SOAH DOCKET NO. 582-22-0585
TCEQ DOCKET NO. 2021-1001-MWD

APPLICATION BY CITY OF GRANBURY, FOR TPDES PERMIT NO. WQ0015821001	§ § § § §	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

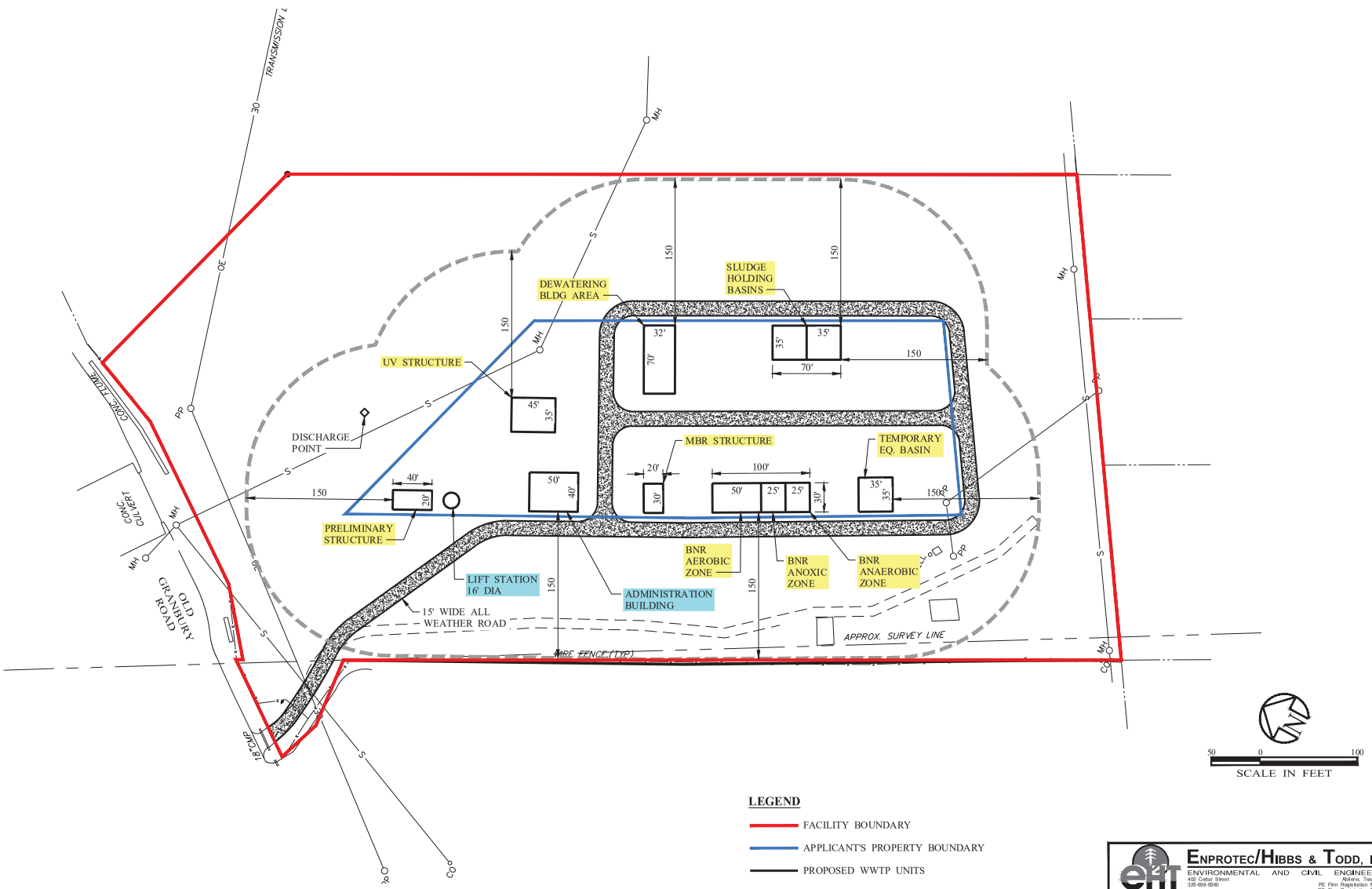
EXHIBIT GF-304

Attachment DAR 1.1-3

Buffer Zone Map

&

Temporary EQ Basin Buffer Zone Justification



LEGEND

- FACILITY BOUNDARY
- APPLICANT'S PROPERTY BOUNDARY
- PROPOSED WWTP UNITS
- TREATMENT UNIT STRUCTURE (150' BUFFER ZONE)
- TEXT — TREATMENT UNIT STRUCTURE (150' BUFFER ZONE)
- TEXT — NON-TREATMENT UNIT STRUCTURE OR AREA

7132
09/06/2019

ENPROTEC/HIBBS & TODD, INC.
ENVIRONMENTAL AND CIVIL ENGINEERING
402 Cedar Street, Abilene, Texas 79601, 325-698-5560
PE Firm Registration No. 1151
PG Firm Registration No. 50103
RPLS Firm Registration Nos. 10011900 & 10007300

GRANBURY EAST WASTEWATER TREATMENT PLANT
CITY OF GRANBURY,
HOOD COUNTY, TEXAS

BUFFER ZONE MAP
INTERIM PHASE (PHASE I)

COG000000090

Attachment DAR 1.1-3
Buffer Zone Justification

The proposed Granbury East WWTP will utilize a temporary equalization (EQ) basin, as needed, and will utilize biological nutrient removal (BNR) anaerobic, anoxic, and aeration basins upstream of the membrane bioreactor (MBR) basins.

A 150-feet buffer zone is applicable for the temporary EQ basin since the wastewater will not be allowed to remain in the temporary EQ basin for more than 48 hours. See the attached emails related to the Cisco WWTP between eHT and TCEQ (Louis Herrin) with additional clarifications.

A 150-feet buffer zone is applicable for the proposed treatment units since no units will be allowed to "go septic". The proposed WWTP treatment system at the East WWTP will be similar to the proposed improvements at the existing Granbury South WWTP (WQ0010178002). Per Josh Berryhill, PE, eHT Technical Director and Project Design Engineer, the buffer zone justification emails between eHT and TCEQ (Gordon Cooper) related to the Granbury South WWTP minor amendment application (WQ0010178002) are applicable to the proposed Granbury East WWTP. See the attached Granbury South WWTP buffer zone emails.

Per Josh Berryhill, P.E., with eHT on Wednesday, September 11, 2019, at 8:30 am, the information contained within this email is applicable to the proposed Granbury East WWTP units which will be similar to the ones proposed at the Granbury South WWTP (existing WWTP WQ0010178002).

Luci Dunn

From: Luci Dunn
Sent: Wednesday, May 8, 2019 11:51 AM
To: Gordon Cooper (gordon.cooper@tceq.texas.gov)
Subject: FW: WQ0010178002 City of Granbury - Buffer Zone

Importance: High

Gordon,
Please see Josh Beryhill's (design engineer's/Technical Director's) response below. Summary: The temp EQ basin will not be allowed to go septic.

Luci Dunn, PE
Senior Project Manager
Enprotec / Hibbs & Todd, Inc. (eHT)
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From: Joshua Berryhill
Sent: Wednesday, May 08, 2019 11:45 AM
To: Luci Dunn
Subject: FW: WQ0010178002 City of Granbury - Buffer Zone
Importance: High

Luci,

The anoxic selector zone will always have oxygen in the zone, though only in the form of bound oxygen. By maintaining only bound oxygen in the anoxic selector, we can promote denitrification in the anoxic selector, maintaining an ORP value of 50 to -50 mV. The anoxic selector will not be allowed to go septic.

For the anaerobic selector, we will be mixing (via submerged mixers to minimize water surface disturbance) denitrified mixed liquor with influent wastewater from the collection system (following appropriate screening and grit removal). While we want to maintain a slightly negative ORP to allow for phosphorus conversion to a form assimilable for biological uptake in the aerobic selector zone, our goal is to stay right at the bottom edge of the ORP range for anoxic denitrification (-50 to -100 mV), in order to prevent the anaerobic selector from going septic, which would be expected to occur for an ORP of -100 to -25 mV.

Thanks,

Josh Berryhill, PE
Enprotec / Hibbs & Todd, Inc. (eHT)
T (325) 698-5560 I M (325) 513-2338 I F (325) 690-3240 I E joshua.berryhill@e-ht.com
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COG000000092

Enprotec / Hibbs & Todd

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Facebook | Twitter | LinkedIn

From: Gordon Cooper <gordon.cooper@tceq.texas.gov>
Sent: Tuesday, May 7, 2019 11:14 AM
To: Luci Dunn <luci.dunn@e-ht.com>
Cc: Joshua Berryhill <joshua.berryhill@e-ht.com>; Firoj Vahora <firoj.vahora@tceq.texas.gov>; Jose Alfonso Martinez <Jose.Martinez@tceq.texas.gov>
Subject: RE: WQ0010178002 City of Granbury - Buffer Zone
Importance: High

Luci,

We discussed this with Louis Herrin and the question has come up whether the system is designed to be or is it going to be allowed to go ***septic*** in the anoxic or anaerobic basins. If not the 150-foot buffer zone is OK, if it is then the buffer zone would need to be 500 feet for the anaerobic and anoxic basins.

Thanks,

Gordon Cooper
Environmental Permit Specialist
TCEQ Municipal Wastewater Permits Team
Direct 512-239-1963; FAX 512-239-4430

From: Luci Dunn <luci.dunn@e-ht.com>
Sent: Thursday, May 2, 2019 5:09 PM
To: Gordon Cooper <gordon.cooper@tceq.texas.gov>
Cc: Joshua Berryhill <joshua.berryhill@e-ht.com>
Subject: FW: WQ0010178002 City of Granbury - Buffer Zone

Hi Gordon,
The BNR system only needs the 150-foot buffer zone, as proposed in the application. See the details provided in the email below from Josh Berryhill, the project design engineer and eHT's Technical Director (email on Thursday, May 02, 2019 2:53 PM).

With regard to your inquiry on the EQ basins, Josh emailed me the following on Mon 4/29/2019 8:58 AM, "This issue is the same as when we discussed this with Louis Herrin on the Cisco project. The EQ basins will store water only during a major storm event, whereas influent will be drained back to the head of the plant for treatment as soon as the storm event subsides. Furthermore, beyond what we proposed in Cisco, the EQ basins at Granbury will be covered, with foul air drawn off and treated biologically.
For these reasons, the EQ basins should not be considered in the same category as anaerobic treatment lagoons." See the attached referenced email on the Cisco WWTP project. Therefore, the 150-foot buffer zone is applicable for the EQ basins, as proposed in the application.

Please let me know if you need anything else. Thanks,

Luci Dunn, PE
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From: Joshua Berryhill
Sent: Thursday, May 02, 2019 2:53 PM
To: Luci Dunn
Cc: Bret Thompson
Subject: RE: WQ0010178002 City of Granbury - Buffer Zone

Luci,

Both the anaerobic and anoxic basins will utilize submersible mixers that allow mixing of the influent flow with an internal mixed liquor recycle stream that minimizes surface turbulence and production of H2S. Furthermore, the internal recycle stream to the anoxic zone consists of bound oxygen (in the form of NO3) that eliminates any H2S formation in the anoxic zone. It is common with BNR processes to not require covers or odor control for anaerobic or anoxic zones, as they do not off gas like primary clarifiers or anaerobic digesters.

Thanks,

Josh Berryhill, PE
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From: Luci Dunn <luci.dunn@e-ht.com>
Sent: Monday, April 29, 2019 10:26 AM
To: Joshua Berryhill <joshua.berryhill@e-ht.com>
Cc: Bret Thompson <bret.thompson@e-ht.com>
Subject: FW: WQ0010178002 City of Granbury - Buffer Zone

Josh,
Please see the permit writer's additional concerns.

Luci Dunn, PE
Senior Project Manager
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From: Gordon Cooper [mailto:gordon.cooper@tceq.texas.gov]
Sent: Monday, April 29, 2019 10:02 AM
To: Luci Dunn
Cc: Firoj Vahora
Subject: RE: WQ0010178002 City of Granbury - Buffer Zone

Luci,

The question about the buffer zone in my previous e-mail also applies to the BNR system in the proposed improvements, with regard to the anaerobic and anoxic basins. Please also provide additional information as to how the facility will meet the buffer zone requirements located in 30 TAC §309.13(e).

Thank you very much,

Gordon Cooper
Environmental Permit Specialist
TCEQ Municipal Wastewater Permits Team
Direct 512-239-1963; FAX 512-239-4430

From: Gordon Cooper
Sent: Monday, April 29, 2019 8:17 AM
To: Luci Dunn <luci.dunn@e-ht.com>
Cc: Firoj Vahora (Firoj.Vahora@tceq.texas.gov) <Firoj.Vahora@tceq.texas.gov>
Subject: WQ0010178002 City of Granbury - Buffer Zone
Importance: High

Luci,

A question has come up about the buffer zone with regard to any anaerobic activity at the City of Granbury WWTP. Diagram sheet No. 00G-11 and sheet No. 00G-12 indicate that Aeration Basins 1 & 2 will become Equalization Basins 1 & 2. Please not that rules located in 30 TAC §309.13(e)(1) state that "lagoons with zones of anaerobic activity (e.g., facultative lagoons, un-aerated equalization basins, etc.) may not be closer than 500 feet to the nearest property line." When Aeration Basins 1 & 2 become Equalization Basins 1 & 2 with the proposed improvements, will these Equalization Basins remain aerated enough to meet the requirements for a 150-foot buffer zone, or if they are not going to be aerated and be considered anaerobic, please provide information as to how the facility will meet the 500-foot requirements located in 30 TAC §309.13(e)(1).

Thank you very much,

Gordon Cooper
Environmental Permit Specialist

Luci Dunn

From: Louis Herrin <louis.herrin@tceq.texas.gov>
Sent: Friday, November 10, 2017 3:16 PM
To: Luci Dunn; Firoj Vahora
Cc: Logan Wherry; Joshua Berryhill; Brian Sierant
Subject: RE: City of Cisco WWTP WQ0014877001 Phone Call

Luci

See below in Maroon

Louis

From: Luci Dunn [mailto:luci.dunn@e-ht.com]
Sent: Friday, November 10, 2017 10:57 AM
To: Louis Herrin <louis.herrin@tceq.texas.gov>; Firoj Vahora <firoj.vahora@tceq.texas.gov>
Cc: Logan Wherry <logan.wherry@e-ht.com>; Joshua Berryhill <joshua.berryhill@e-ht.com>; Brian Sierant <brian.sierant@tceq.texas.gov>
Subject: FW: City of Cisco WWTP WQ0014877001 Phone Call

Hi Louis,
I did not hear back from Firoj on this request to discuss City of Cisco WWTP today; however, since we may be talking with Brian today after lunch on Abilene WTP residuals monofill, your input on the issues related to the EQ basins described below would be helpful. Please add this to our list to discuss this afternoon. I'll loop in Logan & Josh (with eHT working on Cisco WWTP) after we talk with Brian & Jonathan Baum (with eHT) on the Abilene monofill.

Thanks,

Luci Dunn, PE
Senior Project Manager
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RPLS Firm Registration Nos. 10011900 & 10007300

From: Luci Dunn
Sent: Wednesday, November 08, 2017 3:54 PM
To: Firoj Vahora (firoj.vahora@tceq.texas.gov)
Cc: Joshua Berryhill; Logan Wherry
Subject: City of Cisco WWTP WQ0014877001 Phone Call

Good Day Firoj,
Would you be available for a phone call on Friday to discuss issues with the City of Cisco WWTP upgrades and the new WWTP site location?

As background information, the current TPDES permit is WQ0014877001. Per Special Provision #8 on page 35, the City must submit a major permit amendment application for the proposed new WWTP within 18 months of permit

issuance. The permit was issued on June 22, 2016; therefore, the permit amendment application must be submitted by December 22, 2017.

The proposed location of the new WWTP improvements will be not be on contiguous property with the existing WWTP; however, there has been discussion of using the existing storage ponds and/or facultative lagoon as EQ basin(s). Temporary use of the EQ basin(s) would be planned during storm events.

Please see the attached site layout for the new WWTP. The new WWTP site is located at 32.395843, -98.977733. This is the site of the former mechanical WWTP used by the City prior to the current facility. The existing WWTP site is located at 32.399720, -98.973944. Please see the project footprint map excerpt for the location of both the existing and the proposed WWTP as well as the proposed EQ pipeline.

We (Josh Berryhill, Logan Wherry, and I - all with eHT) would like to discuss the following:

- Is a permit amendment appropriate with non-contiguous lands or is a new permit a better option? You need will a major amendment to add the EQ Basins to the permit.
- How should we show the WWTP site boundary(ies) in the permit application? The site map should show both properties as a part of the wastewater facilities.
    - Since we may be proposing to use one or more of the current basins as EQ basin(s), how does this affect the facility boundaries for the permit? Same of above
- Although temporary use of the EQ basin(s) during storm events would be planned; if the use becomes more long-term, how and when would this affect the permitting and operating requirements (such as buffer zones?) If you are going the operate the EQ basins as stated in our phone call this afternoon in which the basin will have mainly stormwater and will the empty within 48 hours then the buffer zone around the basins will be 150 feet. If you change this plan or the ways the basins are operating and the water g will be 500 feet and a requirement to add air to the system.

150 feet buffer zone for Temporary EQ Basins

Please let us know if there is a convenient time for us to call you on Friday. Thank you,

Luci Dunn, PE
Senior Project Manager
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Per Josh Berryhill, P.E., with eHT on Wednesday, September 11, 2019, at 8:30 am, the information contained within this email is applicable to the proposed Granbury East WWTP temporary EQ basin. The temporary EQ basin proposed for the Granbury East WWTP will empty within 48 hours of use.