

CITY OF WIMBERLEY

CITY OF WIMBERLEY WATER  
RECLAMATION FACILITY

APPLICATION FOR  
MAJOR AMENDMENT TO  
PERMIT NO. WQ0013321001

SUBMITTED TO:

Texas Commission  
on Environmental Quality

MAY 2014



1732-002-01

**CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**TABLE OF CONTENTS**

I. Administrative Report for Permit Application

Domestic Administrative Report 1.0

Domestic Administrative Report 1.1

Supplemental Permit Information Form

SPIF-1 General Location Map

SPIF-2 USGS Map

II. Technical Report for Permit Application

Domestic Technical Report 1.0

Domestic Technical Report 1.1

Domestic Worksheet 2.0

Domestic Worksheet 2.1

Domestic Worksheet 3.0

Domestic Worksheet 6.0

Domestic Worksheet 7.0

III. Attachments

**CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**TABLE OF ATTACHMENTS**

<u>Attachment</u>	<u>Description</u>	<u>Reference</u>
A	Amendment Request and Justification	Admin Rpt 1.0
B	USGS Map	Admin Rpt 1.0, Item 8.m
C	Affected Landowner Information	Admin Rpt 1.1, Item 1
D	Buffer Zone Map	Admin Rpt 1.1, Item 2.a
E	Original Photographs	Admin Rpt 1.1, Item 3
F	Treatment Unit Processes	Tech Rpt 1.0, Item 3.a
G	Process Flow Diagram	Tech Rpt 1.0, Item 3.f
H	List of Treatment Units	Tech Rpt 1.0, Item 3.g
I	Analytical Reports	Tech Rpt 1.0, Item 4
J	Contractual Agreement for Sludge Processing	Tech Rpt 1.0, Item 6.a
K	Site Drawing	Tech Rpt 1.0, Item 12
L	Regionalization Discussion	Tech Rpt 1.1, Item 1.c
M	Design Calculations	Tech Rpt 1.1, Item 4
N	Wind Rose	Tech Rpt 1.1, Item 5.b
O	Sewage Sludge Solids Management Plan	Tech Rpt 1.1, Item 7
P	Well Information	Wkst. 3.0, Item 6

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**TCEQ DOMESTIC WASTEWATER PERMIT APPLICATION**  
**DOMESTIC ADMINISTRATIVE REPORT**

Submit this checklist with the application. Do not submit the instructions with the application. Indicate if the following are included in the application.

Applicant City of Wimberley

Permit Number WWQ0013321001

WORKSHEET	Y	N	WORKSHEET	Y	N
Administrative Report 1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Original USGS Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Administrative Report 1.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Affected Landowner Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SPIF	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Landowner Disk or Labels	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical Report 1.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Buffer Zone Map	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technical Report 1.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flow Diagram	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site Drawing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 2.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Original Photographs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Design Calculations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 3.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Design Features	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 4.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Solids Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 5.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water Balance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Worksheet 6.0 (Required For All POTWs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copy of Application Fee Check	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Worksheet 7.0	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All fees owed TCEQ are paid	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please indicate by a check mark the amount submitted for the application fee:

Flow	New/Major Amendment	Renewals
< .05 MGD	<input type="checkbox"/> \$350.00	<input type="checkbox"/> \$315.00
≥ .05 but < .10 MGD	<input type="checkbox"/> \$550.00	<input type="checkbox"/> \$515.00
≥ .10 but < .25 MGD	<input checked="" type="checkbox"/> 850.00	<input type="checkbox"/> \$815.00
≥ .25 but < .50 MGD	<input type="checkbox"/> \$1,250.00	<input type="checkbox"/> \$1,215.00
≥ .50 but < 1.0 MGD	<input type="checkbox"/> \$1,650.00	<input type="checkbox"/> \$1,615.00
≥ 1.0 MGD	<input type="checkbox"/> \$2,050.00	<input type="checkbox"/> \$2,015.00
<b>Minor Amendment (any flow)</b>	<input type="checkbox"/> \$115.00	

\* All facilities are designated as minors until formally classified as a major by EPA.

<b>For Commission Use Only:</b>		
Segment Number: _____	County: _____	Expiration Date: _____
Proposed/Current Permit Number: _____		Region: _____

DOMESTIC ADMINISTRATIVE REPORT 1.0

The following is required for all applications--Renewal, New, And Amendment

Type of application:

- New TPDES
- Major amendment with Renewal
- Renewal of existing permit
- New TLAP
- Major Amendment without Renewal
- Minor amendment to permit
- Minor modification to permit

If applying for an amendment to a permit, please describe the request in detail.

See Attachment A.

1. APPLICANT INFORMATION (Instructions, Page 18)

a. Facility Owner (Owner of the facility must apply for the permit.)

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

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

If the applicant is currently a customer with TCEQ, what is the Customer Number (CN)?

Search for your CN at:  
<http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>

CN 603592239

What is the name and title of the person signing the application?  
(The person must be an executive official meeting signatory requirements in TAC 305.43(a).)

Prefix: Mr.  
(Mr. Ms, Miss)  
First/Last Name: Bob Flocke  
Suffix: \_\_\_\_\_  
Title: Mayor Credential: \_\_\_\_\_

What is the applicant's mailing address as recognized by the US Postal Service?  
You may verify the address at: <http://zip4.usps.com/zip4/welcome.jsp>

Organization Name: City of Wimberley  
Mailing Address: P.O. Box 2027  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Wimberley State: TX ZIP Code: 78676

Mailing Information if outside USA

Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone No.: **(512) 847-0025** Extension: \_\_\_\_\_

Fax No.: **(512) 847-0422** E-mail Address: **bflocke@cityofwimberley.com**

Indicate the type of Customer:

- |  |   |
|--|---|
| <input type="checkbox"/> Individual          | <input type="checkbox"/> Sole Proprietorship-D.B.A. |
| <input type="checkbox"/> Limited Partnership | <input type="checkbox"/> Corporation                |
| <input type="checkbox"/> Trust               | <input type="checkbox"/> Estate                     |
| <input type="checkbox"/> Federal Government  | <input type="checkbox"/> State Government           |
| <input type="checkbox"/> County Government   | <input checked="" type="checkbox"/> City Government |
| <input type="checkbox"/> Other Government    | <input type="checkbox"/> Other: _____               |

Independent entity

- Yes  
 No (If governmental entity, subsidiary, or part of a larger corporation)

Number of Employees:

- 0-20;  21-100;  101-250;  251-500; or  501 or higher

Customer Business Tax and Filing Numbers

(Not applicable to individuals, governments, general partnerships or sole proprietors. REQUIRED for corporations and limited partnerships) **N/A**

State Franchise Tax ID Number: \_\_\_\_\_

TX SOS Charter (filing) Number: \_\_\_\_\_

Federal Tax ID: \_\_\_\_\_

DUNS Number (if known): \_\_\_\_\_

- b. Co-Permittee information (complete only if the operator must be a co-permittee) **N/A**

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

Operator \_\_\_\_\_

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

If the operator is currently a customer with TCEQ, what is the Customer Number (CN)? Search for your CN at:

<http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>

CN \_\_\_\_\_

What is the name and title of the person signing the application?

(The person must be an executive official meeting signatory requirements in TAC 305.43(a).)

Prefix: \_\_\_\_\_

(Mr. Ms, Miss)

First/Last Name: \_\_\_\_\_

Suffix: \_\_\_\_\_

Title: \_\_\_\_\_ Credential: \_\_\_\_\_

What is the applicant's mailing address as recognized by the US Postal Service?

You may verify the address at: <http://zip4.usps.com/zip4/welcome.jsp>

Organization Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Internal Routing (Mail Code, Etc.): \_\_\_\_\_

City: \_\_\_\_\_ State: TX \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Mailing Information if outside USA

Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Extension: \_\_\_\_\_

Fax No.: \_\_\_\_\_ E-mail Address: \_\_\_\_\_

Indicate the type of Customer:

- |  |   |
|--|---|
| <input type="checkbox"/> Individual          | <input type="checkbox"/> Sole Proprietorship-D.B.A. |
| <input type="checkbox"/> Limited Partnership | <input type="checkbox"/> Corporation                |
| <input type="checkbox"/> Trust               | <input type="checkbox"/> Estate                     |
| <input type="checkbox"/> Federal Government  | <input type="checkbox"/> State Government           |
| <input type="checkbox"/> County Government   | <input type="checkbox"/> City Government            |
| <input type="checkbox"/> Other Government    | <input type="checkbox"/> Other: _____               |

Independent entity

- Yes  
 No (If governmental entity, subsidiary, or part of a larger corporation)

Number of Employees:

- 0-20;  21-100;  101-250;  251-500; or  501 or higher

Customer Business Tax and Filing Numbers

(Not applicable to individuals, governments, general partnerships or sole proprietors. REQUIRED for corporations and limited partnerships)

State Franchise Tax ID Number: \_\_\_\_\_

TX SOS Charter (filing) Number: \_\_\_\_\_

Federal Tax ID: \_\_\_\_\_

DUNS Number (if known): \_\_\_\_\_

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

- c. Individual information (complete only if the facility owner or co-permittee is an individual) **N/A**

What is the Legal Name of the owner/co-permittee applying for this permit?

If the owner/co-permittee is currently a customer with TCEQ, what is the Customer Number (CN)? Search for your CN at:

<http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch>

CN \_\_\_\_\_

What is the name and title of the person signing the application?

(The person must be the individual. See signatory requirements in TAC 305.43(a).)

Prefix: \_\_\_\_\_

(Mr. Ms, Miss)

First/Last Name: \_\_\_\_\_

Suffix: \_\_\_\_\_

State Identification Number: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Assumed business or professional name: \_\_\_\_\_

Business name: \_\_\_\_\_

What is the applicant's mailing address as recognized by the US Postal Service?

You may verify the address at: <http://zip4.usps.com/zip4/welcome.jsp>

Mailing Address: \_\_\_\_\_

Internal Routing (Mail Code, Etc.): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Mailing Information if outside USA

Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Extension: \_\_\_\_\_

Fax No.: \_\_\_\_\_ E-mail Address: \_\_\_\_\_

## 2. BILLING CONTACT (Instructions Page 21)

- a. Billing Contact and Address Information

*The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits active on September 1 of each year. 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.*

Is the billing address the same as the permittee or co-permittee?

Permittee       Co-permittee       No, fill out this section

Prefix: **Mr.** \_\_\_\_\_

(Mr. Ms, Miss)

First/Last Name: **Don Ferguson** \_\_\_\_\_

Suffix: \_\_\_\_\_

Title: **City Administrator** \_\_\_\_\_ Credential: \_\_\_\_\_

Organization Name: **City of Wimberley** \_\_\_\_\_

Billing Mailing Address: P.O. Box 2027  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Wimberley State: TX ZIP Code: 78676  
Mailing Information if outside USA.  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_  
Fax No.: (512) 847-0422 E-mail Address: dferguson@cityofwimberley.com

### 3. APPLICATION CONTACT INFORMATION (Instructions, Page 21)

If TCEQ needs additional information regarding this application, who should be contacted?

a. Application Contact

Prefix: Mr.  
(Mr. Ms, Miss)  
First/Last Name: Don Ferguson  
Suffix: \_\_\_\_\_  
Title: City Administrator Credential: \_\_\_\_\_  
Organization Name: City of Wimberley  
Mailing Address: P.O. Box 2027  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Wimberley State: TX ZIP Code: 78676  
Mailing Information if outside USA.  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_  
Fax No.: (512) 847-0422 E-mail Address: dferguson@cityofwimberley.com  
Check on or both:  Administrative contact  Technical Contact

b. Application Contact

Prefix: Ms.  
(Mr. Ms, Miss)  
First/Last Name: Janet Sims  
Suffix: \_\_\_\_\_  
Title: Sr. Project Manager Credential: \_\_\_\_\_  
Organization Name: Alan Plummer Associates, Inc.  
Mailing Address: 6300 La Calma Drive, Suite 400  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Austin State: TX ZIP Code: 78752  
Mailing Information if outside USA.  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone No.: (512) 452-5905 Extension: \_\_\_\_\_  
Fax No.: (512) 452-2325 E-mail Address: jsims@apaienv.com

Check on or both:  Administrative contact

Technical Contact

#### 4. DMR CONTACT INFORMATION (Instructions Page 22)

Contact Responsible for Discharge Monitoring Reports (EPA 3320-1)

Provide the name of the person and their complete mailing address delegated to receive and submit Discharge Monitoring Report Forms.

Prefix: **Mr.**

(Mr. Ms, Miss)

First/Last Name: **Don Ferguson**

Suffix:

Title: **City Administrator** Credential:

Organization Name: **City of Wimberley**

Mailing Address: **P.O. Box 2027**

Internal Routing (Mail Code, Etc.):

City: **Wimberley** State: **TX** ZIP Code: **78676**

Mailing Information if outside USA.

Territory: Country Code: Postal Code:

Phone No.: **(512) 847-0025** Extension:

Fax No.: **(512) 847-0422** E-mail Address: **dferguson@cityofwimberley.com**



Did you know you can submit DMR data on line?

Go to Sign up now at:

<https://www6.tceq.state.tx.us/steers/>

Establish an electronic reporting account when you get your permit number.

#### 5. PERMIT CONTACT INFORMATION (Instructions, Page 22)

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

Prefix: **Mr.**

(Mr. Ms, Miss)

First/Last Name: **Don Ferguson**

Suffix:

Title: **City Administrator** Credential:

Organization Name: **City of Wimberley**

Mailing Address: **P.O. Box 2027**

Internal Routing (Mail Code, Etc.):

City: **Wimberley** State: **TX** ZIP Code: **78676**

Mailing Information if outside USA.

Territory: Country Code: Postal Code:

Phone No.: **(512) 847-0025** Extension:

Fax No.: **(512) 847-0422** E-mail Address: **dferguson@cityofwimberley.com**

Prefix: Mr.  
(Mr. Ms, Miss)  
First/Last Name: Bob Flocke  
Suffix: \_\_\_\_\_  
Title: Mayor Credential: \_\_\_\_\_  
Organization Name: City of Wimberley  
Mailing Address: P.O. Box 2027  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Wimberley State: TX ZIP Code: 78676  
Mailing Information if outside USA.  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_  
Fax No.: (512) 847-0422 E-mail Address: bflocke@cityofwimberley.com

**6. NOTICE INFORMATION (Instructions, Page 22)**

a. Individual publishing the notices

Prefix: Mr.  
(Mr. Ms, Miss)  
First/Last Name: Don Ferguson  
Suffix: \_\_\_\_\_  
Title: City Administrator Credential: \_\_\_\_\_  
Organization Name: City of Wimberley  
Mailing Address: P.O. Box 2027  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: Wimberley State: TX ZIP Code: 78676  
Mailing Information if outside USA.  
Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_  
Fax No.: (512) 847-0422 E-mail Address: dferguson@cityofwimberley.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 No.: (512) 847-0422
- Overnight/Priority mail: (self addressed, prepaid envelope required)
- Regular Mail:  
Mailing Address: \_\_\_\_\_  
Internal Routing (Mail Code, Etc.): \_\_\_\_\_  
City: \_\_\_\_\_ State: TX ZIP Code: \_\_\_\_\_

c. Contact in the Notice

Prefix: Mr.  
(Mr. Ms, Miss)  
First/Last Name: Don Ferguson  
Suffix: \_\_\_\_\_  
Title: City Administrator Credential: \_\_\_\_\_  
Organization Name: City of Wimberley  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_

d. Public Place Information

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

Public Building name: City of Wimberley City Hall  
Location within the building: Office of the City Secretary  
Physical address of building: 221 Stillwater  
City: Wimberley County: Hays  
Contact Name: Don Ferguson  
Phone No.: (512) 847-0025 Extension: \_\_\_\_\_

e. Bilingual Notice Requirements:

For new permit applications, major amendment and renewal applications. Not applicable for minor amendment or minor modification applications.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine if an alternative language notice is required:

1. Is a bilingual education program required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility?  
 Yes       No      (If No, an alternative language notice publication is not required; skip to item 4. FACILITY INFORMATION.)
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      **N/A**

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

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

7. REGULATED ENTITY AND PERMITTED SITE INFORMATION (Instructions Page 24)

If the site of your business is part of a larger business site, a Regulated Entity Number (RN) may already be assigned for the larger site. Use the RN assigned for the larger site. Search TCEQ's Central Registry to see if the larger site may already be registered as a regulated site at:

<http://www12.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch>

If the site is found, provide the assigned Regulated Entity Reference Number and provide the information for the site to be authorized through this application below. The site information for this authorization may vary from the larger site information.

TCEQ issued RE Reference Number (RN): RN 101610350

- a. State/TPDES Permit No.: WQ0013321001 Expiration date: 02/01/2015  
EPA Identification No. (TPDES Permits only): TX N/A
- b. Name of project or site (the name known by the community where located):  
City of Wimberley Water Reclamation Facility
- c. Is the facility located in Bexar, Comal, Hays, Kinney, Medina, Travis, Uvalde, or Williamson County?  Yes  No (If Yes, additional information concerning protection of the Edwards Aquifer may be required.) **Proposed facility site is located outside of the Edwards Aquifer Recharge Zone**
- d. Is the location of the facility used in the existing permit correct?  Yes  No

Does the site have a physical address?

If Yes, complete Section A for a physical address.

If No (the location description is not accurate or this is a new permit application, complete), complete Section B for site location information.

Section A: Enter the physical address for the site. **N/A**

Verify the address with USPS. If the address is not recognized as a delivery address, provide the address as identified for overnight mail delivery, 911 emergencies, or other online map tool to confirm an address.

Physical Address of Project or Site:

Street Number: \_\_\_\_\_ Street Name: \_\_\_\_\_

City: \_\_\_\_\_ ZIP Code: \_\_\_\_\_

Section B: Enter the site location information.

If no physical address (Street Number & Street Name), provide a written location access description to the site:

The facility is located approximately one mile northeast of the intersection of Ranch-to-Market Road 12 and Ranch-to-Market Road 3237, in Hays County, Texas 78676.

(Ex.: Located 2 miles west from intersection of Hwy 290 & IH35 accessible on Hwy 290 South)

- e. City where the site is located or, if not in a city, what is the nearest city:

Wimberley

- f. ZIP Code where the site is located: 78676

- g. County where the site is located Hays

- h. Latitude: See Attachment A Longitude: \_\_\_\_\_

- i. In your own words, briefly describe the primary business of the Regulated Entity:  
(Do not repeat the SIC and NAICS code)

**Treatment of wastewater from residential and commercial users in the downtown area of the City of Wimberley**

- j. Owner of treatment facility: City of Wimberley

Ownership of Facility:  Public  Private  Both  Federal

- k. Owner of land where treatment facility is/will be: City of Wimberley

(If not the same as the facility owner, there must be a long term lease agreement in effect for at least six years. In some cases, a lease may not suffice - see instructions.)

- l. Owner of effluent disposal site: City of Wimberley

(If not the same as the facility owner, there must be a long term lease agreement in effect for at least six years.)

- m. Owner of sewage sludge disposal site: N/A

(Required only if authorization is sought in the permit for sludge disposal on property owned/controlled by the applicant.)

**8. DISCHARGE/ DISPOSAL INFORMATION (Instructions, Page 27)**

- a. Is the point of discharge and discharge route in the existing permit correct?

Yes  No

If no, or a new or amendment permit application, please give an accurate description.

**Existing/Interim I Phase — effluent is disposed of by land disposal utilizing subsurface soil absorption.**

**Interim II and Final Phase — effluent is discharged through Outfall 001 to Deer Creek, thence to the Blanco River in Segment No. 1813 of the Guadalupe River Basin.**

b. City or Town in which the outfall(s) is or will be located Wimberley

c. County the outfall(s) is located: Hays

d. Outfall Latitude: 30° 00' 15" N Longitude: 98° 05' 02" W

e. For all applications involving an average daily discharge of 5 million gallons per day or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge. **N/A**

f. If a TLAP, is the location of the effluent disposal site in the existing permit accurate?  
 Yes       No      If no, or a new or amendment permit application, please give an accurate description.

g. City or Town in which the disposal site is or will be located Wimberley

h. County the disposal site is located: Hays

i. Outfall Latitude: 30° 00' 15" N Longitude: 98° 05' 09" W

j. If a TLAP, describe the routing of effluent from the treatment facility to the effluent disposal site:

The effluent is pumped to eleven pressure dosed absorption beds in the Existing Phase only.

k. For TLAP applications please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Cypress Creek

l. Is the location of the sewage sludge disposal site in the existing permit accurate? **N/A**  
 Yes       No      If no, or a new permit application, please give an accurate description.

m. Provide an original full size USGS Topographic Map with all required information. Indicate by a check mark that the information is provided. **See Attachment B**

- Applicant's property boundary
- Treatment facility boundaries
- Labeled point of discharge and highlighted discharge route
- Sewage sludge disposal site
- Effluent disposal site boundaries
- New and future construction
- 1 mile radius and 3 miles downstream information
- All ponds

n. Is/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 amendments, provide copies of letters that show proof of contact and the approval letter upon receipt.)

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

Yes  No

## 9. MISCELLANEOUS INFORMATION (Instructions, Pages 30)

a. List each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application:

N/A

b. Do you owe fees to the TCEQ?  Yes  No

If yes, please provide:

Account number: \_\_\_\_\_ Amount past due: \_\_\_\_\_

c. Do you owe any penalties to the TCEQ?  Yes  No

If yes, please provide:

Enforcement order number \_\_\_\_\_ Amount past due \_\_\_\_\_

**10. SIGNATURE PAGE** (Instructions, Page 31)

Permit Number: WQ0013321001

Applicant: City of Wimberley

**Certification:**

I, Bob Flocke Mayor  
*Typed or printed name* *Title*

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.

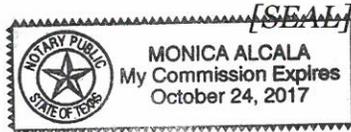
Signature: Bob Flocke Date: May 17, 2014  
*(Use blue ink)*

Subscribed and Sworn to before me by the said Bob Flocke

on this 12<sup>th</sup> day of May, 20 14.

My commission expires on the 10 day of 24, 20 17.

[Signature]  
Notary Public  
Hays Co.  
County, Texas



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

# DOMESTIC ADMINISTRATIVE REPORT 1.1

The following is required for new and amendment applications.

## 1. AFFECTED LANDOWNER INFORMATION (Instructions, Page 32)

- a. Indicate by a check mark that the landowners map or drawing, with scale, includes the following, as applicable. **See Attachment C**
- 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
  - The point(s) of discharge and highlighted discharge route 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
  - N/A  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), all evaporation/holding ponds within the applicant's property
  - The property boundaries of all landowners surrounding the applicant's property boundaries where the effluent disposal site is located
  - N/A  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
  - N/A  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 in which format the landowners list is submitted:
- Read/Writeable CD or Disk
  - 4 sets of labels
- c.  Check if a separate list with the landowners' names and mailing address cross-referenced to the landowners map has been provided.
- d. Provide the source of the landowners' names and mailing addresses.
- Hays County Appraisal District

- 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).

## 2. BUFFER ZONE MAP (Instructions, Page 34)

- a. Provide a buffer zone map on 8.5 x 11-inch paper. The applicant's property line and the buffer zone line may be distinguished by using different colors and appropriate labels. Indicate by a check mark that all the following information is included on the map.

**See Attachment D**

- The applicant's property boundary
  - The required buffer zone
  - Each treatment unit
  - The distance from each treatment unit to the property boundaries
- b. How will the buffer zone requirement be met?
- Ownership
  - Restrictive easement
  - Nuisance odor control
  - Variance
- c. Does the facility comply with the requirements regarding unsuitable site characteristic found in 30 TAC §309.13(a) through (d)?
- Yes  No

## 3. ORIGINAL PHOTOGRAPHS (Instructions, Page 37)

Provide original ground level photographs. Indicate by checking that the following information is provided. **See Attachment E**

- 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

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)**  
**FOR AGENCIES REVIEWING MUNICIPAL**  
**TPDES WASTEWATER PERMIT APPLICATIONS**

TCEQ USE ONLY:	
Application type: <input type="checkbox"/> Renewal <input type="checkbox"/> Major Amendment <input type="checkbox"/> Minor Amendment <input type="checkbox"/> New	
County: _____ Segment Number _____ Admin Complete Date: _____	
Agency Receiving SPIF:	
<input type="checkbox"/> Texas Historical Commission	<input type="checkbox"/> U.S. Fish and Wildlife
<input type="checkbox"/> Texas Parks and Wildlife Department	<input type="checkbox"/> U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 38). The SPIF must be completed as a separate document. The TCEQ will mail a copy of the SPIF to each agency as required by the TCEQ agreement with EPA. If any of the items are not completely addressed and/or further information is needed, you will be contacted to provide the information before the permit is issued. Each item must be completely addressed.

Do not refer to a response of any item in the permit application form. Each attachment must be provided with this form separately from the administrative report of the application. The application will not be declared administratively complete without this form being completed in its entirety including all attachments.

The following applies to all applications:

1. Permittee: City of Wimberley
2. Permit No. WQ00 13321001 (EPA ID No.) TX \_\_\_\_\_
3. Address of the project (location description that includes street/highway, city/vicinity, & county)

The facility is located approximately one mile northeast of the intersection of Ranch-to-Market Road 12 and Ranch-to-Market Road 3237, in Hays County, Texas 78676.

4. Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

Name: Don Ferguson Company: City of Wimberley  
 Phone number: 512-847-0025 Fax number: 512-847-0422  
 Street No.: \_\_\_\_\_ Street name: \_\_\_\_\_ Street type: \_\_\_\_\_  
 P.O. Box: 2027 City: Wimberley State: TX ZIP code: 78676  
 Email: dferguson@cityofwimberley.com

5. List the county in which the facility is located: Hays

6. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

N/A

7. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the Segment Number.

**Effluent is discharged to Deer Creek, thence to the Upper Blanco River, Segment No. 1813 of the Guadalupe River Basin.**

8. Please provide a separate 7.5 minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report).

**See SPIF-1 and SPIF-2**

9. Provide original photographs of any structures 50 years or older on the property. **N/A**

10. Does your project involve any of the following? Check all that apply.

- a. Proposed access roads, utility lines, construction easements
- b. Visual effects that could damage or detract from a historic property's integrity
- c. Vibration effects during construction or as a result of project design
- d. Additional phases of development that are planned for the future
- e. Sealing caves, fractures, sinkholes, other karst features
- f. Disturbance of vegetation or wetlands **No wetlands disturbance**

11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features).

**Approximately one acre of land will be impacted by the construction of the facility. Disturbance of existing vegetation will be typical of a wastewater treatment plant construction.**

12. Describe existing disturbances, vegetation and land use.

**Vegetation consisting of various grasses and juniper trees.**

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

13. List construction dates of all buildings and structures on the property.

**No buildings are on the facility site.**

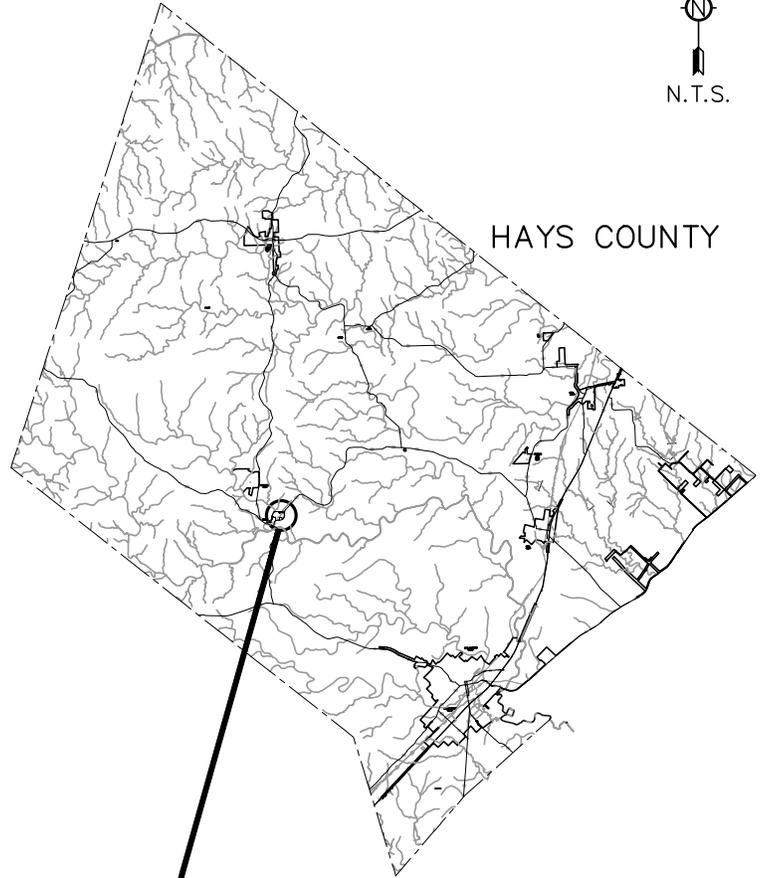
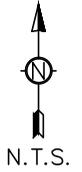
14. Provide a brief history of the property, and name of the architect/builder, if known.

**The property for the proposed facility is a park which is owned and operated by the City of Wimberley. The proposed facility site is an undeveloped, natural, and wooded area.**

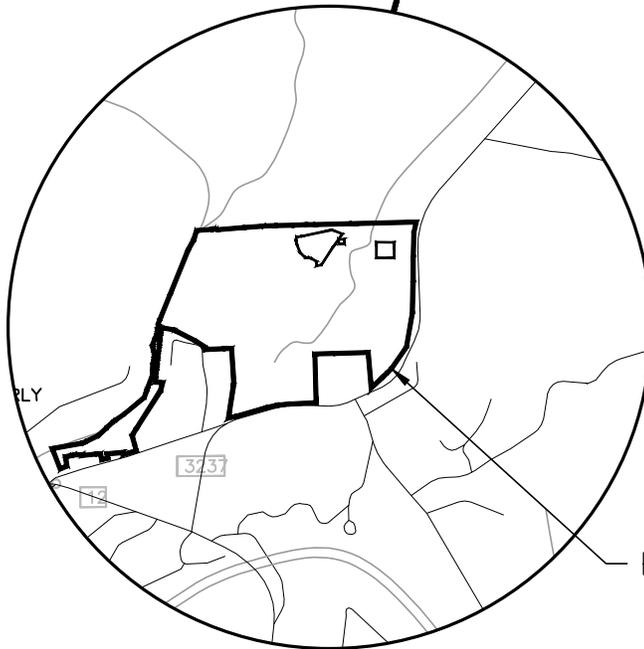


ALAN PLUMMER  
ASSOCIATES, INC.

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



HAYS COUNTY



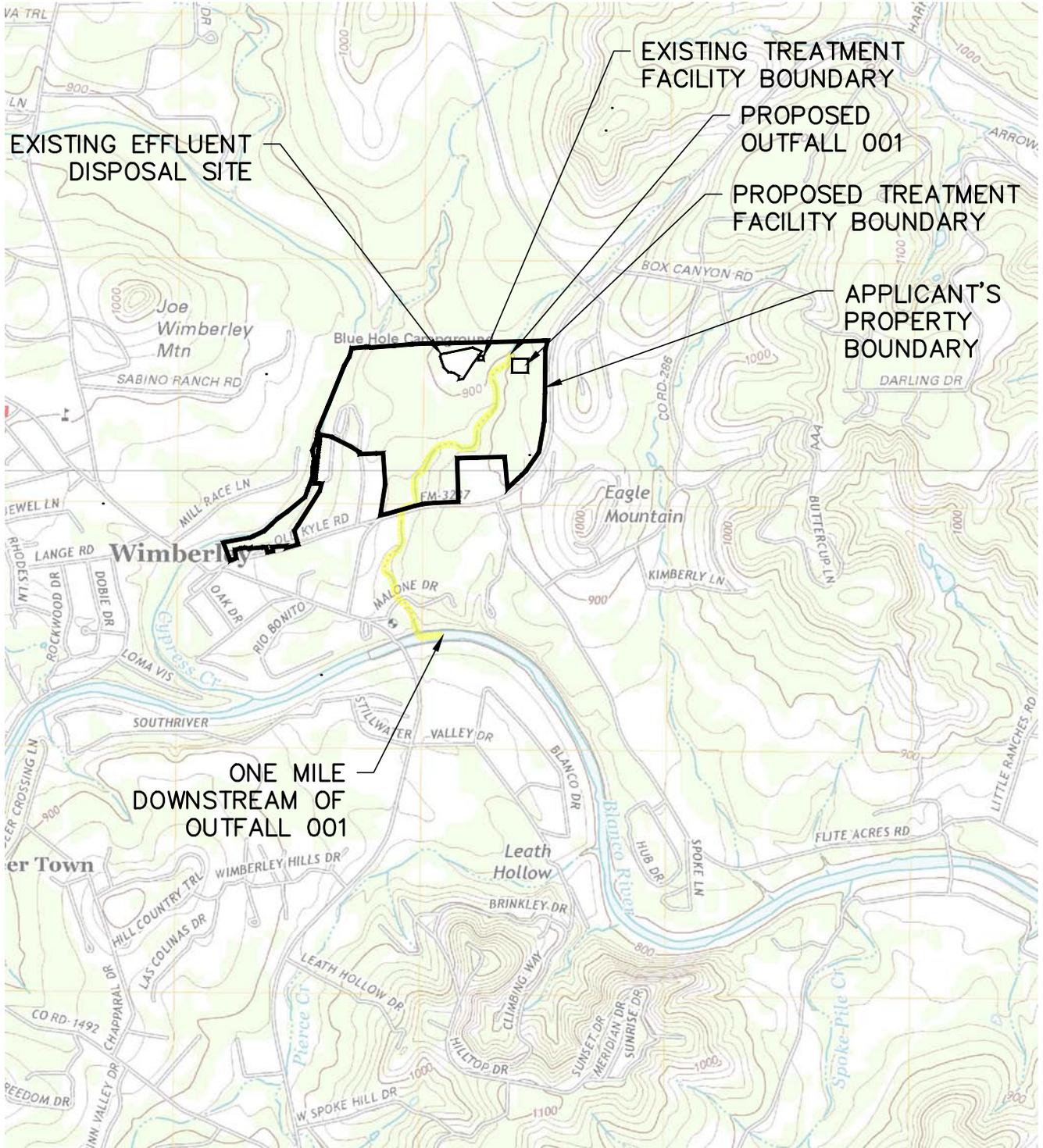
PROJECT SITE

SPIF-1  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
GENERAL LOCATION MAP



ALAN PLUMMER  
ASSOCIATES, INC.

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



SPIF-2  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
USGS MAP

**TCEQ DOMESTIC WASTEWATER PERMIT APPLICATION  
DOMESTIC TECHNICAL REPORT 1.0**

**THE FOLLOWING IS REQUIRED FOR ALL APPLICATIONS;  
RENEWAL, NEW, AND AMENDMENT**

**1. PERMITTED AND/OR PROPOSED FLOWS** (Instructions, Page 39)

<b>PERMITTED AND/OR PROPOSED FLOW:</b>	Existing/Interim I Phase	Interim II Phase	Final Phase
Design Flow (MGD)	<b>0.015</b>	<b>0.075</b>	<b>0.100</b>
2-Hr Peak Flow (MGD)	<b>N/A</b>	<b>0.300</b>	<b>0.400</b>
Date construction estimated to commence	<b>N/A</b>	<b>September 2015</b>	<b>2025</b>
Date waste disposal estimated to commence	<b>N/A</b>	<b>September 2016</b>	<b>2026</b>

Phase currently in operation: Existing/Interim I

**2. NAICS and SIC CODE** (Instructions, Page 39)

Provide the appropriate SIC Code: 4952 and NAICS code: 221320

**3. TREATMENT UNITS** (Instructions, Page 40)

- a.** 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.**

See Attachment F

Port or pipe diameter at the discharge point: 12 inches

- b.** Provide the startup date of the current treatment facility: 06/01/2009

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

Yes  No **Existing Phase facilities approved on April 24, 2009.  
Interim II Phase and Final Phase facilities in design.**

(If yes, provide the date(s) of approval for each phase) \_\_\_\_\_

- c. For applicants with an existing permit: Check the Other Requirements page(s) of the existing permit and provide information (including dates) on any actions taken to meet an Other Requirement pertaining to the submission of a summary submittal letter if applicable.

N/A-- No construction of facilities was initiated during the term of the existing permit.

- d. Have the buffer zone requirements been met?  Yes  No

- e. For applicants with an existing permit: Check the Other Requirements page(s) of the existing permit and provide information (including dates) on any actions taken to meet the conditions of an Other Requirement pertaining to the buffer zone if applicable.

N/A

- f. Provide flow diagrams for the existing facilities and/or each proposed phase of **See Attachment G** construction. Indicate by a check mark that the required information is included.

- g. Provide the type and dimensions (length, width, height) of each **treatment unit and for all phases.**

TREATMENT UNITS	# OF UNITS	DIMENSIONS (L x W x D)
See Attachment H		

#### 4. POLLUTANT ANALYSIS OF TREATED EFFLUENT (Instructions, Page 40)

Provide an analysis of the treated effluent for the following pollutants (data must be taken within 1 year of the date of application submission: (Not required for new permit applications unless the facility is in operation)

For discharges from **water treatment plants** provide the following pollutant analysis: Total Suspended Solids, Total Dissolved Solids, pH, aluminum, and fluoride instead of the table below. **See Attachment I**

POLLUTANT	CONCENTRATION		NUMBER OF SAMPLES	TYPE OF SAMPLE	SAMPLE DATE/TIME
	AVG.	MAX.			
(1) CBOD <sub>5</sub> mg/l	3	5	2	Grab	02/25/14 & 03/26/14
(2) Total Suspended Solids, mg/l	17	17	1	Grab	03/26/14
(3) Ammonia-Nitrogen, mg/l	<0.05	<0.05	1	Grab	02/25/14
(4) Nitrate-Nitrogen, mg/l	1.60	1.60	1	Grab	02/25/14
(5) Total Kjeldahl Nitrogen, mg/l	1.74	1.74	1	Grab	02/25/14
(6) Sulfate, mg/l	31.7	31.7	1	Grab	02/25/14
(7) Chloride, mg/l	44.0	44.0	1	Grab	02/25/14
(8) Total Phosphorus, mg/l	5.53	5.53	1	Grab	02/25/14
(9) pH, standard units	8.02	8.02	1	Grab	02/25/14
(10) Dissolved Oxygen, mg/l	6.37	6.37	1	Grab	02/25/14 7:30am
(11) Chlorine Residual, mg/l	N/A	N/A	-	-	-
(12) <i>E. coli</i> (colonies/100ml) freshwater discharge	159.4	6200	2	Grab	02/25/2014 & 04/17/2014
(13) Enterococci (colonies/100ml) saltwater discharge	N/A	N/A	-	-	-
(14) Total Dissolved Solids, mg/l	448	448	1	Grab	02/25/14
(15) Elec. Conductivity, umhos/cm	769	769	1	Grab	02/25/14
(16) Oil and Grease, mg/l	N/A	N/A	-	-	-

No chlorination or disinfection process in the Existing Phase; therefore, chlorine residual concentration was not measured.

**5. FACILITY OPERATOR** (Instructions, Page 41)

Provide the name and operator certification number for the facility operator:

**Allan Smith Lic.# WW0049697 – B**

**6. SEWAGE SLUDGE MANAGEMENT AND DISPOSAL** (Instruction, Page 41)

a. Please check the current sludge disposal method or methods. More than one method can be checked.

- Permitted landfill
- Permitted or Registered land application site for beneficial use
- Land application for beneficial use authorized in the wastewater permit
- 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 (a current statement or agreement is required, see the item below)
- Written statement/contractual agreement from the wastewater treatment plant or permitted sludge processing facility accepting the sludge is attached **See Attachment J**
- Other method (provide description):

b. Provide the following information for the sludge site:

Disposal site name: **Micro Dirt Inc. DBA Texas Organic Recovery Creedmoore, TX 78610**

TCEQ Permit or Registration Number: **Registration #42016**

County where the site is located: **Travis**

**Secondary disposal site: GBRA - Lockhart FM 20 Wastewater Treatment Facility; TPDES #WQ001021002**

c. Provide the following:

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

Name of the hauler: **Leineweber Plumbing, Co., Inc.**

Hauler Registration Number: **TCEQ 20302**

Transported in:  liquid     semi-liquid     semi-solid     solid state

Land application for:  Reclamation     Soil Conditioning

**7. PERMIT AUTHORIZATION FOR SEWAGE SLUDGE DISPOSAL** (Instructions, Page 41)

a. 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    **N/A**

If yes, is the completed **APPLICATION FOR PERMIT FOR BENEFICIAL LAND USE OF SEWAGE SLUDGE (TCEQ Form No. 10451)** attached to this permit renewal application (see the instructions for details):  Yes     No    **N/A**

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

- |   |                              |  |
|---|------------------------------|--|
| Sludge Composting                             | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Marketing and Distribution of sludge          | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Sludge Surface Disposal or Sludge Monofill    | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Temporary storage of sludge in sludge lagoons | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> 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 renewal application.  Yes  No **N/A**

**8. SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN (Instructions, Page 42)**

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

Does the facility accept sludge from other domestic wastewater treatment facilities?  
 Yes  No

If yes to either question, is the required solids management plan attached?  Yes  No **N/A**

**9. SEWAGE SLUDGE LAGOONS (Instructions, Page 43) N/A**

**a. Location information**

Indicate by a check mark that the following required maps are submitted as part of the application and that they contain the required information?

- Original General Highway (County) Map
- USDA Natural Resources Conservation Service Soil Map
- Federal Emergency Management Map
- Site map

Indicate by a check mark if any of the following existing within the area used/proposed for the lagoons:

- 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 these

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 N/A**

Provide the results of the following in addition to the pollutants listed in the Technical Report 1.0

Pollutant	mg/kg
Nitrate Nitrogen	
Total Nitrogen	
Phosphorus	
Potassium	
pH (Standard Units)	
Ammonia Nitrogen	

Provide the following information:

Volume and frequency of sludge to lagoon(s): \_\_\_\_\_  
Total dry tons stored in the sludge lagoon(s) per 365-day period: \_\_\_\_\_  
Total dry tons stored in the sludge lagoon(s) over the life of the unit: \_\_\_\_\_

**c. Facility information N/A**

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec?  Yes  No

**If yes**, describe the liner: Please note that lining is required.

**d. Site Development Plan N/A**

Provide a detailed description of the methods used to deposit sludge in the lagoon(s):

In addition to the detailed description, please indicate by a check mark that the following information is provided:

- Plan view and cross-section of the sludge lagoon(s)
- Copy of the closure plan
- Copy of deed recordation for the site
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons
- Description of the method of controlling infiltration of groundwater and surface water from entering the site
- Procedures to prevent the occurrence of nuisance conditions

**e. Groundwater Monitoring N/A**

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.

**10. AUTHORIZATIONS/REQUIREMENTS/COMPLIANCE/ENFORCEMENT**  
(Instructions, Page 44)

**a.** 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:

**Upon issuance of the TPDES Permit, the City of Wimberley will secure an authorization for reclaimed water use through 30 TAC Chapter 210.**

**b.** Is the permittee currently under enforcement?  Yes  No

Is the permittee required to meet any implementation schedule for compliance or enforcement?  Yes  No

If yes to either question for item 10, provide a brief summary of the enforcement and/or implementation schedule, and a status update:

**11. UNBUILT PHASES** (Instructions, Pages 44)

Is the application for 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.

**The unbuilt phase described in the existing permit will not be constructed. Disposal of the treated effluent via TLAP is no longer proposed in the Final Phase of the requested permit. See Attachment A.**

**12. SITE DRAWING (Instructions, Page 45)**

Provide a site drawing for the facility. Indicate by a check mark that it contains the following. **See Attachment K**

- 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
- N/A  If sludge disposal authorized in the permit, the boundaries of the land application or disposal site

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

**The current wastewater treatment facility serves only two customers: the Deer Creek Nursing Home and Rehabilitation Center, and the Blue Hole Regional Park. The expanded Interim II Phase and Final Phase will also serve the downtown area of the City of Wimberley.**

**13. RCRA/CERCLA/OTHER WASTES (Instructions, Page 45)**

- a. Does the facility receive, will it receive, or has it received RCRA hazardous waste in the past three years?  Yes  No
- b. Does the facility receive, will it receive, or has it received in the past three years, CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?  Yes  No
- c. If yes to either a. or b., is a detailed attachment with information concerning these wastes provided?  Yes  No

**14. LABORATORY ACCREDITATION:**

Effective July 1, 2008, all laboratory tests performed must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification with the following general exemptions:

- i. The laboratory is an in-house laboratory and is:
  - 1. periodically inspected by the TCEQ; or
  - 2. located in another state and is accredited or inspected by that state; or
  - 3. performing work for another company with a unit located in the same site;
 or
  - 4. performing pro bono work for a governmental agency or charitable organization.
- ii. The laboratory is accredited under federal law.
- iii. The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- iv. 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 Instructions, TCEQ Form 10053-inst, Page 30, for a list of designated representatives who may sign the certification.

<b>CERTIFICATION:</b>	
I, <b>Bob Flocke</b>	<b>Mayor</b>
<i>Typed or Printed Name</i>	<i>Title</i>
certify that all laboratory tests submitted with this application meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.	
_____ <i>Signature</i>	_____ <i>Date</i>

**DOMESTIC TECHNICAL REPORT 1.1**

**THE FOLLOWING IS REQUIRED FOR NEW AND AMENDMENT APPLICATIONS**

**1. PERMITTED AND/OR PROPOSED FLOWS (Instructions, Page 46)**

a. Complete the following chart.

PERMITTED AND /OR PROPOSED FLOW:	Initial/existing Phase	Intermediate Phase	Final Phase
Design Flow (MGD)	<b>0.015</b>	<b>0.075</b>	<b>0.100</b>
2-Hr Peak Flow (MGD)	<b>N/A</b>	<b>0.300</b>	<b>0.400</b>
Construction estimated to start	<b>N/A</b>	<b>September 2015</b>	<b>2025</b>
Date waste disposal to start	<b>N/A</b>	<b>September 2016</b>	<b>2026</b>

Phase currently in operation: Initial/Existing Phase

b. Provide a detailed discussion regarding the need for the proposed permit or proposed phase(s). Failure to provide sufficient justification may result in the Executive Director recommending denial of the proposed phase(s) or permit.

**See Attachment A**

c. Provide the following information concerning regionalization of domestic wastewater treatment facilities:

1. If the applicant is a city, check N/A and proceed to item 2:     N/A

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

Yes     No

If yes, within the city limits of: \_\_\_\_\_

If yes, is correspondence from the city is attached:     Yes     No

If consent to provide service is available from the city, is 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?     Yes  No

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

Yes     No

If yes, check if 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 is attached.

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

Yes     No

If yes, is a list of these facilities that includes the permittee's name and permit number, and an area map showing the location of these facilities attached?  Yes  No

a. If yes, are copies of your certified letters to these facilities and their response letters concerning connection with their system attached?  Yes  No **See Attachment L**

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

Yes  No

If yes, is 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 attached?  Yes  No

**2. PROPOSED ORGANIC LOADING** (Instructions, Page 47)

a. Is this a new permit application?  Yes  No

b. If no, and the application is to amend an existing permit, provide the following information.

Facility Design Flow (flow being requested in application) 0.100 MGD

Average Organic Strength or BOD<sub>5</sub> Concentration in mg/l 380

Average Loading (lbs/day=total average flow x average BOD<sub>5</sub> conc. X 8.345) 317

Provide the source of the average organic strength or BOD<sub>5</sub> concentration **Historical organic loading data for the existing customers and TCEQ 217 default values for new customers**

If the increased flow will impact the existing organic strength, the following table must be completed.

c. If yes to question 2.a, this table must be completed.

SOURCE	TOTAL AVERAGE FLOW, (gpd)	ORGANIC STRENGTH BOD <sub>5</sub> CONCENTRATION, (mg/l)
Municipality	46,500	300
Subdivision		
Trailer Park-Transient		
Mobile Home Park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational Park, overnight use		
Recreational Park, day use	1,500	300
Office Building of Factory		
Motel		
Restaurant	7,500	1,000
Hospital		
Nursing Home	9,000	300
Other *	35,500	375
	Total Flow: 100,000	Average BOD <sub>5</sub> : 380

\*Other is future increase of residential, commercial, and restaurant sources.

**3. PROPOSED EFFLUENT QUALITY / PROPOSED DISINFECTION** (Instructions, Page 48)

Phase:	Initial/existing	Intermediate	Final
BOD <sub>5</sub> , mg/l	<u>35</u>	<u>5</u>	<u>5</u>
TSS, mg/l	<u>-</u>	<u>5</u>	<u>5</u>
NH <sub>3</sub> -N, mg/l	<u>-</u>	<u>2</u>	<u>2</u>
Total P, mg/l	<u>-</u>	<u>1.0</u>	<u>1.0</u>
DO, mg/l	<u>-</u>	<u>6.0</u>	<u>6.0</u>
Other: <u>pH</u>	<u>6 - 9</u>	<u>6-9</u>	<u>6 - 9</u>

Check the proposed method of disinfection. **Intermediate Phase and Final Phase Only**

- Chlorine: 1.0 mg/l after 20 minutes detention time at peak flow
- Ultraviolet: \_\_\_\_\_ seconds contact time at peak flow
- Other: \_\_\_\_\_
- Dechlorination process: \_\_\_\_\_

**4. DESIGN CALCULATIONS** (Instructions, Page 48)

- Indicate by a check mark that design calculations and plant features for each proposed phase are provided. **See Attachment M**

Example 4 and Example 5 of the instructions includes example design calculations and plant features.

**5. FACILITY SITE** (Instructions, Page 48)

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

Yes     No

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

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

**FEMA Map-- No. 48209C0239**

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 U.S. Corps of Engineers 404 Dredge and Fill permit?

Yes     No

If yes, provide the permit number: \_\_\_\_\_

- b.  Indicate by a check mark that a wind rose has been submitted.

**See Attachment N**

**6. AUTHORIZATION FOR SEWAGE SLUDGE DISPOSAL (Instructions, Page 48)**

- a. 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, 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. Are you requesting to include authorization for any of the following sludge processing, storage or disposal options at the wastewater treatment facility?

Sludge Composting	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Marketing and Distribution of sludge	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Sludge Surface Disposal or Sludge Monofill	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> 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 **N/A**

**7. SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN (Instructions, Page 49)**

Provide a sewage sludge solids management plan. Indicate by a check mark that it contains the following: **See Attachment O**

- 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
- N/A**  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 TECHNICAL REPORT WORKSHEET 2.0  
RECEIVING WATERS**

**THE FOLLOWING IS REQUIRED FOR ALL TPDES PERMIT APPLICATIONS**

**1. DOMESTIC DRINKING WATER SUPPLY** (Instructions, Page 52)

Is there a surface water intake for domestic drinking water supply located within 5 (five) miles downstream from the point/proposed point of discharge?  Yes  No

**If yes**, identify:

Owner of the drinking water supply: \_\_\_\_\_

Distance and direction to the intake: \_\_\_\_\_

Check if the location of the intake on the USGS topographic map has been identified and labeled.

**2. DISCHARGE INTO TIDALLY AFFECTED WATERS** (Instructions, Page 52) **N/A**

a. Width of the receiving water at the outfall? \_\_\_\_\_ feet

b. Are there oyster reefs in the vicinity of the discharge?  Yes  No

**If yes**, provide the distance and direction from outfall(s):  
\_\_\_\_\_

c. Are there any Sea Grasses within the vicinity of the point of discharge?  Yes  No

**If yes**, provide the distance and direction from the outfall(s):  
\_\_\_\_\_

**3. CLASSIFIED SEGMENT** (Instructions, Page 52)

Is the discharge directly into (or within 300 feet of) a classified segment?

Yes  No

**If yes, stop here.** Worksheets 2.0 and 2.1 are complete. **If no**, complete items 4 and 5.

**4. DESCRIPTION OF IMMEDIATE RECEIVING WATERS** (Instructions, Page 53)

Name of the immediate receiving waters: Deer Creek

a. Check the appropriate description of the receiving waters

Stream

Open Bay

Freshwater Swamp or Marsh

Tidal Stream, Bayou, or Marsh

Lake or Pond

Surface area: \_\_\_\_\_ acres

Average depth of the entire water body: \_\_\_\_\_ feet

Average depth of water body within a 500-foot radius of the discharge point: \_\_\_\_\_ feet

Man-made Channel or Ditch

Other: \_\_\_\_\_

b. If a man-made channel, ditch or stream was checked above, provide the following. Check one of the following that best characterizes the area **upstream** of the discharge. For new discharges, characterize the area **downstream** of the discharge (check one).

- Intermittent (dry for at least one week during most years)
- Intermittent with Perennial Pools  
(enduring pools with sufficient habitat to maintain significant aquatic life uses)
- Perennial (normally flowing)

Check the method used to characterize the area upstream (or downstream for new dischargers):

- USGS flow records
- historical observation by adjacent landowner(s)
- personal observation
- other, specify: \_\_\_\_\_

c. List the name(s) of all perennial streams that join the receiving water within three miles downstream of the discharge point.

**Blanco River**

d. Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?  Yes  No

If yes, discuss how.

**Approximately 0.95 miles downstream from the outfall the receiving water characteristics change from intermittent to perennial at the confluence of Deer Creek and Blanco River.**

e. Provide general observations of the water body during normal dry weather conditions.

**Dry drainage bed**

Date and time of observation: **January 8, 2014**

Was water body influenced by stormwater runoff during observations?  Yes  No

**5. GENERAL CHARACTERISTICS OF WATER BODY (Instructions, Page 53)**

a. Is the receiving water upstream of the discharges or proposed discharge site influenced by (check as appropriate)? **NONE**

- oil field activities
- urban runoff
- upstream discharges
- agricultural runoff
- septic tanks
- others, specify below

**b. Uses of water body observed or evidences of (check as appropriate). NONE**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> livestock watering     | <input type="checkbox"/> contact recreation      | <input type="checkbox"/> irrigation withdrawal |
| <input type="checkbox"/> non contact recreation | <input type="checkbox"/> fishing                 | <input type="checkbox"/> navigation            |
| <input type="checkbox"/> domestic water supply  | <input type="checkbox"/> industrial water supply |  |
| <input type="checkbox"/> picnic park activities | <input type="checkbox"/> others, specify below   |  |

**c. Check one of the following to best describe the aesthetics of the receiving water and the surrounding area.**

- Wilderness: outstanding natural beauty; usually wooded or unpastured area: water clarity exceptional
- Natural Area: trees and/or native vegetation common; some development evident (from fields, pastures, dwellings); water clarity discolored
- Common Setting: not offensive, developed but uncluttered; water may be colored or turbid
- Offensive: stream does not enhance aesthetics; cluttered; highly developed; dumping areas; water discolored

**DOMESTIC WORKSHEET 2.1  
STREAM PHYSICAL CHARACTERISTICS AND WORKSHEET**

**REQUIRED FOR NEW APPLICATIONS, MAJOR FACILITIES, AND  
APPLICATIONS ADDING AN OUTFALL N/A — Intermittent without  
perennial pools**

Date of study: \_\_\_\_\_ Time of study: \_\_\_\_\_

Stream name: \_\_\_\_\_

Location: 

--

Type of stream upstream of existing discharge or downstream of proposed discharges, (check one).     **perennial**         **intermittent with perennial pools**

**COMPLETE THE TRANSECTS DOWNSTREAM OF THE EXISTING OR PROPOSED DISCHARGES:**

**1. DATA COLLECTION** (Instructions, Page 54)

**No. of stream bends:** \_\_\_\_\_ well defined \_\_\_\_\_ moderately defined \_\_\_\_\_ poorly defined

**No. of riffles:** \_\_\_\_\_

Evidence of Flow fluctuations (check one):     minor     moderate     severe

Indicate the observed stream uses and if there is evidence of flow fluctuations or channel obstruction/modification

Stream Type at Transect Location:     riffle     run     glide     pool    (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)												

Stream Type at Transect Location:     riffle     run     glide     pool    (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)												

Stream Type at Transect Location:     riffle     run     glide     pool    (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)												

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

Stream Type at Transect Location: riffle run glide pool (check one)

Location of Transect	Water Surface Width (ft)	Stream Depths (ft) at Points Across Transect (channel bed to water surface)									

**2. SUMMARIZE MEASUREMENTS (Instructions, Page 54)**

Streambed slope of entire reach (from USGS map in ft./ft.): \_\_\_\_\_

Approximate drainage area above the most downstream transect (from USGS map or county highway map in ml<sup>2</sup>): \_\_\_\_\_

Length of stream evaluated (in feet): \_\_\_\_\_

Number of lateral transects made: \_\_\_\_\_

Average stream width (in feet): \_\_\_\_\_

Average stream depth (in feet): \_\_\_\_\_

Average stream velocity (in ft/second): \_\_\_\_\_

Instantaneous stream flow (in ft<sup>3</sup>/sec): \_\_\_\_\_

Indicate flow measurement method: \_\_\_\_\_

**(VERY IMPORTANT -type of meter, floating chip timed over a fixed distance, etc.)**

Flow fluctuations (minor, moderate, severe): \_\_\_\_\_

Size of pools (large, small, moderate, none): \_\_\_\_\_

Maximum pool depth (in feet): \_\_\_\_\_

Total number of stream bends: \_\_\_\_\_

    Number well defined: \_\_\_\_\_

    Number moderately defined: \_\_\_\_\_

    Number poorly defined: \_\_\_\_\_

    Total number of riffles: \_\_\_\_\_

**DOMESTIC WORKSHEET 3.0  
LAND DISPOSAL OF EFFLUENT**

**THE FOLLOWING IS FOR ALL PERMIT APPLICATIONS, RENEWAL, NEW AND AMENDMENTS**

**1. TYPE OF DISPOSAL SYSTEM (Instructions, Page 55)**

- |   |   |
|---|---|
| <input type="checkbox"/> Surface Application              | <input type="checkbox"/> Subsurface Application                                       |
| <input type="checkbox"/> Evaporation                      | <input type="checkbox"/> Evapotranspiration beds                                      |
| <input type="checkbox"/> Irrigation                       | <input checked="" type="checkbox"/> Subsurface soils absorption --Existing Phase Only |
| <input type="checkbox"/> Other (describe below in detail) | <input type="checkbox"/> Subsurface area drip dispersal system                        |

**NOTE: All applicant's authorized or proposing subsurface disposal MUST complete and submit Worksheet 7.0.**

**2. LAND APPLICATION AREA (Instructions, Page 55)**

Effluent Application in GPD	Irrigation Acreage in Acres	Describe land use & indicate type of crop (alfalfa or wheat, Bermuda grass, park, golf course, pastureland, etc.)	Public Access Y/N
15,000	2.16	Rangeland (bermuda and rye grass)	N

**3. STORAGE AND EVAPORATION PONDS (Instructions, Page 55)**

Pond Number	Surface Area (acres)	Storage volume (acre-feet)	Dimensions	Liner Type
N/A				

Check if the liner certification completed by a Texas licensed professional engineer is attached.

**4. FLOOD AND RUNOFF PROTECTION (Instructions, Page 55)**

Is the existing/proposed application site within the 100-year frequency flood level?

- Yes     No

Source: FEMA-- No. 48209C0239

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

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

N/A

**5. ANNUAL CROPPING PLAN** (Instructions, Page 57)

Provide the required cropping plan. Indicate by a check mark that each of the following is provided. **N/A**

- |   |   |
|---|---|
| <input type="checkbox"/> Soils map with crops               | <input type="checkbox"/> Additional fertilizer requirements                                 |
| <input type="checkbox"/> Cool and warm season plant species | <input type="checkbox"/> Supplemental watering requirements                                 |
| <input type="checkbox"/> Crop growing season                | <input type="checkbox"/> Crop salt tolerances   |
| <input type="checkbox"/> Crop nutrient requirements         | <input type="checkbox"/> Harvesting method/number of harvests                               |
| <input type="checkbox"/> Minimum/maximum harvest height     | <input type="checkbox"/> Justification for not removing existing vegetation to be irrigated |

**6. WELL AND MAP INFORMATION** (Instructions, Page 57)

Indicate by a check mark that the following information is shown and labeled on the USGS map: **See Attachment P**

- The boundaries of the land application site(s)
- Waste disposal or treatment facilities
- N/A  On-site buildings
- Buffer zones
- N/A  Effluent storage and tailwater control facilities
- All water wells within 1 mile radius of the disposal site or property boundaries
- All springs and seeps onsite and within 500 feet of the property
- All surface waters in the state 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.

Well ID	Well Use	Producing?	Open, cased, capped, or plugged?	Proposed Best Management Practice
<b>See Attachment P</b>				

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

**7. SOIL MAP AND SOIL ANALYSES (Instructions, Page 58) N/A\***

**a.** Indicate by a check mark that the USDA Soil Survey map has been provided and the map shows the area to be used for effluent disposal.

**b.** Indicate by a check mark that results from soil analyses have been submitted as part of the application.

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

Soil Series	Depth from Surface	Permeability	Available Water Capacity

\* The City is not requesting any amendments to the Existing/ Interim I Phase as described in the existing permit.

## 8. EFFLUENT MONITORING DATA (Instructions, Page 58)

Date (mo/yr)	Flow (30-day avg. in GPD)	BOD in mg/l	TSS in mg/l	TKN in mg/l	Conductivity ds/m *	Phosphorus mg/l	Total acres irrigated
Feb-12	13,931	2.4					
March-12	9,258	1.5					
April-12	10,000	5.8					
May-12	10,484	10.7					
June-12	10,700	7.0					
July-12	11,032	6.0					
Aug-12	8,968	5.6					
Sept-12	7,733	2.3					
Oct-12	6,484	1.8					
Nov-12	6,667	3.5					
Dec-12	7,097	1.0					
Jan-13	6,935	6.0					
Feb-13	7,036	21.0					
March-13	7,355	11.0					
April-13	7,233	1.5					
May-13	8,129	2.2					
June-13	7,400	2.0					
July-13	8,613	2.0					
Aug-13	7,290	1.0					
Sept-13	10,267	1.0					
Oct-13	11,968	1.2					
Nov-13	12,667	1.0					
Dec-13	7,645	2.0					
Jan-14	8,581	2.3					

\*ds/m is equivalent to mmhos/cm

Provide a discussion of all persistent excursions to permitted parameters and corrective actions taken. **N/A**

**DOMESTIC WORKSHEET 3.2**  
**SUBSURFACE LAND DISPOSAL OF EFFLUENT**

**THE FOLLOWING IS REQUIRED FOR NEW AND AMENDMENT APPLICATIONS\***

**\*Renewal applications may be asked for the worksheet on a case by case basis.**

The City is not requesting any amendments to the Existing/ Interim I Phase as described in the existing permit.

NOTE: All applicants authorized or proposing subsurface disposal MUST complete and submit Worksheet 7.0.

**1. SUBSURFACE APPLICATION (Instructions, Page 61)**

Complete the item that is applicable for the method of disposal being utilized.

Check the type of system:

- Conventional Drainfield, Beds, or Trenches  
 Pressure Dosing  
 Mound System  
 Other: \_\_\_\_\_

Application area: 2.16 acres  
Area of drainfield: - square feet  
Application rate: 0.16 gal/square foot/day  
Area of trench: - square feet  
Depth to groundwater: >6 feet  
Number of beds: 11  
Dosing duration per area: \_\_\_\_\_ hours  
Infiltration Rate: - inches/hour  
Dosing amount per area: \_\_\_\_\_ inches/day  
Area of bed(s): 41,625 square feet  
Storage volume: \_\_\_\_\_ gallons  
Soil Classification: Gruene (GrC)- Clayey Gravel

- Check if a separate engineering report with all information required in 30 TAC Section 309.20 and a description of the schedule of dosing basin rotation are attached

**2. EDWARDS AQUIFER RECHARGE AREA (Instructions, Page 61)**

Is the subsurface system and/or wastewater treatment plant located on the Edwards Aquifer Recharge Zone as mapped by the TCEQ?  Yes  No

If yes, than the subsurface system may be prohibited by 30 TAC Section 213.8. Please call the Municipal Permits Team to schedule a pre-application meeting.

Is the subsurface system and/or wastewater treatment plant located on the Edwards Aquifer Transition Zone as mapped by the TCEQ?  Yes  No

If yes, than the subsurface system may be prohibited by 30 TAC Section 213.8. Please call the Municipal Permits Team to schedule a pre-application meeting.

**DOMESTIC WORKSHEET 6.o**  
**INDUSTRIAL WASTE CONTRIBUTION**

**1. ALL POTWs (Instructions, Page 70)**

a. Provide the number of each of the following types of industrial users that discharge to your POTW and the flows from each.

Type of industrial user	Number of industrial users	Average Flows in MGD
CIUs	0	-
SIUs - Non-categorical	0	-
Other IUs	0	-

b. In the past three years, has your POTW experienced treatment plant interference as defined in the Definitions section of the instructions?

Yes     No    If yes, identify all dates, duration, description of interference, probable cause(s) and possible source(s).

c. In the past three years, has your POTW experienced pass through as defined in the Definitions section of the instructions?

Yes     No    If yes, identify all dates, duration, description of pollutants passing through the treatment plant, probable cause(s) and possible source(s).

d. Does your POTW have, or is it required to develop an approved pretreatment program?

Yes     No    If yes, answer all questions in item 2, but skip item 3 questions. If no, skip item 2 and answer all questions in item 3 for each significant industrial user.

**2. POTWs WITH APPROVED PROGRAMS OR THOSE REQUIRED TO DEVELOP A PROGRAM (Instructions, Page 70)    N/A**

a. Have there been any substantial modifications to the POTW's approved pretreatment program that have not been approved according to 40 CFR Section 403.18?

Yes     No    If yes, identify on a separate attachment all substantial and nonsubstantial modifications that have not been submitted to the Approval Authority (TCEQ).

- b.** List all parameters measured above the MAL in the POTW's effluent annual monitoring scans during the last three years. **N/A**

Pollutant	Concentration	MAL	Units	Date

- c.** Has an IU caused or contributed to any problems (e.g., interferences, pass through) at your POTW in the past three years?

Yes     No

If yes, identify the industry, describe each episode, including dates, duration, description of problems, and probable pollutants. Submit a separate attachment if necessary.

**3. SIGNIFICANT INDUSTRIAL USER (SIU) INFORMATION** (Instructions, Page 71) **N/A**

**a.** Company Name: \_\_\_\_\_ SIC Code: \_\_\_\_\_  
 Telephone number: \_\_\_\_\_ Fax number: \_\_\_\_\_  
 Contact name: \_\_\_\_\_  
 Street No.: \_\_\_\_\_ Street name: \_\_\_\_\_ Street type: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

- b.** Describe the industrial processes of other activities that affect or contribute to the SIU's discharge.

c. Provide a description of the principal product(s).

--

d. Flow rate information:

Flow information	Gallons per day discharged	Continuous, batch or intermittent discharge
Process wastewater		
Non-process wastewater		

e. Pretreatment Standards: Indicate whether the SIU is subject to the following.

Technically based local limits as defined in the Definitions section of the instructions:

Yes     No

Categorical pretreatment standards (40 CFR Parts 405-471):     Yes     No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category in 40 CFR	Subcategory in 40 CFR			

f. Has the SIU caused or contributed to any problems (e.g., interferences, pass through) at your POTW in the past three years?

Yes     No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants. Provide a separate attachment if necessary.

--

**SUBMIT TO:**

TCEQ  
 Industrial and Hazardous  
 Waste Permits Section  
 MC130  
 PO Box 13087  
 Austin, Texas 78711-3087  
 512/239-6075

**WORKSHEET 7.0**

**TEXAS COMMISSION ON  
 ENVIRONMENTAL QUALITY**

**CLASS V INJECTION WELL  
 INVENTORY/ AUTHORIZATION  
 FORM**

For TCEQ Use Only

Reg. No. \_\_\_\_\_

Date Received \_\_\_\_\_

Date Authorized \_\_\_\_\_

**Reg. No. 5****Section I General Information**

Provide the information in items 1 through 8 (Instructions, Page 72)

1. TCEQ Program Area (PST, VCP, IHW, etc.), Contact Name and Phone Number

**TLAP, Region 11 — (512)339-2929**

2. Agent/Consultant, Contact Name, Address (Street, City, State, and Zip Code), and Phone Number

**Don Ferguson — (512)847-0025**3.  Owner  Operator

Owner/Operator, Contact Name, Address (Street, City, State, and Zip Code), and Phone Number

**City of Wimberley, Don Ferguson, 12111 Ranch Road 12, Wimberley, Texas, 78676 (512)847-0025**

4. Facility Name, Address (Street, City, County, State, and Zip Code) or location description (if no address is available) and Facility Contact Person and Phone Number

**City of Wimberley Water Reclamation Facility, 333 Blue Hole Lane, Wimberley, Texas, 78676  
 Contact: Don Ferguson; (512)847-0025**

5. Latitude and Longitude (degrees-minutes-seconds) and method of determination (GPS, TOPO, etc.) (Attach topographic quadrangle map as attachment A)

**30° 00' 14" N 98° 05' 00" W****Topographic Map — Arc GIS****See Attachment 7-A**

6. Type of Well Construction (Vertical Injection, Subsurface Fluid Distribution System, Infiltration Gallery, Temporary Injection Points, etc.) and Number of Injection Wells

**Existing — 11 pressure-dosed absorption beds with a total surface area of 94,500 sq. ft. of non-public land.**

7. Detailed Description regarding purpose of Injection System. Attach a Site Map as Attachment B (Attach the Approved Remediation Plan (if appropriate))

**Disposal of treated wastewater for the facility during the existing phase.****See Attachment 7-B**

8. Water Well Driller/Installer, Address (Street, City, State, and Zip Code), Phone Number, and License Number

**Unknown.**

<b>Section II Proposed Down Hole Design</b> <b>Attach a diagram signed and sealed by a licensed engineer as Attachment C</b>					
Name of String	Size	Setting Depth	Sacks Cement/Grout - Slurry Volume - Top of Cement	Hole Size	Weight PVC/Steel (lbs/ft)
9. Casing					
10. Tubing					
11. Screen					
<b>Section III Proposed Trench System, Subsurface Fluid Distribution System, or Infiltration Gallery</b> <b>Attach a diagram signed and sealed by a licensed engineer as Attachment D</b>					
12. System(s) Dimensions Surface area: 2.16 acres			13. System(s) Construction See Attachment 7-C		
<b>Section IV Site Hydrogeological and Injection Zone Data</b> Provide the information in items 14 through 31					
14. Name of Contaminated Aquifer					
15. Receiving Formation Name of Injection Zone					
16. Well/Trench Total Depth					
17. Surface Elevation					
18. Depth to Ground Water					
19. Injection Zone Depth					
20. Injection Zone vertically isolated geologically? Y/N Impervious Strata between Injection Zone and nearest Underground Source of Drinking Water Name: _____ Thickness: _____					
21. Provide a list of contaminants and the levels (ppm) in contaminated aquifer Attach as Attachment E					
22. Horizontal and Vertical extent of contamination and injection plume Attach as Attachment F					
23. Formation (Injection Zone) Water Chemistry (Background levels) TDS, etc. Attach as Attachment G					
24. Injection Fluid Chemistry in PPM at point of injection Attach as Attachment H					
25. Lowest Known Depth of Ground Water with < 10,000 PPM TDS					
26. Maximum injection Rate/Volume/Pressure					

N/A

N/A

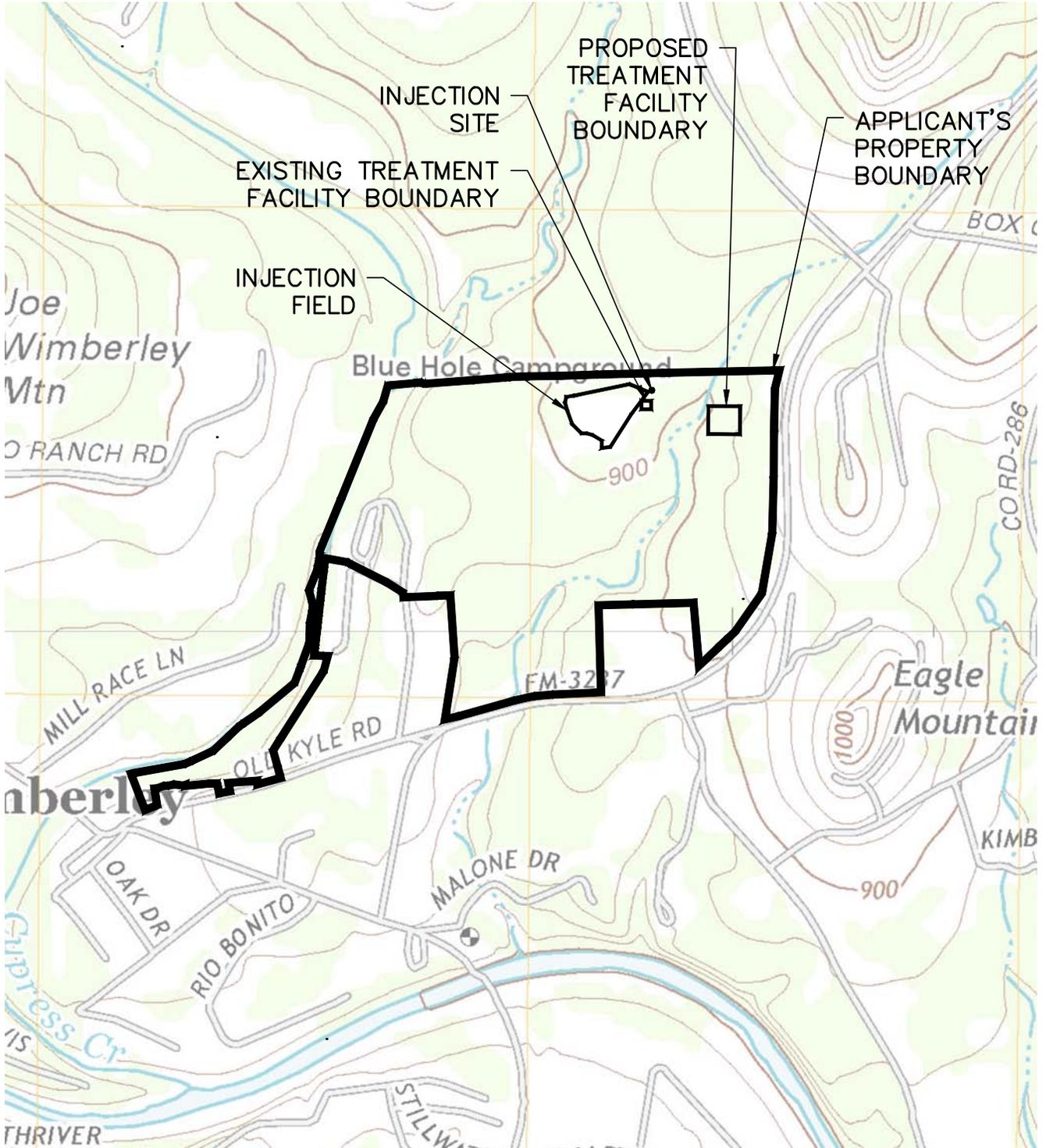
27. Water wells within 1/4 mile radius (attach map as Attachment I)	
28. Injection wells within 1/4 mile radius (attach map as Attachment I)	
29. Monitor wells within 1/4 mile radius (attach drillers logs and map as Attachment I)	
30. Sampling frequency	
31. Known hazardous components in injection fluid	
<b>Section V Site History</b> Provide the information in items 32 through 35	N/A
32. Type of Facility	
33. Contamination Dates	
34. Original Contamination (VOCs, TPH, BTEX, etc.) and Concentrations Attach as attachment J	
35. Previous Remediation Attach results of any previous remediation as attachment K	

**NOTE:** Authorization Form should be completed in detail and authorization given by TCEQ before construction, operation, and/or conversion can begin. Attach additional pages as necessary.

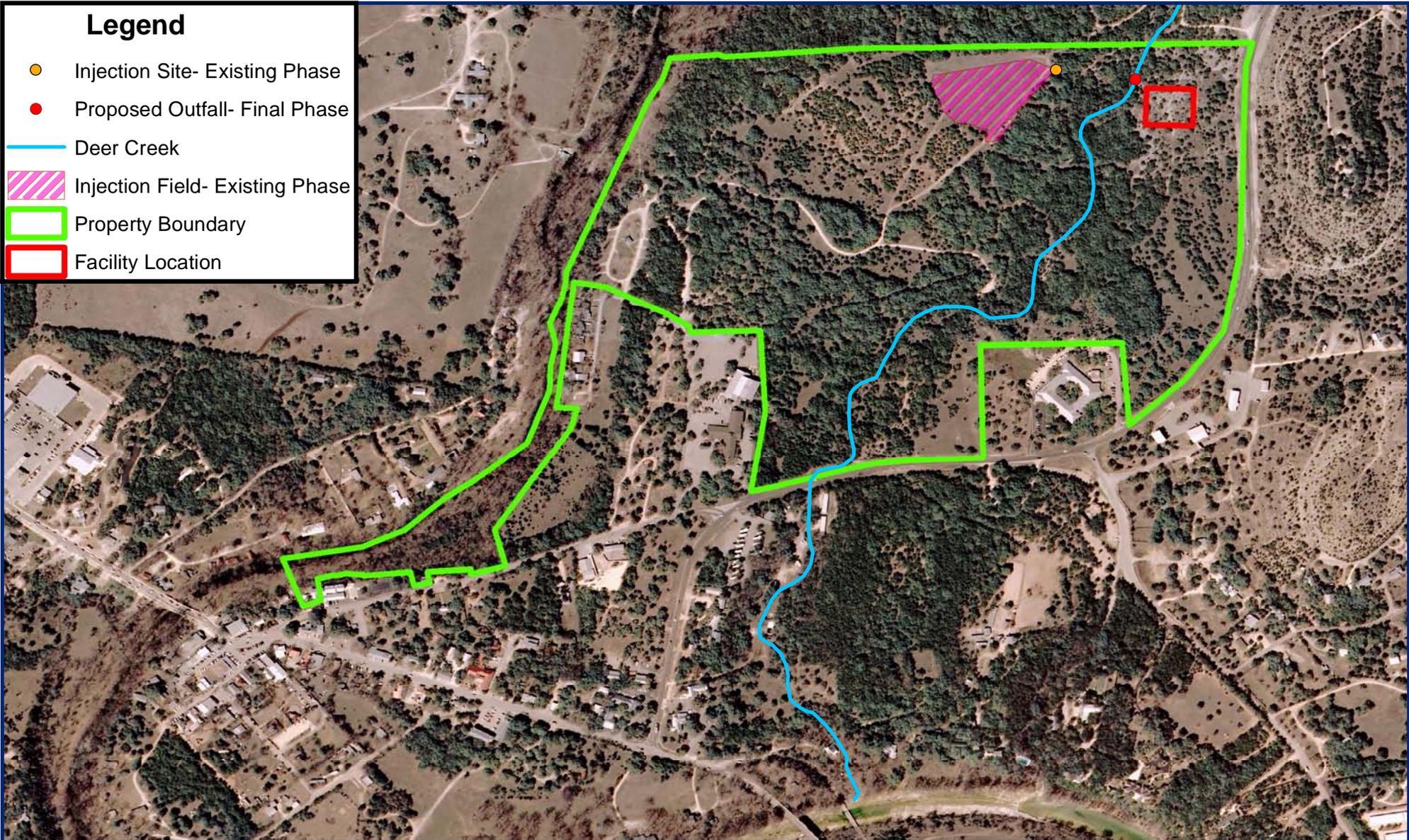


ALAN PLUMMER  
ASSOCIATES, INC.

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



ATTACHMENT 7A  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
FACILITY LOCATION



**Legend**

- Injection Site- Existing Phase
- Proposed Outfall- Final Phase
- Deer Creek
- Injection Field- Existing Phase
- Property Boundary
- Facility Location



DATE:  
APRIL 14, 2014

**ATTACHMENT 7-B  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**INJECTION WELL SITE MAP**

**ALAN PLUMMER ASSOCIATES, INC.**  
ENVIRONMENTAL ENGINEERS AND SCIENTISTS  
6300 LA CALMA SUITE 400  
AUSTIN, TEXAS 78752  
PHONE: (512) 452-5905  
FAX: (512) 452-2325

FIGURE 1 OF 1

0 250 500 1,000 Feet

SOURCE: SSURGO SOIL SURVEY

PROJECT NUMBER:  
1732-002-01

**ATTACHMENT 7-C  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
SUBSURFACE FLUID DISTRIBUTION SYSTEM CONSTRUCTION**

**CONCRETE FOR STRUCTURES & FOUNDATIONS**

1. Concrete shall be Type I Portland Cement conforming to ASTM C-150-42. Cement shall be stored in weatherproof buildings and shall be free of lumps or clots at time of use.
2. Water shall be clean and free from foreign material. Domestic tap water shall be used.
3. Fine aggregate shall be clean washed river sand, consisting of clean, hard, durable, rounded grains, free from lumps. Coarse aggregate shall consist of crushed stone, gravel, crushed gravel or a combination of these. Material shall be free of organic matter, clay, silt, fragments, material removed by decomposition and other deleterious substances including foreign rocks, clumps or lumps of material, including water, oil, asphalt or other hydrocarbonaceous matter. At time of use, aggregate to be free from foreign materials and all foreign matter such as pieces, shells, sticks, twigs, paper or dirt.
4. Concrete shall be 3,000-psi concrete and shall contain a minimum of 4% of coarse and a minimum of 3.25% of water per sack of cement. Concrete shall have a minimum 28-day compressive strength of 3,000-psi. Each sack of cement shall weigh 94 pounds, minimum. The consistency of the concrete mixture shall be such that:
  - a. The concrete slumps to approximately 10 inches.
  - b. The concrete is not sufficiently fluid to segregate when transported to the place of deposit.
  - c. The mortar will show up free water when removed from the edge.
  - d. The concrete, when dropped directly from the discharge chute of the mixer will fill the form and flow into the corners.
  - e. The concrete will settle into place when dumped in the form and when transported to each place at an angle of 30 degrees with the horizontal, it will slide and set flow into place.
  - f. The surface of the finished concrete will be free from "laitance" or a surface film of oil.
  - g. The maximum slump will be 3".
5. The Contractor shall take one sample for each 10-cubic yards of concrete placed. The sample shall consist of three (3) cylinders, taken in accordance with standard testing procedures. One (1) cylinder shall be broken after 7-days and one (1) broken after 28-days. The remaining cylinder shall be kept in a moist condition in the laboratory until the 28-day compressive strength requirements of the concrete are met. The concrete shall be tested and reported at the Contractor's expense, with one sample being taken on the job. The Contractor shall have the samples analyzed by a private, independent testing laboratory which shall provide the Contractor with certified test results. The Contractor shall include this testing cost in his bid. All cylinders shall be dated and numbered at the time of taking the sample.
6. All concrete not placed in the work within 30-minutes after mixing will be rejected and shall be disposed of by the Contractor at his own cost and expense. Concrete shall not be placed when the temperature is below 30-degrees and falling, but it may be placed when the temperature is above 30-degrees and rising. The temperature shall be taken in the shade and away from artificial heat. Tests on specimens may not be added to the concrete to speed freezing. Concrete shall be protected from frost and freezing for 5-days after placing.
7. All steel shall be new deformed billet steel meeting the requirements of ASTM A-616, Grade 60. Rebar shall conform to AISC-308. Cleared bars shall not be used. Bars shall be spaced a minimum of 30-bar diameters. Hooks and bends in bars shall be made in the manner prescribed in the "Manual of Standard Practice of the American Concrete Institute". Steel placed in walls on the ground shall be supported in chairs specially designed for that use. The use of wood blocks or cement blocks to block rebar shall not be permitted. Prior to placing concrete, all loose material, rust, dirt, etc. shall be cleaned from the steel.
8. After the concrete has cured, the surfaces shall be cleaned by removing all material such as dirt, grease, joint sealers and any other material that is on the surface of the structure, and the exterior surface of the structure, top walls and floors shall be given a coat of red iron oxide. Galvanizing shall be applied to rebar. Galvanizing shall be applied to rebar in accordance with the manufacturer's recommendations.
9. After steel shall be provided where shown on the drawings and shall be a minimum height of 4-inches and a minimum thickness of 3/8". After steel shall be of uniform thickness and shall be approved by the Engineer prior to use. All steel shall be installed according to the manufacturer's recommendations.
10. Form shall be of a suitable material and of a true size, shape, position and strength to ensure construction as designed. The form shall be true to line and grade within 1/8" and sufficiently rigid to resist deflection during the placing of the concrete. All forms shall be clean and shall be inverted by the Engineer prior to reusing concrete. Wood forms to be placed with the grain in the direction of the impact blow. All shore edges shall be sheathed with 3/4" x 3/4" diagonal fillets. All interior surfaces shall be steel lined. Fillets, exterior surfaces shall have all voids, and holes and joints completely filled with a material resistant to being eroded by the concrete. Fillets to fill all such voids in the surface and shoring to be "branded" finish.
11. All wiring connections shall be made into the sides of the walls and the pipes shall be placed directly in place with a completed sewer joint.

**PIPELINE CONSTRUCTION NOTES**

1. The pipe sewer shall be constructed in accordance with the typical detail herein, and in accordance with the specifications herein. The pipe shall be installed in accordance with the specifications for laying for infiltration, infiltration, infiltration and infiltration in accordance with the specifications herein.
2. All pipeline installation shall conform to the requirements for trench safety, shoring and shoring, in accordance with the copy of Specification No. 286 attached to the contract documents.
3. Manholes shall conform to the specifications herein for present manholes.
4. All sewer lines shall be trench and bedded in accordance with the applicable detail herein for the type of line construction.
5. An automatic sewer generator shall be provided for the lift station manhole to meet the (1) of the sewer, in accordance with Specification No. 197, attached to the contract documents.

**AUTOMATIC DIALING ALARM MONITOR**

An automatic dialing alarm monitor shall be provided which will, upon signal from one of the alarm circuits at the lift station, dial a series of telephone numbers to deliver a specific message reporting the existence of an alarm fault so that the operator may be notified of an existing problem, and respond to the alarm. This monitor shall be placed on the lift station sewer. One (1) is required for this contract.

The equipment to be supplied shall be a Microtel Model M200, or Engineer approved equal. The system shall use a state-of-the-art automatic dialing alarm and telephone communication system specifically designed for industrial based equipment monitoring needs and shall use standard telephone lines. The Contractor shall also provide a bonded telephone service line installed in the plant area and connected to the alarm system. The costs for the telephone company services shall be included in the bid, as they will be considered an extra and the Contractor will be reimbursed for the expenses by the telephone company to make this connection at the telephone company's expense.

The monitor shall be field programmable with a user-selectable vocabulary of at least fifty (50) words, manually programmed for water utilities industry, to deliver a specific message to a series of programmable telephone locations. The dialing capacity shall be at least eight (8) different numbers, with 30-digits each minimum. The dialing tones shall be tone detectors (DTMF) or tone with user option to select format. The monitor shall be 1 to 100-volts programmable. The automatic dialing monitor shall be either tone or cell-free.

The alarm monitor shall be capable of meeting four (4) alarm conditions at the site. In addition, some failures shall be sensed internally and shall not require any of the faults described. Some detection of one of the faults conditions or some failures, the unit will communicate the first of the eight (8) over selected phone numbers and deliver a message describing the alarm condition. This message shall be delivered in an electronic synthesized voice. The monitor shall identify the site and describe the alarm condition. The unit shall be capable of dialing a list of up to ten (10) phone numbers in sequence until acknowledged by either the unit itself or by depressing a touchtone key. Once acknowledged the unit shall enter a programmable interval delay to allow the alarm condition to be determined and acknowledged by either the unit itself or by depressing a touchtone key. Once acknowledged the unit shall enter a programmable interval delay to allow the alarm condition to be determined and acknowledged by either the unit itself or by depressing a touchtone key. Once acknowledged the unit shall enter a programmable interval delay to allow the alarm condition to be determined and acknowledged by either the unit itself or by depressing a touchtone key.

The alarm monitor shall possess the following physical and functional characteristics:

- Fiberoptic alarm monitor with clear polycarbonate sealed cover and external mounting holes.
- Built-in maintenance free battery backup 4-hours.

- Sealed wiring terminal to protect connections.
- Multiple connection with integral circuit board.
- Modular screw-down terminals for fault leads, not requiring tools or connectors for up to 12 AWG wire.
- Visual indicators of the following conditions, even when the cover is closed:
  - All fault channels.
  - Power on.
  - Call in progress.
  - Battery condition.
  - Internal dial in progress.
  - Successful acknowledgment.

The unit shall utilize non-volatile ROM memory such that the system operation, memory retention, and other programmed phone numbers and all other functions and values stored in memory shall be retained without power requirements. Power retention scheme will be battery in our own or acceptable.

Additionally, each unit shall include the following standard features:

- Individually selectable internal-batter from the keyboard.
- Individually selectable open and closed contacts for alarm sensing from the keyboard.
- Green lighting alarm and red lighting functions.
- U.S. listed system.

The ODS for the Automatic Dialing Alarm Monitor shall be included in the cost for the lift station.

The automatic dialing alarm monitor shall be set up to monitor sewer failures in the lift station and high water level for the lift station. This will involve three (3) sewer water condition meetings in the monitor for future use.

**FOAM INSULATION**

The above grade piping, 2" and smaller shall be insulated. The insulation shall be pre-welded sections urethane pipe covering with an All Service Jacket (ASJ) manufactured by Southwest Insulation, Inc. or approved equal. Fittings shall be covered with sections of the same insulation material covered with Glass-Fib and sealed with a primer coat of Foster 80-20. The line of fittings/fittings can be wrapped with Fiberglas wool and finished with a pre-welded PVC fitting cover and sealed with a coat of Foster 80-20.

The exterior insulation shall be wrapped with 35-lb. roofing felt slanted on 2" centers with all longitudinal and butt seam overlapping a minimum of 2" and sealed with Foster 80-20 mastic-prime. 3/4" Black Glass wool be substituted for the roofing felt.

Wires and fibers shall be insulated with urethane-insulated urethane insulation covers as manufactured by Southwest Insulation, Inc. Covers shall be wired in place. All wires shall be made with electric liquid urethane in the wire and flame covers. The covers shall be finished with Black Glass Fib and sealed with a coat of Foster 80-20 mastic-prime.

**CONSTRUCTION PLANS FOR  
BLUE HOLE RECREATIONAL AREA  
PHASE 1 WASTEWATER TREATMENT PLANT,  
SEPTIC FIELDS, AND LIFT STATION**



**LOCATION MAP**  
SCALE: 1" = 200'

**OWNER:**  
BLUE HOLE MANAGEMENT, LTD.  
BLUE HOLE ENTERPRISES, INC., GENERAL PARTNER  
KIRBY PERRY, PRESIDENT  
3001 LAKE AUSTIN BOULEVARD  
SUITE 305  
AUSTIN, TEXAS 78703

**PREPARED BY:**  
C. DARRYL PRIMEAUX, INC.  
3350 BEE CAVE RD., SUITE 301B  
AUSTIN, TEXAS 78746  
512/327-6729



11-2-87  
REVISED 12-15-87  
BY: RALPH C-15-87

**PUMP MOTOR CONTROLS**

Control of the motor operation of each pump shall be by use of built-in, sealed motor float switches, suitable for use in sea water. The motor switches shall be sealed in a self-protective float pump corrosion protection and shock resistance. The motor wires shall have a heavy moisture jacket and a weight shall be attached to the wire above the float to hold the float switch in place. Each motor station will be supplied with the heavy weight float control.

**Lift Station Controls**

There shall be four (4) float switches installed and installed in the lift station wet well. The float switches will be for use as follows:

1. One (1) set as shown on the Plans for high water alarm level which will activate an alarm circuit in the control panel and will light the red alarm light and sound an alarm located on shown on the Plans. FSA will also activate the third lift station pump.
2. One (1) set as shown on the Plans for turning on the lead pump.
3. One (1) set as shown on the Plans for turning on the lag pump.
4. One (1) set as shown on the Plans for turning off the pump on all of the operating pumps.

A transfer electric control box shall be provided at the lift station and shall be as manufactured by the Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A solid state triac shall be provided to operate pumps on each successive cycle and provide second order third order protection in the float pump for simultaneous operation. Motor switches shall be provided on the float pump and shall be wired in series with the magnetic contactor to protect the motor against excessive heat. Thermocouples shall be provided on the motor coils. A seal leak valve installed in each motor shall be connected to a red alarm light on the control box door.

**Pressure Dosing Pump Controls**

There shall be three (3) float switches installed and installed in the man station wet well. The float switches will be for use as follows:

1. One (1) set as shown on the Plans for high water alarm level which will activate an alarm circuit in the control panel and will light the red alarm light and sound an alarm located on shown on the Plans. FSA will also start the second pump.
2. One (1) set as shown on the Plans for turning on the lead pump.
3. One (1) set as shown on the Plans for turning off the pump(s).

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A solid state triac shall be provided to operate pumps on each successive cycle. Motor switches shall be provided on the float pump and shall be wired in series with the magnetic contactor to protect the motor against excessive heat. Thermocouples shall be provided on the motor coils. A seal leak valve installed in each motor shall be connected to a red alarm light on the control box door.

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

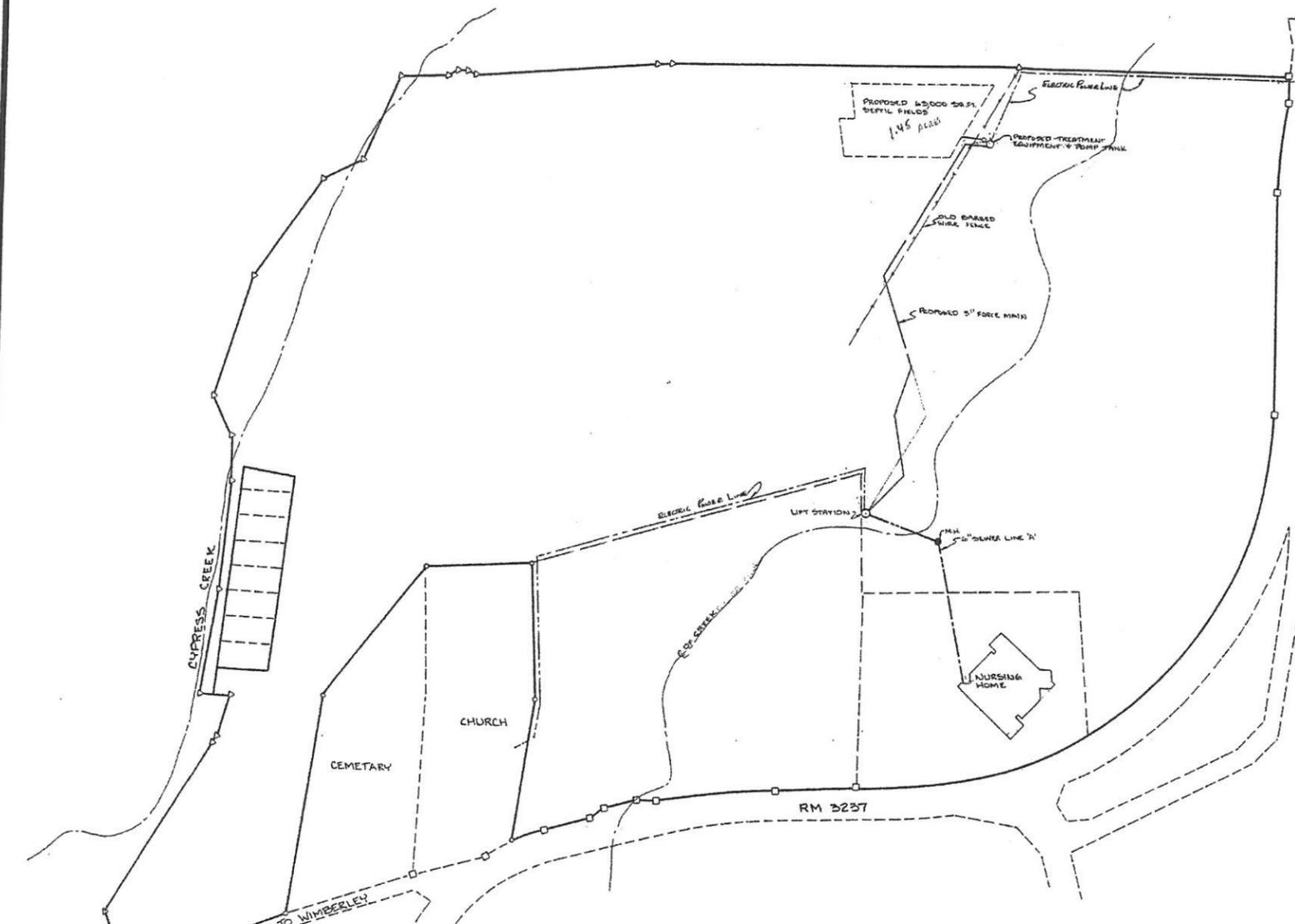
A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

A duplex electric control box shall be provided at the dosing wet well and shall be as manufactured by The Allen Company or approved equal. All control elements shall be mounted in a NEMA 3R enclosure. Three (3) phase voltage shall be 480-volts and a transformer shall be supplied to reduce line voltage to 120-volts for control circuits.

**TABLE OF CONTENTS**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PROPERTY SITE PLAN
3	SEWER LINE A & B
4	LIFT STATION DETAIL
5	SEPTIC FIELD PLAN & DETAILS
6	TREATMENT EQUIPMENT
7	FORCE MAIN PROFILE
8	SEWER LINE NOTES & MANHOLE DETAIL



**OVERALL SITE PLAN**

**GENERAL NOTES**

- The entire field area shall be seeded and fertilized at the time of construction completion. Seeding shall be with a mixture of Bahia grass, applied at a rate of 15-pounds per acre, and Rye grass, applied at a rate of 20-pounds per acre. Fertilizer shall have an analysis of at least 15-13-13, and shall be applied at a rate of 450-pounds per acre. The planted site shall be irrigated and sprinkled in a manner that will not erode the topsoil at maximum 10-day intervals during the first month after planting, at a rate sufficient to soak the soil to a depth of 6-inches. Rainfall occurrences of 1/2" or greater at the site shall postpone the watering schedule for 10-days. The Contractor shall include the cost for all this work in his bid.
- The PVC gravity sewer shall be constructed of SDR 35 PVC pipe, gasketed joint pipe conforming to ASTM D2688, latest revision. The sewer force main shall be Class 160 PVC pipe meeting the requirements of ASTM 1784-601 and ASTM D-2241-64T. The force main piping shall have ductile iron mechanical joint fittings with retainer glands. No glue joint pipe may be used for either of these two applications. The piping downstream of the pressure dosing pump shall be Schedule 40 PVC pipe. All pipe joints shall be thoroughly cleaned with pipe joint cleaner and the proper type of joint solvent recommended by the pipe manufacturer for use with their pipe shall be used to join all pipes.
- The contractor shall submit six (6) copies of descriptive data along with manufacturer's specifications and installation requirements on all materials and equipment to be installed on this project including but not limited to: Gravity sewer pipe; lift station structure; lift station pumps and motors; lift station controls; alarm system; fencing; force main sewer pipe; treatment equipment; concrete; dosing pumps; field piping; and all materials and equipment proposed to be used on the project including miscellaneous valves, fittings and pipe joining materials.
- The contractor shall grade and level all topsoil over the proposed fields so that the bed has an even slope from high to low side, with no dips or holes that will detain run-off from stormwater on the bed or allow any ponding or puddling of the rainwater or of water used for irrigation on the field to establish grass.
- The contractor shall be responsible for obtaining all local permits and licenses for construction, and for any inspections required by local or county officials. The cost for this shall be included in his bid for the project.
- Prior to beginning construction, a preconstruction meeting with the General Contractor, Owner and Engineer shall take place on-site, and at that time a construction schedule shall be delivered to the Engineer, and the Engineer shall advise the Contractor of the points or items that will need to be inspected and approved prior to proceeding with the next phase of construction. The Contractor shall then be responsible for notifying the Engineer at least three (3) days prior to completion of the items so that the Engineer may schedule an inspection.
- Gravel used in the field shall be washed river gravel, with an effective size of 3/4" to 1" range. Topsoil shall be free of trash, sticks, rocks and other foreign materials.

**PRESSURE DOSING PUMPS-CENTRIFUGAL**

Two (2) centrifugal pressure dosing pumps shall be furnished and installed in the locations as shown on the Plans. The pumps shall be Weimer Model 2" 64, 2" x 3" x 7". The pumps shall each have a 3/64" I.D. 1.5" HP motor with a 1.15 service factor. The pumps shall be close coupled to the motor. The pump shall have a rated capacity of 100-gpm at 25-feet TDH. The pump shall be capable of supplying 50-gpm at 27-feet TDH.

To insure cavity free operation, each pump's NPSH requirement must be low enough to permit continuous operation at 120% or greater of best efficiency point.

Each pump shall be capable of continuous operation without producing noise in excess of Hydraulic Institute and OSHA guidelines.

The pump casing shall be close grain cast iron with replaceable bronze case wear ring. Pumps with a specific speed greater than 1400 shall have double volute casings with suction splitter to reduce radial loading and shaft deflection. All pumps shall be of the back pull-out design so that the rotating element can be removed without disconnecting the suction or discharge piping.

The pump impeller shall be the enclosed type made of cast iron and shall be dynamically balanced. Impeller diameter shall be trimmed for the specified design conditions.

The entire pump shall be mounted on a cast iron or riser base using cap screws. Pumps shall not be secured with floor studs.

A combination air/vacuum release valve shall be placed on the downstream side of the pump downstream of all other pump discharge valves to act as a siphon breaker to prevent water from siphoning from the wet well into the field beds when the pump is off. This valve shall be a 1" APO Model 143C or Engineer approved equal. The valve shall be complete with valve manufacturer's standard valve vault and cover, and shall be installed in exact accordance with the manufacturer's recommendations to serve the specified function.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	906.0	1.5	5.0	1/8 0.41	120 24	9.8	0.082
2	2	906.0	1.5	5.0	1/8 0.41	120 25	10.2	0.085
3	3	906.0	1.5	5.0	1/8 0.41	120 26	9.8	0.082
4	4	906.0	1.5	5.0	1/8 0.41	120 25	10.2	0.085
5	5	906.5	1.0	4.5	1/8 0.39	120 26	9.8	0.081
6	6	906.5	1.0	4.5	1/8 0.39	120 26	10.0	0.085
7	7	907.0	0.5	4.0	1/8 0.37	120 27	10.0	0.083
8	8	907.0	0.5	4.0	1/8 0.37	120 27	10.0	0.083
9	9	907.0	0.5	4.0	1/8 0.37	120 27	10.0	0.083
10	10	907.5	0.0	3.5	1/8 0.345	120 29	10.0	0.083

GPM = 100 GPM  
0.083 GPM/FT  
110 LF 2" 4.4  
110 LF 2" 4.4  
30 LF 1.5" 0.2  
TOTAL 6.8 FT.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	904.5	1.5	5.0	1/8 0.41	120 24	9.84	0.082
2	2	904.5	1.5	5.0	1/8 0.41	120 24	9.84	0.082
3	3	905.0	1.0	4.5	1/8 0.39	120 26	10.1	0.084
4	4	905.0	1.0	4.5	1/8 0.39	120 26	10.1	0.084
5	5	905.0	1.0	4.5	1/8 0.39	120 26	10.1	0.084
6	6	905.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
7	7	905.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
8	8	905.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
9	9	906.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083
10	10	906.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083

GPM = 100 GPM  
0.083 GPM/FT  
255 LF 2" 5.3  
110 LF 2" 4.4  
30 LF 1.5" 0.2  
TOTAL 9.9

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	906.5	1.5	5.0	1/8 0.41	100 20	8.2	0.082
2	2	906.5	1.5	5.0	1/8 0.41	100 21	8.6	0.084
3	3	906.5	1.5	5.0	1/8 0.41	100 20	8.2	0.082
4	4	907.0	1.0	4.5	1/8 0.39	100 21	8.2	0.082
5	5	907.0	1.0	4.5	1/8 0.39	100 22	8.6	0.084
6	6	907.0	1.0	4.5	1/8 0.39	100 21	8.2	0.082
7	7	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
8	8	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
9	9	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
10	10	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083
11	11	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083
12	12	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083

GPM = 100 GPM  
0.083 GPM/FT  
300 LF 2" 6.3  
110 LF 2" 4.4  
30 LF 1.5" 0.2  
TOTAL 10.9 FT.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	906.5	1.5	5.0	1/8 0.41	100 20	8.2	0.082
2	2	906.5	1.5	5.0	1/8 0.41	100 21	8.6	0.084
3	3	906.5	1.5	5.0	1/8 0.41	100 20	8.2	0.082
4	4	907.0	1.0	4.5	1/8 0.39	100 21	8.2	0.082
5	5	907.0	1.0	4.5	1/8 0.39	100 22	8.6	0.084
6	6	907.0	1.0	4.5	1/8 0.39	100 21	8.2	0.082
7	7	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
8	8	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
9	9	907.5	0.5	4.0	1/8 0.37	100 22	8.1	0.081
10	10	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083
11	11	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083
12	12	908.0	0.0	3.5	1/8 0.345	100 24	8.3	0.083

GPM = 100 GPM  
0.083 GPM/FT  
300 LF 2" 6.3  
110 LF 2" 4.4  
30 LF 1.5" 0.2  
TOTAL 12.1 FT.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	906.0	2.0	6.0	1/8 0.41	100 20	8.2	0.082
2	2	906.5	1.5	5.0	1/8 0.39	100 21	8.2	0.082
3	3	906.5	1.5	5.0	1/8 0.39	100 22	8.6	0.084
4	4	906.5	1.5	5.0	1/8 0.39	100 21	8.2	0.082
5	5	907.0	1.0	4.5	1/8 0.37	100 22	8.1	0.081
6	6	907.0	1.0	4.5	1/8 0.37	100 23	8.5	0.085
7	7	907.0	1.0	4.5	1/8 0.37	100 23	8.5	0.085
8	8	907.5	0.5	4.0	1/8 0.345	100 24	8.3	0.083
9	9	907.5	0.5	4.0	1/8 0.345	100 24	8.3	0.083
10	10	908.0	0.0	3.5	1/8 0.32	100 26	8.3	0.083
11	11	908.0	0.0	3.5	1/8 0.32	100 26	8.3	0.083
12	12	908.0	0.0	3.5	1/8 0.32	100 26	8.3	0.083

GPM = 100 GPM  
0.083 GPM/FT  
420 LF 2" 8.0  
110 LF 2" 4.4  
30 LF 1.5" 0.2  
TOTAL 13.4 FT.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	908.5	1.5	5.0	1/8 0.41	120 24	9.8	0.082
2	2	908.5	1.5	5.0	1/8 0.41	120 25	10.2	0.085
3	3	908.5	1.5	5.0	1/8 0.41	120 24	9.8	0.082
4	4	909.0	1.0	4.5	1/8 0.39	120 26	10.1	0.085
5	5	909.0	1.0	4.5	1/8 0.39	120 27	10.1	0.085
6	6	909.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
7	7	909.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
8	8	909.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
9	9	910.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083
10	10	910.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083

GPM = 100 GPM  
0.083 GPM/FT  
362 LF 2" 7.6  
113 LF 2" 4.5  
30 LF 1.5" 0.2  
TOTAL 12.3

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	900.0	2.5	5.0	1/8 0.41	120 24	9.8	0.082
2	2	908.5	2.0	4.5	1/8 0.39	120 26	10.1	0.084
3	3	909.0	1.5	4.0	1/8 0.37	120 27	10.0	0.083
4	4	909.5	1.0	3.5	1/8 0.345	120 29	10.0	0.083
5	5	909.5	1.0	3.5	1/8 0.345	120 29	10.0	0.083
6	6	909.5	1.0	3.5	1/8 0.345	120 29	10.0	0.083
7	7	910.0	0.5	3.0	1/8 0.32	120 31	9.9	0.083
8	8	910.0	0.5	3.0	1/8 0.32	120 31	9.9	0.083
9	9	910.0	0.5	3.0	1/8 0.32	120 31	9.9	0.083
10	10	910.5	0.0	2.5	1/8 0.29	120 35	10.2	0.085

GPM = 100 GPM  
0.083 GPM/FT  
292 LF 2" 6.1  
113 LF 2" 4.5  
30 LF 1.5" 0.2  
TOTAL 10.9 FT.

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	910.0	2.0	5.0	1/8 0.41	100 20	8.2	0.082
2	2	910.5	1.5	4.5	1/8 0.39	100 20	8.2	0.082
3	3	910.5	1.5	4.5	1/8 0.39	100 20	8.2	0.082
4	4	910.5	1.5	4.5	1/8 0.39	125 27	10.5	0.086
5	5	911.0	1.0	4.0	1/8 0.37	120 27	10.0	0.083
6	6	911.0	1.0	4.0	1/8 0.37	125 27	10.5	0.086
7	7	911.0	1.0	4.0	1/8 0.37	125 27	10.5	0.086
8	8	911.5	0.5	3.5	1/8 0.345	95 23	7.5	0.084
9	9	911.5	0.5	3.5	1/8 0.345	85 20	6.9	0.081
10	10	911.5	0.5	3.5	1/8 0.345	75 18	6.2	0.083
11	11	912.0	0.0	3.0	1/8 0.32	70 18	5.8	0.082
12	12	912.0	0.0	3.0	1/8 0.32	60 16	5.1	0.085
13	13	912.0	0.0	3.0	1/8 0.32	50 13	4.2	0.083

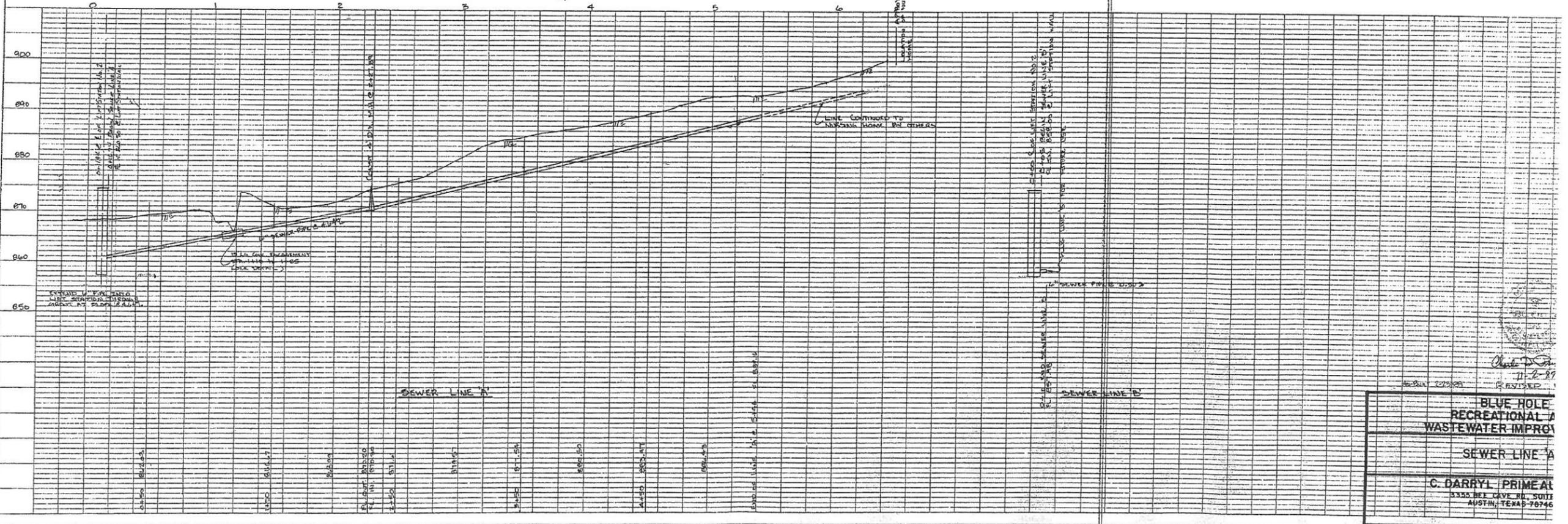
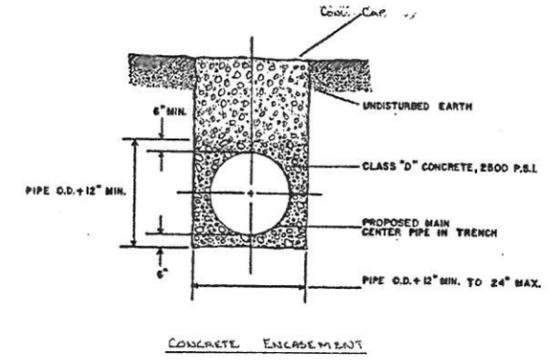
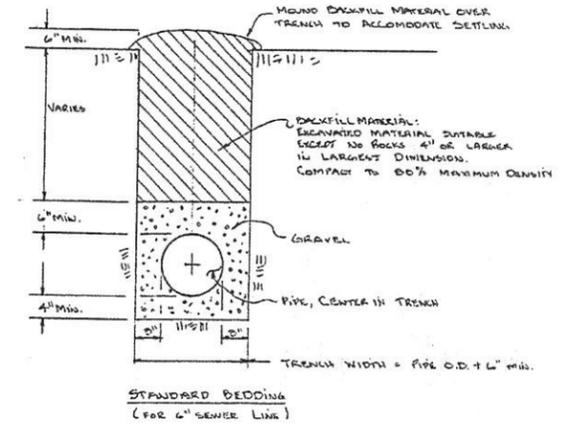
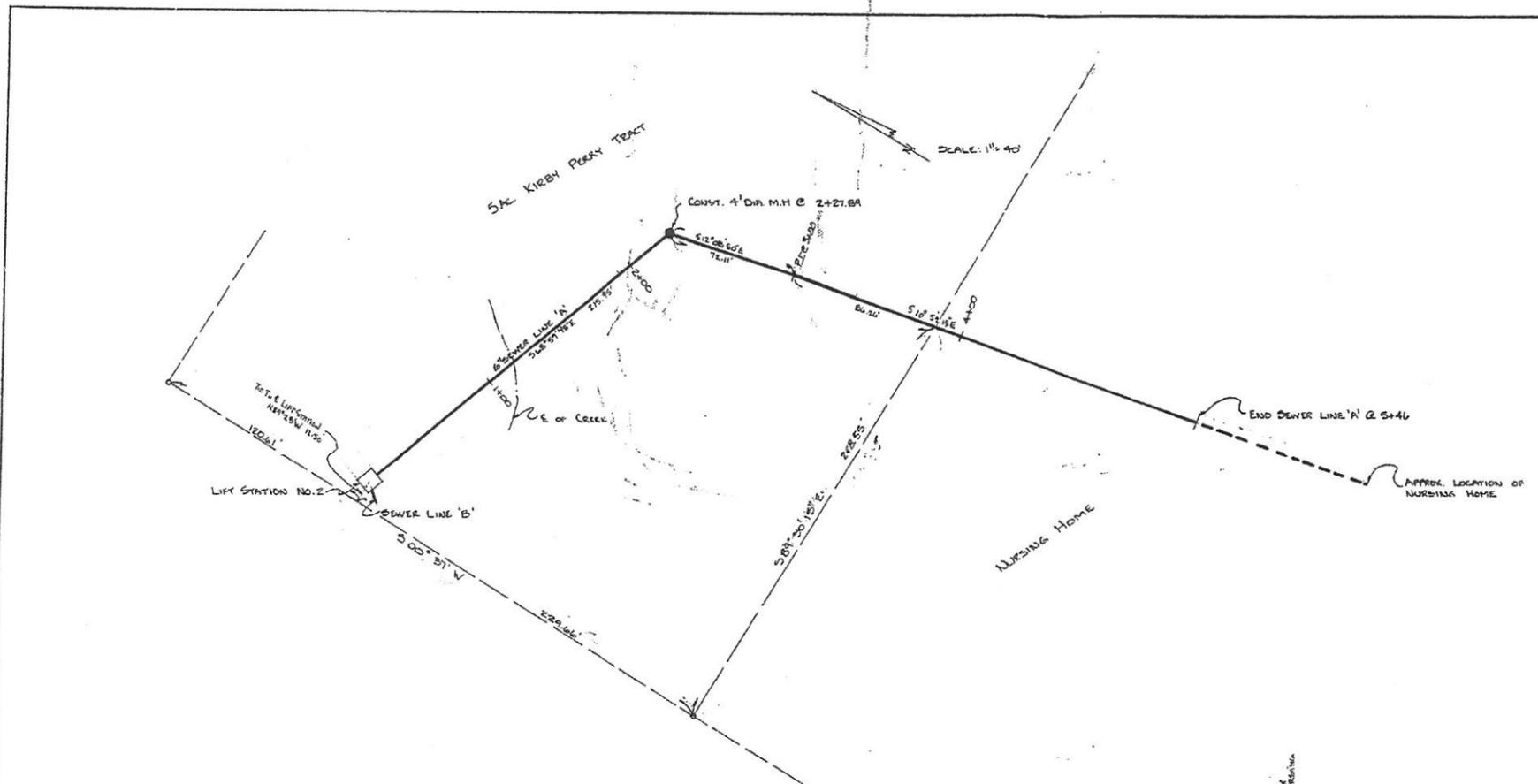
GPM = 100 GPM  
0.083 GPM/FT  
222 LF 2" 4.6  
113 LF 2" 4.5  
30 LF 1.5" 0.2  
TOTAL 9.3

RED NO.	PIPE NO.	ELEV. FT.	CHANGE FT.	PRESSURE HEAD	HOLE SIZE	FLOW RATE	PIPE LG.	FLOW GAL./HOLE /LINE FT.
1	1	910.5	1.5	5.0	1/8 0.41	120 24	9.8	0.082
2	2	910.5	1.5	5.0	1/8 0.41	120 25	10.1	0.084
3	3	910.5	1.5	5.0	1/8 0.41	120 24	9.8	0.082
4	4	911.0	1.0	4.5	1/8 0.39	120 26	10.1	0.085
5	5	911.0	1.0	4.5	1/8 0.39	120 25	9.8	0.082
6	6	911.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
7	7	911.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
8	8	911.5	0.5	4.0	1/8 0.37	120 27	10.0	0.083
9	9	912.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083
10	10	912.0	0.0	3.5	1/8 0.345	120 29	10.0	0.083

GPM = 100 GPM  
0.083 GPM/FT  
152 LF 2" 3.2  
113 LF 2" 4.5

PLAN  
NOTE BOOK  
NO. 1000

PROFILE  
NOTE BOOK  
NO. 1000



BLUE HOLE RECREATIONAL WASTEWATER IMPROVEMENT PROJECT  
SEWER LINE 'A'  
C. DARRYL PRIMEAL  
3335 BEE CAVE RD., SUITE 100  
AUSTIN, TEXAS 78746

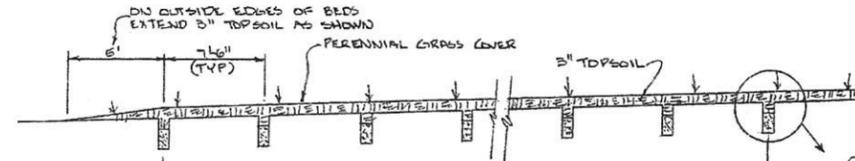
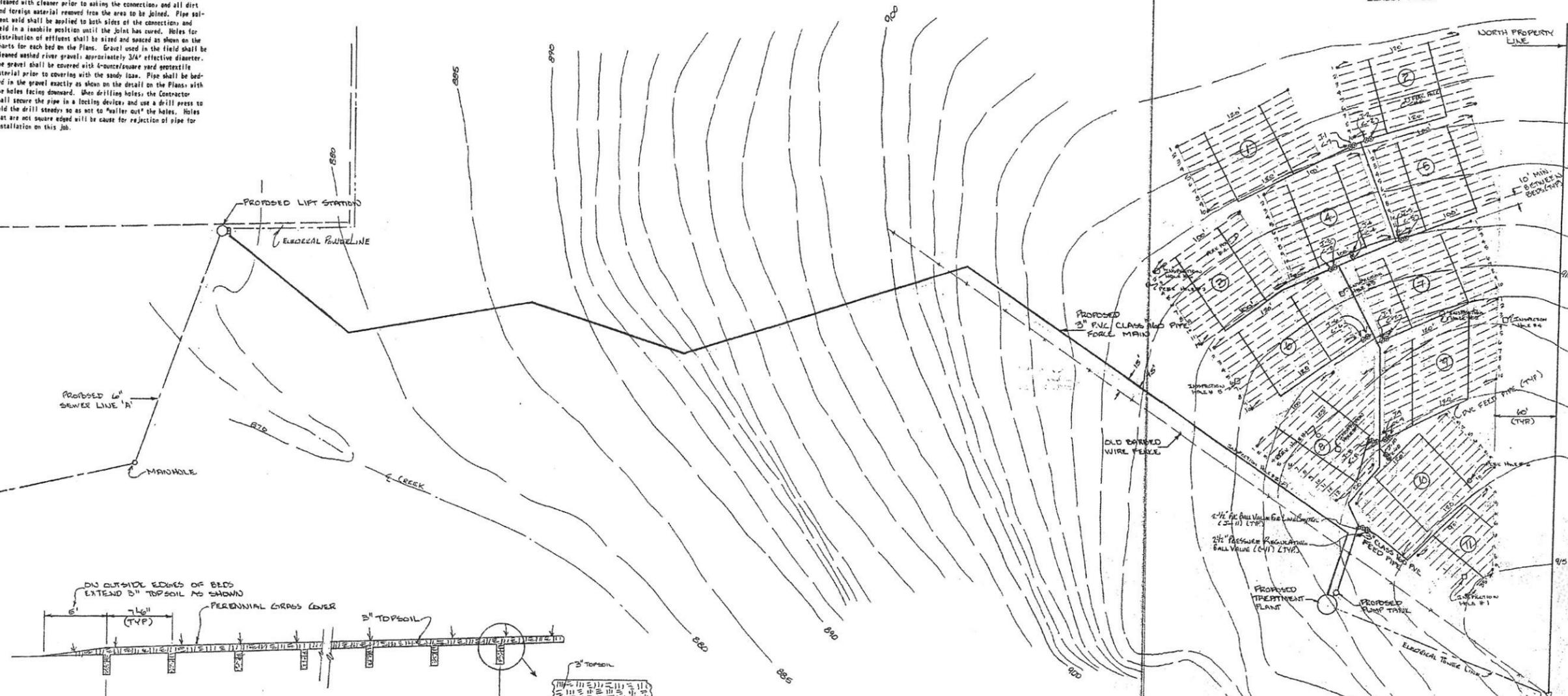
DESIGNED BY: [Signature]  
DRAWN BY: [Signature]  
SCALE: [Blank]  
CHECKED BY: [Signature]



**PIPE FOR PRESSURE DOSING FIELDS**

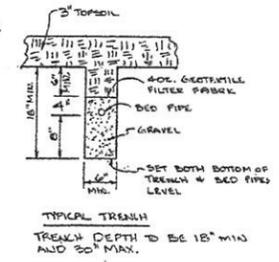
All piping for the pressure dosing field shall be sized as shown on the drawings and shall be minimum Schedule 40 PVC (polyvinyl chloride) pipe conforming to the requirements of ASTM 1784-68L and ASTM D-2241-64T. Pipe joints shall be made by solvent welding. All joints shall be made in exact accordance with the pipe manufacturer's requirements. Each pipe and coupling shall be thoroughly cleaned with cleaner prior to making the connection and all dirt and foreign material removed from the area to be joined. Pipe solvent weld shall be applied to both sides of the connections and held in a immobile position until the joint has cured. Holes for distribution of effluent shall be sized and spaced as shown on the charts for each bed on the Plans. Gravel used in the field shall be cleaned washed river gravel, approximately 3/4" effective diameter. The gravel shall be covered with 1/2" coarse/medium sand protective material prior to covering with the sandy loam. Pipe shall be bedded in the gravel exactly as shown on the detail on the Plans, with the holes facing downward. When drilling holes, the Contractor shall secure the pipe in a locking device, and use a drill press to hold the drill steady, so as not to "waller out" the holes. Holes that are not square edged will be cause for rejection of pipe for installation on this job.

NURSING HOME

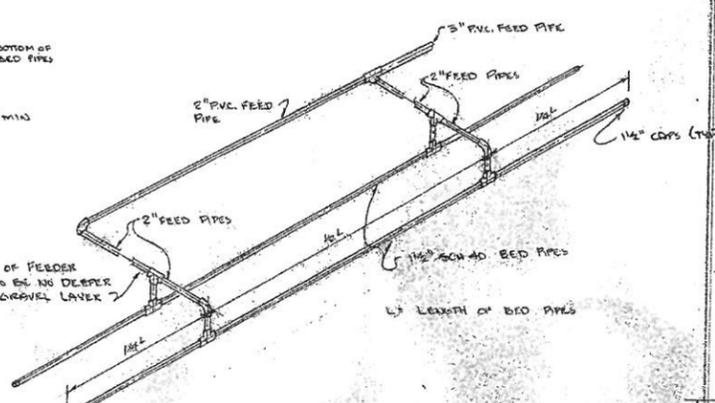


BED # 3, 4 + 5 (12) TRENCHES @ 7 1/2" O.C. W/ 1 1/2" SCH 40 PVC PIPES WITH HOLES SIZED & SPACED PER CHART
BED # 1, 2, 6, 7, 9 + 10 (10) TRENCHES @ 7 1/2" O.C. W/ 1 1/2" SCH 40 PVC PIPES WITH HOLES SIZED & SPACED PER CHART
BED # 8 (15) TRENCHES @ 7 1/2" O.C. W/ 1 1/2" SCH 40 PVC PIPES WITH HOLES SIZED & SPACED PER CHART
BED # 11 (9) TRENCHES @ 7 1/2" O.C. W/ 1 1/2" SCH 40 PVC PIPE WITH HOLES SIZED & SPACED PER CHART

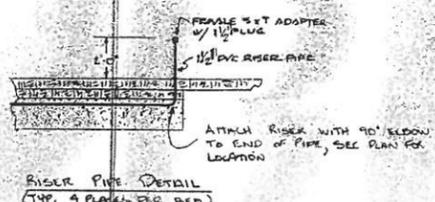
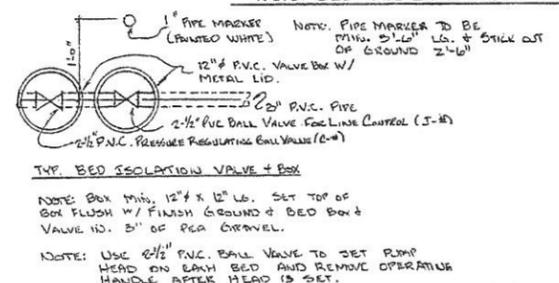
NOTE: BED PIPE CHARTS ARE ON SHEET 2.



**ENLARGED PLAN VIEW**



**FEEDER PIPE CONNECTION DETAIL**



NO. BUILT 2-26-89  
 REVISED 11-19-87

STATE OF TEXAS  
 REGISTERED PROFESSIONAL ENGINEER  
 28315  
 Charles D. Primm  
 11-2-87

The clarifier/digester and steel pump tank shall be fabricated of A-36 steel plate and structural steel members, and shall be manufactured by WINGCO, INC. of Austin, Texas, or an approved equal manufacturer experienced in the manufacture and fabrication of this type of equipment.

The baffle skirt shall be manufactured and fabricated from minimum 10-gauge ABS plastic material with a structural steel angle frame. Minimum steel thickness to be 1/4".

The steel tankage, and effluent troughs shall be fabricated from minimum 10-gauge ABS plastic material with a structural steel angle frame. The baffle skirt shall be fabricated from minimum 10-gauge ABS plastic material with a structural steel angle frame. Minimum steel thickness to be 1/4".

The plant bridge shall be fabricated of 1/4" minimum thickness structural steel beam sections and other shapes. The bridge shall have galvanized steel grating deck, 1-1/4" x 3/16" bearing bars at 1" centers. The bridge walkway shall be a minimum of 3'-0" wide (grating width). Handrail shall be on both sides, and across one end of the bridge and shall be 1.9" O.D., Schedule 10, two-rail type aluminum pipe, with the top rail 3'-6" above the bridge deck. Maximum deflection of the bridge shall not exceed 1/360 of the clear span, with all applied dead loads and a live load of 30-pounds per square foot. Grating shall be removable, and shall be in sections four (4) foot lengths. Grating shall be recessed flush with the top of the bridge beams.

All steel shall be field painted to SSPC-5B requirements, and coated with an Epoxy-Polyamide paint system. The first coat shall be Epoxy Primer No. 66-1211; 3-mils exterior; 5-mils interior; The second coat to be Hi-Build Epoxy No. 66-1211; 4-mils exterior; 6-mils interior. The total DFT exterior to be 9-mils; The total DFT interior to be 11-mils.

**SPECIFICATION NO. 801 FENCING**

**1.0 GENERAL**

The Contractor shall furnish all material, equipment and labor for performing all work required to erect a fence system complete with all necessary gates, terminal posts, corner and end post-bracing, fittings, accessories, and accessories where shown on the plans.

The fencing shall be designated as "chain link fence" and shall conform to the requirements specified under this section and to the details shown on the plans.

The fencing shall be as manufactured by the Anchor Fence Company or an equal States Steel Company and shall conform to the following specifications. Approved equals having different structural shapes which meet the minimum equivalent requirements may be substituted.

**2.0 CHAIN LINK FENCE**

**2.1 General**

Chain link fence shall consist of galvanized chain link fabric attached to metal posts and fastened to a top rail unless otherwise shown. The height of chain link fence to be erected shall be 6'-0". The chain link fabric shall be woven wire mesh of 2" x 2" size. The top strand of barbed wire for the "non-climbable" protective fence specified or to the top of the chain link fabric for other types of fences.

The chain link fence posts and gates shall be equipped with "non-climbable" protective fence features shall be installed as shown on the plans.

**2.2 Wire Fabric**

Wire fabric shall be No. 9-gauge, steel wire, two-rail (2") uniformly woven diamond mesh, hot dip galvanized after weaving, with top and bottom selvages twisted and barbed. Finished wire shall have a minimum tensile strength of 75,000-pounds per square inch.

The fabric shall be tightly and securely fastened to the line posts by means of galvanized clips (No. 6-gauge wire) at intervals of twelve (12) inches. The fabric shall also be attached to the top rail at intervals of approximately 12 inches, and shall be fastened to the terminal posts with special clamps and tension strips.

**2.3 Gate Posts**

Opening	Size	Weight
Up to 4'	2-7/8" O.D.	5.79 lb./ft.
Over 4' to 13'	4" O.D.	9.10 lb./ft.
Over 13' to 18'	5-1/8" O.D.	16.97 lb./ft.
Over 18'	6-5/8" O.D.	24.70 lb./ft.

All gate posts shall be of sufficient length to allow for a minimum depth of three-feet (3') below ground. Galvanized "grounded" post-tops shall be provided on all gate posts where special protective accessories are specified.

**2.4 Line Posts**

Line posts shall be two and one-quarter inches (2-1/4") weighing 4.3-pounds per linear foot or two and one-half inch (2-1/2") O.D. pipe weighing 3.85-pounds per linear foot and spaced as shown on the plans, but not more than ten-feet (10') on center. Galvanized fittings shall be installed to take the top rail and form a watertight cap for the posts.

**2.5 Corner Posts**

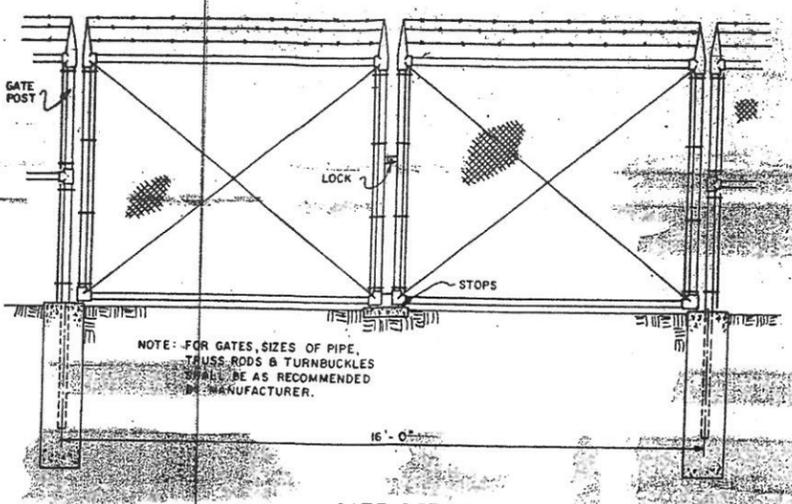
Corner posts shall be two and seven-eighths inch (2-7/8") O.D. pipe weighing 5.79-pounds per linear foot or two and one-half inch (2-1/2") square tube weighing 5.79-pounds per linear foot. All posts shall be sufficient length to allow for a minimum depth of three-feet (3') below ground. Galvanized top fittings shall be installed to take the top rail and form a watertight cap to take the top rail and form a watertight cap for the posts.

**2.6 Cylindrical Concrete Post Footings**

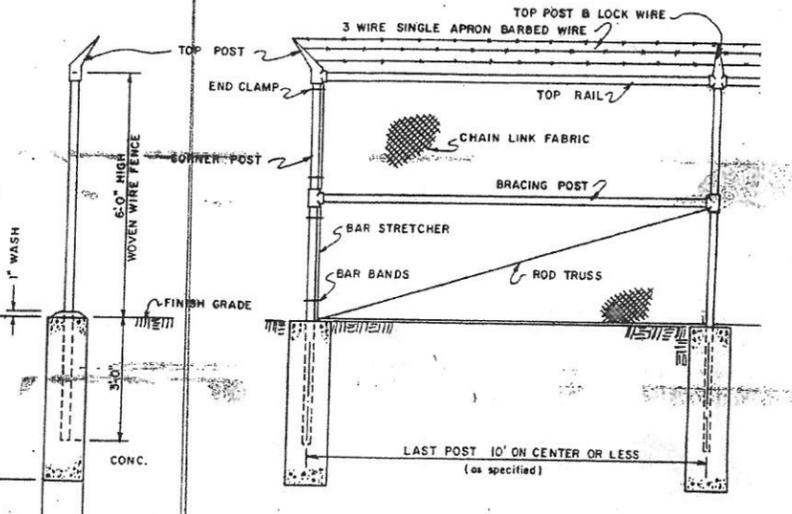
All posts shall be set in cylindrical concrete footings. For line and corner posts a hole ten (10) inches in diameter greater than three-feet (3') in depth, shall be excavated. For gate posts, specifically including double gate posts as specified above, the footings shall be made in proportion to the size and height of the posts, with a minimum diameter of twelve-inches (12"). All footings shall be properly sloped or sloped to shed water.

**2.7 Brace Rail and Top Rail**

The bracing rail and top rail shall be one and five-eighths inch (1-5/8") O.D. pipe weighing 2.27-pounds per linear foot or equivalent weight 3/4" section. The top rail shall pass through the base of the line post and form a continuous brace, top and end of each run of fence. Couplings shall be outside sleeve type and at least 7-inches long; one coupling in every five shall contain a heavy spring to take up expansion and contraction of the top rail.



GATE DETAIL



CHAIN LINK FENCE

**POST DETAIL**

**2.8 Gates**

Gate frames shall be made of two-inch (2") pipe, pipe weight 2.27-pounds per linear foot, joined at the corner by arc welding forming a solid post, and hot dip galvanized. The chain link fabric matching that of the fence shall be fastened to the frame by means of adjustable bolts and tension rods. Hinges shall be heavy, malleable, and drop-forged steel and shall be of the ball-and-socket type.

The height of a chain link gate is measured from the ground to the top strand of barbed wire when special protective fence accessories are specified, and shall be 7'0" high.

All gate installations shall be provided with all the necessary hinges permitting the gate to swing through an arc of 100-degrees; a gate latch providing a positive lock; for double gates, lift rods shall be located at normal heights and straining struts shall be provided to ensure a positive stop when gates are swung in a closed position; a means for locking by a padlock accessible from both front and back of the gates; approved gate stops for locking with lift rods; and approved stops to ensure a positive stop when the gates are swung to an open position. An approved heavy-duty brass or bronze padlock and two (2) keys, keyed alike, and keyed to the Owner's key system, shall be provided for each gate.

Barbed Wire: Each strand of barbed wire shall be composed of two (2) strands of No. 12-1/2-gauge wire twisted with four-point (4) thicket pattern, with bars spaced four (4) inches apart, and galvanized throughout after fabrication.

Three (3) strands of barbed wire shall be strung along the top of the fence and securely attached to the arms, as herein specified.

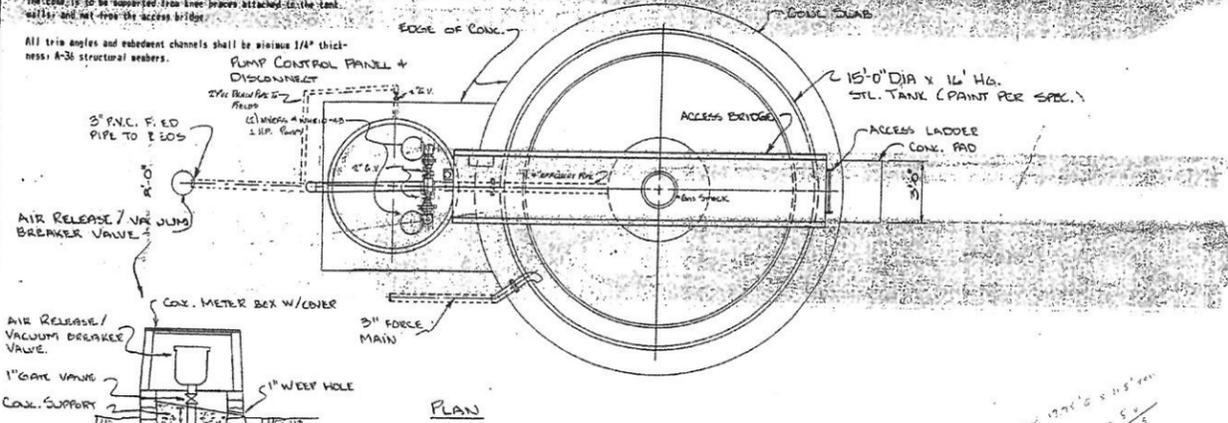
Where specifically indicated on the Plans, additional "non-climbable" protective fence features shall be installed; they shall be of the type or types, as shown on the drawings or as called for herein.

For chain link fence: all line posts shall be fitted with post caps complete with expansion areas, with barbed wire attached thereto. The necessary corner arm shall be provided. The specific type of protective accessory or extension arm shall be as listed below or as herein specified.

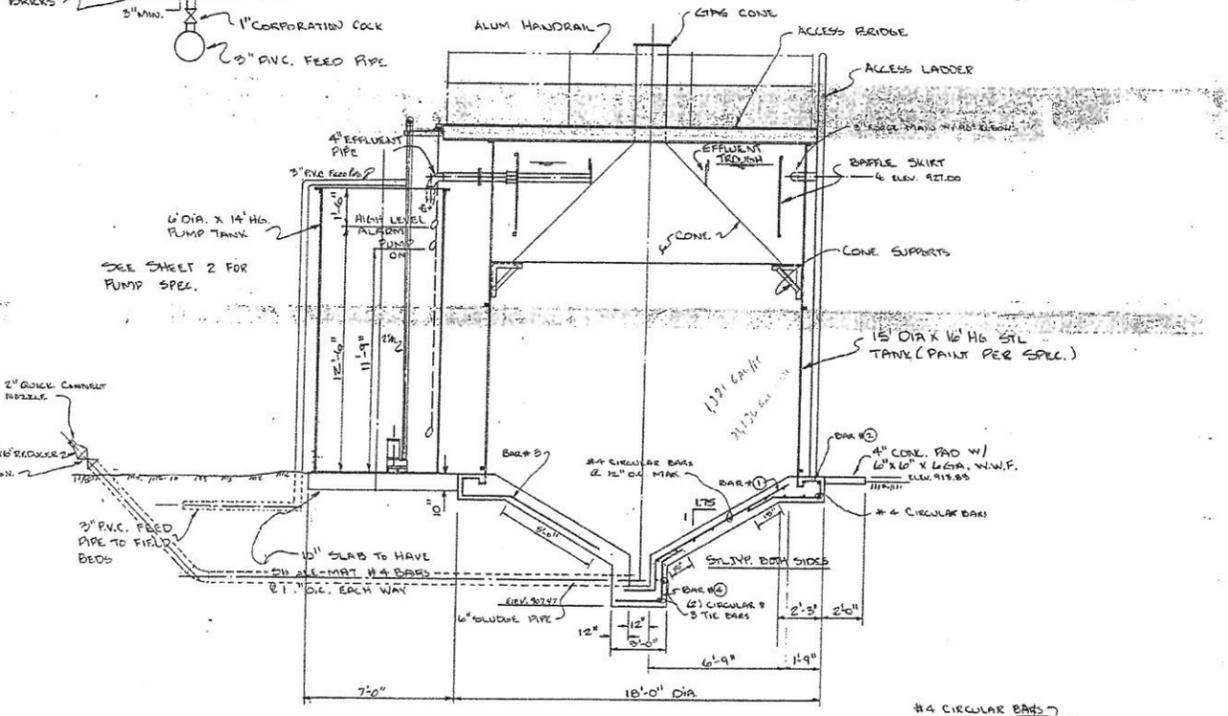
All extension arms are to be formed with a tongue, or other approved provision for securely attaching the barbed wire. Wire size or class shall be No. 9-gauge wire as herein specified.

Gate: For chain link gates, three (3) strands of barbed wire shall be securely fastened to the extended end bars of the gate frames by adjustable bolt bolts.

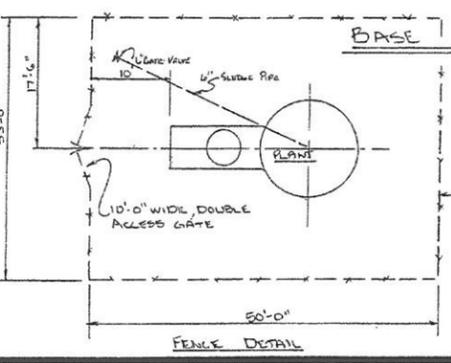
45-Degree Extension Arm: A combination pressed steel extension arm, with adjustable iron post cap having an opening for the top rail, shall be clamped or otherwise securely attached to each line post so as to incline inward (or outward) at an angle of 45-degrees. The necessary arm for corners shall also be provided.



PLAN



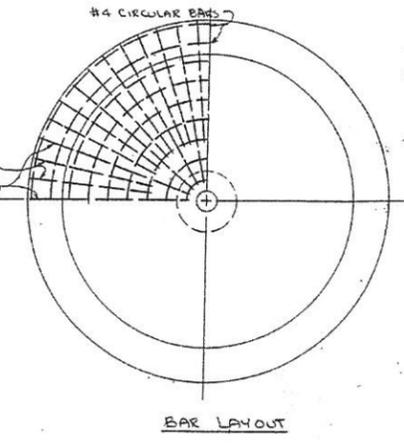
SECTION



BASE BID EQUIPMENT

- 1) BAR # 1 2 3 & 4 ARE # 4 REBARS
- 2) OVERLAP BARS MIN. 15 BAR DIA.

6" HG. CHAIN LINK FENCE W/ 3 STRANDS OF BARBED WIRE ON TOP



BAR LAYOUT



**PRE-CAST REINFORCED CONCRETE MANHOLE SECTIONS FOR SANITARY SEWERS**

**1.0 SCOPE OF WORK**

The work covered by this specification consists of furnishing all plants, labor, equipment, supplies, materials and performing all operations in connection with the construction of pre-cast reinforced concrete manhole sections as shown on the plans and as herein specified.

**2.0 MATERIALS**

All materials shall conform to the specifications for "Project Reinforced Manhole Sections," A.S.T.M. Designation C-478, with the following additions:

- A. All pipe shall be machine made by a process which will provide for uniform placement of zero slump concrete in the flow and connection by mechanical devices which will assure a dense concrete in the finished product, except that reducer cones may be wet-cast.
- B. Aggregates for the concrete shall consist of limestone aggregates in the proportion of at least 75 percent by weight of the total aggregates.
- C. Minimum wall thickness for the manhole riser shall be as listed under Wall "B" in the "Class Tables" of ASTM C-76.
- D. Manhole steps will not be required unless otherwise specified. If specified, the steps of a metal core with a protective coating of fiber reinforced polyester, serrated to prevent slippage, as approved by the City, shall be cast-in-place or mortared-in-place with a non-sink mortar. Each shall be approximately 10 inches by 11-3/4 inches, placed as indicated on the appearance sheet.
- E. Concrete cones shall be used for the top section of 48-inch diameter manholes. Eccentric cones shall be used for 60-inch diameter manholes unless otherwise specified.
- F. Manhole brick shall be used to bring the manhole frame and cover to final grade. Two (2) inch thick x 8-inch wide x 24-inch internal diameter pre-cast reinforced concrete grade rings or Half Rings may be used as an alternate to manhole brick.
- G. The bottom section of the manhole riser shall be integrated in a 3000-pound concrete base and shall be a "Groove and Girth" section, with lengths in increments of 12 inches.

**3.0 CONSTRUCTION METHODS**

Prior to placing each section of manhole riser, the tongue and groove to be joined shall be thoroughly cleaned and the groove buttered with a layer of cold applied plastic base compound, such as "Mow-Bite," as manufactured by the K. T. Snyder Company, Inc., or equal. The compound shall be applied to the groove and the upper section then shall be placed to form the joint. The joints will be finished smooth and even. Lift holes will be plugged with cement mortar or a non-sink epoxy mortar. The brick in the top courses shall not be pulled to the center more than one-inch per course, and the exterior shall be coated with a mortar coating 1/2-inch thick.

Joints shall conform to the joint specifications of the A.S.T.M. C-478 except that the pipe for the manhole riser shall be furnished with the groove not less than 1/2-inch and not more than 3/4-inch longer than the tongue to provide an inner seal space.

Inside the manhole, half-pipe shall be bedded in concrete for the flow line through the manhole with the concrete carried out to the wall with a slope toward the top of the half-pipe. These half-pipes shall be accurately joined to the sections built into the manhole walls. Pipe sections to be installed in the manholes will be furnished by the Contractor for the lines of the pipe.

Cleanout and drop manholes shall be constructed in accordance with the appearance sheets; the pipe and specials for cleanout and drop manholes shall be considered as a part of the manhole, and will not be measured for payment as separate contract pay items. All pipe extending through the manhole walls shall be sealed in place with mortar to provide a waterproof seal to prevent exfiltration or infiltration.

All stubouts in manholes shall be extra strength clay pipe of sizes shown on the plans and shall be plugged at the end and sealed with an approved hot-poured joint compound.

The concrete base shall have an average compressive strength at 28 days equal to or greater than 3000 pounds per square inch.

Cast-iron frames and covers shall be embedded in a full bed of mortar and shall have a full bearing with toe at the established grade.

**POLYVINYL CHLORIDE PIPE**

Where PVC pipe is specified or noted on the Plans, it shall conform to the requirements of the current specification of the American Society for Testing and Materials for type PSR Polyvinyl Chloride (PVC) sewer pipe and fittings, (ASTM D3034, latest revision). Minimum wall dimension ratio shall be DR 35.

The joint material for type PSR PVC pipe shall conform to the requirements of the current specifications of the ASTM for Elastomeric Gasket Joints (ASTM D 3034).

**PIPE INSTALLATION**

Pipe shall be installed in compliance with current ASTM Designation C12. Pipe shall be laid on prepared subgrade or embankments with bell holes excavated.

The laying of pipes shall commence at the lowest point so that the slight ends outlet in the direction of flow. All pipes shall be laid with ends abutting and true to line and grade. The pipe shall be matched so that when laid, they will form a sewer with a smooth uniform invert. Sockets shall be carefully cleaned before pipes are lowered into trenches. Tight fitting stoppers or bullheads shall be securely placed in the ends of all pipe lines when the work is stopped temporarily, or at the end of each day's work to prevent trash or dirt from entering the pipe.

**PIPE BEDDING**

Unless otherwise provided, pipe of less than twenty-four inches (24") in internal diameter may be installed in gravel bedding.

Gravel bedding shall be cleaned, washed material, hard and insoluble in water; free of mud, clay, silt, vegetation or other debris. Size gradations shall be as follows:

For pipe 12" in internal diameter and smaller, the gravel bedding shall meet ASTM C33, current revision, for size #57.

**GRADATION TABLE**

Sieve Size	Percent Passing
1/2"	100%
3/4"	70-100%
3/8"	20-55%
#4	0 - 10%
#8	0 - 5%

**ACCEPTANCE TESTING**

All pipe installed under this Contract shall be tested for exfiltration or infiltration shall be two hundred (200) gallons per inch of inside pipe diameter per mile per day or the rate specified by the appropriate pipe specifications whichever is less. After the construction is completed, the Engineer shall determine whether the pipe line is to be tested for infiltration or exfiltration.

**Exfiltration Test**

The pipe line shall be completely filled with water for its complete length or by sections as determined by the Engineer. If testing for its complete length, the vacuum head at any point shall not exceed twenty-five feet (25') unless otherwise specified. If tested in sections, the manholes in the test section shall be completely filled with water. After the pipe line has been filled and allowed to stand for twenty-four (24) hours the amount of exfiltration shall be calculated. Any amount above the maximum allowable exfiltration rate shall be cause for rejection.

**Infiltration Test**

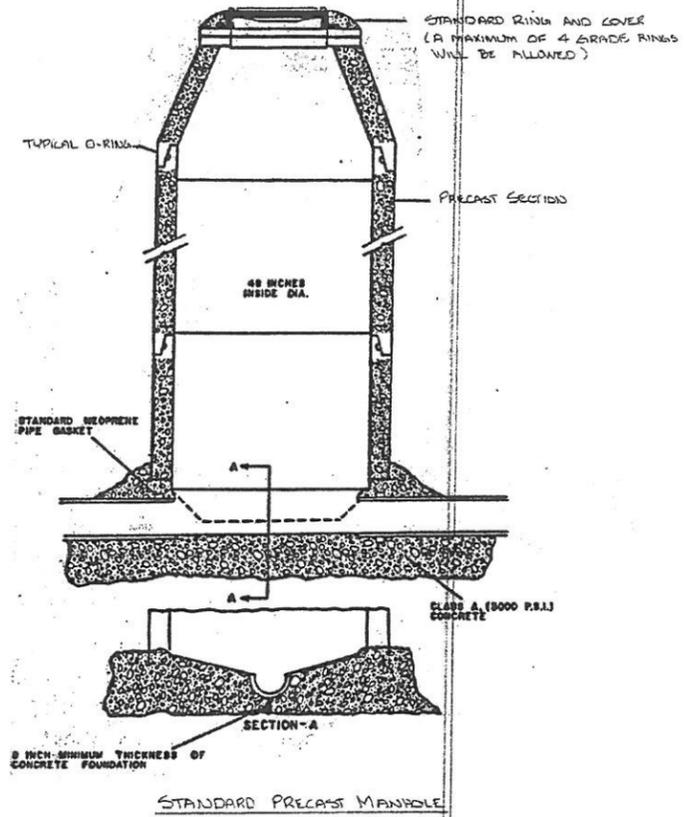
When the pipe line is completed, the upper portion of the ditch back-fill shall be removed to a depth of not less than eighteen inches (18") below the finished grade and a width equal to the original trench width. The trench shall then be flooded with water until it is completely saturated and water stands in the ditch a minimum of twelve inches (12") deep. In cases of steep terrain, earthen dams shall be used to assure that water will stand over the trench. After it is apparent that the trench is completely saturated, the flow shall be measured by an acceptable means, and the infiltration rate calculated. If the amount of infiltration exceeds the maximum allowable rate, the pipe will then be inspected with closed circuit television, at the Contractor's expense, for major leakage points. The leaks shall be repaired and the line retested. Any section of main or service stub that indicates excessive infiltration shall be cause for rejection. All subsequent retesting shall be at the Contractor's expense.

**Pipeline Settlement Test**

During the infiltration test or after the exfiltration test, the main will be inspected for any settlement in the pipe. Any pipe settlement which causes excessive ponding of water in the pipeline shall be cause for rejection.

**Pipe Deflection Test**

Deflection tests shall be performed on all flexible and semi-rigid sewer pipe. The first deflection shall be made 30-days after final backfill. Maximum deflection of the pipeline shall be limited to 5.0% of the internal pipe diameter. Pipe exceeding this deflection shall be considered to have reached the limit of their serviceability. Prior to evaluation of performance bond and again 6-months after completion, the pipeline shall be measured for deflection by an independent testing laboratory acceptable to the Engineer, at the expense of the Contractor. All pipe exceeding 5.0% deflection, and all other related work and material, shall be replaced by the Contractor at no additional compensation. Testing shall be conducted by passing a wandrill, with a diameter equal to 95% of the pipe inside diameter, and as approved by the Engineer, through the pipe. No mechanical pulling devices will be allowed to pull the wandrill for the test.



(Bore Hole mm) MEMBER

**CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**TABLE OF ATTACHMENTS**

<u>Attachment</u>	<u>Description</u>	<u>Reference</u>
A	Amendment Request and Justification	Admin Rpt 1.0
B	USGS Map	Admin Rpt 1.0, Item 8.m
C	Affected Landowner Information	Admin Rpt 1.1, Item 1
D	Buffer Zone Map	Admin Rpt 1.1, Item 2.a
E	Original Photographs	Admin Rpt 1.1, Item 3
F	Treatment Unit Processes	Tech Rpt 1.0, Item 3.a
G	Process Flow Diagram	Tech Rpt 1.0, Item 3.f
H	List of Treatment Units	Tech Rpt 1.0, Item 3.g
I	Analytical Reports	Tech Rpt 1.0, Item 4
J	Contractual Agreement for Sludge Processing	Tech Rpt 1.0, Item 6.a
K	Site Drawing	Tech Rpt 1.0, Item 12
L	Regionalization Discussion	Tech Rpt 1.1, Item 1.c
M	Design Calculations	Tech Rpt 1.1, Item 4
N	Wind Rose	Tech Rpt 1.1, Item 5.b
O	Sewage Sludge Solids Management Plan	Tech Rpt 1.1, Item 7
P	Well Information	Wkst. 3.0, Item 6

**Attachment A**

**Amendment Request and Justification**

**Admin Rpt 1.0**

**ATTACHMENT A  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**AMENDMENT REQUEST AND JUSTIFICATION**

The City of Wimberley (City) owns the City of Wimberley Water Reclamation Facility (WRF). The WRF is operated in accordance with provisions specified in Texas Commission on Environmental Quality Permit Number WQ0013321001. A renewal of the permit with amendments is requested with this application. This attachment presents background information, provides a description of the requested amendments, and provides justification for these amendments.

**BACKGROUND INFORMATION**

The WRF is currently operating in a phase of the TCEQ permit with a daily average permitted flow of 15,000 gallons per day (GPD). The WRF currently serves two customers: the Deer Creek of Wimberley Nursing Home and Rehabilitation Center, and the Blue Hole Regional Park. The WRF effluent is disposed by subsurface land application through a series of perforated pipes to a disposal field adjacent to the WRF.

An expansion of the service area is proposed by the City. Customers that currently rely on individual septic systems in the central area of the City will be provided conventional wastewater collection and treatment. To provide these services to the proposed customers in the central area of the city, an increase in treatment capacity of the WRF and an alternate method of effluent disposal are required.

**AMENDMENT REQUESTS**

Major amendments to the TCEQ permit WQ0013321001 are requested. The requested amendments to the permit are as follows:

1. Add two phases to the permit to increase the permitted flow.
  - Interim II Phase for 75,000 GPD
  - Final Phase for 100,000 GPD
2. Change the method of effluent disposal from subsurface land application to discharge to surface waters.
3. Relocate the WRF within the City's property boundary.

Although the City is requesting authorization for a discharge to surface waters, the City also plans to obtain authorization to reuse treated effluent. The treated effluent will be beneficially used to irrigate open areas in Blue Hole Regional Park and potentially other areas in the central Wimberley area. Reusing effluent will minimize the frequency that discharging to Deer Creek is necessary. Design of the new treatment facility will also incorporate a 500,000 gallon treated effluent storage tank, which will serve as storage during wet weather events, when irrigation is prohibited. This additional storage volume will further reduce the amount of effluent discharged to Deer Creek.

## **JUSTIFICATION FOR AMENDMENTS**

The primary purpose for the proposed changes to the facility is the need to protect Cypress Creek, which runs through the City's central business district. Increasing concentration levels of bacteria have been measured in samples from the creek. The increase in bacteria is believed to be caused by deteriorating septic systems. Therefore, constructing a collection system and providing an alternate wastewater disposal method for existing commercial and food service establishments, as well as residents in the central area of the city are proposed.

### **1. Increase of Permitted Flows**

The permitted 30- day average wastewater flows for the proposed WRF is 75,000 GPD and 100,000 GPD. The projected flows to the WRF are based on an analysis of water usage data for the proposed customers and historical data for the existing customers.

Water usage data for a 12-month period for proposed customers were assessed. Seasonal variations for outside landscape irrigation were accounted for in determining the return flows as wastewater conveyed to the WRF. In anticipation of increases in water use as proposed customers in the central area of the city are no longer limited by their septic systems, wastewater flows were conservatively estimated.

The flows associated with the existing WRF customers were determined based on monthly operating reports. The reports for a 24-month period were reviewed.

In accordance with Title 30 Texas Administrative Code Chapter 217.32.(a)(1)(B) the design flow for the WRF, which is the maximum 30-day average flow for the proposed WRF, is based on 1.5 times the annual average flows estimated by the data evaluation. The estimated maximum 30-day average flows associated with the customers in the proposed service area are as follows:

<b>Customer Type</b>	<b>Maximum 30-day Average Flows*</b>
<b>Residential</b>	18,000
<b>Commercial*</b>	39,000
<b>Food-Service</b>	7,500
<b>Total Flow</b>	64,500

\*Includes existing customers

The planned population to be served and the quantity of waste produced in the proposed service area are not expected to exceed the design limitations of the treatment facility. Expansion of the proposed service area is not planned. The WRF will be designed with adequate capacity for treating wastewater from future customers within the proposed service area.. The City, however, will conduct an evaluation of the flows to the WRF before authorizing connections to customers beyond those currently established in the proposed service area.

## **2. Change to the Method of Effluent Disposal**

The volume of wastewater that will be treated at the new facility is such that land application of effluent as a sole means of disposal is cost prohibitive to the community. Under a Texas Land Application Permit (TLAP), spray irrigation of treated effluent would require a sizable storage pond, which would be costly and also detract from the recreational use of Blue Hole Regional Park. For these reasons, securing a TPDES permit for discharging to Deer Creek is the preferred method of effluent disposal. The proposed discharge route is to Deer Creek, thence to Upper Blanco River in Segment 1813 of the Guadalupe River Basin.

Subsurface land application will no longer be a method of disposal beginning with the Interim II Phase. Using effluent for irrigation within Blue Hole Regional Park in accordance with the requirements established in Title 30 Texas Administrative Code Chapter 210 (Use of Reclaimed Water) will be the preferred option. When irrigation is not possible effluent will be discharged to Deer Creek under the provisions specified for Interim II and Final phases of the TPDES permit.

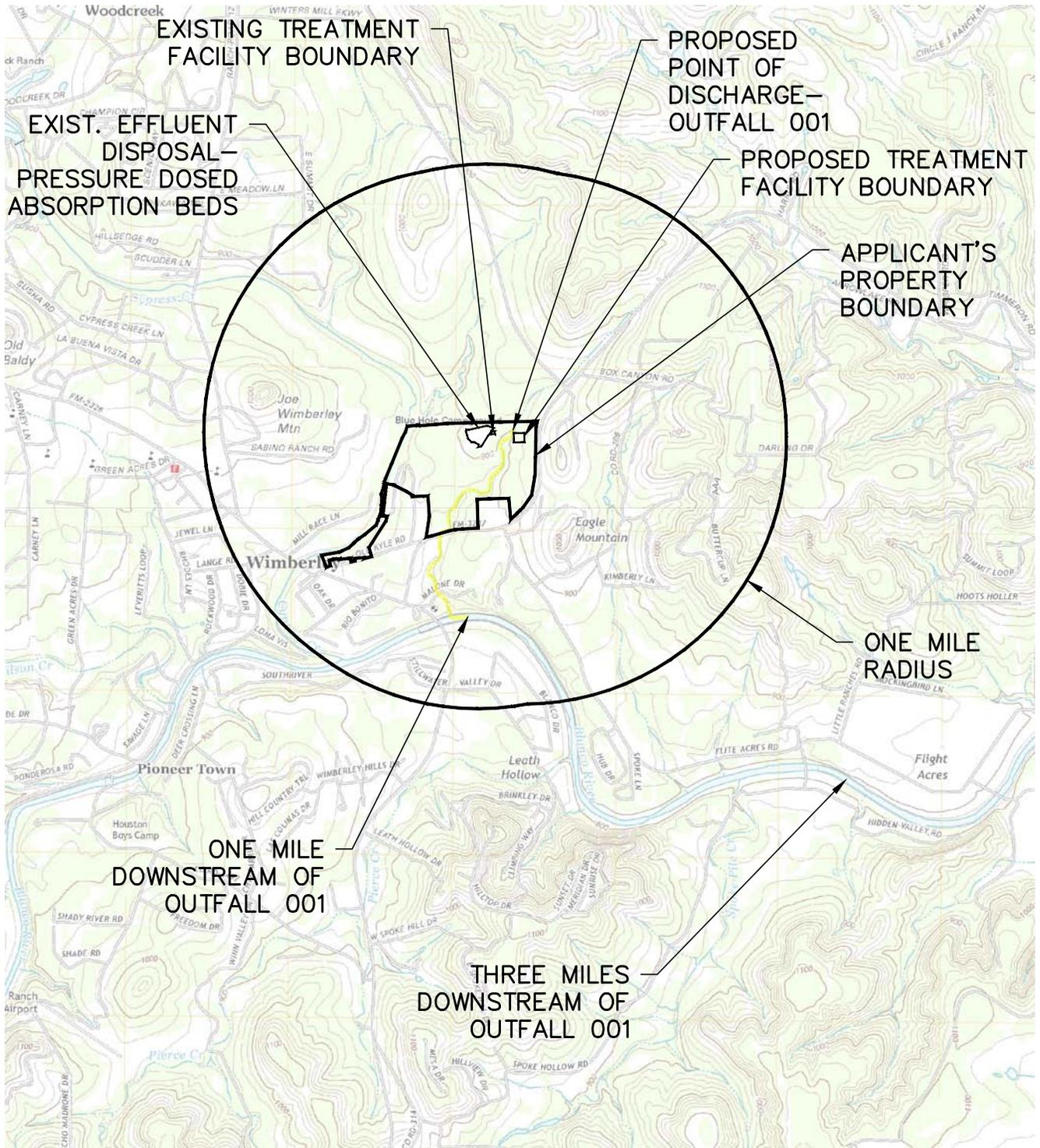
## **3. Relocate the Water Reclamation Facility**

The relocation of the plant is necessary to reduce the potential conflict between plant operation and the Blue Hole Regional Park activities. The new location was identified in the Blue Hole Regional Park Master Plan and is considered the optimal location from an aesthetic and recreational use standpoint. The coordinates of the existing facility are 30° 00' 15" N; 98° 05' 06" W and the coordinates of the proposed facility are 30° 00' 14" N; 98° 05' 00" W.

**Attachment B**

**USGS Map**

**Admin Rpt 1.0, Item 8.m**



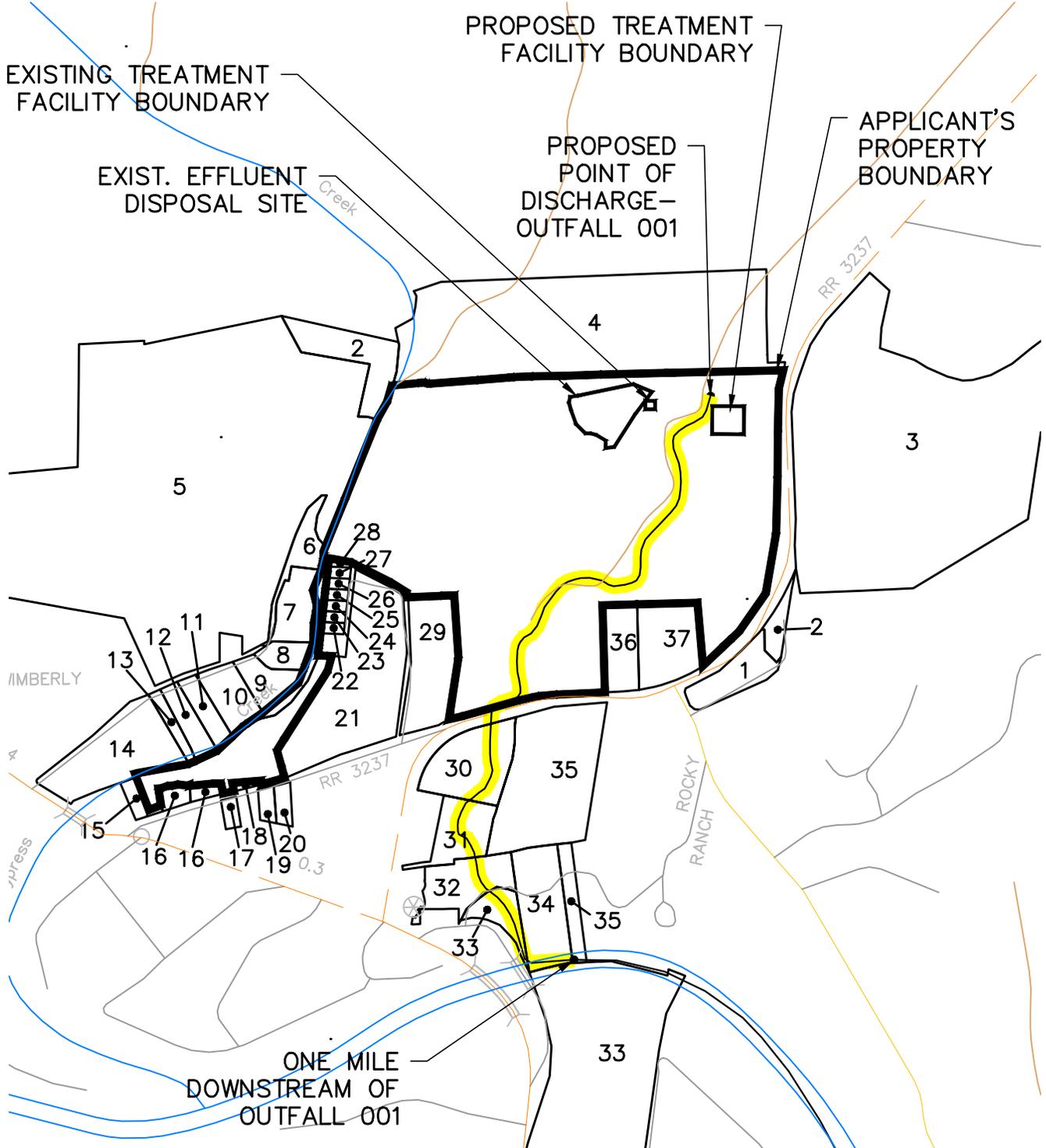
ATTACHMENT B  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
USGS MAP

**Attachment C**  
**Affected Landowner Information**  
**Admin Rpt 1.1, Item1**



**ALAN PLUMMER  
ASSOCIATES, INC.**

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



ATTACHMENT C  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
AFFECTED LANDOWNERS

TEXAS REGISTERED ENGINEERING FIRM F-13  
5/7/2014 2:43 PM M:\Projects\1732\002-01\Acad\FIGURES\ATT-C.dwg Hfrels

**ATTACHMENT C  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**AFFECTED LANDOWNER INFORMATION**

<b>Map ID</b>	<b>Landowner Name and Address</b>	<b>Map ID</b>	<b>Landowner Name and Address</b>
1	Lauterwest LLC 11 N Kessler Schulenburg, Texas 78956	12	Charles Harmon Duggan 8412 Denali Pkwy #2 Austin, Texas 78726
2	Masonic Lodge P.O. Box 1445, Ranch Rd 3287 Wimberley, Texas 78676	13	Robert & Lauren Paver 13025 Muldoon Drive Austin, Texas 78729
3	Wilton Lomax P.O. Box 212 Wimberley, Texas 78676	14	James Malcolm Harris 210 Mill Race Lane Wimberley, Texas 78676
4	Joan Byrne #3 Westgate Circle Austin, Texas 78746	15	Double LC Partners LTD 4301 Lone Man Mountain Wimberley, Texas 78676
5	Cedar Stump LP P.O. Box 1435 Wimberley, Texas 78676	16	Bryan Jamail 151 S First Street Austin, Texas 78704
6	Alison Campbell 411 Mill Race Lane Wimberley, Texas 78676	17	Bert & Julie Ray 115 Sky Ranch Circle Wimberley, Texas 78676
7	Creek Haven LLC 400 Mill Race Lane Wimberley, Texas 78676	18	Mary Kay McQuigg 4773 US Hwy 385 Hereford, Texas 79045
8	Shelley Arnold P.O. Box 1823 Wimberley, Texas 78676	19	Linda McDowell P.O. Box 1323 Wimberley, TX 78676
9	Merry Loise Gibson 310 Mill Race Lane Wimberley, Texas 78676	20	Carl Burnette 3310 Gentry Austin, TX 78746
10	Turney Hinman, Inc. 310 Mill Race Lane Wimberley, Texas 78676	21	Wimberley Cemetary Assoc. 14100 RR12; P.O. Box 12 Wimberley, Texas 78676
11	ESS Land & Cattle LTD P.O. Box 2429 Wimberley, Texas 78676	22	Henry & June Ault 201 Blue Hole Lane Wimberley, Texas 78676

<b>Map ID</b>	<b>Landowner Name and Address</b>	<b>Map ID</b>	<b>Landowner Name and Address</b>
23	Stuart Seaver 203 Blue Hole Lane Wimberley, Texas 78676	31	Wimberley Twin Lions Inc. 5707 Costas CV Austin, Texas 78759
24	James & Christine Byrne 205 Blue Hole Lane Wimberley, Texas 78676	32	KKP 3237 LLC 131 River Bend Rd Wimberley, Texas 78676
25	Don Zesch 352 Carrollton Avenue Shreveport, Louisiana 71105	33	Carlton Daves Bass P.O. Box 1422 Wimberley, Texas 78676
26	Larry Clifford Polozeck 7507 Hill Meadow Circle Austin, Texas 78736	34	Anne Hoffman 10 Pine Forest Cir Houston, Texas 77056
27	Gary & Cindy Stadler 25427 Winding Creek Court Magnolia, Texas 77355	35	Alice M Williams 2601 River Rd Wimberley, Texas 78676
28	Hugh Lowe 400 Academy Drive Austin, Texas 78704	36	Paul J & Mary K Dunn 13501 Ranch Rd. 12; Suite 103 Wimberley, Texas 78676
29	Wimberley Crossroads LLC P.O. Box 1124 Wimberley, Texas 78676	37	SMV Wimberley LP Cammebys International Ltd. 45 Broadway 25th Floor New York, NY 10006
30	Wimberley RV & Mini Storage 137 Central St Concord, MA 01742		

LAUTERWEST LLC  
11 N KESSLER AVE  
SCHULENBURG TX 78956

ESS LAND & CATTLE LTD  
PO BOX 2429  
WIMBERLEY TX 78676

WIMBERLEY CEMETERY ASSOC  
14100 RR 12; PO BOX 12  
WIMBERLEY TX 78676

MASONIC LODGE  
PO BOX 1445 RANCH RD 3287  
WIMBERLEY TX 78676

CHARLES HARMON DUGGAN  
8412 DENALI PKWY #2  
AUSTIN TX 78726

HENRY & JUNE AULT  
201 BLUE HOLE LN  
WIMBERLEY TX 78676

WILTON LOMAX  
PO BOX 212  
WIMBERLEY TX 78676

ROBERT & LAUREN PAVER  
13025 MULDOON DR  
AUSTIN TX 78729

STUART SEAVER  
203 BLUE HOLE LN  
WIMBERLEY TX 78676

JOAN BYRNE  
#3 WESTGATE CIR  
AUSTIN TX 78746

JAMES MALCOLM HARRIS  
210 MILL RACE LANE  
WIMBERLEY TX 78676

JAMES & CHRISTINE BYRNE  
205 BLUE HOLE LN  
WIMBERLEY TX 78676

CEDAR STUMP LP  
PO BOX 1435  
WIMBERLEY TX 78676

DOUBLE LC PARTNERS LTD  
4301 LONE MAN MOUNTAIN  
WIMBERLEY TX 78676

DON ZESCH  
352 CAROLLTON AVE  
SHREVEPORT LA 71105

ALISON CAMPBELL  
411 MILL RACE LN  
WIMBERLEY TX 78676

BRYAN JAMAIL  
151 S FIRST STREET  
AUSTIN TX 78704

LARRY CLIFFORD POLOZECK  
7507 HILL MEADOW CIR  
AUSTIN TX 78736

CREEK HAVEN LLC  
400 MILL RACE LN  
WIMBERLEY TX 78676

BERT & JULIE RAY  
115 SKY RANCH CIR  
WIMBERLEY TX 78676

GARY & CINDY STADLER  
25427 WINDING CREEK CT  
MAGNOLIA TX 77355

SHELLEY ARNOLD  
PO BOX 1823  
WIMBERLEY TX 78676

MARY KAY MCQUIGG  
4773 US HWY 685  
HEREFORD TX 79045

HUGH LOWE  
400 ACADEMY DR  
AUSTIN TX 78704

MERRY LOISE GIBSON  
310 MILL RACE LN  
WIMBERLEY TX 78676

LINDA MCDOWELL  
PO BOX 1323  
WIMBERLEY TX 78676

WIMBERLEY CROSSROADS LLC  
PO BOX 1124  
WIMBERLEY TX 78676

TURNERY HINMAN INC  
310 MILL RACE LN  
WIMBERLEY TX 78676

CARL BURNETTE  
3310 GENTRY  
AUSTIN TX 78746

WIMBERLY RV & MINI STORAGE  
137 CENTRAL ST  
CONCORD MA 01742

WIMBERLEY TWIN LIONS INC  
5707 COSTAS CV  
AUSTIN TX 78759

KKP 3237 LLC  
131 RIVER BEND RD  
WIMBERLEY TX 78676

CARLTON DAVES BASS  
PO BOX 1422  
WIMBERLEY TX 78676

ANNE HOFFMAN  
10 PINE FOREST CIR  
HOUSTON TX 77056

ALICE M WILLIAMS  
2601 RIVER RD  
WIMBERLEY TX 78676

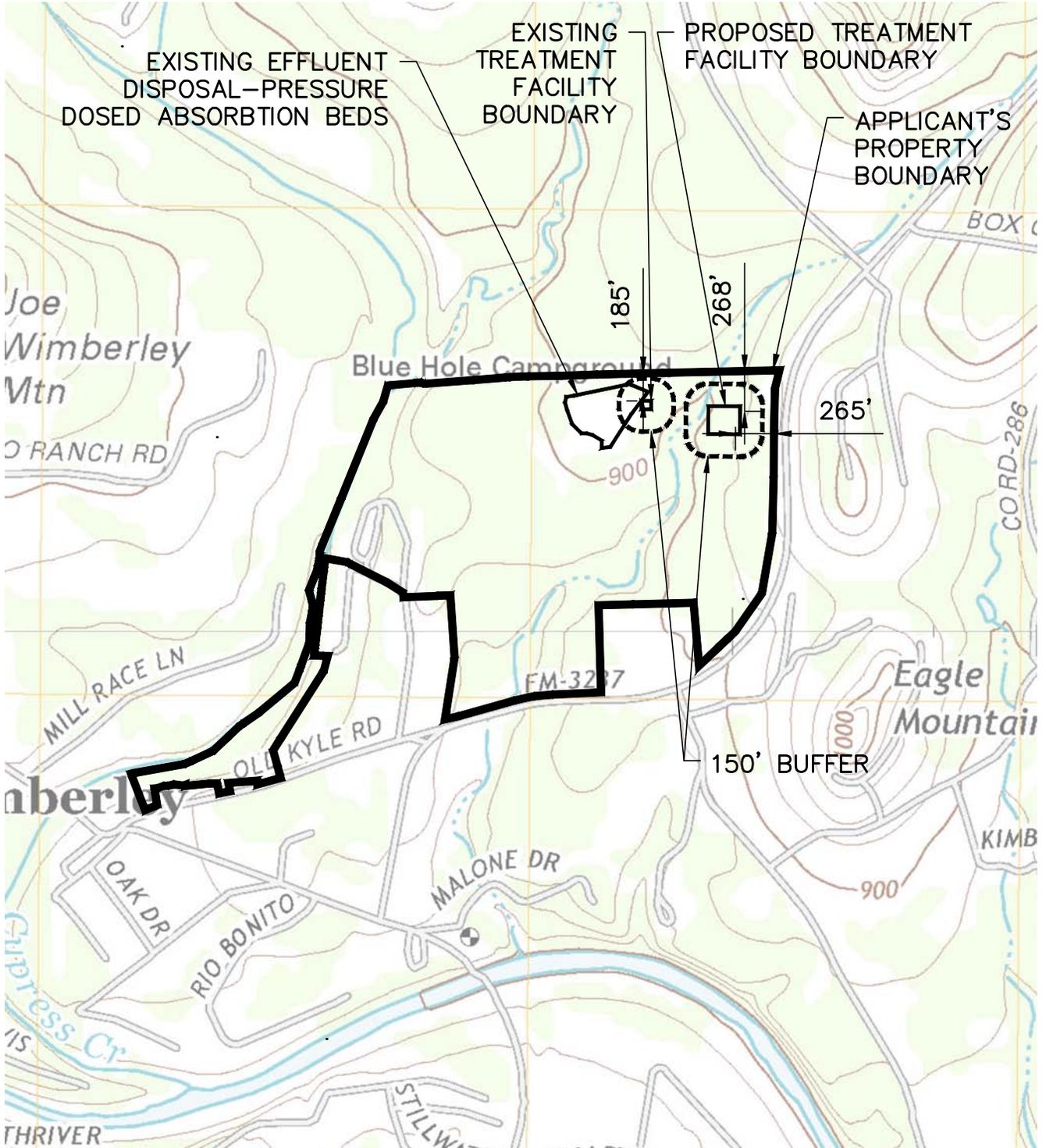
PAUL J & MARY K DUNN  
13501 RANCH RD 12; STE 103  
WIMBERLEY TX 78676

SMV WIMBERLEY LP  
CAMMEBYS INTERNATIONAL LTD  
45 BROADWAY  
25TH FLOOR  
NEW YORK NY 10006

**Attachment D**

**Buffer Zone Map**

**Admin Rpt 1.1, Item 2.a**



ATTACHMENT D  
 CITY OF WIMBERLEY  
 CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
 PERMIT APPLICATION  
 BUFFER ZONE MAP- EXISTING AND PROPOSED PHASES

**Attachment E**

**Original Photographs**

**Admin Rpt 1.1, Item 3**

**ATTACHMENT E  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**ORIGINAL PHOTOGRAPHS**



Photo A - Proposed treatment facility site looking southeast from northern extent of site.



Photo B - Proposed treatment facility site looking southwest from northern extent of site.



Photo C - Proposed effluent discharge outfall to Deer Creek, looking downstream (south).



Photo D - Proposed effluent discharge outfall to Deer Creek, looking upstream (north).



Photo E - Effluent absorption beds looking north from the existing package plant location.



Photo F - Effluent absorption beds looking west from the existing package plant location.



**Legend**

- Final Phase- Proposed Outfall
- Treatment Facility Boundary
- Applicant's Property Boundary
- Existing Phase- Effluent Disposal



DATE:  
APRIL 14, 2014

**ATTACHMENT E  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**PHOTOGRAPH LOCATIONS**


**ALAN PLUMMER ASSOCIATES, INC.**  
 ENVIRONMENTAL ENGINEERS AND SCIENTISTS  
 6300 LA CALMA SUITE 400  
 AUSTIN, TEXAS 78752  
 PHONE: (512) 452-5905  
 FAX: (512) 452-2325

FIGURE 1 OF 1



SOURCE: CAPCOG GEOSPATIAL CLEARINGHOUSE

PAGE E-6

PROJECT NUMBER:  
1732-002-01

**Attachment F**

**Treatment Unit Processes**

**Tech Rpt 1.0, Item 3.a**

**ATTACHMENT F**  
**CITY OF WIMBERLEY**  
**CITY OF WIMBERLEY WATER RECLAMATION FACILITY**  
**PERMIT APPLICATION**

**TREATMENT UNIT PROCESSES**

**Existing/ Interim I Phase**

The City of Wimberley Water Reclamation Facility is an activated sludge package plant that operates in the extended aeration mode. The package plant process units include an equalization basin, aeration basin, clarifier, sludge holding tank, and effluent pumps.

**Interim II Phase**

The City of Wimberley Water Reclamation Facility in the Interim II Phase will be an activated sludge package plant operated in the extended aeration mode. The existing package plant will remain in operation and another package plant with the same process units will be brought online. Chemical phosphorous removal will be added to the existing processes. Process units added for the Interim II Phase include effluent filters, a chlorine contact basin, and cascade reaeration.

**Final Phase**

The City of Wimberley Water Reclamation Facility in the Final Phase will include three activated sludge package plants operated in the extended aeration mode. The existing package plants will remain in operation and another package plant with the same process units will be brought online. Chemical phosphorus removal, effluent filtration, chlorine disinfection, and cascade reaeration will continue to be utilized in the Final Phase.

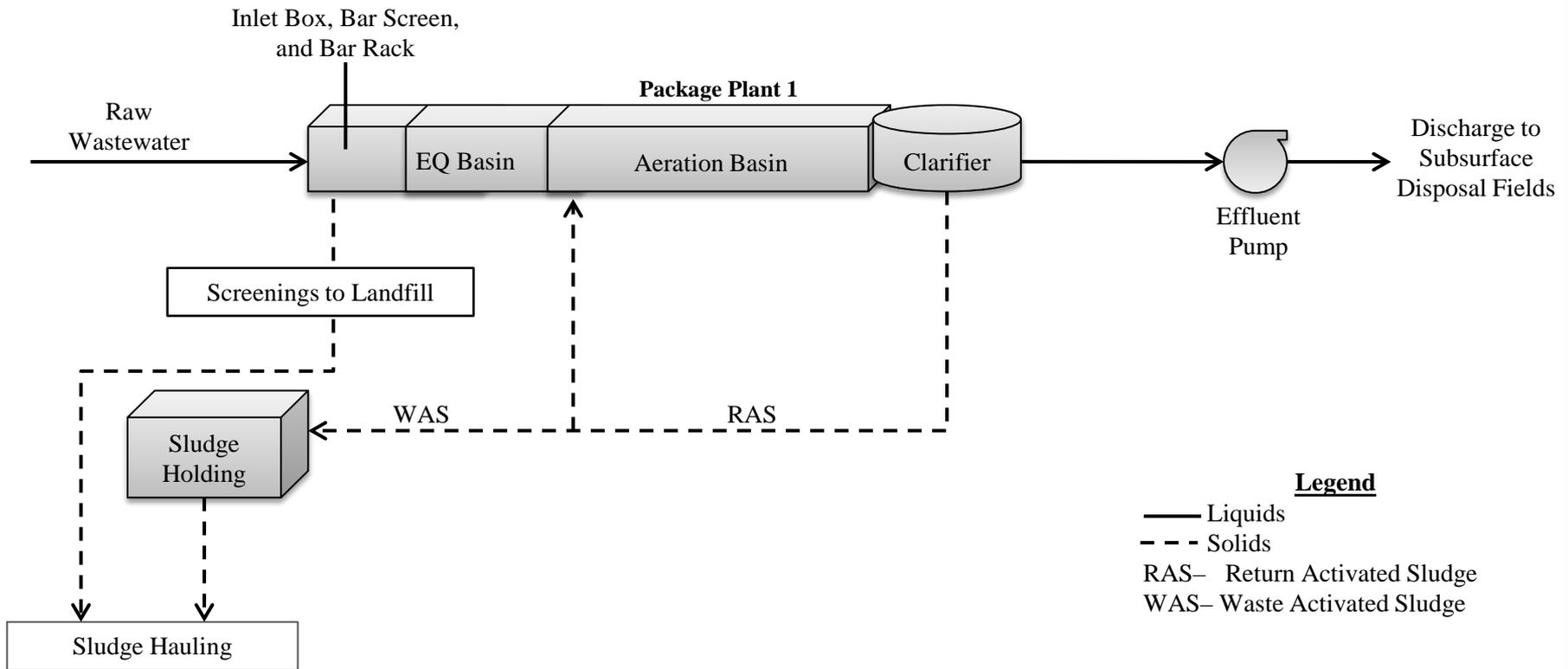
**Attachment G**

**Process Flow Diagram**

**Tech Rpt 1.0, Item 3.f**

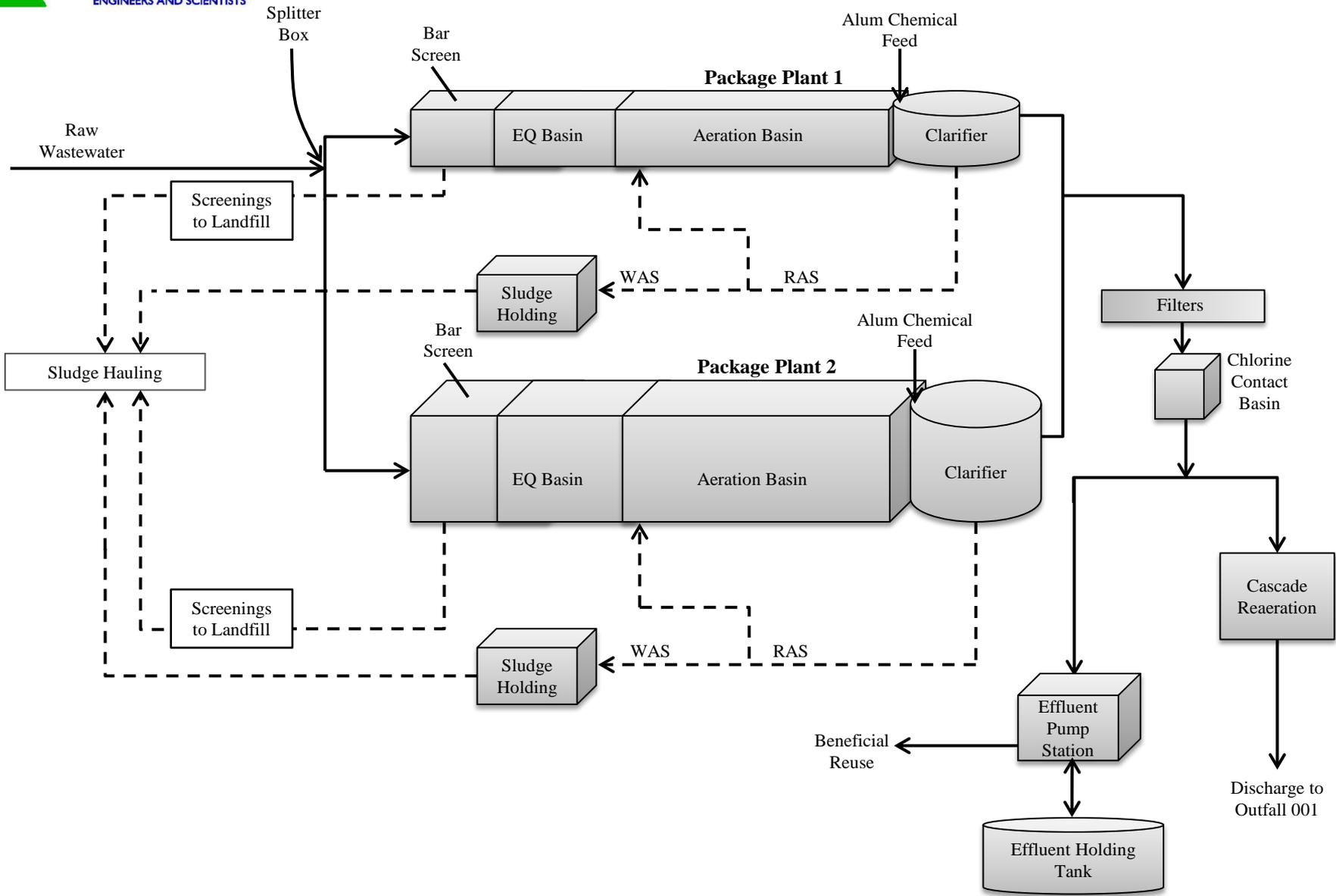
ATTACHMENT G  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION

PROCESS FLOW DIAGRAM: Interim I/ Existing Phase



**Legend**  
 — Liquids  
 - - - Solids  
 RAS- Return Activated Sludge  
 WAS- Waste Activated Sludge

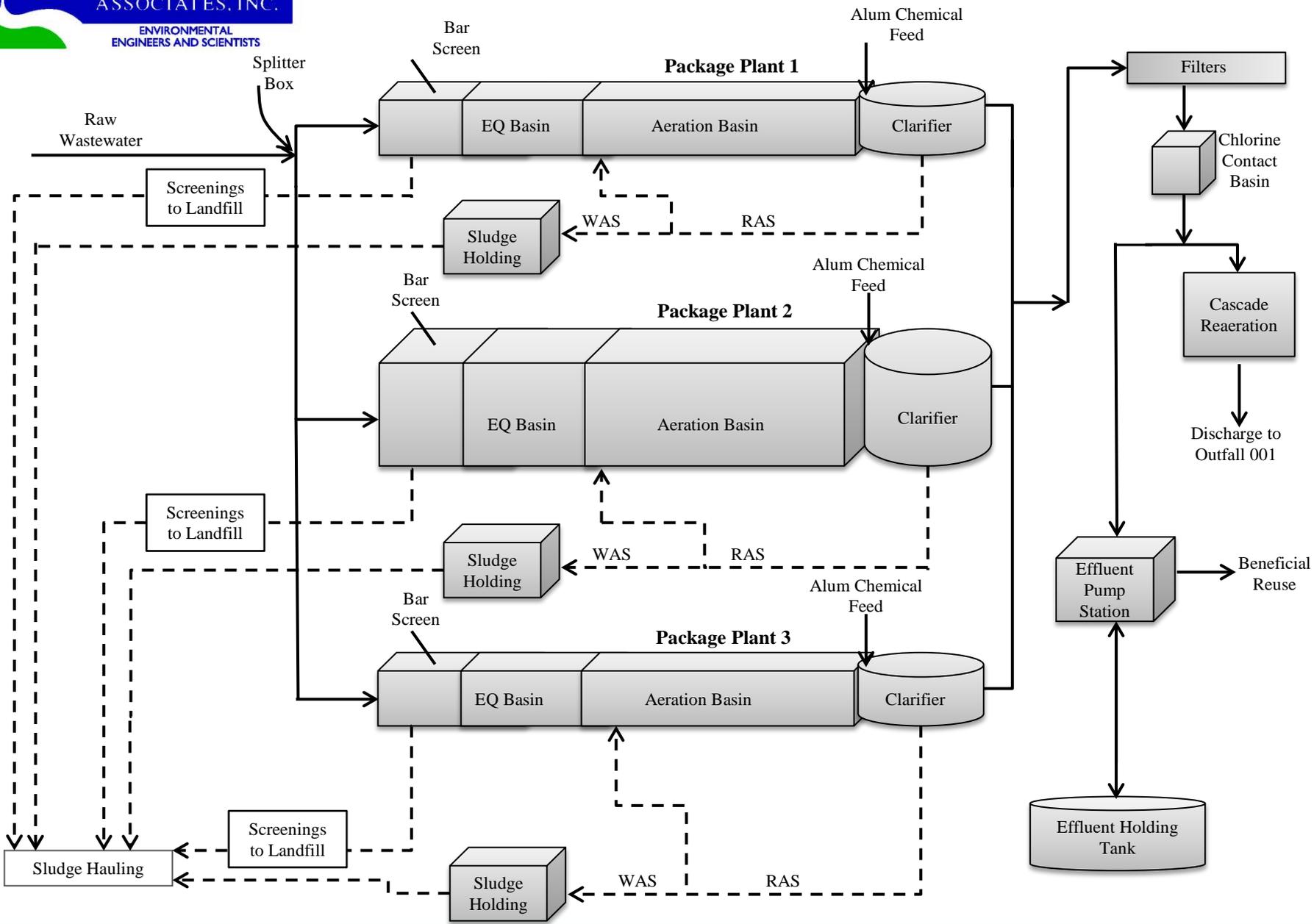
**PROCESS FLOW DIAGRAM: Interim II Phase**



M:\Projects\1732\002-01\Permitting\Attachments\Final\F\_ProcessFlowDiagram.pptx

TEXAS REGISTERED ENGINEERING FIRM F-13

**PROCESS FLOW DIAGRAM: Final Phase**



M:\Projects\1732\002-01\Permitting\Attachments\Final\F\_ProcessFlowDiagram.pptx

TEXAS REGISTERED ENGINEERING FIRM F-13

**Attachment H**

**List of Treatment Units**

**Tech Rpt 1.0, Item 3.a**

**ATTACHMENT H  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**LIST OF TREATMENT UNITS**

<b>Interim I/ Existing Phase (0.015 MGD Phase)</b>		
<b>Description</b>	<b>No.</b>	<b>Equipment/Capacity</b>
Inlet Box with Bar Screen and Bar Rack	1	0.75" Manually Cleaned Coarse Screen, 45° Sloped Bar Rack
Equalization Basin	1	4,712 gallons; 12' x 5', 10.5' SWD
Aeration Basin	1	31,102 gallons; 12' x 33', 10.5' SWD
Clarifier	1	7,191 gallons; 12' Diameter, 8.5' SWD
Sludge Holding Tank	1	4,712 gallons; 12' x 5', 10.5' SWD

**ATTACHMENT H  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**LIST OF TREATMENT UNITS**

<b>Interim II Phase (0.075 MGD Phase)</b>		
<b>Description</b>	<b>No.</b>	<b>Equipment/Capacity</b>
Inlet Box with Bar Screen and Bar Rack	2	0.75" Manually Cleaned Coarse Screen, 45° Sloped Bar Rack
Equalization Basin:		
Package Plant 1	1	4,712 gallons; 12' x 5', 10.5' SWD
Package Plant 2	1	11,100 gallons; 19' x 6', 13' SWD
Aeration Basin:		
Package Plant 1	1	31,102 gallons; 12' x 33', 10.5' SWD
Package Plant 2	1	87,759 gallons; 19' x 47.5', 13' SWD
Clarifier:		
Package Plant 1	1	7,191 gallons; 12' Diameter, 8.5' SWD
Package Plant 2	1	27,570 gallons; 19' Diameter, 13' SWD
Effluent Filters:		
Cloth Media Disks	2	35 sq ft/ ea
Chlorine Disinfection:		
Contact Basin	1	5,745 gallons; 12' x 8' x 8' SWD
Cascade Reaeration		
Step Reaeration	1	Height: 19'
Sludge Holding Tank:		
Package Plant 1	1	4,712 gallons; 12' x 5', 10.5' SWD
Package Plant 2	1	13,395 gallons; 19' x 7.25', 13' SWD
Beneficial Reuse of Effluent:		
Effluent Holding Tank	1	500,000 gallons; 65' Diameter, 20' SWD

**ATTACHMENT H  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**LIST OF TREATMENT UNITS**

<b>Final Phase (0.100 MGD Phase)</b>		
<b>Description</b>	<b>No.</b>	<b>Equipment/Capacity</b>
Inlet Box with Bar Screen and Bar Rack	3	0.75" Manually Cleaned Coarse Screen, 45° Sloped Bar Rack
Equalization Basin:		
Package Plant 1	1	4,712 gallons; 12' x 5', 10.5' SWD
Package Plant 2	1	11,100 gallons; 19' x 6', 13' SWD
Package Plant 3	1	5,105 gallons; 13' x 5', 10.5' SWD
Aeration Basin:		
Package Plant 1	1	31,102 gallons; 12' x 33', 10.5' SWD
Package Plant 2	1	87,759 gallons; 19' x 47.5', 13' SWD
Package Plant 3	1	39,820 gallons; 13' x 39', 10.5' SWD
Clarifier:		
Package Plant 1	1	7,191 gallons; 12' Diameter, 8.5' SWD
Package Plant 2	1	27,570 gallons; 19' Diameter, 13' SWD
Package Plant 3	1	10,425 gallons; 13' Diameter, 10.5' SWD
Effluent Filters:		
Cloth Media Disks	2	35 sq ft/ ea
Chlorine Disinfection:		
Contact Basin	1	5,745 gallons; 12' x 8' x 8' SWD
Cascade Reaeration		
Step Reaeration	1	Height: 19'
Sludge Holding Tank:		
Package Plant 1	1	4,712 gallons; 12' x 5', 10.5' SWD
Package Plant 2	1	13,395 gallons; 19' x 7.25', 13' SWD
Package Plant 3	1	6,126 gallons; 13' x 6', 10.5' SWD
Beneficial Reuse of Effluent:		
Effluent Holding Tank	1	500,000 gallons; 65' Diameter, 20' SWD

**Attachment I**

**Analytical Reports**

**Tech Rpt 1.0, Item 4**

Bryan Facility:  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807  
 (979) 778-3707  
 Fax (979) 778-3193



Austin Facility:  
 7500 Hwy 71 W, Suite 105  
 Austin, TX 78735  
 (512) 301-9559  
 Fax (512) 301-9552

## Analytical Report

Severn Trent

Attn: Allan Smith  
 14050 Summit Drive Suite 113  
 Austin, TX 78728

Form: SWH 081313 FIN

Report Printed: 3/10/14 17:44  
 Work Order: X003516  
 Received: 02/25/14 11:39

Sample ID#	Collected	Collected By	Type	Matrix	C-O-C #
X003516-01	2/25/14 7:15	CLIENT	Grab	Non Potable	X003516

### Wimberley WWTP Short Permit

#### Inorganic Parameters (Austin Facility)

Analysis	SQL	Result	Units	Analyzed	Method #
NEL Carbonaceous BOD (5 day)	1	1	mg/L	02/26/14 06:30 NG	SM 5210 B, 2001
NEL Total Dissolved Solids	50.0	448	mg/L	03/03/14 14:14 HP	SM 2540 C, 1997
NEL Nitrite as N	0.05	<0.05	mg/L	02/26/14 13:00 SR	SM 4500 NO2- B, 2000, Ed Rev 2011
NEL Phosphorus as P	0.50	5.53 C-02	mg/L	03/03/14 09:15 NG	SM 4500-P E, 1999, Ed Rev 2011
NEL Chloride	2.00	44.0	mg/L	02/26/14 10:31 SR	SM 4500 Cl- B, 1997
NEL Specific Conductance @ 25.0 °C	2.00	769	uS/cm	02/26/14 12:14 SR	SM20 2510 B

#### Inorganic Parameters (Bryan Facility)

Analysis	SQL	Result	Units	Analyzed	Method #
NEL Ammonia as N	0.05	<0.05	mg/L	03/04/14 13:45 PWH	SM 4500 NH3 G, 1997
NEL Total Kjeldahl Nitrogen as N	0.50	1.74	mg/L	03/07/14 11:55 PWH	EPA 351.2
NEL NO3 - N Calc	0.10	1.60	mg/L	03/03/14 12:15 SR	EPA 353.2
NEL Nitrate/Nitrite as N	0.05	1.60 C-02	mg/L	03/03/14 12:15 PWH	SM 4500 NO3-F 2000
NEL Sulfate	5.00	31.7	mg/L	03/04/14 09:33 TJ	ASTM D516 07

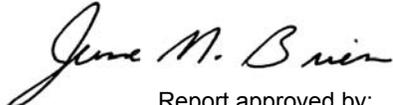
#### Microbiological Analyses (Austin Facility)

Analysis	SQL	Result	Units	Analyzed	Method #
NEL E. Coli	100	6200	MPN/100 mL	02/25/14 13:32 KT	SM 9223 B, 2004

The above sample was received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II.-Required containers, preservation techniques, and holding times, unless otherwise noted above.

The following prefixes to each analysis name indicate certification:

- NEL NELAC accredited parameter
- NS Subcontracted to a NELAC certified testing facility
- ANR Accreditation not required by the State of Texas
- INFO For informational purposes only (not NELAC accredited or reportable to TCEQ)

  
 Report approved by:  
 June M. Brien (Technical Director)

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with NELAC / NELAP ( Certificate number T104704371).

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

www.aqua-techlabs.com  
 corp@aqua-techlabs.com



NELAP Cert. T104704371

Report Printed: 3/10/14 17:44  
Work Order: X003516  
Received: 02/25/14 11:39

Severn Trent

Notes and Definitions

- RPD-01 Duplicate RPD is outside acceptable range. Acceptance of run is not based on matrix QC.
- J Analyte detected below the SQL but above the MDL.
- C-02 Result confirmed by re-analysis.
- BOD-01 Dilution water blanks fell outside of acceptance criteria of 0.2 mg/L.
- NR Not Reported
- RPD Relative Percent Difference
- % R Percent Recovery
- dry Results with the "dry" unit designation are reported on a "dry weight" basis.
- SQL The SQL (Sample Quantitation Limit) is the value below which the chemical of concern cannot reliably be detected. The SQL includes all sample dilutions and / or concentrations and is a function of the MQL (Method Quantitation Limit).

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Collected By" field of this report as "Client" or "CLT".

Any subcontracted data summarized in this report is indicated by the S-01 qualifier. A copy of the original report from the subcontract laboratory is available upon request.

Inorganic Parameters (Austin Facility) - Quality Control Report

Carbonaceous BOD (5 day) - SM 5210 B, 2001

Batch M045981

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Seed Blank	1	<1	mg/L	02/26/14 06:30 NG	Acceptable	< SQL	BOD-01
Duplicate	78	223	mg/L	02/26/14 06:30 NG	3.52 RPD	23 RPD	
GG Acid 198	1	183	mg/L	02/26/14 06:30 NG	92.3 % R	84.6 - 115 %R	

Chloride - SM 4500 Cl- B, 1997

Batch M045993

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	2.00	<2.00	mg/L	02/26/14 10:31 SR	Acceptable	< SQL	
Matrix Spike	2.00	41.1	mg/L	02/26/14 10:31 SR	98.8 % R	87.2 - 109 %R	
Matrix Spike Dup	2.00	40.6	mg/L	02/26/14 10:31 SR	96.8 % R, 2.04 RPD	87.2 - 109 %R, 12.5 RPD	
LCS	2.00	24.6	mg/L	02/26/14 10:31 SR	98.4 % R	90 - 110 %R	
Reference	2.00	24.6	mg/L	02/26/14 10:31 SR	98.4 % R	85 - 115 %R	

Nitrite as N - SM 4500 NO2- B, 2000, Ed Rev 2011

Batch M045991

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	0.05	<0.05	mg/L	02/26/14 13:00 SR	Acceptable	< SQL	
Matrix Spike	0.05	0.09	mg/L	02/26/14 13:00 SR	100 % R	63.1 - 119 %R	
Matrix Spike Dup	0.05	0.09	mg/L	02/26/14 13:00 SR	105 % R, 4.90 RPD	63.1 - 119 %R, 11.3 RPD	
LCS	0.05	0.08	mg/L	02/26/14 13:00 SR	105 % R	90 - 110 %R	

Phosphorus as P - SM 4500-P E, 1999, Ed Rev 2011

Batch M046077

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	0.05	<0.05	mg/L	03/03/14 09:15 NG	Acceptable	< SQL	
Matrix Spike	0.05	0.43	mg/L	03/03/14 09:15 NG	107 % R	80.2 - 115 %R	
Matrix Spike Dup	0.05	0.46	mg/L	03/03/14 09:15 NG	115 % R, 7.19 RPD	80.2 - 115 %R, 8.21 RPD	
LCS	0.05	0.42	mg/L	03/03/14 09:15 NG	106 % R	90 - 110 %R	
LCS Dup	0.05	0.41	mg/L	03/03/14 09:15 NG	104 % R, 1.79 RPD	90 - 110 %R, 20 RPD	
Reference	0.05	0.06	mg/L	03/03/14 09:15 NG	116 % R	0 - 200 %R	

Severn Trent

Report Printed: 3/10/14 17:44  
Work Order: X003516  
Received: 02/25/14 11:39

**Inorganic Parameters (Austin Facility) - Quality Control Report**

Specific Conductance @ 25.0 °C - SM20 2510 B							Batch M045995
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	2.00	<2.00	uS/cm	02/26/14 12:14 SR	Acceptable	< SQL	
Duplicate	20.0	10300	uS/cm	02/26/14 12:14 SR	0.194 RPD	2.18 RPD	
LCS	2.00	1410	uS/cm	02/26/14 12:14 SR	100 % R	97.2 - 103 %R	
Reference	2.00	345	uS/cm	02/26/14 12:14 SR	94.3 % R	90 - 110 %R	

Total Dissolved Solids - SM 2540 C, 1997							Batch M046108
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	25.0	<25.0	mg/L	03/03/14 14:14 HP	Acceptable	< SQL	
Duplicate	50.0	896	mg/L	03/03/14 14:14 HP	2.64 RPD	9.98 RPD	
Reference	25.0	106	mg/L	03/03/14 14:14 HP	106 % R	66.8 - 140 %R	

**Inorganic Parameters (Bryan Facility) - Quality Control Report**

Ammonia as N - SM 4500 NH3 G, 1997							Batch M046137
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	0.05	<0.05	mg/L	03/04/14 13:45 PWH	Acceptable	< SQL	
Matrix Spike	1.00	47.8	mg/L	03/04/14 13:45 PWH	106 % R	75.5 - 135 %R	
Matrix Spike Dup	1.00	47.1	mg/L	03/04/14 13:45 PWH	99.2 % R, 6.39 RPD	75.5 - 135 %R, 6.04 RPD	RPD-01
LCS	0.05	0.52	mg/L	03/04/14 13:45 PWH	105 % R	87.9 - 115 %R	
LCS Dup	0.05	0.52	mg/L	03/04/14 13:45 PWH	104 % R, 0.135 RPD	87.9 - 115 %R, 8.07 RPD	

Nitrate/Nitrite as N - SM 4500 NO3-F 2000							Batch M046109
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	0.05	<0.05	mg/L	03/03/14 12:15 PWH	Acceptable	< SQL	
Matrix Spike	1.25	61.8	mg/L	03/03/14 12:15 PWH	103 % R	90.7 - 118 %R	
Matrix Spike Dup	1.25	61.5	mg/L	03/03/14 12:15 PWH	103 % R, 0.538 RPD	90.7 - 118 %R, 2.77 RPD	
LCS	0.05	1.99	mg/L	03/03/14 12:15 PWH	99.3 % R	89.6 - 115 %R	
LCS Dup	0.05	1.99	mg/L	03/03/14 12:15 PWH	99.5 % R, 0.118 RPD	89.6 - 115 %R, 2.41 RPD	
Reference	0.05	0.05	mg/L	03/03/14 12:15 PWH	97.8 % R	69.3 - 150 %R	

Sulfate - ASTM D516 07							Batch M046133
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	5.00	<5.00(3.38)	mg/L	03/04/14 09:33 TJ	Acceptable	< SQL	J
Duplicate	20.0	117	mg/L	03/04/14 09:33 TJ	3.43 RPD	7.39 RPD	
Matrix Spike	20.0	150	mg/L	03/04/14 09:33 TJ	71.5 % R	57 - 124 %R	
LCS	5.00	9.17	mg/L	03/04/14 09:33 TJ	91.7 % R	80 - 121 %R	
Reference	5.00	9.05	mg/L	03/04/14 09:33 TJ	90.5 % R	85 - 115 %R	

Total Kjeldahl Nitrogen as N - EPA 351.2							Batch M046107
	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	0.50	<0.50	mg/L	03/07/14 11:55 PWH	Acceptable	< SQL	
Matrix Spike	0.50	7.03	mg/L	03/07/14 11:55 PWH	102 % R	56.2 - 149 %R	
Matrix Spike Dup	0.50	6.92	mg/L	03/07/14 11:55 PWH	100 % R, 1.84 RPD	56.2 - 149 %R, 20 RPD	
LCS	0.50	5.72	mg/L	03/07/14 11:55 PWH	95.3 % R	74.5 - 133 %R	
LCS Dup	0.50	5.54	mg/L	03/07/14 11:55 PWH	92.4 % R, 3.08 RPD	74.5 - 133 %R, 20 RPD	
Reference	2.50	20.9	mg/L	03/07/14 11:55 PWH	97.5 % R	85 - 115 %R	

**Severn Trent**

**Report Printed:** 3/10/14 17:44  
**Work Order:** X003516  
**Received:** 02/25/14 11:39

**Microbiological Analyses (Austin Facility) - Quality Control Report**

**E. Coli - SM 9223 B, 2004**

Batch M045966

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	1.0	<1.0	MPN/100 mL	02/25/14 13:32 KT	Acceptable	< SQL	

**Sample Preparation / Extraction Summary**

Sample ID	Analyte	Prepared	Analyst	Prep Method	Initial	Final	Batch
X003516-01	Phosphorus as P	2/28/14 13:04	NG	SM 4500-P B5	0.5 mL	5 mL	M046077
X003516-01	Total Kjeldahl Nitrogen as N	3/3/14 10:00	PWH	EPA 351.2	25 mL	25 mL	M046107



T104704371

Lab ID	Description	Date	Start Time	Date	End Time	Composite Type	Container List (Checked box indicates bottle arrived in lab)
<b>X003516-01</b>	Wimberley WWTP Short Permit	2/25/14	8:15	- N/A -	- N/A -	Grab	<input checked="" type="checkbox"/> A AMM NO3 TKN 0.5LP H2SO4 ← Z <input checked="" type="checkbox"/> B CBOD 2LP <input checked="" type="checkbox"/> C CI Cond NO2 1LP <input checked="" type="checkbox"/> D Ecoli SPw/Thio <input checked="" type="checkbox"/> E P 0.1LP H2SO4 ← Z <input checked="" type="checkbox"/> F SO4 0.5LP
	A CBOD NP Probe SM 5210 B [NEL]						
	A NO2N NP Spec SM4500 NO2 B [NEL]						
	A TDS NP Grav SM2540 C [NEL]						
	A NO3N NP Calc EPA 353.2 [NEL]						
	A Cond NP Probe SM20 2510 B [NEL]						
	TKN NP RFA EPA 351.2 [NEL]						
	NH3N NP AUTO SM 4500 G [NEL]						
	A CI NP Tit SM 4500 CI- B [NEL]						
	A E.Coli MPN NP SM 9223B [NEL]						
	A P NP Spec SM20 4500-P E [NEL]						
	NO3N + NO2N NP RFA SM4500 NO3 F [NEL]						
	SO4 NP Spec D516-90 07 [NEL]						

By relinquishing the above samples to ATL, the client agrees to the following terms: Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation. Analytes requiring a certified method that is not within ATL's fields of accreditation will be subcontracted to a NELAP accredited lab that is certified for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method on this C-O-C. The client approves all method modifications documented by ATL or the subcontract lab. A current list of ATL's NELAP fields of accreditation and other methods are available on request.

**Client Comments:**

**DEFINITIONS:**

ATL = Aqua-Tech Laboratories, Inc.  
 Matrix designations:  
 NP = Non-Potable, DW = Drinking Water, SL = Solid  
 Analyses Ordered:  
 "A" prefix indicates Austin, all others Bryan or  
 Subcontracted, indicated by [SUB]. Name format:  
 Analysis-Matrix-Technology-Method.  
 [CNR] = No NELAP certification required or available  
 [INF] = Informational only (not NELAP certified)  
 [NEL] = NELAP certified parameter  
 [SUB] = NELAP certified subcontracted parameter  
 Reagent tracking is available upon request.

**CUSTODY TRANSFER:**

Relinquished by (print and sign)	Sampler	Client	Date	Time	Sample Info: "X" all that apply
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Received by (print and sign)	ATL Field	Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Relinquished by (print and sign)	ATL Field	Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Received by (print and sign)	ATL Field	Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Relinquished by (print and sign)	ATL Field	Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Received by (print and sign)	ATL Field	Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed

Do not write below this line (Laboratory use only)

**SAMPLE RECEIPT SUMMARY FOR WORK ORDER X003516**

Relinquished by (print and sign)	ATL Field	Client	Date	Time	Sample Info: "X" all that apply
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>	02/25/14	11:39	<input checked="" type="checkbox"/> Iced / Chilled / Refrigerated <input type="checkbox"/> Custody Sealed
Received by (print and sign)	Lab	Client	Date	Time	Sample Info: "X" all that apply
<i>[Signature]</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	02/25/14	11:39	<input type="checkbox"/> Received Chilled / Iced <input type="checkbox"/> Custody Transfer Unbroken

Temperature, \*TR/CT °C: 3.0 / 3.2      Sample condition good? Yes      pH Paper ID: 0673023  
 Thermometer ID: 0657744      Preservation correct? Yes      Post-Preservatives: N/A

Bryan Facility:  
 635 Phil Gramm Blvd.  
 Bryan, TX 77807  
 (979) 778-3707  
 Fax (979) 778-3193



Austin Facility:  
 7500 Hwy 71 W, Suite 105  
 Austin, TX 78735  
 (512) 301-9559  
 Fax (512) 301-9552

## Analytical Report

Severn Trent

Attn: Gerald

14050 Summit Drive Suite 113

Austin, TX 78728

Form: SWH 081313 FIN

Report Printed: 4/2/14 13:32

Work Order: X004934

Received: 03/26/14 09:06

Sample ID#	Collected	Collected By	Type	Matrix	C-O-C #
X004934-01	3/26/14 7:30	CLIENT	Grab	Non Potable	X004934

### Wimberley WWTP Effluent

#### Inorganic Parameters (Austin Facility)

Analysis	SQL	Result	Units	Analyzed	Method #
NEL BOD (5 day)	1	5 BOD-02, B	mg/L	03/27/14 08:03 HP	SM 5210 B, 2001
NEL Total Suspended Solids	2	17	mg/L	03/26/14 11:36 HP	SM 2540 D, 1997

#### Microbiological Analyses (Austin Facility)

Analysis	SQL	Result	Units	Analyzed	Method #
NEL Fecal Coliform	1	TNTC	per 100mL	03/26/14 15:28 KT	SM9222 D, 1997

The above sample was received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II.-Required containers, preservation techniques, and holding times, unless otherwise noted above.

The following prefixes to each analysis name indicate certification:

- NEL NELAC accredited parameter
- NS Subcontracted to a NELAC certified testing facility
- ANR Accreditation not required by the State of Texas
- INFO For informational purposes only (not NELAC accredited or reportable to TCEQ)

  
 Report approved by:  
 June M. Brien (Technical Director)

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with NELAC / NELAP ( Certificate number T104704371).

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.

www.aqua-techlabs.com  
 corp@aqua-techlabs.com



NELAP Cert. T104704371

Severn Trent

Report Printed: 4/2/14 13:32  
Work Order: X004934  
Received: 03/26/14 09:06

Sample ID#	Collected	Collected By	Type	Matrix	C-O-C #
X004934-02	3/26/13 7:45	CLIENT	Grab	Non Potable	X004934

Wimberley WWTP Aeration

Inorganic Parameters (Austin Facility)

	Analysis	SQL	Result	Units	Analyzed	Method #
NEL	Total Suspended Solids	250	2200 G-01	mg/L	03/26/14 11:36 HP	SM 2540 D, 1997
ANR	Total Volatile Suspended Solids	250	2000 G-01	mg/L	03/26/14 11:36 HP	SM 2540E, 1997

The above sample was received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II.-Required containers, preservation techniques, and holding times, unless otherwise noted above.

The following prefixes to each analysis name indicate certification:

- NEL NELAC accredited parameter
- NS Subcontracted to a NELAC certified testing facility
- ANR Accreditation not required by the State of Texas
- INFO For informational purposes only (not NELAC accredited or reportable to TCEQ)

  
Report approved by:  
June M. Brien (Technical Director)

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with NELAC / NELAP ( Certificate number T104704371).

The results in this report apply only to the samples analyzed. This analytical report must be reproduced in its entirety unless written permission is granted by Aqua-Tech Laboratories, Inc.



Report Printed: 4/2/14 13:32  
Work Order: X004934  
Received: 03/26/14 09:06

Severn Trent

Notes and Definitions

- TNTC TNTC Too numerous to count.
- RPD-04 Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
- G-01 This sample was added to an analytical run already in progress.
- BOD-02 The RPD between the highest and lowest value used for result calculation in the sample dilution series is greater than the method-specified 30%.
- BOD-01 Dilution water blanks fell outside of acceptance criteria of 0.2 mg/L.
- B Analyte is found in the associated blank as well as in the sample.
- NR Not Reported
- RPD Relative Percent Difference
- % R Percent Recovery
- dry Results with the "dry" unit designation are reported on a "dry weight" basis.
- SQL The SQL (Sample Quantitation Limit) is the value below which the chemical of concern cannot reliably be detected. The SQL includes all sample dilutions and / or concentrations and is a function of the MQL (Method Quantitation Limit).

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Collected By" field of this report as "Client" or "CLT".

Any subcontracted data summarized in this report is indicated by the S-01 qualifier. A copy of the original report from the subcontract laboratory is available upon request.

Inorganic Parameters (Austin Facility) - Quality Control Report

BOD (5 day) - SM 5210 B, 2001 Batch M046810

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Seed Blank	1	<1	mg/L	03/27/14 08:03 HP	Acceptable	< SQL	BOD-01
Duplicate	78	266	mg/L	03/27/14 08:03 HP	2.28 RPD	25.3 RPD	B
GG Acid 198	1	181	mg/L	03/27/14 08:03 HP	91.2 % R	84.6 - 115 %R	B

Total Suspended Solids - SM 2540 D, 1997 Batch M046783

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	1	<1	mg/L	03/26/14 11:36 HP	Acceptable	< SQL	
Duplicate	40	836	mg/L	03/26/14 11:36 HP	13.8 RPD	14.1 RPD	
Reference	10	99	mg/L	03/26/14 11:36 HP	99.0 % R	83 - 108 %R	

Total Volatile Suspended Solids - SM 2540E, 1997 Batch M046783

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	1	<1	mg/L	03/26/14 11:36 HP	Acceptable	< SQL	
Duplicate	250	1950	mg/L	03/26/14 11:36 HP	2.53 RPD	17.7 RPD	
Reference	10	106	mg/L	03/26/14 11:36 HP	106 % R	84.3 - 112 %R	

Microbiological Analyses (Austin Facility) - Quality Control Report

Fecal Coliform - SM9222 D, 1997 Batch M046792

	SQL	Result	Units	Analyzed	QC Check	QC Limits	QC Flag
Blank	1	<1	per 100mL	03/26/14 15:28 KT	Acceptable	< SQL	
Duplicate	1	<1	per 100mL	03/26/14 15:28 KT	0.00 RPD	121 RPD	

Sample Preparation / Extraction Summary

Sample ID	Analyte	Prepared	Analyst
Page 3 of 4 X004934_1 SWH 081313 FIN 04 02 14 1332			



Lab ID	Description	Date	Start Time	Date	End Time	Composite Type	Container List (Checked box indicates bottle arrived in lab)
X004934-01	Wimberley WWTP Effluent	3/26/14	0730	- N/A -	- N/A -	Grab	<input checked="" type="checkbox"/> A BOD 1LP <i>W.C. Fegert 0.1 50</i>
X004934-02	Wimberley WWTP Aeration	3/26/14	0745	- N/A -	- N/A -	Grab	<input checked="" type="checkbox"/> A TSS VSS 0.1LP
A TSS NP Grav SM 2540 D [NEL]      A TVSS NP Grav SM 2540 E [CNR]							

By relinquishing the above samples to ATL, the client agrees to the following terms: Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation. Analytes requiring a certified method that is not within ATL's fields of accreditation will be subcontracted to a NELAP accredited lab that is certified for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method on this C-O-C. The client approves all method modifications documented by ATL or the subcontract lab. A current list of ATL's NELAP fields of accreditation and other methods are available on request.

**Client Comments:**

**DEFINITIONS:**

- ATL = Aqua-Tech Laboratories, Inc.
- Matrix designations:  
NP = Non-Potable, DW = Drinking Water, SL = Solid
- Analyses Ordered:  
"A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB]. Name format: Analysis-Matrix-Technology-Method.
- [CNR] = No NELAP certification required or available
- [INF] = Informational only (not NELAP certified)
- [NEL] = NELAP certified parameter
- [SUB] = NELAP certified subcontracted parameter
- Reagent tracking is available upon request.

**CUSTODY TRANSFER:**

Relinquished by (print and sign)	<input type="checkbox"/> Sampler	<input type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Iced / Chilled / Refrigerated	<input type="checkbox"/> Custody Sealed
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
Received by (print and sign)	<input type="checkbox"/> ATL Field	<input type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced	<input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
Relinquished by (print and sign)	<input type="checkbox"/> ATL Field	<input type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Iced / Chilled / Refrigerated	<input type="checkbox"/> Custody Sealed
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
Received by (print and sign)	<input type="checkbox"/> ATL Field	<input type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced	<input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

Sample Info: "X" all that apply

Do not write below this line (Laboratory use only)

**SAMPLE RECEIPT SUMMARY FOR WORK ORDER X004934**

Relinquished by (print and sign)	<input type="checkbox"/> ATL Field	<input checked="" type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Iced / Chilled / Refrigerated	<input type="checkbox"/> Custody Sealed
<i>[Signature]</i>	<input type="checkbox"/>	Allan Smith	03/26/14	09:06	<input type="checkbox"/>	<input type="checkbox"/>
Received by (print and sign)	<input checked="" type="checkbox"/> Lab	<input type="checkbox"/> Client	Date	Time	<input type="checkbox"/> Received Chilled / Iced	<input type="checkbox"/> Custody Transfer Unbroken
<i>[Signature]</i>	Kristin Torres	<input type="checkbox"/>	03/26/14	09:06	<input type="checkbox"/>	<input type="checkbox"/>

Temperature, \*TR/CT °C: 3.9 / 4.1      Sample condition good? Yes      pH Paper ID: 0673023  
Thermometer ID: 0657744      Preservation correct? Yes      Post-Preservatives: N/A

**Attachment J**

**Contractual Agreement for Sludge Processing**

**Tech Rpt 1.0, Item 6.a**

**ATTACHMENT J.1**  
**CITY OF WIMBERLEY**  
**CITY OF WIMBERLEY WATER RECLAMATION FACILITY**  
**PERMIT APPLICATION**

**CONTRACTUAL AGREEMENT FOR SLUDGE PROCESSING**

Sludge generated at the City of Wimberley (City) Water Reclamation Facility (WRF) is hauled off-site for disposal or further treatment and use. Hauling is conducted in accordance with arrangements between the City of Wimberley and Lienneweber Plumbing Co. (Lienneweber). When sludge removal services are needed, the WRF operators contact Lienneweber. Lienneweber picks up the sludge and transports it to either Micro Dirt, Inc. (Texas Organic Recovery) in Creedmoor, Texas, or to the City of Lockhart Wastewater Treatment Facility. Both of these facilities are authorized to treat and dispose of sludge. A manifest system is used to document all hauling activities. An example of the manifest used for the City's sludge hauling activities are presented as Attachment J.2.

Leinneweber Plumbing Co., Inc.

P O Box 1297

Wimberley TX 78676

512/847-9511

TCEQ Transporter # 20302

Date of Pick Up 8/14/12

Name of Generator Wimberley Waste Water Plant

Mailing Address

Pick Up Address

X Generator Signature John Hanley Phone Number

Type of Waste: Septage Grease Portable Toilet Other

Quantity (Gallons) 1500

Transportors Certification: I certify that the information provided above is correct, and that only waste described above are contained in this load. I further certify that this load contains no chemical or hazardous waste material. I am aware that falsification of this ticket may result in forfeiture of my transport's license and/or the privilege of utilizing State disposal facilities.

Truck Drivers Name: Dustin English

Truck Drivers Signature Dustin English

Disposal Site Certification:

Disposal Site Name DBA Texas Organic Recovery

Permit Number 15800 Goforth Road

Creedmoor, TX 78610

I certify I have been Authorized by the Texas Commission Environmental Quality to accept the above type waste and have disposed of the above indicated waste in accordance with the requirements outlined in that authorization.

Site Operator Name

Signature Date 8/14/12

Pumping

Locate Tank

Bacteria

Septic Saver Kit

Riser Pipes

Riser Lids

Cement

Misc

Tax

Total

Check#

Master Plumber License #M12725

Texas Plumbing Board: 929 E. 41st Street, Austin, Tx 78765

**Attachment K**

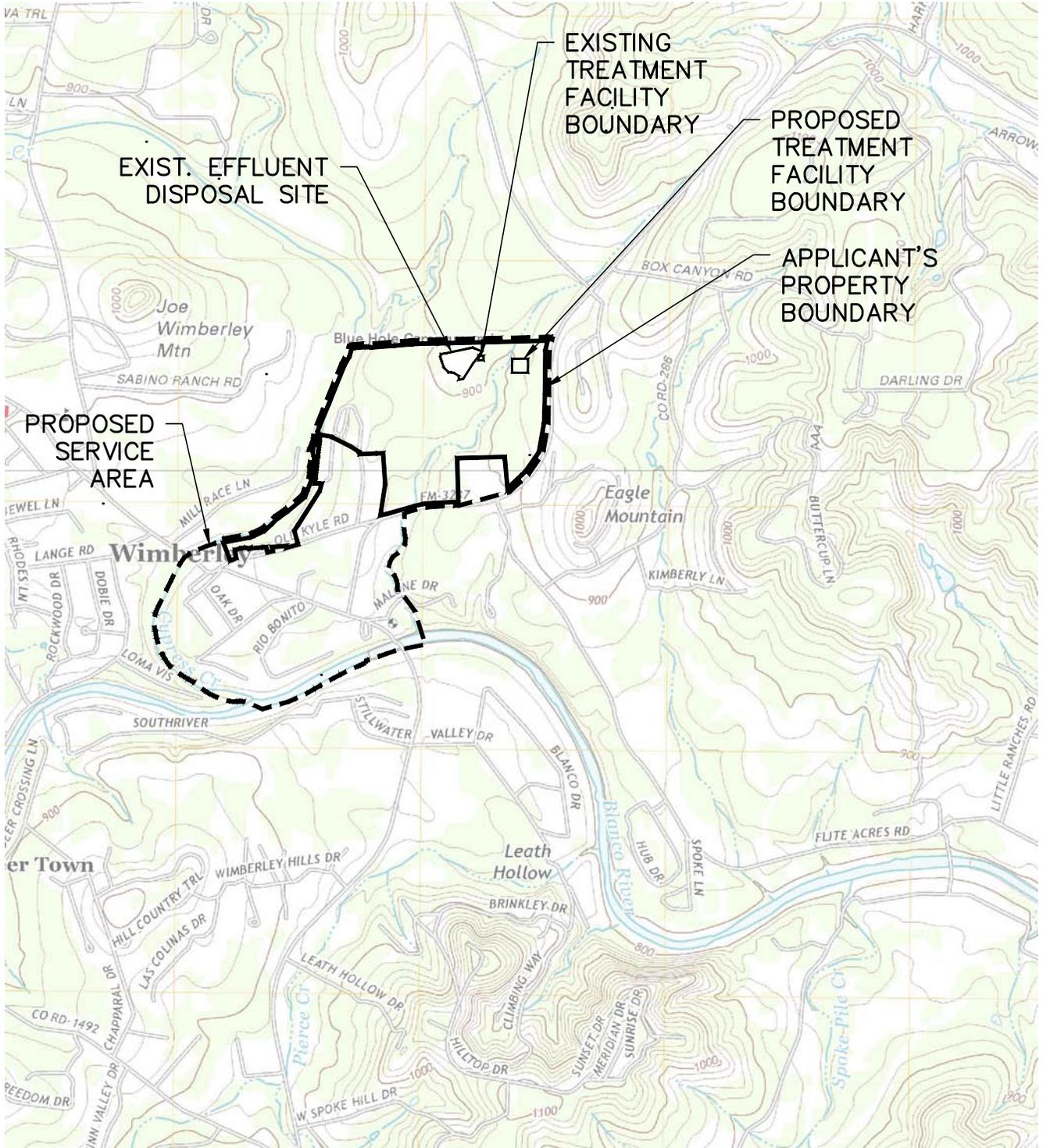
**Site Drawing**

**Tech Rpt 1.0, Item 12**



ALAN PLUMMER  
ASSOCIATES, INC.

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



ATTACHMENT K  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION  
SITE DRAWING

**Attachment L**  
**Regionalization Discussion**  
**Tech Rpt 1.1, Item 3**

INDEX

L.1	Regionalization Information
L.2	Regionalization Area Map
L.3	Correspondence with Aqua Utilities, Inc. (Aqua Texas)
L.4	Analysis of Expenditures

**ATTACHMENT L.1**  
**CITY OF WIMBERLEY**  
**CITY OF WIMBERLEY WATER RECLAMATION FACILITY**  
**PERMIT APPLICATION**

**REGIONALIZATION INFORMATION**

The proposed City of Wimberley (City) Water Reclamation Facility (WRF) is within 3-miles of a sanitary sewer collection system for a permitted domestic wastewater treatment facility (WWTF). The permitted WWTF is owned and operated by Aqua Utilities, Inc., (a.k.a. Aqua Texas). The permit for the Aqua Texas WWTF is Texas Commission on Environmental Quality number WQ0013989001. Attachment L.2 is a map that presents the location of the proposed City WRF and two Aqua Texas lift stations.

Due to the proximity of the Aqua Texas WWTF to the proposed WRF, the City evaluated the option to contract with Aqua Texas for wastewater treatment services. Aqua Texas indicated the WWTF has the capacity and is willing to accept the volume of wastewater that is proposed to be treated by the City WRF. The proposal received from Aqua Texas to provide services is presented in Attachment L.3.

Costs associated with pumping wastewater to Aqua Texas' collection system were compared with costs of expanding the WRF. The total costs of both alternatives were compared on a net present value basis. The parameters included in the cost comparison analysis are Contribution in Aid of Construction (CIAC) costs, discount rate, and user fees. The table presented as Attachment L.4 is the Analysis of Expenditures.

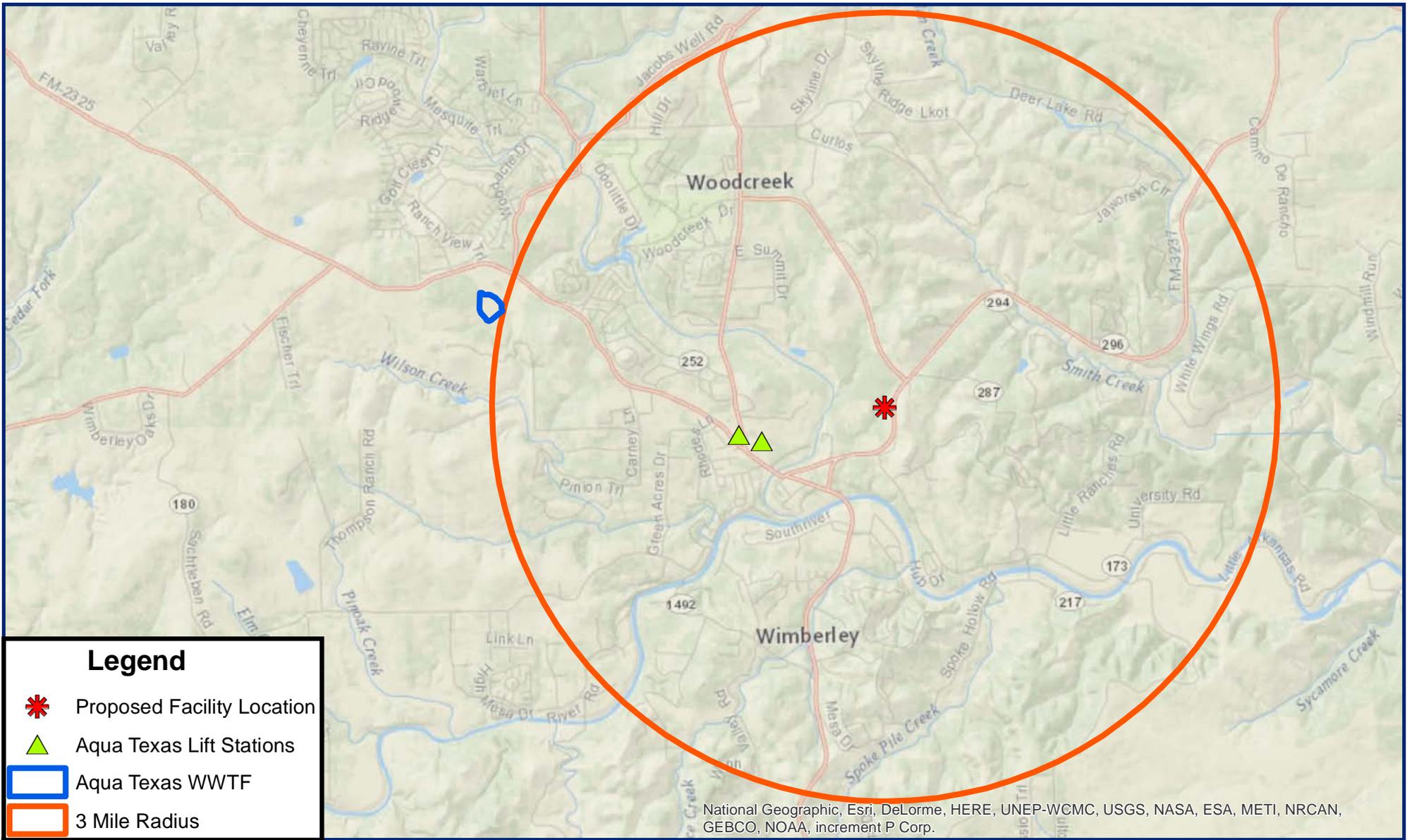
Recommendations for the project were developed through a stakeholder process. The Central Wimberley Stakeholder Committee, which comprised of seven individuals representing various community interests in the wastewater project, discussed and evaluated alternatives. In addition to the cost analysis, non-cost factors associated with the option to obtain service from Aqua Texas were evaluated.

The committee recommended not to contract with Aqua Texas for wastewater treatment services. The major considerations for the decision to not connect to the Aqua Texas WWTF are as follows:

- The City would not have any long-term rate control over the fees charged by Aqua Texas, a private corporation, for wastewater service.
- The City would not be able to retain the treated effluent and beneficially land apply it to the Blue Hole Regional Park.

- The City would not be able to maintain control over the quality of effluent produced at the Aqua Texas WWTF. The City is proposing to construct treatment facilities capable of producing Type I effluent for beneficial reuse. Type I quality effluent exceeds the effluent quality limitations required for the disposal method utilized by Aqua Texas.

The final recommendation of the Stakeholder Committee was to construct the proposed WRF, obtain a discharge permit, and implement beneficial reuse of treated water to its fullest extent to minimize the discharge to surface waters. The Stakeholder Committee's recommendation was adopted by the Wimberley City Council in December of 2013.



National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

**Legend**

-  Proposed Facility Location
-  Aqua Texas Lift Stations
-  Aqua Texas WWTF
-  3 Mile Radius



DATE:  
APRIL 14, 2014

**ATTACHMENT L.2  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**REGIONALIZATION AREA MAP**



**ALAN PLUMMER  
ASSOCIATES, INC.**  
ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS

6300 LA CALMA  
SUITE 400  
AUSTIN, TEXAS 78752  
PHONE: (512) 452-5905  
FAX: (512) 452-2325

FIGURE 1 OF 1



0 0.5 1 2  
Miles

PROJECT NUMBER:  
1732-002-01

**ATTACHMENT L.3  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**REGIONALIZATION INFORMATION**

Correspondence with Aqua Utilities, Inc. (Aqua Texas)

**From:** Laughman, Robert L. [<mailto:RLLaughman@aquaaamerica.com>]  
**Sent:** Tuesday, November 12, 2013 9:37 AM  
**To:** Coonan, Steve  
**Cc:** Scheibelhut, Kurt A.; McDougall, Crandal; Lewis, Glen E.; Rimann, Daniel E.  
**Subject:** RE: Wimberley

Steve;

Thank-you again for providing Aqua with your various analyses. The analyses provides a much better picture of the variables the Committee must ponder when making a decision.

Two key variables have obviously had a major impact when evaluating the various options presented to the Committee: 1) The use of 210 vs.300 gallons of waste produced per LUE, and 2) the number of commercial vs. residential customers that will ultimately be served by the various options.

Upon reviewing all of the data you have presented, and adjusting some of our internal assumptions, Aqua is prepared to provide the Committee with the following revisions to our original proposal to Don Ferguson, dated February 1, 2013:

1. Aqua will cap CIAC at **\$600,000** for whatever capacity(up to 88,500 GPD) the City elects to commit to during the phase of construction of collection systems for the downtown area and areas being contemplated by Option 1-10. Such a cap on CIAC will not be applicable on future capacity requests. Based on the latest options presented in your November 11,2013, such a cap will only impact Option 10 and potentially Option 8. Aqua is under the firm belief that Aqua making a distinction between commercial and residential capacity, sets bad precedent for future CIAC requirements. Our contract, if awarded, will be a wholesale contract with the City of Wimberley. It should be the responsibility of the City, not Aqua, to make a distinction between residential and commercial capacity.
2. Aqua will reduce its offered volumetric rate from \$13.96/1000 gallons to **\$12.50/1000 gallons**. It has always been the intent of Aqua's wholesale proposal to the City to maintain parity between potential new customers from Wimberley and our existing customers. In our original proposal, we did not take into account the difference between commercial flows and residential flows, nor the subsequent increase in revenues generated from a commercial account. Upon further reflection and the availability of additional data that you have presented, Aqua is prepared to make the stated reduction in our original proposal.

Let me know if there are any questions regarding our proposal revisions. I will be traveling today, but will try to respond via email as soon as possible.

Regards,  
Bob Laughman  
Aqua Texas

**ATTACHMENT L.4  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**ANALYSIS OF EXPENDITURES**

The following table provides a cost comparison on a net-present-value basis for pumping wastewater collected in the proposed service area to the Aqua Texas WWTF to the alternative of treating the wastewater at the expanded City of Wimberley Water Reclamation Facility. The methods used to calculate costs are consistent with the most recent correspondence with Aqua Texas, which is presented in Attachment L.3.

Option Description	Expand Existing Plant to 75,000 GPD. TPDES Permit + Reuse	Pump to Aqua Texas - Maintain Exist. Package Plant
Collection System	\$2,259,000	\$2,009,000
Aqua Transmission Cost	\$0	\$250,000
Treatment Plant Cost	\$750,000	\$0
Irrigation Cost	\$38,000	\$0
Storage Cost	\$300,000	\$0
Discharge Cost	\$20,000	\$0
Land Acquisition Cost	\$44,000	\$44,000
<b>Subtotal Construction Cost</b>	<b>\$3,411,000</b>	<b>\$2,303,000</b>
Contingency (20%)	\$682,200	\$460,600
Planning and Design (15%)	\$511,650	\$345,450
Legal, Financial, Permitting	\$175,000	\$25,000
Debt Reserve	\$238,993	\$156,703
TWDB Loan Origination Fee	\$92,849	\$60,879
Aqua CIAC Costs <sup>a</sup>	\$0	\$589,355
<b>Total Construction Cost</b>	<b>\$5,111,691</b>	<b>\$3,940,987</b>
Annual O&M of New System <sup>b</sup>	\$172,075	\$23,120
Annual Aqua Charges <sup>c</sup>	\$0	\$219,548
Total Annual Charges	\$172,075	\$242,668
<b>NPV of Annualized Costs</b>	<b>\$2,412,606</b>	<b>\$3,248,145</b>
<b>Total Net Present Value<sup>d</sup></b>	<b>\$7,524,297</b>	<b>\$7,189,132</b>
<sup>a</sup> Based on \$2,572 per 210 gpd for CIAC fees - applied to all connections, capped at \$600,000		
<sup>b</sup> Note that annual O&M is expected to increase 2% annually		
<sup>c</sup> Based on \$12.50 per 1,000 gal; Aqua charges are expected to remain constant for first 4 years, after which point they are expected to increase 2% annually		
<sup>d</sup> NPV based on discount rate of 5.5% and a 20 year period		

**Attachment M**

**Design Calculations**

**Tech Rpt 1.1, Item 4**

ATTACHMENT M.1  
CITY OF WIMBERLY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION

DESIGN CALCULATIONS: Interim/ Existing Phase

**Influent Quality Characteristics**

---

BOD Concentration	300 mg/L
BOD Loading	37.5 lbs/day

**Permitted Flow**

---

Design Flow (Max. 30 Day Average Flow)	15,000 gpd
Peak 2 hr Flow	60,000 gpd

**Permitted Effluent Limits**

---

BOD	10 mg/L
TSS	15 mg/L

**Facility Dimentions**

---

**Equalization Basin**

---

SWD	10.5 ft
Width	12 ft
Length	5 ft
Volume	630 CF
	<b>4,712 gallons</b>

**Aeration Basin**

---

SWD	10.5 ft
Width	12 ft
Length	33 ft
Volume	4,158 CF
	<b>31,102 gallons</b>

**Clarifier**

---

SWD (min)	8.5 ft
Diameter	12 ft
Surface Area	113 SF
Volume	961 CF
	<b>7,191 gallons</b>

**Sludge Holding Tank**

---

SWD	10.5 ft
Width	12 ft
Length	5 ft
Volume	630 CF
	<b>4,712 gallons</b>

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion?</b>
<b>Equalization Basin</b>	<b>30 TAC 217.128 (e)</b>			
Min. Volume (gallons)		3,000	4,712	Yes
<b>Aeration Basin</b>	<b>30 TAC 217.154</b>			
Max. BOD Loading (lbs/day/1000 ft <sup>3</sup> )		15	9	Yes
<b>Final Clarifier</b>	<b>30 TAC 217.154 (c)</b>			
Max. Overflow Rate at Peak Flow (gpd/ft <sup>2</sup> )		800	531	Yes
Min. Detention Time at Peak Flow (hours)		2.2	3	Yes
<b>Sludge Holding Tank</b>	<b>Other- BOD<sub>5</sub>(lb/d) x 10 x 7.48(gals/CF)</b>			
Min. Volume (gallons)		2,807	4,712	Yes

**ATTACHMENT M.2  
CITY OF WIMBERLY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**DESIGN CALCULATIONS: Interim II Phase**

**Influent Quality Characteristics**

	<u>Design Concentration</u>
BOD <sub>5</sub>	380 mg/L
TSS	700 mg/L
NH <sub>3</sub> -N	45 mg/L
Total Phosphorus	6 mg/L

**Permitted Flow**

	<u>Package Plant 1</u>	<u>Package Plant 2</u>	<u>TOTAL FLOW</u>
Design Flow (Maximum 30 Day Average Flow)	19,500 gpd	55,500 gpd	75,000 gpd
Peak 2 hr Flow	78,000 gpd	222,000 gpd	300,000 gpd

**Treatment Plant Loadings**

	<u>Package Plant 1</u>	<u>Package Plant 2</u>
BOD <sub>5</sub>	62 lb/day	176 lb/day
TSS	114 lb/day	324 lb/day
NH <sub>3</sub> -N	7 lb/day	21 lb/day

**Permitted Effluent Limits**

BOD <sub>5</sub>	5 mg/L
TSS	5 mg/L
NH <sub>3</sub> -N	2 mg/L
Total Phosphorus	1 mg/L
Dissolved Oxygen	6 mg/L

**Treatment Unit**

TCEQ Design Criterion	Criterion Value	Actual Provided	Meets Criterion
-----------------------	-----------------	-----------------	-----------------

**Equalization Basins**

Minimum Volume (gallons)	30 TAC 217.128 (e)		
Package Plant 1	3,900	4,712	Yes
Package Plant 2	11,100	11,100	Yes
TOTAL	15,000	15,812	Yes

**Aeration Basins**

Minimum Volume (gallons)	30 TAC 217.154 (b)		
Package Plant 1	18,715	31,102	Yes
Package Plant 2	87,500	87,759	Yes
TOTAL	106,215	118,861	Yes

Maximum Organic Loading (lb BOD/day/1000 CF)	30 TAC 217.154 (b)		
Package Plant 1	15	14.86	Yes
Package Plant 2	15	14.99	Yes

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion</b>
<b>Final Clarifiers</b>				
<b>Maximum Overflow Rate (gpd/sf)</b>				
	<b>30 TAC 217.154 (c)</b>			
<b>Design Flow</b>				
Package Plant 1		400	133	Yes
Package Plant 2		400	196	Yes
<b>2-Hr Peak Flow</b>				
Package Plant 1		800	531	Yes
Package Plant 2		800	783	Yes
<b>Minimum Detention Time (hours)</b>				
	<b>30 TAC 217.154 (c)</b>			
<b>Design Flow</b>				
Package Plant 1		8.8	11.5	Yes
Package Plant 2		8.8	11.9	Yes
<b>2-Hr Peak Flow</b>				
Package Plant 1		2.2	2.9	Yes
Package Plant 2		2.2	3.0	Yes
<b>Final Clarification Volume (gallons)</b>				
Package Plant 1		N/A	7,191	
Package Plant 2		N/A	27,570	
TOTAL		N/A	34,761	
<b>Sludge Holding Tank</b>				
<b>Minimum Volume (gallons)<sup>1</sup></b>				
Package Plant 1		4,623	4,712	Yes
Package Plant 2		13,157	13,395	Yes
TOTAL		17,779	18,107	Yes
<b>Air Requirements at Design Load</b>				
<b>TCEQ Required Airflows</b>				
	<b>30 TAC 217.155 (a)</b>			
<b>Aeration Basins</b>				
Oxygen Required (lb O <sub>2</sub> /lb BOD <sub>5</sub> )		2.2	2.2	Yes
Required Airflow (scfm)		281	337	Yes
<b>Other Required Airflows (scfm)<sup>2</sup></b>				
Equalization Basin		63	63	Yes
Sludge Holding Tank		73	73	Yes
Airlifts		N/A	40	
<b>TOTAL AIR (including aeration basin needs)</b>			<b>513</b>	

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion</b>
<b>Alum Feed Rate<sup>3</sup></b>				
Influent Phosphorous Conc (mg/L)			6.0	
Permitted Effluent Phosphorous Conc (mg/L)		1.0	1.0	
Volume Alum Solution per kg Phosphorus		7.41	7.41	
Alum Solution Required (gallons/day)		10.5	10.5	
<b>Effluent Filtration</b>				
<b>Cloth Media Disk Filters- designed to produce Type I Reclaimed Water</b>				
Area per Disk (sf)			35	
Number of Disks			2	
<b>Filter Capacity<sup>4</sup></b>				
<b>Maximum Flow Through Filter (gpm/sf)</b>				
Design Flow		3.0	1.5	Yes
2-Hr Peak Flow		8.0	6.0	Yes
<b>Chlorine Contact Basin</b>				
	<b>30 TAC 217.281 (b)</b>			
Minimum Residence Time (at Peak Flow) (minutes)		20	28	Yes
Basin Volume (gallons)			5,745	
<b>Required Chlorine Concentration After Mixing (mg/L)</b>				
	<b>30 TAC 217.272 (b)</b>			
Filtration Effluent		6	6	Yes
<b>Reaeration<sup>5</sup></b>				
<b>Cascade Aeration at 86 °F</b>				
Final Dissolved Oxygen Concentration		6.0	6.0	Yes
Minimum Cascade Height (ft)		18.6	19	Yes

<b>Other Design Criteria Sources:</b>	
1	10 CF per lb/day BOD <sub>5</sub>
2	30 scfm / 1000 CF
3	Metcalf and Eddy; page 503
4	Manufacturer's Recommendations
5	Metcalf and Eddy; Table D-2

**ATTACHMENT M.3  
CITY OF WIMBERLY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**DESIGN CALCULATIONS: Final Phase**

**Influent Quality Characteristics**

	<u>Design Concentration</u>
BOD <sub>5</sub>	380 mg/L
TSS	700 mg/L
NH <sub>3</sub> -N	45 mg/L
Total Phosphorus	6 mg/L

**Permitted Flow**

	<u>Package Plant 1</u>	<u>Package Plant 2</u>	<u>Package Plant 3</u>
Design Flow (Maximum 30 Day Average Flow)	19,500 gpd	55,500 gpd	25,000 gpd
Peak 2 hr Flow	78,000 gpd	222,000 gpd	100,000 gpd
	<u>TOTAL FLOW</u>		
	100,000 gpd		
	400,000 gpd		

**Treatment Plant Loadings**

	<u>Package Plant 1</u>	<u>Package Plant 2</u>	<u>Package Plant 3</u>
BOD <sub>5</sub>	62 lb/day	176 lb/day	79 lb/day
TSS	114 lb/day	324 lb/day	146 lb/day
NH <sub>3</sub> -N	7 lb/day	21 lb/day	9 lb/day

**Permitted Effluent Limits**

BOD <sub>5</sub>	5 mg/L
TSS	5 mg/L
NH <sub>3</sub> -N	2 mg/L
Total Phosphorus	1 mg/L
Dissolved Oxygen	6 mg/L

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion</b>
-----------------------	------------------------------	------------------------	------------------------	------------------------

**Equalization Basins**

<b>Minimum Volume (gallons)</b>	<b>30 TAC 217.128 (e)</b>			
Package Plant 1		3,900	4,712	Yes
Package Plant 2		11,100	11,100	Yes
Package Plant 3		5,000	5,105	Yes
TOTAL		20,000	20,918	Yes

**Aeration Basins**

<b>Minimum Volume (gallons)</b>	<b>30 TAC 217.154 (b)</b>			
Package Plant 1		18,715	31,102	Yes
Package Plant 2		87,500	87,759	Yes
Package Plant 3		39,509	39,820	Yes
TOTAL		145,725	158,681	Yes

<b>Maximum Organic Loading (lb BOD/day/1000 CF)</b>	<b>30 TAC 217.154 (b)</b>			
Package Plant 1		15	14.86	Yes
Package Plant 2		15	14.99	Yes
Package Plant 3		15	14.88	Yes

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion</b>
<b>Final Clarifiers</b>				
<b>Maximum Overflow Rate (gpd/sf)</b>		<b>30 TAC 217.154 (c)</b>		
<b>Design Flow</b>				
Package Plant 1		400	133	Yes
Package Plant 2		400	196	Yes
Package Plant 3		400	188	Yes
<b>2-Hr Peak Flow</b>				
Package Plant 1		800	531	Yes
Package Plant 2		800	783	Yes
Package Plant 3		800	753	Yes
<b>Minimum Detention Time (hours)</b>		<b>30 TAC 217.154 (c)</b>		
<b>Design Flow</b>				
Package Plant 1		8.8	11.5	Yes
Package Plant 2		8.8	11.9	Yes
Package Plant 3		8.8	10.0	Yes
<b>2-Hr Peak Flow</b>				
Package Plant 1		2.2	2.9	Yes
Package Plant 2		2.2	3.0	Yes
Package Plant 3		2.2	2.5	Yes
<b>Final Clarification Volume (gallons)</b>				
Package Plant 1		N/A	7,191	
Package Plant 2		N/A	27,570	
Package Plant 3		N/A	10,425	
TOTAL		N/A	45,186	
<b>Sludge Holding Tank</b>				
<b>Minimum Volume (gallons)<sup>1</sup></b>				
Package Plant 1		4,623	4,712	Yes
Package Plant 2		13,157	13,395	Yes
Package Plant 3		5,926	6,126	Yes
TOTAL		23,706	24,233	Yes
<b>Air Requirements at Design Load</b>				
<b>TCEQ Required Airflows</b>		<b>30 TAC 217.155 (a)</b>		
<b>Aeration Basins</b>				
Oxygen Required (lb O <sub>2</sub> /lb BOD <sub>5</sub> )		2.2	2.2	Yes
Required Airflow (scfm)		374	449	Yes
<b>Other Required Airflows (scfm)<sup>2</sup></b>				
Equalization Basin		84	84	Yes
Sludge Holding Tank		97	97	Yes
Airlifts		N/A	40	
<b>TOTAL AIR (including aeration basin needs)</b>			<b>670</b>	

<b>Treatment Unit</b>	<b>TCEQ Design Criterion</b>	<b>Criterion Value</b>	<b>Actual Provided</b>	<b>Meets Criterion</b>
<b>Alum Feed Rate<sup>3</sup></b>				
Influent Phosphorous Conc (mg/L)			6	
Permitted Effluent Phosphorous Conc (mg/L)		1	1	
Volume Alum Solution per kg Phosphorus		7.41	7.41	
Alum Solution Required (gallons/day)		14.0	14.0	
<b>Effluent Filtration</b>				
<b>Cloth Media Disk Filters- designed to produce Type I Reclaimed Water</b>				
Area per Disk (sf)			35.0	
Number of Disks			2	
<b>Filter Capacity<sup>4</sup></b>				
<b>Maximum Flow Through Filter (gpm/sf)</b>				
Design Flow		3.0	2.0	Yes
2-Hr Peak Flow		8.0	7.9	Yes
<b>Chlorine Contact Basin</b>				
	<b>30 TAC 217.281 (b)</b>			
Minimum Residence Time (at Peak Flow) (minutes)		20	21	Yes
Basin Volume (gallons)			5,745	
<b>Required Chlorine Concentration After Mixing (mg/L)</b>				
	<b>30 TAC 217.272 (b)</b>			
Filtration Effluent		6	6	Yes
<b>Reaeration<sup>5</sup></b>				
<b>Cascade Aeration at 86 °F</b>				
Final Dissolved Oxygen Concentration		6.0	6.0	Yes
Minimum Cascade Height (ft)		18.6	19	Yes

Other Design Criteria Sources:	
1	10 CF per lb/day BOD <sub>5</sub>
2	30 scfm / 1000 CF
3	Metcalf and Eddy; page 503
4	Manufacturer's Recommendations
5	Metcalf and Eddy; Table D-2

**ATTACHMENT M.4  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**PLANT DESIGN FEATURES**

**A. EMERGENCY POWER REQUIREMENTS**

In accordance with 30 TAC §217.36 and due to the number and duration of power outages that have occurred during the past 24 months, the treatment facility will incorporate an on-site automatically starting generator capable of continuously operating all critical wastewater treatment system units. The fuel tank will be sized for a run time greater than the longest power outage in the power records. This generator will provide sufficient power for the following units:

1. Blowers for Aeration Basins and Sludge Storage
2. Final Clarifier Sludge Scrapers
3. RAS / WAS Sludge Pumps
4. Chlorination System (Interim II and Final Phases)
5. Alum Feed Pumps (Interim II and Final Phases)
6. Effluent Pumps and Metering
7. Lighting Panels and Control Equipment

An automatic transfer switch will be included to transfer electrical loads to the generator during an outage. In accordance with 30 TAC §217.37, the disinfection system will automatically restart during a power outage and upon transfer back to the main power source.

**B. ALARM FEATURES**

The plant will be equipped with a Supervisory Control and Data Acquisition (SCADA) system to monitor the operation of all critical treatment units. The control room will include a computer with graphic display of the treatment units that will indicate status and alarm conditions. The computer system will include an autodialer to alert plant personnel of the following conditions:

1. Loss of Phase or Power
2. Bar Screen Channel High Level
3. Final Clarifier Torque Overload
4. Effluent Pump Station Wet Well High Level
5. Equipment Failure for Chlorination / Chemical Feed System (Interim II and Final Phases)

### **C. DESIGN FEATURES FOR RELIABILITY AND OPERATING FLEXIBILITY**

1. **BAR SCREEN:** The bar screen structure includes a bypass channel. Slide gates will be used to isolate each channel as required. The Interim II and Final Phase expansions of the plant will also include this design feature.
2. **BLOWERS:** Blowers are currently sized to provide an excess air supply of 20% above the calculated requirement. The Interim II and Final Phase expansions of the plant will also include this design feature.
3. **EFFLUENT FILTERS:** The Interim II and Final Phase expansions of the plant will include effluent filters. The effluent filtration system consists of two separate cloth filters. The capacity of each effluent filter is able to handle peak flow conditions when one filter is out of service for maintenance or backwashing.

### **D. OVERFLOW PREVENTION**

The following design features will be used to prevent the overflow of wastewater from treatment units.

1. In accordance with 30 TAC §217.32, the plant design includes a peaking factor of 4.0 to ensure adequate hydraulic capacity.
2. The plant hydraulic design, including piping, channels, weirs, troughs and other features, will be sized to allow the 2-hour peak flow to pass through the plant without exceeding minimum freeboard requirements.

**Attachment N**

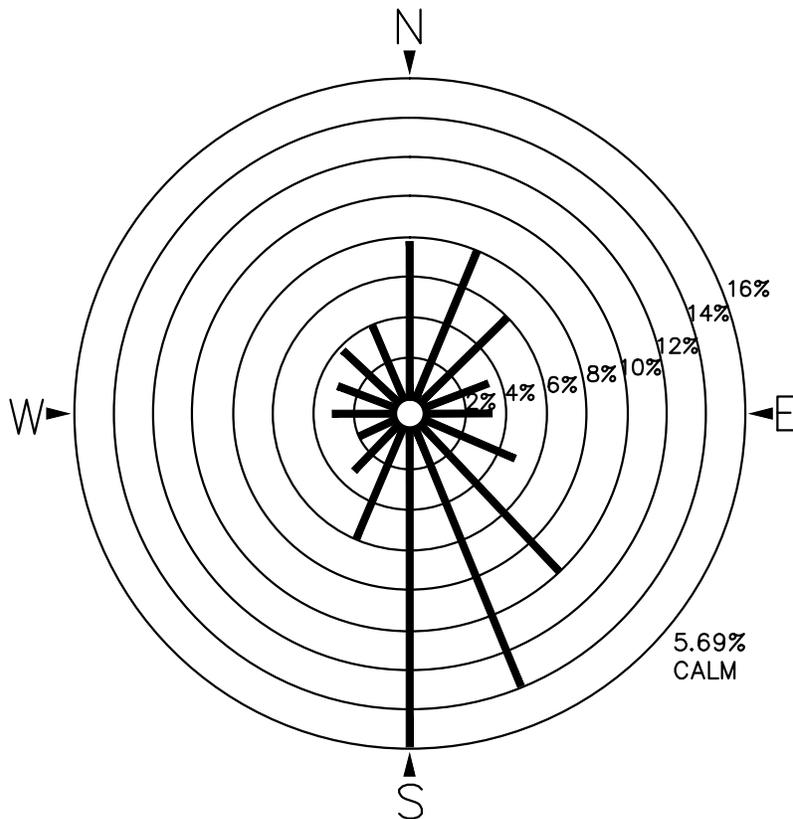
**Wind Rose**

**Tech Rpt 1.1, Item 5.b**



ALAN PLUMMER  
ASSOCIATES, INC.

ENVIRONMENTAL  
ENGINEERS AND SCIENTISTS



FREQUENCY OF  
WIND DIRECTION

PREVAILING  
WINDS FOR  
AUSTIN, TEXAS

SOURCE: TCEQ

ATTACHMENT N  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION

WIND ROSE

**Attachment O**

**Sewage Sludge Solids Management Plan**

**Tech Rpt 1.1, Item 7**

**ATTACHMENT O  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN**

**Planning Considerations**

---

Influent Design Flow	100,000 gpd
Influent BOD Concentration	380 mg/l
Total Sludge Holding Tank Volume	24,233 gallons
Package Plant 1 Dimensions	5'L x 12'W x 10.5'H
Package Plant 2 Dimensions	7.25'L x 19'W x 13.0'H
Package Plant 3 Dimensions	6'L x 13'W x 10.5'H
Aeration Basin MLSS (mg/L)	1,500 to 4,000 mg/l

	<b>Percent of Design Flow</b>			
<b>Solids Generated</b>	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Influent BOD (lbs/day)	316.9	237.7	158.5	79.2
Digested Dry Sludge (lbs/day)	110.9	83.2	55.5	27.7
Wet Sludge Produced (lbs/day)	5,546.1	4,159.6	2,773.1	1,386.5
Wet Sludge Produced (gals/day)	665.0	498.8	332.5	166.3

Sludge will be wasted from the return activated sludge (RAS) flow stream to the Sludge Holding Tank. Sludge solids will be stored in the tank and will then be transported off-site by a TCEQ registered hauler for final disposal.

	<b>Percent of Design Flow</b>			
<b>Removal Schedule</b>	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Days between sludge removal	2	3	4	9

Sludge will be removed from the sludge holding tank for disposal on a regular basis as required. The calculated mean cell residence time (MCRT) for the digester storage volume of 24,233 gal will be approximately 2 days at 100% capacity and annual average digested sludge production of 111 lbs/day. The digested sludge will be transported by a registered hauler to be disposed of at Micro Dirt Texas Organic Recovery.

**Assumptions**

---

(1) Assumed lb digested sludge/ lb influent BOD	0.35 lbs
(2) Assumed solids concentration in the tank	2%
(2) Assumed stablized sludge density = water density	8.34 lb/gal

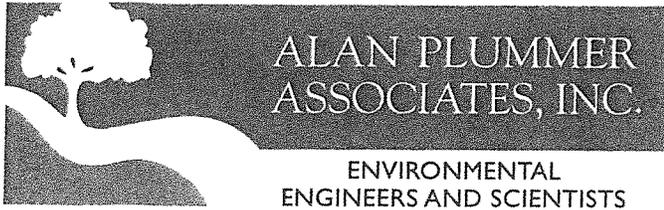
**Attachment P**  
**Well Information**  
**Wkst 3.0, Item 6**

**ATTACHMENT P  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**WATER WELL INFORMATION**

<b>Map ID</b>	<b>Well ID</b>	<b>Well Use</b>	<b>Producing?</b>	<b>Status</b>	<b>Proposed BMP</b>
1	5764715	Livestock	Y	-	
2	5764717	Domestic	Y	cased	
3	5764719	N/A- Spring	Y	-	
4	5764806	Irrigation	Y	cased	
5	5764807	Domestic	Y	cased	
6	5764808	Domestic	Y	cased	
7	6808105	N/A- Spring	Y	-	
8	6808106	N/A- Spring	Y	-	

Data Source TWDB WIID System



*Celebrating 35 Years of Service  
1978 - 2013*

**RECEIVED**  
**JUN 20 2014**  
**WATER QUALITY DIVISION**  
**TCEQ**

1732-002-01

June 19, 2014

Ms. Cindy Cavazos  
Water Quality Division (MC 148)  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

Re: City of Wimberley Water Reclamation Facility  
Texas Commission on Environmental Quality Permit WQ0013321001  
Application for Major Amendment

Dear Ms. Cavazos:

The City of Wimberley (City) has reviewed your letter dated May 22, 2014, regarding administrative completeness for the major amendment application for Wastewater Permit No. WQ0013321001 for the City of Wimberley Water Reclamation Facility. The City provides the following responses, which correspond to the items in your letter:

1. Item 1.a. on page 15 of the Administrative Report – The affected landowner map has been revised. Information for the two tracts in question has been provided.
  - Tract of land north of landowner No. 21 – The Hays County Appraisal District shows the tract north of landowner No. 21 as property owned by the City. The map has been revised and the bold line representing the applicant's property boundary has been adjusted to include this tract. (All properties adjacent to this tract are identified in the original submittal.)
  - Tract of land west of landowner No. 33 – The property boundaries for the area of land adjacent to the discharge route that is southwest of the confluence of Deer Creek and the Upper Blanco River is owned by Ms. Alice M. Williams. Ms. Williams owns all other properties identified as No. 35 that were identified on the original map submitted on May 13, 2014. The map has been revised to show the boundary of this tract.

Copies of the revised Affected Landowners map are provided as Enclosure A to this letter. No changes to the list of affected landowners and mailing labels are necessary in response to this item.

2. Technical Report Data Completeness:

- Item 6(a) on page 4 of the Technical Report 1.0 – Agreements with both Micro Dirt Inc. and GBRA- Lockhart FM 20 Wastewater Treatment Facility have been obtained by the City for the acceptance of sludge. Copies of these documents are included in Enclosure B to this letter. These documents should replace the information in Attachment J of the permit application.



Ms. Cindy Cavazos

Page 2

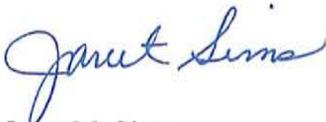
June 19, 2014

- Item 1(b) on page 10 of the Technical Report 1.1 – The information provided as Attachment A to the permit application has been revised. Information related to the proposed Interim II (0.075 MGD) Phase has been added. The need to have both the Interim II and Final phases in the permit is provided. Copies of the revised Attachment A are included in Enclosure C to this letter.
  - Items 2(a) and (c) on page 11 of the Technical Report 1.1 – Item 2 on page 11 of the Technical Report 1.1 has been amended to include flows and organic loadings representative of the Interim II (0.075 MGD) Phase. Copies of the revised page 11 are included in Enclosure D to this letter.
  - Item 7 on page 13 of the Technical Report 1.1 – Attachment O has been amended to include information for the Sewage Sludge Solids Management Plan for the Interim II (0.075 MGD) Phase. Interim II (0.075 MGD) Phase is provided on page O-1 of Attachment O. The Sewage Sludge Solids Management Plan for the Final (0.100 MGD) Phase is presented on page O-2. Revised copies of Attachment O are included in Enclosure E.
3. Notice of Receipt of Application and Intent to Obtain a Water Quality Permit: The City reviewed the portion of the notice that was provided in your letter. The application information is correct.

An original and two copies of the revised pages of the application are provided. Thank you for your attention to this matter. If you have any questions regarding the information presented, please contact me at (512) 452-5905 or e-mail me at [jsims@apaienv.com](mailto:jsims@apaienv.com).

Sincerely,

ALAN PLUMMER ASSOCIATES, INC.  
TBPE Firm Registration No. F-13



Janet M. Sims  
Senior Project Manager

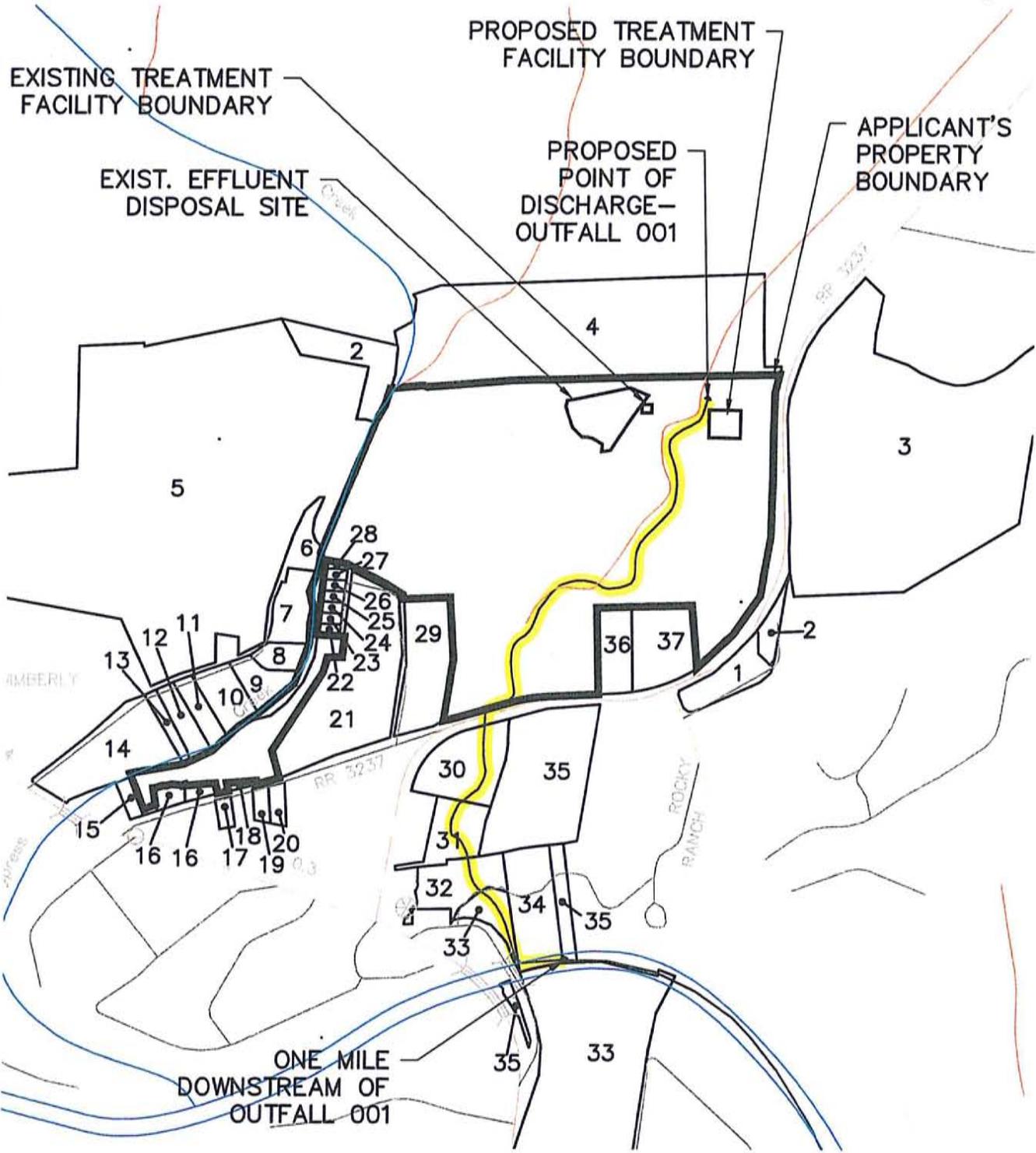
JMS/rjm

Enclosures (5)

cc: Mr. Don Ferguson, City Administrator, City of Wimberley

**ENCLOSURE A**

**Revised Attachment C  
Affected Landowners Map**



**ATTACHMENT C  
 CITY OF WIMBERLEY  
 CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
 PERMIT APPLICATION  
 AFFECTED LANDOWNERS**

TEXAS REGISTERED ENGINEERING FIRM F-13  
 6/3/2014 8:13 AM M:\Projects\1732\002-01\Acad\FIGURES\ATT-C.dwg Hfrels

**ENCLOSURE B**

**Revised Attachment J**

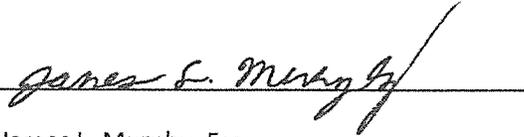
**Contractual Agreements for Sludge Processing**

May 30, 2014

SLUDGE ACCEPTANCE STATEMENT

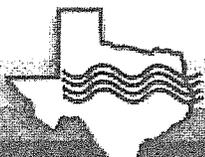
The Guadalupe-Blanco River Authority Lockhart Wastewater Treatment Plant No. 2 Facility will accept and process the sludge generated at the City of Wimberley Water Reclamation Facility, which is authorized to operate pursuant to Texas Pollutant Discharge Elimination System (TPDES) permit WQ0013321001. Processed sludge will be disposed of in accordance with the requirements specified in the TPDES Permit No. WQ0010210002.

Signed: \_\_\_\_\_



James L. Murphy, Esq.

Executive Manager of Water Resources and Utility Operations  
Guadalupe-Blanco River Authority



Main Office: 933 East Court Street - Seguin, Texas 78155  
830-379-5822 - 800-413-4130 - 830-379-9718 fax - [www.gbra.org](http://www.gbra.org)

**GBRA**

**Guadalupe-Blanco River Authority**  
*flowing solutions*

Micro Dirt Inc. /dba Texas Organic Recovery

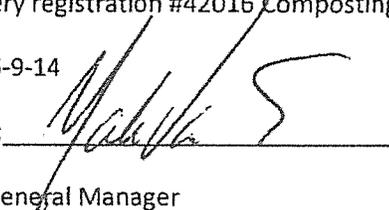
15500 Goforth Rd., Creedmoor Texas, 78610

T.C.E.Q. Registration # 42016

SLUDGE ACCEPTANCE STATEMENT

Mark Van Sickle and Micro Dirt Inc./dba Texas Organic Recovery Composting Facility will accept and process the sludge generated at the City of Wimberley Water Reclamation Facility, which is authorized to operate pursuant to Texas Pollutant Discharge Elimination System (TPDES) permit WQ0013321001. Processed sludge will be disposed of in accordance with the requirements specified in the Texas Organic Recovery registration #42016 Composting facility.

Date: 6-9-14

Signed:  \_\_\_\_\_

Title: General Manager

**ENCLOSURE C**

**Revised Attachment A**

**Amendment Request and Justification**

**ATTACHMENT A  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**AMENDMENT REQUEST AND JUSTIFICATION**

The City of Wimberley (City) owns the City of Wimberley Water Reclamation Facility (WRF). The WRF is operated in accordance with provisions specified in Texas Commission on Environmental Quality Permit Number WQ0013321001. A renewal of the permit with amendments is requested with this application. This attachment presents background information, provides a description of the requested amendments, and provides justification for these amendments.

**BACKGROUND INFORMATION**

The WRF is currently operating in a phase of the TCEQ permit with a daily average permitted flow of 15,000 gallons per day (GPD). The WRF currently serves two customers: the Deer Creek of Wimberley Nursing Home and Rehabilitation Center, and the Blue Hole Regional Park. The WRF effluent is disposed by subsurface land application through a series of perforated pipes to a disposal field adjacent to the WRF.

An expansion of the service area is proposed by the City. Customers that currently rely on individual septic systems in the central area of the City will be provided conventional wastewater collection and treatment. To provide these services to the proposed customers in the central area of the city, an increase in treatment capacity of the WRF and an alternate method of effluent use and disposal are required. The City plans to obtain an authorization to beneficially reuse treated effluent and the required permit for disposal that must be associated with a reuse authorization.

**AMENDMENT REQUESTS**

Major amendments to the TCEQ permit WQ0013321001 are requested. The requested amendments to the permit are as follows:

1. Add two phases to the permit to increase the permitted flow.
  - Interim II Phase for 75,000 GPD
  - Final Phase for 100,000 GPD
2. Change the method of effluent disposal from subsurface land application to discharge to surface waters.
3. Relocate the WRF within the City's property boundary.

Although the City is requesting authorization for a discharge to surface waters, the City also plans to obtain authorization to reuse treated effluent. The treated effluent will be beneficially used to irrigate open areas in Blue Hole Regional Park and potentially other areas in the central Wimberley area. Design of the new treatment facility will include a 500,000 gallon treated effluent storage tank. Discharges to Deer Creek will only be necessary during wet weather periods when irrigation is not possible and the storage tank is full.

## **JUSTIFICATION FOR AMENDMENTS**

The primary purpose for the proposed changes to the facility is the need to protect Cypress Creek, which runs through the City's central business district. Increasing concentration levels of bacteria have been measured in samples from the creek. The increase in bacteria is believed to be caused by deteriorating septic systems. Therefore, constructing a collection system and providing an alternate wastewater disposal method for existing commercial and food service establishments, as well as residents in the central area of the city are proposed.

### **1. Increase of Permitted Flows**

The permitted 30- day average wastewater flows for the proposed WRF is 75,000 GPD and 100,000 GPD. The projected flows to the WRF are based on an analysis of water usage data for the proposed customers and historical data for the existing customers.

Water usage data for a 12-month period for proposed customers were assessed. Seasonal variations for outside landscape irrigation were accounted for in determining the return flows as wastewater conveyed to the WRF. In anticipation of increases in water use as proposed customers in the central area of the city are no longer limited by their septic systems, wastewater flows were conservatively estimated.

The flows associated with the existing WRF customers were determined based on monthly operating reports. The reports for a 24-month period were reviewed.

In accordance with Title 30 Texas Administrative Code Chapter 217.32.(a)(1)(B) the design flow for the WRF, which is the maximum 30-day average flow for the proposed WRF, is based on 1.5 times the annual average flows estimated by the data evaluation. The estimated maximum 30-day average flows associated with the customers in the proposed service area are as follows:

Customer Type	Maximum 30-day Average Flows (GPD)*
Residential	18,000
Commercial*	39,000
Food-Service	7,500
<b>Total Flow</b>	<b>64,500</b>

\*Includes existing customers

The planned population to be served and the quantity of waste produced in the proposed service area are not expected to exceed the design limitations of the treatment facility. Expansion of the proposed service area is not planned. The WRF will be designed with adequate capacity for treating wastewater from future customers within the proposed service area.

The anticipated maximum 30-day average flow from the existing customers is 86% of the proposed treatment capacity of the Interim II facilities (75,000 GPD). In accordance with the 75/90 rule established in Title 30 Texas Administrative Code §305.126, a Final Phase of 100,000 gallons per day is proposed. However, prior to the design and construction of the Final Phase facilities, the City will conduct an evaluation of the flows to the WRF.

## **2. Change to the Method of Effluent Disposal**

The volume of wastewater that will be treated at the new facility is such that land application of effluent as a sole means of disposal is cost prohibitive to the community. Under a Texas Land Application Permit (TLAP), spray irrigation of treated effluent would require a sizable storage pond, which would be costly and also detract from the recreational use of Blue Hole Regional Park. For these reasons, beneficial reuse of treated effluent, in accordance with requirements established in Title 30 Texas Administrative Code Chapter 210 (Use of Reclaimed Water) is the preferred approach for using the treated effluent. This approach, however, requires a TPDES permit for full disposal of the permitted WRF capacity. Securing a TPDES permit for discharging to Deer Creek is therefore requested. The proposed discharge route is to Deer Creek, thence to Upper Blanco River in Segment 1813 of the Guadalupe River Basin.

Subsurface land application will no longer be a method of disposal beginning with the Interim II Phase. Using effluent for irrigation within Blue Hole Regional Park in accordance with the requirements established in Title 30 Texas Administrative Code Chapter 210 (Use of Reclaimed Water) is the preferred use of the treated effluent. When irrigation is not possible effluent will be discharged to Deer Creek under the provisions specified for the Interim II and Final phases of the TPDES permit.

### 3. Relocate the Water Reclamation Facility

The relocation of the plant is necessary to reduce the potential conflict between plant operation and the Blue Hole Regional Park activities. The new location was identified in the Blue Hole Regional Park Master Plan and is considered the optimal location from an aesthetic and recreational use standpoint. The coordinates of the existing facility are 30° 00' 15" N; 98° 05' 06" W and the coordinates of the proposed facility are 30° 00' 14" N; 98° 05' 00" W.

**ENCLOSURE D**

**Revised Page 11 — Technical Report 1.1**

If yes, is a list of these facilities that includes the permittee's name and permit number, and an area map showing the location of these facilities attached?  Yes  No

a. If yes, are copies of your certified letters to these facilities and their response letters concerning connection with their system attached?  Yes  No See Attachment

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

Yes  No

If yes, is 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 attached?  Yes  No

**2. PROPOSED ORGANIC LOADING (Instructions, Page 47)**

a. Is this a new permit application?  Yes  No

b. If no, and the application is to amend an existing permit, provide the following information.

Facility Design Flow (flow being requested in application) Interim II- 0.075 MGD; Final- 0.100 MGD

Average Organic Strength or BOD<sub>5</sub> Concentration in mg/l 380

Average Loading (lbs/day=total average flow x average BOD<sub>5</sub> conc. X 8.345) Interim II- 238; Final- 317

Provide the source of the average organic strength or BOD<sub>5</sub> concentration Historical organic loading data for the existing customers and TCEQ 217 default values for new customers

If the increased flow will impact the existing organic strength, the following table must be completed.

c. If yes to question 2.a, this table must be completed.

SOURCE	TOTAL AVERAGE FLOW, (gpd)*	ORGANIC STRENGTH BOD <sub>5</sub> CONCENTRATION, (mg/l)
Municipality	46,500/46,500	300
Subdivision		
Trailer Park-Transient		
Mobile Home Park		
School with cafeteria and showers		
School with cafeteria, no showers		
Recreational Park, overnight use		
Recreational Park, day use	1,500/1,500	300
Office Building of Factory		
Motel		
Restaurant	7,500/7,500	1,000
Hospital		
Nursing Home	9,000/9,000	300
Other **	10,500/35,500	375
	Total Flow: 75,000/100,000	Average BOD <sub>5</sub> : 380

\* Interim II Phase/ Final Phase

\*\*Other is future increase of residential, commercial, and restaurant sources.

**ENCLOSURE E**

**Revised Attachment O**

**Sewage Sludge Solids Management Plan**

**ATTACHMENT O  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN**

**INTERIM II PHASE**

**Planning Considerations**

Influent Design Flow	75,000	gpd
Influent BOD Concentration	380	mg/l
Total Sludge Holding Tank Volume	18,107	gallons
Package Plant 1 Dimensions	5'L x 12'W x 10.5'H	
Package Plant 2 Dimensions	7.25'L x 19'W x 13.0'H	
Aeration Basin MLSS (mg/L)	1,500 to 4,000	mg/l

<b>Solids Generated</b>	<b>Percent of Design Flow</b>			
	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Influent BOD (lbs/day)	237.7	178.3	118.8	59.4
Digested Dry Sludge (lbs/day)	83.2	62.4	41.6	20.8
Wet Sludge Produced (lbs/day)	4,159.6	3,119.7	2,079.8	1,039.9
Wet Sludge Produced (gals/day)	498.8	374.1	249.4	124.7

Sludge will be wasted from the return activated sludge (RAS) flow stream to the Sludge Holding Tank. Sludge solids will be stored in the tank and will then be transported off-site by a TCEQ registered hauler for final disposal.

<b>Removal Schedule</b>	<b>Percent of Design Flow</b>			
	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Days between sludge removal	3	4	6	12

Sludge will be removed from the sludge holding tank for disposal on a regular basis as required. The calculated mean cell residence time (MCRT) for the digester storage volume of 18,107 gal will be approximately 3 days at 100% capacity and annual average digested sludge production of 83.2 lbs/day. The digested sludge will be transported by a registered hauler to be disposed of at Micro Dirt Texas Organic Recovery.

**Assumptions**

(1) Assumed lb digested sludge/ lb influent BOD	0.35	lbs
(2) Assumed solids concentration in the tank	2%	
(2) Assumed stablized sludge density = water density	8.34	lb/gal

**ATTACHMENT O  
CITY OF WIMBERLEY  
CITY OF WIMBERLEY WATER RECLAMATION FACILITY  
PERMIT APPLICATION**

**SEWAGE SLUDGE SOLIDS MANAGEMENT PLAN**

**FINAL PHASE**

**Planning Considerations**

Influent Design Flow	100,000	gpd
Influent BOD Concentration	380	mg/l
Total Sludge Holding Tank Volume	24,233	gallons
Package Plant 1 Dimensions	5'L x 12'W x 10.5'H	
Package Plant 2 Dimensions	7.25'L x 19'W x 13.0'H	
Package Plant 3 Dimensions	6'L x 13'W x 10.5'H	
Aeration Basin MLSS (mg/L)	1,500 to 4,000	mg/l

<b>Solids Generated</b>	<b>Percent of Design Flow</b>			
	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Influent BOD (lbs/day)	316.9	237.7	158.5	79.2
Digested Dry Sludge (lbs/day)	110.9	83.2	55.5	27.7
Wet Sludge Produced (lbs/day)	5,546.1	4,159.6	2,773.1	1,386.5
Wet Sludge Produced (gals/day)	665.0	498.8	332.5	166.3

Sludge will be wasted from the return activated sludge (RAS) flow stream to the Sludge Holding Tank. Sludge solids will be stored in the tank and will then be transported off-site by a TCEQ registered hauler for final disposal.

<b>Removal Schedule</b>	<b>Percent of Design Flow</b>			
	<b>100%</b>	<b>75%</b>	<b>50%</b>	<b>25%</b>
Days between sludge removal	2	3	4	9

Sludge will be removed from the sludge holding tank for disposal on a regular basis as required. The calculated mean cell residence time (MCRT) for the digester storage volume of 24,233 gal will be approximately 2 days at 100% capacity and annual average digested sludge production of 111 lbs/day. The digested sludge will be transported by a registered hauler to be disposed of at Micro Dirt Texas Organic Recovery.

**Assumptions**

(1) Assumed lb digested sludge/ lb influent BOD	0.35 lbs
(2) Assumed solids concentration in the tank	2%
(2) Assumed stablized sludge density = water density	8.34 lb/gal