: **W. R. Phillips** License Number: **2847**

Apprentice Name: **Tracy L?** Apprentice Number: **57543/3394**

Comments: **$scd**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	12	sand
12	17	clay
17	22	gray sand
22	30	sandy clay
30	68	clay
68	90	sand, gravel

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	casing	--PVC 0-70 blank
4.5	N	screen	--PVC 70-90 .013

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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(512) 334-5540

Well Report Tracking Number: 195437
Submitted on: 10/6/2009

STATE OF TEXAS WELL REPORT for Tracking #193086

Owner:	**Dale Norris**	Owner Well #:	**1**
Address:	**71 Sunset Blvd. Star Harbor, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 38" N**
Well Location:	**71 Sunset Blvd. Star Harbor, TX 75148**	Longitude:	**096° 03' 06" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **8/12/2009** Drilling End Date: **8/12/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**18 Cement**

Seal Method: **Unknown**

Sealed By: **Outside tremmie**

Distance to Property Line (ft.): **10**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **78 ft.** below land surface, and **0 GPM** artesian flow on **2009-08-13**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 20 GPM with 42 ft. drawdown after 4 hours

	Strata Depth (ft.)	Water Type
Water Quality:	**140**	**Wilcox**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	**Sand**	
3	**Clay**	
15	**Sandy Clay**	
20	**Sand**	
26	**Clay**	
49	**Gravel**	
65	**Shale**	
105	**Sandy Shale**	
140	**Sand**	
180	**TD**	

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	**N**	**PVC**	**Blank 0 - 140 SDR-17**
4.5	**N**	**PVC**	**Screen 140 - 180 .020**

Well Report Tracking Number: 198086
Submitted on: 9/14/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STAR HARBOR PERMIT APPLICATION 166

Submitted on: 9/14/2009

STATE OF TEXAS WELL REPORT for Tracking #190227

Owner:	**Julie Wallace**	Owner Well #:	**1**
Address:	**18 Lakeside Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 37" N**
Well Location:	**18 Lakeside Malakoff, TX 75148**	Longitude:	**096° 03' 06" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **8/10/2009** Drilling End Date: **8/10/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**185**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**185**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**135**	**16 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **12**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **76 ft.** below land surface, and **0 GPM** artesian flow on **2009-08-11**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 25 GPM with 38 ft. drawdown after 4 hours

	Strata Depth (ft.)	Water Type
Water Quality:	145	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
5		Clay
12		Sandy Clay
22		Sand
28		Clay
50		Gravel
70		Shale
105		Sandy Shale
120		Shale
150		Sandy Shale
185		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC - Blank	0 - 145 SDR-17
4.5	N	PVC - Screen	145 - 185 .020

Well Report Tracking Number: 190227
Submitted on: 8/18/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 190237
Submitted on: 8/18/2009

STATE OF TEXAS WELL REPORT for Tracking #179229

Owner:	**H.B. Pool**	Owner Well #:	**1**
Address:	**20 Shoreline Dr. Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**20 Shoreline Dr. Star Harbor, TX 75148**	Latitude:	**32° 11' 47" N**
		Longitude:	**096° 03' 20" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **5/20/2009** Drilling End Date: **5/20/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**8 Cement**

Seal Method: **Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **20**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **39 ft.** below land surface, and **0 GPM** artesian flow on **2009-05-21**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 20 GPM with 92 ft. drawdown after 2 hours

	Strata Depth (ft.)	Water Type
Water Quality:	126	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **Amended 8/28/09 Ref. #7446**

Report Amended on by Request #7446

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	Water Sand	
6	Clay	
52	Gravel	
60	Clay	
68	Shale	
105	Sandy Shale	
115	Shale	
126	Sandy Shale	
132	Shale	
148	Sand	
154	Sandy Shale	
168	Sand	
178	Shale	
180	TD	

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC - Blank	0 - 140 SDR-17
4.5	N	PVC - Screen	140 - 180 .020

Well Report Tracking Number: 179239
Submitted on: 5/22/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 1790239
Submitted on: 5/22/2009

STATE OF TEXAS WELL REPORT for Tracking #179227

Owner:	**Edward King**	Owner Well #:	**1**
Address:	**18 Shoreline Dr. Star Harbor, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 46" N**
Well Location:	**18 Shoreline Dr. Star Harbor, TX 75148**	Longitude:	**096° 03' 20" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **5/13/2009** Drilling End Date: **5/15/2009**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
12.25	**0**	**10**
7.875	**10**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
130	**180**	**Gravel**	**12/20**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**130**	**14 Cement**

Seal Method: **Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **10**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **40 ft.** below land surface, and **0 GPM** artesian flow on **2009-05-18** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 25 GPM with 80 ft. drawdown after 4 hours**

Well Report Tracking Number: 179227
Submitted on: 5/22/2009

Water Quality:

Strata Depth (ft.)	Water Type
125	**Wilcox**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
0 Water Sand
6 Clay
18 Sandy Clay
30 Clay
55 Gravel
75 Shale
110 Sandy Shale
118 Shale
125 Sandy Shale
155 Sand
165 Sandy Shale
169 Sand
176 Shale 180 TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.) New/Used Type Setting From/To (ft.)
10 N PVC - Surface 0 - 10 Sch. 40
4.5 N PVC - Blank 0 - 140 SDR-17
4.5 N PVC - Screen 140 - 180 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 479227
Submitted on: 5/22/2009

STATE OF TEXAS WELL REPORT for Tracking #178301

Owner:	**Don McKinnerney**	Owner Well #:	**1**
Address:	**38 Lakeside Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**38 Lakeside Dr. Malakoff, TX 75148**	Latitude:	**32° 11' 41" N**
		Longitude:	**096° 03' 12" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **5/11/2009** Drilling End Date: **5/11/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**5 Cement**
	120	**130**	**5 Ben-chips**

Seal Method: **Mix and pour**

Sealed By: **CWS**

Distance to Property Line (ft.): **50**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **42 ft.** below land surface, and **0 GPM** artesian flow on **2009-05-11**

Measurement Method: **Unknown**

Packers: **Plastic 10'**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 25 GPM with 70 ft. drawdown after 3 hours

	Strata Depth (ft.)	Water Type
Water Quality:	105	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75148

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Topsoil
2		Clay
18		Sandy clay
28		Clay
52		Sand
70		Shale
105		Sandy shale 20%
130		Sandy shale 50%
168		Sand
175		Shale
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

Well Report Tracking Number: 478301
Submitted on: 5/14/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #178297

Owner:	**Hal Johnson**	Owner Well #:	**1**
Address:	**P.O.Box 2012 Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 17" N**
Well Location:	**#1 Rainbow Ln Malakoff, TX 75148**	Longitude:	**096° 03' 01" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **5/6/2009** Drilling End Date: **5/6/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**5 Cement**
	120	**130**	**5 Ben-chips**

Seal Method: **Mix and pour**

Sealed By: **CWS**

Distance to Property Line (ft.): **60**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **40 ft.** below land surface, and **0 GPM** artesian flow on **2009-05-06**

Measurement Method: **Unknown**

Packers: **plastic 10'**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 30 GPM with 25 ft. drawdown after 3 hours

	Strata Depth (ft.)	Water Type
Water Quality:	145	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	Sand	
10	Clay	
17	Sandy Clay	
25	Clay	
60	Gravel	
70	Shale	
110	Sandy Shale	
120	Shale	
145	Sandy shale 80%	
152	Shale	
172	Sand	
180	TD	

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #178292

Owner:	**John Craig**	Owner Well #:	**1**
Address:	**38 Shoreline Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**38 Shoreline Dr. Malakoff, TX 75148**	Latitude:	**32° 11' 53" N**
		Longitude:	**096° 03' 23" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **5/5/2009** Drilling End Date: **5/5/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**150**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**6 Cement**
	120	**130**	**5 Ben-chips**

Seal Method: **Mix and pour**

Sealed By: **CWS**

Distance to Property Line (ft.): **54**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **38 ft.** below land surface, and **0 GPM** artesian flow on **2009-05-06**

Measurement Method: **Unknown**

Packers: **Plastic 10'**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 25 GPM with 65 ft. drawdown after 3 hours**

STAR HARBOR PERMIT APPLICATION 182

Submitted on: 5/14/2009

	Strata Depth (ft.)	Water Type
Water Quality:	145	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
10		Sandy clay
23		Clay
55		Gravel
72		Shale
95		Sandy shale
105		Shale
125		Sandy shale
130		Sand
136		Shale
145		Sandy shale 70%
157		Shale
162		Sand
175		Shale
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #176655

Owner:	**Jasper T. Alewine**	Owner Well #:	**1**
Address:	**81 Sunset Blvd. Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 30" N**
Well Location:	**81 Sunset Blvd. Malakoff, TX 75148**	Longitude:	**096° 03' 11" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **4/15/2009** Drilling End Date: **4/15/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**15 Cement**

Seal Method: **Pressure - Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **15**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner / measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **46 ft.** below land surface, and **0 GPM** artesian flow on **2009-04-16**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Pump**

Yield: 30 GPM with 50 ft. drawdown after 4 hours

	Strata Depth (ft.)	Water Type
Water Quality:	140	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Topsoil
1		Clay
10		Sandy Clay
25		Clay
50		Sand
62		Shale
104		Sandy Shale
125		Shale
140		Sandy Shale 50%
165		Sand
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

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STATE OF TEXAS WELL REPORT for Tracking #176654

Owner:	**Van Limerick**	Owner Well #:	**1**
Address:	**30 Lakeside Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**30 Lakeside Dr. Malakoff, TX 75751**	Latitude:	**32° 11' 30" N**
		Longitude:	**096° 03' 08" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **4/13/2009** Drilling End Date: **4/13/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**192**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**142**	**192**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**142**	**17 Cement**

Seal Method: **Pressure - Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **15**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner / measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **49 ft.** below land surface, and **0 GPM** artesian flow on **2009-04-14**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Unknown**

Yield: 30 GPM with 45 ft. drawdown after 4 hours

	Strata Depth (ft.)	Water Type
Water Quality:	150	Wilcox

Chemical Analysis Made: **Unknown**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Unknown**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
2		Clay
15		Sand
21		Clay
45		Gravel
64		Shale
105		Sandy Shale
168		Sand
182		Shale
192		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 152 SDR-17
4.5	N	PVC	Screen 152 - 192 .020

Well Report Tracking Number: 476054
Submitted on: 4/29/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 476654
Submitted on: 4/29/2009

STATE OF TEXAS WELL REPORT for Tracking #176649

Owner:	**William Richardson**	Owner Well #:	**1**
Address:	**64 Shoreline Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 52" N**
Well Location:	**64 Shoreline Dr. Malakoff, TX 75148**	Longitude:	**096° 03' 29" W**
Well County:	**Henderson**	Elevation:	**No Data**

****This well has been plugged**** **Plugging Report Tracking #195360**

Type of Work: **New Well** Proposed Use: **Irrigation**

Drilling Start Date: **3/23/2009** Drilling End Date: **3/23/2009**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**15 Cement**

Seal Method: **Pressure - Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **20**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner / Measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **32 ft.** below land surface, and **0 GPM** artesian flow on **2009-03-24**

Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Pump** **Yield: 22 GPM with 90 ft. drawdown after 8 hours**

Well Report Tracking Number: 176649
Submitted on: 4/29/2009

	Strata Depth (ft.)	Water Type
Water Quality:	140	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **AMENDED 7-8-11 REF#9260**

Report Amended on by Request #9260

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
12		Clay
18		Sandy Clay
52		Gravel
90		Sandy Shale
110		Mixed Clay
140		Sandy Shale 30%
150		Sandy Shale 50%
160		Sand
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR-17
4.5	N	PVC	Screen 140 - 180 .020

Well Report Tracking Number: 476049
Submitted on: 4/29/2009

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #153733

Owner:	**Gaylord Carlton**	Owner Well #:	**1**
Address:	**150 Seminole Loop Mabank, TX 75156**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 38" N**
Well Location:	**253 Shoreline Dr. Star Harbor, TX 75148**	Longitude:	**096° 03' 12" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **9/2/2008** Drilling End Date: **9/2/2008**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**130**	**180**	**Gravel**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**5 Cement**
	120	**130**	**5 Ben-Chips**

Seal Method: **Mix & Pour**

Sealed By: **CWS**

Distance to Property Line (ft.): **50**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner / Measured**

Surface Completion: **Surface Sleeve Installed**

Water Level: **50 ft.** below land surface, and **0 GPM** artesian flow on **2008-09-03** Measurement Method: **Unknown**

Packers: **Plastic 10'**

Type of Pump: **Submersible** Pump Depth (ft.): **140**

Well Tests: **Pump** **Yield: 30 GPM with 52 ft. drawdown after 5 hours**

STAR HARBOR PERMIT APPLICATION 194

Submitted on: 9/19/2008

Water Quality:	Strata Depth (ft.)	Water Type
	75	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Topsoil
2		Clay
6		Sand
8		Clay
12		Sandy Clay
18		Sand
20		Clay w/ Sand strks
30		Clay
45		Sand / Gravel
62		Shale
95		Sandy Shale
155		Rock
156		Sand
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0 - 140 SDR - 17
4.5	N	PVC	Screen 140 - 180 .020

Well Report Tracking Number: 158733
Submitted on: 9/19/2008

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Well Report Tracking Number: 158733
Submitted on: 9/19/2008

STATE OF TEXAS WELL REPORT for Tracking #58148

Owner:	**SHM Corp Inc.**	Owner Well #:	**DPE4 & DPE5**
Address:	**200 North Rogers Street Waxahache, TX 75165**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 37" N**
Well Location:	**33 Marina Road Malakoff, TX**	Longitude:	**096° 03' 33" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Start Date: **5/3/2005** Drilling End Date: **5/3/2005**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**10.25**	**0**	**25**

Drilling Method: **Hollow Stem Auger; Geoprobe 6620**

Borehole Completion: **Open Hole; sand 20/40**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**4**	**cement/ concret**
	4	**4.5**	**bentinite**
	4.5	**25**	**sand 20/40**

Seal Method: **Gravity**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **No Data**

Packers: **none**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Well Report Tracking Number: 58148
Submitted on: 5/4/2005

	Strata Depth (ft.)	Water Type
Water Quality:	No Data	No Data

Chemical Analysis Made: **Unknown**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Precision Probe and Drilling**

6133 Verona Lane
Shreveport, LA 71105

Driller Name: **Rodney Swann** License Number: **54661**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	clayey sand grey to tan-moist
5	15	clayey sand to sand grey and tan
15	25	sandy clay-tan with some grey-wet

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	new	plastic screen	5-25 .010
4	new	riser	0-5

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 591140
Submitted on: 5/4/2005

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 33-56-503

groundwater division

GWDB Reports and Downloads | **Well Basic Details** | Scanned Documents

State Well Number	3356503
County	Henderson
River Basin	Trinity
Groundwater Management Area	11
Regional Water Planning Area	C - Region C
Groundwater Conservation District	Neches & Trinity Valleys GCD
Latitude (decimal degrees)	32.195278
Latitude (degrees minutes seconds)	32° 11' 43" N
Longitude (decimal degrees)	-96.056667
Longitude (degrees minutes seconds)	096° 03' 24" W
Coordinate Source	+/- 1 Second
Aquifer Code	124WLCX - Wilcox Group
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	345
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	188
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1965
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Public Supply
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Cedar Creek Enterprise No.1
Driller	West & Rehkop Drilling
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	
Last Update Date	

Remarks

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

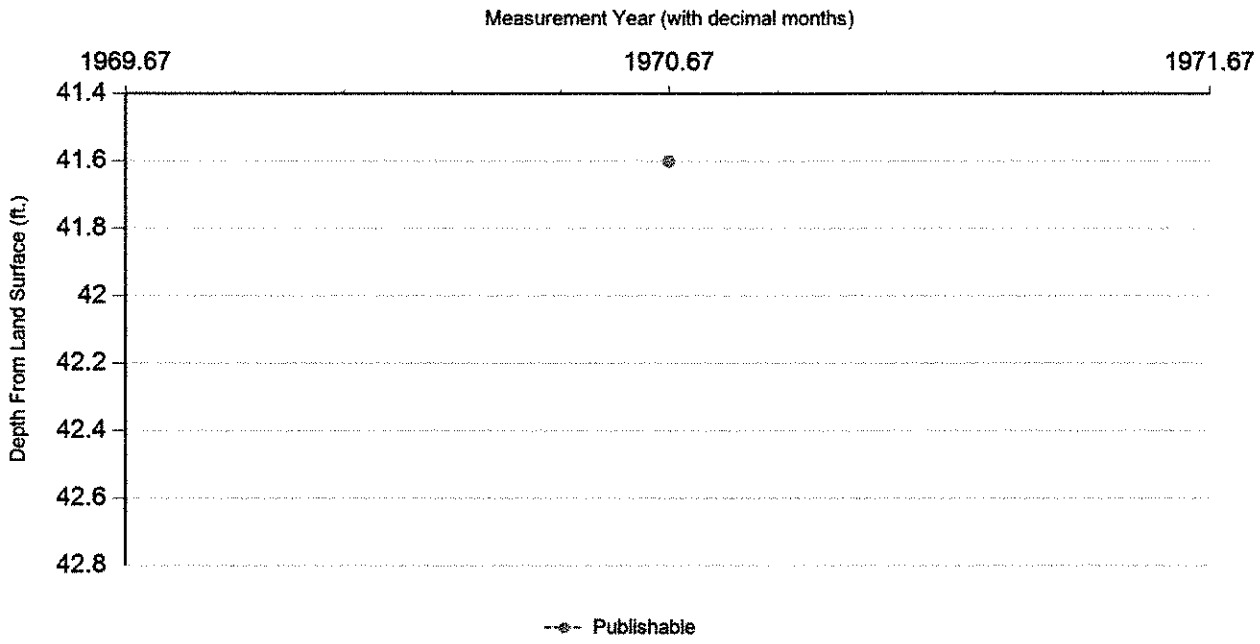
Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

STAR HARBOR PERMIT APPLICATION 199

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	9/3/1970		41.6		303.4	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 33-56-503

groundwater division

Water Quality Analysis

Sample Date: 2/28/1968 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Department of Health

Sampled Aquifer: Wilcox Group

Analyzed Lab: Texas Department of Health **Reliability:** Reliability unknown or not available

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		230.33	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		281.08	mg/L	
00910	CALCIUM (MG/L)		60	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		136	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.5	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		190	mg/L	
01045	IRON, TOTAL (UG/L AS FE)		100	ug/L	
00920	MAGNESIUM (MG/L)		10	mg/L	
01055	MANGANESE, TOTAL (UG/L AS MN)	<	50	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		1.2	mg/L	
00400	PH (STANDARD UNITS), FIELD		7.9	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0.79		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		3.78		
00932	SODIUM, CALCULATED, PERCENT		57	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		120	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		820	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		30	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		495	mg/L	

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 33-56-503

groundwater division

Water Quality Analysis

Sample Date: 3/14/1978 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Wilcox Group

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		210	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		256.27	mg/L	
00910	CALCIUM (MG/L)		40	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		118	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.2	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		128	mg/L	
01045	IRON, TOTAL (UG/L AS FE)		770	ug/L	
01051	LEAD, TOTAL (UG/L AS PB)	<	50	ug/L	
00920	MAGNESIUM (MG/L)		7	mg/L	
01055	MANGANESE, TOTAL (UG/L AS MN)	<	50	ug/L	
71900	MERCURY, TOTAL (UG/L AS HG)	<	0.2	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.1	mg/L	
00400	PH (STANDARD UNITS), FIELD		7.7	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.63		
00955	SILICA, DISSOLVED (MG/L AS SI02)		13	mg/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		4.83		
00932	SODIUM, CALCULATED, PERCENT		68	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		126	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		846	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		22	mg/L	
00010	TEMPERATURE, WATER (CELSIUS)		26	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		454	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

STATE OF TEXAS WELL REPORT for Tracking #555568

Owner:	**Carl & Sherry McGraw**	Owner Well #:	**No Data**
Address:	**74 Shoreline Dr Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**74 Shoreline Dr Malakoff, TX 75148**	Latitude:	**32° 11' 48" N**
		Longitude:	**096° 03' 29" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **9/9/2020** Drilling End Date: **9/10/2020**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8.75**	**0**	**200**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**150**	**200**	**Sand**	**16-30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**100**	**Concrete 10 Bags/Sacks**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **N/A**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **No Data** on **2020-09-10** Measurement Method: **Air Line**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **140**

Well Tests: **Jetted** **Yield: 10 GPM**

STAR HARBOR PERMIT APPLICATION 203

Submitted on: 10/6/2020

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **East Texas Water Well**

2251 N Trade Days Blvd
Canton, TX 75103

Driller Name: **Tim Michels** License Number: **58713**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	80	Tan Sand
80	160	Shale
160	200	Black Pea Size Gravel

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	SCH 40	-2	160
4	Screen	New Plastic (PVC)	SCH 40 0.016	160	200

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 555568
Submitted on: 10/6/2020

STATE OF TEXAS WELL REPORT for Tracking #535141

Owner:	**Son Sochea**	Owner Well #:	**1**
Address:	**#3 Sundown Trail Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**#3 Sundown Trail Malakoff, TX 75148**	Latitude:	**32° 11' 36.22" N**
		Longitude:	**096° 03' 10.39" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **11/20/2019** Drilling End Date: **11/20/2019**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**190**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**130**	**Cement 12 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **50**

Distance to Septic Field or other concentrated contamination (ft.): **na**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Owner / POA**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **62 ft.** below land surface, and **0 GPM** artesian flow on **2019-11-20** Measurement Method: **Sonic/Radar**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 30 GPM with 60 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 205

Submitted on: 2/6/2020

Water Quality:	Strata Depth (ft.)	Water Type
	155 - 190	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Adam Logan**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	25	Sandy / Clay
25	54	Clay
54	63	Sandy Cay
63	110	Lignite / Shale
110	148	Sandy Shale
148	155	Rock
155	190	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	150
4	Screen	New Plastic (PVC)	Sch. 40 0.020	150	190

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #535008

Owner:	**Joy Kimbrough**	Owner Well #:	**1**
Address:	**#4 Bayside Dr Star Harbor, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 23.71" N**
Well Location:	**#4 Bayside Dr Star Harbor, TX 75148**	Longitude:	**096° 02' 56.29" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **12/19/2019** Drilling End Date: **12/19/2019**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**135**	**Cement 12 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **30**

Distance to Septic Field or other concentrated contamination (ft.): **na**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **86 ft.** below land surface, and **0 GPM** artesian flow on **2019-12-20** Measurement Method: **Sonic/Radar**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **168**

Well Tests: **Jetted** **Yield: 20 GPM with 36 ft. drawdown after 3 hours**

STAR HARBOR PERMIT APPLICATION 207

Submitted on: 2/5/2020

	Strata Depth (ft.)	Water Type
Water Quality:	153 - 195	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Adam Logan**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	3	Sand
3	58	Clay
58	70	Gravel
70	75	Shale
75	82	Sandy Shale
82	115	Shale
115	122	Sandy Shale
122	153	Shale
153	183	Sandy Shale
183	195	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	155
4	Screen	New Plastic (PVC)	Sch. 40 0.020	155	195

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 535008
Submitted on: 2/5/2020

STATE OF TEXAS WELL REPORT for Tracking #534994

Owner:	**Jim Richardson**	Owner Well #:	**2**
Address:	**64 Shoreline Dr. Star Harbor, TX 75148**	Grid #:	**33-56-5**
Well Location:	**64 Shoreline Dr. Star Harbor, TX 75148**	Latitude:	**32° 11' 51.14" N**
		Longitude:	**096° 03' 27.89" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**Replacement**	Proposed Use:	**Irrigation**

Drilling Start Date: **10/24/2019** Drilling End Date: **10/24/2019**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**120**	**Cement 11 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **10**

Distance to Septic Field or other concentrated contamination (ft.): **na**

Distance to Septic Tank (ft.): **100**

Method of Verification: **Owner / POA**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **35 ft.** below land surface, and **0 GPM** artesian flow on **2019-10-24** Measurement Method: **Air Line**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 20 GPM with 80 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 210

Submitted on: 2/5/2020

Water Quality:	Strata Depth (ft.)	Water Type
	142 - 178	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Adam Logan**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	6	Sand
6	46	Sandy Clay
46	68	Gravel
68	90	Shale
90	110	Sandy Shale
110	138	Shale
138	142	Rock
142	178	Sandy Shale
178	180	Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	140
4	Screen	New Plastic (PVC)	Sch. 40 0.020	140	180

STAR HARBOR PERMIT APPLICATION 211
Submitted on: 2/5/2020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 634994
Submitted on: 2/5/2020

STATE OF TEXAS WELL REPORT for Tracking #503716

Owner:	**William Steve Hampton**	Owner Well #:	**1**
Address:	**77 Sunset Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**77 Sunset Malakoff, TX 75148**	Latitude:	**32° 11' 38.14" N**
		Longitude:	**096° 03' 09.57" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **7/23/2018** Drilling End Date: **7/23/2018**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**177**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**4**	**Cement 3 Bags/Sacks**
	4	**130**	**Bentonite 12 Bags/Sacks**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **34**

Distance to Septic Field or other concentrated contamination (ft.): **na**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **55 ft.** below land surface, and **0 GPM** artesian flow on **2018-07-24** Measurement Method: **Sonic/Radar**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 20 GPM with 63 ft. drawdown after 4 hours**

STAR HARBOR PERMIT APPLICATION 213

Submitted on: 2/19/2019

	Strata Depth (ft.)	Water Type
Water Quality:	136 - 177	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Adam Logan**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	11	Clay
11	42	Sandy Clay
42	58	Clay
58	70	Gravel
70	98	Shale
98	105	Sandy Shale
105	136	Shale
136	177	Sandy Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	137
4	Screen	New Plastic (PVC)	Sch. 40 0.020	137	177

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 608716
Submitted on: 2/19/2019

STATE OF TEXAS WELL REPORT for Tracking #494147

Owner:	**William Pate**	Owner Well #:	**1**
Address:	**34 Sundown Trl Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 25.74" N**
Well Location:	**34 Sundown Trl Malakoff, TX 75148**	Longitude:	**096° 03' 13.9" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **10/10/2018** Drilling End Date: **10/10/2018**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8.5**	**0**	**205**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**150**	**205**	**Gravel**	**16-30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**149**	**Cement 21 Bags/Sacks**

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **8**

Distance to Septic Field or other concentrated contamination (ft.): **City**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **78 ft.** below land surface on **2018-10-15** Measurement Method: **Steel Tape**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Pump** **Yield: 20 GPM with 60 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 215

Submitted on: 10/24/2018

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Ace Water well & Pump Svc.**

262 VZCR 4801
Brownsboro, TX 75756

Driller Name: **Richard C King** License Number: **54748**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	9	clay
10	35	yellow clay
36	160	gray clay/lignite layers
161	202	gray sand
203	205	hard clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	SCH 40	0	159
4	Screen	New Plastic (PVC)	SCH 40 0.013	160	200
4	Blank	New Plastic (PVC)	SCH 40	201	205

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #484351

Owner:	**Arvin Johnson**	Owner Well #:	**1**
Address:	**53 Starview Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**53 Starview Dr. Malakoff, TX 75148**	Latitude:	**32° 11' 48.48" N**
		Longitude:	**096° 03' 40.87" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **5/8/2018** Drilling End Date: **5/9/2018**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8.75**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**2**	**Cement 1 Bags/Sacks**
	2	**15**	**Bentonite 5 Bags/Sacks**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **100**

Well Tests: **Jetted** **No Test Data Specified**

STAR HARBOR PERMIT APPLICATION 217

Submitted on: 7/16/2018

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **East Texas Water Well**

2251 N Trade Days Blvd
Canton, TX 75103

Driller Name: **Tim Michels** License Number: **58713**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Top Soil
2	20	Sandy Shale
20	40	Shale
40	100	Sandy Shale
100	120	Shale
120	140	Sandy Shale
140	180	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	SCH40	-2	140
4	Screen	New Plastic (PVC)	SCH40 0.013	140	180

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 484351
Submitted on: 7/16/2018

STATE OF TEXAS WELL REPORT for Tracking #456980

Owner:	**Kendal Armstrong**	Owner Well #:	**2**
Address:	**P.O.Box 1021** **Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**#63 Sunset** **Malakoff, TX 75148**	Latitude:	**32° 11' 35.27" N**
		Longitude:	**096° 03' 09.02" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**Replacement**	Proposed Use:	**Irrigation**

Drilling Start Date: **11/21/2016** Drilling End Date: **11/21/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**190**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

Annular Seal Data:	*Top Depth (ft.)*	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
	0	**3**	**Cement 3 Bags/Sacks**
	3	**12**	**Bentonite 5 Bags/Sacks**
	100	**130**	**Cement 6 Bags/Sacks**

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **95**

Distance to Septic Field or other concentrated contamination (ft.): **N/A**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **72 ft.** below land surface, and **0 GPM** artesian flow on **2016-11-21** Measurement Method: **Sonic/Radar**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **157**

Well Tests: **Jetted** **Yield: 30 GPM with 52 ft. drawdown after 3 hours**

STAR HARBOR PERMIT APPLICATION 219

Submitted on: 8/2/2017

	Strata Depth (ft.)	Water Type
Water Quality:	157 - 190	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Adam Logan**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	7	Clay
7	12	sand
12	50	clay
50	65	gravel
65	95	shale / lignite
95	102	sandy shale
102	140	shale
140	155	sandy shale
155	157	rock / shale
157	181	sand
181	190	sandy shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	150
4	Screen	New Plastic (PVC)	Sch. 40 0.020	150	190

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #438529

Owner:	**Wesley Holt**	Owner Well #:	**1**
Address:	**10 Starview Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 45.06" N**
Well Location:	**10 Starview Dr. Malakoff, TX 75148**	Longitude:	**096° 03' 32.92" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **7/13/2016** Drilling End Date: **7/14/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**120**	**180**	**Sand**	**12/20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**3**	**Concrete 3 Bags/Sacks**
	3	**10**	**Bentonite 4 Bags/Sacks**
	100	**120**	**Bentonite 5 Bags/Sacks**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **65**

Distance to Septic Field or other concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **n/a**

Method of Verification: **Wheel**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **82 ft.** below land surface, and **0 GPM** artesian flow on **2016-07-15** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 30 GPM with 15 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 222

Submitted on: 12/7/2016

	Strata Depth (ft.)	Water Type
Water Quality:	142 - 180	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	6	Sand
6	25	Sandy Clay
25	55	Clay
55	65	Sandy Clay
65	75	Gravel
75	82	Shale
82	90	Lignite / Clay
90	105	Sandy Shale
105	142	Shale
142	160	Sandy Shale
160	180	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4.5	Blank	New Plastic (PVC)	SDR-17	0	140
4.5	Screen	New Plastic (PVC)	SDR-17	140	180

Well Report Tracking Number: 438539
Submitted on: 12/7/2016

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 438539
Submitted on: 12/7/2016

STATE OF TEXAS WELL REPORT for Tracking #423635

Owner:	**Richard Haley**	Owner Well #:	**1**
Address:	**23 Jupiter Rd. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**23 Jupiter Rd. Malakoff, TX 75148**	Latitude:	**32° 11' 15.61" N**
		Longitude:	**096° 03' 13.14" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **2/22/2016** Drilling End Date: **2/22/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**220**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**180**	**Cement 12 Bags/Sacks**

Seal Method: **Pumped**

Sealed By: **Driller**

Distance to Property Line (ft.): **18**

Distance to Septic Field or other concentrated contamination (ft.): **na**

Distance to Septic Tank (ft.): **na**

Method of Verification: **Tape**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **No Test Data Specified**

STAR HARBOR PERMIT APPLICATION 225

Submitted on: 6/2/2016

Water Quality:	Strata Depth (ft.)	Water Type
	110 - 220	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Sand
2	18	Clay
18	34	Sandy Clay
34	60	Clay
60	70	Gravel
70	110	Shale
110	220	Sandy Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	180
4	Screen	New Plastic (PVC)	Sch. 40 0.020	180	220

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 428035
Submitted on: 6/2/2016

STATE OF TEXAS WELL REPORT for Tracking #263268

Owner:	**Donald Goodman**	Owner Well #:	**1**
Address:	**#5 Woodlawn Way Malakoff, TX 75148**	Grid #:	**33-56-5**
		Latitude:	**32° 11' 39" N**
Well Location:	**#5 Woodlawn Way Malakoff, TX 75148**	Longitude:	**096° 03' 29" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **4/13/2011** Drilling End Date: **4/13/2011**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**180**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**125**	**180**	**Gravel**	**16/30**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**125**	**18 Cement**

Seal Method: **Pressure Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **35**

Distance to Septic Field or other concentrated contamination (ft.): **NA**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **86 ft.** below land surface, and **0 GPM** artesian flow on **2011-04-13**

Measurement Method: **Unknown**

Packers: **None**

Type of Pump: **Submersible**

Pump Depth (ft.): **160**

Well Tests: **Jetted**

Yield: 20 GPM with 45 ft. drawdown after 24 hours

Water Quality:	Strata Depth (ft.)	Water Type
	155	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Apprentice Name: **Jason Curtis**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
10		Sandy Clay
24		Clay
55		Sand/Gravel
70		Shale
95		Sand
108		Shale
155		Sandy Shale
158		Sand
164		Sandy Shale
180		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	PVC	Blank 0-140 SDR-17
4.5	N	PVC	Screen 140-180 .020

Well Report Tracking Number: 268268
Submitted on: 8/23/2011

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

response to comments 3

WASTELINE ENGINEERING, INC.

August 9, 2021

Texas Commission on Environmental Quality
PO Box 13087
Austin, Texas 78711-3087

Attn: **Erwin Madrid**
Applications Review and Processing Team (MC 148)
Water Quality Division
Wastewater Permits Section

Re: **Application to Amend Permit No. WQ0016017001**
CN600631246; RN111296158
Issued to City of Star Harbor.

Mr. Madrid:

We are in receipt of your letter dated August 4, 2021 and offer the following in response to the items contained therein. Our responses are in the same order as the questions posed.

1. Section III, item 24 and 25 of the TCEQ Core Data Form: The proper county has been added to item 24, and upon confirmation of the posted street name, Briarwood Harbor Road is now being used for item 25.

2. Section 9.E on page 8 of the Administrative Report: The requested information has been added and attached for review.

3. Section 12.B on page 10 of the Administrative Report: Onsite sludge disposal is not being requested in this permit. A revised page ten has been attached for review.

4. Section 13 on page 11 of the Administrative Report: There does not appear to be any change in street names on the 2019 USGS topographic map, but I have replaced the older 2016 version with the current 2019 version and attached for review.

5. Section 1.A and 1.C on page 14 of the Domestic Administrative Report 1.1: The requested information has been added and attached for review.

6. The Notice of Receipt seems to be complete and accurate.

Hopefully, the above will adequately respond to your inquiries. However, should you have any questions or comments concerning this document and its contents, please do not hesitate to contact this office.

Thanking you in advance for your prompt attention to this matter, we remain,

Very truly yours,

WASTELINE ENGINEERING, INC.
TX Registered Engineering Firm #F-1669

Jeremy Face

cc: File
Attachments

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal (*Core Data Form should be submitted with the renewal form*) ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600631246		RN

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	7/1/2021

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
City of Star Harbor	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
		75-1427199	617045687

11. Type of Customer:	☐ Corporation	☐ Individual	Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ State ☐ Other		☐ Sole Proprietorship	☐ Other:

12. Number of Employees	13. Independently Owned and Operated?
☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ Yes ☐ No

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator

☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other:

15. Mailing Address:								
	PO Box 949							
	City	Malakoff	State	TX	ZIP	75148	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	starharbor@yahoo.com

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(903) 489-0091		(903) 489-2105

SECTION III: Regulated Entity Information

21. General Regulated Entity Information (*If 'New Regulated Entity" is selected below this form should be accompanied by a permit application*)

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated in order to meet TCEQ Agency Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name (*Enter name of the site where the regulated action is taking place.*)

Star Harbor WWTP

STAR HARBOR PERMIT APPLICATION 232

23. Street Address of the Regulated Entity: *(No PO Boxes)*								
	City		State		ZIP		ZIP + 4	
24. County	Henderson							

Enter Physical Location Description if no street address is provided.

25. Description to Physical Location:	The wastewater treatment facility will be located 3,050 feet west of the intersection of Briarwood Harbor Road and FM3062 in The City of Malakoff.

26. Nearest City	State	Nearest ZIP Code
Malakoff	TX	75148

27. Latitude (N) In Decimal:	32.177622	28. Longitude (W) In Decimal:	-96.052836

Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
4952		221320	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

34. Mailing Address:	PO Box 949							
	City	Malakoff	State	TX	ZIP	75148	ZIP + 4	

35. E-Mail Address:	starharbor@yahoo.com

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*
(903) 489-0091		(903) 489-2105

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	New Permit			

SECTION IV: Preparer Information

40. Name:	Jeremy Face	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 441-1300		(817) 441-1033	jface@wasteline-eng.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	The City of Star Harbor	Job Title:	Mayor	
Name *(In Print)*:	Warren Claxton		Phone:	(903) 489- 0091
Signature:	Warren Claxton		Date:	8/9/2021

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☒ No

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program?

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 33)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN**

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

Star Harbor WWTP

C. Owner of treatment facility: City of Star Harbor

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix (Mr., Ms., Miss):

First and Last Name: Tarrant Regional Water District

Mailing Address: 804 East Northside Drive

City, State, Zip Code: Fort Worth, TX 76102

Phone No.: 817-720-4324 E-mail Address: rick.carroll@trwd.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: 2

E. Owner of effluent disposal site:

Prefix (Mr., Ms., Miss):

First and Last Name: The City of Star Harbor

Mailing Address: 99 Sunset Boulevard

City, State, Zip Code: Malakoff, Texas 75148

Phone No.: 903-489-0091 E-mail Address: starharbor@yahoo.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment:

Attachment:

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge.

Section 11. TLAP Disposal Information (Instructions Page 36)

A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☒ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

The wastewater treatment facility will be located 3,050 feet west of the intersection of Briarwood and FM3062, northwest of the City of Malakoff and 3,500 feet south of the intersection of FM 3062 and Jupiter Road in Star Harbor in Henderson County.

B. City nearest the disposal site: Star Harbor

C. County in which the disposal site is located: Henderson

D. Disposal Site Latitude: 32°11'40.08"N Longitude: 96° 3'25.10"W

E. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

The effluent will be piped from the treatment facility to a holding pond via six inch pipe. From there, the effluent will be piped north via six inch pipe along Farm to Market 3062 until it reaches the Star Harbor Golf Course to be applied by spray irrigation.

F. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained:

The potential rainfall runoff would flow into Cedar Creek Lake.

Section 12. Miscellaneous Information (Instructions Page 37)

A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

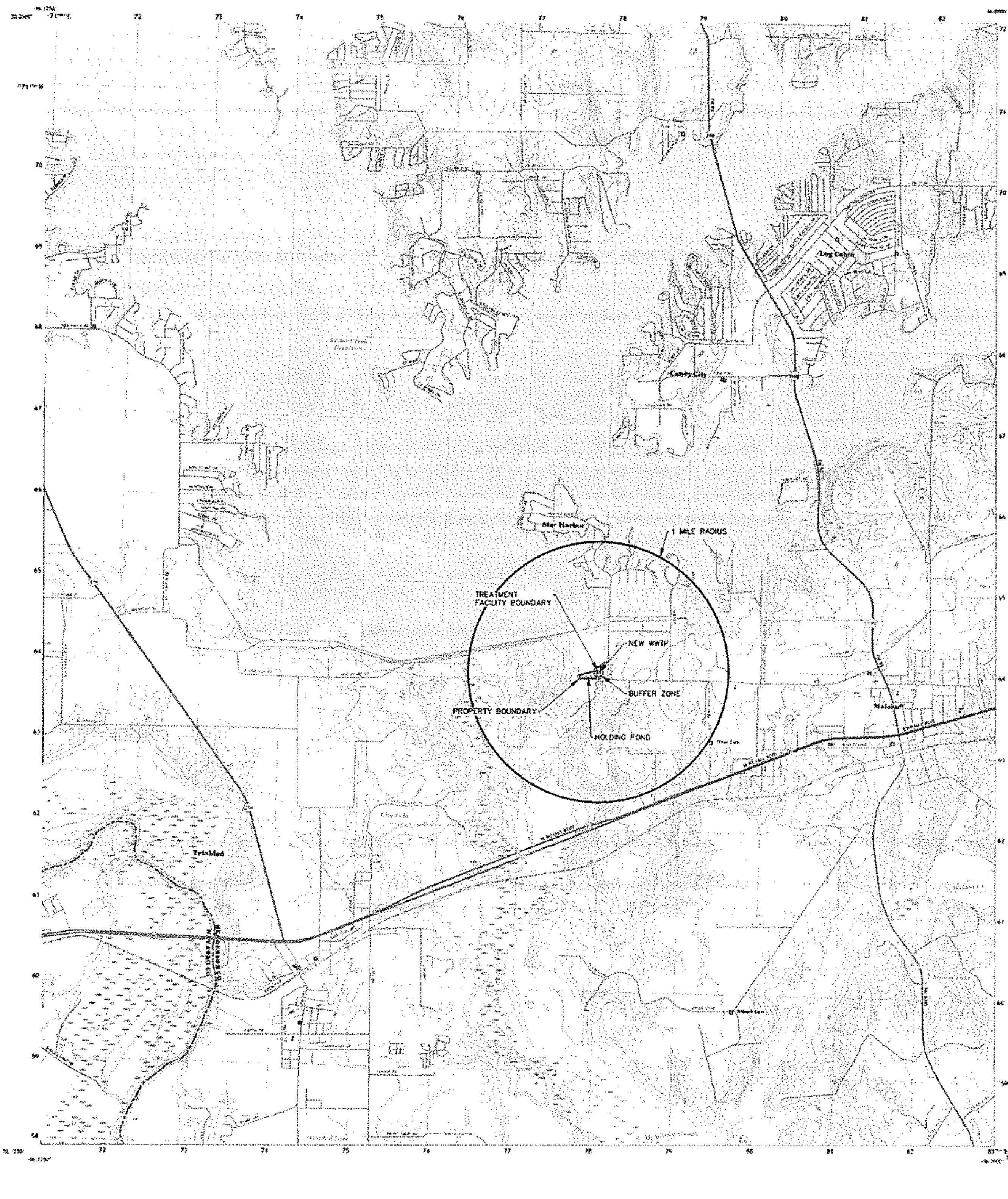
☐ Yes ☐ No ☒ Not Applicable

USGS

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

US Topo

MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES



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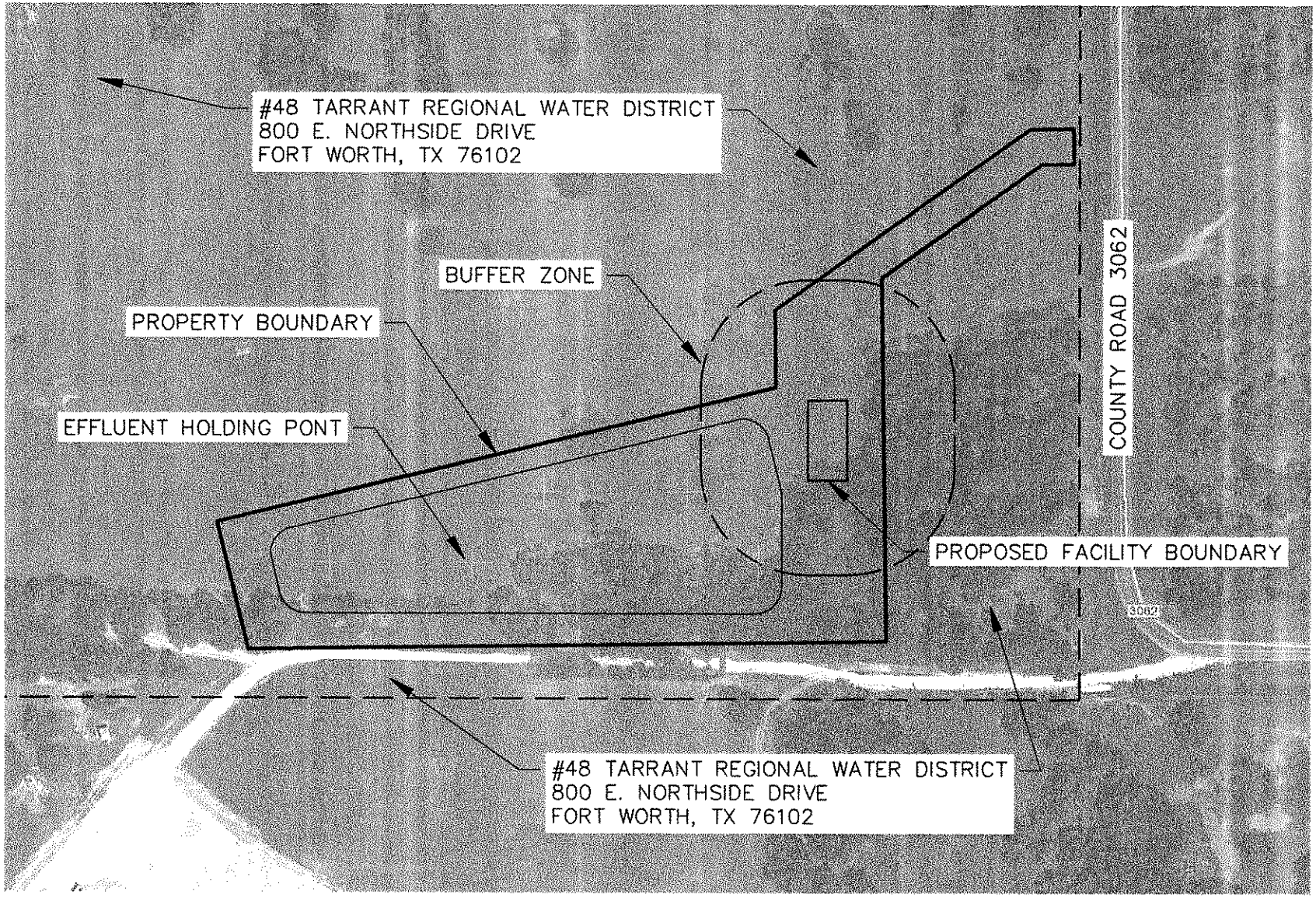
MALAKOFF, TX
2019



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GRAPHIC SCALE IN FEET

STAR HARBOR PERMIT APPLICATION 237

Date: August 2021 Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

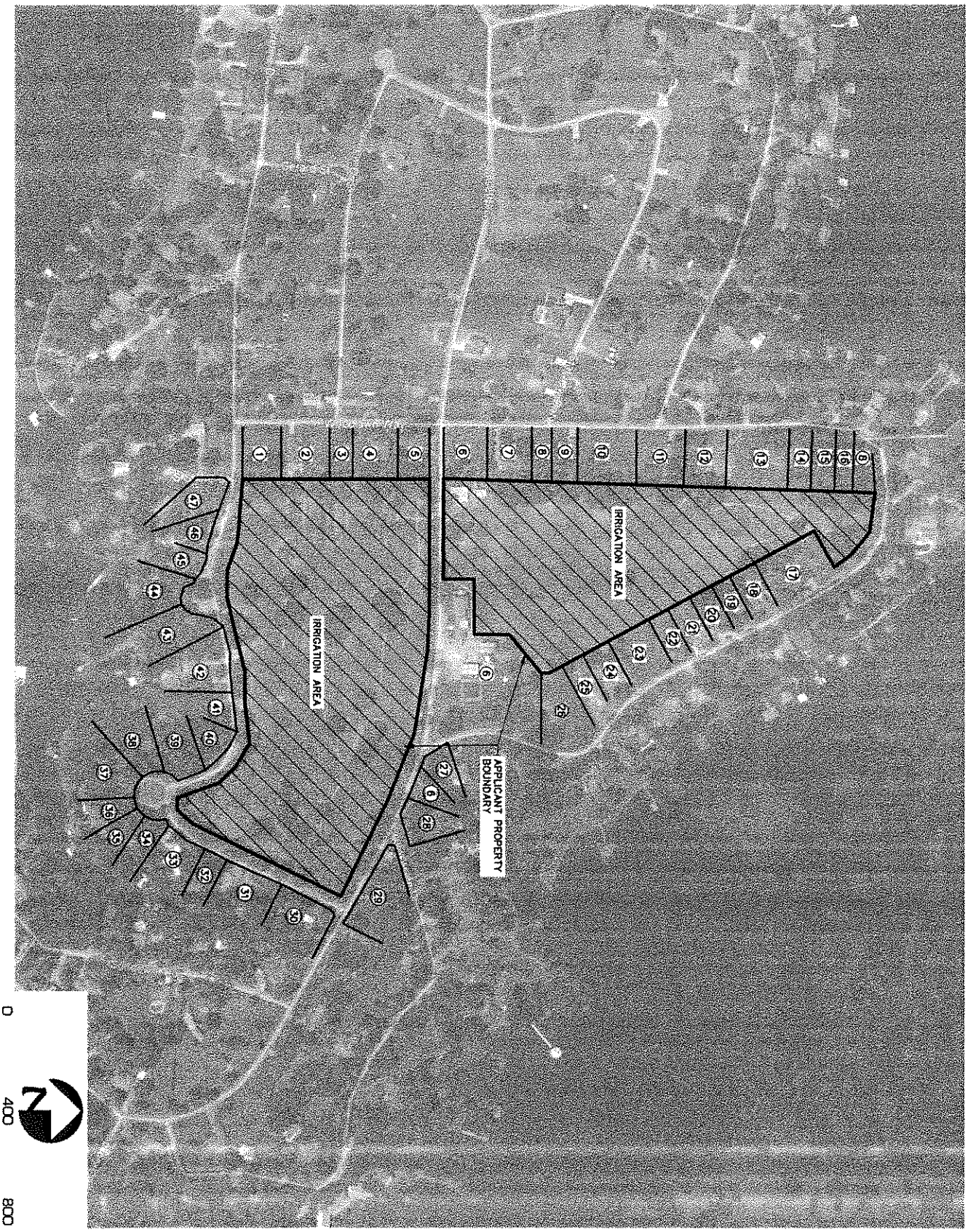
WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

LANDOWNER INFORMATION

ATTACHMENT
A4.1

STAR HARBOR PERMIT APPLICATION 238



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GRAPHIC SCALE IN FEET

ATTACHMENT A4.2

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

LANDOWNER INFORMATION 2

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

Date:	August 2021
Drawn by:	J.A.F.
Designed by:	G.B.
QA:	G.B.
Project Job#:	22024

Landowner List

#	Name	Address	City, State Zip
1	KATHY & RICHARD MARTAIN	1 WOODLAWN WAY	MALAKOFF, TX 75148
2	AUSTIN LEGACY LLC	5 WOODLAWN WAY	MALAKOFF, TX 75148
3	RANDY K & PAULA S HOLMES	5 WOODLAWN WAY	MALAKOFF, TX 75148
4	STEPHEN M & PATRICIA J NORRED	13 WOODLAWN WAY	STAR HARBOR, TX 75148
5	LORI ANN & ANDREW LEE BETZ	102 SUNSET BLVD	MALAKOFF, TX 75148
6	CITY OF STAR HARBOR TRUSTEE	PO BOX 949	MALAKOFF, TX 75148
7	DON ROBERT & PATSY RODEN	25 WOODLAWN WAY	MALAKOFF, TX 75148
8	BRIAN & RYAN CONDLEY	65 SHORELINE DRIVE	MALAKOFF, TX 75148
9	TANYA SUE DEVANEY	29 WOODLAWN WAY	MALAKOFF, TX 75148
10	MARION ADOREE FARLEY SMITH	404 S MASTER DRIVE	DALLAS, TX 75217
11	SHERRY & CARL MCGRAW	74 SHORELINE DRIVE	MALAKOFF, TX 75148
12	BRIAN & LINDSEY RODRIGUEZ	2100 FORDHAM CV	AUSTIN, TX 78723
13	WILLIAM J & LANELL RICHARDSON	64 SHORELINE	MALAKOFF, TX 75148
14	ZEMLER TRUST	5030 ESPLANADE BLVD	HIGHLAND VILLAGE, TX 75077
15	MURPH INVESTMENTS LLC	40 ARMSTRONG DRIVE	FRISCO, TX 75034
16	CHRIS & SUSAN CHILDS	300 HAWKS RIDGE TRAIL	COLLEYVILLE, TX 76034
17	DONALD LEE & SHARON DENISE CONDLEY	38 SHORELINE DRIVE	MALAKOFF, TX 75148
18	JIMMY & ANN CARGIL	PO BOX 1200	ATHENS, TX 75751
19	RODGER & LINDA DUDLEY	32 SHORELINE DRIVE	MALAKOFF, TX 75148
20	CARMEN & ARLTON DEVANEY	30 SHORELINE DRIVE	MALAKOFF, TX 75148
21	TAMMY LYNN MARQUEZ	28 SHORELINE DRIVE	MALAKOFF, TX 75148
22	WATKINS EIRMA R ESTATE	4305 SAN PEDRO COURT	MIDLAND, TX 79707
23	CLAYTON & PAYTON SPOOR	232 WINN ROAD	SUNNYVALE, TX 75182
24	BYRON H POOL	20 SHORELINE DRIVE	MALAKOFF, TX 75148
25	EDWARD & BARBARA KING	18 SHORELINE DRIVE	MALAKOFF, TX 75148
26	RICKEY & JULIA DORRIS	16 SHORELINE DRIVE	MALAKOFF, TX 75148
27	BOBBIE J GRANDSTAFF FAMILY TRUST	3 SHORELINE DR SH	MALAKOFF, TX 75148
28	RAYMOND M BATTEN III	51 LAKESIDE DR	STAR HARBOR, TX 75148
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30	RUSSELL ALAN & SUZANNE BENHARDT	253 SHORELINE DR	MALAKOFF, TX 75148
31	ZACKARY & EMILY GREEN	247 SHORELINE DR	MALAKOFF, TX 75148
32	SHAWN EVERETT & MISTY ANN COOPER	243 SHORELINE DR	MALAKOFF, TX 75148
33	LARRY M & MARTHA M GREEN	241 SHORELINE DRIVE	MALAKOFF, TX 75148
34	SCOTT BRINKER	237 SHORELINE DR	STAR HARBOR, TX 75148
35	GARRY W & DEBRA K HAWES	12050 FALCON ROAD	CRANDALL, TX 75114
36	RUBEN JESSE & CRISSY A SIERRA	233 SHORELINE DR	MALAKOFF, TX 75148
37	ELLIS ACQUISITIONS LLC	9222 FOREST HILLS BLVD	DALLAS, TX 75218
38	RONALD W NORRIS	4003 MANORWOOD CRT	ARLINGTON, TX 76016
39	JUSTIN MCMILLIN	412 COVE DR	BILOXI, MS 39531-2002
40	DAVID & VELMA BURGESS	5065 AMESBURY DR APT 312	DALLAS, TX 75206-4629
41	3 STAR HARBOR HOUSES LLC	1112 N LOCUST	DENTON, TX 76201
42	ANDREW XU	217 SHORELINE DR	MALAKOFF, TX 75148
43	WILLIAM FRANK & KIM ARNOLD	211 SHORELINE DR	MALAKOFF, TX 75148
44	MARION & MORRISON ANTHONY WADE DECELL-MORRISON	90 SHORELINE DR	MALAKOFF, TX 75148-4752
45	MICHAEL H LOINETTE	205 SHORELINE DR	MALAKOFF, TX 75148
46	RAUL & PAULA & SPARACIO RUTHANN RODRIGUEZ	2408 COYOTE RUN RD	ROCKWALL, TX 75087
47	MARK AARON LIVING TRUST & ZAMORA KERRY NICO GUNDER	6608 BRADFORD ESTATES DR	SACHSE, TX 75048
48	Tarrant Regional Water District	800 E. NORTHSIDE DRIVE	FORT WORTH, TX 76102

response to comments 4

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ZACKARY & EMILY GREEN
247 SHORELINE DR
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SHAWN EVERETT & MISTY ANN COOPER
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GARRY W & DEBRA K HAWES
12050 FALCON ROAD
CRANDALL TX 75114

RUBEN JESSE & CRISSY A SIERRA
233 SHORELINE DR
MALAKOFF TX 75148

RUBEN JESSE & CRISSY A SIERRA
233 SHORELINE DR
MALAKOFF TX 75148

RUBEN JESSE & CRISSY A SIERRA
233 SHORELINE DR
MALAKOFF TX 75148

RUBEN JESSE & CRISSY A SIERRA
233 SHORELINE DR
MALAKOFF TX 75148

ELLIS ACQUISITIONS LLC
9222 FOREST HILLS BLVD
DALLAS TX 75218

ELLIS ACQUISITIONS LLC
9222 FOREST HILLS BLVD
DALLAS TX 75218

ELLIS ACQUISITIONS LLC
9222 FOREST HILLS BLVD
DALLAS TX 75218

ELLIS ACQUISITIONS LLC
9222 FOREST HILLS BLVD
DALLAS TX 75218

RONALD W NORRIS
4003 MANORWOOD CRT
ARLINGTON TX 76016

RONALD W NORRIS
4003 MANORWOOD CRT
ARLINGTON TX 76016

RONALD W NORRIS
4003 MANORWOOD CRT
ARLINGTON TX 76016

RONALD W NORRIS
4003 MANORWOOD CRT
ARLINGTON TX 76016

JUSTIN MCMILLIN
412 COVE DR
BILOXI MS 39531

JUSTIN MCMILLIN
412 COVE DR
BILOXI MS 39531

JUSTIN MCMILLIN
412 COVE DR
BILOXI MS 39531

JUSTIN MCMILLIN
412 COVE DR
BILOXI MS 39531

DAVID & VELMA BURGESS
5065 AMESBURY DR APT 312
DALLAS TX 75206

DAVID & VELMA BURGESS
5065 AMESBURY DR APT 312
DALLAS TX 75206

DAVID & VELMA BURGESS
5065 AMESBURY DR APT 312
DALLAS TX 75206

DAVID & VELMA BURGESS
5065 AMESBURY DR APT 312
DALLAS TX 75206

3 STAR HARBOR HOUSES LLC
1112 N LOCUST
DENTON TX 76201

3 STAR HARBOR HOUSES LLC
1112 N LOCUST
DENTON TX 76201

3 STAR HARBOR HOUSES LLC
1112 N LOCUST
DENTON TX 76201

3 STAR HARBOR HOUSES LLC
1112 N LOCUST
DENTON TX 76201

3 STAR HARBOR HOUSES LLC
1112 N LOCUST
DENTON TX 76201

ANDREW XU
217 SHORELINE DR
MALAKOFF TX 75148

ANDREW XU
217 SHORELINE DR
MALAKOFF TX 75148

ANDREW XU
217 SHORELINE DR
MALAKOFF TX 75148

ANDREW XU
217 SHORELINE DR
MALAKOFF TX 75148

WILLIAM FRANK & KIM ARNOLD
211 SHORELINE DR
MALAKOFF TX 75148

WILLIAM FRANK & KIM ARNOLD
211 SHORELINE DR
MALAKOFF TX 75148

WILLIAM FRANK & KIM ARNOLD
211 SHORELINE DR
MALAKOFF TX 75148

WILLIAM FRANK & KIM ARNOLD
211 SHORELINE DR
MALAKOFF TX 75148

MARION & MORRISON ANTHONY
WADE DECELL-MORRISON
90 SHORELINE DR
MALAKOFF TX 75148

MARION & MORRISON ANTHONY
WADE DECELL-MORRISON
90 SHORELINE DR
MALAKOFF TX 75148

MARION & MORRISON ANTHONY
WADE DECELL-MORRISON
90 SHORELINE DR
MALAKOFF TX 75148

MARION & MORRISON ANTHONY
WADE DECELL-MORRISON
90 SHORELINE DR
MALAKOFF TX 75148

MICHAEL H LOINETTE
205 SHORELINE DR
MALAKOFF TX 75148

MICHAEL H LOINETTE
205 SHORELINE DR
MALAKOFF TX 75148

MICHAEL H LOINETTE
205 SHORELINE DR
MALAKOFF TX 75148

MICHAEL H LOINETTE
205 SHORELINE DR
MALAKOFF TX 75148

RAUL & PAULA & SPARACIO RUTHANN RODRIGUEZ
2408 COYOTE RUN RD
ROCKWALL TX 75087

RAUL & PAULA & SPARACIO RUTHANN RODRIGUEZ
2408 COYOTE RUN RD
ROCKWALL TX 75087

RAUL & PAULA & SPARACIO RUTHANN RODRIGUEZ
2408 COYOTE RUN RD
ROCKWALL TX 75087

RAUL & PAULA & SPARACIO RUTHANN RODRIGUEZ
2408 COYOTE RUN RD
ROCKWALL TX 75087

MARK AARON LIVING TRUST & ZAMORA KERRY NICO GUNDER
6608 BRADFORD ESTATES DR
SACHSE TX 75048

MARK AARON LIVING TRUST & ZAMORA KERRY NICO GUNDER
6608 BRADFORD ESTATES DR
SACHSE TX 75048

MARK AARON LIVING TRUST & ZAMORA KERRY NICO GUNDER
6608 BRADFORD ESTATES DR
SACHSE TX 75048

MARK AARON LIVING TRUST & ZAMORA KERRY NICO GUNDER
6608 BRADFORD ESTATES DR
SACHSE TX 75048

Tarrant Regional Water District
800 E NORTHSIDE DRIVE
FORT WORTH TX 76102

Tarrant Regional Water District
800 E NORTHSIDE DRIVE
FORT WORTH TX 76102

Tarrant Regional Water District
800 E NORTHSIDE DRIVE
FORT WORTH TX 76102

Tarrant Regional Water District
800 E NORTHSIDE DRIVE
FORT WORTH TX 76102

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?

   ☐ Yes ☒ No

5. If the answer is yes to question 1, 2, 3, or 4, public notices in an alternative language are required. Which language is required by the bilingual program?

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 33)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN**

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

Star Harbor WWTP

C. Owner of treatment facility: City of Star Harbor

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix (Mr., Ms., Miss):

First and Last Name: Tarrant Regional Water District

Mailing Address: 804 East Northside Drive

City, State, Zip Code: Fort Worth, TX 76102

Phone No.: 817-720-4324 E-mail Address: rick.carroll@trwd.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: 2

E. Owner of effluent disposal site:

Prefix (Mr., Ms., Miss):

First and Last Name: The City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, Texas 75148

Phone No.: 903-489-0091 E-mail Address: starharbor@yahoo.com

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment:

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Tommy Posey

Credential (P.E, P.G., Ph.D., etc.):

Title: Utility Director

Organization Name: City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

DMR data is required to be submitted electronically. Create an account at: https://www.tceq.texas.gov/permitting/netdmr/netdmr.html.

Section 8. Public Notice Information (Instructions Page 31)

A. Individual Publishing the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☒ E-mail Address

☐ Fax

☒ Regular Mail

C. Contact person to be listed in the Notices

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Glenn Breisch

Credential (P.E, P.G., Ph.D., etc.): Professional Engineer

Title:

Organization Name: Wasteline Engineering, Inc.

Mailing Address: 208 South Front Street

City, State, Zip Code: Aledo, TX 76008

Phone No.: 817-441-1300 Ext.: Fax No.: 817-441-1033

E-mail Address: gbreisch@wasteline-eng.com

Section 6. Billing Information (Instructions Page 30)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

Section 7. DMR/MER Contact Information (Instructions Page 31)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (EPA 3320-1) or maintain Monthly Effluent Reports.

Provide a brief description of the need for a co-permittee:

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0.

Attachment: 1

Section 4. Application Contact Information (Instructions Page 30)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Warren Claxton

Credential (P.E, P.G., Ph.D., etc.):

Title: Mayor

Organization Name: City of Star Harbor

Mailing Address: PO Box 949

City, State, Zip Code: Malakoff, TX 75148

Phone No.: 903-489-0091 Ext.: Fax No.: 903-489-2105

E-mail Address: starharbor@yahoo.com

Check one or both: ☒ Administrative Contact ☐ Technical Contact

B. Prefix (Mr., Ms., Miss): Mr.

First and Last Name: Glenn Breisch

Credential (P.E, P.G., Ph.D., etc.): Professional Engineer

Title:

Organization Name: Wasteline Engineering, Inc.

Mailing Address: 208 South Front Street

City, State, Zip Code: Aledo, TX 76008

Phone No.: 817-441-1300 Ext.: Fax No.: 817-441-1033

E-mail Address: gbreisch@wasteline-eng.com

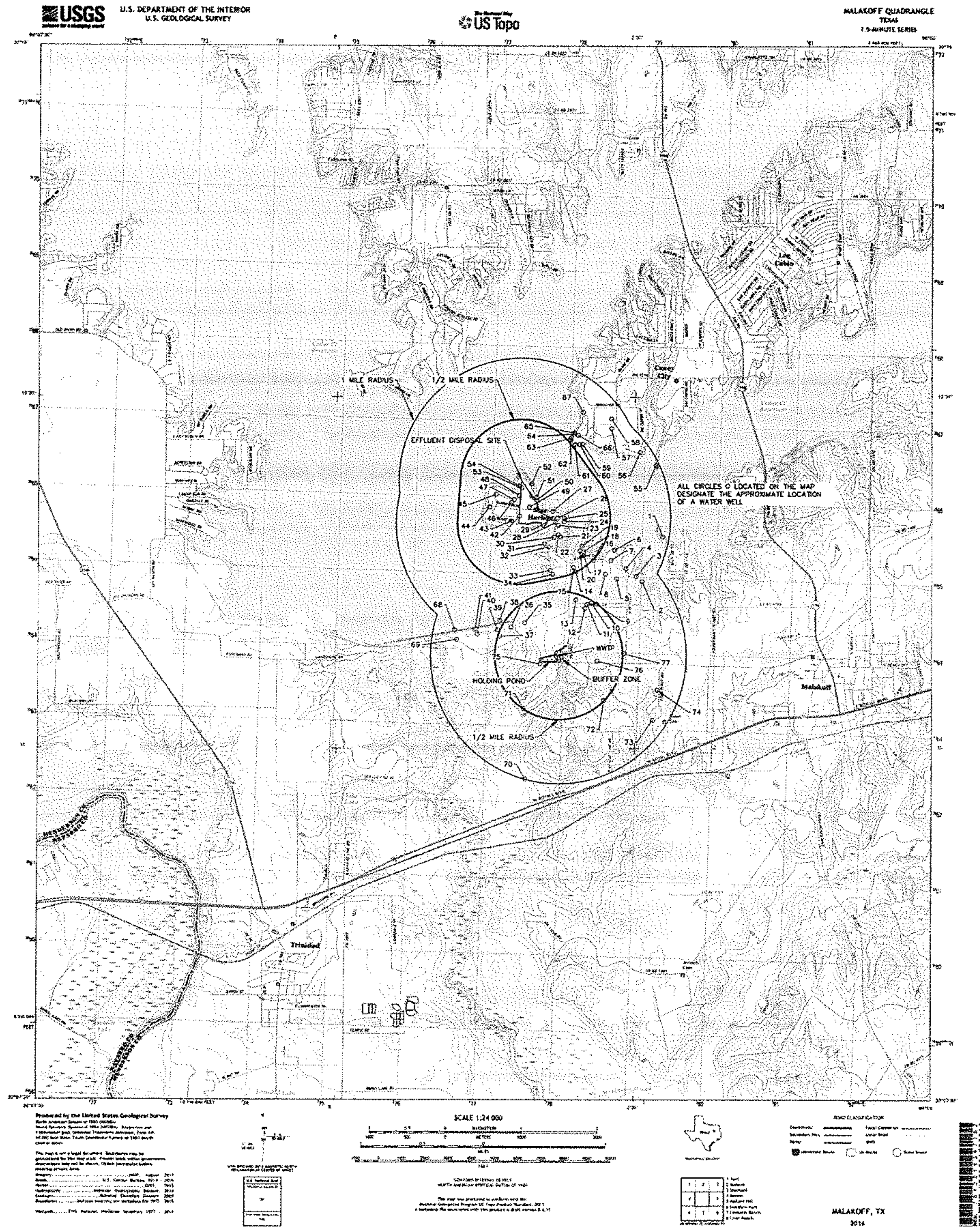
Check one or both: ☐ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 30)

Provide two names of individuals that can be contacted throughout the permit term.

A. Prefix (Mr., Ms., Miss): Mr.

response to comments 5


USGS
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES
1 MILE RADIUS
1/2 MILE RADIUS
EFFLUENT DISPOSAL SITE
ALL CIRCLES O LOCATED ON THE MAP DESIGNATE THE APPROXIMATE LOCATION OF A WATER WELL
WWTP
HOLDING POND
BUFFER ZONE
1/2 MILE RADIUS
Log Cabin
Caney City
Malakoff
Trinidad
SCALE 1:24 000
MALAKOFF, TX
2016

Well and Map Information - Treatment Facility

#	Well ID	Well Use	Producing? (Y/N)	Open, Cased, Capped, or Plugged?
9	439825	Domestic	Y	N/A
10	439828	Domestic	Y	N/A
11	380270	Domestic	Y	N/A
12	439827	Domestic	Y	N/A
13	176653	Domestic	Y	N/A
35	258560	Monitor	Y	N/A
36	364184	Monitor	Y	N/A
37	364214	Monitor	Y	N/A
71	476791	Stock	Y	N/A
75	429161	Rig Supply	Y	N/A
76	3356507	Unused	N	Plugged

STATE OF TEXAS WELL REPORT for Tracking #476791

Owner:	**Castell Realty, LLC**	Owner Well #:	**2**
Address:	**3501 Rankin Dallas, TX 75205**	Grid #:	**33-56-5**
Well Location:	**CR 3062 Malakoff, TX 75148**	Latitude:	**32° 10' 17.73" N**
		Longitude:	**096° 03' 26.2" W**
	FROM FM 198 in Malakoff take CR 3062 2.1 miles at sharp curve go straight into gate	Elevation:	**No Data**
Well County:	**Henderson**		
Type of Work:	**New Well**	Proposed Use:	**Stock**

Drilling Start Date: **4/10/2018** Drilling End Date: **4/11/2018**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**11**	**0**	**200**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**86**	**200**	**Gravel**	**12-20**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**Concrete 12 Bags/Sacks**
	65	**85**	**Bentonite 6 Bags/Sacks**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **300+**

Distance to Septic Field or other concentrated contamination (ft.): **200+**

Distance to Septic Tank (ft.): **200+**

Method of Verification: **Owners**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **88 ft.** below land surface on **2018-04-13** Measurement Method: **Steel Tape**

Packers: **Plastic at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **181**

Well Tests: **Estimated** **Yield: 30 GPM with 100 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 255

Submitted on: 4/17/2018

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Ace Water well & Pump Svc.**

262 VZCR 4801
Brownsboro, TX 75756

Driller Name: **Richard C King** License Number: **54748**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	9	red clay
10	56	gray clay
57	101	hard gray clay/sand streaks
102	198	gray sand/hard rock layers
199	200	gray clay

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
6	Blank	New Plastic (PVC)	SCH 40	0	99
6	Screen	New Plastic (PVC)	SCH 40 0.020	100	200

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 476791
Submitted on: 4/17/2018

STATE OF TEXAS WELL REPORT for Tracking #439828

Owner:	**Lisa Pearson**	Owner Well #:	**1**
Address:	**15898 Maple Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**15898 Maple Dr. Malakoff, TX 75148**	Latitude:	**32° 11' 01.49" N**
		Longitude:	**096° 02' 52.18" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **11/2/2016** Drilling End Date: **11/4/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**3**	**Concrete 16 Bags/Sacks**
	3	**10**	**Bentonite 4 Bags/Sacks**
	120	**140**	**Bentonite 6 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **60**

Distance to Septic Field or other concentrated contamination (ft.): **100**

Distance to Septic Tank (ft.): **115**

Method of Verification: **Satelite imagery**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **95 ft.** below land surface, and **0 GPM** artesian flow on **2016-11-04** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **168**

Well Tests: **Jetted** **Yield: 25 GPM with 19 ft. drawdown after 2 hours**

Water Quality:	Strata Depth (ft.)	Water Type
	145 - 195	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	Clay
10	43	Sandy Clay
43	75	Gravel
75	110	Shale / Lignite
110	122	Sandy Shale
122	135	Sand
135	145	Shale
145	175	Sandy Shale
175	195	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	155
4	Screen	New Plastic (PVC)	Sch. 40 0.020	155	195

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #439827

Owner:	**Donna J. McClung**	Owner Well #:	**1**
Address:	**15911 Maple Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**15911 Maple Dr. Malakoff, TX 75148**	Latitude:	**32° 10' 59.19" N**
		Longitude:	**096° 02' 55.3" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **10/27/2016** Drilling End Date: **10/31/2016**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
11.5	**0**	**75**
7.875	**75**	**195**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**75**	**Cement 20 Bags/Sacks**
0	**3**	**Concrete 15 Bags/Sacks**
3	**10**	**Bentonite 4 Bags/Sacks**
120	**140**	**Bentonite 8 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **90**

Distance to Septic Field or other concentrated contamination (ft.): **105**

Distance to Septic Tank (ft.): **90**

Method of Verification: **Satelite imagery**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **96 ft.** below land surface, and **0 GPM** artesian flow on **2016-11-01** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **168**

Well Tests: **Jetted** **Yield: 20 GPM with 23 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 259

Submitted on: 1/2/2017

Water Quality:	Strata Depth (ft.)	Water Type
	145 - 195	Fresh

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**
5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	Clay
10	43	Sandy Clay
43	75	Gravel
75	110	Shale / Lignite
110	122	Sandy Shale
122	135	Sand
135	145	Shale
145	175	Sandy Shale
175	195	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	155
10	Blank	New Plastic (PVC)	Sch. 40	0	75
4	Screen	New Plastic (PVC)	Sch. 40 0.020	155	195

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Well Report Tracking Number: 439937
Submitted on: 1/2/2017

STATE OF TEXAS WELL REPORT for Tracking #439825

Owner:	**Kay Miers**	Owner Well #:	**1**
Address:	**15894 Maple Dr. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**15894 Maple Dr. Malakoff, TX 75148**	Latitude:	**32° 11' 01.07" N**
		Longitude:	**096° 02' 49.52" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **10/26/2016** Drilling End Date: **10/27/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**210**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Screened**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**4**	**Concrete 3 Bags/Sacks**
4	**10**	**Bentonite 2 Bags/Sacks**
100	**140**	**Cement 6 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **90**

Distance to Septic Field or other concentrated contamination (ft.): **105**

Distance to Septic Tank (ft.): **90**

Method of Verification: **Satelite imagery**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **95 ft.** below land surface, and **0 GPM** artesian flow on **2016-10-28** Measurement Method: **Sonic/Radar**

Packers: **Plastic at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **165**

Well Tests: **Jetted** **Yield: 20 GPM with 18 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 261

Submitted on: 1/2/2017

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	10	Clay
10	43	Sandy Clay
43	75	Gravel
75	110	Shale / Lignite
110	122	Sandy Shale
122	135	Sand
135	145	Shale
145	175	Sandy Shale
175	195	Sand

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	Sch. 40	0	155
4	Screen	New Plastic (PVC)	Sch. 40 0.020	155	195

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #429161

Owner:	**Block T Petroleum Inc.**	Owner Well #:	**Norwood #1**
Address:	**PO Box 2080 Tyler, TX 75710**	Grid #:	**33-56-5**
Well Location:	**CR 3062, Norwood #1 Malakoff, TX**	Latitude:	**32° 10' 36" N**
		Longitude:	**096° 03' 17.3" W**
	31 through Athens to Malakoff T/R on 198 go to cr 3062 T/L go 2.1 miles at curve go straight in gate.	Elevation:	**362 ft. above sea level**
Well County:	**Henderson**		
Type of Work:	**New Well**	Proposed Use:	**Rig Supply**

Drilling Start Date: **8/8/2016** Drilling End Date: **8/8/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8.5**	**0**	**160**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**100**	**160**	**Sand**	**20/12**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**Cement 8 Bags/Sacks**
	90	**100**	**Bentonite 150 Chips**

Seal Method: **Gravity**

Sealed By: **Driller**

Distance to Property Line (ft.): **na**

Distance to Septic Field or other concentrated contamination (ft.): **150+**

Distance to Septic Tank (ft.): **na**

Method of Verification: **No Data**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **50 ft.** below land surface on **2016-08-08** Measurement Method: **Weighted Line**

Packers: **Paper at 10 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **126**

Well Tests: **Jetted** **Yield: 75 GPM with 50 ft. drawdown after 4 hours**

STAR HARBOR PERMIT APPLICATION 263

Submitted on: 8/12/2016

Water Quality:	Strata Depth (ft.)	Water Type
	No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Fas-Line Services Inc.**

PO Box 3009
Kilgore, TX 75663

Driller Name: **Clint Scudday** License Number: **58765**

Apprentice Name: **Ricky Jones** Apprentice Number: **58032**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	50	red and grey clay
50	160	sand and pea gravel

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Blank	New Plastic (PVC)	sch 40	0	120
4	Perforated or Slotted	New Plastic (PVC)	sch 40 0.020	120	160

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STAR HARBOR PERMIT APPLICATION 264
Submitted on: 8/12/2016

STATE OF TEXAS WELL REPORT for Tracking #380270

Owner:	**Jerry Spiva**	Owner Well #:	**1**
Address:	**15912 Maple Ln. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**15912 Maple Lane Malakoff, TX 75148**	Latitude:	**32° 11' 01" N**
		Longitude:	**096° 02' 54" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **7/28/2014** Drilling End Date: **7/30/2014**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
12.25	**0**	**80**
7.875	**80**	**200**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
150	**200**	**Gravel**	**16/30**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**80**	**12 Cement**
0	**150**	**25 Cement**

Seal Method: **Pressure**

Sealed By: **CWS**

Distance to Property Line (ft.): **30**

Distance to Septic Field or other concentrated contamination (ft.): **140**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **95 ft.** below land surface, and **0 GPM** artesian flow on **2014-07-30** Measurement Method: **Unknown**

Packers: **None**

Type of Pump: **Submersible** Pump Depth (ft.): **168**

Well Tests: **Jetted** **Yield: 25 GPM with 23 ft. drawdown after 2 hours**

STAR HARBOR PERMIT APPLICATION 265

Submitted on: 11/6/2014

Water Quality:	Strata Depth (ft.)	Water Type
	170	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

5745 FM 2494
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0	Clay	
15	Sandy Clay	
21	Clay	
50	Gravel	
72	Shale	
115	Sandy Shale	
124	Shale	
131	Sand	
136	Shale	
145	Sandy Shale	
170	Sand	
195	Shale	
200	TD	

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
10"	N	PVC- Blank	0-80 Sch. 40
4"	N	PVC-Blank	0-157 Sch. 40
4"	N	PVC-Screen	157-197 .020

Well Report Tracking Number: 380270
Submitted on: 11/6/2014

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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STATE OF TEXAS WELL REPORT for Tracking #364214

Owner:	**Tarrant Regional Water District**	Owner Well #:	**LA04**
Address:	**1500 Northpark Drive Suite 200 Fort Worth, TX 76102**	Grid #:	**33-56-5**
		Latitude:	**32° 10' 47" N**
Well Location:	**Lee Park Road Malakoff, TX**	Longitude:	**096° 03' 39" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Start Date: **4/2/2014** Drilling End Date: **4/2/2014**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	**8**	**0**	**65**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
Filter Pack Intervals:	**43**	**65**	**Gravel**	**20/40**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	**1**	**43**	**5cement/bent**
	40	**43**	**1ben/pellets3/8**

Seal Method: **tremmie**

Sealed By: **Fugro**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **0.5 GPM** artesian flow on **2014-04-03** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

STAR HARBOR PERMIT APPLICATION 268

Submitted on: 5/29/2014

	Strata Depth (ft.)	Water Type
Water Quality:	1.0	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Fugro Consultants**

2880 Virgo Lane
Dallas, TX 75229

Driller Name: **Robert Cromeans** License Number: **2954**

Comments: **artesian flow started at 1.0 after setting well put 1' riser on water level wasat 8in above ground put 4" upright for protection**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0.0	5.0	clayey sand yellow brown wet @1.0
5.0	22.0	clayey sand brownish yellow with sand layers
22.0	47.0	clay yellowish red and very light gray with atrace of sand
47.0	62.5	sand very light gray and very pale brown
62.5	64.0	gravel
64.0	65.0	shale med gray

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
2in	new	national well pvc scdl 80	blank riser abg1.0-44.5
2in	new	national well pvc scdl 80	screen 44.5-64.5 .010
2in	new	national well pvc scdl 80	well point 64.5-65.0

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Well Report Tracking Number: 384014
Submitted on: 5/29/2014

STATE OF TEXAS WELL REPORT for Tracking #364196

Owner:	**Tarrant Regional Water District**	Owner Well #:	**LA03**
Address:	**1500 Northpark Drive Suite 200 Fort Worth, TX 76102**	Grid #:	**33-56-5**
Well Location:	**Lee Park Road Malakoff, TX**	Latitude:	**32° 10' 50" N**
		Longitude:	**096° 03' 40" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Start Date: **4/3/2014** Drilling End Date: **4/3/2014**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**8**	**0**	**35**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
Filter Pack Intervals:	**23**	**35**	**Gravel**	**20/40**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**1**	**23**	**3cement/bent**
	19	**23**	**1ben/pellets3/8**

Seal Method: **tremmie**

Sealed By: **Fugro**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **1 GPM** artesian flow on **2014-04-03** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

STAR HARBOR PERMIT APPLICATION 270

Submitted on: 5/29/2014

Water Quality:	Strata Depth (ft.)	Water Type
	4.0	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Fugro Consultants**

2880 Virgo Lane
Dallas, TX 75229

Driller Name: **Robert Cromeans** License Number: **2954**

Comments: **artesian flow started at 12.0 after well completion 1' riser with pressure gauge on top with 3/4" gate valve on side protected with 12" upright**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0.0	5.0	clay very sandy brown
5.0	12.0	clayey sand olive brown wet
12.0	21.0	sand olive brown with clay layers
21.0	33.0	sand med gray
33.0	34.0	gravel
34.0	35.0	shale med gray

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
2in	new	national well pvc scdl 80	blank riser abg1.0-24.5
2in	new	national well pvc scdl 80	screen 24.5-34.5 .010
2in	new	national well pvc scdl 80	well point 34.5-35.0

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 264096
Submitted on: 5/29/2014

STATE OF TEXAS WELL REPORT for Tracking #364168

Owner:	**Tarrant Regional Water District**	Owner Well #:	**LA01**
Address:	**1500 Northpark Drive Suite 200 Fort Worth, TX 76102**	Grid #:	**33-56-5**
Well Location:	**Lee Park Road Malakoff, TX**	Latitude:	**32° 10' 54" N**
		Longitude:	**096° 03' 39" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Start Date: **4/5/2014** Drilling End Date: **4/5/2014**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	**8**	**0**	**75**

Drilling Method: **Hollow Stem Auger**

Borehole Completion: **Filter Packed**

	Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
Filter Pack Intervals:	**58**	**75**	**Gravel**	**20/40**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	**1**	**54**	**6cement/bent**
	54	**58**	**1ben/pellets3/8**

Seal Method: **tremmie**

Sealed By: **Fugro**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **33.38 ft.** below land surface on **2014-04-05** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

	Strata Depth (ft.)	Water Type
Water Quality:	42.0	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Fugro Consultants**

2880 Virgo Lane
Dallas, TX 75229

Driller Name: **Robert Cromeans** License Number: **2954**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	25	fill clay tan brown reddish bown
25	35	clayey sand brownish yellow
35	60	clay sandy and very light gray to yellowish red
60	72.5	sand very pale brown with clay layers
72.5	74	gravel
74	75	shale med gray

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
2in	new	national well pvc scdl 80	blank riser 0.50-60.0
2in	new	national well pvc scdl 80	screen 60.0-74.5 .010
2in	new	national well pvc scdl 80	well point 74.5-75.0

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STAR HARBOR PERMIT APPLICATION 273
Submitted on: 5/29/2014

STATE OF TEXAS WELL REPORT for Tracking #258560

Owner:	**Tarrant Regional Water District**	Owner Well #:	**161+00F**
Address:	**800 E. Northside Drive Fort Worth, TX 76102**	Grid #:	**33-56-5**
Well Location:	**Dam of Cedar Creek Reservoir Tool, TX 75148**	Latitude:	**32° 10' 53" N**
		Longitude:	**096° 03' 26" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Start Date: **5/17/2011** Drilling End Date: **5/27/2011**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
9.875	**0**	**20**
3.5	**20**	**103**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
49.5	**55**	**Gravel**	**20/40**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**20**	**9 cement**
0	**47**	**2 cement**
55	**103**	**2.5 cement**

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Alternative Procedure Used**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

STAR HARBOR PERMIT APPLICATION 274

Submitted on: 7/1/2011

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **ETTL Engineers & Consultants Inc.**

1717 E. Erwin
Tyler, TX 75702

Driller Name: **Thomas Cook** License Number: **2853**

Apprentice Name: **Jonathon Hart** Apprentice Number: **58753**

Comments: **Bentonite seal at 47-49.5' (0.5 bentonite)**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	3	Sand with clay-brown
3	4.5	Clay with sand-yellow brown & red brown
4.5	7	Sandy clay-gray & yellow brown
7	38.5	Clay-yellow brown & gray
38.5	47	Sand with clay-brown yellow & gray
47	54.5	Sand with gravel-yellow brown
54.5	88	Sandstone-gray
88	103	Sandy shale-gray, blue green, & gray

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	New	PVC Sch. 40	0 - 20
1	New	PVC Sch. 40	- 0 - 50
1	New	PVC Sch. 40	- slotted 50 - 55 0.010"

STAR HARBOR TERMINAL APPLICATION 275
Submitted on: 7/1/2011

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Well Report Tracking Number: 258560
Submitted on: 7/1/2011

STATE OF TEXAS WELL REPORT for Tracking #176653

Owner:	**Dan Wolverton**	Owner Well #:	**1**
Address:	**16018 Maple Ln. Malakoff, TX 75148**	Grid #:	**33-56-5**
Well Location:	**16018 Maple Ln. Malakoff, TX 75148**	Latitude:	**32° 11' 03" N**
		Longitude:	**096° 03' 00" W**
Well County:	**Henderson**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **4/1/2009** Drilling End Date: **4/7/2009**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
12.25	**0**	**70**
7.875	**70**	**200**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
150	**200**	**Gravel**	**12/20**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**70**	**12 Cement**
130	**150**	**5 Cement**

Seal Method: **Pressure - Tremmie**

Sealed By: **CWS**

Distance to Property Line (ft.): **65**

Distance to Septic Field or other concentrated contamination (ft.): **300+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner / measured**

Surface Completion: **Surface Slab Installed**

Water Level: **82 ft.** below land surface, and **0 GPM** artesian flow on **2009-04-08** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **180**

Well Tests: **Pump** **Yield: 30 GPM with 42 ft. drawdown after 24 hours**

Water Quality:

Strata Depth (ft.)	Water Type
150	Wilcox

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Comb's Well Service**

709 Ruth St.
Athens, TX 75751

Driller Name: **Tracy Logan** License Number: **55083**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

From (ft)	To (ft)	Description
0		Sand
2		Clay
50		Gravel Coarse
70		Shale
90		Rock
91		Shale
150		Sandy Shale
160		Shale
175		Sand
200		TD

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
10	N	PVC	Surface 0 - 70 Sch. 40
4.5	N	PVC	Blank 0 - 160 SDR-17
4.5	N	PVC	Screen 160 - 200 .020

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 33-56-509

groundwater division

GWDB Reports and Downloads | **Well Basic Details** | Scanned Documents

State Well Number	3356509
County	Henderson
River Basin	Trinity
Groundwater Management Area	11
Regional Water Planning Area	C - Region C
Groundwater Conservation District	Neches & Trinity Valleys GCD
Latitude (decimal degrees)	32.1725
Latitude (degrees minutes seconds)	32° 10' 21" N
Longitude (decimal degrees)	-96.046111
Longitude (degrees minutes seconds)	096° 02' 46" W
Coordinate Source	+/- 1 Second
Aquifer Code	124WLCX - Wilcox Group
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	340
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	200
Well Depth Source	Owner
Drilling Start Date	
Drilling End Date	
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Domestic
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	Submersible
Pump Depth (feet below land surface)	
Power Type	Electric Motor
Annular Seal Method	
Surface Completion	
Owner	Bill Norwood
Driller	
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	U.S. Geological Survey
Created Date	4/20/1994
Last Update Date	10/10/1994

Remarks

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

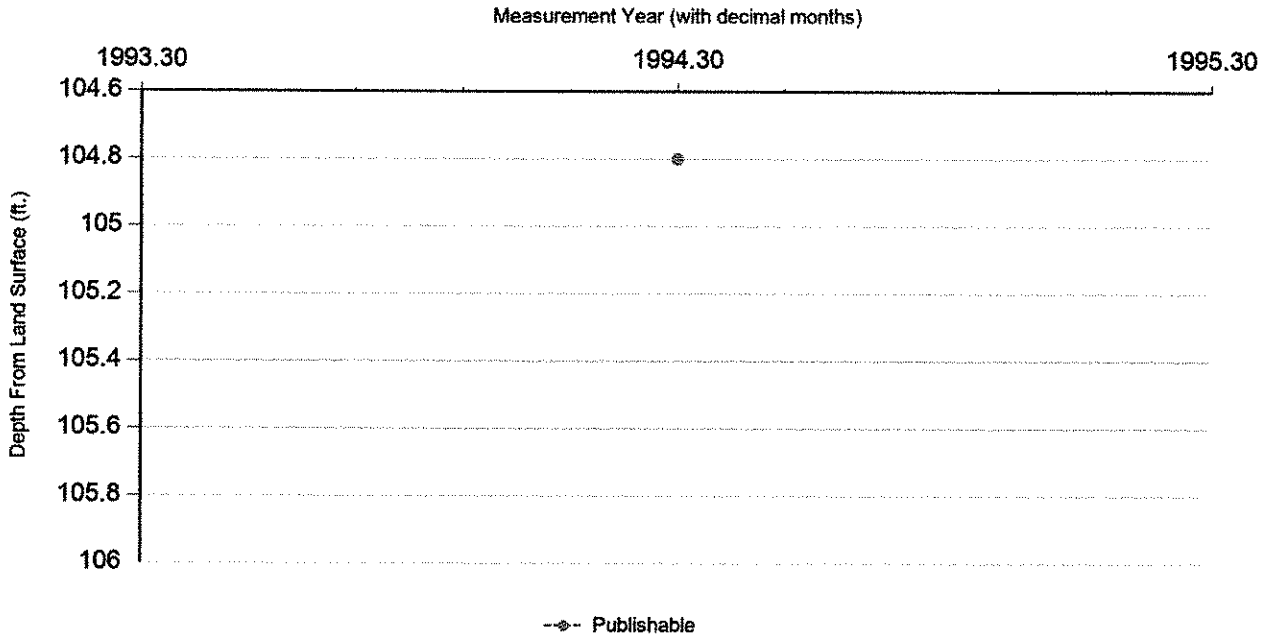
Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	4/20/1994		104.8		235.2	1	U.S. Geological Survey	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 4/20/1994 **Sample Time:** 1500 **Sample Number:** 1 **Collection Entity:** U.S. Geological Survey

Sampled Aquifer: Wilcox Group

Analyzed Lab: U.S. Geological Survey Lab **Reliability:** From USGS for NAWQA with "Clean Sample" technique

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
34506	1,1,1-TRICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34516	1,1,2,2-TETRACHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34511	1,1,2-TRICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34496	1,1-DICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34501	1,1-DICHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
34536	1,2-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
32103	1,2-DICHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
34541	1,2-DICHLOROPROPANE, TOTAL, UG/L	<	0.2	ug/L	
34566	1,3-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
34561	1,3-DICHLOROPROPENE IN WHOLE WATER SAMPLE, UG/L	<	0.2	ug/L	
34571	1,4-DICHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
34576	2-CHLOROETHYL VINYL ETHER, TOTAL, UG/L	<	0.2	ug/L	
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		180	mg/L	
01106	ALUMINUM, DISSOLVED (UG/L AS AL)		6	ug/L	
01000	ARSENIC, DISSOLVED (UG/L AS AS)	<	1	ug/L	
01005	BARIUM, DISSOLVED (UG/L AS BA)		100	ug/L	
34030	BENZENE IN WTR SMPL GC-MS, HEXADECONE EXTR.(UG/L)	<	0.2	ug/L	
01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	<	1	ug/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		219.66	mg/L	
71870	BROMIDE, DISSOLVED, (MG/L AS BR)		0.26	mg/L	
32101	BROMODICHLOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
32104	BROMOFORM, TOTAL, UG/L	<	0.2	ug/L	
01025	CADMIUM, DISSOLVED (UG/L AS CD)	<	1	ug/L	
00910	CALCIUM (MG/L)		24	mg/L	
32102	CARBON TETRACHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
00681	CARBON, DISSOLVED ORGANIC (MG/L AS C)		0.7	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		86	mg/L	
34301	CHLOROBENZENE, TOTAL, UG/L	<	0.2	ug/L	
34311	CHLOROETHANE, TOTAL, UG/L	<	0.2	ug/L	
32106	CHLOROFORM, TOTAL, UG/L	<	0.2	ug/L	
01030	CHROMIUM, DISSOLVED (UG/L AS CR)		4	ug/L	
34704	CIS-1,3-DICHLOROPROPENE, TOTAL, UG/L	<	0.2	ug/L	
01035	COBALT, DISSOLVED (UG/L AS CO)	<	3	ug/L	

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
01040	COPPER, DISSOLVED (UG/L AS CU)	<	1	ug/L	
32105	DIBROMOCHLOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
34668	DICHLORODIFLUOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
78113	ETHYLBENZENE IN WATER, UG/L	<	0.2	ug/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)	<	0.1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		87	mg/L	
01046	IRON, DISSOLVED (UG/L AS FE)	<	3	ug/L	
01049	LEAD, DISSOLVED (UG/L AS PB)	<	1	ug/L	
00920	MAGNESIUM (MG/L)		6.7	mg/L	
01056	MANGANESE, DISSOLVED (UG/L AS MN)		52	ug/L	
34414	METHYL BROMIDE, DISSOLVED UG/L	<	0.2	ug/L	
34418	METHYL CHLORIDE, TOTAL (UG/L)	<	0.2	ug/L	
38260	METHYLENE BLUE ACTIVE SUBSTANCE, MG/L	<	0.02	mg/L	
34423	METHYLENE CHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
01060	MOLYBDENUM, DISSOLVED (UG/L AS MO)	<	1	ug/L	
39250	NAPHTHALENES, POLYCHLORINATED, TOTAL, UG/L	<	0.1	ug/L	
01065	NICKEL, DISSOLVED (UG/L AS NI)	<	1	ug/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)	<	0.04	mg/L	
00613	NITRITE NITROGEN, DISSOLVED (MG/L AS N)	<	0.01	mg/L	
00631	NITRITE PLUS NITRATE, DISSOLVED (MG/L AS N)	<	0.05	mg/L	
00608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)		0.41	mg/L	
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)		0.4	mg/L	
00607	NITROGEN, ORGANIC, DISSOLVED (MG/L AS N)		0	mg/L	
00300	OXYGEN, DISSOLVED (MG/L)		0.2	mg/L	
39516	PCBs, TOTAL, UG/L	<	0.1	ug/L	
00400	PH (STANDARD UNITS), FIELD		8.3	SU	
32730	PHENOLS, TOTAL (UG/L)	<	1	ug/L	
00660	PHOSPHATE, ORTHO (MG/L AS PO4)		0.34	mg/L	
00666	PHOSPHORUS, DISSOLVED (MG/L AS P)		0.1	mg/L	
00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)		0.11	mg/L	
00937	POTASSIUM, TOTAL (MG/L AS K)		2.6	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		1.85		
70300	RESIDUE, TOTAL FILTERABLE (DRIED AT 180C), MG/L		583	mg/L	
01145	SELENIUM, DISSOLVED (UG/L AS SE)	<	1	ug/L	
00955	SILICA, DISSOLVED (MG/L AS SI02)		14	mg/L	
01075	SILVER, DISSOLVED (UG/L AS AG)	<	1	ug/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		7.91		
00932	SODIUM, CALCULATED, PERCENT		80	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		170	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		1010	MICR	
81708	STYRENE, TOTAL, MG/L	<	0.2	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		160	mg/L	
00010	TEMPERATURE, WATER (CELSIUS)		22	C	

STAR HARBOR PERMIT APPLICATION 283

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 33-56-509

groundwater division

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
34476	TETRACHLOROETHYLENE, DISSOLVED, UG/L	<	0.2	ug/L	
34010	TOLUENE IN WTR SMPL GC-MS, HEXADONE EXTR. (UGL/)	<	0.2	ug/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		571	mg/L	
34546	TRANS-1,2-DICHLOROETHENE, TOTAL, UG/L	<	0.2	ug/L	
34699	TRANS-1,3-DICHLOROPROPENE, TOTAL, UG/L	<	0.2	ug/L	
39180	TRICHLOROETHYLENE, TOTAL, UG/L	<	0.2	ug/L	
34488	TRICHLOROFLUOROMETHANE, TOTAL, UG/L	<	0.2	ug/L	
22703	URANIUM, NATURAL, DISSOLVED (UG/L AS U)	<	1	ug/L	
39175	VINYL CHLORIDE, TOTAL, UG/L	<	0.2	ug/L	
81551	XYLENE, TOTAL, UG/L	<	0.2	ug/L	
01090	ZINC, DISSOLVED (UG/L AS ZN)		5	ug/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 33-56-507

groundwater division

GWDB Reports and Downloads | **Well Basic Details** | Scanned Documents

State Well Number	3356507
County	Henderson
River Basin	Trinity
Groundwater Management Area	11
Regional Water Planning Area	C - Region C
Groundwater Conservation District	Neches & Trinity Valleys GCD
Latitude (decimal degrees)	32.176944
Latitude (degrees minutes seconds)	32° 10' 37" N
Longitude (decimal degrees)	-96.046945
Longitude (degrees minutes seconds)	096° 02' 49" W
Coordinate Source	+/- 1 Second
Aquifer Code	124WLCX - Wilcox Group
Aquifer	Carrizo-Wilcox
Aquifer Pick Method	
Land Surface Elevation (feet above sea level)	360
Land Surface Elevation Method	Interpolated From Topo Map
Well Depth (feet below land surface)	16
Well Depth Source	Unknown
Drilling Start Date	
Drilling End Date	0/0/1910
Drilling Method	
Borehole Completion	

Well Type	Withdrawal of Water
Well Use	Unused
Water Level Observation	Miscellaneous Measurements
Water Quality Available	Yes
Pump	None
Pump Depth (feet below land surface)	
Power Type	
Annular Seal Method	
Surface Completion	
Owner	A.M Roberts Estate
Driller	Goodgame
Other Data Available	
Well Report Tracking Number	
Plugging Report Tracking Number	
U.S. Geological Survey Site Number	
Texas Commission on Environmental Quality Source Id	
Groundwater Conservation District Well Number	
Owner Well Number	
Other Well Number	
Previous State Well Number	
Reporting Agency	
Created Date	
Last Update Date	

Remarks

Casing - No Data

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

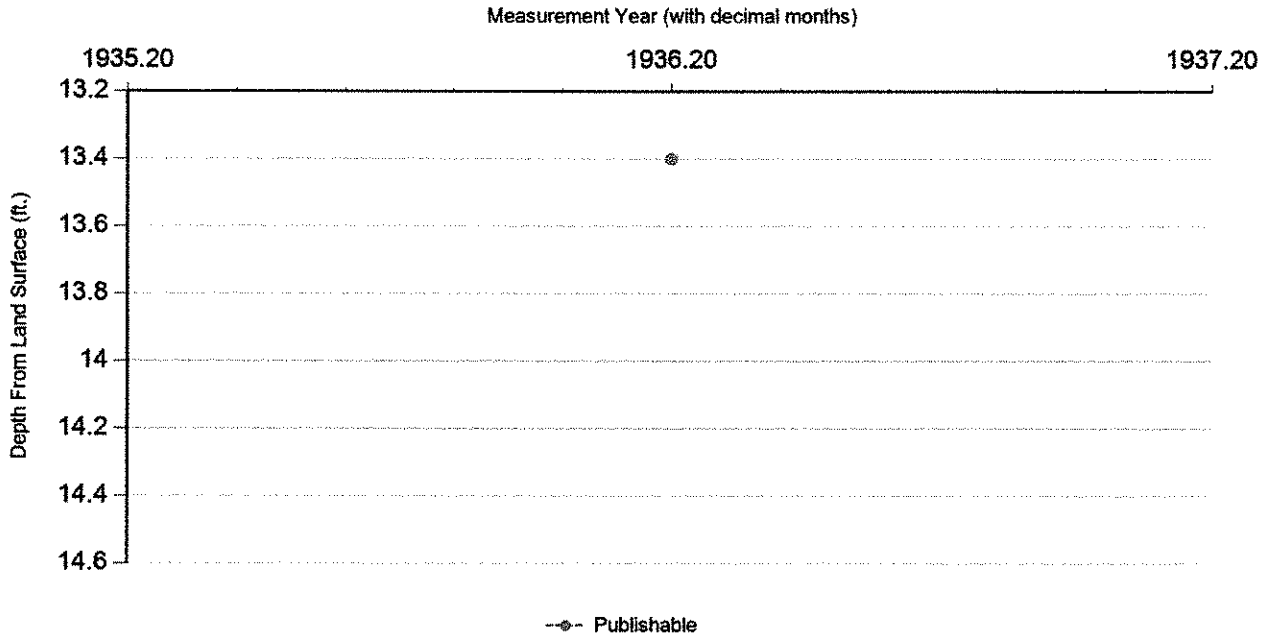
Packers - No Data

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 33-56-507

groundwater division

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	3/12/1936		13.4		346.6	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 3/12/1936 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Other Federal Agencies

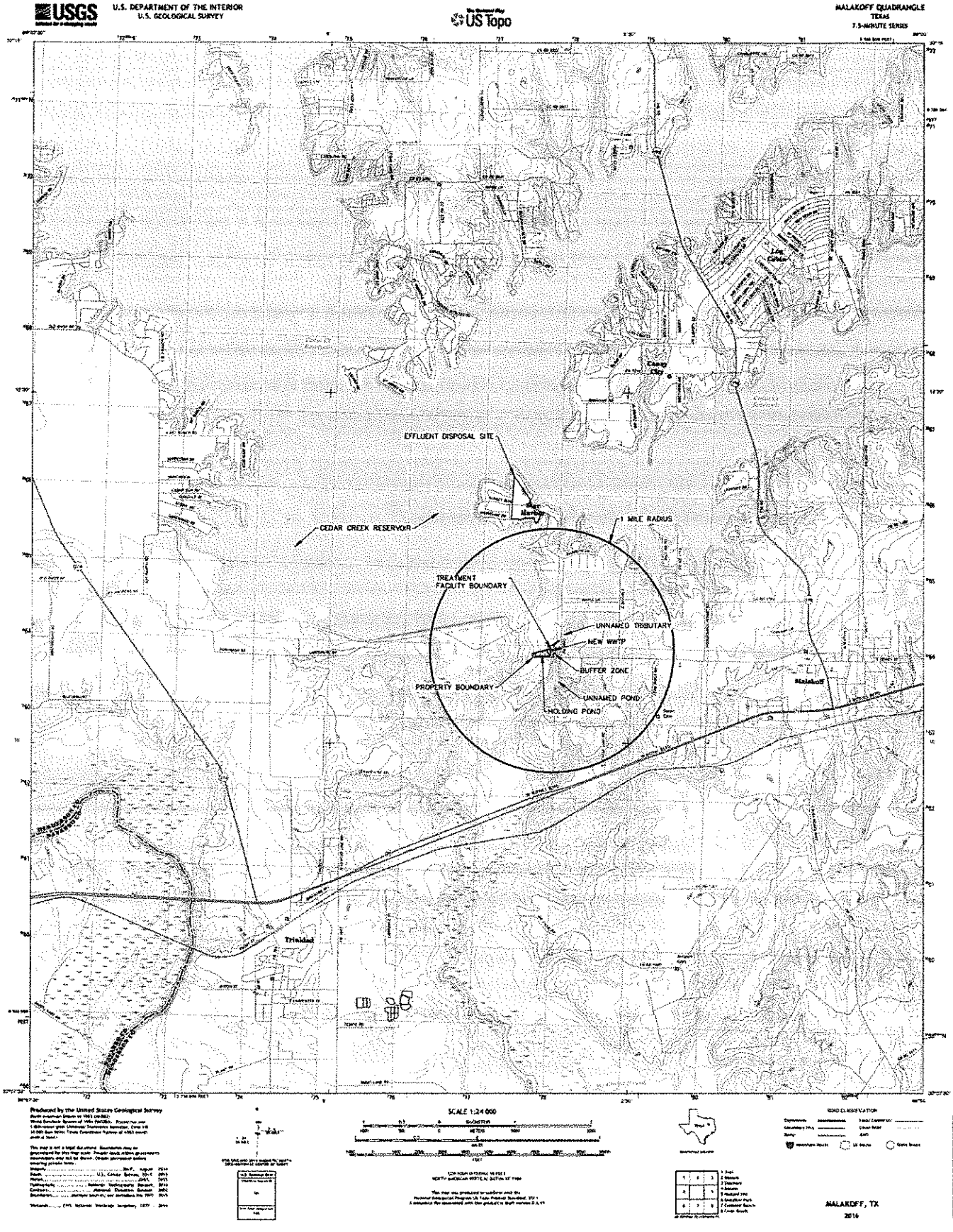
Sampled Aquifer: Wilcox Group

Analyzed Lab: WPA **Reliability:** From a report; unknown sample collection & preservation

Collection Remarks: Analytical results from M-115

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		24.59	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		30.01	mg/L	
00910	CALCIUM (MG/L)		7	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		15	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		29	mg/L	
00920	MAGNESIUM (MG/L)		3	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.64		
00932	SODIUM, CALCULATED, PERCENT		36	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)	calculated	8	mg/L	
00945	SULFATE, TOTAL (MG/L AS SO4)		5	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		52	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
MALAKOFF QUADRANGLE
TEXAS
7.5-MINUTE SERIES
EFFLUENT DISPOSAL SITE
CEDAR CREEK RESERVOIR
1 MILE RADIUS
TREATMENT FACILITY BOUNDARY
UNNAMED TRIBUTARY
NEW WWTP
BUFFER ZONE
PROPERTY BOUNDARY
UNNAMED POND
HOLDING POND
Malakoff
Trinidad
Log Cabin
Camp Joy
SCALE 1:24 000
MALAKOFF, TX
2016

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies the FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross-sections and interpolated between cross-sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Texas State Plane north central zone (FIPSZONE 4202). The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by the Texas Natural Resource Information System (TNRIS). This information was photogrammetrically compiled at a scale of at least 1:24,000 from aerial photography dated 2004.

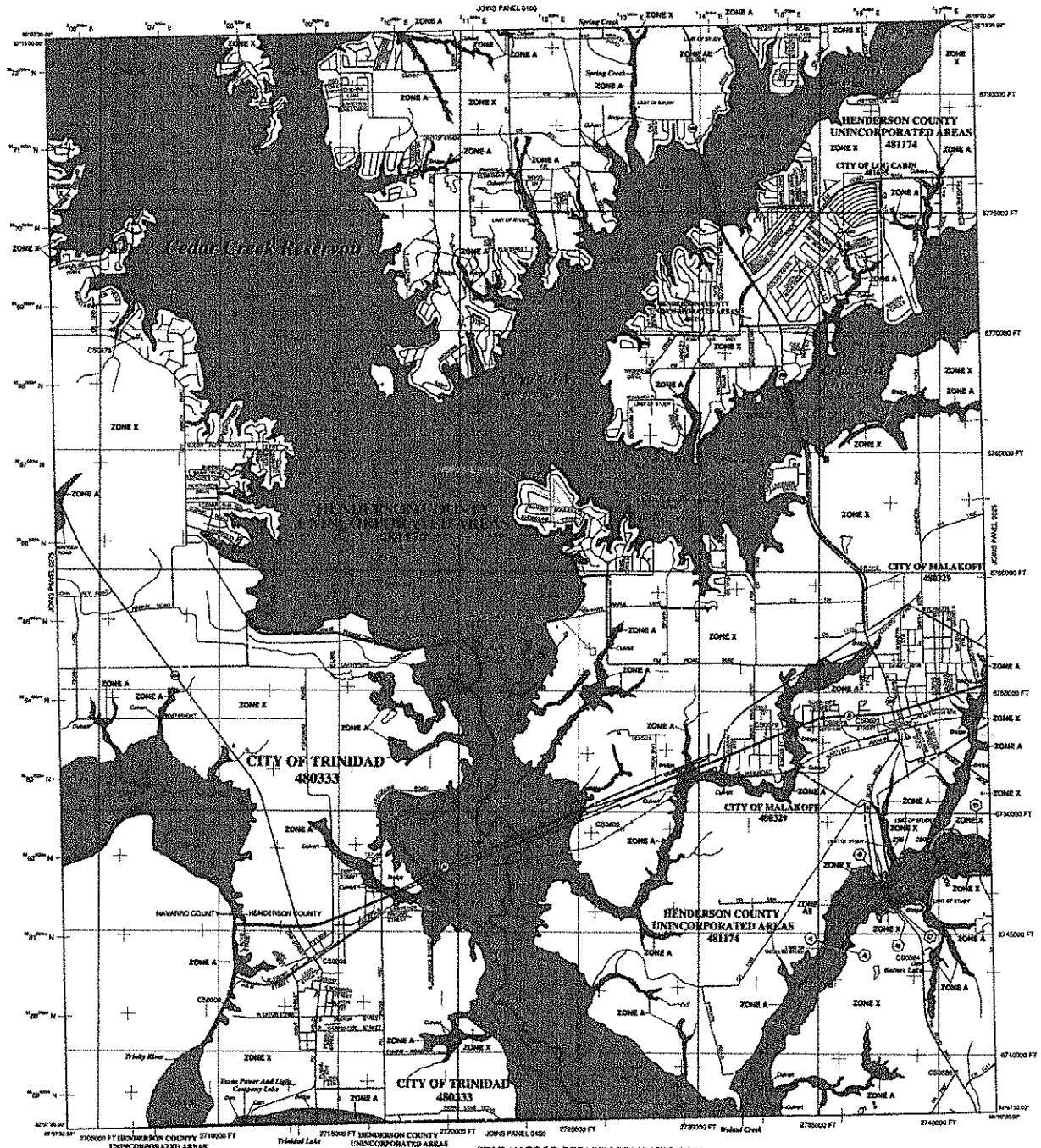
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the FEMA Map Service Center at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have questions about this map or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.



STAR HARBOR PERMIT APPLICATION 289

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, A1-A30, AR, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.
ZONE AE — Base Flood Elevations determined.
ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- Cross section line
- Transect line

97°07'30", 32°52'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
3°30'00"N — 1000-meter Universal Transverse Mercator grid values, zone 15
6000000 FT — 5000-foot grid ticks based on Texas State Plane coordinate system, north central zone (FIPSZONE 4202), Lambert Conformal Conic
DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
• 513 — Elevation reference mark
MAP REPOSITORIES — Refer to Map Repositories list on Map Index
EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP — September 27, 1991
EFFECTIVE DATES OF REVISION(S) TO THIS PANEL — August 17, 1995
April 5, 2010 - to update corporate limits, to incorporate previously issued Letters of Map Revision, to change Special Flood Hazard Areas, to reflect updated topographic information, to update roads and road names, and to reflect minor hydrologic and hydraulic modifications.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 300 600 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0300E

FIRM

FLOOD INSURANCE RATE MAP

HENDERSON COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 300 OF 575

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HENDERSON COUNTY	481174	0300	E
JAMES COVE, CITY OF	481035	0300	E
LOG CABIN, CITY OF	481036	0300	E
MALAKOFF, CITY OF	480329	0300	E
STAR HARBOR, CITY OF	481040	0300	E
TRINIDAD, CITY OF	480333	0300	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
48213C0300E

MAP REVISED
APRIL 5, 2010

Federal Emergency Management Agency

response to comments 6

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

October 05, 2021

THOMAS POSEY
CITY OF STAR HARBOR
PO BOX 949
MALAKOFF, TX 75148
starharbor@embarqmail.com

RE: Final Analytical Report Q2124769

Attn: THOMAS POSEY

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 730-6022 or environmental.lab@lcra.org. We look forward to assisting you again.

Authorized for release by:

Jason Woods

Jason Woods
Account Manager
jason.woods@lcra.org

Enclosures:

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

Workorder: Q2124769
Workorder Description: Star Harbor_Soil_Sub
Client: CITY OF STAR HARBOR
Profile: Soil Analysis Mehlich

Sampled By: Thomas Posey

Report To: THOMAS POSEY
CITY OF STAR HARBOR
PO BOX 949
MALAKOFF, TX 75148

Sample Summary

Lab ID	Sample ID	Matrix	Method	Date Collected	Date Received	Analytes Reported
Q2124769001	1A 0 to 6 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 08:30	09/10/2021 15:00	1
Q2124769001	1A 0 to 6 inches	S	Mehlich Extraction	09/08/2021 08:30	09/10/2021 15:00	5
Q2124769002	1B 6 to 18 inches	S	Mehlich Extraction	09/08/2021 08:40	09/10/2021 15:00	5
Q2124769003	1C 18 to 30 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 08:50	09/10/2021 15:00	1
Q2124769003	1C 18 to 30 inches	S	Mehlich Extraction	09/08/2021 08:50	09/10/2021 15:00	5
Q2124769004	2A 0 to 6 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 09:10	09/10/2021 15:00	1
Q2124769004	2A 0 to 6 inches	S	Mehlich Extraction	09/08/2021 09:10	09/10/2021 15:00	5
Q2124769005	2B 6 to 18 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 09:20	09/10/2021 15:00	1
Q2124769005	2B 6 to 18 inches	S	Mehlich Extraction	09/08/2021 09:20	09/10/2021 15:00	5
Q2124769006	2C 18 to 30 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 09:30	09/10/2021 15:00	1
Q2124769006	2C 18 to 30 inches	S	Mehlich Extraction	09/08/2021 09:30	09/10/2021 15:00	5
Q2124769007	3A 0 to 6 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 09:50	09/10/2021 15:00	1
Q2124769007	3A 0 to 6 inches	S	Mehlich Extraction	09/08/2021 09:50	09/10/2021 15:00	5
Q2124769008	3B 6 to 18 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 10:00	09/10/2021 15:00	1
Q2124769008	3B 6 to 18 inches	S	Mehlich Extraction	09/08/2021 10:00	09/10/2021 15:00	5
Q2124769009	3C 18 to 30 inches	S	E350.1 NH3-N by SemiAuto Col	09/08/2021 10:10	09/10/2021 15:00	1
Q2124769009	3C 18 to 30 inches	S	Mehlich Extraction	09/08/2021 10:10	09/10/2021 15:00	5

Report Definitions

MRL - Minimum Reporting Limit
LOD - Limit of Detection
ML - Maximum Limit - Client Specified
MCL - Maximum Contaminant Level
LOQ - Limit of Quantitation - Client Specified
DF - Dilution Factor
(S) - Surrogate Spike
MDL - Method Detection Limit
RPD - Relative Percent Difference

Qualifier Definitions

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

J - Analyte detected below quantitation limit
R - RPD outside duplicate precision limit
S - Spike recovery outside limit
B- Analyte detected in method blank
N - Not Accredited
M - Analyte Detected Above Maximum Contaminant Level
SL - Spike Recovery Low
SH - Spike Recovery High
H - Analyzed Past Hold Time
CR - Confirmed Result
CH - Result confirmed by historical data

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Austin, TX 78744
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Fax (512)730-6021

Workorder Summary

Sample Comments

Q2124769001 (1A 0 to 6 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769001 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769001 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769001 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769001 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769001 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769001 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769002 (1B 6 to 18 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769002 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769002 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769002 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769002 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769002 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769002 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769003 (1C 18 to 30 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769003 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769003 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769003 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769004 (2A 0 to 6 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769004 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769004 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769004 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769005 (2B 6 to 18 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769005 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769005 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769005 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769005 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769005 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769005 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

Environmental Laboratory Services
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Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

Workorder Summary

Sample Comments

Q2124769006 (2C 18 to 30 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769006 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769006 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769006 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769006 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769006 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769006 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769007 (3A 0 to 6 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769007 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769007 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769007 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769008 (3B 6 to 18 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769008 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769008 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769008 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769008 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769008 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769008 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

Q2124769009 (3C 18 to 30 inches) - Paying sample

ANALYTICAL COMMENTS: Q2124769009 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769009 (E350.1 NH3-N by SemiAuto Col) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769009 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769009 (Total_N) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769009 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

ANALYTICAL COMMENTS: Q2124769009 (Mehlich Extraction) subcontracted with customer's approval. Data provided in full with the ELS final report.

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
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Austin, TX 78744
Phone (512)730-6022
Fax (512)730-6021

QC Cross Reference

Lab ID	Sample ID	Prep Batch	Prep Method
SUB3/1002 - E350.1 NH3-N by SemiAuto Col			
Q2124769001	1A 0 to 6 inches		
Q2124769003	1C 18 to 30 inches		
Q2124769004	2A 0 to 6 inches		
Q2124769005	2B 6 to 18 inches		
Q2124769006	2C 18 to 30 inches		
Q2124769007	3A 0 to 6 inches		
Q2124769008	3B 6 to 18 inches		
Q2124769009	3C 18 to 30 inches		
SUB1/1002 - Mehlich Extraction			
Q2124769001	1A 0 to 6 inches		
Q2124769002	1B 6 to 18 inches		
Q2124769003	1C 18 to 30 inches		
Q2124769004	2A 0 to 6 inches		
Q2124769005	2B 6 to 18 inches		
Q2124769006	2C 18 to 30 inches		
Q2124769007	3A 0 to 6 inches		
Q2124769008	3B 6 to 18 inches		
Q2124769009	3C 18 to 30 inches		

End of Report

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

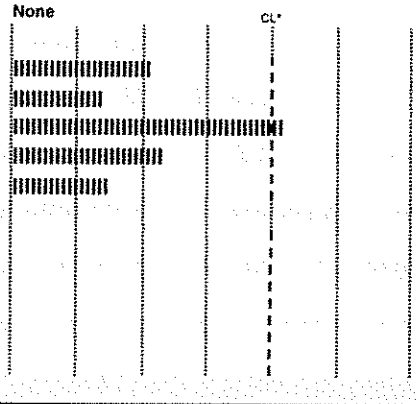
Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590199
Customer Sample ID: Q2124769-001
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	6.3	(5.8)	-	Slightly Acid	
Conductivity	66	(-)	umho/cm	None	
Nitrate-N	0	(-)	ppm**		**95** lbs N/acre
Phosphorus	12	(50)	ppm		**95** lbs P2O5/acre
Potassium	30	(150)	ppm		**200** lbs K20/acre
Calcium	306	(180)	ppm		**0** lbs Ca/acre
Magnesium	28	(50)	ppm		**10** lbs Mg/acre
Sulfur	3	(13)	ppm		**15** lbs S/acre
Sodium	4	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					**0.00** tons 100ECCE/acre



			Detailed Salinity Test (Saturated Paste Extract)		
			pH	5.8	
			Conductivity	**0.07** mmhos/cm	
			Sodium	**13** ppm	**0.581** meq/L
			Potassium	**5** ppm	**0.137** meq/L
			Calcium	**7** ppm	**0.334** meq/L
TKN	247	ppm	Magnesium	**1** ppm	**0.091** meq/L
TN	731	ppm	SAR	1.26	
Ammonium-N	1.0	ppm	SSP	50.85	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.
Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1, nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer 2.19

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590200
Customer Sample ID: Q2124769-002
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.8	(5.8)	-	Mod. Acid							
Conductivity	77	(-)	umho/cm	None							
Nitrate-N	0	(-)	ppm**					CL*			95 lbs N/acre
Phosphorus	11	(50)	ppm								95 lbs P2O5/acre
Potassium	47	(150)	ppm								170 lbs K20/acre
Calcium	299	(180)	ppm								0 lbs Ca/acre
Magnesium	51	(50)	ppm								0 lbs Mg/acre
Sulfur	6	(13)	ppm								10 lbs S/acre
Sodium	5	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

TKN	311	ppm
TN	1089	ppm
Ammonium-N	2.1	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	5.3	
Conductivity	0.10 mmhos/cm	
Sodium	15 ppm	0.669 meq/L
Potassium	12 ppm	0.317 meq/L
Calcium	12 ppm	0.592 meq/L
Magnesium	5 ppm	0.374 meq/L
SAR	0.96	
SSP	34.27	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates. http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer 2.19

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
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Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590201
Customer Sample ID: Q2124769-003
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	6.0	(5.8)	-	Mod. Acid							
Conductivity	71	(-)	umho/cm	None							
Nitrate-N	0	(-)	ppm**					CL*			100 lbs N/acre
Phosphorus	12	(50)	ppm								90 lbs P2O5/acre
Potassium	67	(150)	ppm								135 lbs K2O/acre
Calcium	491	(180)	ppm								0 lbs Ca/acre
Magnesium	71	(50)	ppm								0 lbs Mg/acre
Sulfur	7	(13)	ppm								10 lbs S/acre
Sodium	8	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.00 tons 100ECCE/acre

TKN	367	ppm
TN	1152	ppm
Ammonium-N	2.0	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	5.7	
Conductivity	0.14 mmhos/cm	
Sodium	24 ppm	1.065 meq/L
Potassium	8 ppm	0.204 meq/L
Calcium	13 ppm	0.662 meq/L
Magnesium	3 ppm	0.231 meq/L
SAR	1.59	
SSP	49.27	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.
Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red ; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer. 2.19

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
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979-845-4816 (phone)
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Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590202
Customer Sample ID: Q2124769-004
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	5.5	(5.8)	-	Mod. Acid						
Conductivity	68	(-)	umho/cm	None						
Nitrate-N	1	(-)	ppm**							
Phosphorus	12	(50)	ppm							
Potassium	59	(150)	ppm							
Calcium	333	(180)	ppm							
Magnesium	50	(50)	ppm							
Sulfur	6	(13)	ppm							
Sodium	4	(-)	ppm							
Iron										
Zinc										
Manganese										
Copper										
Boron										
Limestone Requirement										

CL*

Fertilizer Recommended

95	lbs N/acre
90	lbs P2O5/acre
150	lbs K20/acre
0	lbs Ca/acre
0	lbs Mg/acre
10	lbs S/acre
1.00	tons 100ECCE/acre

TKN	415	ppm
TN	1243	ppm
Ammonium-N	2.0	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	5.0		
Conductivity	0.14	mmhos/cm	
Sodium	20	ppm	0.849 meq/L
Potassium	12	ppm	0.296 meq/L
Calcium	12	ppm	0.576 meq/L
Magnesium	4	ppm	0.292 meq/L
SAR	1.29		
SSP	42.20		

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates. http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2.1: nitrate-N/Cd-red ; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer. 2.19

STAR HARBOR PERMIT APPLICATION 300

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590203
Customer Sample ID: Q2124769-005
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.5	(5.8)	-	Mod. Acid							
Conductivity	67	(-)	umho/cm	None							
Nitrate-N	0	(-)	ppm**					CL*			**95** lbs N/acre
Phosphorus	6	(50)	ppm								**105** lbs P2O5/acre
Potassium	80	(150)	ppm								**115** lbs K2O/acre
Calcium	514	(180)	ppm								**0** lbs Ca/acre
Magnesium	79	(50)	ppm								**0** lbs Mg/acre
Sulfur	5	(13)	ppm								**10** lbs S/acre
Sodium	4	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											**1.00** tons 100ECCE/acre

TKN	418	ppm
TN	1205	ppm
Ammonium-N	1.7	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	5.0	
Conductivity	0.08 mmhos/cm	
Sodium	14 ppm	0.604 meq/L
Potassium	8 ppm	0.216 meq/L
Calcium	7 ppm	0.332 meq/L
Magnesium	3 ppm	0.225 meq/L
SAR	1.14	
SSP	43.85	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP

ProAnalysVer. 2.19i

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

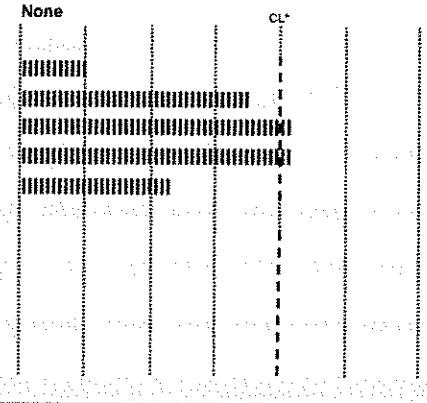
Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590204
Customer Sample ID: Q2124769-006
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.6	(5.8)	-	Mod. Acid	
Conductivity	66	(-)	umho/cm	None	
Nitrate-N	0	(-)	ppm**		95 lbs N/acre
Phosphorus	5	(50)	ppm		110 lbs P2O5/acre
Potassium	100	(150)	ppm		80 lbs K20/acre
Calcium	664	(180)	ppm		0 lbs Ca/acre
Magnesium	100	(50)	ppm		0 lbs Mg/acre
Sulfur	6	(13)	ppm		10 lbs S/acre
Sodium	4	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					1.00 tons 100ECCE/acre



			Detailed Salinity Test (Saturated Paste Extract)		
			pH	5.1	
			Conductivity	0.07 mmhos/cm	
			Sodium	13 ppm	0.580 meq/L
			Potassium	6 ppm	0.163 meq/L
			Calcium	5 ppm	0.267 meq/L
TKN	431	ppm	Magnesium	2 ppm	0.149 meq/L
TN	1429	ppm	SAR	1.27	
Ammonium-N	1.9	ppm	SSP	50.02	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates. http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red.; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer 2.19

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590205
Customer Sample ID: Q2124769-007
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.0	(5.8)	-	Strongly Acid							
Conductivity	69	(-)	umho/cm	None				CL*			
Nitrate-N	0	(-)	ppm**								95 lbs N/acre
Phosphorus	50	(50)	ppm								0 lbs P2O5/acre
Potassium	42	(150)	ppm								175 lbs K2O/acre
Calcium	129	(180)	ppm								120 lbs Ca/acre
Magnesium	26	(50)	ppm								10 lbs Mg/acre
Sulfur	5	(13)	ppm								10 lbs S/acre
Sodium	4	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre

TKN	229	ppm
TN	1107	ppm
Ammonium-N	1.4	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	4.5	
Conductivity	0.08 mmhos/cm	
Sodium	17 ppm	0.759 meq/L
Potassium	9 ppm	0.237 meq/L
Calcium	4 ppm	0.177 meq/L
Magnesium	2 ppm	0.169 meq/L
SAR	1.82	
SSP	56.55	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates. http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red ; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer. 2.19

STAR HARBOR PERMIT APPLICATION 303

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590206
Customer Sample ID: Q2124769-008
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.2	(5.8)	-	Strongly Acid							
Conductivity	55	(-)	umho/cm	None							
Nitrate-N	1	(-)	ppm**					CL*			95 lbs N/acre
Phosphorus	15	(50)	ppm								85 lbs P2O5/acre
Potassium	32	(150)	ppm								195 lbs K20/acre
Calcium	141	(180)	ppm								120 lbs Ca/acre
Magnesium	26	(50)	ppm								10 lbs Mg/acre
Sulfur	2	(13)	ppm								15 lbs S/acre
Sodium	4	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre

			Detailed Salinity Test (Saturated Paste Extract)		
			pH	4.6	
			Conductivity	0.04 mmhos/cm	
			Sodium	10 ppm	0.415 meq/L
			Potassium	2 ppm	0.063 meq/L
			Calcium	2 ppm	0.079 meq/L
TKN	156	ppm	Magnesium	0 ppm	0.037 meq/L
TN	1079	ppm	SAR	1.73	
Ammonium-N	0.8	ppm	SSP	69.84	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates. http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red., P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer 2.19

STAR HARBOR PERMIT APPLICATION 304

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
LCRA Environmental Laboratory Services
Jason Woods
3505 Montopolis
AUSTIN, TX 78744

Sample received on: 9/17/2021
Printed on: 9/30/2021
Area Represented: not provided

Henderson County
Laboratory Number: 590207
Customer Sample ID: Q2124769-009
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.2	(5.8)	-	Strongly Acid							
Conductivity	58	(-)	umho/cm	None				CL*			
Nitrate-N	0	(-)	ppm**								**95** lbs N/acre
Phosphorus	11	(50)	ppm								**95** lbs P2O5/acre
Potassium	30	(150)	ppm								**195** lbs K2O/acre
Calcium	151	(180)	ppm								**120** lbs Ca/acre
Magnesium	24	(50)	ppm								**10** lbs Mg/acre
Sulfur	2	(13)	ppm								**15** lbs S/acre
Sodium	4	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											**1.00** tons 100ECCE/acre

TKN	160	ppm
TN	980	ppm
Ammonium-N	0.8	ppm

Detailed Salinity Test (Saturated Paste Extract)

pH	4.7	
Conductivity	0.06 mmhos/cm	
Sodium	13 ppm	0.555 meq/L
Potassium	13 ppm	0.327 meq/L
Calcium	3 ppm	0.164 meq/L
Magnesium	3 ppm	0.219 meq/L
SAR	1.27	
SSP	43.87	

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

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http://soiltesting.tamu.edu/webpages/calculator.html

Methods: pH and conductivity/ 2:1; nitrate-N/Cd-red., P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP.

ProAnalysisVer 2.19

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services

Request for Analysis Chain-of-Custody Record

Q2124769

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 730-6022 or 1-800-776-5272
Fax: (512) 730-6021
https://els.lcra.org

Project:	City of Star Harbor	Client:	City of Star Harbor	Report To:	City of Star Harbor PO Box 949 Malakoff TX 75148
Collector:	Thomas Posey	Contact:	Thomas Posey	Invoice To:	City of Star Harbor PO Box 949 Malakoff TX 75148
Event#:		Phone:	903-605-1501		

Lab ID#:
Client PO:

LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	Requested Analysis *
001	1A 0"-6"	9/8/21	0830	S	N	N	
002	1B 6"-18"	9/8/21	0840	S	N	N	
003	1C 18"-30"	9/8/21	0850	S	N	N	
004	2A 0"-6"	9/8/21	0910	S	N	N	
005	2B 6"-18"	9/8/21	0920	S	N	N	
006	2C 18"-30"	9/8/21	0930	S	N	N	
007	3A 0"-6"	9/8/21	0950	S	N	N	
008	3B 6"-18"	9/8/21	1000	S	N	N	
009	3C 18"-30"	9/8/21	1010	S	N	N	
10							

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Thomas Posey	9/8/21 1020		9/10/21 1500
2				
3				

Cooler Temp (°C)

#	T#	Obs.	Corr.
1	IR9	29.0	29.1
2			

Client Special Instructions:

CF=0.1

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

STAR HARBOR PERMIT APPLICATION 306

02124769
518543

Rev. 01/18

b. Soil analyses

Provide analyses of the soil in the land application site(s) for pH [2:1 (v/v) water/soil mixture]; electrical conductivity [2:1 (v/v) water/soil mixture]; sodium adsorption ratio (SAR) from a water saturated paste and its constituent parameters (water-soluble Na, Ca and Mg reported in mg/L); total Kjeldahl nitrogen (TKN); total nitrogen (organic-nitrogen + nitrate-nitrogen + ammonium-nitrogen); nitrate-nitrogen (from a 1 N KCl soil extract); potassium, phosphorous; calcium; magnesium; sulfur, and sodium. The nutrient parameters should be analyzed on a plant-available basis. Phosphorus shall be analyzed according to the Mehlich III procedure with inductively coupled plasma and potassium, calcium, magnesium, sodium, and sulfur may also be analyzed in the Mehlich III soil extract. Plant-available phosphorus, potassium, calcium, magnesium, sodium and sulfur shall be reported on a dry weight basis in mg/kg; electrical conductivity, in mmho/cm [same as deciSiemens/meter (dS/m)]; and pH, in standard units. When reporting the results, include all information concerning fertilizer recommendations. Provide a copy of this plan to the analytical laboratory prior to sample analysis.

Composite or benchmark sampling techniques should be used when sampling the soils of the wastewater application area. Individual soil types, as defined by the USDA Soil Conservation Service Soil Survey, should be sampled individually at zones 0-6, 6-18, and 18-30 inches. Each composite sample must represent no more than 80 acres with no less than 15 subsamples representing each composite sample. Each benchmark sample must represent no more than 80 acres with at least 7 subsamples for each benchmark composite sample. Subsamples must be composited by individual site, zone, and soil type for analysis and reporting.

In addition, provide the information requested on Table 3.0(4), including the soil series name; total depth of the soil series, permeability of the soil series by depth; and available water capacity of the soil series by depth.

LSO
It's all in the delivery

Airbill No. ZY05QJGS

LSO
1-800-800-8984
www.lso.com

SHIP TO:
TEXAS AG EXTENSION - TAMU
SOIL TESTING LABORATORY
2610 F&B ROAD
COLLEGE STATION, TX 77845
9798454816

From:
LCRA ENVIRONMENTAL
ELS LAB
3505 MONTOPLIS DR
AUSTIN, TX 78744
5123566022

WCLL

LSO GROUND
END OF BUSINESS DAY DELIVERY

PRINT DATE: 9/15/2021
QUICKCODE: TAES - TAMU
REF 1: 1D00V.0000 REF 2:
REF 3:
WEIGHT: 20.00LBS

Fold on above line and place shipping label in pouch on package. Please be sure the barcodes and addresses can be read and scanned. Shipping Instructions

1. Fold this page along the horizontal line above.
2. Place this Airbill in the shipping label pouch on the package you are shipping. Please be sure the barcodes and addresses can be read and scanned.
3. To locate a drop box near you, click on **Find A Drop Box** from the home page main menu.
4. To schedule a pickup, click on **Request Pickup**.

WARNING: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your Lone Star Overnight account number.

This label is valid for use for 3 months from the date printed. Use of expired labels may result in delayed billing and / or additional research charges. LIMIT OF LIABILITY. We are not responsible for claims in excess of $100 for any reason unless you: 1) declare a greater value (not to exceed $25,000); 2) pay an additional fee; 3) and document your actual loss in a timely manner. We will not pay any claim in excess of the actual loss. We are not liable for any special or consequential damages. Additional limitations of liability are contained in our current Service Guide. If you ask us to deliver a package without obtaining a delivery signature, you release us of all liability for claims resulting from such service. NO DELIVERY SIGNATURE WILL BE OBTAINED FOR 8:30 AM DELIVERIES OR RESIDENTIAL DELIVERIES.

response to comments 7

city of Star Harbor
(99 Sunset Blvd. Star Harbor)
P.O. Box 949
Malakoff, Texas 75148-0949
903-489-0091
starharbor@embarqmail.com

Incorporated 1970

December 7, 2021

Mr. Jeremy Face
WASTELINE ENGINEERING, INC.
PO Box 421
Aledo, Texas 76008

Re: City of Star Harbor

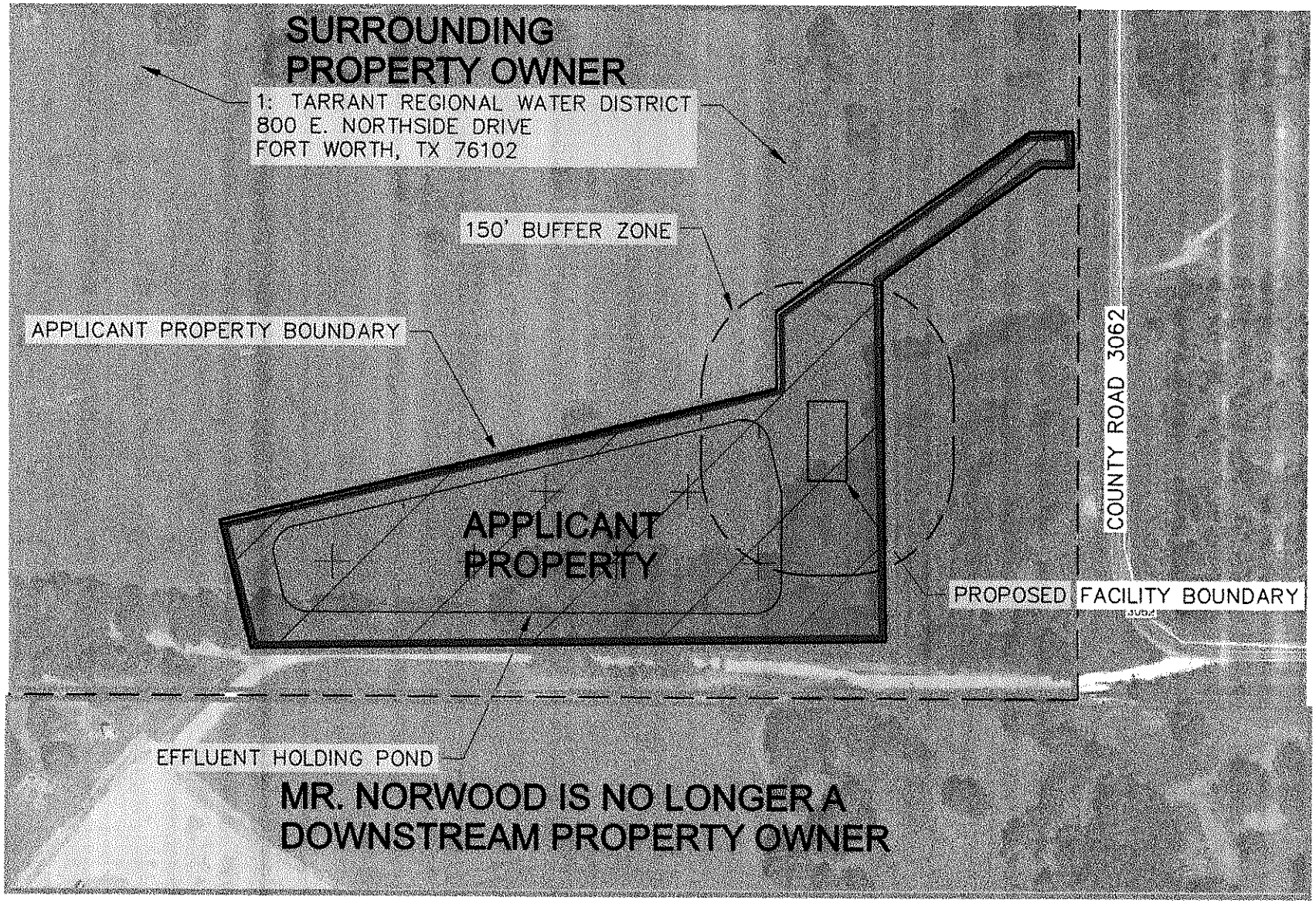
Dear Mr. Face,

This letter is sent as confirmation that the public water wells owned by the City of Star Harbor and located within the city limits of Star Harbor have been capped for almost 20 years and are no longer producing water for the City of Star Harbor.

Sincerely,

WARREN CLAXTON
Mayor

WC/ars



0 200 400

GRAPHIC SCALE IN FEET

STAR HARBOR PERMIT APPLICATION 311

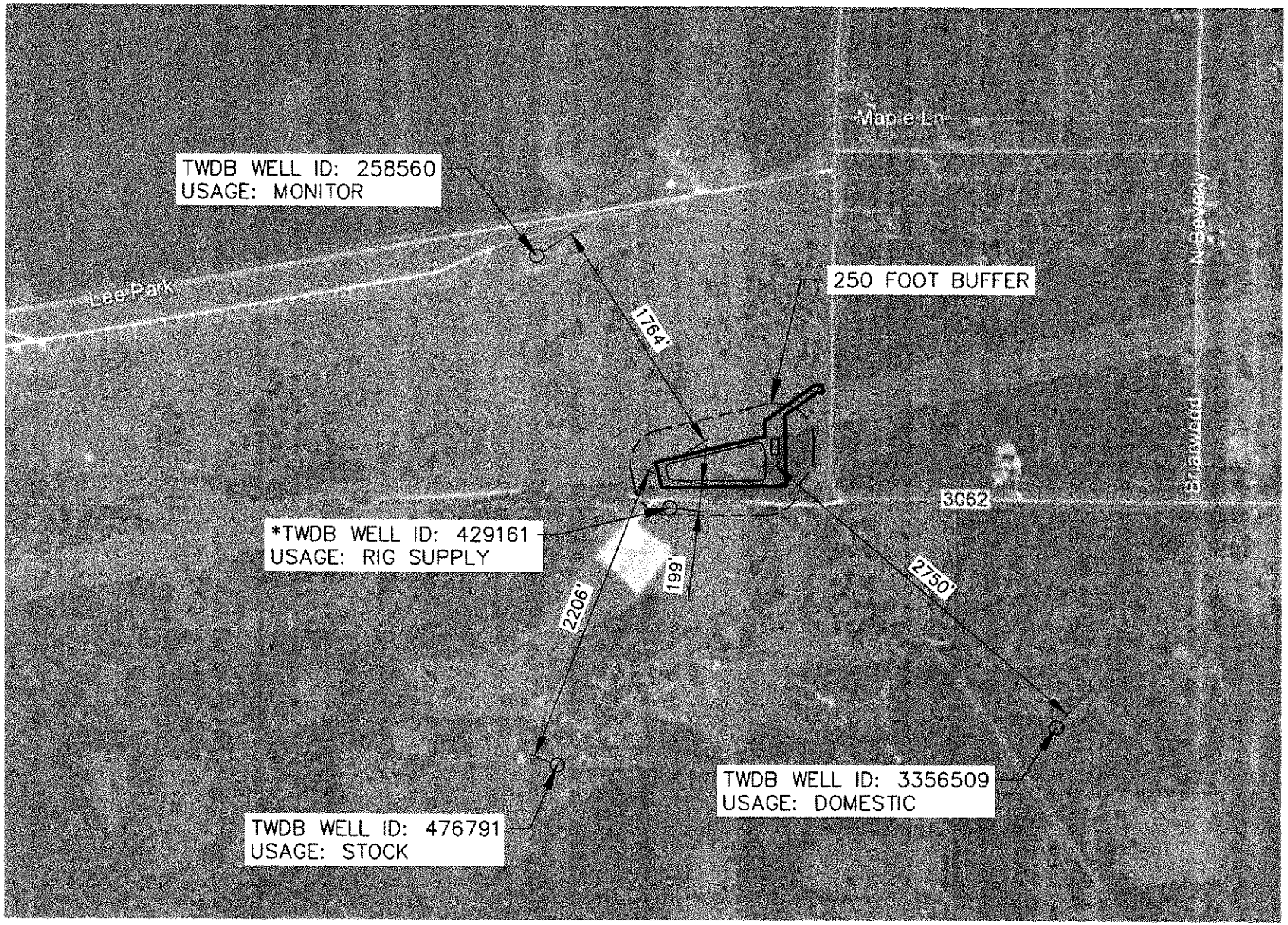
Date: June 2021 J.A.F.
Drawn by: G.B.
Designed by: G.B.
QA: 221XX
Project Job#:

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

LANDOWNER INFORMATION

ATTACHMENT
A4.1



NOTE: THE CLOSEST DOMESTIC WATER WELL IS LOCATED APPROXIMATELY 2,750 FEET AWAY FROM THE EFFLUENT HOLDING POND.

* MR. NOORWOOD HAS INFORMED THIS OFFICE DURING A TELECONFERENCE THAT WELL 429161 IS NO LONGER PRODUCING.

0 1000 2000
GRAPHIC SCALE IN FEET

STAR HARBOR PERMIT APPLICATION 312

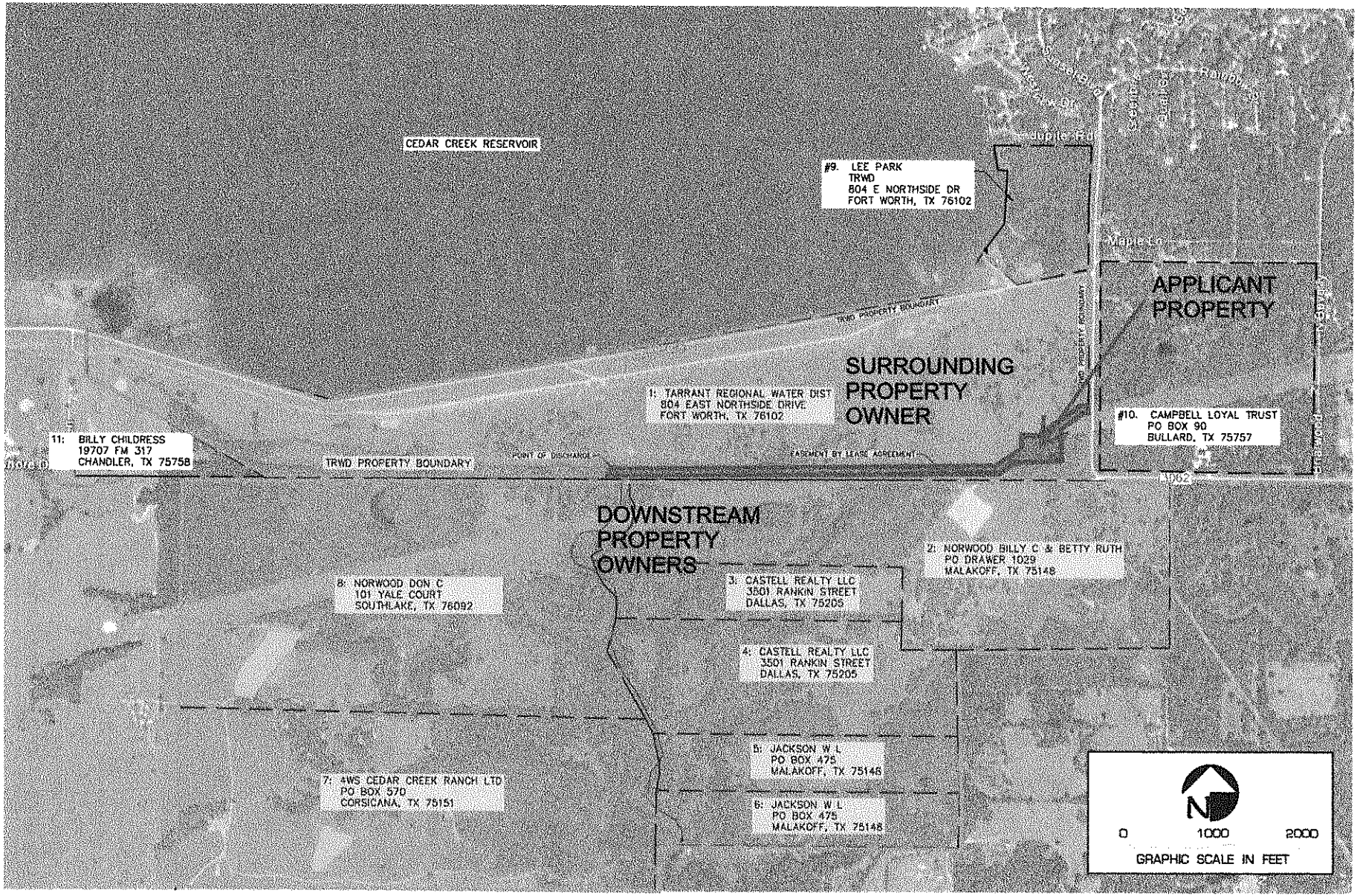
Date: December 2021
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 22024

WASTELINE ENGINEERING, INC.
Texas Registered Engineering Firm #F-1669

NEW WWTP PERMIT
FOR
CITY OF STAR HARBOR

WATER WELL INFORMATION

ATTACHMENT
XX



STAR HARBOR PERMIT APPLICATION 313

Date: November 2017
Drawn by: J.A.F.
Designed by: G.B.
QA: G.B.
Project Job#: 21704

WASTELINE ENGINEERING, INC.
208 S Front Street
Alvarado, Texas 76009
(817) 441-1300
(817) 441-1033 fax
Texas Registered Engineering Firm #F-1669

WWTP PERMIT APPLICATION

CITY OF STAR HARBOR

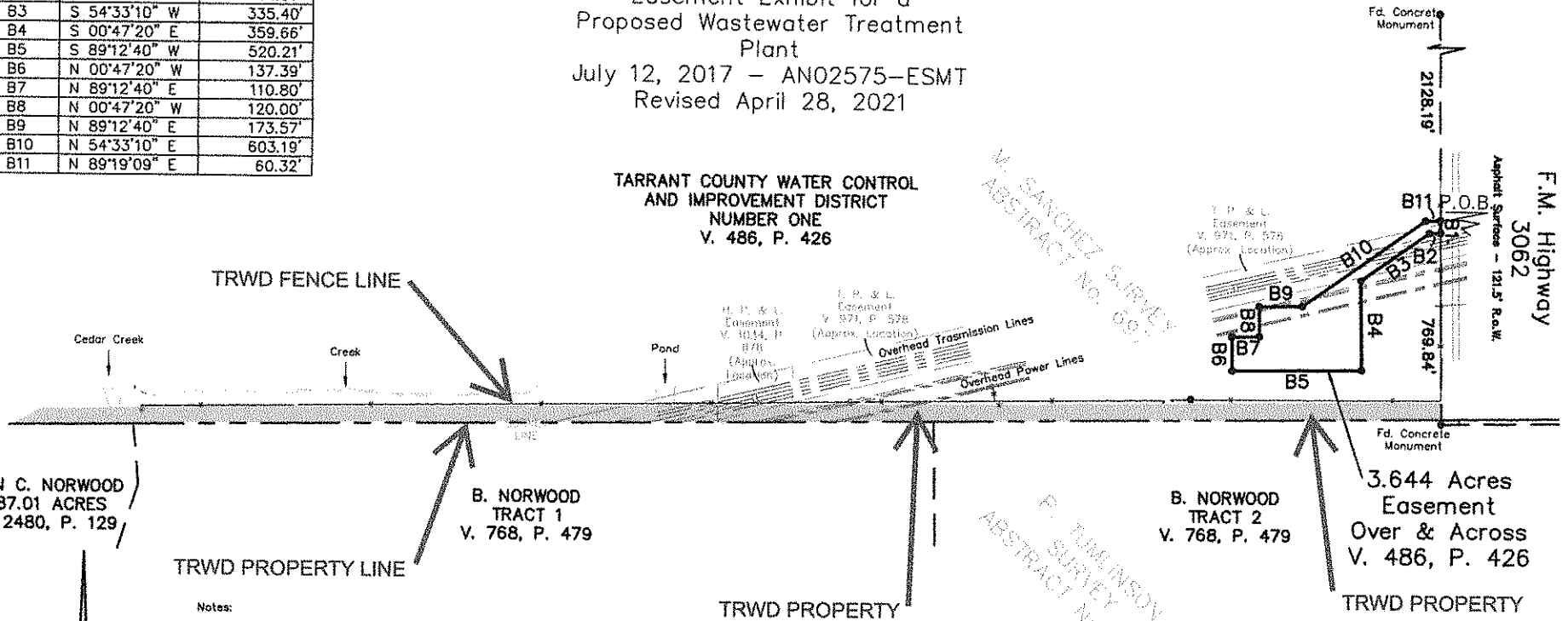
PROPERTY BOUNDARY INFORMATION

Sheet: 1 of 1

Exhibit "B"

Easement Exhibit for a
Proposed Wastewater Treatment
Plant
July 12, 2017 – AN02575-ESMT
Revised April 28, 2021

Label	Bearing	Distance
B1	S 00°40'51" E	50.00'
B2	S 89°19'09" W	44.67'
B3	S 54°33'10" W	335.40'
B4	S 00°47'20" E	359.66'
B5	S 89°12'40" W	520.21'
B6	N 00°47'20" W	137.39'
B7	N 89°12'40" E	110.80'
B8	N 00°47'20" W	120.00'
B9	N 89°12'40" E	173.57'
B10	N 54°33'10" E	603.19'
B11	N 89°19'09" E	60.32'



Notes:

1) No abstract of title or title commitment was provided to this surveyor. Record research performed by this surveyor was made only for the purpose of determining the boundary of this property and of the adjoining parcels. Record documents other than those shown on this survey may exist and encumber this property.

2) Underground utilities were not located during this survey. Call 811 and/or Utility Providers before excavation or construction.

3) Please consult all applicable governing entities regarding rules & regulations, that may affect construction on this property.

4) All corners are points, unless otherwise noted.

5) Bearings, Distances, and/or Areas derived from GNSS observations and reflect N.A.D. 1983, Texas State Plane Coordinate System, North Central Zone 4202 (GRID).

1" = 500'

TEXAS SURVEYING INC.
Aledo branch – 817-441-5263
Firm No. 10194122 – Aledo@txsurveying.com