TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF AN APPLICATION FOR A WATER USE PERMIT

APPLICATION NO. 13779

North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) seek authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir on unnamed tributaries of Panther Creek, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County. Applicants also seek authorization to use the bed and banks of unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater for storage in the reservoirs and for subsequent diversion and use for agricultural purposes in Denton and Collin counties. More information on the application and how to participate in the permitting process is given below.

APPLICATION. North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP, 1900 N. Akard St., Dallas, Tx, 75201, have applied to the Texas Commission on Environmental Quality (TCEQ) for a Water Use Permit pursuant to Texas Water Code (TWC) §§ 11.121, 11.042 and TCEQ Rules Title 30 Texas Administrative Code (TAC) §§ 295.1, *et seq.* Notice is being published and mailed to water right holders of record in the Trinity River Basin and pursuant to Title 30 TAC §§ 295.151-295.153 and notice is being mailed to the North Texas Groundwater Conservation District pursuant to Title 30 TAC § 295.153(b)(3).

Applicants seek authorization to construct and maintain six dams and reservoir and maintain one existing reservoir on unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County.

Reservoir 1 will impound 17.4 acre-feet of water and is located at Latitude 33.195558° N, Longitude 96.852379° W in zip code 75033.

Reservoir 2 will impound 52.4 acre-feet of water and is located at Latitude 33.194060° N, Longitude 96.850795° W in zip code 75033.

Reservoir 3 will impound 37.2 acre-feet of water and is located at Latitude 33.193505° N, Longitude 96.844845° W in zip code 75033.

Reservoir 4 will impound 9.3 acre-feet of water and is located at Latitude 33.197767° N, Longitude 96.848900° W in zip code 75033.

Reservoir 5 will impound 17.2 acre-feet of water and is located at Latitude 33.197527° N, Longitude 96.846496° W in zip code 75033.

Reservoir 6 will impound 23.6 acre-feet of water and is located at Latitude 33.215704° N, Longitude 96.855873° W in zip code 75033.

Reservoir 7 impounds 10.4 acre-feet of water and is located at Latitude 33.214772° N, Longitude 96.850143° W in zip code 75033.

Applicants provided evidence of an alternative source to maintain the reservoirs. Groundwater from the Trinity (Twin Mountains) aquifer will be used to maintain Reservoirs 1 – 5 and groundwater from the Woodbine aquifer will be used to maintain Reservoirs 6 and 7.

Applicants also seek to use the bed and banks of the unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater per year from the Trinity (Twin Mountains) and Woodbine aquifers for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties.

Ownership of land to be inundated and irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.

Groundwater will be discharged into the unnamed tributaries of Panther Creek, Trinity River Basin at seven points.

Discharge point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm) in zip code 75033.

Discharge point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm) in zip code 75033.

Discharge point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm) in zip code 75033.

Discharge point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm) in zip code 75033.

Discharge point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm) in zip code 75033.

Discharge point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm) in zip code 75033.

Discharge point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm) in zipcode 75033.

Applicants seek to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek.

Diversion point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a discharge rate of 5.8 cfs (2600 gpm) in zip code 75033.

Diversion point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a discharge rate of 3.3 cfs (1500 gpm) in zip code 75033.

Diversion point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a discharge rate of 0.9 cfs (400 gpm) in zip code 75033.

The application and fees were received on August 20, 2021. Additional information was received on October 29, 2021 and January 13, 2022. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on January 24, 2022. Additional information was received on August 19, September 9, and November 10, 2022, and March 13, 2023.

The Executive Director completed the technical review of the application and prepared a draft Water Use Permit. The Water Use Permit, if granted, would contain special conditions including, but not limited to, maintaining an alternate source of water and water quality monitoring. The application, technical memoranda, and Executive Director's draft permit are available for viewing on the TCEQ web page at: <u>https://www.tceq.texas.gov/permitting/water_rights/wr-permitting/view-wr-pend-apps</u>. Alternatively, you may request a copy of the documents by contacting the TCEQ Office of the Chief Clerk by phone at (512) 239-3300 or by mail at TCEQ OCC, Notice Team (MC-105), P.O. Box 13087, Austin, Texas 78711.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of the Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[I/we] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at <u>https://www14.tceq.texas.gov/epic/eComment/</u> by entering WRPERM 13779 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, at the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-

687-4040. General information regarding the TCEQ can be found at our web site at <u>http://www.tceq.texas.gov./</u> Si desea información en Español, puede llamar al 1-800-687-4040 o por el internet al <u>http://www.tceq.texas.gov</u>.

Issued: June 08, 2023

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



WATER USE PERMIT

PERMIT NO.	13779		TYPE §§ 11.121, 11.042
Permittees:	North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP	Address:	1900 N. Akard St. Dallas, Texas 75201
Filed:	January 24, 2022	Granted:	
Purposes:	Recreation, Agriculture	Counties:	Denton and Collin
Watercourses:	Unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River	Watershed:	Trinity River Basin

WHEREAS, North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) seek authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir on unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County and described as follows:

- 1. Reservoir 1 will impound 17.4 acre-feet of water and is located at Latitude 33.195558° N, Longitude 96.852379° W;
- 2. Reservoir 2 will impound 52.4 acre-feet of water and is located at Latitude 33.194060° N, Longitude 96.850795° W;
- 3. Reservoir 3 will impound 37.2 acre-feet of water and is located at Latitude 33.193505° N, Longitude 96.844845° W;
- 4. Reservoir 4 will impound 9.3 acre-feet of water and is located at Latitude 33.197767° N, Longitude 96.848900° W;

- 5. Reservoir 5 will impound 17.2 acre-feet of water and is located at Latitude 33.197527° N, Longitude 96.846496° W;
- 6. Reservoir 6 will impound 23.6 acre-feet of water and is located at Latitude 33.215704° N, Longitude 96.855873° W;
- 7. Reservoir 7 impounds 10.4 acre-feet of water and is located at Latitude 33.214772° N, Longitude 96.850143° W; and

WHEREAS, Applicants have provided evidence of an alternative source to maintain the reservoirs; and

WHEREAS, groundwater from the Trinity (Twin Mountains) aquifer will be used to maintain Reservoirs 1 – 5 and groundwater from the Woodbine aquifer will be used to maintain Reservoirs 6 and 7; and

WHEREAS, Applicants also seek to use the bed and banks of the unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater per year from the Trinity (Twin Mountains) and Woodbine aquifers for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties; and

WHEREAS, ownership of the land to be inundated and irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County; and

WHEREAS, groundwater will be discharged into the unnamed tributaries of Panther Creek at the points and rates described as follows:

- 1. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm);
- 2. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm);
- 3. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm);
- 4. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm);
- 5. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm);

- 6. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm;
- 7. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm); and

WHEREAS, Applicants seek to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek, described as follows:

- 1. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm);
- 2. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a maximum diversion rate of 3.3 cfs (1,500 gpm);
- 3. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a maximum diversion rate of 0.9 cfs (400 gpm); and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director recommends that special conditions be included in the permit; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit; and

NOW, THEREFORE, this permit, designated Water Use Permit No. 13779, is issued to North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP. subject to the following terms and conditions:

1. IMPOUNDMENT

- A. Permittee is authorized to construct and maintain six dams and reservoirs and maintain one dam and reservoir on unnamed tributaries of Panther Creek impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County:
 - 1. Reservoir 1 impounding 17.4 acre-feet of water and located at Latitude 33.195558° N, Longitude 96.852379° W.
 - 2. Reservoir 2 impounding 52.4 acre-feet of water and located at Latitude 33.194060° N, Longitude 96.850795° W.
 - 3. Reservoir 3 impounding 37.2 acre-feet of water and located at Latitude 33.193505° N, Longitude 96.844845° W.
 - 4. Reservoir 4 impounding 9.3 acre-feet of water and located at Latitude 33.197767° N, Longitude 96.848900° W.
 - 5. Reservoir 5 impounding 17.2 acre-feet of water and located at Latitude 33.197527° N, Longitude 96.846496° W.

- 6. Reservoir 6 impounding 23.6 acre-feet of water and located at Latitude 33.215704° N, Longitude 96.855873° W.
- Reservoir 7 impounding 10.4 acre-feet of water and located at Latitude 33.214772° N, Longitude 96.850143° W.
- B. Ownership of the land to be inundated is evidenced by *Special Warranty Deed*, recorded Document No. 125160 in the Official Public Records of Denton County, *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.

2. USE

- A. Permittee is authorized to maintain the reservoirs described in PARAGRAPH 1. IMPOUNDMENT for recreational purposes in Denton County.
- B. Permittee is authorized to use the bed and banks of the unnamed tributaries of Panther Creek to convey not to exceed 743.98 acre-feet of groundwater per year for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties.
- C. Ownership of the land to be irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, and *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.
- 3. DISCHARGE

Permittee will discharge up to 743.98 acre-feet of groundwater per year at seven points on unnamed tributaries of Panther Creek in Denton County:

- A. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm).
- B. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm).
- C. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm).
- D. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm).
- E. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm).

- F. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm).
- G. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm).
- 4. DIVERSION

Permittee is authorized to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek:

- A. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm).
- B. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a discharge rate of 3.3 cfs (1,500 gpm).
- C. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a discharge rate of 0.9 cfs (400 gpm).

5. TIME PRIORITY

- A. The time priority for the impoundments is January 24, 2022.
- B. The groundwater authorized to be conveyed via the bed and banks of a State watercourse in this permit does not have a priority date and is not subject to priority calls from senior water rights.
- 6. SPECIAL CONDITIONS
 - A. Permittees shall implement reasonable measures in order to reduce impacts to aquatic resources due to entrainment or impingement. Such measures shall include, but shall not be limited to, the installation of screens at the diversion structures.
 - B. Permittees are not authorized to impound state water. Permittees shall maintain the reservoirs full at the uncontrolled spillway with the alternate sources so that all inflows pass downstream of each reservoir. Permittees shall operate and maintain a float sensor or other equally effective device approved by the Executive Director to detect a drop in reservoir elevation at each reservoir. Permittees shall automatically activate the alternate source of water should a drop in reservoir elevation occur.
 - C. Permittees shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittees will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittees shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittees shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.
 - D. Permittees shall conduct quarterly water quality monitoring for a period of five years for the following parameters: dissolved oxygen, temperature, pH, specific conductance,

total dissolved solids, chloride, sulfate, and flow, if applicable. Water quality monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. Water quality monitoring shall commence one month after the reservoirs are initially filled or when groundwater discharges begin. All water quality monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*.

- E. If water quality monitoring indicates non-attainment of 800 mg/L for total dissolved solids, Permittees shall notify the Executive Director and conduct aquatic life monitoring for a two year period to determine attainment of the presumed aquatic life use in the TCEQ *Texas Surface Water Quality Standards* for the unnamed tributary of Panther Creek and Reservoirs 1, 2, and 3. Aquatic life monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. All aquatic life monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*. Determinations of non-attainment for total dissolved solids and aquatic life monitoring shall be consistent with the protocols set forth in the most recently approved TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas*.
- F. Permittees shall submit to the Executive Director a summary report documenting all water quality monitoring activities five years after the reservoirs are constructed and groundwater discharges begin. If aquatic life monitoring is required under Paragraph 6.E., Permittees shall submit to the Executive Director a summary report documenting all aquatic life monitoring activities. The report(s) shall contain a description of the field work; assessment of water quality, fish, and macroinvertebrate communities; and the biological metric scoring criteria used to assess compliance with the presumed aquatic life use. In the event the presumed aquatic life use is not supported, the final report will identify, and Permittees shall implement, remedial management strategies, subject to the approval of the Executive Director.
- G. Prior to diversion of the groundwater authorized herein, if sufficiently accurate measuring devices are not available, Permittees shall install and maintain measuring device(s), at the discharge points of the groundwater and at any authorized diversion point, capable of measuring within plus or minus 5% accuracy. Permittees shall maintain records on a daily basis and make those records available to the Executive Director upon request.
- H. Permittees shall allow representatives of the Texas Commission on Environmental Quality reasonable access to the property to inspect the measurement devices and records.
- 7. TIME LIMITATIONS
 - A. Construction of the dams for reservoirs 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.
 - B. Construction of the dams for reservoirs 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.

- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification exclude them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- E. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

This permit is issued subject to all senior and superior water rights in the Trinity River Basin.

Permittees agree to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This water use permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.

For the Commission

DATE ISSUED:

From:	<u>Dickey, Kyle</u>
To:	Joshua Schauer
Cc:	Kathy Alexander; Brooke McGregor; Chris Kozlowski; Humberto Galvan; Roger McInnis;
	; Pasch, Chris
Subject:	Re: FHQ Development Partners LP; 13779 Draft Permit
Date:	Thursday, May 25, 2023 11:51:32 AM

Joshua,

We accept the revised language as suggested. Please advise on the next step in the process and timing of that.

Thank you! Kyle

Get Outlook for iOS

From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov> Sent: Monday, May 22, 2023 9:30:40 AM

To:

Cc: Kathy Alexander <kathy.alexander@tceq.texas.gov>; Brooke McGregor

<brooke.mcgregor@tceq.texas.gov>; Chris Kozlowski <chris.kozlowski@tceq.texas.gov>; Humberto Galvan <Humberto.Galvan@tceq.texas.gov>

Subject: FHQ Development Partners LP; 13779 Draft Permit

Mr. Dickey,

The draft permit has been revised to reflect the final Dam Safety Memo. Staff declines to make the proposed revisions to Special Condition E.

Resource Protection staff reviewed the Applicant's proposed changes to Special Condition E in the draft permit. The Applicant's proposed methodology is inconsistent with the protocols set forth in the TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas. While the criteria for a segment is established to represent annual averages, attainment is determined by averaging the monitored values across all sites (and times) within the segment and comparing that value to the criteria. Resource Protection staff do not recommend adopting the applicants proposed changes to Special Condition E in the final permit.

Attached is the revised draft permit. Please review the draft and provide comments by 5/29/23.

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 <u>Joshua.Schauer@tceq.texas.gov</u>

From:	Pasch, Chris
То:	Joshua Schauer
Cc:	Leslie Patterson
Subject:	Fwd: FHQ Development Partners LP; 13779 Draft Permit
Date:	Wednesday, May 24, 2023 4:03:29 PM
Attachments:	image001.png

Good Afternoon Joshua,

I just talked to Leslie regarding the monitoring requirement and TCEQ's conclusion that the method of attainment in the draft permit should not be changed. I had misinterpreted the guidance and Leslie pointed out that TCEQ guidance for TDS, chloride, and sulfate attainment does not include the calculation of annual averages, and that the guidance calls for averaging all data in the assessment area (segment) and assessment period.

I therefore understand that the permit requires that the quarterly monitoring data of all sites will be averaged over the five-year monitoring period, and it will then be reported to TCEQ. If that five-year average exceeds 800 mg/L, then aquatic life monitoring will be triggered.

If my interpretation is correct, then I do not see a need for another meeting and will recommend to my client to accept the permit as drafted (with respect to TDS – there may be other issues but I would not be aware them).

Thanks

Chris



Chris Pasch Senior Consultant 6300 La Calma Drive, Suite 400 Austin, Texas 78752 P: 512.452.5905 C: 512.423.4285

www.plummer.com

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Please consider the environment before printing this e-mail.

Hi Joshua,

I'd like to briefly discuss your response and next steps. I have a call at 2:00 today but should be available after 2:45 for the rest of the day. Or tomorrow morning anytime after 8:30. My number is 512.423.4285.

Thanks

Chris

Mr. Dickey,

The draft permit has been revised to reflect the final Dam Safety Memo. Staff declines to make the proposed revisions to Special Condition E.

Resource Protection staff reviewed the Applicant's proposed changes to Special Condition E in the draft permit. The Applicant's proposed methodology is inconsistent with the protocols set forth in the TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas. While the criteria for a segment is established to represent annual averages, attainment is determined by averaging the monitored values across all sites (and times) within the segment and comparing that value to the criteria. Resource Protection staff do not recommend adopting the applicants proposed changes to Special Condition E in the final permit.

Attached is the revised draft permit. Please review the draft and provide comments by 5/29/23.

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov



Chris Pasch Senior Consultant

6300 La Calma Drive, Suite 400 Austin, Texas 78752 P: 512.452.5905 C: 512.423.4285

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Joshua Schauer
Dickey, Kyle
Kathy Alexander; Brooke McGregor; Chris Kozlowski; Humberto Galvan
FHQ Development Partners LP; 13779 Draft Permit
Monday, May 22, 2023 9:30:00 AM
FHQ Development Partners LP 13779 Draft Permit.pdf

Mr. Dickey,

The draft permit has been revised to reflect the final Dam Safety Memo. Staff declines to make the proposed revisions to Special Condition E.

Resource Protection staff reviewed the Applicant's proposed changes to Special Condition E in the draft permit. The Applicant's proposed methodology is inconsistent with the protocols set forth in the TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas. While the criteria for a segment is established to represent annual averages, attainment is determined by averaging the monitored values across all sites (and times) within the segment and comparing that value to the criteria. Resource Protection staff do not recommend adopting the applicants proposed changes to Special Condition E in the final permit.

Attached is the revised draft permit. Please review the draft and provide comments by 5/29/23.

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 <u>Joshua.Schauer@tceq.texas.gov</u>

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



WATER USE PERMIT

PERMIT NO.	13779		TYPE §§ 11.121, 11.042
Permittees:	North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP	Address:	1900 N. Akard St. Dallas, Texas 75201
Filed:	January 24, 2022	Granted:	
Purposes:	Recreation, Agriculture	Counties:	Denton and Collin
Watercourses:	Unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River	Watershed:	Trinity River Basin

WHEREAS, North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) seek authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir on unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County and described as follows:

- 1. Reservoir 1 will impound 17.4 acre-feet of water and is located at Latitude 33.195558° N, Longitude 96.852379° W;
- 2. Reservoir 2 will impound 52.4 acre-feet of water and is located at Latitude 33.194060° N, Longitude 96.850795° W;
- 3. Reservoir 3 will impound 37.2 acre-feet of water and is located at Latitude 33.193505° N, Longitude 96.844845° W;
- 4. Reservoir 4 will impound 9.3 acre-feet of water and is located at Latitude 33.197767° N, Longitude 96.848900° W;

- 5. Reservoir 5 will impound 17.2 acre-feet of water and is located at Latitude 33.197527° N, Longitude 96.846496° W;
- 6. Reservoir 6 will impound 23.6 acre-feet of water and is located at Latitude 33.215704° N, Longitude 96.855873° W;
- 7. Reservoir 7 impounds 10.4 acre-feet of water and is located at Latitude 33.214772° N, Longitude 96.850143° W; and

WHEREAS, Applicants have provided evidence of an alternative source to maintain the reservoirs; and

WHEREAS, groundwater from the Trinity (Twin Mountains) aquifer will be used to maintain Reservoirs 1 – 5 and groundwater from the Woodbine aquifer will be used to maintain Reservoirs 6 and 7; and

WHEREAS, Applicants also seek to use the bed and banks of the unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater per year from the Trinity (Twin Mountains) and Woodbine aquifers for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties; and

WHEREAS, ownership of the land to be inundated and irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County; and

WHEREAS, groundwater will be discharged into the unnamed tributaries of Panther Creek at the points and rates described as follows:

- 1. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm);
- 2. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm);
- 3. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm);
- 4. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm);
- 5. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm);

- 6. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm;
- 7. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm); and

WHEREAS, Applicants seek to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek, described as follows:

- 1. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm);
- 2. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a maximum diversion rate of 3.3 cfs (1,500 gpm);
- 3. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a maximum diversion rate of 0.9 cfs (400 gpm); and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director recommends that special conditions be included in the permit; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit; and

NOW, THEREFORE, this permit, designated Water Use Permit No. 13779, is issued to North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP. subject to the following terms and conditions:

1. IMPOUNDMENT

- A. Permittee is authorized to construct and maintain six dams and reservoirs and maintain one dam and reservoir on unnamed tributaries of Panther Creek impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County:
 - 1. Reservoir 1 impounding 17.4 acre-feet of water and located at Latitude 33.195558° N, Longitude 96.852379° W.
 - 2. Reservoir 2 impounding 52.4 acre-feet of water and located at Latitude 33.194060° N, Longitude 96.850795° W.
 - 3. Reservoir 3 impounding 37.2 acre-feet of water and located at Latitude 33.193505° N, Longitude 96.844845° W.
 - 4. Reservoir 4 impounding 9.3 acre-feet of water and located at Latitude 33.197767° N, Longitude 96.848900° W.
 - 5. Reservoir 5 impounding 17.2 acre-feet of water and located at Latitude 33.197527° N, Longitude 96.846496° W.

- 6. Reservoir 6 impounding 23.6 acre-feet of water and located at Latitude 33.215704° N, Longitude 96.855873° W.
- 7. Reservoir 7 impounding 10.4 acre-feet of water and located at Latitude 33.214772° N, Longitude 96.850143° W.
- B. Ownership of the land to be inundated is evidenced by *Special Warranty Deed*, recorded Document No. 125160 in the Official Public Records of Denton County, *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.

2. USE

- A. Permittee is authorized to maintain the reservoirs described in PARAGRAPH 1. IMPOUNDMENT for recreational purposes in Denton County.
- B. Permittee is authorized to use the bed and banks of the unnamed tributaries of Panther Creek to convey not to exceed 743.98 acre-feet of groundwater per year for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties.
- C. Ownership of the land to be irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, and *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.
- 3. DISCHARGE

Permittee will discharge up to 743.98 acre-feet of groundwater per year at seven points on unnamed tributaries of Panther Creek in Denton County:

- A. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm).
- B. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm).
- C. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm).
- D. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm).
- E. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm).

- F. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm).
- G. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm).
- 4. DIVERSION

Permittee is authorized to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek:

- A. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm).
- B. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a discharge rate of 3.3 cfs (1,500 gpm).
- C. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a discharge rate of 0.9 cfs (400 gpm).

5. TIME PRIORITY

- A. The time priority for the impoundments is January 24, 2022.
- B. The groundwater authorized to be conveyed via the bed and banks of a State watercourse in this permit does not have a priority date and is not subject to priority calls from senior water rights.
- 6. SPECIAL CONDITIONS
 - A. Permittees shall implement reasonable measures in order to reduce impacts to aquatic resources due to entrainment or impingement. Such measures shall include, but shall not be limited to, the installation of screens at the diversion structures.
 - B. Permittees are not authorized to impound state water. Permittees shall maintain the reservoirs full at the uncontrolled spillway with the alternate sources so that all inflows pass downstream of each reservoir. Permittees shall operate and maintain a float sensor or other equally effective device approved by the Executive Director to detect a drop in reservoir elevation at each reservoir. Permittees shall automatically activate the alternate source of water should a drop in reservoir elevation occur.
 - C. Permittees shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittees will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittees shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittees shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.
 - D. Permittees shall conduct quarterly water quality monitoring for a period of five years for the following parameters: dissolved oxygen, temperature, pH, specific conductance,

total dissolved solids, chloride, sulfate, and flow, if applicable. Water quality monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. Water quality monitoring shall commence one month after the reservoirs are initially filled or when groundwater discharges begin. All water quality monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*.

- E. If water quality monitoring indicates non-attainment of 800 mg/L for total dissolved solids, Permittees shall notify the Executive Director and conduct aquatic life monitoring for a two year period to determine attainment of the presumed aquatic life use in the TCEQ *Texas Surface Water Quality Standards* for the unnamed tributary of Panther Creek and Reservoirs 1, 2, and 3. Aquatic life monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. All aquatic life monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*. Determinations of non-attainment for total dissolved solids and aquatic life monitoring shall be consistent with the protocols set forth in the most recently approved TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas*.
- F. Permittees shall submit to the Executive Director a summary report documenting all water quality monitoring activities five years after the reservoirs are constructed and groundwater discharges begin. If aquatic life monitoring is required under Paragraph 6.E., Permittees shall submit to the Executive Director a summary report documenting all aquatic life monitoring activities. The report(s) shall contain a description of the field work; assessment of water quality, fish, and macroinvertebrate communities; and the biological metric scoring criteria used to assess compliance with the presumed aquatic life use. In the event the presumed aquatic life use is not supported, the final report will identify, and Permittees shall implement, remedial management strategies, subject to the approval of the Executive Director.
- G. Prior to diversion of the groundwater authorized herein, if sufficiently accurate measuring devices are not available, Permittees shall install and maintain measuring device(s), at the discharge points of the groundwater and at any authorized diversion point, capable of measuring within plus or minus 5% accuracy. Permittees shall maintain records on a daily basis and make those records available to the Executive Director upon request.
- H. Permittees shall allow representatives of the Texas Commission on Environmental Quality reasonable access to the property to inspect the measurement devices and records.

7. TIME LIMITATIONS

- A. Construction of the dams <u>for reservoirs 1 and 2</u> must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- B. Construction <u>of the dams for reservoirs 1 and 2</u> shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.

- C. <u>Construction on the remaining five dams must be in accordance with the plans and</u> <u>specifications approved by the Executive Director, unless the dams' height, volume, and</u> <u>hazard classification exclude them from the Texas Dam Safety jurisdiction.</u> <u>Construction of the dams without final approval of the plans and specifications is a</u> <u>violation of this permit.</u>
- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- Đ.<u>E.</u> Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

This permit is issued subject to all senior and superior water rights in the Trinity River Basin.

Permittees agree to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This water use permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.

For the Commission

DATE ISSUED:

From:	<u>Dickey, Kyle</u>
To:	Joshua Schauer
Cc:	Brooke McGregor; Chris Kozlowski; Kathy Alexander; Roger McInnis; Todd Watson; Braswell, Trey; Koenings, Tres
Subject:	RE: FHQ Development Partners LP; 13779 Dam Safety Memo
Date:	Monday, May 15, 2023 6:14:48 PM
Attachments:	Draft Water Use Permit Response Letter.pdf

Good afternoon Joshua,

Attached is an updated Draft Water Use Permit comment document. This revised document incorporates the time limitation memo you sent over and includes additional context on the proposed revision to Special Condition E.

Please let me know if you have any questions.

Thanks! Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov> Sent: Friday, May 12, 2023 9:57 AM

To:

Cc: Brooke McGregor <brooke.mcgregor@tceq.texas.gov>; Chris Kozlowski
<chris.kozlowski@tceq.texas.gov>; Kathy Alexander <kathy.alexander@tceq.texas.gov>
Subject: FHQ Development Partners LP; 13779 Dam Safety Memo

Hi Kyle,

Attached is the updated dam safety memo for your review.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov

Kimley Worn

May 15, 2023

Joshua Schauer Project Manager, TCEQ Water Rights Permitting Section Texas Commission on Environmental Quality (512) 239-1371

RE: Revision Request to the DRAFT Water Use Permit No. 13779

Dear Mr. Schauer:

This letter is in response to the DRAFT Water Use Permit No. 13779 provided on April 19, 2023. We have proposed modifications to Special Condition E and the Time Limitations. We do not have comments on the proposed public notice. Our only comments on the technical memoranda are the same as the proposed modifications to the Special Condition and Time Limitations. A brief commentary on the reasoning for the proposed changes is included in the final section of this letter.

Special Conditions

E. If water quality monitoring indicates non-attainment of 800 mg/L for total dissolved solids, Permittees shall notify the Executive Director and conduct aquatic life monitoring for a two-year period to determine attainment of the presumed aquatic life use in the TCEQ Texas Surface Water Quality Standards for the unnamed tributary of Panther Creek and Reservoirs 1, 2, and 3. Aquatic life monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. All aquatic life monitoring shall be consistent with protocols set forth in the most recently approved TCEQ Surface Water Quality Monitoring Procedures. Determinations of non-attainment for total dissolved solids and aquatic life monitoring shall be consistent with the protocols set forth in the most recently approved TCEQ Guidance for Assessing and Reporting Surface Water Quality in Texas. Attainment shall be determined as averages over an annual period, consistent with procedures in the 2022 Guidance for Assessing and Reporting Surface Water Quality in Texas.

Time Limitations

- A. Construction of the dams must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- B. Construction shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.
- A. Construction of the dams for reservoirs 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.

Kimley»Horn

- B. Construction of the dams for reservoirs 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification exclude them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- E. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

Commentary for Special Condition E:

The excerpt below is from the TCEQ document 2022 Guidance for Assessing and Reporting Surface Water Quality in Texas which references the use of annual average concentrations when assessing attainment of TDS, chloride, and sulfate water quality standards. This is excerpted from pages 74 and 75 of the document.

"Chloride, sulfate, and TDS criteria in the TSWQS were developed to represent annual averages of all values that were collected when stream flow equaled or exceeded the 7Q2 value established for each segment. Due to infrequent monitoring and absence of stream flow information at many sites, all chloride, sulfate, and TDS values are averaged for all sites within the segment and compared to the criterion for each parameter. The assessment of general uses based on the average concentration applies to the entire length or area of the segment. Samples collected at the surface or within the mixed surface layer are used when they are available. For TDS, a value is calculated by multiplying specific conductance measured at the surface by a factor of 0.65. The chloride, sulfate, and TDS criteria are not supported if the average value exceeds the criteria."

Commentary for the Time Limitations:

The revised verbiage matches what was included in the memo submitted by Trina Lancaster with the Dam Safety Division, dated May 10, 2023.

Please advise if the above modifications are acceptable to the TCEQ.

Sincerely,

Kyle Dickey, P.E., CFM

Joshua Schauer
Dickey, Kyle
Brooke McGregor; Chris Kozlowski; Kathy Alexander
FHQ Development Partners LP; 13779 Dam Safety Memo
Friday, May 12, 2023 9:56:00 AM
FHQ Development Partners 13779 Dam Safety Memo 5.10.23.pdf

Hi Kyle,

Attached is the updated dam safety memo for your review.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Joshua Schauer Water Rights Permitting Team

Date: May 10, 2023

Thru:

- **From:** Trina Lancaster, P. E., Manager Dam Safety Section MC-177
- **Subject:** Updated FHQ Development Partners, LP, Application for a permit to authorize the construction and maintenance of six dams and reservoirs and maintenance of one existing dam and reservoir, unnamed tributary Panther Creek, Trinity River Basin, Denton County

FHQ Development Partners, LP, seeks authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir with a combined capacity of 167.5 acre-feet for recreational purposes in Denton County.

The applicant has submitted plans and specifications to the TCEQ Dam Safety Section for review. The plans and specifications and accompanying reports for Reservoirs 1 and 2 (Brookside Detention Pond Dam A and Brookside Detention Pond Dam B) were approved on September 7, 2022. The plans for the remaining 5 dams have not been finalized.

It is recommended that the permit include the following language:

TIME LIMITATIONS

- A. Construction of the dams for reservoirs 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.
- B. Construction of the dams for reservoirs 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification exclude them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.

- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- E. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

Trina Lancaster
Joshua Schauer
Michael Wood
RE: FHQ Development Partners; 13779 Draft Language
Wednesday, May 10, 2023 2:44:59 PM
FHQ Development Partners update.pdf

Thanks Joshua. Here's the updated dam safety memo. Let me know if I need to send the updated memo to the applicant.

Thanks, Trina

From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov>
Sent: Wednesday, May 10, 2023 2:15 PM
To: Trina Lancaster <Trina.Lancaster@tceq.texas.gov>
Cc: Michael Wood <Michael.Wood@tceq.texas.gov>
Subject: RE: FHQ Development Partners; 13779 Draft Language

Trina,

The only suggested edits we have for A-D is to change the word pond to reservoir.

Thanks,

Josh

From: Trina Lancaster <<u>Trina.Lancaster@tceq.texas.gov</u>>
Sent: Wednesday, May 10, 2023 12:15 PM
To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Cc: Michael Wood <<u>Michael.Wood@tceq.texas.gov</u>>
Subject: RE: FHQ Development Partners; 13779 Draft Language

Hi Joshua, thanks for sending this over.

Were the other changes to the time limitations on constructing the reservoirs ok in the updated draft memo?

- A. Construction of the dams for ponds 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.
- B. Construction of the dams for ponds 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the

expiration of these time limitations.

- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification excludes them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Sent: Wednesday, May 10, 2023 12:04 PM
To: Trina Lancaster <<u>Trina.Lancaster@tceq.texas.gov</u>>
Cc: Michael Wood <<u>Michael.Wood@tceq.texas.gov</u>>
Subject: FHQ Development Partners; 13779 Draft Language

Hi Trina,

Thanks for meeting with us to discuss the FHQ draft. Special Condition C. and the Time Limitation paragraphs, in the current draft, read as follows:

C. Permittees shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittees will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1 - 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 - 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 - 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 3 - 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittees shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittees shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.

TIME LIMITATIONS

A. Construction of the dams must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this permit.

B. Construction shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations. 7 of 7

C. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

Please feel free to contact me with any questions.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 <u>Joshua.Schauer@tceq.texas.gov</u>

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Joshua Schauer Water Rights Permitting Team

Date: May 10, 2023

Thru:

- **From:** Trina Lancaster, P. E., Manager Dam Safety Section MC-177
- **Subject:** Updated FHQ Development Partners, LP, Application for a permit to authorize the construction and maintenance of six dams and reservoirs and maintenance of one existing dam and reservoir, unnamed tributary Panther Creek, Trinity River Basin, Denton County

FHQ Development Partners, LP, seeks authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir with a combined capacity of 167.5 acre-feet for recreational purposes in Denton County.

The applicant has submitted plans and specifications to the TCEQ Dam Safety Section for review. The plans and specifications and accompanying reports for Reservoirs 1 and 2 (Brookside Detention Pond Dam A and Brookside Detention Pond Dam B) were approved on September 7, 2022. The plans for the remaining 5 dams have not been finalized.

It is recommended that the permit include the following language:

TIME LIMITATIONS

- A. Construction of the dams for reservoirs 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.
- B. Construction of the dams for reservoirs 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification exclude them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.

- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- E. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

Hi Trina,

Thanks for meeting with us to discuss the FHQ draft. Special Condition C. and the Time Limitation paragraphs, in the current draft, read as follows:

C. Permittees shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittees will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1 - 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 - 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittees shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittees shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.

TIME LIMITATIONS

A. Construction of the dams must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this permit.

B. Construction shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations. 7 of 7

C. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

Please feel free to contact me with any questions.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 <u>Joshua.Schauer@tceq.texas.gov</u>
Is there any heartburn for updating our Dam Safety memo with these requirements below? I realize we probably haven't written them like this before. We met with the developer and engineer yesterday – they think the remaining ponds will have plans/specs ranging from 1 to 3 years out, and some may not require TCEQ review depending on how they decide to design them.

- A. Construction of the dams for ponds 1 and 2 must be in accordance with the plans and specifications approved by the Executive Director.
- B. Construction of the dams for ponds 1 and 2 shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Construction on the remaining five dams must be in accordance with the plans and specifications approved by the Executive Director, unless the dams' height, volume, and hazard classification excludes them from the Texas Dam Safety jurisdiction. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- D. Construction on the remaining five dams shall begin within one year of the plan and specification approval from the Executive Director and be completed within two years of plan and specification approval unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limits.
- E. Failure to construct the dams within the period stated above shall subject all rights to this permit to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject this permit to cancellation in whole or in part, subject to notice and hearing, and removal of the dam.

From: Chris Kozlowski <chris.kozlowski@tceq.texas.gov>

Sent: Thursday, April 27, 2023 9:36 AM

To: Trina Lancaster <Trina.Lancaster@tceq.texas.gov>; Lillian Beerman

<Lillian.Beerman@Tceq.Texas.Gov>

Cc: Michael Wood < Michael. Wood@tceq.texas.gov>; Joshua Schauer

<Joshua.Schauer@Tceq.Texas.Gov>

Subject: Re: WRP 13779

The Time Limitations in attached Dam Safety are in the Draft Permit.

From: Trina Lancaster <Trina.Lancaster@tceq.texas.gov>
Sent: Thursday, April 27, 2023 9:31 AM
To: Chris Kozlowski <chris.kozlowski@tceq.texas.gov>; Lillian Beerman
<Lillian.Beerman@Tceq.Texas.Gov>
Cc: Michael Wood <Michael.Wood@tceq.texas.gov>; Joshua Schauer
<Joshua.Schauer@Tceq.Texas.Gov>
Subject: RE: WRP 13779

Ok – so if needed, I can add clarification for the Dam Safety portion of the requirements before the permit is finalized, correct?

I'll follow up after we meet with them, Trina

From: Chris Kozlowski <<u>chris.kozlowski@tceq.texas.gov</u>>
Sent: Thursday, April 27, 2023 9:28 AM
To: Trina Lancaster <<u>Trina.Lancaster@tceq.texas.gov</u>>; Lillian Beerman
<<u>Lillian.Beerman@Tceq.Texas.Gov</u>>
Cc: Michael Wood <<u>Michael.Wood@tceq.texas.gov</u>>; Joshua Schauer
<<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Subject: Re: WRP 13779

We just recently sent the applicant a copy of their draft permit for their review and are waiting on their comments on the draft which are due 5/3.

From: Trina Lancaster <<u>Trina.Lancaster@tceq.texas.gov</u>>
Sent: Thursday, April 27, 2023 9:19 AM
To: Chris Kozlowski <<u>chris.kozlowski@tceq.texas.gov</u>>; Lillian Beerman
<<u>Lillian.Beerman@Tceq.Texas.Gov</u>>
Cc: Michael Wood <<u>Michael.Wood@tceq.texas.gov</u>>
Subject: WRP 13779

Chris/Lillian,

We have a meeting today at 1:00 regarding the Dam Safety recommendations (attached) for WRP 13779. I was curious if you could provide any updates on this permit from your end. They are concerned about the Dam Safety timelines as well as wanting clarification for plans/specs requirement if the embankments don't fall in our jurisdiction.

We've told them that any extension to a permit would need to go through you, but that we can offer clarification on the requirement for only jurisdictional dams to need to supply plans/specs for

approval.

Thanks! Trina

Joshua Schauer
Dickey, Kyle
Kim Nygren; Brooke McGregor; Kathy Alexander; Chris Kozlowski; Koenings, Tres
FHQ Development Partners LP; 13779 Draft Permit and Public Notice
Wednesday, April 19, 2023 4:22:00 PM
FHQ Development Partners LP 13779 Drafts.pdf

Dear Mr. Dickey

Drafts, subject to revision, of the public notice, proposed Water Use Permit No. 13779, and the related technical memoranda are attached.

Please review the drafts and contact me by May 3, 2023 with any comments or questions.

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Erin E. Chancellor, *Interim Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 19, 2023

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit
 Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributaries of Panther Creek, Trinity River Basin Denton and Collin counties

Dear Mr. Dickey:

Drafts, subject to revision, of the public notice, proposed Water Use Permit No. 13779, and the related technical memoranda are attached.

Staff is recommending that the referenced application be granted in accordance with the attached drafts. Please review the drafts and contact me no later than May 3, 2023 with any comments or questions as the notice will be forwarded to the Office of the Chief Clerk for mailing after that date.

Please note, this application requires a 30-day comment period, and once the comment period has closed, the proposed Water Use Permit No. 13779 may be issued as drafted given no hearing requests are received.

If you have any questions concerning this matter, please contact me via email at joshua.schauer@tceq.texas.gov or by telephone at (512) 239-1371.

Sincerely,

oshuaSchauer

Joshua Schauer, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

Attachments

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF AN APPLICATION FOR A WATER USE PERMIT

APPLICATION NO. 13779

North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) seek authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir on unnamed tributaries of Panther Creek, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County. Applicants also seek authorization to use the bed and banks of unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater for storage in the reservoirs and for subsequent diversion and use for agricultural purposes in Denton and Collin counties. More information on the application and how to participate in the permitting process is given below.

APPLICATION. North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP, 1900 N. Akard St., Dallas, Tx, 75201, have applied to the Texas Commission on Environmental Quality (TCEQ) for a Water Use Permit pursuant to Texas Water Code (TWC) §§ 11.121, 11.042 and TCEQ Rules Title 30 Texas Administrative Code (TAC) §§ 295.1, *et seq.* Notice is being published and mailed to water right holders of record in the Trinity River Basin and pursuant to Title 30 TAC §§ 295.151-295.153 and notice is being mailed to the North Texas Groundwater Conservation District pursuant to Title 30 TAC § 295.153(b)(3).

Applicants seek authorization to construct and maintain six dams and reservoir and maintain one existing reservoir on unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County.

Reservoir 1 will impound 17.4 acre-feet of water and is located at Latitude 33.195558° N, Longitude 96.852379° W in zip code 75033.

Reservoir 2 will impound 52.4 acre-feet of water and is located at Latitude 33.194060° N, Longitude 96.850795° W in zip code 75033.

Reservoir 3 will impound 37.2 acre-feet of water and is located at Latitude 33.193505° N, Longitude 96.844845° W in zip code 75033.

Reservoir 4 will impound 9.3 acre-feet of water and is located at Latitude 33.197767° N, Longitude 96.848900° W in zip code 75033.

Reservoir 5 will impound 17.2 acre-feet of water and is located at Latitude 33.197527° N, Longitude 96.846496° W in zip code 75033.

Reservoir 6 will impound 23.6 acre-feet of water and is located at Latitude 33.215704° N, Longitude 96.855873° W in zip code 75033.

Reservoir 7 impounds 10.4 acre-feet of water and is located at Latitude 33.214772° N, Longitude 96.850143° W in zip code 75033.

Applicants provided evidence of an alternative source to maintain the reservoirs. Groundwater from the Trinity (Twin Mountains) aquifer will be used to maintain Reservoirs 1 – 5 and groundwater from the Woodbine aquifer will be used to maintain Reservoirs 6 and 7.

Applicants also seek to use the bed and banks of the unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater per year from the Trinity (Twin Mountains) and Woodbine aquifers for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties.

Ownership of land to be inundated and irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.

Groundwater will be discharged into the unnamed tributaries of Panther Creek, Trinity River Basin at seven points.

Discharge point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm) in zip code 75033.

Discharge point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm) in zip code 75033.

Discharge point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm) in zip code 75033.

Discharge point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm) in zip code 75033.

Discharge point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm) in zip code 75033.

Discharge point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm) in zip code 75033.

Discharge point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm) in zipcode 75033.

Applicants seek to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek.

Diversion point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a discharge rate of 5.8 cfs (2600 gpm) in zip code 75033.

Diversion point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a discharge rate of 3.3 cfs (1500 gpm) in zip code 75033.

Diversion point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a discharge rate of 0.9 cfs (400 gpm) in zip code 75033.

The application and fees were received on August 20, 2021. Additional information was received on October 29, 2021 and January 13, 2022. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on January 24, 2022. Additional information was received on August 19, September 9, and November 10, 2022, and March 13, 2023.

The Executive Director completed the technical review of the application and prepared a draft Water Use Permit. The Water Use Permit, if granted, would contain special conditions including, but not limited to, maintaining an alternate source of water and water quality monitoring. The application, technical memoranda, and Executive Director's draft permit are available for viewing on the TCEQ web page at: <u>https://www.tceq.texas.gov/permitting/water_rights/wr-permitting/view-wr-pend-apps</u>. Alternatively, you may request a copy of the documents by contacting the TCEQ Office of the Chief Clerk by phone at (512) 239-3300 or by mail at TCEQ OCC, Notice Team (MC-105), P.O. Box 13087, Austin, Texas 78711.

PUBLIC COMMENT / PUBLIC MEETING. Written public comments and requests for a public meeting should be submitted to the Office of the Chief Clerk, at the address provided in the information section below, within 30 days of the date of newspaper publication of the notice. A public meeting is intended for the taking of public comment and is not a contested case hearing. A public meeting will be held if the Executive Director determines that there is a significant degree of public interest in the application.

CONTESTED CASE HEARING. The TCEQ may grant a contested case hearing on this application if a written hearing request is filed within 30 days from the date of newspaper publication of this notice. The Executive Director may approve the application unless a written request for a contested case hearing is filed within 30 days after newspaper publication of this notice.

To request a contested case hearing, you must submit the following: (1) your name (or for a group or association, an official representative), mailing address, daytime phone number, and fax number, if any; (2) applicant's name and permit number; (3) the statement "[I/we] request a contested case hearing;" (4) a brief and specific description of how you would be affected by the application in a way not common to the general public; and (5) the location and distance of your property relative to the proposed activity. You may also submit proposed conditions for the requested permit which would satisfy your concerns. Requests for a contested case hearing must be submitted in writing to the Office of the Chief Clerk at the address provided in the information section below.

If a hearing request is filed, the Executive Director will not issue the permit and will forward the application and hearing request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

INFORMATION. Written hearing requests, public comments or requests for a public meeting should be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or electronically at <u>https://www14.tceq.texas.gov/epic/eComment/</u> by entering WRPERM 13779 in the search field. For information concerning the hearing process, please contact the Public Interest Counsel, MC 103, at the same address. For additional information, individual members of the general public may contact the Public Education Program at 1-800-687-4040. General information regarding the TCEQ can be found at our web site at <u>http://www.tceq.texas.gov./</u> Si desea información en Español, puede llamar al 1-800-687-4040 o por el internet al <u>http://www.tceq.texas.gov</u>.

Issued:

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



WATER USE PERMIT

PERMIT NO.	13779		TYPE §§ 11.121, 11.042
Permittees:	North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP	Address:	1900 N. Akard St. Dallas, Texas 75201
Filed:	January 24, 2022	Granted:	
Purposes:	Recreation, Agriculture	Counties:	Denton and Collin
Watercourses:	Unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River	Watershed:	Trinity River Basin

WHEREAS, North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) seek authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir on unnamed tributaries of Panther Creek, tributary of Little Elm Creek, tributary of Elm Fork Trinity River, Trinity River Basin, impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County and described as follows:

- 1. Reservoir 1 will impound 17.4 acre-feet of water and is located at Latitude 33.195558° N, Longitude 96.852379° W;
- 2. Reservoir 2 will impound 52.4 acre-feet of water and is located at Latitude 33.194060° N, Longitude 96.850795° W;
- 3. Reservoir 3 will impound 37.2 acre-feet of water and is located at Latitude 33.193505° N, Longitude 96.844845° W;
- 4. Reservoir 4 will impound 9.3 acre-feet of water and is located at Latitude 33.197767° N, Longitude 96.848900° W;

- 5. Reservoir 5 will impound 17.2 acre-feet of water and is located at Latitude 33.197527° N, Longitude 96.846496° W;
- 6. Reservoir 6 will impound 23.6 acre-feet of water and is located at Latitude 33.215704° N, Longitude 96.855873° W;
- 7. Reservoir 7 impounds 10.4 acre-feet of water and is located at Latitude 33.214772° N, Longitude 96.850143° W; and

WHEREAS, Applicants have provided evidence of an alternative source to maintain the reservoirs; and

WHEREAS, groundwater from the Trinity (Twin Mountains) aquifer will be used to maintain Reservoirs 1 – 5 and groundwater from the Woodbine aquifer will be used to maintain Reservoirs 6 and 7; and

WHEREAS, Applicants also seek to use the bed and banks of the unnamed tributaries of Panther Creek to convey a total of 743.98 acre-feet of groundwater per year from the Trinity (Twin Mountains) and Woodbine aquifers for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties; and

WHEREAS, ownership of the land to be inundated and irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County; and

WHEREAS, groundwater will be discharged into the unnamed tributaries of Panther Creek at the points and rates described as follows:

- 1. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm);
- 2. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm);
- 3. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm);
- 4. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm);
- 5. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm);

- 6. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm;
- 7. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm); and

WHEREAS, Applicants seek to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek, described as follows:

- 1. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm);
- 2. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a maximum diversion rate of 3.3 cfs (1,500 gpm);
- 3. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a maximum diversion rate of 0.9 cfs (400 gpm); and

WHEREAS, the Texas Commission on Environmental Quality finds that jurisdiction over the application is established; and

WHEREAS, the Executive Director recommends that special conditions be included in the permit; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Commission on Environmental Quality in issuing this permit; and

NOW, THEREFORE, this permit, designated Water Use Permit No. 13779, is issued to North Fields Investment Partners LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP. subject to the following terms and conditions:

1. IMPOUNDMENT

- A. Permittee is authorized to construct and maintain six dams and reservoirs and maintain one dam and reservoir on unnamed tributaries of Panther Creek impounding a total of 167.5 acre-feet of water for recreational purposes in Denton County:
 - 1. Reservoir 1 impounding 17.4 acre-feet of water and located at Latitude 33.195558° N, Longitude 96.852379° W.
 - 2. Reservoir 2 impounding 52.4 acre-feet of water and located at Latitude 33.194060° N, Longitude 96.850795° W.
 - 3. Reservoir 3 impounding 37.2 acre-feet of water and located at Latitude 33.193505° N, Longitude 96.844845° W.
 - 4. Reservoir 4 impounding 9.3 acre-feet of water and located at Latitude 33.197767° N, Longitude 96.848900° W.
 - 5. Reservoir 5 impounding 17.2 acre-feet of water and located at Latitude 33.197527° N, Longitude 96.846496° W.

- 6. Reservoir 6 impounding 23.6 acre-feet of water and located at Latitude 33.215704° N, Longitude 96.855873° W.
- Reservoir 7 impounding 10.4 acre-feet of water and located at Latitude 33.214772° N, Longitude 96.850143° W.
- B. Ownership of the land to be inundated is evidenced by *Special Warranty Deed*, recorded Document No. 125160 in the Official Public Records of Denton County, *Special Warranty Deed*, recorded as Document No. 125157, *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.

2. USE

- A. Permittee is authorized to maintain the reservoirs described in PARAGRAPH 1. IMPOUNDMENT for recreational purposes in Denton County.
- B. Permittee is authorized to use the bed and banks of the unnamed tributaries of Panther Creek to convey not to exceed 743.98 acre-feet of groundwater per year for storage in the reservoirs and for subsequent diversion and use for agricultural purposes to irrigate 259.4 acres of land out of a 1,366.4-acre tract in Denton and Collin counties.
- C. Ownership of the land to be irrigated is evidenced by *Special Warranty Deed*, recorded as Document No. 20210713001409870 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409880 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125160 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 20210713001409900 in the Official Public Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125161 in the Official Public Records of Denton County; *Special Warranty Deed*, recorded as Document No. 20210713001409910 in the Official Records of Collin County; *Special Warranty Deed*, recorded as Document No. 125162 in the Official Records of Denton County; *Special Warranty Deed*, recorded as Document No. 125157, and *Special Warranty Deed*, recorded as Document No. 125158 in the Official Public Records of Denton County.
- 3. DISCHARGE

Permittee will discharge up to 743.98 acre-feet of groundwater per year at seven points on unnamed tributaries of Panther Creek in Denton County:

- A. Discharge Point 1 is located at Latitude 33.195442° N, Longitude 96.851981° W with a discharge rate of 0.06 cfs (26 gpm).
- B. Discharge Point 2 is located at Latitude 33.193519° N, Longitude 96.848242° W with a discharge rate of 2.16 cfs (969 gpm).
- C. Discharge Point 3 is located at Latitude 33.192393° N, Longitude 96.841926° W with a discharge rate of 1.09 cfs (487 gpm).
- D. Discharge Point 4 is located at Latitude 33.197572° N, Longitude 96.848447° W with a discharge rate of 0.04 cfs (18 gpm).
- E. Discharge Point 5 is located at Latitude 33.197922° N, Longitude 96.845053° W with a discharge rate of 0.05 cfs (24 gpm).

- F. Discharge Point 6 is located at Latitude 33.216503° N, Longitude 96.854836° W with a discharged rate of 0.05 cfs (24 gpm).
- G. Discharge Point 7 is located at Latitude 33.215136° N, Longitude 96.849917° W with a discharge rate of 0.04 cfs (18 gpm).
- 4. DIVERSION

Permittee is authorized to divert the discharged groundwater from three points on unnamed tributaries of Panther Creek:

- A. Diversion Point 1 is located at Latitude 33.193564° N, Longitude 96.847142° W with a maximum diversion rate of 5.8 cfs (2,600 gpm).
- B. Diversion Point 2 is located at Latitude 33.192178° N, Longitude 96.841914° W with a discharge rate of 3.3 cfs (1,500 gpm).
- C. Diversion Point 3 is located at Latitude 33.216533° N, Longitude 96.855000° W with a discharge rate of 0.9 cfs (400 gpm).

5. TIME PRIORITY

- A. The time priority for the impoundments is January 24, 2022.
- B. The groundwater authorized to be conveyed via the bed and banks of a State watercourse in this permit does not have a priority date and is not subject to priority calls from senior water rights.
- 6. SPECIAL CONDITIONS
 - A. Permittees shall implement reasonable measures in order to reduce impacts to aquatic resources due to entrainment or impingement. Such measures shall include, but shall not be limited to, the installation of screens at the diversion structures.
 - B. Permittees are not authorized to impound state water. Permittees shall maintain the reservoirs full at the uncontrolled spillway with the alternate sources so that all inflows pass downstream of each reservoir. Permittees shall operate and maintain a float sensor or other equally effective device approved by the Executive Director to detect a drop in reservoir elevation at each reservoir. Permittees shall automatically activate the alternate source of water should a drop in reservoir elevation occur.
 - C. Permittees shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittees will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittees shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittees shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.
 - D. Permittees shall conduct quarterly water quality monitoring for a period of five years for the following parameters: dissolved oxygen, temperature, pH, specific conductance,

total dissolved solids, chloride, sulfate, and flow, if applicable. Water quality monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. Water quality monitoring shall commence one month after the reservoirs are initially filled or when groundwater discharges begin. All water quality monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*.

- E. If water quality monitoring indicates non-attainment of 800 mg/L for total dissolved solids, Permittees shall notify the Executive Director and conduct aquatic life monitoring for a two year period to determine attainment of the presumed aquatic life use in the TCEQ *Texas Surface Water Quality Standards* for the unnamed tributary of Panther Creek and Reservoirs 1, 2, and 3. Aquatic life monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3, and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. All aquatic life monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*. Determinations of non-attainment for total dissolved solids and aquatic life monitoring shall be consistent with the protocols set forth in the most recently approved TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas*.
- F. Permittees shall submit to the Executive Director a summary report documenting all water quality monitoring activities five years after the reservoirs are constructed and groundwater discharges begin. If aquatic life monitoring is required under Paragraph 6.E., Permittees shall submit to the Executive Director a summary report documenting all aquatic life monitoring activities. The report(s) shall contain a description of the field work; assessment of water quality, fish, and macroinvertebrate communities; and the biological metric scoring criteria used to assess compliance with the presumed aquatic life use. In the event the presumed aquatic life use is not supported, the final report will identify, and Permittees shall implement, remedial management strategies, subject to the approval of the Executive Director.
- G. Prior to diversion of the groundwater authorized herein, if sufficiently accurate measuring devices are not available, Permittees shall install and maintain measuring device(s), at the discharge points of the groundwater and at any authorized diversion point, capable of measuring within plus or minus 5% accuracy. Permittees shall maintain records on a daily basis and make those records available to the Executive Director upon request.
- H. Permittees shall allow representatives of the Texas Commission on Environmental Quality reasonable access to the property to inspect the measurement devices and records.

7. TIME LIMITATIONS

- A. Construction of the dams must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this permit.
- B. Construction shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.

C. Failure to construct the dams within the period stated above shall subject the authorization to construct and maintain the reservoirs to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject the authorization to construct and maintain the dams and reservoirs to cancellation in whole or in part, subject to notice and hearing, and removal of the dams.

This permit is issued subject to all senior and superior water rights in the Trinity River Basin.

Permittees agree to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This water use permit is issued subject to the Rules of the Texas Commission on Environmental Quality and to the right of continuing supervision of State water resources exercised by the Commission.

For the Commission

DATE ISSUED:

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Joshua Schauer, Project Manager Water Rights Permitting Team

Date: April 3, 2023

- Through: Leslie Patterson, Team Leader Resource Protection Team
- From: George Gable, Aquatic Scientist Resource Protection Team
- Subject: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP WRPERM 13779 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809, CN605925833, CN605925817, Unnamed tributaries of Panther Creek, Trinity River Basin Denton and Collin counties

Environmental reviews of water right applications are conducted in accordance with applicable provisions of the Texas Water Code (TWC) and the administrative rules of the Texas Commission on Environmental Quality (TCEQ). The provisions applicable to environmental reviews can vary according to the type and the location of the authorization requested.

APPLICATION SUMMARY

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) request authorization to maintain seven reservoirs on unnamed tributaries of Panther Creek, Trinity River Basin, impounding 167.5 acre-feet for recreational purposes in Denton County. Applicants request to maintain the reservoirs with groundwater from the Trinity (Twin Mountains) and Woodbine aquifers.

Applicants also request authorization to use the bed and banks of the unnamed tributaries of Panther Creek to convey 743.98 acre-feet of groundwater per year for subsequent diversion and use from three diversion points, at a combined diversion

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP 13779 Unnamed tributaries of Panther Creek, Trinity River Basin Page 2 of 6

rate of 10.0 cfs (4,488.3 gpm), for agricultural purposes in Denton and Collin counties.

ENVIRONMENTAL ANALYSIS

Aquatic and Riparian Habitats: The Applicants propose to maintain seven reservoirs on multiple unnamed tributaries of Panther Creek, located in the Northern Blackland Prairie ecoregion (Griffith et al. 2004). Reservoirs 1, 2 and 3 are located on a tributary that is intermittent with perennial pools, and Reservoirs 4, 5, 6, and 7 are located on tributaries that are intermittent.

The checklist for the Trinity River basin identified 59 species of ichthyofauna occurring within the Elm Fork Trinity hydrologic unit (United States Geologic Survey [USGS] code 12030103) (Hendrickson and Cohen 2015). Louisiana pigtoe (*Pleurobema riddellii*), sandbank pocketbook (*Lampsilis satura*), and Texas heelsplitter (*Potamilus amphichaenus*), high-interest aquatic species, are known to occur in Denton County (TPWD 2015). This application is not expected to have an effect on any high-interest aquatic species, because the Applicants are not requesting a new appropriation of water.

The Applicants have agreed to install screens on any new diversion structures in order to minimize entrainment and impingement of aquatic organisms.

The TCEQ regulates bed and banks authorizations to convey groundwater under the authority of TWC §11.042. That provision allows the commission to place special conditions in the authorization to "maintain instream uses and freshwater inflows to bays and estuaries." On April 20, 2011, the TCEQ adopted environmental flow standards for the Trinity and San Jacinto Rivers, and Galveston Bay (Title 30 Texas Administrative Code (TAC) Chapter 298 Subchapter B). These environmental flow standards are considered adequate to support a sound ecological environment (Title 30 TAC § 298.10). The Applicants do not request a new appropriation of water or an amendment that increases the amount of water stored, taken, or diverted; therefore, the environmental flow standards do not apply.

Recreational Uses: The unnamed tributaries have a presumed primary contact 1 recreation use (TCEQ 2022). The Applicants' request should not adversely impact recreational uses.

Water Quality: The unnamed tributary where Reservoirs 1 through 3 are located is an unclassified intermittent stream with perennial pools and has a presumed limited aquatic life use (TCEQ 2022). The unnamed tributaries

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP, 13779 Unnamed tributaries of Panther Creek, Trinity River Basin Page 3 of 6

where Reservoirs 4 through 7 are located are unclassified intermittent streams and have a presumed minimal aquatic life use.

The Applicants indicated that Reservoirs 1 through 5 will be maintained with groundwater from one well in the Twin Mountains aquifer and Reservoirs 6 and 7 from three wells in the Woodbine aquifer. The Applicants provided groundwater quality data provided for reference wells near the project location. Resource Protection staff reviewed the Applicants' data and identified concerns for elevated levels of total dissolved solids (TDS), chlorides, and sulfates for groundwater from the Twin Mountains aquifer, which will be discharged into the unnamed tributary of Panther Creek where Reservoirs 1, 2, and 3 are located.

The Applicants subsequently provided a Technical Memorandum, dated March 10, 2023, that assessed the effects of TDS on potential fish and macroinvertebrates in the project area. The memo evaluated aquatic life data from the TCEQ's Surface Water Quality Monitoring Information System to determine if potential species present in the unnamed tributaries of Panther Creek would be tolerant of the TDS levels in the groundwater reference well. The Applicants compared macroinvertebrates and fish in reference streams with comparable TDS levels. The Applicants' comparative analysis indicated that the presumed limited aquatic life use should be supported.

Resource Protection staff reviewed the information submitted by the Applicants and agree that if the TDS concentrations are similar between the reference and proposed well, and between the reference streams and the unnamed tributary of Panther Creek where Reservoirs 1 through 3 are located, then the narrative criteria and corresponding designated aquatic life use could be maintained. To demonstrate compliance with the *Texas Surface Water Quality Standards*, Resource Protection staff recommends that the Applicants conduct water quality monitoring for a period of five years to determine whether groundwater discharged to support the project would result in impacts to water quality in the unnamed tributary of Panther Creek including Reservoirs 1, 2, and 3. Water quality monitoring data should be collected for the following parameters: dissolved oxygen, temperature, pH, specific conductance, TDS, chloride, sulfate, and flow, if applicable.

Studies in Panther Creek have identified a maximum concentration of 800 mg/L for TDS (NTMWD 2015, Figure 5). If water quality monitoring indicates non-attainment of 800 mg/L for TDS, the Applicants should conduct aquatic life monitoring for a period of two years to determine whether the presumed aquatic life use in the *Texas Surface Water Quality Standards* for the unnamed tributary of Panther Creek where Reservoirs 1 through 3 are located is supported.

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP 13779 Unnamed tributaries of Panther Creek, Trinity River Basin Page 4 of 6

In the event the aquatic life use designation for the unnamed tributary of Panther Creek is not supported, the Applicants should identify and implement remedial management actions, subject to Executive Director approval.

Freshwater Inflows: Freshwater inflows are critical for maintaining the historical productivity of bays and estuaries along the Gulf Coast. The application does not request a new appropriation of water. Therefore, the Applicant's request should not have any impact to Galveston Bay.

RECOMMENDATIONS

Resource Protection staff recommends the following Special Conditions be included in the proposed permit, if granted:

- 1. Permittees shall implement reasonable measures in order to reduce impacts to aquatic resources due to entrainment or impingement. Such measures shall include, but shall not be limited to, the installation of screens at the diversion structures.
- 2. Permittees shall conduct quarterly water quality monitoring for a period of five years for the following parameters: dissolved oxygen, temperature, pH, specific conductance, total dissolved solids, chloride, sulfate, and flow, if applicable. Water quality monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3 and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. Water quality monitoring shall commence one month after the reservoirs are initially filled or when groundwater discharges begin. All water quality monitoring shall be consistent with protocols set forth in the most recently approved TCEQ Surface Water Quality Monitoring Procedures.
- 3. If water quality monitoring indicates non-attainment of 800 mg/L for total dissolved solids, Permittees shall notify the Executive Director and conduct aquatic life monitoring for a two year period to determine attainment of the presumed aquatic life use in the TCEQ *Texas Surface Water Quality Standards* for the unnamed tributary of Panther Creek and Reservoirs 1, 2, and 3. Aquatic life monitoring shall be conducted at one site in each reservoir, for Reservoirs 1, 2, and 3 and one site on the unnamed tributary of Panther Creek immediately upstream of its confluence with Panther Creek. All aquatic life monitoring shall be consistent with protocols set forth in the most recently approved TCEQ *Surface Water Quality Monitoring Procedures*. Determinations of non-attainment for total dissolved solids and aquatic life monitoring shall be consistent with the protocols set forth in the most recently approved TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texas*.

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP 13779

Unnamed tributaries of Panther Creek, Trinity River Basin Page 5 of 6

4. Permittees shall submit to the Executive Director a summary report documenting all water quality monitoring activities five years after the reservoirs are constructed and groundwater discharges begin. If aquatic life monitoring is required under Special Condition 3, Permittees shall submit to the Executive Director a summary report documenting all aquatic life monitoring activities. The report(s) shall contain a description of the field work; assessment of water quality, fish, and macroinvertebrate communities; and the biological metric scoring criteria used to assess compliance with the presumed aquatic life use. In the event the presumed aquatic life use is not supported, the final report will identify, and Permittee shall implement, remedial management strategies, subject to the approval of the Executive Director.

LITERATURE CITED

Griffith, G.E., S.A. Bryce, J.M. Omernik, J.A. Comstock, A.C. Rogers, B. Harrison, S.L. Hatch, and D. Bezanson. 2004. Ecoregions of Texas. (2 sided color poster with map, descriptive text, and photographs). U.S. Geological Survey, Reston, VA. Scale 1:2,500,000.

Griffith GE, Bryce SA, Omernik JM, Rogers AC. 2007. Ecoregions of Texas - Project Report to Texas Commission on Environmental Quality. Reston (VA): U.S. Geological Survey. Report No.: AS-199. 125p.

Hendrickson DA, Cohen AE. 2015. Fishes of Texas Project Database [Internet]. [2023 March 21]; Version 2.0. Available from http://www.fishesoftexas.org/home/ doi:10.17603/C3WC70

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North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP 13779

Unnamed tributaries of Panther Creek, Trinity River Basin Page 6 of 6

Geroge M Gable AV

George Gable, Aquatic Scientist

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

- **To:** Joshua Schauer, Project Manager Water Rights Permitting Team
- Date: April 3, 2023
- **Through:** Leslie Patterson, Team Leader Resource Protection Team
- From: Richard Schmoyer, Aquatic Scientist Resource Protection Team
- Subject: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP WRPERM 13779 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809, CN605925833, CN605925817 Unnamed tributaries of Panther Creek, Trinity River Basin Denton and Collin counties

APPLICATION SUMMARY

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) request authorization to maintain seven reservoirs on unnamed tributaries of Panther Creek, Trinity River Basin, impounding 167.5 acre-feet for recreational purposes in Denton County. Applicants request to maintain the reservoirs with groundwater from the Trinity (Twin Mountains) and Woodbine aquifers.

Applicants also request authorization to use the bed and banks of the unnamed tributaries of Panther Creek to convey 743.98 acre-feet of groundwater per year for subsequent diversion and use from three diversion points, at a combined diversion rate of 10.0 cfs (4,488.3 gpm), for agricultural purposes to irrigate 259.4 acres out of a 1366.4-acre tract in Denton and Collin counties.

WATER CONSERVATION REVIEW

Pursuant to Title 30 Texas Administrative Code §295.9, a water conservation plan is not required to be submitted for this application.

The application is consistent with 2021 Region C Water Plan and the 2022 State Water Plan because there is nothing in the water plans that conflicts with issuing this proposed permit.

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP WRPERM 13779 Unnamed Tributaries of Panther Creek, Trinity River Basin Page 2 of 2

RECOMMENDATIONS

Resource Protection Staff have no recommendations regarding the proposed permit, if granted.

Richard Schmoyer

Richard Schmoyer, Aquatic Scientist Resource Protection Team

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To:	Josh Schauer, Project Manager Water Rights Permitting Team	Date: April 6, 2023
Through: <i>人 人</i>	Kathy Alexander, Ph.D., Policy and Tec Water Availability Division	hnical Analyst
TG	Trent Gay, Team Leader Surface Water Availability Team	
From:	Andrew Garcia, Hydrologist Surface Water Availability Team	

 Subject: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP WRPERM 13779 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809 CN605925833, CN605925817 Unnamed tributary of Panther Creek, Trinity River Basin Denton and Collins County

HYDROLOGY REVIEW

Application Summary

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP (Applicants) request authorization to maintain seven reservoirs on unnamed tributaries of Panther Creek, Trinity River Basin, impounding 167.5 acre-feet for recreational purposes in Denton County. Applicants request to maintain the reservoirs with groundwater from the Trinity (Twin Mountains) and Woodbine aquifers.

Applicants also request authorization to use the bed and banks of the unnamed tributaries of Panther Creek to convey 743.98 acre-feet of groundwater per year for subsequent diversion and use from three diversion points, at a combined diversion rate of 10.0 cfs (4,488.3 gpm), for agricultural purposes to irrigate 259.4 acres out of a 1366.4-acre tract in Denton and Collin counties.

The application was declared administratively complete on January 24, 2022.

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP., WRPERM 13779 Unnamed tributaries to Panther Creek, Trinity River Basin Page 2 of 3

Hydrology Review

Resource Protection staff did not recommend instream flow requirements for this application; however, they did recommend special conditions. See the Resource Protection memo dated April 3, 2023.

The application does not request a new appropriation of water; therefore, a water availability analysis is not necessary. However, the application must be reviewed to ensure no water rights are affected by the request.

Regarding the request to use the bed and banks of unnamed tributaries of Panther Creek to convey groundwater, the application included the information required in 30 Texas Administrative Code (TAC) §295.113.

The Applicants will maintain Reservoirs 1 -5 with groundwater from the Trinity (Twin Mountains) aguifer and Reservoirs 6 and 7 with groundwater from the Woodbine aguifer. The application was evaluated to determine if the alternate sources are adequate to compensate for evaporative losses of the reservoirs and support the requested diversions. Using evaporation data from the TCEO Water Availability Model (WAM) for the Trinity River Basin, Quadrangle 411, staff determined the annual maximum evaporation and estimated monthly maximum evaporation for the reservoirs. The maximum annual evaporation for Reservoirs 1-5 were calculated to be 84.8 acre-feet per year with an estimated monthly maximum of 18.9 acre-feet. Staff determined that the alternate source (701.82 acre-feet of groundwater) is adequate to compensate for the annual maximum evaporative losses from the reservoirs (84.8 acre-feet) and subsequent diversion. The annual maximum evaporation from Reservoirs 6 and 7 were calculated to be 24.2 acre-feet per year with an estimated monthly maximum of 5.39 acre-feet. Staff determined that the alternate source (42.16 acre-feet of groundwater) is adequate to compensate for the annual maximum evaporative losses from the reservoirs (24.2 acre-feet) and subsequent diversion.

Staff finds that the alternate sources provided in the application are sufficient to ensure that no state water is used.

Conclusion

Hydrology staff can support granting the application as requested provided that the permit granted includes the following special conditions:

1. Permittee is not authorized to impound state water. Permittee shall maintain the reservoirs full at the uncontrolled spillway with the alternate sources so that all inflows pass downstream of each reservoir. Permittee shall operate and maintain a float sensor or other equally effective device approved by the Executive Director to detect a drop in reservoir elevation at each reservoir. Permittee shall automatically activate the alternate source of water should a drop in reservoir elevation occur. North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP., WRPERM 13779 Unnamed tributaries to Panther Creek, Trinity River Basin Page 3 of 3

- 2. Permittee shall maintain and operate an alternate source of water with sufficient production to ensure that no state water is used. Permittee will utilize groundwater from the Trinity (Twin Mountains) aquifer to maintain Reservoirs 1- 5 and the Woodbine aquifer to maintain Reservoirs 6 and 7. In the event groundwater from the Trinity (Twin Mountains) aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 1 5 or if the Woodbine aquifer will no longer be used as the alternate source of water to maintain Reservoirs 6 and 7, Permittee shall immediately cease impoundment in the respective reservoirs and cease all diversion. Permittee shall then either apply to amend the permit with a new alternate source to support the reservoirs and diversions, or voluntarily forfeit all or a portion of the permit.
- 3. Prior to diversion of the groundwater authorized herein, if sufficiently accurate measuring devices are not available, Permittee shall install and maintain measuring device(s), at the discharge points of the water and at any authorized diversion point, capable of measuring within plus or minus 5% accuracy. Permittee shall maintain records on a daily basis and make those records available to the Executive Director upon request.

U D

Andrew Garcia, Hydrologist

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

- To: Joshua Schauer Water Rights Permitting Team
 Date: August 25, 2022
 Thru:
 From: Warren D. Samuelson, P. E., Manager Dam Safety Section MC-177
 Subject: FHQ Development Partners, LP, Application for a permit to authorized construction and maintenance of six dams and reservoirs and
- **Subject:** FHQ Development Partners, LP, Application for a permit to authorize the construction and maintenance of six dams and reservoirs and maintenance of one existing dam and reservoir, unnamed tributary Panther Creek, Trinity River Basin, Denton County

FHQ Development Partners, LP, seeks authorization to construct and maintain six dams and reservoirs and maintain one existing dam and reservoir with a combined capacity of 167.5 acre-feet for recreational purposes in Denton County.

The applicant has submitted plans and specifications to the TCEQ Dam Safety Section for review. The plans and specifications and accompanying reports are currently being reviewed.

It is recommended that the permit include the following language:

TIME LIMITATIONS

- A. Construction of the dams must be in accordance with the plans and specifications approved by the Executive Director. Construction of the dams without final approval of the plans and specifications is a violation of this authorization.
- B. Construction shall begin within one year of issuance of this permit and be completed within two years of issuance of the permit unless Permittee applies for and is subsequently granted an extension of time before the expiration of these time limitations.
- C. Failure to construct the dams within the period stated above shall subject all rights to this permit to forfeiture, subject to notice and hearing. After beginning construction, failure to timely construct the dams stated above shall subject this permit to cancellation in whole or in part, subject to notice and hearing, and removal of the dam.

Warren D. Samuelson Warren D. Samuelson, P. E., Manager, Dam Safety Section



Water Availability Division

From:	<u>Koenings, Tres</u>
То:	Joshua Schauer
Cc:	Arnold, Kristin
Subject:	Correction to Response # 1
Date:	Tuesday, March 21, 2023 1:02:02 PM
Attachments:	image001.png

Josh,

After we submitted our most recent response letter, we noticed an error in the well identification provided on the lab data sheets. Please update our response to Comment 1 as follows:

Response 1: Groundwater quality data used in the analysis was collected from state well number 185103, City of the Colony, located at 33° 05.919' N, 096° 53.529' W in Denton County, Texas. The depth of the well is 2429 feet below land surface.

If you have any questions let me know.

Take care,



Tres Koenings Senior Project Manager

6300 La Calma Drive, Suite 400 Austin, Texas 78752

C: 512-923-5580

www.plummer.com

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Please consider the environment before printing this e-mail.

From:	Koenings, Tres
To:	Joshua Schauer
Cc:	Kim Nygren; ; Roger McInnis; Pasch, Chris; Todd Watson
Subject:	RE: FHQ Response to TCEQ RFI - Water Rights App #13779
Date:	Wednesday, March 15, 2023 12:38:03 PM
Attachments:	image001.png

Josh,

During our call with Kim, additional information was requested regarding the difference between the representative well data submitted with the original application and the well data used for the water quality screenings. The well data provided with the application is older publicly available data from the Texas Water Development Board for wells within a five-mile radius of the project. When the TCEQ expressed a water quality concern, a new sample was collected from an active, nearby well, so current representative data could be used in the water quality screening.

I hope this clarifies the differences between the data. If you have any questions or if you need any additional information, please do not hesitate to reach out. Please note, I will be out of the office tomorrow beginning at noon and all-day Friday. Please cc Chris Pasch on any email correspondence on this issue.

Thanks for your help,

Tres Koenings Senior Project Manager

C: 512-923-5580

<u>www.plummer.com</u>

From: Sent: Friday, March 10, 2023 5:21 PM To: Joshua.Schauer@Tceq.Texas.Gov Cc: Kim.Nygren@tceq.texas.gov;

Subject: FHQ Response to TCEQ RFI - Water Rights App #13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Josh,

Please find attached our response to TCEQ RFI received on February 10, 2023.

As noted in our letter, we would like to meet in Austin as soon as possible to dialogue directly about

this matter.

We look forward to working toward an expeditious resolution on this permit.

Kind regards,

Todd Watson Senior Vice President Hunt Realty Investments, Inc. 1900 North Akard Street Dallas, Texas 75201 214.978.8761 o 214.549.7519 c

www.huntrealty.com



From:	Todd Watson	
To:	Joshua Schauer	
Cc:	Kim Nygren;	Roger McInnis
Subject:	FHQ Response to TCEQ RFI - Water Rights App #13779	
Date:	Friday, March 10, 2023 5:25:30 PM	
Attachments:	image001.png	
	Water Rights App #13779 - FHQ Response on 3.10.23 to TCEQ RFI of 2.10.23.pdf	

Josh,

Please find attached our response to TCEQ RFI received on February 10, 2023.

As noted in our letter, we would like to meet in Austin as soon as possible to dialogue directly about this matter.

We look forward to working toward an expeditious resolution on this permit.

Kind regards,

Todd Watson Senior Vice President Hunt Realty Investments, Inc. 1900 North Akard Street Dallas, Texas 75201 214.978.8761 o 214.549.7519 c

www.huntrealty.com



1900 North Akard Street Dallas, TX 75201 T 214 978 8528 F 214 953 6333 fieldsfrisco.com

FIELDS

March 10, 2023

Mr. Joshua Schauer Project Manager, TCEQ Water Rights Permitting Section Texas Commission on Environmental Quality 512-239-1371 **Submitted via email**

Re: Response Letter to Comments (Dated February 10, 2023) for Water Rights Permit, Application No. 13779

Dear Mr. Schauer:

FHQ Development Partners, LP is providing this letter in response to the comment letter received from your office dated February 10, 2023. We respectfully request a meeting with TCEQ management and staff to discuss our response to Comments 3 & 4.

- Comment 1: Provide the well number or well identifier, location of well, and depth of the well for the groundwater quality data used in the analysis in the technical RFI response dated November 10, 2022.
- Response 1: Groundwater quality data used in the analysis was collected from state well number 18-57-602, City of the Colony Well #1, located at 33° 05' 06" N, 096° 53' 05" W in Denton County, Texas. The depth of the well is 2405 feet below land surface.
- Comment 2: Provide latitude and longitude coordinates in decimal degrees to at least six decimal places for ambient water quality data collected at Sampling Point 1. The latitude and longitude coordinates provided for Sampling Point 1 in the RFI response, dated November 10, 2022, do not plot on a watercourse.
- Response 2: The latitude and longitude for Sample Point 1 are 33° 11' 58.49" N, 96° 51' 26.42" W (33.199581, -96.857339).
- Comment 3: Clarify the groundwater discharge rates requested for Discharge Points 1, 2, and 3. The rates used in the Applicant's groundwater quality analysis in the technical RFI response dated November 10, 2022 are different from the discharge rates identified in Worksheets 4.1 in the technical RFI response,



dated August 19, 2022. If the requested groundwater discharge rates have changed, provide revised Worksheets 4.1.

- Response 3: We believe that the TCEQ's application of the screening procedures found in TCEQ's Procedures to Implement the Texas Surface Water Quality Standards is inappropriate for the proposed groundwater use. Plummer conducted a review of the TSWQS, the IPs and water quality and biological data from nearby water bodies to the proposed ponds. The attached technical memo provides a summary of our findings and conclusion (See Attachment A). We request a meeting with TCEQ Water Availability Division management and staff to discuss our findings and proposed path forward.
- Comment 4: Provide a revised water quality analysis and calculations demonstrating how groundwater discharges from the Twin Mountain/Lower Trinity aquifer into Ponds 1, 2, and 3 on unnamed tributary 5.2 will meet the applicable screening criteria for chlorides, sulfates, and total dissolved solids for intermittent streams with perennial pools as set forth in TCEQ's Procedures to Implement the Texas Surface Water Quality Standards.

Note that the effluent discharge rate (QE) is the maximum requested discharge rate in Worksheet 4.1(b) for each well at the point of discharge.

Response 4: We believe that the TCEQ's application of the screening procedures found in TCEQ's Procedures to Implement the Texas Surface Water Quality Standards is inappropriate for the proposed groundwater use. Plummer conducted a review of the TSWQS, the IPs and water quality and biological data from nearby water bodies to the proposed ponds. The attached technical memo provides a summary of our findings and conclusion (See Attachment A). We request a meeting with TCEQ Water Availability Division management and staff to discuss our findings and proposed path forward.

We would appreciate the opportunity to meet with the TCEQ to discuss the proposals provided in the attached technical memo for demonstrating compliance with the Texas Surface Water Quality Standards that fit with this unique situation. We respectfully request a meeting with Kim Nygren, Water Availability Division manager, and representatives from the TCEQ Water Quality Standards Team and the Water Rights Permitting Team to discuss these options with you. We will contact you soon to set up a meeting within the next two weeks.

Respectfully yours,

Todd Watson

cc: Roger McInnis, Gray Interests, LLC Kyle Dickey, Kimley-Horn Kim Nygren, Texas Commission on Environmental Quality Tres Koenings, Plummer and Associates, Inc. Attachment A

Technical Memorandum





Project Name:	Analysis of water quality criteria applicable to on-channel ponds
Project No:	3639-001-01
Prepared For: Prepared By:	Roger McInnis, FHQ Development Partners LP Chris Pasch, Plummer Tres Koenings, Plummer Kristin Arnold, Plummer
Reference:	Application No. 13779 for a Water Use Permit

1 INTRODUCTION

The analysis summarized in this technical memorandum (TM) was conducted by Plummer Associates, Inc. (Plummer) at the request of FHQ Development Partners LP (FHQ) and in response to a February 10, 2023, letter from the Texas Commission on Environmental Quality (TCEQ). In the letter, TCEQ specifically requests additional information regarding the total dissolved solids (TDS), chloride, and sulfate screening.

The purpose of this TM is to present the findings of an analysis to assess whether the proposed use of groundwater pumped from the Twin Mountain/Lower Trinity Aquifer into on-channel ponds will be protective of the applicable water quality standards, including the aquatic life use, of the unnamed tributary of Panther Creek, a tributary of Lewisville Lake in Segment 0823 of the Trinity River Basin. In this TM, Plummer discusses the numeric and narrative water quality standards and how they are applied consistent with the Texas Surface Water Quality Standards¹ (TSWQS). The applicability of these standards to the proposed FHQ project (Project) are further explained below.

2 PROJECT DESCRIPTION

The Project includes construction of seven on-channel ponds and pumping of groundwater into these ponds. Groundwater will be pumped into the constructed ponds as a permanent water feature and for irrigation. The ponds will be designed to prevent capture of natural instream flows by providing for constant overflow from the ponds into the unnamed tributaries. The overflow will be minimal and is estimated to be less than 0.1 cubic feet per second (cfs) during normal operation. Higher flows from the ponds into the tributaries will occur during rainfall events. The project location is presented in Appendix A.

3 BACKGROUND ON TOTAL DISSOLVED SALTS WATER QUALITY STANDARDS

The TSWQS include numeric and narrative water quality standards. Numeric TDS, chloride, and sulfate water quality standards are based on historic concentrations and are specific to classified segments. Narrative water quality standards apply to both classified and unclassified segments and are intended to

¹ Texas Administrative Code (TAC), §307.10, Appendix A of the Texas Surface Water Quality Standards
protect the uses of water bodies, including aquatic life uses. Additional details relevant to the Project, including the specific numeric standards, narrative standards, and the applicability of standards to intermittent streams are discussed herein.

3.1 NUMERIC WATER QUALITY STANDARDS

Appendix A of TSWQS provides numeric TDS, chloride, and sulfate water quality standards for classified freshwater streams, lakes, and reservoirs. Lewisville Lake in Segment 0823 is the first classified segment downstream of the Project. The TDS, chloride, and sulfate water quality standards for Segment 0823 are 500 milligrams/liter (mg/L), 80 mg/L, and 60 mg/L, respectively. The TSWQS do not include numeric TDS, chloride, and sulfate standards for the unnamed tributaries and Panther Creek.

3.2 NARRATIVE WATER QUALITY STANDARDS

The TSWQS include the following narrative standards² for TDS:

Concentrations and the relative ratios of dissolved minerals such as chloride, sulfate, and total dissolved solids must be maintained such that existing, designated, presumed, and attainable uses are not impaired.

These narrative standards are applicable to the unnamed tributaries, Panther Creek, and Lewisville Lake.

3.3 WATER QUALITY STANDARDS ASSESSMENT PERIOD

Over a prolonged period, TDS concentrations can fluctuate significantly as flow conditions change because of climatic conditions, such as precipitation and drought. Accordingly, the TSWQS stipulate that TDS stream and lake water quality monitoring data be assessed based on long-term data collected in the whole water body, which may include multiple sampling stations if they are available. Specifically, the TSWQS³ state:

Site-specific criteria for chloride, sulfate, and total dissolved solids are established as averages over an annual period for either a single sampling point or multiple sampling points.

Accordingly, the Procedures to Implement the Texas Surface Water Quality Standards⁴ (IPs) specify that TDS screening be based on a human health mixing zone, the same mixing zone that is used to derive permit limits based on human health water quality standards. Human health-based pollutant limits are derived based on an annual average waste load. While TDS, chloride, and sulfate standards are not based on the protection of human health, but the protection of the General Use criterion, the annual average also applies to the numeric TDS, chloride, and sulfate standards.

² TAC 30, §307.4(g)

³ TAC 30, §307.7(b)(4)(A)

⁴ Texas Commission on Environmental Quality. (2010). Procedures to Implement the Texas Surface Water Quality Standards (RG-194), p. 174-186.

3.4 WATER QUALITY STANDARDS ASSESSMENT DEFINITION OF POOLS

The unnamed tributaries in the Project area are intermittent. Aerial photographs demonstrate that the unnamed tributaries typically have no flow and a few small pools. Aerial photographs were used to assess whether the tributaries are considered an intermittent stream with perennial pools or without pools. The TSWQS specify that a minimal aquatic life use applies to intermittent streams and a limited aquatic life use applies to intermittent streams with pools.

The footnote to Table 3 – Aquatic Life Use Subcategories⁵ of the TSWQS defines the minimal aquatic life use as not supporting aquatic life. The definition for minimal aquatic life use is as follows:

Minimal aquatic life use has been historically known as no significant aquatic life use. Typically, the classification of a water body as supporting a minimal aquatic life use is based on flow characteristics (intermittent stream without perennial pools), as set forth in §304.4(h)(4) of this title, and not on aquatic life attributes.

Table 3 – Aquatic Life Use Subcategories of TSWQS defines the limited aquatic life use as a uniform habitat that does not support most expected species. The Table 3 excerpt defining the minimal and limited aquatic life uses are as follows:

	Dissolved Oxygen	Dissolved Oxygen	Dissolved Oxygen	Aquatic Life Attributes	Aquatic Life Attributes	Aquatic Life Attributes	Aquatic Life Attributes	Aquatic Life Attributes	Aquatic Life Attributes
Aquatic Life Use Subcategory	Freshwater mean/ minimum	Freshwater in Spring mean/ minimum	Saltwater mean/ minimum	Habitat Characteristics	Species Assemblage	Sensitive species	Diversity	Species Richness	Trophic Structure
Limited	3.0/2.0	4.0/3.0		Uniform	Most regionally expected species absent	Absent	Low	Low	Severely imbalanced
Minimal	2.0/1.5								

The TSWQS define an intermittent stream with perennial pools as "an intermittent stream that maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second⁶." However, a minimum length of the ratio of pool length to stream length is required to support the limited aquatic life associated with an intermittent stream with perennial pools classification.

The TSWQS set the minimum coverage by pools for an intermittent stream at 20%. For assessment purposes, the TSWQS specify that aquatic recreation, total dissolved solids, chloride, and sulfate criteria do not apply to "...intermittent streams when less than 20% of the stream bed of a 500 meter (m) sampling reach is covered by pools⁷..."

⁵ TAC 30, §307.7(b)(3)(A)(i)

⁶ TAC 30, §307.3(a)(36)

⁷ TAC 30, §307.9(e)(8)(B)

4 DETERMINATION OF UNNAMED TRIBUTARIES' POOL COVERAGE

Thirty aerial photographs from 1995 to 2022 were assessed to determine whether 20% of the unnamed tributaries within the Project area are covered by pools. Length measurements of the unnamed tributaries and the pools demonstrate that on average less than 20% of the unnamed tributaries are covered by pools. Appendix B-1 presents aerial photographs depicting the unnamed tributaries and the pools, and Appendix B-2 presents the tabular summary of the measurements. The data demonstrate that the unnamed tributaries are intermittent streams without pools. The assessment presented in this TM, therefore, is based on the determination that the unnamed tributaries are intermittent.

In the February 10, 2023, letter TCEQ considers at least one unnamed tributary as an intermittent stream that maintains perennial pools. Therefore, an additional assessment is included in this TM that evaluates whether the well water fed to the constructed ponds will maintain the limited aquatic life use applicable to perennial pools.

5 WATER QUALITY STANDARDS ASSESSMENT

TCEQ does not have procedures in place to assess the water quality impact for the proposed project, TCEQ has therefore requested that FHQ assess the TDS impact on water quality by adapting the screening procedures for wastewater discharges described in the IPs.

5.1 SCREENING FOR NUMERIC WATER QUALITY STANDARDS

The applicable numeric water quality standards for this project are for Lewisville Lake in Segment 0823. Accordingly, the screening was conducted to determine the impact of overflow from the ponds on Lewisville Lake water quality. Plummer applied a TCEQ-developed Microsoft Excel Spreadsheet named "Menu 8" for this assessment. The screening process in the spreadsheet provides for two screening protocols:

- 1) Intermittent Stream within 3 Miles of a Lake
- 2) Lake Downstream of an Intermittent Stream

The following provides the results of the two screenings.

5.1.1 Intermittent Stream within 3 Miles of a Lake Screening

The IPs differentiate between wastewater discharges that are more than three miles upstream of a lake and wastewater discharges less than 3 miles from a lake. The Project's most downstream pond is more than 3 miles upstream of the lake. However, since the screening results are not impacted by the distance the screening was conducted as if the pond overflow is within 3 miles.

The intermittent stream screening includes an equation to determine the applicable screening values; the screening value is compared to the projected instream concentration to assess the water quality impact. For TDS, the screening values can be between 2,500 to 6,000 mg/L, and are intended to protect livestock, wildlife, shoreline vegetation, and aquatic life. In this case the lowest screening value applies. Table 1 provides a comparison of the screening values to the projected instream concentrations downstream of the ponds:

Parameter	Screening Value (mg/L)	Projected Concentration in Unnamed Tributary (mg/L)
Total Dissolved Solids	2,500	868
Chloride	400	215
Sulfate	300	107

As is evident from Table 1, the projected instream concentrations are significantly below the screening values. No concerns are identified. The complete screening spreadsheet with all inputs is presented in Appendix C-1.

5.1.2 Lake Screening

The TDS screening protocol to assess a wastewater discharge impact on a lake compares the projected concentration where the stream flow mixes with the lake water. The IPs provide comparison for the screening values to the projected concentrations at the edge of the human health mixing zone.

For wastewater discharges of less than 10 million gallons per day (MGD) the default fraction of wastewater at the edge of the human health mixing zone is 8%. As described in Section 2, the projected pond overflow is minimal; the expected fraction of pond overflow at the edge of the human health mixing zone is, therefore, likely to be much lower than 8%. The default 8% fraction was applied for this evaluation as a conservative estimate.

		Projected
Darameter	Screening Value	Concentration at Edge
Farameter	(mg/L)	of Mixing Zone
		(mg/L)
Total Dissolved Solids	500	261
Chloride	80	35
Sulfate	60	36

Table 2: Lake Screening Values and Projected Concentrations

As is evident from Table 2, the projected concentrations at the edge of the mixing zone are significantly below the screening values. No concerns are identified. The lake screening spreadsheet is presented in Appendix C-2.

5.2 ASSESSMENT OF CONSTRUCTED POND WATER QUALITY

The TSWQS includes no numeric TDS water quality standards that apply to the pools in the unnamed tributaries. The screening spreadsheet for wastewater discharges to intermittent streams with perennial pools is therefore not suitable to assess whether the groundwater pumped to the constructed ponds is protective of numeric water quality standards. Instead, the aquatic life tolerance to the projected TDS concentration in the ponds was assessed.

5.2.1 Aquatic Life Protection in Constructed Ponds

Aquatic life data from the TCEQ Surface Water Quality Monitoring (SWQM) database was evaluated to determine whether species that may be present in the unnamed tributaries are tolerant to the TDS levels in the groundwater. As described below, no data was available for Panther Creek, so data was pulled from Stewart Creek (Segment 0823B) and Cottonwood Branch (a tributary of Segment 0823) as reference streams. Additionally, data from segments with high TDS standards similar to the concentrations observed in the groundwater were downloaded. The database was accessed on 3/2/2023.

The analysis used conductivity data because it is one of the most frequently analyzed parameters and has a documented relationship to TDS concentration. Conductivity values were extracted and converted to TDS consistent with the conversion procedure described in the IPs (page 180). Accordingly, the conversion factor of 0.65 was applied to convert conductivity expressed in micro-Siemens per centimeter (cm) or micromhos per cm to TDS in mg/L.

The TDS data were compared to the projected concentrations in the groundwater fed ponds to determine whether the projected pond concentrations are within the range observed elsewhere and are expected to sustain the limited aquatic life use of the constructed ponds. Aquatic life data, both freshwater fish and freshwater benthic macroinvertebrates, were evaluated to assess the tolerance of the expected species to the TDS levels in the groundwater.

No aquatic life data are available for the unnamed tributaries or Panther Creek. However, aquatic life data are available for nearby Stewart Creek and Cottonwood Branch. Based on United States Geological Service (USGS) maps, Stewart Creek and Cottonwood Branch are perennial streams. The aquatic life use for the two streams is not specifically identified in the TSWQS. However, TCEQ typically defaults to an assumption that perennial streams have a high aquatic life use, with a highly diverse habitat and the presence of regionally expected species. This comparison is very conservative, because the unnamed tributaries, at most, have a limited aquatic life use with most regionally expected species being absent. The species expected to be present in the unnamed tributaries are assumed to be a subset of the species present in the Cottonwood Branch and Stewart Creek, where the subset reflects those species with a higher tolerance to organic enrichment and lower water quality.

The fish and macroinvertebrate species reported in Stewart Creek and Cottonwood Branch were assessed by determining whether these species can tolerate the TDS levels in the groundwater for the Project. All species identified in these two streams were compared to species reported for other streams that had reported TDS levels similar to the groundwater. If a species was found in the other streams, it demonstrates that the species has tolerance to the TDS levels in the groundwater.

Cottonwood Branch and Stewart Creek aquatic life use data includes freshwater fish and freshwater benthic macroinvertebrates. Table 3 summarizes the data. All species found in Stewart Creek and Cottonwood Branch were also found in streams with TDS levels similar to the groundwater. The data demonstrate that the aquatic life present in streams close to the Project have tolerance for the TDS levels in the groundwater. The list of all species detected in Cottonwood Branch and Stewart Creek and the data from the reference streams are presented in Appendix D-1 (fish data) and Appendix D-2 (macroinvertebrate data). Appendix D-3 summarizes the water quality for the assessed streams.

	Ambient TDS	Macroinvertebrates	Fish
Waterbody	Concentration	(Number of	(Number of
	(mg/L)	Species)	Species)
Project's Groundwater	868	N/A	N/A
Stewart Creek	893 ¹⁾	15	14
Cottonwood Branch	557 ¹⁾	N/A	14
Segment 1203 Whitney Lake	888 ²⁾	22	N/A
Segment 1233 Hubbard Creek Reservoir	715 ²⁾	31	N/A
Segment 1257 Brazos River Below	7902)		22
Whitney Lake	780 /	44	22
Segment 1410 Colorado River Below O. H.	7002)	06	21
Ivie Reservoir	700 /	90	51
Segment 1421 Concho River	1080 ²⁾	143	32
Segment 1422 Lake Nasworthy	89 ⁶²⁾	24	N/A

 Table 3: TDS Concentrations in Stewart Creek and Cottonwood Branch Compared to Streams with

 TDS Concentrations Similar to Groundwater

1) Average of SWQM Monitoring Data

2) Table D of the Texas Surface Water Quality Standards

5.2.2 Constructed Ponds Compared to Stewart Creek

The water quality of the Project's groundwater was compared to Stewart Creek and Cottonwood Branch. The average TDS concentrations observed in Cottonwood Branch were less than the concentration of the Project's groundwater. However, data collected on Stewart Creek, a proxy stream located south of the Project, included TDS levels that bracketed the Project's constructed pond concentrations. Stewart Creek is a perennial stream with a presumed high aquatic life use. The data for Stewart Creek in Table 4, shows that the 80th percentile of TDS is 789, this means that twenty percent of the TDS value are at or above the projected concentrations in the ponds for this Project. The data suggest that the groundwater TDS levels are within a range that sustain aquatic life of the unnamed tributaries and are found in the vicinity of the Project.

Statistical Measure	Stewart Creek Concentration (mg/L)
Average	893
Minimum	188
Maximum	7,267
Median	558
80 th Percentile	789

Table 4: TDS Concentrations in Stewart Creek

6 SUMMARY

Thirty aerial photographs from 1995 to 2022 were used to assess the pool coverage of the unnamed tributaries in the Project. Pools evident in the aerial photographs are small and provide less than 20% coverage of the stream beds. The aerial images demonstrate that the unnamed tributaries are intermittent. Therefore, the TSWQS assign a minimal aquatic life use to an intermittent stream.

Groundwater quality data were screened to an adapted TCEQ screening protocol for an intermittent stream upstream of a classified lake. The screening protocol identified no concern for TDS, chloride, and sulfate.

Additionally, groundwater quality data were compared to water quality of nearby streams. Nearby Stewart Creek water quality data includes TDS levels that exceed concentrations of the groundwater. The data demonstrate that the groundwater TDS concentrations for the constructed ponds are within ranges found elsewhere in the watershed.

Lastly, aquatic life data from nearby streams were assessed to determine the tolerance to the projected TDS levels. All aquatic life species found in nearby streams were found to have TDS tolerances that includes TDS concentrations in the groundwater. The data demonstrate that Project will be protective of applicable water quality standards.

Appendix A – Project Map – Kimley Horn





Appendix B-1 – Aerial Imagery – Depicting Pools and Unnamed Tributaries





Appendix B-1 Aerial Imagery Pools and Unnamed Tributaries March 31, 2011





Appendix B-1 Aerial Imagery Pools and Unnamed Tributaries March 31, 2011 **Appendix B-2 – Table – Pool and Unnamed Tributary Measurements**

Appendix B-2 Table - Pool and Unnamed Tributary Measurements								
(All Measurements in Feet)								
Date	Pool 0	Pool 1	Pool 2	Pool 3	Pool 4	Pool 5	Pool 6	Pool 7
Jun-22	130	190	147	139	307	437	768	0
Oct-21	112	119	144	138	256	124	722	0
Nov-20	137	227	153	159	292	157	711	0
Aug-20	113	181	143	158	277	134	641	0
Sep-19	104	195	157	157	292	136	575	0
Jun-19	110	138	156	143	296	147	722	631
Nov-18	134	198	258	175	326	142	993	645
Mar-18	134	313	281	205	384	159	1340	645
Dec-17	116	226	280	169	383	-	-	-
Sep-17	128	261	153	169	-	148	1333	609
Jan-17	147	334	288	189	378	172	424	537
Apr-16	149	344	213	200	382	168	528	572
Dec-15	181	366	292	223	389	179	1088	549
Mar-15	218	364	295	217	370	166	1559	646
Nov-14	203	378	281	184	321	156	1561	616
Jan-14	213	395	289	218	372	167	1573	632
Oct-13	137	315	202	0	275	118	1458	605
Aug-12	178	365	282	0	300	143	1577	623
Jul-12	185	367	280	0	285	149	1567	629
Apr-12	214	400	306	204	393	161	1568	631
Mar-11	97	396	130	185	295	141	542	632
Dec-09	128	419	185	235	362	165	1226	635
Jul-08	71	377	179	155	257	142	687	624
Oct-07	69	405	154	207	292	147	-	592
Oct-05	49	392	129	175	258	118	1017	629
Mar-05	138	434	200	254	386	154	1334	643
Apr-04	161	-	-	-	-	-	-	-
Jan-03	173	427	263	397	387	170	-	-
Feb-01	193	441	265	396	386	-	1609	649
Mar-95	0	410	105	689	384	164	0	640

https://apaienv.sharepoint.com/sites/msteams_c1862b/Shared Documents/General/TCEQ_Response_Memo/Pool Calculations.xlsx

	Table - Pool and	Appendix B-2	Measurements	
Date	Pools 0-3	Pools 4-5	Pool 6	Pool 7
Jun-22	12%	28%	9%	0%
Oct-21	10%	14%	8%	0%
Nov-20	13%	17%	8%	0%
Aug-20	12%	15%	7%	0%
Sep-19	12%	16%	7%	0%
Jun-19	11%	16%	8%	16%
Nov-18	15%	17%	11%	17%
Mar-18	18%	20%	16%	17%
Dec-17	15%	14%	-	-
Sep-17	14%	5%	15%	16%
Jan-17	19%	20%	5%	14%
Apr-16	18%	20%	6%	15%
Dec-15	21%	21%	13%	14%
Mar-15	21%	20%	18%	17%
Nov-14	20%	18%	18%	16%
Jan-14	22%	20%	18%	16%
Oct-13	13%	15%	17%	16%
Aug-12	16%	16%	18%	16%
Jul-12	16%	16%	18%	16%
Apr-12	22%	20%	18%	16%
Mar-11	16%	16%	6%	16%
Dec-09	19%	19%	14%	16%
Jul-08	15%	15%	8%	16%
Oct-07	16%	16%	-	15%
Oct-05	15%	14%	12%	16%
Mar-05	20%	20%	15%	17%
Apr-04	-	-	-	-
Jan-03	25%	21%	-	-
Feb-01	25%	14%	19%	17%
Mar-95	24%	20%	0%	17%
Average Pool				
Length	17%	17%	12%	13%

Tributary Le	ngth (feet)
trib len (0-3)	5108
trib len (4-5)	2705
trib len (6)	8639
trib len (7)	3849

2

https://apaienv.sharepoint.com/sites/msteams_c1862b/Shared Documents/General/TCEQ_Response_Memo/Pool Calculations.xlsx

Appendix C-1 – TDS Intermittent Stream Screen

Screen the Intermittent Stream

Applicant Name:	FHQ
Permit Number, Outfall:	
Segment Number:	0823

Enter values needed for screening:		Data Source (edit if different)
TDS CC - segment criterion - TDS	500 mg/L	2010 TSWQS, Appendix A
CI CC - segment criterion - chloride	80 mg/L	2010 TSWQS, Appendix A
SO4 CC - segment criterion - sulfate	60 mg/L	2010 TSWQS, Appendix A
TDS CE - average effluent concentration - TDS	868 mg/L	Permit application
CI CE - average effluent concentration - chloride	215 mg/L	Permit application
SO4 CE - average effluent concentration - sulfate	107 mg/L	Permit application

TDS Screening

The TDS screening value is determined by first calculating an initial TDS concentration, CTDS, as follows:

CTDS = (TDS CC / 500 mg/L) * 2,500 mg/L

Where:	CTDS = TDS concentration used to determine Csv screening value
	TDS CC = TDS criterion at the first downstream segment
	500 mg/L = the median TDS concentration in Texas streams
	2,500 mg/L = the minimum TDS screening value

CTDS =

2500 mg/L

The next step is to use the initial CTDS to set the actual TDS screening value, TDS Csv, using the following table:

If CTDS		Then TDS Csv
≤ 2,500 mg/L	=	2,500 mg/L
> 2,500 mg/L but ≤ 6,000 mg/L	=	Ctds
> 6,000 mg/L	=	6,000 mg/L

Some specific types of intermittent streams have alternative screening values (Csv):

Specific Type of Intermittent Stream	If CTDS is	Default Csv =
Dry except for short-term flow in	< 4,000 mg/L	4,000 mg/L
immediate response to rainfall.	≥ 4,000 mg/L	Ctds
Constructed ditch conveying stormwater and	< 4,000 mg/L	4,000 mg/L
wastewater, considered water in the state.	≥ 4,000 mg/L	Ctds
Within 3 miles of tidal waters.	_	6,000 mg/L

Once TDS Csv is established, the next step is to compare the effluent TDS concentration, TDS CE, to the screening value. Control measures, which may include effluent limitations, are

Screen the Intermittent Stream

considered for TDS if the effluent TDS is greater than the screening value.

Values needed for Screening				Data Source
TDS CE - average effluent TDS concentration		868	3 mg/L	Permit application
TDS Csv - TDS screening value		2500) mg/L	Determined above
				_
No control measures needed if:	868	≤	2500	
Consider control measures if	868	>	2500	

No control measures needed for TDS

Before establishing effluent limitations for TDS, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average TDS limit is typically set equal to the TDS screening value. The daily maximum TDS limit is calculated as 2.12 times the daily average limit.

Total Dissolved Solids				
Daily Average	=	N/A mg/L		
Daily Maximum	=	N/A mg/L		

Chloride Screening

If TDS limits are necessary or there are concerns about chloride, additional screening can be performed for chloride. First calculate the screening value for chloride, Cl Csv, as follows:

Cl Csv = (TDS Csv /TDS CC) * Cl CC

Where:	Cl Csv = chloride screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	CI CC - chloride criterion at the first downstream segment

Cl Csv = 400 mg/L

Once the Cl Csv is established, the next step is to compare the effluent chloride concentration, Cl CE, to the screening value. Control measures, which may include effluent limitations, are considered for chloride if the effluent chloride is greater than the screening value.

Values needed for Screening		Data Source
CI CE - average effluent chloride concentration	215 mg/L	Permit application

Screen the Intermittent Stream

CI Csv - chloride screening value		400) mg/L	Determined above
No control measures needed if: Consider control measures if:	215 215	≤ >	400 400	
No control measures needed for chloride				

Before establishing effluent limitations for chloride, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average chloride limit is typically set equal to the chloride screening value. The daily maximum chloride limit is calculated as 2.12 times the daily average limit.

Chloride				
Daily Average	=	N/A mg/L		
Daily Maximum	=	N/A mg/L		

Sulfate Screening

If TDS limits are necessary or there are concerns about sulfate, additional screening can be performed for sulfate. First calculate the screening value for sulfate, SO4 Csv, as follows:

SO4 Csv = (TDS Csv /TDS CC) * SO4 CC

Where:	SO4 Csv = sulfate screening value
	TDS Csv = TDS screening value
	TDS CC = TDS criterion at the first downstream segment
	SO4 CC - sulfate criterion at the first downstream segment

SO4 Csv = **300** mg/L

SOO IIIg/L

Once the SO4 Csv is established, the next step is to compare the effluent sulfate concentration, SO4 CE, to the screening value. Control measures, which may include effluent limitations, are considered for sulfate if the effluent sulfate is greater than the screening value.

Values needed for Screening				Data Source	
SO4 CE - average effluent sulfate concen	1	07 m	ng/L	Permit application	
SO4 Csv - sulfate screening value	3	00 m	ng/L	Determined above	
No control measures needed if:	107	≤		300	
Consider control measures if:	107	>		300	

Screen the Intermittent Stream

No control measures needed for sulfate

Before establishing effluent limitations for sulfate, review the "Final Evaluation and Additional Considerations for TDS" in the "Procedures to Implement the Texas Water Quality Standards." The specific circumstances may warrant an instream monitoring requirement or a source reduction plan rather than effluent limitations.

When effluent limitations are established in the permit, the daily average sulfate limit is typically set equal to the sulfate screening value. The daily maximum sulfate limit is calculated as 2.12 times the daily average limit.

Sulfate					
Daily Average	=	N/A mg/L			
Daily Maximum	=	N/A mg/L			

Appendix C-2 – TDS Lake Screen

Screen the Lake

Applicant Name:	FHQ	
Permit Number, Outfall:		
Segment Number:	0823	
Enter values needed for screening:		Data Source (edit if different)
EF - Effluent fraction at edge of human health MZ	0.08 decimal	Critical conditions memo
	fraction	
CA - TDS - ambient segment concentration	208 mg/L	2010 IP, Appendix D
CA - chloride - ambient segment concentration	19 mg/L	2010 IP, Appendix D
CA - sulfate - ambient segment concentration	30 mg/L	2010 IP, Appendix D
CC - TDS - segment criterion	500 mg/L	2010 TSWQS, Appendix A
CC - chloride - segment criterion	80 mg/L	2010 TSWQS, Appendix A
CC - sulfate - segment criterion	60 mg/L	2010 TSWQS, Appendix A
CE - TDS - average effluent concentration	868 mg/L	Permit application
CE - chloride - average effluent concentration	215 mg/L	Permit application
CE - sulfate - average effluent concentration	107 mg/L	Permit application

Screening Equation

CC ≥ (EF)(CE)+(1-EF)(CA)

Preliminary Calculations	Effluent	Load	New	% Change	% Change
	Load	in Lake	Concentration	in	in Assim.
Parameter	(EF)(CE)	(1-EF)(CA)	Equation 3	Ambient	Capacity
TDS	69.44	191.36	260.80	25.4	18.1
Chloride	17.2	17.48	34.68	82.5	25.7
Sulfate	8.56	27.6	36.16	20.5	20.5
No further screening for TDS needed if:	260.80	≤	500		
No further screening for chloride needed if:	34.68	≤	80		
No further screening for sulfate needed if:	36.16	≤	60		

Permit Limit Calculations

TDS			
Calculate the WLA	WLA= [CC - (1-EF)(CA)]/EF	3858.00	
Calculate the LTA	LTA = WLA * 0.93	3587.94	
Calculate the daily average	Daily Avg. = LTA * 1.47	5274.27	
Calculate the daily maximum	Daily Max. = LTA * 3.11	11158.49	
Calculate 70% of the daily average	70% of Daily Avg. =	3691.99	
Calculate 85% of the daily average	85% of Daily Avg. =	4483.13	
No permit limitations needed if:	868 ≤	3691.99	
Reporting needed if:	868 > 3	3691.99 but≤	4483.13
Permit limits may be needed if:	868 > 4	1483.13	

No permit limitations needed for TDS

Chloride				
Calculate the WLA	WLA= [CC - (1-EF)(CA)]/EF	781.50	
Calculate the LTA	LTA = WLA * 0.93		726.80	
Calculate the daily average	Daily Avg. = LTA *	1.47	1068.39	
Calculate the daily maximum	Daily Max. = LTA *	3.11	2260.33	
Calculate 70% of the daily average	70% of Daily Avg. =		747.87	
Calculate 85% of the daily average	85% of Daily Avg. =	-	908.13	
No permit limitations needed if:	215 ≤	747.8	7	
Reporting needed if:	215 >	747.8	7 but≤	908.13
Permit limits may be needed if:	215 >	908.1	.3	

No permit limitations needed for chloride

Sulfate					
Calculate the WLA	WLA= [CC - (1	L-EF)(CA)]/E	F	405.00	
Calculate the LTA	LTA = WLA *	0.93		376.65	
Calculate the daily average	Daily Avg. = L	TA * 1.47		553.68	
Calculate the daily maximum	Daily Max. =	LTA * 3.11		1171.38	
Calculate 70% of the daily average	70% of Daily	Avg. =		387.57	
Calculate 85% of the daily average	85% of Daily	Avg. =		470.62	
No permit limitations needed if:	107	≤	387.57		
Reporting needed if:	107	>	387.57	but ≤	470.62
Permit limits may be needed if:	107	>	470.62		

No permit limitations needed for sulfate

Note: do not copy Preliminary Calculations into Fact Sheet or Statement of Basis/Technical Summary

If all of these equations are true, stop here and do not go on to the permit limits calculations.

Appendix D-1 – Fish Data

				Annen	dix D-1										
		Aquatio	: Life Dat	a for Seg	ments 12	257, 141(), 1421								
	Segment 1257		Segme	nt 1410					Se	gment 1	421				
							STATIO	N							
Fish Species	12044	12356	17359	17360	17361	12401	12404	12407	12408	12410	12411	12412	12414	12415	Grand Total
APLODINOTUS GRUNNIENS (#/SAMPLE)			12	3	9										24
CAMPOSTOMA ANOMALUM (#/SAMPLE)	1														1
CARPIODES CARPIO (#/SAMPLE)			3	5	6	15	8	1		10	4		8		60
CICHLASOMA CYANOGUTTATUM (#/SAMPLE)								1							1
CYPRINELLA VENUSTUS (#/SAMPLE) NOTROPIS VENUSTUS	538	2	7	10	9		43								609
CYPRINODON SPP. (#/SAMPLE)		2													2
CYPRINUS CARPIO (#/SAMPLE)	43		9	4	9	1	1		3						70
DOROSOMA CEPEDIANUM (#/SAMPLE)	3	2	50	29	35	9	144	12	5	242	44	18	55	5	653
DOROSOMA PETENENSE (#/SAMPLE)							8								8
ETHEOSTOMA SPECTABILE (#/SAMPLE)	12														12
FUNDULUS GRANDIS (#/SAMPLE)	52														52
FUNDULUS NOTATUS (#/SAMPLE)			3												3
GAMBUSIA AFFINIS (#/SAMPLE)	115		69	292	394	8					5				883
ICTALURUS FURCATUS (#/SAMPLE)							1								1
ICTALURUS PUNCTATUS (#/SAMPLE)	29	3	27	9	8	1	16		1	2	2	3	1		102
ICTIOBUS BUBALUS (#/SAMPLE)			2								1				3
ICTIOBUS CYPRINELLUS (#/SAMPLE)										1					1
ICTIOBUS NIGER (#/SAMPLE)							1								1
LEPISOSTEUS OCULATUS (#/SAMPLE)	9	7					13						14		43
LEPISOSTEUS OSSEUS (#/SAMPLE)			8	10	2	1	25								46
LEPISOSTEUS SPATULA (#/SAMPLE)							3								3
LEPOMIS (#/SAMPLE)		1								710	5	1	10		727
LEPOMIS AURITUS (#/SAMPLE)	226											6	15		247
LEPOMIS CYANELLUS (#/SAMPLE)	4	17	24	68	1		6			33		4	9		166
LEPOMIS GULOSUS (#/SAMPLE)			36	16	5						2	1	5		65
LEPOMIS HUMILIS (#/SAMPLE)	4		15	37	73										129
LEPOMIS MACROCHIRUS (#/SAMPLE)	124		72	119	13	11	37	28		7	13	142	22		588
LEPOMIS MEGALOTIS (#/SAMPLE)	209		151	125	53	4	11	1		1	1	5	2		563
LEPOMIS MICROLOPHUS (#/SAMPLE)	4														4
MENIDIA BERYLLINA (#/SAMPLE)	33			284	4										321
MICROPTERUS PUNCTULATUS (#/SAMPLE)	16														16
MICROPTERUS SALMOIDES (#/SAMPLE)	52	4	12	7	6	1	23	7		12	5	13	12	3	157
MICROPTERUS TRECULI (#/SAMPLE)			1												1
MORONE CHRYSOPS (#/SAMPLE)	1		4		1									1	7
MORONE SAXATILIS (#/SAMPLE)											1				1
MOXOSTOMA CONGESTUM (#/SAMPLE)	6		3	2		5	16								32
MOXOSTOMA ERYTHRURUM (#/SAMPLE)		1					11	4		4					20
NOTROPIS (#/SAMPLE)		147								54	8				209
NOTROPIS VOLUCELLUS (#/SAMPLE)				20	1										21
PERCINA CARBONARIA (#/SAMPLE)			2	2	1										5
PERCINA MACROLEPIDA (#/SAMPLE)			3	1											4
PIMEPHALES VIGILAX (#/SAMPLE)	18		347	219	405	2									991

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				Append	lix D-1										
		Aquatio	c Life Dat	a for Seg	ments 12	257, 1410), 1421								
	Segment 1257		Segme	nt 1410					Se	gment 14	21				
							STATIO	N j							1
Fish Species	12044	12356	17359	17360	17361	12401	12404	12407	12408	12410	12411	12412	12414	12415	Grand Total
POMOXIS (#/SAMPLE)										7	3				10
POMOXIS ANNULARIS (#/SAMPLE)			2	4	1	4	2								13
POMOXIS NIGROMACULATUS (#/SAMPLE)						1									1
PYLODICTIS OLIVARIS (#/SAMPLE)	1	3	10	5	3		1	1	2						26
Grand Total	1500	189	872	1271	1039	63	370	55	11	1083	94	193	153	9	6902

Station ID No. and corresponding station description: Brazos River at FM 2114 (12044), Colorado River at SH 16 (12356), Colorado River Teram Nabors Creek (17369), Colorado River Upstream SH 16 (17361), Concho River at Bridge on US 83 (12401), Concho River at SH 16 (12356), Colorado River Lops 306 (12408), North Concho River Below Dam (12410), North Concho River at 1st ST (12411), North Concho River at Irving St (12412), North Concho River at Concho St (12414), Concho River at Chadbourne St (12415)

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Appendix D-2 – Macroinvertebrate Data

							Aquat	ic Life Da	ta for Seg	Appe ments 12	ndix D-2 03, 1233,	1257, 141	.0, 1421, a	ınd 1422											
				Segme	ent 1203				Sc	gment 12	233	Segment 1257		Segme	nt 1410				Sc	gment 14	121			Segment 1422	
Macroinvertehrate Species	11834	11835	13987	13990	13991	13992	13993	13994	12002	12003	12004	STA 12044	12356	17359	17360	17361	12401	12402	12403	12404	12405	12407	12409	12418	Grand Total
ABLABESMYIA	11034	11035	13307	13330	x333	13332	13333	13334	11.001	11005	11.004	110-1-1	11.550	11333	17300	17301	11-101	11-401	11-105	222-40-4	4	21-407	11-105	11-110	4
ACENTRELLA												3									· ·				3
AGABUS																		3							3
AGRAYLEA													8.5				4.42				29.83				42.75
AGRIONIDAE(CALOPTERYGIDAE)												0.8													0.8
AMBRYSUS																	7.33				0.33	22	5		34.66
AMPHIAGRION	9	7																							16
ANCYRONYX												0.4													0.4
ANISOPTERA	5												2						2			12			21
ANKISTRODESMUS (#/ML)											0.013														0.013
ANNELIDA												0.95													0.95
ANOPHELES														21											21
ARCELLA (#/LITER)									3																3
ARGIA												9.5	58.5	1	4	1	261.5	4		8	62.33	61	12	1.2	482.83
ASCOMORPHA (#/LITER)									45	22											<u> </u>			1.2	1.2
ASPLANCHNA (#/LITER)									45	33	4	0.5							-					24	0.5
RAFTIDAE		2.7										0.5	25							12					71.6
BAETIDAC		3.7										9.9	35	7		4	25.25			25		1			/1.0
BAETISCA												30.5	0.5	, í		4	23.23				-	1			30.5
BATRACORDELLA												30.5					2								2
BELOSTOMA																	-				1				1
BEROSUS												0.3					7	2			85.83	21			116.13
BOSMINA (#/LITER)									32	75	17							-							124
BOSMINA COREGONI (#/LITER)										11															11
BOSMINA LONGIROSTRIS (#/LITER)																								234.7	234.7
BRACHIONUS (#/LITER)																								2149.3	2149.3
BRACHIONUS ANGULARIS (#/LITER)			4120	300	1100	550	350	42800			4													27.3	49251.3
BRACHIONUS CAUDATUS (#/LITER)																								15.8	15.8
BRACHYCERCUS																3									3
BRECHMORHOGA																							1		1
CAENIS	2												18				20	1	14		260	49	39		403
CALANOIDA (#/LITER)									6																6
CALLIBAETIS																					2.5				2.5
CAMPTOCERCUS RECTIROSTRIS (#/LITER)																								0.4	0.4
CENTROPTILUM											0.043		159.83				101.5				8.33	8			277.66
CERATION HIRONDINELLA (#/ML)											0.013		0.5				1				53		-		0.013
CERIODADHNIA (#/LITER)													0.5				1				52			2.4	33.5
												3	7599.67	20	25	46	271/ 01	17			44.67	1594		0.4	12052.25
CHEMARRA									<u> </u>		<u> </u>	5	75	2.5	2.5	2	15.83	17			44.07	7	<u> </u>		37.33
CHIRONOMIDAE	13	5										5	435.92		23	56	466 33		3	25	625	173	44		1874.25
CHIRONOMINAE	10												1001012		20		100100		37	20	010	2/0	- ···		37
CHIRONOMUS												26	6				1.5				13	5			51.5
CHIRONOMUS TENTANS												0.5													0.5
CHOROTERPES													374.75				86.16				23.5				484.41
COELOSPHAERIUM (#/ML)											0.022														0.022
COELOTANYPUS																					8				8
COLEOPTERA		0.3															26		1	1		6			34.3
CONCHOSTRACA (#/LITER)										11															11
CORBICULA												23	11	1	2			1		24	5				67
CORBICULA FLUMINEA													4				14.5				21.16				39.66
CORBICULA MANILENSIS													0.5				10.17				3		1		14.67
CORBICULIDAE (CYRENIDAE)		L											1			L									1
CORIXIDAE																	1				4	2	1		8
CORYDALIDAE	L		L	L	L	L				L			2		L	L					L	L	L		2
CORYDALUS	I	0.7	L		I								21		L	I	6		I		0.07	I	I		27.7
CURYDALUS CORNUTUS	 	I			I	I		I		I		I	14		I	<u> </u>	26.67		I		0.67	I	I		41.34
CRICOTOPOS		<u> </u>											242.17		l	<u> </u>	7.5		I		5.6/	<u> </u>	I		255.34
		-	-		1	-		-		-		-				-	59		-			-	-		59
		-	<u> </u>										10			<u> </u>	<u> </u>		-		10	<u> </u>	-		70
CULICIDAE		l	l –		1			-		-			2		-	1			-		1.5	1	-		23

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							Aquat	ic Life Da	ta for Seg	Appe ments 12	ndix D-2 03, 1233,	1257, 141	0, 1421, a	ınd 1422											
				Segme	nt 1203				Sc	gment 12	33	Segment 1257	TION	Segme	nt 1410				Se	gment 14	21			Segment 1422	
Macroinvertebrate Species	11834	11835	13987	13990	13991	13992	13993	13994	12002	12003	12004	12044	12356	17359	17360	17361	12401	12402	12403	12404	12405	12407	12409	12418	Grand Total
CYCLOPOIDA (#/LITER)	11034	11035	13307	13330	13331	13331	13333	13334	13	12005	11.00-7	11044	11.550	11333	17500	27301	11-401	11-101-	11-405	225-10-1	11-405	11-407	11-105	2	15
CYCLOPS (#/LITER)									30	33	56													50	169
CYCLOPS VERNALIS (#/LITER)									36	64	13													13	126
DACTYLOBAETIS MEXICANUS													48.5				8.42								56.92
DAPHNIA (#/LITER)									58																58
DAPHNIA PULEX (#/LITER)										22	9													29.9	60.9
DECAPODA											-								5						5
DIAMESA																					36				36
DIAPHANOSOMA (#/LITER)										11															11
DIAPHANOSOMA BRACHYURUM (#/LITER)									12	4	4														20
DIAPHANOSOMA LEUCHTENBERGIANUM (#/LITER)																								3.3	3.3
DIAPTOMUS (#/LITER)																								16.9	16.9
DICROTENDIPES													1				32.75				206.34				240.09
DIFFLUGIA (#/LITER)									35																35
DINA																	1								1
DINEUTUS													1				2.5	1			4.5				9
DIPTERA																	6.5								6.5
DROMOGOMPHUS												1.8									1				2.8
DRYOPS																						2			2
DUBIRAPHIA													8				16				91.5	4			119.5
DUGESIA												30													30
ELMIDAE	30	5										3.75	28				3			22		2	1		94.75
ELOPHILA		0.3											11.5				2.58								14.38
ENALLAGMA																					1				1
EPHEMERIDAE																				20					20
EPHEMEROPTERA													4				6		17			17			44
EPICORDULIA																					1.5				1.5
ERPETOGOMPHOS												1	ь		5		2				0.5	1			15.5
ERVINEMIS													20								26		<u> </u>		26
EUNIEFFERIELLA													- 50				2				20.5				20.5
EUPERA CODENSIS									16	11	24						2								5
EEDDISSIA									10	11	.54		4												4
FILINIA (#/LITER)																								96.2	96.2
GASTROPODA																			21				3	30.2	24
GASTROPUS (#/LITER)									13														-	211	224
GLYPTOTENDIPES													20				71.83				345				436.83
GOELDICHIRONOMUS																					1.33				1.33
GOMPHIDAE		0.3											15							10					25.3
GOMPHUS													2				3				9.5	5			19.5
GYRAULUS																					3.5	2			5.5
GYRETES																					3				3
GYRINUS																4									4
HALIPLUS																	1				4				5
HELICHUS					I			1					10		1		17.83				7		L		35.83
HELICOPSYCHE	21											6					2								29
HELISOMA												1					0.5								1.5
HELOBDELLA																	1					-			1
HELUDIDAE					<u> </u>																	2			2
HEIMIPTERA													00				2				7.5	-			165
HEPTAGENIIDAE					<u> </u>								24				33.5			12	1.5	3	<u> </u>		26
HEFTAGENIIDAE		0.7											24				1			12	1	6			9.7
HETERELMIS		0.7			1								19.5				134	1			<u> </u>	10	9		173.5
HEXACYLLOEPUS					-								4		5		39.83	*			17	10	۲Ť		65.83
HEXAGENIA					1								-		۲, T		0.33				217.34				217.67
HEXARTHRA (#/LITER)					1				5	39	572						0.00						1	5.1	621.1
HIRUDINEA					1							0.25	23				190		2		58.83	28	9		311.08
HIRUDINIDAE(HIRUDIDAE)																				5			1		5
HYALELLA AZTECA												10					10	7			225.5	159	131		542.5
HYDRACHNIDIA														2											2
HYDROCHUS	28																1								29
HYDROPHILIDAE																				1		28	2		31

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							Aquat	ic Life Da	ta for Seg	Appe ments 12	ndix D-2 03, 1233,	1257, 141	0, 1421, a	and 1422											
				Segme	ent 1203				Se	gment 12	33	Segment 1257	TION	Segme	nt 1410				Se	gment 14	21			Segment 1422	
Macroinvertebrate Species	11834	11835	13987	13990	13991	13992	13993	13994	12002	12003	12004	51A 12044	12356	17359	17360	17361	12401	12402	12/03	12404	12405	12407	12409	12418	Grand Total
HYDROPSYCHE	11034	11035	23307	13330	13331	13332	13333	13334	11.001	12003	11.004	3	174 17	11333	17300	17501	300.67	12-402	1	58	6.83	184	11-103	11-110	727.67
HYDROPSYCHIDAE		3										,	57				182		-	50	0.05	187			429
HYDROPTILA												8	45.5				9				44	2			108.5
HYGROTUS																					9				9
ILYBIUS													1												1
ISONYCHIA												0.5	137.92	1	5		35.17				0.5	8			188.09
ITHYTRICHIA																1	48.58				37				86.58
KERATELLA (#/LITER)									15		56													48.5	119.5
KERATELLA COCHLEARIS (#/LITER)									70		21														91
KIEFFERULUS													20												20
LEPTOCELLA												0.5													0.5
LEPTOCERIDAE												4													4
LEPTOCERUS												0.5													0.5
LEPTOHYPHES												29					122.25				84.16				235.41
LEPTOPHLEBIA													988.5				335.5					120			1444
LEPTOPHLEBIIDAE													61												61
LEUCOTRICHIA												1													1
LEUCROCUTA														6		5									11
LIBELLULA																					21				21
LIBELLULIDAE	1																								1
LIMNEPHILIDAE	8																								8
LIMNOCYTHERE			1107.09																						1107.089
LIMNOPHORA													13												13
LUTROCHUS																	19.91								19.91
LYMNAEA																	1				1	1			3
LYMNAEIDAE												0.3													0.3
MARPHYSA																						3	18		21
MICROCYLLOEPUS													6			3	144.33				15				168.33
MOLLUSCA																						6			6
MONOSTYLA (#/LITER)																								6	6
NAUCORIDAE																				18					18
NAUPLIUS,UNKNOWN (#/LITER)									150	77	142													28	397
NEMATA (NEMATODA)													1				0.5			10	1				12.5
OCTOGOMPHUS																				3					3
ODONATA																	2								2
OECETIS												1	2				3				1.5				7.5
OLIGOCHAETA												3	100.67	1			122.25				50.16	6			283.08
OLIGONEURIIDAE													51												51
OPHIOGOMPHUS												2.3	17									3			22.3
ORDOBREVIA													295				644				32	389			1360
ORTHOCLADIUS													4												4
OSCILLATORIA (#/ML)				1	1					0.117													1		0.117
OSTRACODA												1													1
PALAEMONETES				1	1								10									1	2		13
PALAEMONETES (#/SAMPLE)				1	1								126										1		126
PALAEMONETES KADIAKENSIS				1	1		l l										4				8	29	4		45
PARACHIRONOMUS				1	1					1					1		7.5						1		7.5
PARAGYRACTIS		1		1	1			1					59.5		1		82.5				0.5	9	1		151.5
PARALEPTOPHLEBIA													3												3
PARATENDIPES NUDISQUAMA				1	1												0.5						1		0.5
PEDIASTRUM (#/ML)				1	1				0.054	0.024													1		0.078
PEDIASTRUM DUPLEX (#/ML)		1		1	1	1					0.069				1								1		0.069
PELECYPODA					1								10				2019		6		69	9	1		2113
PELTODYTES	1	1	1	1	1	1						0.2			1								1		0.2
PENTANEURA				1	1					1		0.5	2		1		23				24	17	1		66.5
PERLESTA PLACIDA													1												1
PHYSA	-		-	1	1								-		1		90.83	5			204.16	17	4		321.99
PHYSIDAE	1		-	1	1										<u> </u>			-				2	1		3
PISIDIUM	-		1	1	1					1		1			1								1		1
PLACOBDELLA	1		1	1	1							-					2						1		2
PLANABIIDAE	-		-	1	1					-							~		2			1	1		
PLANORBIDAE	3		-	1	1					-									-			2	3		8
PLOESOMA (#/LITER)	۲, T		-	1	1																	-	۲Ť	6.1	6.1
· · · · · · · · · · · · · · · · · · ·						1																			V.4

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							Aquat	ic Life Da	ta for Seg	Appe ments 12	ndix D-2 03, 1233,		0, 1421, a	nd 1422											
				Segme	nt 1203				Se	gment 12	:33	Segment 1257		Segme	nt 1410				Se	gment 14	121			Segment 1422	
												STA	TION												
Macroinvertebrate Species	11834	11835	13987	13990	13991	13992	13993	13994	12002	12003	12004	12044	12356	17359	17360	17361	12401	12402	12403	12404	12405	12407	12409	12418	Grand Total
POLYARTHRA (#/LITER)									2	2/	1/		44.5				22.22				15.33			449.3	495.3
POLTPEDILUM													44.5				32.33				15.55				92.10
PROCAMBARUS																	2						4		4
PROCAMBAROS CLARKI													12				2				3.5				2
PROCLADIOS													15								3.5				10.5
RELIDOCHIRONOMUS													0.5				22.25				77.22				110.09
PSEUDOCHIKONONOS													0.5				52.25				77.55				110.06
PSEUDOLEON													2								2				2
PSEODOLLON																					0.33				0.33
PYRALIDAE													1								0.55				0.55
PHEOTANYTAPSUS													0.92				2.09								11.91
RHYACOBHILA													5.05				2.00								4
SCENEDESMUS (#/ML)										0.013							4								0.013
SIALIS										0.015											10				10
SIMUUDAE		1											1621.66				254.84			50	10.5	146	10		2094
SIMULTIM													1021.00	0	16		2.54.04	20		30	10.5	7	6		57
SMICRIDEA													1	0	10			20							
SPHAEPILIM													73.5				1642.34				125.5				1941.24
STENELMIS												34	1201.84	16	28	64	2263		2		316.17	17			3942.01
STENONEMA												51	39.5	10	7	0.1	LLUU		~		JAOIA/				46.5
STICTOCHIRONOMUS													0010		L '						48				48
STRATIOMYIDAE																					10		1		1
SYNCHAFTA (#/LITER)																							-	42.4	42.4
SYNEDBA (#/ML)									0.091	0.039	0.232														0.362
TABANIDAF	5	1											1							2					9
TABANUS													23.5				1								24.5
TANYPODINAE													9.33				7				6.33				22.66
TENAGOBIA																		11					16		27
THRAULODES												3.75	6.5									2			12.25
TIPULA																7									7
TIPULIDAE													6												6
TRAVERELLA													8												8
TRIAENODES																					1				1
TRICHOCERCA (#/LITER)									1															15.9	16.9
TRICHOCORIXA																					2				2
TRICHOPTERA												2	231	100	100	180.63	93		3			61			770.63
TRICORYTHODES												57	167.33				159.83				310.83	181			875.99
TRISSOCLADIUS															1						44				44
TURBELLARIA												37	5				239.83	21			1.67	11	11		326.5
UNIONIDAE																	6								6
XENOCHIRONOMUS																	2								2
ZYGOPTERA													1				5.5		2			1			9.5
Grand Total	126	28	5227.09	300	1100	550	350	42800	542.145	418.193	949.349	361.7	15023.6	193	222	376.63	13431.6	94	118	292	4159.46	3644	337	3479.7	94123.486
Station ID No. and corresponding station description	Steele Cr	eek at Sh	epard Str	eet (1183	4), Steele	Creek at F	M 174 (1	1835), Hu	bbard Cre	eek Res Ne	ear Dam (12002), Hu	ubbard Cr	eek Res S	andy Ck A	rm (1200	3), Hubba	rd Creek	Res Hubb	ard Ck Arı	m (12004)	, Brazos F	tiver at FN	1 2114 (120)44), Colorado

station IU No. and corresponding station description: Steele Creek at Shepard Street (11834), Steele Creek at FM 174 (11835), Hubbard Creek Res Near Dam (12002), Hubbard Creek Res Shady Ck Arm (12003), Hubbard Creek Res Mubbard Ck Arm (12004), Colorado River at FM 381 (12402), Concho River at FM 381 (12402), Concho River at FM 192 (12403), Concho River We of Veribest (1264, 12405), Concho River at FM 380 (12407), Concho River At FM 381 (12402), Concho River at FM 381 (12402), Concho River at FM 381 (12403), Concho River at FM 380 (12407), Concho River at FM 380 (12407), Concho River at FM 380 (12407), Concho River at FM 381 (12402), Lake Whitney Site AC Nac Tao (1397), Lake Whitney Site PC (13991), Lake Whitney Site PO7 (13992), Lake Whitney Site P11 (13994), Colorado River Upstream Nabors Creek (17359), Colorado River Upstream SH 16 (12761)

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https://apalenv.sharepoint.com/sites/msteams_c1862b/Shared Documents/General/Stream Criteria/20230802_FHQ.xlsx

Appendix D-3 – Water Quality Data

A	ppendix D-3: Wa	ater Quality in (Cottonwood	Branch, Stev	wart Creek,	and Referen	ice Segment	S	
Parameter	Statistical	Cottonwood	Stewart			Reference	Segments ²⁾		
	Ivieasure	Branch	Сгеек	1203	1233	1257	1410	1421	1422
	Average	557	893	1,086	812	878	956	1,206	874
	Minimum	513	188	137	104	291	120	114	104
Total Dissolved Solids 1)	Maximum	601	7,267	7,410	11,700	1,430	3,900	2,711	1,456
(mg/L)	Median	557	558	962	722	868	884	1,157	796
	80 th Percentile	583	789	1,183	904	1,036	1,564	1,612	1,190
	Count	2	45	6,835	2 <i>,</i> 865	505	1,265	2,216	1,664
	Average	-	79	1,524	1,244	722	746	1,161	846
	Minimum	-	10	5	5	10	17	10	29
Chloride	Maximum	-	198	4,100	13,600	3,692	7,400	5,017	2,048
(mg/L)	Median	-	76	1,800	953	342	420	560	940
	80 th Percentile	-	102	2,200	1,228	1,381	1,240	2,320	1,300
	Count	0	40	974	842	460	2,335	2,252	371
	Average	-	449	1,028	1,170	700	910	986	852
	Minimum	-	27	2	-	29	4	6	12
Sulfate	Maximum	-	6,500	2,620	19,600	3,530	3,528	6,810	2,400
(mg/L)	Median	-	154	1,063	890	332	455	526	910
	80 th Percentile	-	198	1,912	1,300	1,312	1,784	1,780	1,296
	Count	0	40	953	836	448	711	1,624	359
Date Range of Data	-	1989	1968-2022	1973-2022	1973-2023	1973-2022	1968-2022	1968-2022	1972-2022

¹⁾ TDS was derived by multiplying specific conductance results by 0.65

²⁾ Segment Numbers and Names:

1203 - Whitney Lake

1233 - Hubbard Creek Reservoir

1257 - Brazos River Below Whitney Lake

1410 - Colorado River Below O. H. Ivie Reservoir

1421 - Concho River

1422 - Lake Nasworthy

https://apaienv.sharepoint.com/sites/msteams_c1862b/Shared Documents/General/Stream Criteria/20230302_FHQ.xlsx

Hi Josh,

If FHQ decides to revise the flow volumes from the wells to the ponds that were provided in the original application would that require an entirely new application? Or would the TCEQ be able to swap out the pages and not have to start the entire application process from the beginning? Any guidance you can provide regarding the that process would be appreciated. If it easier for us to talk about it rather than an email, feel free to give me a call on my cell.

Thanks for your help,

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov> Sent: Thursday, February 9, 2023 1:53 PM To: Koenings, Tres

Subject: RE: FHQ Development Partners, LP 13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Tres,

Yes, I think you can expect to see the letter tomorrow. I will copy Kyle and Roger when I send it.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov

From: Koenings, Tres Sent: Thursday, February 9, 2023 8:28 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Cc: Roger McInnis <<u>r</u>; Dickey, Kyle < Subject: RE: FHQ Development Partners, LP 13779

Good morning Josh,

Should we still be looking for the RFI this week? I will be out of the office tomorrow and next Monday in case you need anything from me, please be sure to include Kyle and Roger in your email.

Thanks for your help,

Tres Koenings Senior Project Manager

C: 512-923-5580

www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Friday, January 27, 2023 9:33 AM To: Koenings, Tres Subject: RE: FHQ Development Partners, LP 13779

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I think a good estimate would be the second week in February.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tcea.texas.gov

From: Koenings, Tres <

Sent: Thursday, January 26, 2023 1:50 PM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP 13779

Thank, Josh,

During our call, your team mentioned a RFI that you all would be providing us. Do you have an estimate for when we can expect that?

Thanks!

Tres Koenings Senior Project Manager

C: 512-923-5580

tkoenings@plummer.com www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Wednesday, January 25, 2023 11:17 AM To: Koenings, Tres Subject: RE: FHQ Development Partners, LP 13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Tres,

That would be Leslie Patterson.

Leslie.patterson@tceq.texas.gov Phone# 512.239.6655

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 <u>Joshua.Schauer@tceq.texas.gov</u>

From: Koenings, Tres

Sent: Wednesday, January 25, 2023 9:39 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP 13779

Good morning, Josh,

Who on your team would be best for me to contact with a question on the TDS water quality screening calculations? I have a potential solution that I would like to run by them before we commit too much time and effort to it.

Thanks for your help with this project,

Tres Koenings Senior Project Manager

C: 512-923-5580

www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Tuesday, January 17, 2023 1:57 PM To: Koenings, Tres < Subject: RE: FHQ Development Partners, LP 13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Tres,

Unfortunately one of the staff members that should be in this meeting will be unavailable during that 3:30 time slot. I think I could schedule it an hour earlier at 2:30 so we could keep the same day, otherwise I could look for a time next week. Please advise me on your teams availability.

Thanks,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov

From: Koenings, Tres Sent: Tuesday, January 10, 2023 11:29 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP 13779
Josh,

Thanks. I have not received an invite to the meeting yet if you did already send it. Please check if my email address is correct.

Take care,

Tres Koenings Senior Project Manager

C: 512-923-5580

www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Tuesday, January 10, 2023 10:59 AM To: Koenings, Tres < Subject: RE: FHQ Development Partners, LP 13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thanks Tres. You should have received the invite. I will reach out to staff and get more specific about the subject matter of the meeting for you.

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tcea.texas.gov

From: Koenings, Tres Sent: Tuesday, January 10, 2023 10:06 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP 13779

Hi Josh,

Thursday, January 19 @ 3:30 pm works best for us. Please send the invite the same group from our side as the last call.

Will this call be to discuss the missing items from our last response letter, or to further discuss our recommendations? I'm curious so that we can come prepared with any supporting documentation if necessary.

Thanks for your help with this project and we look forward to speaking with soon.

Take care,

Tres Koenings Senior Project Manager

C: 512-923-5580

www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Monday, January 9, 2023 3:41 PM To: Koenings, Tres Subject: FHQ Development Partners, LP 13779

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Tres,

I hope you are well. Staff has requested a meeting to discuss the referenced application.

Please let me know if you would be available for a TEAMs meeting during any of the following times:

Thursday, January 19 @ 3:30 pm Thursday, January 26 @ 3:00 pm Friday, January 27 @ 11:00am

Regards,

Joshua Schauer Project Manager Water Rights Permitting Team, Water Availability Division Texas Commission on Environmental Quality 512-239-1371 Joshua.Schauer@tceq.texas.gov Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Erin E. Chancellor, *Interim Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 10, 2023

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP.
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

Dear Mr. Dickey:

Texas Commission on Environmental Quality staff reviewed the Applicant's water quality analysis received on November 10, 2022. Additional information is needed to complete technical review of the application.

- 1. Provide the well number or well identifier, location of well, and depth of the well for the groundwater quality data used in the analysis in the technical RFI response dated November 10, 2022.
- 2. Provide latitude and longitude coordinates in decimal degrees to at least six decimal places for ambient water quality data collected at Sampling Point 1. The latitude and longitude coordinates provided for Sampling Point 1 in the RFI response, dated November 10, 2022, do not plot on a watercourse.
- 3. Clarify the groundwater discharge rates requested for Discharge Points 1, 2, and 3. The rates used in the Applicant's groundwater quality analysis in the technical RFI response dated November 10, 2022 are different from the discharge rates identified in Worksheets 4.1 in the technical RFI response, dated August 19, 2022. If the requested groundwater discharge rates have changed, provide revised Worksheets 4.1.
- 4. Provide a revised water quality analysis and calculations demonstrating how groundwater discharges from the Twin Mountain/Lower Trinity aquifer into Ponds 1, 2, and 3 on unnamed tributary 5.2 will meet the applicable screening criteria for chlorides, sulfates, and total dissolved solids for intermittent streams with perennial pools as set forth in

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Applicaion No. 13779 February 10, 2023 Page 2 of 2

TCEQ's Procedures to Implement the Texas Surface Water Quality Standards. Note that the

effluent discharge rate (QE) is the maximum requested discharge rate in Worksheet 4.1(b) for each well at the point of discharge.

Please provide the requested information by March 13, 2023, or the application may be returned pursuant to Title 30 Texas Administrative Code § 281.19. Alternatively, you may have the question of the necessity of the requested data (or the sufficiency of the information already submitted) referred to the commission for a decision. To be considered, a request for a referral must be provided March 13, 2023.

If you have any questions concerning this matter, please contact me via email at Joshua.schauer@tceq.texas.gov or by telephone at (512) 239-1371.

Sincerely,

JoshuaSchauer

Joshua Schauer, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

Good morning, Josh.

I plan to provide a presentation during our call today that will include introductions, a brief project description, and discussion of the screening performed. If it is ok with you, I do not mind leading the meeting with my presentation and then move into general discussion. Let me know your thoughts.

We are looking forward to speaking with you all.

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov>

Sent: Friday, December 2, 2022 10:37 AM

To: Koenings,

Subject: RE: FHQ Development Partners, LP - Meeting Request

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Thanks Tres. I have sent an invite.

Josh

From: Koenings, Tres

Sent: Friday, December 2, 2022 10:25 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>

Subject: RE: FHQ Development Partners, LP - Meeting Request

Josh,

Our team can meet at 1130 am on the 7th. Let know if you need me to set up the call.

Thanks,

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Sent: Thursday, December 1, 2022 12:07 PM
To: Koenings, Tres
Subject: RE: FHQ Development Partners, LP - Meeting Request

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Hi Tres,

I am sorry to hear that you feeling bad. I am also sorry that we are having difficulties scheduling. Now that everyone is back from Thanksgiving holiday it is a little easier to confirm schedules. If 11:30 on December 7 works, I can try and secure that time. Otherwise, at this time there is an opening on Friday, December 9, 9 am -10 am or 10 am -11 am.

Please let me know if any of these times are suitable.

I hope you have a quick recovery.

Josh

From: Koenings, Tres
Sent: Thursday, December 1, 2022 9:04 AM
To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Subject: RE: FHQ Development Partners, LP - Meeting Request

Good morning, Josh,

I know that the 3pm time slot does not work. Just to confirm, both of the 11 am slots are unavailable? If so, we will need to look into a new set of times it looks like. I am out with Covid today but will do my best to respond to emails.

Thanks for your help.

Tres Koenings Senior Project Manager

C: 512-923-5580

www.plummer.com

From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Sent: Wednesday, November 30, 2022 3:27 PM To: Koenings, Tres Subject: RE: FHQ Development Partners, LP - Meeting Request

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Hi Tres,

I was mistaken. The necessary staff will not be available at 11 am that day. It appears that they are available at 3 pm. Please let me know if that works.

Thanks,

Josh

From: Koenings, Tres

Sent: Monday, November 28, 2022 9:02 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP - Meeting Request

Joshua,

Tuesday or Wednesday at 11 am work best for us. Let me know if either of these works best for you and I can send out a Teams meeting invite.

Thanks for your help!

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Sent: Monday, November 21, 2022 2:53 PM
To: Koenings, Tres <
Subject: RE: FHQ Development Partners, LP - Meeting Request</pre>

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Tres,

Please let me know if any of theses times will work for a meeting to discuss the FHQ RFI:

Tuesday 12/6 @11 am Tuesday 12/6 @3:30 pm Wednesday 12/7 @11 am

Thanks,

Joshua Schauer Project Manager TCEQ, Water Rights Permitting Section

From: Koenings, Tres Sent: Thursday, November 17, 2022 9:54 AM To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>> Subject: RE: FHQ Development Partners, LP - Meeting Request

Hi Josh,

I hope you are doing well. FHQ asked me for an update on the meeting date. Do you think we will be able to set up a call before the holiday next week, or should we plan for after Thanksgiving? We appreciate you help with this project.

Take care,

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>

Sent: Monday, November 14, 2022 3:08 PM

To: Koenings, Tres

Cc: Peter Schaefer

Subject: RE: FHQ Development Partners, LP - Meeting Request

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Thank you Tres. I have submitted the response to the teams for review. I will look at the team's schedule and request a meeting.

We do have some of our staff out already for holidays, so it might have to be after Thanksgiving.

Regards,

Josh

From: Koenings, Tres <
Sent: Monday, November 14, 2022 1:56 PM
To: Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>
Cc: Peter Schaefer <
Subject: FW: FHQ Development Partners, LP - Meeting Request

Hi, Joshua,

I am afraid I had our availability a little backwards in my previous email. We are available **anytime** on Friday, and only the **afternoon** on Monday. I apologize for the error.

Take care,

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Koenings, Tres Sent: Monday, November 14, 2022 1:33 PM To: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>



Subject: FHQ Development Partners, LP - Meeting Request

Good afternoon, Joshua,

I wanted to follow up to the response letter that was submitted last week by FHQ Development Partners, LP. As part of our response, we requested the opportunity to meet with the TCEQ to discuss the water quality concerns regarding the routing of well water into the proposed ponds. Our team is available to meet as early as Friday, the 18th in the afternoon, or Monday, the 21st anytime during the day. If those days do not work for the TCEQ we would need to look at the week after Thanksgiving. A Team video conference will work best for our presentation.

We would like to request that the meeting include yourself and Peter Schaefer of the Water Quality Standards Implementation Team. We think that his knowledge of the water quality standards will be valuable to our discussion.

Let me know sometimes that work for you and Peter and I will coordinate the Teams call. We look forward to speaking with you.

Take care,



Tres Koenings Senior Project Manager

6300 La Calma Drive, Suite 400 Austin, Texas 78752

C: 512-923-5580

www.plummer.com

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Joshua,

Thank you for setting it up. I appreciated all your input and your willingness to consider our approaches. Please see attached the final presentation from today's meeting. If you need anything else to complete your review, please do not hesitate to contact me.

Take care,

Tres Koenings Senior Project Manager

C: 512-923-5580

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From: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>
Sent: Wednesday, December 7, 2022 12:53 PM
To: Koenings, Tres < tkoenings@plummer.com>
Subject: FHQ Development Partners, LLC; Meeting 12.7.2022

CAUTION: This email originated from outside of Plummer. DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Hi Tres,

Thanks for meeting with us today. Staff has requested a copy of the slide show that was presented so that they may review it.

Thank you,

Joshua Schauer Project Manager TCEQ, Water Rights Permitting Section

From:	<u>Dickey, Kyle</u>
То:	Joshua Schauer
Cc:	Roger McInnis; Koenings, Tres
Subject:	RE: FHQ Development Partners LP; 13779 RFI
Date:	Thursday, November 10, 2022 10:41:37 AM
Attachments:	11-10-22 TCEQ Response Letter FHQ.pdf

Good morning Josh,

Our response to the RFI from October 11 is attached. I also want to introduce you to Tres Koenings with Plummer. Tres and his team have been brought on to our overall team to assist on this RFI. Please include Tres on any future correspondence on this permit.

Thank you, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov>

Sent: Tuesday, October 11, 2022 1:41 PM

To: Dickey, Kyle

Cc: Alderman, Nadia (Whitehouse)

Subject: FHQ Development Partners LP; 13779 RFI

Hi Kyle,

Additional information is required for review of the referenced application. Please review the attached RFI letter. A response is requested by 11/10/22.

Please contact me with questions regarding the letter.

Thanks,

Joshua Schauer Project Manager TCEQ, Water Rights Permitting Section



November 10, 2022

Mr. Joshua Schauer Project Manager, TCEQ Water Rights Permitting Section Texas Commission on Environmental Quality 512-239-1371

Submitted via electronic mail

Re: Response Letter to Comments (Dated October 10, 2022) for Water Rights Permit, Application No. 13779

On behalf of FHQ Development Partners, LP, Plummer Associates, Inc. is providing this letter in response to the comment letter received from your office dated October 10, 2022. Our responses to your comments are provided below. In addition to this letter, we respectfully request a meeting with the TCEQ to discuss options for demonstrating compliance with the Texas Surface Water Quality Standards for the well water entering Pond 2.

Dear Mr. Schauer:

- Comment 1: Provide a revised water quality analysis and calculations demonstrating how groundwater discharges from the Twin Mountain/Lower Trinity aquifer into Ponds 1, 2, and 3 will meet the applicable screening criteria for chlorides, sulfates, and total dissolved solids for intermittent streams with perennial pools as set forth in TCEQ's Procedures to Implement the Texas Surface Water Quality Standards. TCEQ staff reviewed the previously submitted water quality analysis received on September 9, 2022, and noted the following:
 - a. Site specific studies indicate that Panther Creek is considered intermittent with perennial pools. Based on the definition for intermittent stream with perennial pools in the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC), Chapter 307.3(a)(35)), recent satellite imagery, and United States Geological Survey maps, TCEQ staff considers unnamed tributaries 5.0 and 5.2 to be intermittent with perennial pools. This stream classification should be used to determine the appropriate screening criteria.
 - b. The effluent discharge rate (QE) is the rate of discharge from each well at the point of discharge (Procedures to Implement the Texas Surface Water Quality Standards, 2010 pg. 178).
 - c. Any calculated harmonic mean flow or 7Q2 values less than 0.1 cfs must be rounded up to 0.1 cfs per the Texas Surface Water Quality Standards (30 TAC Chapter 307.8(a)(7)) and the Procedures to Implement the Texas Surface Water Quality Standards (2010) pg. 178.
- Response 1: Plummer performed a water quality screening of the well water using the TCEQ's TDS, chloride, and sulfate screening spreadsheet for a discharge to an intermittent stream with perennial pools. A separate screening was performed for each of the three discharges of

groundwater to Ponds 1, 2 and 3. Refer to Attachment A for the screening spreadsheets. The following assumptions were used in the screening:

- Individual daily average flow rates to each of the ponds (QE) was calculated based on the proposed water needed to maintain the water level in the ponds.
- A default 7Q2 value of 0.1 cubic feet per second (cfs) was used in each of the screenings based on Texas Surface Water Quality Standards (30 TAC Chapter 307.8(a)(7)).
- The Trinity River Basin (Segment No 0823) was used for the ambient segment concentrations and segment criteria for TDS, chloride and sulfate based on the TCEQ's Procedures to Implement the Texas Surface Water Quality Standards (2010).
- Representative TDS, chloride, and sulfate values for the proposed well used in the screening were obtained from a nearby well (See Attachment B) that also withdraws from the Twin Mountain/Lower Trinity Aquifer.

The TCEQ's screening spreadsheets produced a value for TDS, chloride and sulfate used to screen against the well water values. Table 1 below provides a summary of the screening for each pond. For Ponds 1 and 3 the well values are less than the screening values. For Pond 2 the well values are higher than the screening values. These results indicate that the discharges into Ponds 1 and 3 meet the screening value and no dissolved salts monitoring or limits are required, while the discharge to Pond 2 does not meet the screening value.

	Flow from Well (Qe)	Well TDS Value	TDS Screening Value	Well Chloride Value	Chloride Screening Value	Well Sulfate Value	Sulfate Screening Value
Pond	MGD			n	ng/L		
1	0.006	868	3488.5	215	705.4	107	366.7
2	0.286	868	542.9	215	90	107	64.1
3	0.011	868	1983.5	215	390.9	107	212

Table 1 - Well Water Screening

Comment 2: Provide ambient water quality data for one sampling point on unnamed tributary 5.0 and two sampling points on unnamed tributary 5.2 located downstream of discharge point 1 and upstream of discharge point 3. The sample sites should be representative of ambient water quality conditions in the unnamed tributaries. Water chemistry information should include the following parameters: chlorides, sulfates, total dissolved solids, pH, and temperature. Samples should not be collected within 24-hours of any significant (> 0.25inch) precipitation event. Surface water quality data collection and analytical methods should conform to guidelines set forth in the Texas Commission on Environmental Quality Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods (RG-415) Chapter 5 – Water Sample Collection. Mr. Joshua Schauer November 10, 2022 Page | 3

Response 2: Ambient water quality data from unnamed tributary 5.0 and 5.2 of Panther Creek was collected and analyzed from the locations requested in your letter (See Attachment C). Please see Table 2 below for a summary of the data. The laboratory data report is also provided as Attachment D.

Sample Location	TDS, mg/L	Sulfate, mg/L	Chloride, mg/L	рН, s.u.	Temp °C
Unnamed Tributary 5.0	480	162	8.1	8.14	20.5
Downstream of Discharge Point 1	416	125	8.1	8.15	17.5
Upstream of Discharge Point 3	216	23.7	8.1	8.09	19.5

Table 2 - A	Ambient	Water	Oualitv	- Tributaries	of	Panther	Creek
			Quanty	111Naturies	U .	anterior	CICCIC

- Comment 3: As an alternative, you may choose to consider other options to meet the Texas Surface Water Quality Standards including, but not limited to, treatment of the groundwater prior to discharge. If an alternative option is pursued, provide a description of the proposed alternative, such as how groundwater from the Twin Mountain/Lower Trinity aquifer would be treated prior to discharge into Ponds 1, 2, and 3 and evidence that the treatment method would be sufficient to meet the Texas Surface Water Quality Standards.
- Response 3: There will be no upstream flow contribution from surface waters because the proposed ponds will be located at the headwaters of the unnamed tributary. Water anticipated in the ponds is anticipated to only consist of well water discharges, irrigation runoff, and stormwater. Any aquatic life that is present in the ponds will be incidental. The only hydrologic connection to the unnamed tributary will occur during rain events when the water from the ponds flow into the unnamed tributary. There will be no hydrological connection to upstream surface waters which could transport aquatic life into the pond system. We believe that for these reasons and others an alternative methodology for demonstrating compliance with the Texas Surface Water Quality Standards is appropriate.

We would appreciate the opportunity to meet with the TCEQ the discuss some options for demonstrating compliance with the Texas Surface Water Quality Standards that fit with this unique situation. We respectfully request a meeting with representatives from the TCEQ Water Quality Standards Team and the Water Rights Permitting Team to discuss these options with you. I will contact you soon to set up a meeting.

Respectfully yours,

PLUMMER

Tres Koenings

Tres Koenings Senior Project Manager

ТΚ

6300 La Calma Dr., Suite 400 Austin, TX 78752 Phone 512.452.5905 Plummer.com TBPE Firm No. 13 Mr. Joshua Schauer November 10, 2022 Page | 4

Enclosures

cc: Roger McInnis, Gray Interests, LLC Kyle Dickey, Kimley-Horn

6300 La Calma Dr., Suite 400 Austin, TX 78752 Phone 512.452.5905 Plummer.com TBPE Firm No. 13 Attachment A

TDS, Chloride, and Sulfate Screening Spreadsheets

Screen the Perennial Pool Characteristics of the Stream

Applicant Name:	FHQ
Permit Number, Outfall:	Pond 1
Segment Number:	0823

Enter values needed for screening:		Data Source (edit if different)
QE - Average effluent flow	0.006 MGD	
QS - Stream harmonic mean flow	0.10 cfs	Critical conditions memo
QE - Average effluent flow	0.0093 cfs	Calculated
CA - TDS - ambient segment concentration CA - chloride - ambient segment concentration CA - sulfate - ambient segment concentration	208 mg/L 19 mg/L 30 mg/L	2010 IP, Appendix D 2010 IP, Appendix D 2010 IP, Appendix D
CC - TDS - segment criterion CC - chloride - segment criterion CC - sulfate - segment criterion	500 mg/L 80 mg/L 60 mg/L	2018 TSWQS, Appendix A 2018 TSWQS, Appendix A 2018 TSWQS, Appendix A
CE - TDS - average effluent concentration CE - chloride - average effluent concentration CE - sulfate - average effluent concentration	868 mg/L 215 mg/L 107 mg/L	Permit application Permit application Permit application

Screening Equation

 $CC \ge [(QS)(CA) + (QE)(CE)]/[QE + QS]$

Preliminary Calculations	Load in	Effluent	New	% Change	% Change
	River	Load	Concentration	in	in Assim.
Parameter	QSCA	QECE	Equation 2	Ambient	Capacity
TDS	20.8	8.057974	264.07	27.0	19.2
Chloride	1.9	1.995927	35.65	87.6	27.3
Sulfate	3	0.993322	36.54	21.8	21.8
No further screening for TDS needed if:	264.07	≤	500		
No further screening for chloride needed if:	35.65	≤	80		
No further screening for sulfate needed if:	36.54	≤	60		

Permit Limit Calculations

TDS		
Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	3645.41
Calculate the LTA	LTA = WLA * 0.93	3390.23
Calculate the daily average	Daily Avg. = LTA * 1.47	4983.63
Calculate the daily maximum	Daily Max. = LTA * 3.11	10543.61
Calculate 70% of the daily average	70% of Daily Avg. =	3488.54
Calculate 85% of the daily average	85% of Daily Avg. =	4236.09
No permit limitations needed if:	868 ≤ 3488.54	4

Screen the Perennial Pool Characteristics of the Stream

Reporting needed if: Pormit limits may be needed if:	868	>	3488.54	but ≤	4236.09
	000		4230.03		
No permit limitations needed for TDS					
Chloride					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	737.09	
Calculate the LTA	LTA = WLA *	0.93		685.49	
Calculate the daily average	Daily Avg. =	LTA * 1.47	7	1007.67	
Calculate the daily maximum	Daily Max. =	LTA * 3.1	1	2131.88	
Calculate 70% of the daily average	70% of Daily	v Avg. =		705.37	
Calculate 85% of the daily average	85% of Daily	v Avg. =		856.52	
No permit limitations needed if:	215	≤	705.37		
Reporting needed if:	215	>	705.37	but ≤	856.52
Permit limits may be needed if:	215	>	856.52		
No permit limitations needed for chloride					
Sulfate					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	383.16	
Calculate the LTA	LTA = WLA *	0.93		356.34	
Calculate the daily average	Daily Avg. = LTA * 1.47			523.82	
Calculate the daily maximum	Daily Max. = LTA * 3.11			1108.21	
Calculate 70% of the daily average	70% of Daily	v Avg. =	366.67		
Calculate 85% of the daily average	85% of Daily	v Avg. =		445.24	

No permit limitations needed if:107 \leq 366.67Reporting needed if:107>366.67but \leq 445.24Permit limits may be needed if:107>445.24

No permit limitations needed for sulfate

Screen the Perennial Pool Characteristics of the Stream

Applicant Name:	FHQ
Permit Number, Outfall:	Pond 2
Segment Number:	0823

Enter values needed for screening:		Data Source (edit if different)
QE - Average effluent flow	0.28 MGD	
QS - Stream harmonic mean flow	0.10 cfs	Critical conditions memo
QE - Average effluent flow	0.4332 cfs	Calculated
CA - TDS - ambient segment concentration CA - chloride - ambient segment concentration CA - sulfate - ambient segment concentration	208 mg/L 19 mg/L 30 mg/L	2010 IP, Appendix D 2010 IP, Appendix D 2010 IP, Appendix D
CC - TDS - segment criterion CC - chloride - segment criterion CC - sulfate - segment criterion	500 mg/L 80 mg/L 60 mg/L	2018 TSWQS, Appendix A 2018 TSWQS, Appendix A 2018 TSWQS, Appendix A
CE - TDS - average effluent concentration CE - chloride - average effluent concentration CE - sulfate - average effluent concentration	868 mg/L 215 mg/L 107 mg/L	Permit application Permit application Permit application

Screening Equation

 $CC \ge [(QS)(CA) + (QE)(CE)]/[QE + QS]$

Preliminary Calculations	Load in	Effluent	New	% Change	% Change
	River	Load	Concentration	in	in Assim.
Parameter	QSCA	QECE	Equation 2	Ambient	Capacity
TDS	20.8	376.0388	744.22	257.8	183.6
Chloride	1.9	93.14325	178.24	838.1	261.1
Sulfate	3	46.35501	92.56	208.5	208.5
No further screening for TDS needed if:	744.22	≤	500		
No further screening for chloride needed if:	178.24	≤	80		
No further screening for sulfate needed if:	92.56	≤	60		

Permit Limit Calculations

TDS		
Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	567.40
Calculate the LTA	LTA = WLA * 0.93	527.68
Calculate the daily average	Daily Avg. = LTA * 1.47	775.69
Calculate the daily maximum	Daily Max. = LTA * 3.11	1641.10
Calculate 70% of the daily average	70% of Daily Avg. =	542.99
Calculate 85% of the daily average	85% of Daily Avg. =	659.34
No permit limitations needed if:	868 ≤ 542.99)

Screen the Perennial Pool Characteristics of the Stream

Reporting needed if:	868	>	542.99	but ≤	659.34
Permit limits may be needed if:	868	>	659.34		
Permit limits may be needed for TDS					
Chloride					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	94.08	
Calculate the LTA	LTA = WLA *	0.93		87.49	
Calculate the daily average	Daily Avg. =	LTA * 1.4	7	128.62	
Calculate the daily maximum	Daily Max. =	LTA * 3.1	.1	272.11	
Calculate 70% of the daily average	70% of Daily	Avg. =		90.03	
Calculate 85% of the daily average	85% of Daily	Avg. =		109.32	
No permit limitations needed if:	215	≤	90.03		
Reporting needed if:	215	>	90.03	but ≤	109.32
Permit limits may be needed if:	215	>	109.32		
Permit limits may be needed for chloride					
Sulfate					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	66.92	
Calculate the LTA	LTA = WLA *	0.93		62.24	
Calculate the daily average	Daily Avg. =	LTA * 1.4	7	91.49	
Calculate the daily maximum	Daily Max. =	LTA * 3.1	.1	193.57	
Calculate 70% of the daily average	70% of Daily	Avg. =		64.05	
Calculate 85% of the daily average	85% of Daily	Avg. =		77.77	
		_			

Permit limits may be needed if:	107	>	77.77		
Reporting needed if:	107	>	64.05	but ≤	77.77
No permit limitations needed if:	107	≤	64.05		

Permit limits may be needed for sulfate

Screen the Perennial Pool Characteristics of the Stream

Applicant Name:	FHQ
Permit Number, Outfall:	Pond 3
Segment Number:	0823

Enter values needed for screening:		Data Source (edit if different)
QE - Average effluent flow	0.012 MGD	
QS - Stream harmonic mean flow	0.10 cfs	Critical conditions memo
QE - Average effluent flow	0.0186 cfs	Calculated
CA - TDS - ambient segment concentration CA - chloride - ambient segment concentration CA - sulfate - ambient segment concentration	208 mg/L 19 mg/L 30 mg/L	2010 IP, Appendix D 2010 IP, Appendix D 2010 IP, Appendix D
CC - TDS - segment criterion CC - chloride - segment criterion CC - sulfate - segment criterion	500 mg/L 80 mg/L 60 mg/L	2018 TSWQS, Appendix A 2018 TSWQS, Appendix A 2018 TSWQS, Appendix A
CE - TDS - average effluent concentration CE - chloride - average effluent concentration CE - sulfate - average effluent concentration	868 mg/L 215 mg/L 107 mg/L	Permit application Permit application Permit application

Screening Equation

 $CC \ge [(QS)(CA) + (QE)(CE)]/[QE + QS]$

Preliminary Calculations	Load in	Effluent	New	% Change	% Change
	River	Load	Concentration	in	in Assim.
Parameter	QSCA	QECE	Equation 2	Ambient	Capacity
TDS	20.8	16.11595	311.35	49.7	35.4
Chloride	1.9	3.991853	49.69	161.5	50.3
Sulfate	3	1.986643	42.06	40.2	40.2
No further screening for TDS needed if:	311.35	≤	500		
No further screening for chloride needed if:	49.69	≤	80		
No further screening for sulfate needed if:	42.06	≤	60		

Permit Limit Calculations

TDS		
Calculate the WLA	WLA= [CC(QE+QS) - (QS)(CA)]/QE	2072.70
Calculate the LTA	LTA = WLA * 0.93	1927.61
Calculate the daily average	Daily Avg. = LTA * 1.47	2833.59
Calculate the daily maximum	Daily Max. = LTA * 3.11	5994.88
Calculate 70% of the daily average	70% of Daily Avg. =	1983.51
Calculate 85% of the daily average	85% of Daily Avg. =	2408.55
No permit limitations needed if:	868 ≤ 1983.51	

Screen the Perennial Pool Characteristics of the Stream

Reporting needed if: Permit limits may be needed if: No permit limitations needed for TDS	868 868	> >	1983.51 2408.55	but ≤	2408.55
Chloride					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	408.54	
Calculate the LTA	LTA = WLA *	0.93		379.95	
Calculate the daily average	Daily Avg. =	LTA * 1.47	7	558.52	
Calculate the daily maximum	Daily Max. =	LTA * 3.1	1	1181.63	
Calculate 70% of the daily average	70% of Daily	Avg. =		390.96	
Calculate 85% of the daily average	85% of Daily	Avg. =		474.74	
No permit limitations needed if:	215	≤	390.96		
Reporting needed if:	215	>	390.96	but ≤	474.74
Permit limits may be needed if:	215	>	474.74		
No permit limitations needed for chloride Sulfate					
Calculate the WLA	WLA= [CC(Q	E+QS) - (C	QS)(CA)]/QE	221.58	
Calculate the LTA	LTA = WLA *	0.93		206.07	
Calculate the daily average	Daily Avg. =	LTA * 1.47	7	302.92	
Calculate the daily maximum	Daily Max. =	LTA * 3.1	.1	640.87	
Calculate 70% of the daily average	70% of Daily	Avg. =		212.04	
Calculate 85% of the daily average	85% of Daily	Avg. =		257.48	

No permit limitations needed if:107 \leq 212.04Reporting needed if:107>212.04but \leq 257.48Permit limits may be needed if:107>257.48

No permit limitations needed for sulfate

Attachment B

Representative Well Data

FHQ Development Partners, LP Todd Watson 1900 North Akard St Dallas Texas 75201

DFW Environmental Laboratories 1225 W College Ave Suite 430 Carrollton Texas 75006 972-245-0804



TCEQ / NELAP Accreditation: T104704566-22-1

Analysis Summary

Project Name	Frisco Groundwater
Date Received	2022-10-12 14:32
Purchase Order	N/A
Lab Sample Set	B-379

Field ID: The Colony Well #2				Lab ID: W-02	251
Alkalinity by SM 2320B	Result	Unit	SDL	Date Analyzed	Flag
Alkalinity	333.6	mg/L	0.2	10/18/22 12:30	
Bicarbonate	326	mg/L	0.10	10/18/22 12:30	
Carbonate (as CaCO3)	7.4	mg/L	0.10	10/18/22 12:30	
Ammonia by SM 4500-NH3 D	Result	Unit	SDL	Date Analyzed	Flag
Ammonia (as N)	< .10	mg/L	.10	10/13/22 11:10	
Chloride by SM 4500 Cl-	Result	Unit	SDL	Date Analyzed	Flag
Chloride	215	mg/L	2.5	10/18/22 17:40	
Conductivity by SM 2510B	Result	Unit	SDL	Date Analyzed	Flag
Conductivity	1630	uS/cm	5	10/12/22 12:00	
Exchangeable Cations	Result	Unit	SDL	Date Analyzed	Flag
Sodium Adsorption Ratio (SAR)	53.0		0.10	10/18/22 15:53	
Metals by EPA 6010	Result	Unit	SDL	Date Analyzed	Flag
Boron	0.165	mg/L	0.020	10/18/22 15:56	
Calcium	4.33	mg/L	0.10	10/18/22 15:55	
Magnesium	0.986	mg/L	0.020	10/18/22 15:55	
Phosphorous, Total	< 0.10	mg/L	0.10	10/18/22 15:56	
Potassium	2.19	mg/L	0.10	10/18/22 15:54	
Sodium	467	mg/L	0.020	10/18/22 15:54	
Total Hardness	14.9	mg/L	.05	10/18/22 10:15	
Nitrate by SM 4500-NO3 E	Result	Unit	SDL	Date Analyzed	Flag
Nitrate (as N)	< 0.10	mg/L	0.10	10/13/22 16:30	
ph by EPA 150.1	Result	Unit	SDL	Date Analyzed	Flag
рН	8.79	S.U.	0	10/12/22 14:50	
Salinity by SM 2520B	Result	Unit	SDL	Date Analyzed	Flag
Salinity	0.790	g/L	.01	10/12/22 12:00	

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Phone : 972-245-0804 •

Sulfate by EPA 9038	Result	Unit	SDL	Date Analyzed	Flag
Sulfate	107	mg/L	25	10/18/22 17:30	
TDS by SM 2540C	Result	Unit	SDL	Date Analyzed	Flag
Total Dissolved Solids (TDS)	868.8	mg/L	0.5	10/18/22 10:30	
TSS by SM 2540D	Result	Unit	SDL	Date Analyzed	Flag
TSS	1.2	mg/L	1.0	10/18/22 10:30	
Turbidity by SM 2130B Mod	Result	Unit	SDL	Date Analyzed	Flag
Turbidity	1.5	NTU		10/18/22 10:15	
UV Transmittance	Result	Unit	SDL	Date Analyzed	Flag
UVT%	97.6	%	0.050	10/18/22 10:45	

Responsibles

If Bullad Published by

Jeff Bullard

Laboratory Manager

Jeff Bullard (

Field Temperature of water at collection time: 36° C

City of The Colony, TX describes the well as Trinity Aquifer Twin Peaks, Colony Well #2. Location: 33°05.92'N 96°53.53'W

		B-3-	79
DFV	V Environmental Laboratories	- CHAIN OF CUSTODY RECORD -	Page
2122 Environmental Labs Carr	W College Ave Suite 430 ollton, TX 75006 This is a legal doct	Iment. Please fill out accurately and completely.	1 of [
Client Name	Project Name / ID	Sampler (Signature/Attestation of Apphenticity)	
FHQ Develop	nent Prisco Groundu	ater V& Uld	Turnaround Time
Client Contact Person	Project Location	ANALYSES / PARAMETERS	Standard
Todd Watson	The Colony, TX		Rush 3-Day
Email: twatson@hun	tonsolidater (3	Rush 48-Hr
Phone:		>> 3 0 	Rush 24-Hr
Sample Identifi	cation SAMPLED #		Rush Same Day
			Sampling Comments
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Attachment C

Map of Sample Locations

				Legend △ Sample Location ○ Discharge Location
DISCHARGE LOCATION 1	SAMPLE LOCATION 2			
			2	SAMPLE LOCATION 3
		DISCHARGE LOCATION 3		

Attachment D

Ambient Water Lab Data Sheets

FHQ Development Partners, LP Todd Watson 1900 North Akard St Dallas Texas 75201

DFW Environmental Laboratories 1225 W College Ave Suite 430 Carrollton Texas 75006 972-245-0804



TCEQ / NELAP Accreditation: T104704566-22-1

Analysis Summary

Project Name	Panther Creek						
Date Received	2022-11-06 16:40						
Purchase Order	N/A						
Lab Sample Set	B-403						
Field ID: Location #1				Lab ID: W-02	268		
Chloride by SM 4500 Cl-	Result	Unit	SDL	Date Analyzed	Flag		
Chloride	8.1	mg/L	0.50	11/07/22 12:20			
ph by EPA 150.1	Result	Unit	SDL	Date Analyzed	Flag		
рН	8.14	<i>S.U.</i>	0	11/07/22 11:00			
Sulfate by EPA 9038	Result	Unit	SDL	Date Analyzed	Flag		
Sulfate	162	mg/L	13	11/07/22 12:12			
TDS by SM 2540C	Result	Unit	SDL	Date Analyzed	Flag		
Total Dissolved Solids (TDS)	480.0	mg/L	0.5	11/06/22 18:40			

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Phone : 972-245-0804 •

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Field ID: Location #2				Lab ID: W-0269	
Chloride by SM 4500 Cl-	Result	Unit	SDL	Date Analyzed	Flag
Chloride	8.1	mg/L	0.50	11/07/22 12:20	
ph by EPA 150.1	Result	Unit	SDL	Date Analyzed	Flag
рН	8.15	S.U.	0	11/07/22 11:00	
Sulfate by EPA 9038	Result	Unit	SDL	Date Analyzed	Flag
Sulfate	125	mg/L	13	11/07/22 12:12	
TDS by SM 2540C	Result	Unit	SDL	Date Analyzed	Flag
Total Dissolved Solids (TDS)	416.0	mg/L	0.5	11/06/22 18:40	
Field ID: Location #3				Lab ID: W-02	270
Chloride by SM 4500 Cl-	Result	Unit	SDL	Date Analyzed	Flag
Chloride	8.1	mg/L	0.50	11/07/22 12:20	
ph by EPA 150.1	Result	Unit	SDL	Date Analyzed	Flag
рН	8.09	S.U.	0	11/07/22 11:00	
Sulfate by EPA 9038	Result	Unit	SDL	Date Analyzed	Flag
Sulfate	23.7	mg/L	5.0	11/07/22 12:12	
TDS by SM 2540C	Result	Unit	SDL	Date Analyzed	Flag
Total Dissolved Solids (TDS)	216.0	mg/L	0.5	11/06/22 18:40	
				/	

Responsibles

Jeff Bullard Laboratory Manager

Published by Jeff Bullard (

IK Bullad

Field Data

Location #1: Water Temperature: 20.5°C pH: 7.9

Location #2: Water Temperature: 17.5°C pH: 7.8

Location #3: Water Temperature: 19.5°C pH: 7.9 Location #1 33°11′58.5″N 96°51′8.6″W



Location #2 33°11′44.8″N 96°51′8.6″W



Location #3 33°11′30.9″N 96°50′25.9″W


TDS by SM 2540C

Analysis Batch:	WS-704
Analysis Date:	11/6/2022



Method Blank (MB) TDS	Result < 1.0	Units mg/L

				Acceptar	nce Limits	
Laboratory Control Sample (LCS)	Spike Amount	Result	% Rec	Low	High	Flag
TDS	250	240	96.0%	85	115	
	W-0270			R	PD	
Duplicate	Parent Result	Dup Result	RPD	Acceptar	nce Limits	Flag
TDS	216	204	5.7%	10)%	

QC Summary

Analysis Batch:WS-705Analysis Date:11/7/2022



Method Blank (MB) Sulfate			Result < 25 mg/L				
					Acceptance	e Limits	
Laboratory Control Sample (LCS)		Spike Amount	Result	% Rec	Low	High	Flag
Sulfate		20	21.2	106.0%	80	120	
	W-0270				Acceptance	e Limits	
Matrix Spike (MS)	Parent	Spike Amount	Result	% Rec	Low	High	Flag
Sulfate	23.7	40	66.5	104.4%	75	125	-
Matrix spike DUP (MSD)		W-0270 MS	DUP Result	% Diff	Limit		Flag
Sulfate		66.5	64.9	2.4%	25%		-
Exceptions:							

QC Summary

Chloride by SM 4500Cl.CAnalysis Batch:WS-706Analysis Date:11/7/2022



Method Blank (MB) Chloride			Result < 0.5 mg/L				
					Acceptance	e Limits	
Laboratory Control Sample (LCS)		Spike Amount	Result	% Rec	Low	High	Flag
Chloride		5	5.8	116.0%	80	120	
	w-0270				Acceptance	e Limits	
Matrix Spike (MS)	Parent	Spike Amount	Result	% Rec	Low	High	Flag
Chloride	8	5	13.3	102.3%	75	125	
Excentions:							

QC Summary

pH by EPA 150.1





Laboratory Control Sample (LCS) pH	True Value 7	Result 7.01		Acceptance Low 6.95	e Limits High 7.05	Flag
Duplicate Analysis (DUP) pH	W-0270 8.09	DUP Result 8.12	% Diff 0%	Limit 5%		Flag
Exceptions:						

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DFW Environment	al Laboratories	Laboratories - CHAIN OF CUSTODY RECOR						D -			Page		
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Todd Watson, Kyle Dickey	Frisco, T	X			20	-							Rush 3-Day
Email: /	PO Number			R	ĨĴ	-	Å						Rush 48-Hr
Phone:		T		14	20	T	3	0					Rush 24-Hr
(Field ID)	Date Time	Matrix	# or Containers	N	2	F	F	F				ŀ	Sampling Comments
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2 Location #1	Fel 15:1013:10	W.	2	X	X	X	×	X				I	
3 Location #2	15:43:25	TW	2	X	X	X	X	X					
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Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 11, 2022

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP.
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

Dear Mr. Dickey:

This acknowledges receipt, on August 19 and September 9, 2022, of additional information.

Additional information is needed to complete technical review of the application. TCEQ staff requires additional data demonstrating that groundwater discharges from the Twin Mountains/Lower Trinity aquifer will meet the applicable Texas Surface Water Quality Standards. As discussed in the meeting on September 7, 2022, examples of data include, but are not limited to, ambient water quality sampling data and/or onsite water quality sampling from the groundwater well(s) to be utilized for the application. In addition, TCEQ staff discussed other options, including treatment of the groundwater prior to discharge. If you choose to proceed with the application as submitted, TCEQ would likely be unable to recommend granting the use of groundwater from the Twin Mountain/Lower Trinity aquifer as an alternative source to maintain Ponds 1, 2, and 3..

- 1. Provide a revised water quality analysis and calculations demonstrating how groundwater discharges from the Twin Mountain/Lower Trinity aquifer into Ponds 1, 2, and 3 will meet the applicable screening criteria for chlorides, sulfates, and total dissolved solids for intermittent streams with perennial pools as set forth in TCEQ's Procedures to Implement the Texas Surface Water Quality Standards. TCEQ staff reviewed the previously submitted water quality analysis received on September 9, 2022, and noted the following:
 - a. Site specific studies indicate that Panther Creek is considered intermittent with perennial pools. Based on the definition for intermittent stream with perennial pools in the Texas Surface Water Quality Standards (30 Texas Administrative Code (TAC), Chapter 307.3(a)(35)), recent satellite imagery, and United States Geological Survey maps, TCEQ staff considers unnamed tributaries 5.0 and 5.2 to be intermittent with

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Applicaion No. 13779 October 11, 2022 Page 2 of 2

perennial pools. This stream classification should be used to determine the appropriate screening criteria.

- b. The effluent discharge rate (QE) is the rate of discharge from each well at the point of discharge (Procedures to Implement the Texas Surface Water Quality Standards, 2010 pg. 178).
- c. Any calculated harmonic mean flow or 7Q2 values less than 0.1 cfs must be rounded up to 0.1 cfs per the Texas Surface Water Quality Standards (30 TAC Chapter 307.8(a)(7)) and the Procedures to Implement the Texas Surface Water Quality Standards (2010) pg. 178.
- 2. Provide ambient water quality data for one sampling point on unnamed tributary 5.0 and two sampling points on unnamed tributary 5.2 located downstream of discharge point 1 and upstream of discharge point 3. The sample sites should be representative of ambient water quality conditions in the unnamed tributaries. Water chemistry information should include the following parameters: chlorides, sulfates, total dissolved solids, pH, and temperature. Samples should not be collected within 24-hours of any significant (> 0.25 inch) precipitation event. Surface water quality data collection and analytical methods should conform to guidelines set forth in the Texas Commission on Environmental Quality Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods (RG-415) Chapter 5 Water Sample Collection.
- 3. As an alternative, you may choose to consider other options to meet the Texas Surface Water Quality Standards including, but not limited to, treatment of the groundwater prior to discharge. If an alternative option is pursued, provide a description of the proposed alternative, such as how groundwater from the Twin Mountain/Lower Trinity aquifer would be treated prior to discharge into Ponds 1, 2 and 3 and evidence that the treatment method would be sufficient to meet the Texas Surface Water Quality Standards.

Please provide the requested information by November 10, 2022, or the application may be returned pursuant to 30 TAC § 281.19. Alternatively, you may have the question of the necessity of the requested data (or the sufficiency of the information already submitted) referred to the commission for a decision. To be considered, a request for a referral must be provided by November 10, 2022.

If you have any questions concerning this matter, please contact me via email at Joshua.schauer@tceq.texas.gov or by telephone at (512) 239-1371.

Sincerely,

JoshuaSchauer

Joshua Schauer, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

From:	Dickey, Kyle
To:	Joshua Schauer
Cc:	Alderman, Nadia (Whitehouse); Roger McInnis; Braswell, Trey; Leslie Patterson; George Gable
Subject:	RE: FHQ Development Partners LP; 13779 Tech RFI
Date:	Friday, September 9, 2022 3:16:41 PM
Attachments:	Water Quality Screening Calculations.pdf

Good afternoon Josh,

Following up from our call on Wednesday, I have prepared the attached updated calculations in response to Comment 3. These calculations follow the RG 194 manual instructions. Please let me know if there are any follow-up questions on this.

Thank you, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Dickey, Kyle
Sent: Friday, August 19, 2022 2:15 PM
To: Joshua Schauer <Joshua.Schauer@Tceq.Texas.Gov>
Cc: Alderman, Nadia (Whitehouse)

; Roger McInnis

Subject: RE: FHQ Development Partners LP; 13779 Tech RFI

Good afternoon Josh,

Please find the attached documents for our response to the comments provided last week. As per my other email, this includes our initial response to the water quality comment so staff has a chance to review the approach prior to the meeting that we are scheduling.

Thanks! Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>
Sent: Friday, August 12, 2022 2:00 PM
To: Dickey, Kyle <
Cc: Alderman, Nadia (Whitehouse)
Subject: FHQ Development Partners LP; 13779 Tech RFI</pre>

Mr. Dickey,

Additional information is required to complete technical review of the referenced application. Please review the attached letter and provide the requested information by September 12, 2022.

If you have any questions concerning this matter, please contact me via email at <u>Joshua.schauer@tceq.texas.gov</u> or by telephone at (512) 239-1371.

Regards,

Joshua Schauer 512.239.1371 Project Manager TCEQ, Water Rights Permitting Section This document includes the analysis and calculations performed following the screening procedures for TDS included within "Procedures to Implement the Texas Surface Water Quality Standards" (TCEQ Water Quality Division, June 2010).

The Brookside well, which will serve Ponds 1 - 5, will discharge into Unnamed Tributary 5 to Panther Creek. The U.S. Army Corps of Engineers approved a jurisdictional determination that Unnamed Tributary 5 is considered an Intermittent Stream. A copy of the Approved Jurisdictional Determination is attached. Unnamed Tributary 5 flows into Panther Creek approximately 1.8 miles downstream of the well discharge into Pond 1. The U.S. Army Corps of Engineers approved a jurisdictional determination that Panther Creek is considered a Perennial Stream. Panther Creek outfalls into Lake Lewisville approximately 4.9 miles downstream of its confluence with Unnamed Tributary 5, so Lake Lewisville is approximately 6.7 miles downstream of the well discharge point into Pond 1.

Following the Procedures for TDS Screening, Unnamed Tributary 5 falls within water body type 4 – Unclassified Intermittent Stream within 3 miles of a Perennial Freshwater Body. The Freshwater Body includes Panther Creek, but not Lake Lewisville. Water body type 4 requires analysis of water body type 1 and water body type 2.

Water Body Type 1: Unclassified Intermittent Stream

Equation 1 from the Screening Procedures is included below. The value for Cc was obtained from TAC301.10(1) Appendix A for Lake Lewisville. This is the closest, downstream, classified stream segment to the project. An excerpt from Appendix A is attached.

$$C_{TDS} = \frac{C_c}{500 \ mg/L} \ x \ 2,500 \ mg/L$$
$$C_{TDS} = \frac{500 mg/L}{500 \ mg/L} \ x \ 2,500 \ mg/L$$
$$C_{TDS} = \frac{500 mg/L}{500 \ mg/L} \ x \ 2,500 \ mg/L$$

In following the chart below Equation 1:

$$C_{TDS} = 2,500 \ mg/L$$
; therefore, $C_{SV} = 2,500 \ mg/L$

The Groundwater Availability Evaluation Report summarized that the Lower Trinity aquifer has an average TDS of 1,338 mg/L based on available data from nearby wells. This concentration is below the screening value, so it meets the requirements for Water Body Type 1.

Section 1b concludes that Chloride and Sulfate are not typically required to be analyzed because the TDS screening should be adequately protective.

Water Body Type 2: Unclassified Perennial Stream

Equation 2 from the Screening Procedures is a weighted average determination of resultant TDS concentration using flow rates. The first flow rate for input is the harmonic mean flow of the perennial stream. The second flow rate for input is the effluent flow rate. The proposed groundwater well is intended to maintain a constant water surface elevation to offset water losses due to evaporation and irrigation. The water pumped into the pond will remain below the pond's spillway elevation. During storm events, stormwater runoff will enter the pond, mix with the groundwater, and then overtop the spillway and travel downstream. An assumption must be made to determine the flow leaving the pond and traveling to the perennial stream. Since the equation is a weighted average based on harmonic mean flow of the perennial stream, it is reasonable to also assume the flow leaving the pond during a storm event would be equal to the harmonic mean flow in Tributary 5.

The guidelines on determining the harmonic mean flow include two options: Determine flows based on an on-site stream gauge or use a drainage area ratio. The second option was used for this task.

The U.S. Geological Survey published a study entitled "Summary of Annual Mean and Annual Harmonic Mean Statistics of Daily Mean Streamflow for 620 U.S. Geological Survey Streamflow-Gaging Stations in Texas Through Water Year 2007" in 2008. This study determined the harmonic mean flow for USGS stream gauges in Texas that have adequate years of record.

USGS Stream Gauge 08052650 is located on Little Elm Creek in Celina, Texas. This gauge is close to the project and has a similar drainage area size, so it was selected to obtain the base harmonic mean flow data. An excerpt from the U.S. Geological study for gauge 08052650 is attached. It indicates that the harmonic mean flow for Little Elm Creek at this location is 0.12 cfs.

An excerpt from the USGS website includes data for stream gauge 08052650. This excerpt identifies that the drainage area at the gauge is 46.7 square miles. Drainage studies for Panther Creek and Panther Creek Unnamed Tributary 5 support that their drainage areas are 20.5 square miles and 0.4 square miles, respectively. The equations below follow the guidance for drainage area ratio determination of harmonic mean flows for Panther Creek and Unnamed Tributary 5.

Harmonic Mean Flow Panther Creek:

$$HM_d = HM_g x \left[\frac{DA_d}{DA_g}\right]^{0.89}$$
$$HM_d = 0.12 \ cfs \ x \left[\frac{20.5 \ sq. mi.}{46.7 \ sq. mi.}\right]^{0.89}$$

 $HM_d = 0.058 \, \text{cfs}$

Harmonic Mean Flow Panther Creek Unnamed Tributary 5:

$$HM_{d} = HM_{g} x \left[\frac{DA_{d}}{DA_{g}}\right]^{0.89}$$
$$HM_{d} = 0.12 \ cfs x \left[\frac{0.4 \ sq. mi.}{46.7 \ sq. mi.}\right]^{0.89}$$
$$HM_{d} = 0.002 \ cfs$$

Table D-8 from the screening procedures indicates that Lake Lewisville (Segment 0823) has an ambient TDS concentration of 208 mg/L. The Groundwater Availability Evaluation Report summarized that the Lower Trinity aquifer has an average TDS of 1,338 mg/L based on available data from nearby wells. Equation 2 is solved below.

$$C_C = \frac{Q_S \, x \, C_A + \, Q_E \, x \, C_E}{Q_E + \, Q_S}$$

$$C_{C} = \frac{0.058 \, cfs \, x \, 208 \frac{mg}{l} + \, 0.002 cfs \, x \, 1,338 \, mg/l}{0.058 \, cfs + \, 0.002 \, cfs}$$

$$C_c = 246 mg/l$$

The resultant concentration is less than the stream standard of 500 mg/L; therefore, the proposed groundwater well for Ponds 1-5 meets the screening standards.

Attachments: Approved JD Map TAC301.10(1) Appendix A Excerpt US Geological Study for Harmonic Mean Flow Excerpt USGS 08052650 Stream Gauge Data Groundwater Availability Evaluation Report



	,		Aquatic	Domestic					Dissolved	рН	Indicator	
Segment	Trinity River Basin	Recreation	Life	Water	Other	Cl^{1}	SO4-2	TDS	Oxygen	Range	Bacteria	Temperature
No.	Segment Names	Use	Use	Supply Use	Uses	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	#/100 mL	(degrees F)
0801	Trinity River Tidal	PCR1	Н						4.0	65-90	35	95
0802	Trinity River Below Lake Livingston	PCR1	Н	PS		125	100	600	5.0	6.5-9.0	126	93
0803	Lake Livingston	PCR1	н	PS		150	60	500	5.0	65-90	126	93
0804	Trinity River Above Lake Livingston	PCR1	н	15		150	150	600	5.0	65-90	126	93
0805	Unner Trinity River	PCR1	н			175	175	850	5.0 ²	65-90	126	95
0005	West Fork Trinity River Below Lake	ICKI	11			175	175	030	5.0	0.5-5.0	120	55
0806	Worth	PCR1	н	PS		100	100	500	5.0	65-90	126	93
0807	Lake Worth	PCR1	H	PS		100	100	500	5.0	6.5-9.0	126	91
0001	West Fork Trinity River Below Eagle	10.111		10		100	100	000	5.0	0.0 0.0	120	01
0808	Mountain Reservoir	PCR1	н	PS		100	100	500	5.0	6.5-9.0	126	91
0809	Eagle Mountain Reservoir	PCR1	Н	PS		75	75	300	5.0	6.5-9.0	126	94
	West Fork Trinity River Below								0.0			
0810	Bridgeport Reservoir	PCR1	н	PS		100	100	500	5.0	6.5-9.0	126	90
0811	Bridgeport Reservoir	PCR1	Н	PS		75	75	300	5.0	6.5-9.0	126	90
	West Fork Trinity River Above										-	
0812	Bridgeport Reservoir ³	PCR1	I	PS		190	200	800	3.04	6.5-9.0	126	88
0813	Houston County Lake	PCR1	Н	PS		75	75	300	5.0	6.5-9.0	126	93
	Chambers Creek Above Richland-					-						
0814	Chambers Reservoir	PCR1	н	PS		90	160	500	5.0	6.5-9.0	126	90
0815	Bardwell Reservoir	PCR1	Н	PS		50	50	300	5.0	6.5-9.0	126	91
0816	Lake Waxahachie	PCR1	Н	PS		50	50	300	5.0	6.5-9.0	126	91
0817	Navarro Mills Lake	PCR1	Н	PS		50	75	300	5.0	6.5-9.0	126	90
0818	Cedar Creek Reservoir	PCR1	Н	PS		50	100	200	5.0	6.5-9.0	126	93
0819	East Fork Trinity River	PCR1	Ι			100	100	500	4.0	6.5-9.0	126	91
0820	Lake Ray Hubbard	PCR1	Н	PS		100	100	500	5.0	6.5-9.0	126	93
0821	Lavon Lake	PCR1	Н	PS		100	100	500	5.0	6.5-9.0	126	93
	Elm Fork Trinity River Below											
0822	Lewisville Lake	PCR1	Н	PS		80	60	500	5.0	6.5-9.0	126	90
0823	Lewisville Lake	PCR1	Н	PS		80	60	500	5.0	6.5-9.0	126	90
	Flm Fork Trinity River Above Ray											
0824	Roberts Lake	PCR1	н	PS⁵		110	90	700	5.0	6.5-9.0	126	90
0825	Denton Creek	PCR1	н	PS		80	60	500	5.0	65-90	126	90
0826	Granevine Lake	PCR1	н	PS		80	60	500	5.0	65-90	126	93
0827	White Rock Lake	PCR1	Н	15		100	100	400	5.0	65-90	126	93
0828	Lake Arlington	PCR1	Н	PS		100	100	300	5.0	65-90	126	95
0020	Clear Fork Trinity River Below		11	15		100	100	300	5.0	5.5 5.0	120	
0829	Benbrook Lake	PCR1	н	PS		100	100	500	5.0	6.5-9.0	126	93
0830	Benbrook Lake	PCR1	Н	PS		75	75	300	5.0	6.5-9.0	126	93
0050	Clear Fork Trinity River Below Lake			10		- 15	15	500	5.0	5.5 5.0	120	
0831	Weatherford	PCR1	н	PS		100	100	500	5.06	6.5-9.0	126	90
0832	Lake Weatherford	PCR1	Н	PS		100	100	500	5.0	6.5-9.0	126	93

Trinity River Basin Designated Uses and Numeric Criteria



Figure 167. Analysis of annual mean and harmonic mean statistics of daily mean streamflow for U.S. Geological Survey streamflow-gaging station 08052650 Little Elm Creek near Celina, Tex.— (A) Time series of daily mean values, (B and C) Flow-duration curves for complete water years derived from A, (D) Annual mean streamflow and interpretative graphics, and (E) Annual harmonic mean streamflow and interpretative graphics.

TRINITY RIVER BASIN



 ANNUAL MEAN OR ANNUAL HARMONIC MEAN FOR COMPLETE WATER YEAR (> 363 days)— The symbol is scaled as much as a factor of 3 on the basis of the proportion of zero-flow days.

Statistical summary

- The period of record (*POR*) has 10 complete water years for 1967–76 for 3,650 days with 1,636 days of zero streamflow.
- Mean streamflow $M^{POR} = 36.44$ cubic feet per second
- Harmonic mean streamflow $H^{POR} = 0.12$ cubic feet per second
- The last decade ([10] = 3,630 days) for 1967–76 has 1,629 days of zero streamflow.
- Mean streamflow $M^{[10]} = 36.62$ cubic feet per second
- Harmonic mean streamflow $H^{[10]} = 0.12$ cubic feet per second

Figure 167. Station 08052650 Little Elm Creek near Celina, Tex.—Continued from facing page.

V



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USGS 08052650 Little Elm Ck nr Celina, TX

Available data for this site SUMMARY OF ALL AVAILABLE DATA 🗸 GO

Stream Site

DESCRIPTION:

Latitude 33°21'55", Longitude 96°49'25" NAD27 Collin County, Texas, Hydrologic Unit 12030103 Drainage area: 46.7 square miles Contributing drainage area: 46.7 square miles, Datum of gage: 582.40 feet above NGVD29.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Daily Data			
Discharge, cubic feet per second	1966-02- 21	1976-09- 29	3874
Suspended sediment discharge, short tons per day	1966-02- 23	1975-09- 19	3496
Daily Statistics			
Discharge, cubic feet per second	1966-02- 21	1976-09- 29	3874
Suspended sediment discharge, short tons per day	1966-02- 23	1975-09- 19	3496
Monthly Statistics			
Discharge, cubic feet per second	1966-02	1976-09	
Suspended sediment discharge, short tons per	1966-02	1975-09	

https://waterdata.usgs.gov/nwis/inventory/?site_no=08052650&agency_cd=USGS

day			
Annual Statistics			
Discharge, cubic feet per second	1966	1976	
Suspended sediment discharge, short tons per day	1966	1975	
Peak streamflow	1966-04- 29	1976-04- 20	11
Field/Lab water-quality samples	1966-04- 23	1975-03- 16	32

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<u>Questions about sites/data?</u> <u>Feedback on this web site</u> <u>Automated retrievals</u> <u>Help</u> <u>Data Tips</u> <u>Explanation of terms</u> <u>Subscribe for system changes</u> <u>News</u>

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Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
0601	8.0	6.6	38 ^(a)	2240	600	101
0602	17	6.5	27	112	18	19
0603	8.0	6.5	27 ^(a)	115	17	19
0604	10	6.5	36	92	24	20
0605	4.0	6.8	27 ^(a)	143	25	24
0606	5.0	6.4	42 ^(c)	232	34	36
0607	10	6.5	26	168	22	8.0
0608	6.0	6.0	14	83	14	5.0
0609	2.0	6.4	22	91 ^(b)	15	18
0610	2.0	6.9	27 ^(a)	90	16	20
0611	8.0	6.4	38 ^(c)	134	19	22
0612	9.3	6.5	20 ^(a)	100	10	16
0613	2.0	6.8	27 ^(a)	71	11	8.8
0614	1.0	7.1	27 ^(a)	61	7.0	6.0
0615	8.0	6.6	27 ^(a)	193	30	35

Table D-6 Segment-Specific Values for Basin 6, Neches River

^(c) Data from tributaries included.

Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)		
0701	12	6.7	56	246	54	32		
0702	14	6.8	288 ^(c)	10872	4700	690		
0703	11	6.6	288 ^(c)	9000	4780	650		
0704	12	6.7	74	249	56	33		

Table D-7 Segment-Specific Values for Basin 7, Neches-Trinity Coastal

^(c) Data from Segments 0702 (including tributaries), 0703, 2411, and 2412

	Table D-8 Segment-S	pecific Values for	· Basin 8, Trini	ty River
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Tuble D'o Segment Speente + utues for Dusin 6, Trinity fu er							
Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	
0801	18	7.3	84	224	36	33	
0802	9.0	7.4	94	205	26	35	
0803	7.3	7.4	94	240	29	43	
0804	41	7.2	122	338	42	60	
0805	23	7.2	148	408	52	77	

Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
0806	10	7.5	136	287	35	38
0807	6.9	7.9	96 ^(a)	231	34	26
0808	5.0	7.5	98 ^(a)	260 ^(b)	36	23
0809	5.0	7.9	96 ^(a)	249	34	26
0810	16	7.5	98 ^(a)	425	53	39
0811	2.0	7.9	96 ^(a)	212	28	20
0812	28	7.2	98 ^(a)	490	59	36
0813	1.5	6.8	96 ^(a)	73	11	9.0
0814	18	7.5	120 ^(c)	349	23	70
0815	6.1	7.9	96 ^(a)	202 ^(b)	14	35
0816	4.7	7.8	96 ^(a)	179 ^(b)	8.0	17
0817	6.1	7.9	110	208 ^(b)	11	31
0818	5.4	7.5	96 ^(a)	121	14	24
0819	16	7.3	119	372	45	47
0820	5.0	7.8	98	190	15	26
0821	5.0	7.8	96 ^(a)	216	8.0	23
0822	13	7.5	116	259	24	41
0823	6.0	7.8	106	208	19	30
0824	7.0	7.6	77	422	49	49
0825	5.0	7.5	118 ^(d)	231	25	35
0826	5.0	7.9	118	208	24	30
0827	8.7	7.5	96 ^(a)	188 ^(b)	13	31
0828	6.0	7.9	100	187	18	28
0829	8.0	7.5	98 ^(a)	289	22	33
0830	6.0	7.9	96 ^(a)	205	22	27
0831	5.0	7.5	160	408	42	45
0832	5.0	8.0	96 ^(a)	283 ^(b)	41	31
0833	6.7	7.5	98 ^(a)	561	92	67
0834	2.0	7.7	96 ^(a)	182 ^(b)	27	12
0835	10 ^(e)	7.3 ^(e)	120 ^(c)	232 ^(e)	28 ^(e)	40 ^(e)
0836	2.0	7.7	96 ^(a)	170	11	33
0837	10 ^(e)	7.3 ^(e)	120 ^(c)	232 ^(e)	28 ^(e)	40 ^(e)
0838	4.0	7.9	153	342	21	102
0839	9.0	7.6	98 ^(a)	188 ^(b)	20	22

Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
0840	4.0	7.7	95	179	18	16
0841	16	7.3	160	467	74	68

(c) Data from Segments 0814 (including tributaries), 0835, and 0837 Data from Segments 0825 and 0826

(d)

(e) Data from Segments 0835 and 0837

Table D-9 Segment-Specific Values for Basin 9, Trinity-San Jacinto Coastal

Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
0901	18	7.4	930 ^(c)	8400	2875	261
0902	3.0	7.1	40 ^(d)	373	83	17

(c) Data from Segment 2426

(d) Data from Basin 10

Table D-10 Segment-Specific Values for Basin 10, San Jacinto River

Segment Number	TSS (mg/L)	рН (s.u.)	Total Hardness (mg/L as CaCO ₃)	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
1001	8.0	7.5	44	940	2765	246
1002	10	7.0	46	186	25	9.0
1003	7.0	6.6	37	144	32	5.0
1004	11	6.9	65	187	38	10
1005	11	7.5	620	10800	6190	838
1006	10	7.2	412	2920	2090	215
1007	8.0	7.1	108	1100	482	94
1008	10	6.8	48	241	47	10
1009	13	7.0	44	388	57	19
1010	5.0	6.6	28	99	15	5.0
1011	3.0	6.4	21	88	17	4.0
1012	3.0	7.3	65	131	17	6.0
1013	14	7.2	78 ^(a)	381	60	24
1014	17	7.1	40 ^(a)	368	64	23
1015	10	6.6	40 ^(a)	168 ^(b)	43	9.7
1016	12	7.5	40 ^(a)	456	82	38
1017	10	7.6	40 ^(a)	463	86	33



RWHARDEN &ASSOCIATESINC

March 31, 2020

Todd Watson FHQ Holdings, LP 1900 North Akard St. Dallas, Texas 75201

Re: Groundwater Availability Evaluation: Brookside-Frisco, Collin/Denton Counties, Texas

Dear Mr. Watson,

R.W. Harden & Associates (RWH&A) has completed an evaluation of the groundwater resources beneath the Brookside-Frisco development in Collin and Denton counties, Texas. This study focused on estimating the availability of groundwater supplies for various uses including landscape irrigation and/or replenishment of evaporative losses from planned surface water impoundments. Based on information provided by Kimley-Horn and Associates, Inc., it is estimated that average annual needs from the system will be approximately 1,200 acre-feet, while the peak daily demand will be about 1,800 gallons per minute (gpm).

Our review consisted of compilation and analyses of available well construction records, water level and water quality records within a five-mile radius of Brookside-Frisco, the Groundwater Availability Model (GAM) for the Northern Trinity-Woodbine aquifers maintained by the Texas Water Development Board (TWDB), documents disseminated by Groundwater Management Area No. 8 (GMA-8), and the rules and management plan promulgated by the North Texas Groundwater Conservation District (NTGCD).

Target Aquifers

The evaluation results indicate the presence of three potential target aquifer zones beneath the Brookside-Frisco development, which are from shallowest to deepest the Woodbine, Paluxy, and Lower Trinity aquifers. Figure 1 shows the project location and the neighboring wells referenced in this report. Figure 2 consists of a generalized cross-sectional diagram of the aquifer zones beneath Brookside-Frisco. As shown, the Woodbine occurs from about 350 to 700 feet below ground level (bgl). The Paluxy is present from about 1,200 to 1,500 feet bgl, and the Lower Trinity lies from about 1,850 to 2,450 feet bgl at the site. These aquifers dip toward the east-southeast at approximately 50-100 feet per mile and receive recharge through infiltration of precipitation in northeast-southwest trending outcrop areas to the northwest. The Woodbine outcrop is approximately five miles to the northwest, while the outcrop of the Paluxy and the Lower Trinity are about 15 to 25 miles farther northwest, respectively.



Figure 1. TWDB-inventoried Wells within a 5 Mile Radius of Brookside-Frisco





Figure 2. Schematic Cross Section of the Aquifers Underlying Brookside-Frisco

Water Quality

Table 1 lists the concentrations for some of the commonly reported chemical constituents and parameters from the three target aquifers within approximately five miles of Brookside-Frisco, as reported in the groundwater well information database maintained by the TWDB. Water quality analyses indicate that water produced from the Woodbine and Lower Trinity aquifers exceeds Texas Commission on Environmental Quality (TCEQ) secondary drinking water standards for some constituents. The TCEQ regulates public supply water quality using a defined set of primary and secondary drinking water standards for certain water quality constituents. Constituent concentrations above primary drinking water standards are considered a health hazard and must be treated to bring the levels below the specified limits prior to use as a potable public supply. Secondary standards are not considered a public hazard but represent an aesthetic nuisance. If elevated secondary constituents are not treated, approval from TCEQ must be granted before the water can be used for public supplies. Please note that, while it is informative to compare the chemical composition of the groundwater contained in the target aquifers with TCEQ standards for public supplies, groundwater produced for non-potable uses is not regulated by the TCEQ.



Table 1. Regiona	Water Quality
------------------	---------------

					Woodbine Wat	er Quality					
State Well	рН	Temp (°C)	Calcium	Sodium	Magnesium	Bicarbonate	Carbonate	Sulfate	Chloride	TDS (mg/L)	SAR
1849602	87		3.0	600	1.0	759	23	288	256	1.557	77
1849901	8.0		6.0	710	2.0	757	0	408	370	1.884	64
1849903	8.6		1.0	214	1.0	428	10	67	28	545	36
1849904	8.7		1.0	204	1.0	426	11	54	21	514	35
1849905	8.6		1.0	433	1.0	781	18	114	117	1.080	73
1850201	8.5		4.0	680	1.0	876	19	320	280	1.739	79
1850202	8.4		0.6	175	0.1	384	2	42	12	435	54
1850203	8.5		12.0	697	7.0	903	0	340	313	1.848	40
1850204	8.1		8.0	683	1.0	936	0	328	320	1,751	84
1850301	8.7	31.8	0.4	170	0.3	513	44	46	16	709	53
1850304	8.6		0.8	206	0.2	425	0	68	22	506	53
1850901	8.4		1.4	339	0.4	598	8	157	57	874	57
1858201	8.5		2.0	359	1.0	576	5	189	83	927	52
Average	8.5	32	3.2	421	1.3	643	11	186	146	1105	58
Maximum	87	32	12.0	710	7.0	936	44	408	370	1884	84
					Paluxy Water	Quality					
State Well Number	рН	Temp (°C)	Calcium (mg/L)	Sodium (mg/L)	Magnesium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	SAR
1849605				290		583	29	97	19	739	
1850205	8.6	30.2	1.6	285	1.0	610	0	87	25	702	56
1850302	8.7		1.6	298	0.1	578	31	85	26	728	62
1850504	8.5		2.0	323	0.5	637	22	109	22	805	63
1850505	8.9		1.6	287	0.5	527	38	97	24	709	41
1850802	8.7	29.0	1.8	262	0.2	535	17	90	19	670	38
1850804	8.2		2.3	272	0.6	470	0	96	19	640	53
1849604	8.7		1.6	271	0.4	576	0	89	21	668	50
Average	8.6	30	2	286	0.5	565	17	94	22	708	52
Maximum	8.9	30.2	2.3	323	1	637	38	109	26	805	63
					•	•	•				
				L	ower Trinity Wa	ter Quality					
State Well Number	pН	Temp (°C)	Calcium (mg/L)	Sodium (mg/L)	Magnesium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	SAR
1850501	8.3	38	2.6	620	3.8	304	0	81	740	1,611	55
1850502	8.3	37	6.0	580	1.0	305	18	91	640	1,499	58
1850503	7.6		23.0	607	8.6	485	0	894	46	1,840	28
1850803	8.5	40	1.4	359	0.6	555	6	189	78	923	64
1850805	8.4	42	2.4	317	0.5	392	5	87	192	816	49
Average	8.2	39	7.1	497	2.9	408	6	268	339	1,338	51
Maximum	8.5	42	23.0	620	8.6	555	18	894	740	1,840	64
					·	·	·		·	·	
TCEQ Secondary Standards (mg/L)	>7.0	N/A	N/A	N/A	N/A	N/A	N/A	300	300	1,000	N∕A
Lake Lewisville Quality Standards	6.5-9.0	32						80	60	500	

For the constituents reported, none of the aquifers contain contaminants that exceed primary standards. Total dissolved solids (TDS) is commonly used as a general indicator of water quality; water with TDS concentrations below 1,000 milligrams per liter (mg/L) are considered fresh, brackish water contains between 1,000 and 10,000 mg/L TDS, and water with TDS concentrations in excess of 10,000 mg/L TDS is considered saline. For reference, the average TDS of sea water is approximately 35,000 mg/L. As shown in Table 1 and Figure 1, the groundwater contained in Woodbine is mildly brackish, on average, with concentrations ranging from approximately 500 to 1,900 mg/L, indicating that water quality is variable and site-specific. Four of 13 sampled Woodbine wells report chloride and/or sulfate concentrations above

TCEQ secondary standards. Water quality in the Paluxy aquifer is fresh throughout the region, with other reported major constituents below secondary standards. On average, water in the Lower Trinity aquifer is brackish. Three of the six sampled Lower Trinity wells report chloride or sulfate concentrations above secondary standards.

The produced waters from all target aquifers will likely exceed the TCEQ stream segment standards for Lake Lewisville, which may affect surface discharge permitting (if needed). The water quality of a surface reservoir is often dominated by larger, episodic rainfall runoff events that provide most of the water to the lake. Small creeks can experience a wide range of water quality as evaporation and transpiration concentrate TDS between runoff events. Consequently, the water quality of a contributing stream is generally degraded relative to lake water quality, however variation in rainfall and runoff patterns can periodically improve stream water quality to be equal, or above lake quality. The available data suggest that, in the event that a discharge permit is required, mass balance/mixing calculations will demonstrate that the introduction of groundwater is likely to have a negligible effect on Lake Lewisville water quality because the irrigation discharge volume is small relative to the lake volume.

Water from the three target aquifers may not be appropriate as a sole source of irrigation water due to the relatively high concentrations of sodium and bicarbonate. Excess sodium can be toxic to many plant species, and both bicarbonate and sodium can negatively impact soil permeability over time. As shown in Table 1, the average values of the Sodium Adsorption Ratio (SAR) are 58, 52, and 51, in the Woodbine, Paluxy, and Lower Trinity aquifers, respectively. While different species of plants and types of soil can tolerate a wide range of sodium and bicarbonate, the SAR values shown here are generally considered high for sustained, long-term irrigation. If unblended or untreated groundwater from any of the target aquifers is to be the main source of irrigation water, RWH&A recommends an evaluation of local soils and planned crops be performed by a qualified agronomist.

Groundwater Regulation

The North Texas Groundwater Conservation District (NTGCD or District) regulates groundwater production in Collin and Denton Counties, and was established in 2009. The District is currently operating under a set of rules that were originally adopted in 2010 but have since been amended several times to include new rules regarding well location, spacing, and production rates. The most recent amendment of the rules was ratified February 11, 2020. The rules most applicable to this project are:

- A production permit must be obtained prior to drilling, construction, or operation of a well or well system.
- If the permit applicant is requesting water for the purposes of irrigating an acre or more of landscape, the applicant must agree to install and maintain a smart irrigation controller (weather or soil moisture-based) on the irrigation system.
- Multiple wells that are part of a well system and that are owned and operated by the same entity and are completed in the same aquifer may be aggregated under a single permit.
- If the well(s) will produce at a rate greater than 200 gallons per minute (gpm), a hydrologist's report must be submitted with the production permit application.

- > Wells must be located at least 50 feet from the nearest uncontrolled property.
- New wells that are equipped so that the maximum capacity is above 17.36 GPM must be located at least 1,175 ft + (1.2 x GPM) away from any other well completed in the same aquifer. While this rule is relatively restrictive (a 300 gpm well must be 1,535 feet from the nearest well), RWH&A communications with NTGCD staff indicate that this spacing rule does not apply to wells constructed on the same property as an aggregate well field. In other words, this rule only applies to the spacing between existing wells on adjoining properties and future Brookside-Frisco wells.
- The District assesses a production fee of \$0.10 per 1,000 gallons for all non-exempt water uses except agricultural use, which is assessed a fee of \$1.00 per acre-foot of water. For reference, an acre-foot of water is approximately 325,851 gallons.

As a member of GMA-8, the NTGCD must engage in joint planning with other northern Texas groundwater conservation districts to develop groundwater pumpage impact limits, which are termed "desired future conditions" (DFC). DFCs are defined every five years by GMA-8, which are then used by the TWDB to calculate the "modeled available groundwater" (MAG) for each aquifer regulated by the member conservation districts. MAG values represent the maximum amount of pumpage that can be sustained that results in aquifer impacts that are within DFC limits and must be considered by the NTGCD during well permitting processes. While MAGs are not considered to be regulatory pumpage caps, an application for groundwater production amounts that are large in comparison to established MAG values will require more effort to permit successfully.

Table 2 lists the currently-adopted MAG values for each target aquifer by decade. As shown the estimated annual Brookside-Frisco production of 1,200 ac-ft/yr represents a modest portion of the MAGs that, in RWH&A experience, could likely be permitted without significant opposition from the NTGCD. Please note that updated DFCs are currently being developed and are scheduled to be delivered to the TWDB for MAG calculation in early 2022.

Aquifor	Modeled Available Groundwater (MAG) (Acre-Feet per Year)						
Aquiler	2020	2030	2040	2050			
Woodbine	7,879	7,858	7,879	7,858			
Paluxy	6,383	6,366	6,383	6,366			
Lower Trinity	10,596	10,567	10,596	10,567			

 Table 2. Aquifer MAG Values for Collin and Denton Counties

Aquifer Transmissivity, Well Efficiency, and Available Drawdown

Maximum well productivity is primarily a function of three parameters: 1) aquifer transmissivity, 2) well efficiency, and 3) available drawdown. The term "transmissivity" describes an aquifer's ability to transmit water through a vertical section of sediments and is used as a general measure of the productivity of an aquifer. All other aspects of the groundwater system being equal, an aquifer with twice the transmissivity of another aquifer can sustain about twice as much production. Well efficiency is a measure of the ease with which an individual well can transmit water from the aquifer through the screen/gravel pack to the

well. Well efficiencies are defined by calculating the ratio of the declines predicted to occur in a theoretical, "perfect" well that incurs no added head loss as water moves from the aquifer to the well to the measured drawdown in a real-world well. Typical efficiencies range from about 50% for wells with straightwall construction, to greater than 90% for wells constructed for higher-capacity municipal applications.

Groundwater is vertically confined within the Woodbine, Paluxy, and Lower Trinity by overlying and underlying relatively-impermeable geologic formations. The downward pressure of near-surface groundwater in aquifer outcrop/recharge zones to the northwest pressurizes the groundwater beneath Brookside-Frisco. Consequently, aquifer (artesian) pressure will drive well bore water levels water above the top of the aquifer that is screened by a well. As wells are pumped, the decline in water level observed in the wells is the result of decreased groundwater pressure rather than desaturation of the aquifer sediments near the well bore. The vertical distance between the static (non-pumping) wellbore water level and the top of the aquifer is commonly referred to as artesian pressure. This distance is important with respect to groundwater availability because, as is the case with aquifer transmissivity, a well with twice as much artesian pressure can produce groundwater at twice the rate. However, rather than assuming that 100% of the available drawdown at a site may be utilized for production, it is beneficial to include some "safety factor" to account for hydrologic uncertainties and unforeseen impacts from other groundwater users when determining the availability of supplies over the long-term. Given that the target aquifers are a major source of groundwater for the region, significant declines in artesian pressure levels are likely in the future, which may affect the availability of groundwater. For this evaluation, it was assumed that 50% of the artesian pressure in the Brookside-Frisco area would be used for production of the intended supply over a 30-year well lifespan.

Water level data recorded during constant-rate aquifer tests are generally the most reliable method of estimating the hydraulic properties of an aquifer. However, no reliable aquifer test data are available from well in the Brookside-Frisco area. To calculate the anticipated well yields at Brookside-Frisco, RWH&A estimated a range of expected aquifer characteristics (aquifer hydraulic conductivity, aquifer depths, and artesian pressure.) using a combination of data and information from previous RWH&A efforts and the GAM.

Regional Interference Drawdown

Groundwater pumpage affects all users of groundwater who produce from the same aquifer; consequently, the well yields and overall groundwater availability of the aquifers beneath Brookside-Frisco will likely decline over time in response to artesian pressure declines (drawdown) imposed by competitive pumping in the region. In order to estimate the potential magnitude of interference drawdown that may occur over the next several decades, RWH&A evaluated the results of GAM simulations conducted by GMA-8 as part of the State's water planning process. These simulations suggest that significant declines will occur in each of the three aquifers beneath Brookside-Frisco over the next thirty years due to groundwater production in the region. Table 3 lists the current amount of artesian pressure, the anticipated regional drawdown, and the future amount of artesian pressure at Brookside-Frisco.



Aquifer	Current Artesian Pressure (Feet)	Regional Drawdown (2020-2050) (Feet)	2050 Artesian Pressure (Feet)
Woodbine	120	53	67
Paluxy	760	262	498
Lower Trinity	1,310	216	1,094

Table 3. Artesian Pressure and Estimated Regional Interference Drawdown

As shown, impacts from other groundwater users in the region over the next 30 years are anticipated to reduce artesian pressure levels in the Brookside-Frisco area by 44%, 34%, and 16% in the Woodbine, Paluxy, and Lower Trinity aquifers, respectively. The maximum production rates of Brookside-Frisco wells are expected to decline by commensurate proportions by 2050. However, it is important to note that the simulations used by GMA-8 for regional planning incorporate multi-decade predictions (educated guesses) of the locations and production schedules of numerous potential groundwater projects. As such, the amount of drawdown that is predicted to occur in the Brookside-Frisco area is highly-dependent on the accuracy of the predictions/assumptions applied to the GMA-8 simulations by its member groundwater conservation districts.

Well Field Modeling

An analytical groundwater model developed by RWH&A was used to estimate maximum potential future productivity in the Paluxy and Lower Trinity aquifers. Production was modeled through a 30-year interval at average continuous production rates, which allows for accurate assessment of average aquifer declines over that period. As discussed above, modeled drawdown is limited to 50% of the artesian pressure to account for unforeseen future pumpage by other groundwater users near Brookside-Frisco and to allow for production at higher peak rates when needed during summer months. Regional data indicates that the hydraulic properties of the target aquifers are variable in the Brookside-Frisco area. To bracket potential wellfield productivity, both low and high estimated transmissivity scenarios were evaluated for each aquifer. Table 4 shows parameters applied to the model scenarios. The model for this study assumes a 50% well efficiency, which is a typical for a properly constructed straightwall irrigation-supply well.

Description	Woodbine	Paluxy	Trinity
Low Transmissivity (gal/day/ft)	500	1,880	5,610
High Transmissivity (gal/day/ft)	2,200	4,860	11,200
Current Artesian Pressure (ft)	120	760	1,310
Modeled Available Drawdown (ft)	60	380	655

Tables 5 through 7 list the simulated long-term maximum production from wells completed in the target aquifers. Multiple wellfield scenarios were modeled, utilizing between one to seven currently-planned well locations on the Brookside-Frisco property. As shown, total system production increases as wells are added to the wellfield. However, due to compounding interference effects between wells, the rate of increase in wellfield productivity declines with each additional well.

Model results suggest that the Woodbine aquifer is not suitable for long-term production in the Brookside-Frisco area due a combination of factors including low aquifer transmissivity, shallow aquifer depth, and relatively-large predicted interference effects from other groundwater users in the region. However, production of up to about 30-50 gpm from individual Woodbine wells may be possible over the short-term where favorable site-specific aquifer characteristics are identified.

	Low Transmissivity		High Transmissivity	
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)
1	8	8	32	32
2	7	13	28	56
3	6	17	24	71
5	<5	20	17	86
7	<5	22	13	94

Table 5. Model Results – Woodbine Aquifer

	Low Transmissivity		High Transmissivity	
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)
1	55	55	135	135
2	46	93	115	230
3	40	119	97	292
5	29	146	71	357
7	23	160	56	392

Table 6. Model Results – Paluxy Aquifer

Table 7. Model Results – Lower Trinity Aquifer

Low Transmissivity		High Transmissivity		
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)
1	566	566	1,097	1,097
2	479	958	922	1,843
3	402	1,205	770	2,311
5	294	1,468	562	2,809
7	229	1,600	437	3,058

The Paluxy is significantly less productive than the Lower Trinity but, because Paluxy groundwater is likely fresh, development of supplemental Paluxy wells at Lower Trinity well sites may be beneficial in some circumstances. If the Lower Trinity transmissivity within Brookside-Frisco is on the higher end of the regional range, two or three wells may be sufficient to produce the desired daily peak capacity of approximately 1,800 gpm. If site-specific characteristics are less favorable, all seven planned well sites

may need to be developed and may produce, on the whole, less than the necessary total capacity.

Conclusions

The available data indicate that the hydraulic properties of the three potential target aquifers vary significantly throughout the region; as a result, the maximum yields from individual wells and from an aggregate Brookside-Frisco well field will be dependent on the hydraulic properties of the aquifer(s) at each well site. It is recommended that test drilling and aquifer testing be performed to document the hydrogeologic conditions beneath potential well sites prior to well design and permitting efforts. If favorable aquifer conditions are found, sufficient production may be obtained from a few larger wells, while several smaller wells may be required to fulfill project demands where less-permeable aquifer sediments are present.

Selection of one or more preferred aquifer zones typically depends on a combination of factors including productivity, reliability, water quality, and cost. The following summarizes the pros and cons associated with each of the potential target aquifers.

Woodbine Aquifer

- > Well depth of approximately 700 feet
- Small capacity wells (up to approximately 30-50 gpm)
- Less expensive wells
- Variable, site-specific water quality
- Current groundwater availability: 50 to 175 acre-feet per year
- > Future (2050) groundwater availability: less than 30 acre-feet per year

Paluxy Aquifer

- ▶ Well depth of approximately 1,500 feet
- Small to moderate capacity wells (up to approximately to 150 gpm)
- Moderately expensive wells
- Fresh water quality
- Current groundwater availability: 850 to 2,000 acre-feet per year
- ▶ Future (2050) groundwater availability: 300 to 650 acre-feet per year

Lower Trinity Aquifer

- ➢ Well depth of approximately 2,450 feet
- High capacity wells (up to approximately 1,100 gpm)
- Higher cost wells
- Primarily brackish water quality (but some fresh water in region)
- Current groundwater availability: 4,200 to 7,800 acre-feet per year
- Future (2050) groundwater availability: 2,600 to 4,900 acre-feet per year



The Woodbine is the least productive aquifer beneath Brookside-Frisco and contains groundwater of variable quality. However, construction of relatively shallow, inexpensive Woodbine wells may prove beneficial in circumstances where smaller well yields and poorer water quality are acceptable. The Paluxy contains consistently fresh water in the region and can likely sustain low to moderately productive wells given current artesian pressure levels. However, the overall productivity of the Paluxy is predicted to decline by approximately 34% over the next 30 years, requiring the construction of additional wells to maintain long-term production rates. Large-scale production may be obtained from the Lower Trinity with fewer, higher-capacity wells. Lower Trinity wells will be deeper, larger-diameter, and more expensive, but are predicted to a lesser degree by interference drawdown from other wells in the region. It is likely that the Lower Trinity contains brackish groundwater beneath Brookside-Frisco.

The Woodbine, Paluxy, and Lower Trinity are vertically segregated by thick layers of relatively impermeable sediments. As a result, wells accessing these formations may be constructed at the same site without imposing interference drawdown on one-another. Depending on the desired production, site-specific aquifer properties, water quality, and budgetary constraints, various combinations of wells could be employed to achieve cost-effective results.

The three target aquifers contain "soft" groundwater with high concentrations of sodium relative to dissolved calcium and magnesium. The Sodium Adsorption Ratio (SAR) is commonly used as an indicator of a water's suitability for irrigation use. The average SAR values of the groundwater produced by the target aquifers in the region exceed 50, which is considered unacceptably high for sustained direct irrigation use, especially for areas with low permeability soils. RWH&A recommends that an evaluation of local soils and plants be performed by a qualified agronomist if unblended or untreated groundwater from any of the target aquifers is to be used for long-term irrigation.

Sincerely,

James Bené, P.G. R. W. Harden & Associates, Inc.



The seal appearing on this document was authorized by James E. Bené, P.G. 2089 on March 31, 2021. R.W. Harden & Associates, Inc. TBPG Firm No. 50033.



From:	<u>Dickey, Kyle</u>
To:	Joshua Schauer
Cc:	Alderman, Nadia (Whitehouse); Roger McInnis; Braswell, Trey; Leslie Patterson; George Gable
Subject:	RE: FHQ Development Partners LP; 13779 Tech RFI
Date:	Friday, September 16, 2022 11:49:34 AM

Josh,

Thank you for the update.

Thanks, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer <joshua.schauer@tceq.te< th=""><th>xas.Gov></th></joshua.schauer@tceq.te<>	xas.Gov>
Sent: Friday, September 16, 2022 11:31 AM	
To: Dickey, Kyle	
Cc: Alderman, Nadia (Whitehouse)	; Roger McInnis
; Braswell, Trey	Leslie Patterson
<leslie.patterson@tceq.texas.gov>; George Gable</leslie.patterson@tceq.texas.gov>	e <george.gable@tceq.texas.gov></george.gable@tceq.texas.gov>
Subject: RE: FHQ Development Partners LP; 1377	9 Tech RFI

Hi Kyle,

I did receive the email and the additional information has been distributed to staff for review.

The RFI that I mentioned sending is not a new RFI, but a follow-up to the letter dated August 12, 2022. It should not request any additional information that was not requested in that letter. The Follow-up letter will most likely be sent out next week.

Thanks,

Joshua Schauer 512.239.1371 Project Manager TCEQ, Water Rights Permitting Section

 From: Dickey, Kyle

 Sent: Friday, September 16, 2022 11:12 AM

 To: Joshua Schauer

 To: Joshua Schauer

 Joshua Schauer

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 Sent: Friday, September 16, 2022 11:12 AM

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 Sent: Friday, September 16, 2022 11:12 AM

 To: Joshua Schauer

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 Schauer

 Sent: Friday, September

 Sent: Friday, September <

Subject: RE: FHQ Development Partners LP; 13779 Tech RFI

Good afternoon Josh,

I'm confirming you received the email below. When we had our call last week, you mentioned a new RFI was going to be sent out. Can you please provide a status update for that?

Thanks,

Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Dickey, Kyle	
Sent: Friday, September 9, 2022 3:16 PM	
To: 'Joshua Schauer' < <u>Joshua.Schauer@Tceq.Texas.Gov</u> >	
Cc: Alderman, Nadia (Whitehouse) ;	'Roger McInnis'
< <u>r</u> Braswell, Trey ;	
'leslie.patterson@tceq.texas.gov' < <u>leslie.patterson@tceq.texas.gov</u> >; 'geo	rge.gable@tceq.texas.gov'
< <u>george.gable@tceq.texas.gov</u> >	
Subject: RE: FHQ Development Partners LP; 13779 Tech RFI	

Good afternoon Josh,

Following up from our call on Wednesday, I have prepared the attached updated calculations in response to Comment 3. These calculations follow the RG 194 manual instructions. Please let me know if there are any follow-up questions on this.

Thank you, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Dickey, Kyle Sent: Friday, August 19, 2022 2:15 PM **To:** Joshua Schauer <<u>Joshua.Schauer@Tceq.Texas.Gov</u>>

>; Roger McInnis

Cc: Alderman, Nadia (Whitehouse) ; Braswell, Trey <

Subject: RE: FHQ Development Partners LP; 13779 Tech RFI

Good afternoon Josh,

Please find the attached documents for our response to the comments provided last week. As per my other email, this includes our initial response to the water quality comment so staff has a chance to review the approach prior to the meeting that we are scheduling.

Thanks! Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>

Sent: Friday, August 12, 2022 2:00 PM

To: Dickey, Kyle <

Cc: Alderman, Nadia (Whitehouse)

Subject: FHQ Development Partners LP; 13779 Tech RFI

Mr. Dickey,

Additional information is required to complete technical review of the referenced application. Please review the attached letter and provide the requested information by September 12, 2022.

If you have any questions concerning this matter, please contact me via email at <u>Joshua.schauer@tceq.texas.gov</u> or by telephone at (512) 239-1371.

Regards,

Joshua Schauer 512.239.1371 Project Manager TCEQ, Water Rights Permitting Section

9/8/2022 Phone Memo w/Leslie Patterson

• Applicant representative (Kyle Dickey) called me and left a message asking for help locating the equations used for TDS screening. I called him back and guided him to the appropriate location in the implementation procedures document online. Mr. Dickey further asked about other alternative calculation methods for discharge (such as from the reservoir rather than using the discharge rate directly from the groundwater well). I indicated he would need to submit any proposed alternatives to TCEQ for review. He further commented that NTMWD conservation plan prohibits mixing of potable water with groundwater for discharge into ponds. I thanked him for sharing the information with me.
9/6/2022 Meeting Memo

- Met with applicant concerning response to technical RFI #1 received 8/19/2022. Discussed with applicant that the water quality evaluation submitted did not support attainment of the water quality standards. TDS screenings previously performed by TCEQ staff using screening procedures contained in the Implementation Procedures for Surface Water Quality RG194 resulted in exceedances for TDS, chloride, and/or sulfate, specifically for discharges from the Twin Mountains aquifer to proposed ponds 1-5 on the unnamed tributary of panther creek. Staff indicated that without additional information or data provided by the applicant, TCEQ would likely not be able to recommend granting the permit as is. Staff discussed options with the Applicant concerning how to proceed forward including:
 - Applicant collecting and submitting ambient water quality data from the direct receiving water body;
 - Applicant providing onsite groundwater water quality data;
 - Applicant treating the groundwater prior to discharge;
 - Applicant using another alternative water source (such as groundwater from a different aquifer or mixing in another source water such as potable)
- Applicant indicated they would be providing additional data/information, etc.
- TCEQ staff indicated another RFI would be sent

From:	Dickey, Kyle					
То:	Joshua Schauer					
Cc:	Alderman, Nadia (Whitehouse); Roger McInnis; Braswell, Trev					
Subject:	RE: FHQ Development Partners LP; 13779 Tech RFI					
Date:	Friday, August 19, 2022 2:15:56 PM					
Attachments:	Comment Response Letter Tech RFI #1.pdf					
	1.2-FHQ Production Permit.pdf					
	Well Operation Plan.pdf					
	Updated Worksheets 4.0.pdf					
	Water Quality Impact Calculations.pdf					

Good afternoon Josh,

Please find the attached documents for our response to the comments provided last week. As per my other email, this includes our initial response to the water quality comment so staff has a chance to review the approach prior to the meeting that we are scheduling.

Thanks!

Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | www.kimley-horn.com

From: Joshua Schauer < Joshua.Schauer@Tceq.Texas.Gov>

Sent: Friday, August 12, 2022 2:00 PM

To: Dickey, Kyle

Cc: Alderman, Nadia (Whitehouse)

Subject: FHQ Development Partners LP; 13779 Tech RFI

Mr. Dickey,

Additional information is required to complete technical review of the referenced application. Please review the attached letter and provide the requested information by September 12, 2022.

If you have any questions concerning this matter, please contact me via email at <u>Joshua.schauer@tceq.texas.gov</u> or by telephone at (512) 239-1371.

Regards,

Joshua Schauer 512.239.1371 Project Manager TCEQ, Water Rights Permitting Section

Kimley Worn

August 19, 2022

Joshua Schauer Project Manager, TCEQ Water Rights Permitting Section Texas Commission on Environmental Quality (512) 239-1371

RE: Response Letter to Comments (Dated August 12, 2022) for the Water Rights Permit, Application No. 13779

Dear Mr. Schauer:

This letter is in response to comments we received from you on August 12, 2022 via e-mail. Our responses to the comments are below:

- **Comment 1:** Provide a copy of the groundwater well permit or evidence that a groundwater permit is not required from the North Texas Groundwater Conservation District for the proposed groundwater wells. Staff acknowledges that the applicant provided a Notice to Proceed to drill a test well. However, in order to complete technical review, the application must demonstrate that the applicant has obtained any required groundwater well permits.
- Response: Production Permit Number NPT004 is attached. This production permit is for the well that will be drilled into the Twin Mountains / Lower Trinity aquifer. It will have a production rate greater than 17.36 gallons per minute. The wells proposed to be drilled into the Woodbine aquifer will have a production rate less than 17.36 gallons per minute. According to the North Texas Groundwater Conservation District rules (Rule 3.7), wells with a production rate of less than 17.36 gallons per minute are exempt from the permitting requirements.
- **Comment 2**: *Provide revised Discharge Point Information Worksheets 4.0 that reflect the information provided in the Well Operation Plan submitted on January 13, 2022, and identify the following for each discharge point:*
 - a. the well identifier or number; and
 - b. source aquifer(s) from which water will be pumped.

Note, any changes affecting the Well Operation Plan will require submission of a revised plan to TCEQ.

Response: Revised Worksheets 4.0 have been updated to include the requested information. Additionally, the Well Operation Plan has been updated to be consistent with the production permit.

Kimley»Horn

- **Comment 3:** Explain how the proposed groundwater discharges from the Twin Mountains/Lower Trinity and Woodbine aquifer formations will meet the applicable Texas Surface Water Quality Standards. As part of your response, provide a water quality analysis, or any other study or relevant information, which demonstrates that discharges of groundwater will meet the applicable water quality criteria in the Texas Surface Water Quality Standards for the unnamed tributaries, Panther Creek, and Lewisville Lake (Segment No. 0823). Resource Protection staff reviewed the historical water quality data provided by the Applicant and both water sources contain levels of chlorides, sulfates, and TDS that exceed the criteria set forth in the Texas Surface Water Quality Standards. Note that discharges of alternate source water into a state watercourse must meet the applicable water quality standards or TCEQ may recommend denial of the application.
- Response: Calculations estimating the impacts to water quality levels within Lake Lewisville and Panther Creek are attached. The calculations assume that the current water quality levels within the water bodies equal the minimum standards. The retention ponds will have additional benefits to stormwater runoff, by slowing down the flow rates which allows the particles carried in the water to settle. The slower rates will also reduce downstream erosion and in turn reduce the suspended solids that would otherwise be created. A trash rack is also included on both pond outfalls to reduce the amount of large debris from flowing downstream.

If you have any additional comments or questions, please do not hesitate to contact me at (972) 731-2187 or kyle.dickey@kimley-horn.com.

Sincerely,

Kyle Dickey, P.E., CFM

NORTH TEXAS GROUNDWATER CONSERVATION D I S T R I C T

PRODUCTION PERMIT

Permit No. NPT004

Well Owner ("Permittee"):

FHQ Development Partners LP 1900 N. Akard Street Dallas, TX 75201

Total Number of Wells: 1

Purpose of Use: Landscape Irrigation and Surface Impoundment(s) **Aquifer:** Trinity (Twin Mountains)

Well(s) Information:

ID	Well Name	Latitude	Longitude	Capacity	Drilling Deadline
NT-5412	Fields No. 1	33.192920	-96.849350	1,500 GPM	2/24/2023

Term and Renewal: This permit is effective beginning on 6/29/2022. This permit is perpetual in nature; provided, however, that the District will conduct inspections and will request information from a permit holder from time-to-time as required to ensure the accuracy and integrity of the District's information, and to enforce compliance with District Rules, the District Act, and Chapter 36 of the Texas Water Code.

Notice of Revocation: Failure to pay groundwater use fees, report pumpage, comply with District rules, orders, special provisions, and permit conditions can result in revocation of this permit.

Amount of Authorized Production: The amount of groundwater needed for use by Permittee for beneficial use, which shall not exceed: 242,500,452 gallons/year for only that well or well system identified above.

Permit Conditions - This Permit is conditioned on each of the following precise terms:

- 1. This permit is granted subject to the District's rules, orders of the District Board of Directors, special provisions, permit conditions, and laws of the State of Texas, including but not limited to Chapter 36 of the Texas Water Code and the District's enabling legislation codified at Chapter 8856 of the Special District Local Laws Code.
- 2. Acceptance of this permit and production of groundwater under the authority granted herein by Permittee constitutes acknowledgement and agreement that Permittee is required to abide by the precise terms of this permit and comply with the District's rules, orders of the District Board of Directors, special provisions, permit conditions, and laws applicable to Permittee.
- 3. Violation of the terms of this permit shall result in enforcement in accordance with the District's Enforcement Policy and Civil Penalty Schedule, Chapter 36 of the Texas Water Code, and the District's enabling legislation codified at Chapter 8856 of the Special District Local Laws Code.
- 4. This permit does not confer any rights and/or privileges to Permittee other than those expressly set forth herein.
- 5. The well(s) identified in this permit shall be installed, equipped, operated, maintained, plugged, capped, or closed, as may be appropriate in accordance with the District's rules.
- 6. Permittee's production shall not exceed the Amount of Authorized Production set forth in this permit.
- 7. Produced groundwater shall be put to a beneficial use at all times. Operation of the well(s) under this permit shall be conducted in a manner so as to avoid waste, pollution, or harm to groundwater resources.

- 8. The well site shall be accessible to District representatives and/or agents for inspection during business hours and during emergencies. The Permittee agrees to cooperate fully in any reasonable monitoring or sampling of the well(s).
- 9. Permittee shall provide written notice to the District of any change of ownership, name of Permittee or Permittee's authorized representative, well operator, mailing address or telephone number in accordance with District rules.
- 10. Permittee shall reduce water production as required by District rules and orders of the Board of Directors, including but not limited to proportional adjustments issued based on achievement of the District's Desired Future Conditions, and/or adjustments due to times of drought and in accordance with the District's Drought Contingency Plan, as applicable.
- 11. The application pursuant to which this permit has been granted is incorporated herein, and this permit has been granted based on the accuracy thereof. A finding that false information has been supplied to the District shall be grounds for immediate revocation of this permit, and shall subject Permittee to enforcement.
- 12. This permit contains all matters approved by the District related to Permittee's use of groundwater, and all other matters requested by Permittee not included in this Permit are denied.
- 13. <u>Any production of groundwater above the Authorized Production Amount, or above any additional</u> <u>amount as otherwise authorized by District Rules (e.g., initiation of Drought Buffer under District Rule</u> <u>6.2</u>), or a change to the well(s) or use authorized under this permit requires the submission of a Permit <u>Amendment Application prior to such change being made.</u>
- 14. In the event of a conflict between the terms of this permit and the application pursuant to which this permit has been granted, the terms of this permit shall prevail.

Special Conditions/Terms:

- 1) All records and reports relating to water rights, water usage/production and evaporation that are reported to TCEQ, shall also be sent to the District within the same time constraints required by the TCEQ.
- 2) In accordance with Section 10 of the District Rules, meters shall be installed on all discharge pipes leaving the surface impoundment(s) in order to track how much water is being used for irrigation and filling of ponds. All meter readings shall be reported to the District in accordance with District Rule 9.1.
- 3) In the event a District Temporary Drought Buffer declaration under District Rule 6.2 applies to this permit, such a declaration shall only apply to the amount of water allocated for irrigation and shall not apply to any other purpose of use authorized in the permit. The authorized production amount for irrigation use during a declaration under District Rule 6.2 will become 207,782,452 gallons per year.
- 4) All surface impoundment(s) must be constructed in accordance with TCEQ requirements as set forth in 30 Texas Admin. Code Section 217.203(e) in order to minimize any loss due to seepage below the surface impoundment(s).
- 5) The amount of groundwater used to fill the surface impoundment(s) shall not exceed the amount of water set forth in the TCEQ's Water Rights Permit.
- 6) Permittee to conduct and keep records of annual Water Sampling Texas A&M AgriLife's Comprehensive Analysis or equivalent including: pH, NO3-N, P, K, Ca, Mg, Na, S, Conductivity, Zn, Fe, Cu, Mn, Boron.
- Permittee to conduct and keep records of annual Soil Sampling Texas A&M AgriLife's Routine Analysis or equivalent including: Conductivity, pH, Na, Ca, Mg, K, CO3 2-, HCO3-, SO4 2-, Cl-, P, B, Nitrate-N. Hardness, and SAR.
- 8) Permittee to conduct and keep records of Irrigation System Inspection conducted at least every two years by a TCEQ Licensed Irrigation Inspector to identify irrigation deficiencies.

- 9) Permittee to install and maintain smart irrigation controllers (weather-based or soil moisture-based) for any irrigation system using groundwater from this permit. In addition, intelligent flow sensing is to be installed and maintained with waste/safety stops.
- 10) Permittee required to allow access for the District to monitor water levels with a continuously measuring device installed on the well. Owner can coordinate with the District to use output signals to monitor the levels as well.
- 11) Permittee required to be available for an annual permit review meeting if requested by the District.
- 12) All records required to be maintained by Permittee under this permit must be submitted to the District within thirty (30) business days upon request.
- 13) This permit will have two allocations for irrigation use: the first allocation will have a perpetual term for 108,670,489 gallons per year for the land areas west of the Tollway ("West Fields"). The second allocation will be subject to periodic review by the parties for 72,009,511 gallons per year for the areas east of the Tollway ("East Fields"). The purpose of the periodic review of irrigation use in East Fields is to evaluate the most efficient allocation of resource relative to need, including the prospective use of reclaimed and potable water. Periodic review for East Fields shall commence upon request of the District or Permittee, but not sooner than December 31, 2026 (to allow for a period of installation, start-up and continuous use), and then every two (2) years thereafter.

District Approval

Signature

Drew Satterwhite, P.E.

Print Name

Date

General Manager Title 6/29/2022 Applicant Signature Required for permit to be effective

Sibnature

Todd M. Watson Print Name

Vice President

Title

June 30, 2022

Date

Return one signed original copy to the District at: P.O. Box 508, Gainesville, TX 76241

WATER QUALITY IMPACTS ON LEWISVILLE LAKE						
Lewisville Lake Watershed Area:	1,660	square miles				
Average Annual Rainfall:	33.41	inches				
Average Annual Rainfall Volume:	2,958,273	acre-feet				
Requested Annual Groundwater Volume from Twin Mountains / Lower Trinity:	679.6	acre-feet				
Requested Annual Groundwater Volume from Woodbine:	42.2	acre-feet				

Flow Volume Ratio of pumped groundwater to Average Annual Rainfall:

 $\label{eq:constraint} \mbox{Assuming the Lewisville Lake watershed meets the published requirements, the following would result:$

0.0244%

Water Quality Measure	Twin Mountains / Lower Trinity	Woodbine	Lewisville Lake Concentration Standard	Annual Mass from Proposed Twin Mountains / Lower Trinity Aquifer Well	Annual Mass from Proposed Woodbine Aquifer Well	Annual Mass from Lewisville Lake Watershed	Total Mass	Proposed Increase
	(mg/L)	(mg/L)	(mg/L)	(kg)	(kg)	(kg)	(kg)	(%)
Sulfate	268	186	80	224,658	9,682	291,918,115	292,152,455	0.0803%
Chloride	339	146	60	284,175	7,600	218,938,586	219,230,361	0.1333%
TDS	1,338	1,105	500	1,121,611	57,518	1,824,488,220	1,825,667,349	0.0646%

WATER QUALITY IMPACTS ON PANTHER CREEK						
Panther Creek Watershed Area:	20	square miles				
Average Annual Rainfall:	33.41	inches				
Average Annual Rainfall Volume:	35,642	acre-feet				
Requested Annual Groundwater Volume from Twin Mountains / Lower Trinity:	679.6	acre-feet				
Requested Annual Groundwater Volume from Woodbine:	42.2	acre-feet				

Flow Volume Ratio of pumped groundwater to Average Annual Rainfall:

 $\label{eq:constraint} \mbox{Assuming the Lewisville Lake watershed meets the published requirements, the following would result:$

2.0251%

Water Quality Measure	Twin Mountains / Lower Trinity	Woodbine	Secondary Concentration Standard	Annual Mass from Proposed Twin Mountains / Lower Trinity Aquifer Well	Annual Mass from Proposed Woodbine Aquifer Well	Annual Mass from Panther Creek Watershed	Total Mass	Proposed Increase
	(mg/L)	(mg/L)	(mg/L)	(kg)	(kg)	(kg)	(kg)	(%)
Sulfate	268	186	300	224,658	9,682	13,189,071	13,423,411	1.7768%
Chloride	339	146	300	284,175	7,600	13,189,071	13,480,846	2.2122%
TDS	1,338	1,105	1000	1,121,611	57,518	43,963,572	45,142,701	2.6821%

Kimley Worn

Well Operation Plan:

Brookside Well: This section is for the wells that will serve Ponds 1-5

This well operation plan is to provide proper guidance of the usage of the proposed Twin Mountain/Lower Trinity Aquifer groundwater well for the Fields Development in Frisco, Texas.

A flotation sensor will be located in each pond to recognize water surface elevations. The flotation sensor will notify the groundwater wells to begin pumping if the water level were to drop. The pumps will run until the pond has returned to its normal level. Each discharge point will be equipped with a valve that will open when the flotation sensor dips below the normal level. We have calculated that the peak daily demand for evaporation replacement is 211,749 gallons and for irrigation replacement is 1,324,173 gallons. The maximum rate required to replace this water is 1,422 gallons per minute, which assumes the well is operating for 18 hours per day. The total annual volume of water to be replaced is 676.88 acre-feet.

Our aquifer investigation has determined that the aquifers can yield between 650-1,950 GPM in the Twin Mountain/Lower Trinity aquifer. Our permit from the North Texas Groundwater Conservation District allows for 1,500 gallons per minute of production.

North Fields Wells: This section is for the wells that will serve Ponds 6 and 7

This well operation plan is to provide proper guidance of the usage of the three proposed Woodbine Aquifer groundwater wells.

A flotation sensor will be located in each pond to recognize water surface elevations. The flotation sensor will notify the groundwater wells to begin pumping if the water level were to drop. The pumps will run until the pond has returned to its normal level. Each discharge point will be equipped with a valve that will open when the flotation sensor dips below the normal level. We have calculated that the peak daily demand for evaporation replacement is 60,500 gallons. The maximum rate required to replace this water is 42 gallons per minute, which assumes the well is operating for 24 hours per day. The total annual volume of water to be replaced is 42.16 acre-feet.

Our aquifer investigation has determined that the aquifers can yield between 8-50 GPM in the Woodbine aquifer. Therefore, we are proposing three wells to serve the North Fields Ponds. Each well will have a capacity of 15 gallons per minute, for a total capacity of 45 gallons per minute.

Discharge Point 1

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be to replace water lost to evaporation and divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: ______Twin Mountain / Lower Trinity
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.
 Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation .
 Report
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. NT-5412
- ci. Is the source of the water being discharged a surface water supply contract? Y/N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is <u>19.72</u> acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of _______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: $_{-}^{75033}$
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.195442</u>°N, Longitude <u>96.85198</u>1 °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 2

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation and irrigation
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (V)/N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: ______Twin Mountain / Lower Trinity

 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 A copy of the groundwater well permit if it is located in a Groundwater Conservation
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. NT-5412
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>2.16</u> cfs or <u>969</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: ⁷⁵⁰³³
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.193519</u> °N, Longitude <u>96.848242</u> °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 3

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation and irrigation
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (V)/N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:______
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp. Additionally, provide well numbers or identifiers See attached, Groundwater Availability Evaluation Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 A copy of the groundwater well permit if it is located in a Groundwater Conservation
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. NT-5412
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>1.09</u> cfs or <u>487</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.192393</u> °N, Longitude <u>96.841926</u> °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):_____AutoCAD Civil 3D _____

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 4

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: ______Twin Mountain / Lower Trinity
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp. Additionally, provide well numbers or identifiers See attached, Groundwater Availability Evaluation Report
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. NT-5412
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is _______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. 0.04 16
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.197572</u>°N, Longitude <u>96.848447</u>°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): <u>AutoCAD Civil 3D</u>

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 5

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: <u>Twin Mountain / Lower Trinity</u>
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp. Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation Report
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. NT-5412
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. 0.05 24
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code.
- f. Location of point: In the ^{William E Bates} Original Survey No. _____, Abstract No._____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.197922</u> °N, Longitude <u>96.84505</u>3 °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program)^{AutoCAD Civil 3D}

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 6

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be <u>to replace water lost to evaporation</u>.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: <u>Woodbine</u>

 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. Not required. Pump rate below 17.36 gpm
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is _______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. ______0.05 24
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code:
- f. Location of point: In the Louisa Netherly Original Survey No. _____, Abstract No. 962 _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.216503</u> °N, Longitude <u>-96.85483</u>6 °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Discharge Point 7

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be <u>to replace water lost to evaporation</u>.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses <u>N/A See calcs</u> % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: <u>Woodbine</u>
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp. Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation _.
 - Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 A copy of the groundwater well permit if it is located in a Groundwater Conservation
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. Not required. Pump rate below 17.36 gpm
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is <u>18.36</u> acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>0.04</u> cfs or <u>18</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>Louisa Netherly</u> Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.215136</u> °N, Longitude <u>-96.84991</u>7 °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):_AutoCAD Civil 3D _____

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

August 12, 2022

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP.
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

Dear Mr. Dickey:

This acknowledges receipt, on January 13, 2022, of additional information.

Additional information is required to complete technical review.

- 1. Provide a copy of the groundwater well permit or evidence that a groundwater permit is not required from the North Texas Groundwater Conservation District for the proposed groundwater wells. Staff acknowledges that the applicant provided a Notice to Proceed to drill a test well. However, in order to complete technical review, the application must demonstrate that the applicant has obtained any required groundwater well permits.
- 2. Provide revised Discharge Point Information Worksheets 4.0 that reflect the information provided in the Well Operation Plan submitted on January 13, 2022, and identify the following for each discharge point:
 - a. the well identifier or number; and
 - b. source aquifer(s) from which water will be pumped.

Note, any changes affecting the Well Operation Plan will require submission of a revised plan to TCEQ.

3. Explain how the proposed groundwater discharges from the Twin Mountains/Lower Trinity and Woodbine aquifer formations will meet the applicable Texas Surface Water Quality Standards. As part of your response, provide a water quality analysis, or any other study or relevant information, which demonstrates that discharges of groundwater will meet the applicable water quality criteria in the Texas Surface Water Quality Standards for the unnamed tributaries, Panther Creek, and Lewisville Lake

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Applicaion No. 13779 August 12, 2022 Page 2 of 2

> (Segment No. 0823). Resource Protection staff reviewed the historical water quality data provided by the Applicant and both water sources contain levels of chlorides, sulfates, and TDS that exceed the criteria set forth in the Texas Surface Water Quality Standards. Note that discharges of alternate source water into a state watercourse must meet the applicable water quality standards or TCEQ may recommend denial of the application.

Please provide the requested information by September 12, 2022 or the application may be returned pursuant to 30 Texas Administrative Code § 281.19. Alternatively, you may have the question of the necessity of the requested data (or the sufficiency of the information already submitted) referred to the commission for a decision. To be considered, a request for a referral must be provided by September 12, 2022.

If you have any questions concerning this matter, please contact me via email at Joshua.schauer@tceq.texas.gov or by telephone at (512) 239-1371.

Sincerely,

JoshuaSchauer

Joshua Schauer, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

TCEQ Interoffice Memorandum

То:	Office of the Chief Clerk Texas Commission on Environmental Quality
Thru:	Chris Kozlowski, Team Leader Water Rights Permitting Team
From:	Lillian E. Beerman, Ph.D., Project Manager Water Rights Permitting Team
Date:	January 24, 2022
Subject:	 North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP WRPERM 13779 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809, CN605925833, CN605925817, RN111321576 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

The application and fees were received on August 20, 2021. Additional information was received on October 29, 2021 and January 13, 2022. The application was declared administratively complete and filed with the Office of the Chief Clerk on January 24, 2022. Published and mailed notice to water rights holders of record in the Trinity River Basin and mailed notice to the Northern Trinity Groundwater Conservation District pursuant to Title 30 Texas Administrative Code §§ 295.151, 295.152, and 295.153.

All fees have been paid and the application is sufficient for filing.

Lillian C. Beerman, Ph.D

Lillian E. Beerman, Ph.D., Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

OCC Mailed Notice Required X YES

□NO

Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

January 24, 2022

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

Dear Mr. Dickey:

This acknowledges receipt of additional information on January 13, 2022.

The application was declared administratively complete and filed with the Office of the Chief Clerk on January 24, 2022. Staff will continue processing the application for consideration by the Executive Director.

Please be advised that additional information may be requested during the technical review phase of the application process.

If you have any questions concerning the application, please contact me at lillian.beerman@tceq.texas.gov or by phone at (512) 239-4019.

Sincerely,

Lillian (. Beerman, Ph.D

Lillian E. Beerman, Ph.D., Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

From: Dickey, Kyle Sent: Thursday, January 13, 2022 2:58 PM To: Sam Sewell <Sam.Sewell@Tceq.Texas.Gov>; Chris Kozlowski <chris.kozlowski@tceq.texas.gov> Cc: Brooke McGregor <brooke.mcgregor@tceq.texas.gov>; Roger McInnis ; Hector Patino ; Alderman, Nadia (Whitehouse) Braswell, Trey Subject: RE: FHQ Development Partners LP et. al 13779 RFI #2 Hello Chris, I just received Sam's out of office response that he is on paternity leave, so I wanted to make sure you had our response. Will another project manager be able to review this resubmittal in Sam's absence? Thanks, Kyle Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | From: Dickey, Kyle Sent: Thursday, January 13, 2022 2:55 PM To: Sam Sewell <Sam.Sewell@Tceq.Texas.Gov> Cc: Brooke McGregor ; Hector Patino ; Roger McInnis >; Alderman, Nadia (Whitehouse) ; Braswell, Trey < > Subject: RE: FHQ Development Partners LP et. al 13779 RFI #2 Good afternoon Sam, Attached is our response to the RFI. Thanks, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 From: Sam Sewell <<u>Sam.Sewell@Tceq.Texas.Gov</u>> Sent: Tuesday, December 14, 2021 1:38 PM To: Dickey, Kyle **Sector Sector Sector** Subject: FHQ Development Partners LP et. al 13779 RFI #2

Mr. Kyle Dickey,

Please see the attached request for information for FHQ Development Partners LP et. Al 13779, please review and make comments by COB 1/13/2022.

Samuel Alan Sewell MSc.

Project Manager, Water Rights Permitting Water Availability Division MC-160 Texas Commission on Environmental Quality 12100 Park 35 Circle, Bldg. F, 3rd Floor Austin, Texas 78753 Sam.Sewell@Tceq.Texas.Gov \$\frac{\frac{1}{2}}{239-4008}\$

Kimley Worn

January 13, 2022

Sam Sewell Project Manager Water Rights Permitting Team Texas Commission on Environmental Quality (512) 239-4008

RE: Response Letter to Comments (Dated December 14, 2021) for the Water Rights Permit, Application No. 13779

Dear Mr. Sewell:

This letter is in response to comments we received from you on December 14th via e-mail. Our responses to the comments are below:

- **Comment 1:** Provide evidence that an application for a groundwater well permit has been submitted to the North Texas Groundwater Conservation District or evidence that a permit is not required. Staff acknowledges that the application indicates that a groundwater well permit will be obtained prior to construction. However, in order to declare the application administratively complete, the application must demonstrate that the applicant has initiated the process of obtaining any required groundwater well permits.
- Response: The attached notice to proceed has been granted by the North Texas Groundwater Conservation District.
- **Comment 2:** Provide an operational plan that identifies how groundwater from the three aquifers will support the application. In the plan, identify the discharge rates and discharge amounts for each well, the corresponding source aquifer, and indicate how the well to be used at any given day/time will be determined. Note, staff's preliminary analysis of the groundwater data provided has identified potential concerns with water quality from the proposed aquifers.
- Response: An operational plan for the proposed wells is attached. Two well groups are proposed. The first group will be located near Ponds 1-5 to replace water lost to evaporation and irrigation at those locations. This group of wells is proposed to utilize the Twin Mountains/Lower Trinity aquifer. The second group of wells is proposed to serve ponds 6 and 7. This group will utilize the Woodbine aquifer. We are reviewing the water quality note provided aand will provide a design that meets the state's requirements as the wells go through final design.
- **Comment 3:** Provide the depth of wells 1 through 7 included on the discharge information sheets in the Applicant's RFI response dated October 12, 2021.
- Response: The wells provided to serve Ponds 1-5 will be drilled to a depth ranging from 1,850-2,500 feet. The wells provided to serve Ponds 6 and 7 will be drilled to a depth ranging from 400 to 750 feet.

Kimley»Horn

If you have any additional comments or questions, please do not hesitate to contact me at (972) 731-2187 or kyle.dickey@kimley-horn.com.

Sincerely,

Kyle Dickey, P.E., CFM



NORTH TEXAS GROUNDWATER CONSERVATION DISTRICT

P.O. Box 508, Gainesville, TX 76241 5100 Airport Drive, Denison, TX 75020 Office: (855) 426-4433 | Fax: (903) 786-8211 ntgcd@northtexasgcd.org | www.northtexasgcd.org

Notice to Proceed

Issued Pursuant to District Rules 3.1 and 3.3(m)

FHQ Development Partners Test Hole #1

Registrant

FHQ Development Partners 1900 N. Akard Street Dallas, TX 75201

(214) 978-8761

Well Information

Well Name: Fields No. 1 Latitude: 33.193412 Longitude: -96.852043 County: Denton Driller: TBD Driller Company: -Capacity: 0 GPM

Registration Information

Submitted: 1/6/2022 Approved: 1/12/2022 Deadline: 240 Days Expires: 9/9/2022

Proposed Use: Pond(s)/Other Impoundment, Landscape/Golf Course Registration Type: Test Hole

Issuance of this Notice to Proceed grants only the approval required by the North Texas Groundwater Conservation District for drilling a new test hole in accordance with the District's rules and the registration application submitted. The recipient is solely responsible for obtaining any other necessary governmental approval. A test hole is an exploratory borehole that is drilled prior to further drilling and construction of a full diameter, cased well. Test holes are deep, small diameter borings drilled to only provide subsurface sand and gravel samples, and access for geophysical logging. Proceeding with a test hole into a water producing well requires prior approval by the District in accordance with District Rule 3.1. A plugging report shall be submitted to the District within 30 days of the date the test hole is plugged in accordance with District Rule 3.4(c). Under no circumstances should this test hole be drilled within 50' of the property line unless a variance has been approved by the District.

District Review:	RATAS	District Approval:	D-J				
	Signature		Signature				
	Please submit the Completion Report and Wel	l Report to the	District by mail, fax or email:				
North Texas Groundwater Conservation District							
	P.O. Box 508, Gair	nesville, TX 762	41				
	Fax: (903) 786-8211						
	If you have any questions, p	please call (855)) 426-4433				

Kimley Worn

Well Operation Plan:

Brookside Wells: This section is for the wells that will serve Ponds 1-5

This well operation plan is to provide proper guidance of the usage of the two proposed Twin Mountain/Lower Trinity Aquifer groundwater wells for the Fields Development in Frisco, Texas.

A flotation sensor will be located in each pond to recognize water surface elevations. The flotation sensor will notify the groundwater wells to begin pumping if the water level were to drop. The pumps will run until the pond has returned to its normal level. Each discharge point will be equipped with a valve that will open when the flotation sensor dips below the normal level. We have calculated that the peak daily demand for evaporation replacement is 211,749 gallons and for irrigation replacement is 1,324,173 gallons. The maximum rate required to replace this water is 1,828 gallons per minute, which assumes the well is operating for 14 hours per day. The total annual volume of water to be replaced is 676.88 acre-feet.

Our aquifer investigation has determined that the aquifers can yield between 650-1,950 GPM in the Twin Mountain/Lower Trinity aquifer. Therefore, we are proposing two wells to serve the Brookside South Ponds.

North Fields Well: This section is for the well that will serve Ponds 6 and 7

This well operation plan is to provide proper guidance of the usage of the single proposed Woodbine Aquifer groundwater well.

A flotation sensor will be located in each pond to recognize water surface elevations. The flotation sensor will notify the groundwater wells to begin pumping if the water level were to drop. The pumps will run until the pond has returned to its normal level. Each discharge point will be equipped with a valve that will open when the flotation sensor dips below the normal level. We have calculated that the peak daily demand for evaporation replacement is 60,500 gallons and for irrigation replacement is 108,875 gallons. The maximum rate required to replace this water is 202 gallons per minute, which assumes the well is operating for 14 hours per day. The total annual volume of water to be replaced is 67.06 acre-feet.

Our aquifer investigation has determined that the aquifers can yield between 8-50 GPM in the Woodbine aquifer. Therefore, we are proposing 6 or 7 wells to serve the North Fields Ponds.

Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 14, 2021

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

 RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP.
 WRPERM 13779
 CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
 CN605925833, CN605925817, RN111321576
 Application No. 13779 for a Water Use Permit Texas Water Code §§ 11.121, 11.042, Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin Denton County

Dear Mr. Dickey:

This acknowledges receipt, on November 1, 2021, of additional information.

Additional information is required before the application can be declared administratively complete.

- 1. Provide evidence that an application for a groundwater well permit has been submitted to the North Texas Groundwater Conservation District or evidence that a permit is not required. Staff acknowledges that the application indicates that a groundwater well permit will be obtained prior to construction. However, in order to declare the application administratively complete, the application must demonstrate that the applicant has initiated the process of obtaining any required groundwater well permits.
- 2. Provide an operational plan that identifies how groundwater from the three aquifers will support the application. In the plan, identify the discharge rates and discharge amounts for each well, the corresponding source aquifer, and indicate how the well to be used at any given day/time will be determined. Note, staff's preliminary analysis of the groundwater data provided has identified potential concerns with water quality from the proposed aquifers.
- 3. Provide the depth of wells 1 through 7 included on the discharge information sheets in the Applicant's RFI response dated October 12, 2021.

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Applicaion No. 13779 December 14, 2021 Page 2 of 2

Please provide the requested information by January 13, 2022, or the application may be returned pursuant to Title 30 Texas Administrative Code § 281.18.

If you have any questions concerning this matter, please contact me via email at sam.sewell@tceq.texas.gov or by telephone at (512) 239-4008.

Sincerely,

Sam Sewell

Sam Sewell, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section
Kimley Worn

October 29, 2021

Sam Sewell Project Manager Water Rights Permitting Team Texas Commission on Environmental Quality (512) 239-4008

RE: Response Letter to Comments (Dated October 12, 2021) for the Water Rights Permit, Application No. 13779

Dear Mr. Sewell:

This letter is in response to comments we received from you on October 12th via e-mail. Our responses to the comments are below:

- **Comment 1:** Confirm that the application is requesting to discharge groundwater into the reservoirs to maintain the reservoirs and subsequently divert the discharged groundwater for irrigation purposes.
- Response: Confirmed.
- **Comment 2:** Confirm that the total amount of water to be discharged annually (including evaporation losses) is 743.94 acre-feet.
- Response: Confirmed. A summary table has been included in this submittal and can be seen in the table below. The evaporation values come from the evaporation calculations performed for each pond can be seen below. The irrigation numbers come from the Ph2A Master Irrigation Report (Hines), the Annual NTGCD Allotment.

Annual Groundwater Volume	Evaporation(ac-ft)	Irrigation (ac-ft)	Total (ac-ft)
Discharge Point #1	19.72		19.72
Discharge Point #2	59.16	421.30	480.46
Discharge Point #3	38.08	108.02	146.10
Discharge Point #4	12.24		12.24
Discharge Point #5	18.36		18.36
Discharge Point #6	23.80	24.90	48.70
Discharge Point #7	18.36		18.36

Comment 3: Provide an assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow needs.

Kimley»Horn

- Response: The application only requests to discharge and subsequently divert groundwater. The amount of water diverted will not exceed the amount of water discharged, less losses, therefore there should be no changes to downstream instream flows or freshwater inflows.
- Comment 4: Provide the name of the specific aquifer from which water will be withdrawn to support the application.
- Response: The Woodbine and Trinity aquifers will both be used. An updated Groundwater Availability Evaluation document is attached. Applicable updated application worksheets have been included as well.

Comment 5: Provide a copy of the groundwater well permit or evidence that a groundwater well permit is not required from the North Texas Groundwater Conservation District. Staff acknowledges that the application indicates that a groundwater well permit will be obtained prior to construction. However, in order to declare the application administratively complete, the application must demonstrate that the applicant is in the process of obtaining any required groundwater well permits.

- Response: Email correspondence with the groundwater conservation district is attached, indicating that that application is in process.
- Comment 6: Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on any new diversion structure that is not already authorized in a water right). Refer to pages 28-29 from the Instructions for Completing the Water Right Permitting Application (Form TCEQ-10214A-inst) for assistance in developing your response.
- Response: In order to avoid impingement and entrainment of aquatic organisms, screens will be attached to all diversion points referred to in this application. The application will also not affect the flows remaining in the stream to meet instream uses and freshwater inflow requirements.
- Comment 7: Provide information describing how this application addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan (Section 4.a. of the Technical Information Report). For examples, see page 15 of the Instructions for Completing the Water Right Permitting Application (Form TCEQ-10214A-inst)

Response: Section 4.a of the Technical Information Report has now been added to the application.

If you have any additional comments or questions, please do not hesitate to contact me at (972) 731-2187 or key and the second s

Sincerely,

Kyle Dickey, P.E., CFM

Page 2

kimley-horn.com 6160 Warren Parkway, Suite 210, Frisco, TX 75034



9009 Mountain Ridge Dr • Suite 100 • Austin Texas 78759 • ph (512) 345-2379 • fax (512) 338-9372

October 21, 2020

Todd Watson FHQ Holdings, LP 1900 North Akard St. Dallas, Texas 75201

Re: Groundwater Availability Evaluation: Brookside-Frisco, Collin/Denton Counties, Texas

Dear Mr. Watson,

R.W. Harden & Associates (RWH&A) has completed an evaluation of the groundwater resources beneath the Brookside-Frisco development in Collin and Denton counties, Texas. This study focused on estimating the availability of groundwater supplies for various uses including landscape irrigation and/or replenishment of evaporative losses from planned surface water impoundments. Based on information provided by Kimley-Horn and Associates, Inc., it is estimated that average annual needs from the system will be approximately 1,200 acre-feet, while the peak daily demand will be about 1,800 gallons per minute (gpm).

Our review consisted of compilation and analyses of available well construction records, water level and water quality records within a five-mile radius of Brookside-Frisco, the Groundwater Availability Model (GAM) for the Northern Trinity-Woodbine aquifers maintained by the Texas Water Development Board (TWDB), documents disseminated by Groundwater Management Area No. 8 (GMA-8), and the rules and management plan promulgated by the North Texas Groundwater Conservation District (NTGCD).

Target Aquifers

The evaluation results indicate the presence of two target aquifers beneath the Brookside-Frisco development: the Woodbine and Trinity. These aquifers are subdivided into three zones from shallowest to deepest: the Woodbine, Trinity-Paluxy (Paluxy), and Trinity-Twin Mountains (Twin Mountains) aquifers. Figure 1 shows the project location and the neighboring wells referenced in this report. Figure 2 consists of a generalized cross-sectional diagram of the aquifer zones beneath Brookside-Frisco. The Woodbine occurs from about 350 to 700 feet below ground level (bgl). The Paluxy is present from about 1,200 to 1,500 feet bgl, and the Twin Mountains lies from about 1,850 to 2,450 feet bgl at the site. These aquifers dip toward the east-southeast at approximately 50-100 feet per mile and receive recharge through infiltration of precipitation in northeast-southwest trending outcrop areas to the northwest. The Woodbine outcrop is approximately five miles to the northwest, while the outcrop of the Paluxy and the Twin Mountains are about 15 to 25 miles farther northwest, respectively.



Figure 1. TWDB-inventoried Wells within a 5 Mile Radius of Brookside-Frisco







Water Quality

Table 1 lists the concentrations for some of the commonly reported chemical constituents and parameters from the three target aquifers within approximately five miles of Brookside-Frisco, as reported in the groundwater well information database maintained by the TWDB. Water quality analyses indicate that water produced from the Woodbine and Twin Mountains aquifers exceeds Texas Commission on Environmental Quality (TCEQ) secondary drinking water standards for some constituents. The TCEQ regulates public supply water quality using a defined set of primary and secondary drinking water standards for certain water quality constituents. Constituent concentrations above primary drinking water standards are considered a health hazard and must be treated to bring the levels below the specified limits prior to use as a potable public supply. Secondary standards are not considered a public hazard but represent an aesthetic nuisance. If elevated secondary constituents are not treated, approval from TCEQ must be granted before the water can be used for public supplies. Please note that, while it is informative to compare the chemical composition of the groundwater contained in the target aquifers with TCEQ standards for public supplies, groundwater produced for non-potable uses is not regulated by the TCEQ.



Table 1. Regional Water Quality

	Woodbine Water Quality										
State Well	nH		Calcium	Sodium	Magnesium	Bicarbonate	Carbonate	Sulfate	Chloride	TDS	SVD
Number	рп	Temp (C)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	JAN
1849602	8.7		3.0	600	10	759	23	288	256	1,557	77
1849901	8.0		6.0	710	2 0	757	0	408	370	1,884	64
1849903	8.6		1.0	214	10	428	10	67	28	545	36
1849904	8.7		1.0	204	10	426	11	54	21	514	35
1849905	8.6		1.0	433	10	781	18	114	117	1,080	73
1850201	8.5		4.0	680	10	876	19	320	280	1,739	79
1850202	8.4		0.6	175	0.1	384	2	42	12	435	54
1850203	8.5		12.0	697	70	903	0	340	313	1,848	40
1850204	8.1		8.0	683	10	936	0	328	320	1,751	84
1850301	8.7	31.8	0.4	170	03	513	44	46	16	709	53
1850304	8.6		0.8	206	0 2	425	0	68	22	506	53
1850901	8.4		1.4	339	0.4	598	8	157	57	874	57
1858201	8.5		2.0	359	10	576	5	189	83	927	52
Average	8.5	32	3.2	421	13	643	11	186	146	1105	58
Maximum	8.7	32	12.0	710	70	936	44	408	370	1884	84
				1				•			
					Paluxy Water	Quality					
State Well	рН	Temp (°C)	Calcium	Sodium	Magnesium (mg/L)	Bicarbonate	Carbonate	Sulfate	Chloride	TDS (mg/L)	SAR
18/9605			(119/12)	290	(ing/L)	583	29	97	19	739	
1850205	86	30.2	1.6	230	1.0	610	0	87	25	702	56
1850302	8.7	50.2	1.0	205	01	578	31	85	26	702	62
1850502	Q 5		2.0	200	0.1	637	22	100	20	805	63
1850505	8.5		1.6	287	05	527	38	97	22	709	41
1850802	87	20.0	1.0	267	03	525	17	00	10	670	20
1850802	8.7	25.0	2.2	202	02	470		96	19	640	52
1849604	8.7		1.6	272	0.0	576	0	89	21	668	50
1045004 Avarage	0.7	20	1:0	271	0.4	570	17	0.1	21	700	50
Average	0.0	30	2	200	05	505	17	94	22	700	52
Waximum	0.9	30.2	2.3	323	1	037	30	109	20	805	03
				Тм	vin Mountains W	/ater Quality					
State Well	n⊔	Temp (°C)	Calcium	Sodium	Magnesium	Bicarbonate	Carbonate	Sulfate	Chloride	TDS	SAP
Number	pii	Temp (0)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	
1850501	8.3	38	2.6	620	38	304	0	81	740	1,611	55
1850502	8.3	37	6.0	580	10	305	18	91	640	1,499	58
1850503	7.6		23.0	607	8.6	485	0	894	46	1,840	28
1850803	8.5	40	1.4	359	0.6	555	6	189	78	923	64
1850805	8.4	42	2.4	317	0 5	392	5	87	192	816	49
Average	8.2	39	7.1	497	2 9	408	6	268	339	1,338	51
Maximum	8.5	42	23.0	620	86	555	18	894	740	1,840	64
TCEQ Secondary Standards (mg/L)	>7.0	N/A	N∕A	N/A	N/A	N/A	N/A	300	300	1,000	N/A
Lake Lewisville Quality Standards	6.5-9.0	32						80	60	500	

For the constituents reported, none of the aquifers contain contaminants that exceed primary standards. Total dissolved solids (TDS) is commonly used as a general indicator of water quality; water with TDS concentrations below 1,000 milligrams per liter (mg/L) are considered fresh, brackish water contains between 1,000 and 10,000 mg/L TDS, and water with TDS concentrations in excess of 10,000 mg/L TDS is considered saline. For reference, the average TDS of sea water is approximately 35,000 mg/L. As shown in Table 1 and Figure 1, the groundwater contained in Woodbine is mildly brackish, on average, with concentrations ranging from approximately 500 to 1,900 mg/L, indicating that water quality is variable and site-specific. Four of 13 sampled Woodbine wells report chloride and/or sulfate concentrations above

TCEQ secondary standards. Water quality in the Paluxy aquifer is fresh throughout the region, with other reported major constituents below secondary standards. On average, water in the Twin Mountains aquifer is brackish. Three of the six sampled Twin Mountains wells report chloride or sulfate concentrations above secondary standards.

The produced waters from all target aquifers will likely exceed the TCEQ stream segment standards for Lake Lewisville, which may affect surface discharge permitting (if needed). The water quality of a surface reservoir is often dominated by larger, episodic rainfall runoff events that provide most of the water to the lake. Small creeks can experience a wide range of water quality as evaporation and transpiration concentrate TDS between runoff events. Consequently, the water quality of a contributing stream is generally degraded relative to lake water quality, however variation in rainfall and runoff patterns can periodically improve stream water quality to be equal, or above lake quality. The available data suggest that, in the event that a discharge permit is required, mass balance/mixing calculations will demonstrate that the introduction of groundwater is likely to have a negligible effect on Lake Lewisville water quality because the irrigation discharge volume is small relative to the lake volume.

Water from the three target aquifers may not be appropriate as a sole source of irrigation water due to the relatively high concentrations of sodium and bicarbonate. Excess sodium can be toxic to many plant species, and both bicarbonate and sodium can negatively impact soil permeability over time. As shown in Table 1, the average values of the Sodium Adsorption Ratio (SAR) are 58, 52, and 51, in the Woodbine, Paluxy, and Twin Mountains aquifers, respectively. While different species of plants and types of soil can tolerate a wide range of sodium and bicarbonate, the SAR values shown here are generally considered high for sustained, long-term irrigation. If unblended or untreated groundwater from any of the target aquifers is to be the main source of irrigation water, RWH&A recommends an evaluation of local soils and planned crops be performed by a qualified agronomist.

Groundwater Regulation

The North Texas Groundwater Conservation District (NTGCD or District) regulates groundwater production in Collin and Denton Counties, and was established in 2009. The District is currently operating under a set of rules that were originally adopted in 2010 but have since been amended several times to include new rules regarding well location, spacing, and production rates. The most recent amendment of the rules was ratified February 11, 2020. The rules most applicable to this project are:

- A production permit must be obtained prior to drilling, construction, or operation of a well or well system.
- If the permit applicant is requesting water for the purposes of irrigating an acre or more of landscape, the applicant must agree to install and maintain a smart irrigation controller (weather or soil moisture-based) on the irrigation system.
- Multiple wells that are part of a well system and that are owned and operated by the same entity and are completed in the same aquifer may be aggregated under a single permit.
- If the well(s) will produce at a rate greater than 200 gallons per minute (gpm), a hydrologist's report must be submitted with the production permit application.
- ➢ Wells must be located at least 50 feet from the nearest uncontrolled property.
- ➢ New wells that are equipped so that the maximum capacity is above 17.36 GPM must be located at least 1,175 ft + (1.2 x GPM) away from any other well completed in the same aquifer. While



this rule is relatively restrictive (a 300 gpm well must be 1,535 feet from the nearest well), RWH&A communications with NTGCD staff indicate that this spacing rule does not apply to wells constructed on the same property as an aggregate well field. In other words, this rule only applies to the spacing between existing wells on adjoining properties and future Brookside-Frisco wells.

The District assesses a production fee of \$0.10 per 1,000 gallons for all non-exempt water uses except agricultural use, which is assessed a fee of \$1.00 per acre-foot of water. For reference, an acre-foot of water is approximately 325,851 gallons.

As a member of GMA-8, the NTGCD must engage in joint planning with other northern Texas groundwater conservation districts to develop groundwater pumpage impact limits, which are termed "desired future conditions" (DFC). DFCs are defined every five years by GMA-8, which are then used by the TWDB to calculate the "modeled available groundwater" (MAG) for each aquifer regulated by the member conservation districts. MAG values represent the maximum amount of pumpage that can be sustained that results in aquifer impacts that are within DFC limits and must be considered by the NTGCD during well permitting processes. While MAGs are not considered to be regulatory pumpage caps, an application for groundwater production amounts that are large in comparison to established MAG values will require more effort to permit successfully.

Table 2 lists the currently-adopted MAG values for each target aquifer by decade. As shown the estimated annual Brookside-Frisco production of 1,200 ac-ft/yr represents a modest portion of the MAGs that, in RWH&A experience, could likely be permitted without significant opposition from the NTGCD. Please note that updated DFCs are currently being developed and are scheduled to be delivered to the TWDB for MAG calculation in early 2022.

Aquifor	Modeled Available Groundwater (MAG) (Acre-Feet per Year)					
Aquiter	2020	2030	2040	2050		
Woodbine	7,879	7,858	7,879	7,858		
Paluxy	6,383	6,366	6,383	6,366		
Twin Mountains	10,596	10,567	10,596	10,567		

Table 2. Aquifer MAG Values for Collin and Denton Counties

Aquifer Transmissivity, Well Efficiency, and Available Drawdown

Maximum well productivity is primarily a function of three parameters: 1) aquifer transmissivity, 2) well efficiency, and 3) available drawdown. The term "transmissivity" describes an aquifer's ability to transmit water through a vertical section of sediments and is used as a general measure of the productivity of an aquifer. All other aspects of the groundwater system being equal, an aquifer with twice the transmissivity of another aquifer can sustain about twice as much production. Well efficiency is a measure of the ease with which an individual well can transmit water from the aquifer through the screen/gravel pack to the well. Well efficiencies are defined by calculating the ratio of the declines predicted to occur in a theoretical, "perfect" well that incurs no added head loss as water moves from the aquifer to the well to the measured drawdown in a real-world well. Typical efficiencies range from about 50% for wells with straightwall construction, to greater than 90% for wells constructed for higher-capacity municipal applications.

Groundwater is vertically confined within the Woodbine, Paluxy, and Twin Mountains by overlying and underlying relatively-impermeable geologic formations. The downward pressure of near-surface groundwater in aquifer outcrop/recharge zones to the northwest pressurizes the groundwater beneath Brookside-Frisco. Consequently, aquifer (artesian) pressure will drive well bore water levels water above the top of the aquifer that is screened by a well. As wells are pumped, the decline in water level observed in the wells is the result of decreased groundwater pressure rather than desaturation of the aquifer sediments near the well bore. The vertical distance between the static (non-pumping) wellbore water level and the top of the aquifer is commonly referred to as artesian pressure. This distance is important with respect to groundwater availability because, as is the case with aquifer transmissivity, a well with twice as much artesian pressure can produce groundwater at twice the rate. However, rather than assuming that 100% of the available drawdown at a site may be utilized for production, it is beneficial to include some "safety factor" to account for hydrologic uncertainties and unforeseen impacts from other groundwater users when determining the availability of supplies over the long-term. Given that the target aquifers are a major source of groundwater for the region, significant declines in artesian pressure levels are likely in the future, which may affect the availability of groundwater. For this evaluation, it was assumed that 50% of the artesian pressure in the Brookside-Frisco area would be used for production of the intended supply over a 30-year well lifespan.

Water level data recorded during constant-rate aquifer tests are generally the most reliable method of estimating the hydraulic properties of an aquifer. However, no reliable aquifer test data are available from well in the Brookside-Frisco area. To calculate the anticipated well yields at Brookside-Frisco, RWH&A estimated a range of expected aquifer characteristics (aquifer hydraulic conductivity, aquifer depths, and artesian pressure.) using a combination of data and information from previous RWH&A efforts and the GAM.

Regional Interference Drawdown

Groundwater pumpage affects all users of groundwater who produce from the same aquifer; consequently, the well yields and overall groundwater availability of the aquifers beneath Brookside-Frisco will likely decline over time in response to artesian pressure declines (drawdown) imposed by competitive pumping in the region. In order to estimate the potential magnitude of interference drawdown that may occur over the next several decades, RWH&A evaluated the results of GAM simulations conducted by GMA-8 as part of the State's water planning process. These simulations suggest that significant declines will occur in each of the three aquifers beneath Brookside-Frisco over the next thirty years due to groundwater production in the region. Table 3 lists the current amount of artesian pressure, the anticipated regional drawdown, and the future amount of artesian pressure at Brookside-Frisco.



Aquifer	Current Artesian Pressure (Feet)	Regional Drawdown (2020-2050) (Feet)	2050 Artesian Pressure (Feet)
Woodbine	120	53	67
Paluxy	760	262	498
Twin Mountains	1,310	216	1,094

Table 3. Artesian Pressure and Estimated Regional Interference Drawdown

As shown, impacts from other groundwater users in the region over the next 30 years are anticipated to reduce artesian pressure levels in the Brookside-Frisco area by 44%, 34%, and 16% in the Woodbine, Paluxy, and Twin Mountains aquifers, respectively. The maximum production rates of Brookside-Frisco wells are expected to decline by commensurate proportions by 2050. However, it is important to note that the simulations used by GMA-8 for regional planning incorporate multi-decade predictions (educated guesses) of the locations and production schedules of numerous potential groundwater projects. As such, the amount of drawdown that is predicted to occur in the Brookside-Frisco area is highly-dependent on the accuracy of the predictions/assumptions applied to the GMA-8 simulations by its member groundwater conservation districts.

Well Field Modeling

An analytical groundwater model developed by RWH&A was used to estimate maximum potential future productivity in the Paluxy and Twin Mountains aquifers. Production was modeled through a 30-year interval at average continuous production rates, which allows for accurate assessment of average aquifer declines over that period. As discussed above, modeled drawdown is limited to 50% of the artesian pressure to account for unforeseen future pumpage by other groundwater users near Brookside-Frisco and to allow for production at higher peak rates when needed during summer months. Regional data indicates that the hydraulic properties of the target aquifers are variable in the Brookside-Frisco area. To bracket potential wellfield productivity, both low and high estimated transmissivity scenarios were evaluated for each aquifer. Table 4 shows parameters applied to the model scenarios. The model for this study assumes a 50% well efficiency, which is a typical for a properly constructed straightwall irrigation-supply well.

Description	Woodbine	Paluxy	Twin Mountains		
Low Transmissivity (gal/day/ft)	500	1,880	5,610		
High Transmissivity (gal/day/ft)	2,200	4,860	11,200		
Current Artesian Pressure (ft)	120	760	1,310		
Modeled Available Drawdown (ft)	60	380	655		

Tables 5 through 7 list the simulated long-term maximum production from wells completed in the target aquifers. Multiple wellfield scenarios were modeled, utilizing between one to seven currently-planned well locations on the Brookside-Frisco property. As shown, total system production increases as wells are added to the wellfield. However, due to compounding interference effects between wells, the rate of increase in wellfield productivity declines with each additional well.

Model results suggest that the Woodbine aquifer is not suitable for long-term production in the Brookside-Frisco area due a combination of factors including low aquifer transmissivity, shallow aquifer depth, and relatively-large predicted interference effects from other groundwater users in the region. However, production of up to about 30-50 gpm from individual Woodbine wells may be possible over the short-term where favorable site-specific aquifer characteristics are identified.

	Low Tran	smissivity	High Transmissivity		
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)	
1	8	8	32	32	
2	7	13	28	56	
3	6	17	24	71	
5	<5	20	17	86	
7	<5	22	13	94	

Table 5. Model Results - Woodbine Aquifer

	Low Transmissivity		High Transmissivity	
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)
1	55	55	135	135
2	46	93	115	230
3	40	119	97	292
5	29	146	71	357
7	23	160	56	392

Table 6. Model Results – Paluxy Aquifer

	Low Transmissivity		Transmissivity High Tra	
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)
1	566	566	1,097	1,097
2	479	958	922	1,843
3	402	1,205	770	2,311
5	294	1,468	562	2,809
7	229	1,600	437	3,058

Table 7. Model Results - Twin Mountains Aquifer

The Paluxy is significantly less productive than the Twin Mountains but, because Paluxy groundwater is likely fresh, development of supplemental Paluxy wells at Twin Mountains well sites may be beneficial in some circumstances. If the Twin Mountains transmissivity within Brookside-Frisco is on the higher end of the regional range, two or three wells may be sufficient to produce the desired daily peak capacity of approximately 1,800 gpm. If site-specific characteristics are less favorable, all seven planned well sites

may need to be developed and may produce, on the whole, less than the necessary total capacity.

Conclusions

The available data indicate that the hydraulic properties of the three potential target aquifers vary significantly throughout the region; as a result, the maximum yields from individual wells and from an aggregate Brookside-Frisco well field will be dependent on the hydraulic properties of the aquifer(s) at each well site. It is recommended that test drilling and aquifer testing be performed to document the hydrogeologic conditions beneath potential well sites prior to well design and permitting efforts. If favorable aquifer conditions are found, sufficient production may be obtained from a few larger wells, while several smaller wells may be required to fulfill project demands where less-permeable aquifer sediments are present.

Selection of one or more preferred aquifer zones typically depends on a combination of factors including productivity, reliability, water quality, and cost. The following summarizes the pros and cons associated with each of the potential target aquifers.

Woodbine Aquifer

- > Well depth of approximately 700 feet
- Small capacity wells (up to approximately 30-50 gpm)
- ➢ Less expensive wells
- Variable, site-specific water quality
- Current groundwater availability: 50 to 175 acre-feet per year
- > Future (2050) groundwater availability: less than 30 acre-feet per year

Paluxy Aquifer

- ➤ Well depth of approximately 1,500 feet
- Small to moderate capacity wells (up to approximately to 150 gpm)
- Moderately expensive wells
- ➢ Fresh water quality
- Current groundwater availability: 850 to 2,000 acre-feet per year
- ▶ Future (2050) groundwater availability: 300 to 650 acre-feet per year

Twin Mountains Aquifer

- ➤ Well depth of approximately 2,450 feet
- High capacity wells (up to approximately 1,100 gpm)
- Higher cost wells
- Primarily brackish water quality (but some fresh water in region)
- Current groundwater availability: 4,200 to 7,800 acre-feet per year
- Future (2050) groundwater availability: 2,600 to 4,900 acre-feet per year



The Woodbine is the least productive aquifer beneath Brookside-Frisco and contains groundwater of variable quality. However, construction of relatively shallow, inexpensive Woodbine wells may prove beneficial in circumstances where smaller well yields and poorer water quality are acceptable. The Paluxy contains consistently fresh water in the region and can likely sustain low to moderately productive wells given current artesian pressure levels. However, the overall productivity of the Paluxy is predicted to decline by approximately 34% over the next 30 years, requiring the construction of additional wells to maintain long-term production rates. Large-scale production may be obtained from the Twin Mountains with fewer, higher-capacity wells. Twin Mountains wells will be deeper, larger-diameter, and more expensive, but are predicted to be impacted to a lesser degree by interference drawdown from other wells in the region. It is likely that the Twin Mountains contains brackish groundwater beneath Brookside-Frisco.

The Woodbine, Paluxy, and Twin Mountains are vertically segregated by thick layers of relatively impermeable sediments. As a result, wells accessing these formations may be constructed at the same site without imposing interference drawdown on one-another. Depending on the desired production, site-specific aquifer properties, water quality, and budgetary constraints, various combinations of wells could be employed to achieve cost-effective results.

The three target aquifers contain "soft" groundwater with high concentrations of sodium relative to dissolved calcium and magnesium. The Sodium Adsorption Ratio (SAR) is commonly used as an indicator of a water's suitability for irrigation use. The average SAR values of the groundwater produced by the target aquifers in the region exceed 50, which is considered unacceptably high for sustained direct irrigation use, especially for areas with low permeability soils. RWH&A recommends that an evaluation of local soils and plants be performed by a qualified agronomist if unblended or untreated groundwater from any of the target aquifers is to be used for long-term irrigation.

Sincerely,

James Bené, P.G. R. W. Harden & Associates, Inc.



The seal appearing on this document was authorized by James E. Bené, P.G. 2089 on October 21, 2021. R.W. Harden & Associates, Inc. TBPG Firm No. 50033.



WORKSHEET 1.0 Quantity, Purpose and Place of Use

1. New Authorizations (Instructions, Page. 16)

Submit the following information regarding quantity, purpose and place of use for requests for new or additional appropriations of State Water or Bed and Banks authorizations:

Quantity (acre- feet) (Include losses for Bed and Banks)	State Water Source (River Basin) or Alternate Source *each alternate source (and new appropriation based on return flows of others) also requires completion of Worksheet 4.0	Purpose(s) of Use	Place(s) of Use *requests to move state water out of basin also require completion of Worksheet 1.1 Interbasin Transfer
	Stream 2E4 in the Trinity Watershed		

<u>20.45</u> Total amount of water (in acre-feet) to be used annually (*include losses for Bed and Banks applications*)

If the Purpose of Use is Agricultural/Irrigation for any amount of water, provide:

- 1. Location Information Regarding the Lands to be Irrigated
 - i) Applicant proposes to irrigate a total of <u>N/A</u> acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of <u>N/A</u> acres in <u>N/A</u> County, TX.
 - ii) Location of land to be irrigated: In the <u>N/A</u>Original Survey No. <u>N/A</u>, Abstract No. N/A

A copy of the deed(s) or other acceptable instrument describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds.

If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

2. Amendments - Purpose or Place of Use (Instructions, Page. 12)

a. Complete this section for each requested amendment changing, adding, or removing Purpose(s) or Place(s) of Use, complete the following:

Quantity (acre- feet)	Existing Purpose(s) of Use	Proposed Purpose(s) of Use*	Existing Place(s) of Use	Proposed Place(s) of Use**

*If the request is to add additional purpose(s) of use, include the existing and new purposes of use under "Proposed Purpose(s) of Use."

***If the request is to add additional place(s) of use, include the existing and new places of use under "Proposed Place(s) of Use."*

Changes to the purpose of use in the Rio Grande Basin may require conversion. 30 TAC § 303.43.

- b. For any request which adds Agricultural purpose of use or changes the place of use for Agricultural rights, provide the following location information regarding the lands to be irrigated:
 - i) Applicant proposes to irrigate a total of ______acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of ______ acres in _____ acres in _____
 - ii) Location of land to be irrigated: In the _____Original Survey No. ______Original Survey No. _____Original Survey No. ______Original Survey No. _____Original Survey No.

A copy of the deed(s) describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds. If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other legal right for Applicant to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

- c. Submit Worksheet 1.1, Interbasin Transfers, for any request to change the place of use which moves State Water to another river basin.
- d. See Worksheet 1.2, Marshall Criteria, and submit if required.
- e. See Worksheet 6.0, Water Conservation/Drought Contingency, and submit if required.

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

- a. Official USGS name of reservoir, if applicable:_____
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: ______.
- c. The impoundment is on-channel_____ or off-channel_____ (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? Y / N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? Y / N
- d. Is the impoundment structure already constructed? Y / N
 - i. For already constructed on-channel structures:
 - 1. Date of Construction:
 - Was it constructed to be an exempt structure under TWC § 11.142? Y / N

 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
 - ii. For any proposed new structures or modifications to structures:
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y** / **N** Provide the date and the name of the Staff Person_____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N
 - b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. Y / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? Y / N
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level:_____.
 - Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. Y/N If yes, the drainage area is _______ sq. miles. (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4691).

- a. On Watercourse (if on-channel) (USGS name): Stream 2E4 (FEMA designation)
- b. Zip Code: _____
- c. In the ______Original Survey No. _____, Abstract No. _____, County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude <u>32.960883</u> °N, Longitude <u>96.574378</u> °W.

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): <u>AutoCAD Civil 3D</u>
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. Y / N Y

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

- a. Official USGS name of reservoir, if applicable:_____
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: ______.
- c. The impoundment is on-channel_____ or off-channel_____ (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? Y / N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? Y / N
- d. Is the impoundment structure already constructed? Y / N
 - i. For already constructed on-channel structures:
 - 1. Date of Construction:
 - Was it constructed to be an exempt structure under TWC § 11.142? Y / N

 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
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 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N
 - b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. Y / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? Y / N
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level:_____.
 - Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. Y/N If yes, the drainage area is _______ sq. miles. (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4691).

- a. On Watercourse (if on-channel) (USGS name): Stream 2E4 (FEMA designation)
- b. Zip Code: _____
- c. In the ______Original Survey No. _____, Abstract No. _____, County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude <u>32.960883</u> °N, Longitude <u>96.574378</u> °W.

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): <u>AutoCAD Civil 3D</u>
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. Y / N Y

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

- a. Official USGS name of reservoir, if applicable:_____
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: ______.
- c. The impoundment is on-channel_____ or off-channel_____ (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? Y / N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? Y / N
- d. Is the impoundment structure already constructed? Y / N
 - i. For already constructed on-channel structures:
 - 1. Date of Construction:
 - Was it constructed to be an exempt structure under TWC § 11.142? Y / N

 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
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 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
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 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y** / **N** Provide the date and the name of the Staff Person_____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N
 - b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. Y / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? Y / N
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 - i. For already constructed on-channel structures:
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 - i. For already constructed on-channel structures:
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- c. The impoundment is on-channel_____ or off-channel_____ (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? Y / N
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 - a. No additional dam safety documents required with the Application. Y / N
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- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. Y / N Y

WORKSHEET 3.0 **DIVERSION POINT (OR DIVERSION REACH) INFORMATION**

This worksheet is required for each diversion point or diversion reach. Submit one Worksheet 3.0 for each diversion point and two Worksheets for each diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

Diversion Information (Instructions, Page. 24) 1.

- a. This Worksheet is to add new (select 1 of 3 below):

 - Diversion Point No.
 Upstream Limit of Diversion Reach No.
 - 3. _____ Downstream Limit of Diversion Reach No.
- b. Maximum Rate of Diversion for **this new point** cfs (cubic feet per second) or _____ gpm (gallons per minute)
- c. Does this point share a diversion rate with other points? Y / NIf yes, submit Maximum Combined Rate of Diversion for all points/reaches_____cfs or____gpm
- d. For amendments, is Applicant seeking to increase combined diversion rate? Y / N

** An increase in diversion rate is considered a new appropriation and would reauire completion of Section 1, New or Additional Appropriation of State Water.

e. Check ($\sqrt{}$) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed):

Check		Write: Existing or Proposed
one		
	Directly from stream	
	From an on-channel reservoir	
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

f. Based on the Application information provided, Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. Y / N

If yes, the drainage area is sq. miles. (If assistance is needed, call the Surface Water Availability Team at (512) 239-4691, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): _____
- b. Zip Code: _____
- c. Location of point: In the _____Original Survey No. _____, Abstract No. _____, ____County, Texas.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

d. Point is at:

- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program):_____
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

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- d. For amendments, is Applicant seeking to increase combined diversion rate? Y / N

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2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): _____
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A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

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f. Based on the Application information provided, Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. Y / N

If yes, the drainage area is sq. miles. (If assistance is needed, call the Surface Water Availability Team at (512) 239-4691, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): _____
- b. Zip Code: _____
- c. Location of point: In the _____Original Survey No. _____, Abstract No. _____, ____County, Texas.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

d. Point is at:

- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program):_____
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be ______.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses _____% and explain the method of calculation:_____

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y** / **N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:______
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers______
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required.
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____
WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
- d. Zip Code: _____
- f. Location of point: In the _____Original Survey No. _____, Abstract No._____, ____County, Texas.
- g. Point is at:

Latitude ______°N, Longitude ______°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be ______.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses _____% and explain the method of calculation:_____

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
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- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y** / **N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:_____
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers______
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 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required.
- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

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For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
- d. Zip Code: _____
- f. Location of point: In the _____Original Survey No. _____, Abstract No. _____, County, Texas.
- g. Point is at:

Latitude ______°N, Longitude ______°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be ______.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses _____% and explain the method of calculation:_____

Is the source of the discharged water return flows? Y / N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? **Y** / **N**

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

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- cii. Identify any other source of the water_____

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

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- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
- d. Zip Code: _____
- f. Location of point: In the _____Original Survey No. _____, Abstract No. _____, County, Texas.
- g. Point is at:

Latitude ______°N, Longitude ______°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

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- c. Is the source of the water being discharged groundwater? **Y** / **N** If yes, provide the following information:
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*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

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- ci. Is the source of the water being discharged a surface water supply contract? Y / N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

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This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

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h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

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WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
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- f. Location of point: In the _____Original Survey No. _____, Abstract No. _____, County, Texas.
- g. Point is at:

Latitude ______°N, Longitude ______°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

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WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: _____
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- g. Point is at:

Latitude ______°N, Longitude ______°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):______

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 5.0 ENVIRONMENTAL INFORMATION

This worksheet is required for new appropriations of water in the Canadian, Red, Sulphur, and Cypress Creek Basins. The worksheet is also required in all basins for: requests to change a diversion point, applications using an alternate source of water, and bed and banks applications. **Instructions, Page 28.**

1. New Appropriations of Water (Canadian, Red, Sulphur, and Cypress Creek Basins only) and Changes in Diversion Point(s)

Description of the Water Body at each Diversion Point or Dam Location. (Provide an Environmental Information Sheet for each location),

a. Identify the appropriate description of the water body.

🗆 Stream

🗆 Reservoir

Average depth of the entire water body, in feet: _____

pecify.

b. Flow characteristics

If a stream, was checked above, provide the following. For new diversion locations, check one of the following that best characterize the area downstream of the diversion (check one).

□ Intermittent – dry for at least one week during most years

□ Intermittent with Perennial Pools – enduring pools

Perennial – normally flowing

Check the method used to characterize the area downstream of the new diversion location.

USGS flow records

Historical observation by adjacent landowners

Personal observation

\Box Other, specify.

c. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the stream segments affected by the application and the area surrounding those stream segments.

- 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

d. Waterbody Recreational Uses

Are there any known recreational uses of the stream segments affected by the application?

Primary contact recreation (swimming or direct contact with water)

Secondary contact recreation (fishing, canoeing, or limited contact with water)

■ Non-contact recreation

Submit the following information in a Supplemental Attachment, labeled Addendum to Worksheet 5.0:

- 1. Photographs of the stream at the diversion point or dam location. Photographs should be in color and show the proposed point or reservoir and upstream and downstream views of the stream, including riparian vegetation along the banks. Include a description of each photograph and reference the photograph to the map submitted with the application indicating the location of the photograph and the direction of the shot.
- 2. Measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on the new diversion structure).
- 3. If the application includes a proposed reservoir, also include:
 - i. A brief description of the area that will be inundated by the reservoir.
 - ii. If a United States Army Corps of Engineers (USACE) 404 permit is required, provide the project number and USACE project manager.
 - iii. A description of how any impacts to wetland habitat, if any, will be mitigated if the reservoir is greater than 5,000 acre-feet.

2. Alternate Sources of Water and/or Bed and Banks Applications

For all bed and banks applications:

a. Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on the new diversion structure).

b. An assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow requirements.

If the alternate source is treated return flows, provide the TPDES permit number_____

If groundwater is the alternate source, or groundwater or other surface water will be discharged into a watercourse provide:

a. Reasonably current water chemistry information including but not limited to the following parameters in the table below. Additional parameters may be requested if there is a specific water quality concern associated with the aquifer from which water is withdrawn. If data for onsite wells are unavailable; historical data collected from similar sized wells drawing water from the same aquifer may be provided. However, onsite data may still be required when it becomes available. Provide the well number or well identifier. Complete the information below for each well and provide the Well Number or identifier.

Parameter	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample
0.10. /7			Samples		
Sulfate, mg/L					
Chloride,					
mg/L					
Total					
Dissolved					
Solids, mg/L					
pH, standard					
units					
Temperature*,					
degrees					
Celsius					

* Temperature must be measured onsite at the time the groundwater sample is collected.

b. If groundwater will be used, provide the depth of the well ______ and the name of the aquifer from which water is withdrawn ______.

WORKSHEET 6.0 Water Conservation/Drought Contingency Plans

This form is intended to assist applicants in determining whether a Water Conservation Plan and/or Drought Contingency Plans is required and to specify the requirements for plans. **Instructions, Page 31.**

The TCEQ has developed guidance and model plans to help applicants prepare plans. Applicants may use the model plan with pertinent information filled in. For assistance submitting a plan call the Resource Protection Team (Water Conservation staff) at 512-239-4691, or e-mail wras@tceq.texas.gov. The model plans can also be downloaded from the TCEQ webpage. Please use the most up-to-date plan documents available on the webpage.

1. Water Conservation Plans

- a. The following applications must include a completed Water Conservation Plan (30 TAC § 295.9) for each use specified in 30 TAC, Chapter 288 (municipal, industrial or mining, agriculture including irrigation, wholesale):
 - 1. Request for a new appropriation or use of State Water.
 - 2. Request to amend water right to increase appropriation of State Water.
 - 3. Request to amend water right to extend a term.
 - 4. Request to amend water right to change a place of use. *does not apply to a request to expand irrigation acreage to adjacent tracts.
 - 5. Request to amend water right to change the purpose of use. **applicant need only address new uses.*
 - Request for bed and banks under TWC § 11.042(c), when the source water is State Water
 **including return flows, contract water, or other State Water.*
- b. If Applicant is requesting any authorization in section (1)(a) above, indicate each use for which Applicant is submitting a Water Conservation Plan as an attachment:
 - 1. _____Municipal Use. See 30 TAC § 288.2. **
 - 2. ____Industrial or Mining Use. See 30 TAC § 288.3.
 - 3. _____Agricultural Use, including irrigation. See 30 TAC § 288.4.
 - 4. _____Wholesale Water Suppliers. See 30 TAC § 288.5. **

**If Applicant is a water supplier, Applicant must also submit documentation of adoption of the plan. Documentation may include an ordinance, resolution, or tariff, etc. See 30 TAC §§ 288.2(a)(1)(J)(i) and 288.5(1)(H). Applicant has submitted such documentation with each water conservation plan? Y / N

c. Water conservation plans submitted with an application must also include data and information which: supports applicant's proposed use with consideration of the plan's water conservation goals; evaluates conservation as an alternative to the proposed

appropriation; and evaluates any other feasible alternative to new water development. See 30 TAC § 288.7. Applicant has included this information in each applicable plan? Y / N

2. Drought Contingency Plans

- a. A drought contingency plan is also required for the following entities if Applicant is requesting any of the authorizations in section (1) (a) above indicate each that applies:
 - 1. _____Municipal Uses by public water suppliers. See 30 TAC § 288.20.
 - 2. ____Irrigation Use/ Irrigation water suppliers. See 30 TAC § 288.21.
 - 3. _____Wholesale Water Suppliers. See 30 TAC § 288.22.
- b. If Applicant must submit a plan under section 2(a) above, Applicant has also submitted documentation of adoption of drought contingency plan (*ordinance, resolution, or tariff, etc. See 30 TAC § 288.30*) **Y** / **N**

WORKSHEET 7.0 ACCOUNTING PLAN INFORMATION WORKSHEET

The following information provides guidance on when an Accounting Plan may be required for certain applications and if so, what information should be provided. An accounting plan can either be very simple such as keeping records of gage flows, discharges, and diversions; or, more complex depending on the requests in the application. Contact the Surface Water Availability Team at 512-239-4691 for information about accounting plan requirements, if any, for your application. **Instructions, Page 34.**

1. Is Accounting Plan Required

Accounting Plans are generally required:

- For applications that request authorization to divert large amounts of water from a single point where multiple diversion rates, priority dates, and water rights can also divert from that point;
- For applications for new major water supply reservoirs;
- For applications that amend a water right where an accounting plan is already required, if the amendment would require changes to the accounting plan;
- For applications with complex environmental flow requirements;
- For applications with an alternate source of water where the water is conveyed and diverted; and
- For reuse applications.

2. Accounting Plan Requirements

- a. A **text file** that includes:
 - 1. an introduction explaining the water rights and what they authorize;
 - 2. an explanation of the fields in the accounting plan spreadsheet including how they are calculated and the source of the data;
 - 3. for accounting plans that include multiple priority dates and authorizations, a section that discusses how water is accounted for by priority date and which water is subject to a priority call by whom; and
 - 4. Should provide a summary of all sources of water.
- b. A **spreadsheet** that includes:
 - 1. Basic daily data such as diversions, deliveries, compliance with any instream flow requirements, return flows discharged and diverted and reservoir content;
 - 2. Method for accounting for inflows if needed;
 - 3. Reporting of all water use from all authorizations, both existing and proposed;
 - 4. An accounting for all sources of water;
 - 5. An accounting of water by priority date;
 - 6. For bed and banks applications, the accounting plan must track the discharged water from the point of delivery to the final point of diversion;
 - 7. Accounting for conveyance losses;
 - 8. Evaporation losses if the water will be stored in or transported through a reservoir. Include changes in evaporation losses and a method for measuring reservoir content resulting from the discharge of additional water into the reservoir;
 - 9. An accounting for spills of other water added to the reservoir; and
 - 10. Calculation of the amount of drawdown resulting from diversion by junior rights or diversions of other water discharged into and then stored in the reservoir.

WORKSHEET 8.0 CALCULATION OF FEES

This worksheet is for calculating required application fees. Applications are not Administratively Complete until all required fees are received. **Instructions, Page. 34**

1. NEW APPROPRIATION

	Description	Amount (\$)
	Circle fee correlating to the total amount of water* requested for any new appropriation and/or impoundment. Amount should match total on Worksheet 1, Section 1. Enter corresponding fee under Amount (\$) .	\$100.00
	In Acre-Feet	
Filing Fee	a. Less than 100 \$100.00	
	b. 100 - 5,000 \$250.00	
	c. 5,001 - 10,000 \$500.00	
	d. 10,001 - 250,000 \$1,000.00	
	e. More than 250,000 \$2,000.00	
Recording Fee		\$25.00
	Only for those with an Irrigation Use.	
Agriculture Use Fee	Multiply 50¢ x Number of acres that will be irrigated with State Water. **	
	Required for all Use Types, excluding Irrigation Use.	
Use Fee	Multiply $1.00 \times 1.00 \times 1.00$ Maximum annual diversion of State Water in acrefeet. **	
Degraational Store go	Only for those with Recreational Storage.	¢21 74
Fee	Multiply $1.00 \ge \frac{21.74}{21.74}$ acre-feet of in-place Recreational Use State Water to be stored at normal max operating level.	φ21.74
	Only for those with Storage, excluding Recreational Storage.	
Storage Fee	Multiply 50¢ x acre-feet of State Water to be stored at normal max operating level.	
Mailed Notice	Cost of mailed notice to all water rights in the basin. Contact Staff to determine the amount (512) 239-4691.	
	TOTAL	\$146.74

2. AMENDMENT OR SEVER AND COMBINE

	Description	Amount (\$)	
Amendment: \$100			
Filling Fee	OR Sever and Combine: \$100 x of water rights to combine		
Recording Fee		\$12.50	
Mailed Notice	Additional notice fee to be determined once application is submitted.		
	TOTAL INCLUDED	\$	

3. BED AND BANKS

	Description	Amount (\$)
Filing Fee		\$100.00
Recording Fee		\$12.50
Mailed Notice	Additional notice fee to be determined once application is submitted.	
	TOTAL INCLUDED	\$

Alderman, Nadia (Whitehouse)

From: Sent: To: Cc: Subject:	Roger McInnis < 2021 11:39 AM Friday, October 29, 2021 11:39 AM Drew Satterwhite; Dickey, Kyle; Paul Sigle Braswell, Trey; Alderman, Nadia (Whitehouse) RE: FHQ and NTGCD Coordination Confirmation
Thanks Drew!	
Roger Gray McInnis Gray Interests, LLC 6611 Snider Plaza #111 Dallas, TX 75205 LinkedIn (817) 715-8554	
From: Drew Satterwhite	g>
To: Dickey, Kyle < Cc: Roger McInnis < Alderman, Nadia (Whitehouse) <i Subject: RE: FHQ and NTGCD Coo</i 	>; Paul Sigle >; Fraswell, Trey <t>; V >; V >; v rdination Confirmation</t>
Email received	
From: Dickey, Kyle < Sent: Wednesday, October 27, 20 To: Paul Sigle < Cc: Roger McInnis Alderman, Nadia (Whitehouse) < Subject: RE: FHQ and NTGCD Coo	> 21 6:47 PM 2; Drew Satterwhite <cd> 3; Graswell, Trey > 3; Sraswell, Tr</cd>

Good evening Paul and Drew,

I'm following up on the email below. We are making a few changes to our Water Rights Permit including revising the aquifer references in the email below.

We still intend to use 242 million gallons of groundwater annually (61 million for evaporation and 181 million for irrigation). However, we will be targeting both the Woodbine and Trinity aquifers.

Please confirm receipt of this email as we will be using it as reference that we are in coordination with y'all for the permit.

Thanks, Kyle



Good afternoon Hal,

We have been actively coordinating with the North Texas Groundwater Conservation District (NTGCD) regarding the plan to use groundwater as our alternative source of water for the Fields HQ project in Frisco. This work has been done in response to Comment 3 from the RFQ. We will be applying for a permit closer to the time the wells are ready to be constructed. However, the NTGCD model has determined that 181 million gallons of water will be needed annually to provide adequate irrigation. NTGCD has also agreed that the evaporation calculations (61 million gallons annually) included with our water rights application are acceptable. Therefore, we expect to pump 242 million gallons of groundwater from the twin mountains (aka Trinity) aquifer on an annual basis. Our resubmittal will include the revised irrigation calculations from the NTGCD model.

I am sending this email for your documentation that we are actively coordinating with members from NTGCD (copied here).

Thank you, Kyle

Kyle A. Dickey, P.E. (TX), CFM Kimley-Horn | 6160 Warren Parkway, Suite 210, Frisco, TX 75034 Direct: 972 731 2187 | w

4. General Information, Response Required for all Water Right Applications (Instructions, Page 15)

a. Provide information describing how this application addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan for any area in which the proposed appropriation is located or, in the alternative, describe conditions that warrant a waiver of this requirement (*not required for applications to use groundwater-based return flows*). Include citations or page numbers for the State and Regional Water Plans, if applicable. Provide the information in the space below or submit a supplemental sheet entitled "Addendum Regarding the State and Regional Water Plans":

The City of Sachse is located in Dallas County which is part of Region C of the State's

water plan. The application is consistent with the 2016 plan, which supports minimal

water conservation with the remainder of water coming from groundwater wells.

b. Did the Applicant perform its own Water Availability Analysis? Y / N

If the Applicant performed its own Water Availability Analysis, provide electronic copies of any modeling files and reports.

C. Does the application include required Maps? (Instructions Page. 15) Y / N

Jon Niermann, *Chairman* Emily Lindley, *Commissioner* Bobby Janecka, *Commissioner* Toby Baker, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 12, 2021

VIA E-MAIL

Mr. Kyle Dickey, PE, CFM Kimley-Horn and Associates, Inc. 6160 Warren Pkwy, Suite 210 Frisco, TX 75034

RE: North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Midtown East Investment Partners LP.
WRPERM 13779
CN605925734, CN605925742, CN605925767, CN605925775, CN605925809
CN605925833, CN605925817, RN111321576
Application No. 13779 for a Water Use Permit
Texas Water Code §§ 11.121, 11.042. Requiring Mailed and Published Notice Unnamed tributary of Panther Creek, Trinity River Basin
Denton County

Dear Mr. Dickey:

This acknowledges receipt, on August 20, 2021, of the referenced application and fees in the amount of \$1054.60 (Receipt Nos. M116835A, M116835B copies enclosed)

Additional information is required before the application can be declared administratively complete.

- 1. Confirm that the application is requesting to discharge groundwater into the reservoirs to maintain the reservoirs and subsequently divert the discharged groundwater for irrigation purposes.
- 2. Confirm that the total amount of water to be discharged annually (including evaporation losses) is 743.94 acre-feet.
- 3. Provide an assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow needs.
- 4. Provide the name of the specific aquifer from which water will be withdrawn to support the application.
- 5. Provide a copy of the groundwater well permit or evidence that a groundwater well permit is not required from the North Texas Groundwater Conservation District. Staff acknowledges that the application indicates that a groundwater well permit will be obtained prior to construction. However, in order to declare the application

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

Mr. Kyle Dickey, PE, CFM Applicaion No. 13779 October 12, 2021 Page 2 of 2

administratively complete, the application must demonstrate that the applicant is in the process of obtaining any required groundwater well permits.

- 6. Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on any new diversion structure that is not already authorized in a water right). Refer to pages 28-29 from the *Instructions for Completing the Water Right Permitting Application* (Form TCEQ-10214A-inst) for assistance in developing your response.
- 7. Provide information describing how this application addresses a water supply need in a manner that is consistent with the state water plan or the applicable approved regional water plan (Section 4.a. of the *Technical Information Report*). For examples, see page 15 of the *Instructions for Completing the Water Right Permitting Application* (Form TCEQ-10214A-inst).

Staff notes additional information may be required prior to completion of technical review.

Please provide the requested information by November 11, 2021 or the application may be returned pursuant to Title 30 TAC § 281.18.

If you have any questions concerning this matter, please contact me via email at sam.sewell@tceq.texas.gov or by telephone at (512) 239-4008.

Sincerely,

Sam Sewell

Sam Sewell, Project Manager Water Rights Permitting Team Water Rights Permitting and Availability Section



<u>Bank Slip#</u> Document#	<u>Slip Status</u> Site Code	Tran.Date	<u>Tran.Code</u>	Created By	<u>Endorse #</u>	<u>USAS Proj #</u> Permit/Proj #	<u>Paid For</u> Vendor #	<u>Orig Tran Amnt</u> <u>Corrected?</u>
Fee Code	Account Name		Account #	<u>Paid In By</u>	Endorse.Date	Check Number	Pay Type	Corrected Tran Amnt
BS00086726 D1803155 WUP	Closed RS WATER USE PERMITS	21-APR-21	N WUP	HUNT	M116835A 042121	13779 4308050	FHQ DEVELOPMENT PARTNERS	-\$594.00 -\$594.00
							CK	
BS00086726 D1803155 PTGU	Closed RS NOTICE FEES WUP WATER USE PERMITS	21-APR-21	N PTGU	HUNT	M116835B 042121 Gi	13779 4308050 cand Total:	FHQ DEVELOPMENT PARTNERS CK	-\$460.60 -\$460.60 -\$1,054.60

Report_ID:

Page 1 of 1

Kimley»Horn

August 20, 2021

Texas Commission on Environmental Quality Water Availability Division, MC-160 12100 Park 35 Circle Austin, TX 78753

RE: Fields Headquarters Water Rights Permit Application City of Frisco, TX

Dear TCEQ Representative:

North Fields Investment Partnership LP, Fields Preserve Investment Partners LP, VPTM Fields LB LLC, FHQ Development Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, and Fields Midtown East Investment Partners LP are proposing a mixed-use development north of Panther Creek Parkway and East of Teel Parkway in the City of Frisco. This permit application addresses six proposed regional detention ponds and one existing stock pond. Some ponds are proposed to store water for irrigation and all ponds will lose water to evaporation. Groundwater wells are proposed to be constructed to maintain the water levels in the ponds, so that State Water is not impounded. A pre-application meeting was held on April 7 and comments from that meeting have been addressed with this submittal.

While the locations of the ponds are only located within land owned by FHQ Development Partners LP and North Fields Investment Partnership LP, all applicants will use this water for irrigation. A Tax parcel information map has been included with the submittal to show the location of each property.

Enclosed is an application to obtain a Water Rights Permit for a proposed project in the City of Frisco, Texas. Fees from previous application # 13761 will be used towards this application per coordination with the reviewer.

If you have any questions, please contact me at

or (972) 731-2187.

Sincerely,

Kyle Dickey, P.E., CFM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

TCEQ WATER RIGHTS PERMITTING APPLICATION

ADMINISTRATIVE INFORMATION CHECKLIST

Complete and submit this checklist for each application. See Instructions Page. 5.

APPLICANT(S): North Fields Investment Partnership LP; Fields Preserve Investment Partners LP; VPTM FIELDS LB LLC; FHQ Development Partners LP; Fields Midtown West Investment Partners LP; Fields Point West Investment Partners LP; Fields Midtown East Investment Partners

Indicate whether the following items are included in your application by writing either Y (for yes) or N (for no) next to each item (all items are not required for every application).

Y/N

Y/N		Y/N	I
Υ	_Administrative Information Report	Υ	Worksheet 3.0
Υ	_Additional Co-Applicant Information	Y	_Additional W.S 3.0 for each Point
Υ	_Additional Co-Applicant Signature Pages	Y	_Recorded Deeds for Diversion Points
Υ	_Written Evidence of Signature Authority	Ν	_Consent For Diversion Access
Υ	_Technical Information Report	Υ	_Worksheet 4.0
Υ	_USGS Map (or equivalent)	N	_TPDES Permit(s)
Y	_ Map Showing Project Details	N	_ WWTP Discharge Data
Y	_Original Photographs	N	_24-hour Pump Test
N	_Water Availability Analysis	N	_ Groundwater Well Permit
<u>Y</u>	_Worksheet 1.0	N	_ Signed Water Supply Contract
Y	_Recorded Deeds for Irrigated Land	Y	_Worksheet 4.1
N	_Consent For Irrigation Land	Y	_Worksheet 5.0
N	_Worksheet 1.1		_Addendum to Worksheet 5.0
N	_ Addendum to Worksheet 1.1	<u>Y</u>	_Worksheet 6.0
N	_Worksheet 1.2	N	_Water Conservation Plan(s)
N	_Addendum to Worksheet 1.2	N	_Drought Contingency Plan(s)
<u>Y</u>	_Worksheet 2.0	N	_Documentation of Adoption
Y	_Additional W.S 2.0 for Each Reservoir	Y	_Worksheet 7.0
<u>Y</u>	_Dam Safety Documents	Y	_Accounting Plan
Y	_Notice(s) to Governing Bodies	Y	_Worksheet 8.0
Y	_Recorded Deeds for Inundated Land	Y	_Fees
Y	_Consent For Inundation Land		

For Commission Use Only: Proposed/Current Water Right Number: Basin: ______ Watermaster area Y/N: _____

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4691.

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

X New Appropriation of State Water

____Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

Fields HQ is a premier single family, multi-family and commercial development.

The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

This application is requesting authorization from TCEQ to impound water.

Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

FHQ Development Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

CN :______(leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32068003162</u> SOS Charter (filing) Number: <u>6996025</u>

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley	-Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Su	ite 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensi	on: N/A	
Fax No.: N/A	E-mail /	Address:	

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: Todd V	Vatson	
Title: Vice President		
Organization Name: FHQ I	evelopment Pa	artners LP
Mailing Address: 1900 N Ak	ard St	
City: Dallas	State: TX	ZIP Code: 75201
Phone No.: 214-978-8761	Extensio	on:
Fax No.:	E-mail A	Address:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

- a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4691, prior to submitting your application.
 - 1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If **yes**, provide the following information: Account number: Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If **yes**, please provide the following information: Enforcement order number: Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at https://mycpa.cpa.state.tx.us/coa/

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

12750 (Typed or printed name)

ce President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: Date: (Use blue ink) Subscribed and Sworn to before me by the said on this day of My commission expires on the 202 day of **Notary** Public [SEAL] ALMA MOSLEY ID # 1108460-3 lotary Public, State of Texas My Commission Expires 04/15/2022 County, Texas

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4691.

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

X New Appropriation of State Water

____Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

Fields HQ is a premier single family, multi-family and commercial development.

The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

This application is requesting authorization from TCEQ to impound water.

Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

Fields Midtown East Investment Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

CN :______(leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32079084664</u> SOS Charter (filing) Number: <u>5890104</u>
3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley-	Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Sui	te 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensio	on: N/A	
Fax No.: N/A	E-mail A	Address:	m

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

Title: Vice President		
Organization Name: FHQ I)evelopment Pa	artners LP
Mailing Address: 1900 N Ak	ard St	
City: Dallas	State: ⊤X	ZIP Code: 75201
Phone No.: 214-978-8761	Extensio	on:
Fax No.:	E-mail A	ddress:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

- a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4691, prior to submitting your application.
 - 1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If **yes**, provide the following information: Account number: Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If **yes**, please provide the following information: Enforcement order number: Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at https://mycpa.cpa.state.tx.us/coa/

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

(Typed or printed name)

President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: TMMMMA Dat (Use blue ink)	te: August 19, 2021
Subscribed and Sworn to before me by the said	
on this / 14 day of / Usual	, 20_21.
My commission expires on the <u>4</u> day of <u>15</u>	, 20 22.
Alma has	
Notary Public ALMA MOSLEY ID # 1108460-3 Notary Public, State of Texas My Commission Expires	[SEAL]
County, Texas	

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4691.

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

X New Appropriation of State Water

____Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

Fields HQ is a premier single family, multi-family and commercial development.

The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

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Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

Fields Midtown West Investment Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

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What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32079085323</u> SOS Charter (filing) Number: <u>5890111</u>

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley	-Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Su	ite 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensi	on: N/A	
Fax No.: N/A	E-mail /	Address:	

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

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I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: Todd V	Vatson	
Title: Vice President		
Organization Name: FHQ D	evelopment Pa	rtners LP
Mailing Address: 1900 N Ak	ard St	
City: Dallas	State: ⊤X	ZIP Code: 75201
Phone No.: 214-978-8761	Extensio	on:
Fax No.:	E-mail A	ddress:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

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 - 1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If **yes**, provide the following information: Account number: Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If **yes**, please provide the following information: Enforcement order number: Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at https://mycpa.cpa.state.tx.us/coa/

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

(Typed or printed name)

President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: Date: (Use blue ink) Subscribed and Sworn to before me by the said on this day of D My commission expires on the day of Notary Public [SEAL] ALMA MOSLEY ID # 1108460-3 lotary Public, State of Texas My Commission Expires 04/15/2022 County, Texas

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

ADMINISTRATIVE INFORMATION REPORT

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1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

X New Appropriation of State Water

____Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

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The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

This application is requesting authorization from TCEQ to impound water.

Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

Fields Point West Investment Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

CN :______(leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32079084649</u> SOS Charter (filing) Number: <u>5890083</u>

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley	-Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Su	ite 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensi	on: N/A	
Fax No.: N/A	E-mail /	Address:	

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: Todd V	Vatson	
Title: Vice President		
Organization Name: FHQ I	Development Pa	artners LP
Mailing Address: 1900 N Ak	ard St	
City: Dallas	State: ⊤X	ZIP Code: 75201
Phone No.: 214-978-8761	Extensio	on:
Fax No.:	E-mail A	ddress: Received

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

- a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4691, prior to submitting your application.
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c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

20. (Typed or printed name)

Vice President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature:(Use blue ink	MA	Date: August 19 2021
Subscribed and Sworn t	to before me by the said	
on this / 94	4 day of August	, 20 2/.
My commission expires	on the 04 day of 15	, 20 2 2
Almo Sha	A	
Notary Public	ALMA MOSLEY ID # 1108460-3 Notary Public, State of Tax	[SEAL]
County, Texas	My Commission Expires 04/15/2022	

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1. TYPE OF APPLICATION (Instructions, Page. 6)

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____Amendment to a Water Right *

X Bed and Banks

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More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

Fields Preserve Investment Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

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What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32079084607</u> SOS Charter (filing) Number: <u>5890061</u>

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley	-Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Su	ite 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensi	on: N/A	
Fax No.: N/A	E-mail /	Address:	

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

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I/We authorize all future notices be received on my/our behalf at the following:

atson	
1	
velopment Pa	rtners LP
d St	
State: TX	ZIP Code: 75201
Extensio	n:
E-mail A	ddress:
	relopment Pa d St State: TX Extensio E-mail A

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

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Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

nother (Typed or printed name)

Vice President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: TMM	MAS -	Date: August 19 2021
(Use blue ink)		3 '
Subscribed and Sworn to befo	ore me by the said	
on this 944	day of Augue	£ ,20 21.
My commission expires on the	e_04_day of 15	, 20 2 2
Almas 6hor		
Notary Public	ALMA MOSLEY ID # 1108460-3 Notary Public, State of Ti	[SEAL]
County, Texas	04/15/2022	

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____Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

Fields HQ is a premier single family, multi-family and commercial development.

The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

This application is requesting authorization from TCEQ to impound water.

Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 7 (Include a copy of this section for each Co-Applicant, if any)

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

North Fields Investment Partners LP

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

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at <u>http://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=cust.CustSearch</u>

CN :______(leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in *30 TAC § 295.14*.

First/Last Name: Todd Watson

Title: Vice President

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupAction!input.action.

Name: Todd Watson Mailing Address: 1900 N Akard St

City: Dallas State: TX ZIP Code: 75201

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Partnership

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: <u>32079084581</u> SOS Charter (filing) Number: <u>5890052</u>

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

First and Last Name: Kyle D	ickey, PE, CFM		
Title: Professional Engineer			
Organization Name: Kimley	Horn and Associ	ates, Inc.	
Mailing Address: 6160 War	ren Parkway, Su	ite 210	
City: Frisco	State: TX	ZIP Code: 75034	
Phone No.: 972-731-3801	Extensi	on: N/A	
Fax No.: N/A	E-mail /	Address:	

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: Todd \	Natson		
Title: Vice President			
Organization Name: FHQ	Development Pa	artners LP	
Mailing Address: 1900 N Ak	ard St		
City: Dallas	State: TX	ZIP Code: 75201	
Phone No.: 214-978-8761	Extensio	on:	
Fax No.:	E-mail A	Address:	
Fax No.:	E-mail A	Address:	

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

- a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4691, prior to submitting your application.
 - 1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If **yes**, provide the following information: Account number: Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If **yes**, please provide the following information: Enforcement order number: Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at https://mycpa.cpa.state.tx.us/coa/

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

h) atson 600 (Typed or printed name

ce President

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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: Date: (Use blue ink) Subscribed and Sworn to before me by the said on this day of 04 My commission expires on the day of ALMA MOSLEY ID # 1108460-3 Notary Public [SEAL] otary Public, State of Texas My Commission Expires 04/15/2022 County, Texas

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

ADMINISTRATIVE INFORMATION REPORT

The following information is required for all new applications and amendments.

***Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Staff to discuss Applicant's needs prior to submitting an application. Call the Water Rights Permitting Team to schedule a meeting at (512) 239-4691.

1. TYPE OF APPLICATION (Instructions, Page. 6)

Indicate, by marking X, next to the following authorizations you are seeking.

X New Appropriation of State Water

Amendment to a Water Right *

X Bed and Banks

*If you are seeking an amendment to an existing water rights authorization, you must be the owner of record of the authorization. If the name of the Applicant in Section 2, does not match the name of the current owner(s) of record for the permit or certificate or if any of the co-owners is not included as an applicant in this amendment request, your application could be returned. If you or a co-applicant are a new owner, but ownership is not reflected in the records of the TCEQ, submit a change of ownership request (Form TCEQ-10204) prior to submitting the application for an amendment. See Instructions page. 6. Please note that an amendment application may be returned, and the Applicant may resubmit once the change of ownership is complete.

Please summarize the authorizations or amendments you are seeking in the space below or attach a narrative description entitled "Summary of Request."

Fields HQ is a premier single family, multi-family and commercial development.

The project included 7 proposed regional detention ponds with dams along Unnamed Tributaries

to Panther Creek and 1 existing stock pond on an Unnamed Tributary to Panther Creek.

The impounded water will be used for recreational and agricultural (irrigation) use.

This application is requesting authorization from TCEQ to impound water.

Water lost due to evaporation will be replaced by groundwater wells.

More details can be found in the cover letter for the submittal.

2. APPLICANT INFORMATION (Instructions, Page, 6)

a. Applicant

Indicate the number of Applicants/Co-Applicants 5 (Include a copy of this section for each Co-Applicant, if any)

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

VPTM Fields LB LLC

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

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

CN: (leave blank if you do not yet have a CN).

What is the name and title of the person or persons signing the application? Unless an application is signed by an individual applicant, the person or persons must submit written evidence that they meet the signatory requirements in 30 TAC § 295.14.

First/Last Name: Brendan Bosman

Title: Authorized Signatory

Have you provided written evidence meeting the signatory requirements in 30 TAC § 295.14, as an attachment to this application?

What is the applicant's mailing address as recognized by the US Postal Service (USPS)? You may verify the address on the USPS website at https://tools.usps.com/go/ZipLookupActionlinput.action.

Name: VPTM Fields LB LLC

Mailing Address: 901 Marquette Ave. S., Suite 3300 ZIP Code: 55402 City: Minneapolis State: MN

Indicate an X next to the type of Applicant:

Individual	Sole Proprietorship-D.B.A.
Partnership	Corporation
Trust	Estate
Federal Government	State Government
County Government	City Government
Other Government	X Other Limited Liability Company

For Corporations or Limited Partnerships, provide: State Franchise Tax ID Number: SOS Charter (filing) Number:

3. APPLICATION CONTACT INFORMATION (Instructions, Page. 9)

If the TCEQ needs additional information during the review of the application, who should be contacted? Applicant may submit their own contact information if Applicant wishes to be the point of contact.

ickey, PE, CFM		
ren Parkway, Sui	ite 210	
State: TX	ZIP Code: 75034	
Extensi	on: N/A	
E-mail /	Address:	
	ickey, PE, CFM ren Parkway, Sui State: TX Extensio E-mail A	ickey, PE, CFM ren Parkway, Suite 210 State: TX ZIP Code: 75034 Extension: N/A E-mail Address:

4. WATER RIGHT CONSOLIDATED CONTACT INFORMATION (Instructions, Page. 9)

This section applies only if there are multiple Owners of the same authorization. Unless otherwise requested, Co-Owners will each receive future correspondence from the Commission regarding this water right (after a permit has been issued), such as notices and water use reports. Multiple copies will be sent to the same address if Co-Owners share the same address. Complete this section if there will be multiple owners and **all** owners agree to let one owner receive correspondence from the Commission. Leave this section blank if you would like all future notices to be sent to the address of each of the applicants listed in section 2 above.

I/We authorize all future notices be received on my/our behalf at the following:

First and Last Name: Todd Watson

Title: Vice President

Organization Name: FHQ Holdings, LP Mailing Address: 1900 N Akard St

City: Dallas

Phone No.:

State: TX

ZIP Code: 75201

Extension:

E-mail Address:

Fax No.:

5. MISCELLANEOUS INFORMATION (Instructions, Page. 9)

- a. The application will not be processed unless all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol by all applicants/co-applicants. If you need assistance determining whether you owe delinquent penalties or fees, please call the Water Rights Permitting Team at (512) 239-4691, prior to submitting your application.
 - 1. Does Applicant or Co-Applicant owe any fees to the TCEQ? Yes / No

If **yes**, provide the following information: Account number: Amount past due:

2. Does Applicant or Co-Applicant owe any penalties to the TCEQ? Yes / No

If **yes**, please provide the following information: Enforcement order number: Amount past due:

b. If the Applicant is a taxable entity (corporation or limited partnership), the Applicant must be in good standing with the Comptroller or the right of the entity to transact business in the State may be forfeited. See Texas Tax Code, Subchapter F. Applicant's may check their status with the Comptroller at <u>https://mycpa.cpa.state.tx.us/coa/</u>

Is the Applicant or Co-Applicant in good standing with the Comptroller? Yes / No

c. The commission will not grant an application for a water right unless the applicant has submitted all Texas Water Development Board (TWDB) surveys of groundwater and surface water use – if required. See TWC §16.012(m) and 30 TAC § 297.41(a)(5).

Applicant has submitted all required TWDB surveys of groundwater and surface water? Yes / No

6. SIGNATURE PAGE (Instructions, Page. 11)

Applicant:

I, Brendan Bosman	Authorized Signatory	
(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 Title 30 Texas Administrative Code §295.14 to sign and submit this document and I have submitted written evidence of my signature authority.

Signature: (Use blue ink)

Date: 8 12 2021

Subscribed and Sworn to before me by the said

on this 12th day of August , 20<u>21</u>.

My commission expires on the 31st day of January , 20 26

Notary Public

DANA A. MARTI Notary Public-Minnesota My Commission Expires Jan 31, 2026

Hennepin County, Minnesota County, Texas

If the Application includes Co-Applicants, each Applicant and Co-Applicant must submit an original, separate signature page

SECRETARY'S CERTIFICATE

The undersigned, as Secretary of FHQ HOLDINGS GP LLC, a Delaware limited liability company (the "<u>Company</u>"), does hereby certify the following as of the date hereof, that:

The Company is the general partner of FHQ Development Partners LP, a Delaware limited partnership ("FHO Development"), Fields Brookside Investment Partners LP, a Delaware limited partnership ("Brookside"), Fields Brookside ISD Investment Partners LP, a Delaware limited partnership ("Brookside ISD"), Fields Midtown East Investment Partners LP, a Delaware limited partnership ("Midtown East"), Fields Midtown West Investment Partners LP, a Delaware limited partnership ("Midtown West"), Fields Point West Investment Partners LP, a Delaware limited partnership ("Midtown West"), Fields Point West Investment Partners LP, a Delaware limited partnership ("Point West"), Fields Point West Investment Partners LP, a Delaware limited partnership ("Point West"), Fields Preserve Investment Partners LP, a Delaware limited partnership ("Preserve"), and North Fields Investment Partnership LP, a Delaware limited partnership ("North Fields") (collectively, the "Partnerships");

The following persons are duly elected, qualified and acting Vice Presidents of the Company:

Todd M. Watson Diane B. Hornquist

IN WITNESS WHEREOF, the undersigned has executed and delivered this Secretary's Certificate effective as of the 6th day of August, 2021.

Diane B. Hornquist, Secretary

INCUMBENCY CERTIFICATE

The undersigned hereby certifies that (i) he is the duly elected and qualified Assistant Secretary of Värde Partners, Inc., a Delaware corporation (the "Company"), the Manager of VPTM Fields LB LLC, a Delaware limited liability company ("VPTM Fields"), (ii) the following persons is a duly constituted officer of the Company, holding the office indicated and as such has the authority to bind the Company on behalf of VPTM Fields, and (iii) the signature set forth opposite such person's name below is a true and accurate specimen signature:

Name

Office

Signature

Brendan Bosman

Managing Director

IN WITNESS WHEREOF, I have executed this Certificate this 12th day of August 2021.

Mark B Rebecketp
TECHNICAL INFORMATION REPORT WATER RIGHTS PERMITTING

This Report is required for applications for new or amended water rights. Based on the Applicant's responses below, Applicants are directed to submit additional Worksheets (provided herein). A completed Administrative Information Report is also required for each application.

Applicants are strongly encouraged to schedule a pre-application meeting with TCEQ Permitting Staff to discuss Applicant's needs and to confirm information necessary for an application prior to submitting such application. Please call Water Availability Division at (512) 239-4691 to schedule a meeting. Applicant attended a pre-application meeting with TCEQ Staff for this Application? Y/N (If yes, date : 4/7/2021).

1. New or Additional Appropriations of State Water. Texas Water Code (TWC) § 11.121 (Instructions, Page. 12)

State Water is: The water of the ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state. TWC § 11.021.

- a. Applicant requests a new appropriation (diversion or impoundment) of State Water? (Y)/ N
- b. Applicant requests an amendment to an existing water right requesting an increase in the appropriation of State Water or an increase of the overall or maximum combined diversion rate? Y /N (If yes, indicate the Certificate or Permit number:____)

If Applicant answered yes to (a) or (b) above, does Applicant also wish to be considered for a term permit pursuant to TWC § 11.1381? Y/N

c. Applicant requests to extend an existing Term authorization or to make the right permanent? Y/N (If yes, indicate the Term Certificate or Permit number:_____)

If Applicant answered yes to (a), (b) or (c), the following worksheets and documents are required:

- Worksheet 1.0 Quantity, Purpose, and Place of Use Information Worksheet
- Worksheet 2.0 Impoundment/Dam Information Worksheet (submit one worksheet for each impoundment or reservoir requested in the application)
- Worksheet 3.0 Diversion Point Information Worksheet (submit one worksheet for each diversion point and/or one worksheet for the upstream limit and one worksheet for the downstream limit of each diversion reach requested in the application)
- Worksheet 5.0 Environmental Information Worksheet
- Worksheet 6.0 Water Conservation Information Worksheet
- Worksheet 7.0 Accounting Plan Information Worksheet
- Worksheet 8.0 Calculation of Fees
- Fees calculated on Worksheet 8.0 see instructions Page. 34.
- Maps See instructions Page. 15.
- **Photographs -** See instructions **Page. 30**.

Additionally, if Applicant wishes to submit an alternate source of water for the project/authorization, see Section 3, Page 3 for Bed and Banks Authorizations (Alternate sources may include groundwater, imported water, contract water or other sources).

Additional Documents and Worksheets may be required (see within).

2. Amendments to Water Rights. TWC § 11.122 (Instructions, Page. 12)

This section should be completed if Applicant owns an existing water right and Applicant requests to amend the water right. *If Applicant is not currently the Owner of Record in the TCEQ Records, Applicant must submit a Change of Ownership Application (TCEQ-10204) prior to submitting the amendment Application or provide consent from the current owner to make the requested amendment.* See instructions page. 6.

Water Right (Certificate or Permit) number you are requesting to amend: <u>N/A</u>

Applicant requests to sever and combine existing water rights from one or more Permits or Certificates into another Permit or Certificate? Y / N (if yes, complete chart below):

List of water rights to sever	Combine into this ONE water right

a. Applicant requests an amendment to an existing water right to increase the amount of the appropriation of State Water (diversion and/or impoundment)? **Y / N**

If yes, application is a new appropriation for the increased amount, complete **Section 1 of this** *Report (PAGE. 1) regarding New or Additional Appropriations of State Water.*

b. Applicant requests to amend existing Term authorization to extend the term or make the water right permanent (remove conditions restricting water right to a term of years)? Y / N

If yes, application is a new appropriation for the entire amount, complete **Section 1 of this Report (PAGE. 1) regarding New or Additional Appropriations of State Water**.

- c. Applicant requests an amendment to change the purpose or place of use or to add an additional purpose or place of use to an existing Permit or Certificate? Y / N *If yes, submit:*
 - Worksheet 1.0 Quantity, Purpose, and Place of Use Information Worksheet
 - Worksheet 1.2 Notice: "Marshall Criteria"
- d. Applicant requests to change: diversion point(s); or reach(es); or diversion rate? Y / N

If yes, submit: **Worksheet 3.0 - Diversion Point Information Worksheet** (submit one worksheet for each diversion point or one worksheet for the upstream limit and one worksheet for the downstream limit of each diversion reach)

e. Applicant requests amendment to add or modify an impoundment, reservoir, or dam? Y / N

If yes, submit: **Worksheet 2.0 - Impoundment/Dam Information Worksheet** (submit one worksheet for each impoundment or reservoir)

- f. Other Applicant requests to change any provision of an authorization not mentioned above?Y / N If yes, call the Water Availability Division at (512) 239-4691 to discuss. Additionally, all amendments require:
 - Worksheet 8.0 Calculation of Fees; and Fees calculated see instructions Page 34
 - Maps See instructions Page. 15.
 - Additional Documents and Worksheets may be required (see within).

3. Bed and Banks. TWC § 11.042 (Instructions, Page 13)

a. Pursuant to contract, Applicant requests authorization to convey, stored or conserved water to the place of use or diversion point of purchaser(s) using the bed and banks of a watercourse? TWC § 11.042(a). **Y**/**N**

If yes, submit a signed copy of the Water Supply Contract pursuant to 30 TAC §§ 295.101 and 297.101. Further, if the underlying Permit or Authorization upon which the Contract is based does not authorize Purchaser's requested Quantity, Purpose or Place of Use, or Purchaser's diversion point(s), then either:

- 1. Purchaser must submit the worksheets required under Section 1 above with the Contract *Water identified as an alternate source; or*
- 2. Seller must amend its underlying water right under Section 2.
- b. Applicant requests to convey water imported into the state from a source located wholly outside the state using the bed and banks of a watercourse? TWC § 11.042(a-1). Y /N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps and fees from the list below.

c. Applicant requests to convey Applicant's own return flows derived from privately owned groundwater using the bed and banks of a watercourse? TWC § 11.042(b). Y /N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

d. Applicant requests to convey Applicant's own return flows derived from surface water using the bed and banks of a watercourse? TWC § 11.042(c). Y /N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, Maps, and fees from the list below.

*Please note, if Applicant requests the reuse of return flows belonging to others, the Applicant will need to submit the worksheets and documents under Section 1 above, as the application will be treated as a new appropriation subject to termination upon direct or indirect reuse by the return flow discharger/owner.

e. Applicant requests to convey water from any other source, other than (a)-(d) above, using the bed and banks of a watercourse? TWC § 11.042(c). Y/N

If yes, submit: worksheets 1.0, 2.0, 3.0, 4.0, 5.0, 7.0, 8.0, Maps, and fees from the list below.

Worksheets and information:

- Worksheet 1.0 Quantity, Purpose, and Place of Use Information Worksheet
- Worksheet 2.0 Impoundment/Dam Information Worksheet (submit one worksheet for each impoundment or reservoir owned by the applicant through which water will be conveyed or diverted)
- **Worksheet 3.0 Diversion Point Information Worksheet** (submit one worksheet for the downstream limit of each diversion reach for the proposed conveyances)
- Worksheet 4.0 Discharge Information Worksheet (for each discharge point)
- Worksheet 5.0 Environmental Information Worksheet
- Worksheet 6.0 Water Conservation Information Worksheet
- Worksheet 7.0 Accounting Plan Information Worksheet
- Worksheet 8.0 Calculation of Fees; and Fees calculated see instructions Page. 34
- Maps See instructions Page. 15.
- Additional Documents and Worksheets may be required (see within).

WORKSHEET 1.0 Quantity, Purpose and Place of Use

1. New Authorizations (Instructions, Page. 16)

Submit the following information regarding quantity, purpose and place of use for requests for new or additional appropriations of State Water or Bed and Banks authorizations:

Quantity (acre- feet) (Include losses for Bed and Banks)	State Water Source (River Basin) or Alternate Source *each alternate source (and new appropriation based on return flows of others) also requires completion of Worksheet 4.0	Purpose(s) of Use	Place(s) of Use *requests to move state water out of basin also require completion of Worksheet 1.1 Interbasin Transfer
167.5	Woodbine, Trinity and Paluxy	Recreation	Denton County
554.3	Woodbine, Trinity and Paluxy	Irrigation	Denton and Collin County

*Irrigation demand is greater than NTGCD allowance. Requested irrigation volume matches NTGCD allowance.

721.8 Total amount of water (in acre-feet) to be used annually (*include losses for Bed and Banks applications*)

If the Purpose of Use is Agricultural/Irrigation for any amount of water, provide:

- 1. Location Information Regarding the Lands to be Irrigated
 - i) Applicant proposes to irrigate a total of <u>259.4</u> acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of <u>1366.4</u> acres in <u>Denton and Collin</u> County, TX.
 - ii) Location of land to be irrigated: In the _____Original Survey No. ______Original Survey No. _____Original Survey No. ______Original Survey No. _____Original Survey No.

A copy of the deed(s) or other acceptable instrument describing the overall tract(s) with the recording information from the county records must be submitted. **Applicant's** name must match deeds.

If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

Multiple surveys. See attached Tax Parcel Info Document.

2. Amendments - Purpose or Place of Use (Instructions, Page. 12)

a. Complete this section for each requested amendment changing, adding, or removing Purpose(s) or Place(s) of Use, complete the following: N/A

Quantity (acre- feet)	Existing Purpose(s) of Use	Proposed Purpose(s) of Use*	Existing Place(s) of Use	Proposed Place(s) of Use**

*If the request is to add additional purpose(s) of use, include the existing and new purposes of use under "Proposed Purpose(s) of Use."

**If the request is to add additional place(s) of use, include the existing and new places of use under "Proposed Place(s) of Use."

Changes to the purpose of use in the Rio Grande Basin may require conversion. 30 TAC § 303.43.

- b. For any request which adds Agricultural purpose of use or changes the place of use for Agricultural rights, provide the following location information regarding the lands to be irrigated: N/A
 - i) Applicant proposes to irrigate a total of ______acres in any one year. This acreage is all of or part of a larger tract(s) which is described in a supplement attached to this application and contains a total of ______ acres in _____ acres in ______
 - ii) Location of land to be irrigated: In the _____Original Survey No. ______Original Survey No. _____Original Survey No. ______Original Survey No. _____Original Survey No.

A copy of the deed(s) describing the overall tract(s) with the recording information from the county records must be submitted. Applicant's name must match deeds. If the Applicant is not currently the sole owner of the lands to be irrigated, Applicant must submit documentation evidencing consent or other legal right for Applicant to use the land described.

Water Rights for Irrigation may be appurtenant to the land irrigated and convey with the land unless reserved in the conveyance. 30 TAC § 297.81.

- c. Submit Worksheet 1.1, Interbasin Transfers, for any request to change the place of use which moves State Water to another river basin.
- d. See Worksheet 1.2, Marshall Criteria, and submit if required.
 - N/A
- e. See Worksheet 6.0, Water Conservation/Drought Contingency, and submit if required.

N/A

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:______Future Pond 1 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>17.4</u>.
- c. The impoundment is on-channel X or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? ♥/ N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? (Y) N

d. Is the impoundment structure already constructed? Y /N

- i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For **any** proposed new structures or modifications to structures:
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **V** / **N** Provide the date and the name of the Staff Person_Warren Samuelson, 3/19/2021
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / 🔊
 - b. Plans (with engineer's seal) for the structure required \mathbb{O}/\mathbb{N}
 - c. Engineer's signed and sealed hazard classification required. \mathbf{N} / \mathbf{N}
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. M/N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **Y**/**N**
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: <u>2.9</u>_____.

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the <u>William E. Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton _____County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude <u>33.195558</u> <u>N, Longitude</u> <u>-96.852379</u> <u>W</u>.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. 🔞 / N

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:_____Future Pond 2 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>52.4</u>.
- c. The impoundment is on-channel X or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? V/N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? (N)/N

d. Is the impoundment structure already constructed? Y /N

- i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For any proposed new structures or modifications to structures:
 - Applicant must contact TCEQ Dam Safety Section at (512) 239-0326, prior to submitting an Application. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC. Ch. 299? N Provide the date and the name of the Staff Person <u>Warren Samuelson</u>, 3/19/2021
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y $/\mathbb{N}$
 - b. Plans (with engineer's seal) for the structure required (Y)/N
 - c. Engineer's signed and sealed hazard classification required. \mathcal{O} / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required Y N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **(30**/N)
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: 8.7
 - Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. NN
 If yes, the drainage area is __________ sq. miles.
 (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4691).

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the William E. Bates Original Survey No. _____, Abstract No. 90 Denton County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude ^{33.194060} °N. Longitude ^{-96.850795} °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. 🕅 / N

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:_____Future Pond 3 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>37.2</u>.
- c. The impoundment is on-channel X or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? V/N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? (Y)/N

d. Is the impoundment structure already constructed? Y /N

- i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - Was it constructed to be an exempt structure under TWC § 11.142? Y / N

 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N

 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For any proposed new structures or modifications to structures:
 - Applicant must contact TCEQ Dam Safety Section at (512) 239-0326, prior to submitting an Application. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC Ch 299? N/N Provide the date and the name of the Staff Person_Warren Samuelson, 3/19/2021
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / 📎
 - b. Plans (with engineer's seal) for the structure required. (N)
 - c. Engineer's signed and sealed hazard classification required. \mathbf{N} / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. ①/ N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **(N**/N)
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: 5.6
 - Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. N
 If yes, the drainage area is <u>0.2172</u> sq. miles. (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4691).

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the <u>William E. Bates</u> Original Survey No. _____, Abstract No. 90 _____, _____Denton __County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude ^{33.193505} °N. Longitude ^{-96.844845} °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. ①/ N

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:_____Future Pond 4 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: 9.3
- c. The impoundment is on-channel \times or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? V N
- d. Is the impoundment structure already constructed? Y / 🔊
 - i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N
 a. If yes, provide the Site No. _____and watershed project name_____
 b. Authorization to close "ports" in the service spillway requested? Y / N
 - ii. For **any** proposed new structures or modifications to structures:
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y**/**N** Provide the date and the name of the Staff Person_____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N
 - b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. $\rm ~Y$ / $\rm N$
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

Pond layout is conceptual. Coordination with TCEQ Dam Safety will occur before beginning construction.

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **Y**/**N**
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: 1.8
 - Based on the Application information provided, Staff will calculate the drainage area above the on-channel dam or reservoir. If Applicant wishes to also calculate the drainage area they may do so at their option. Applicant has calculated the drainage area. NN
 If yes, the drainage area is 0.0622
 sq. miles.
 (If assistance is needed, call the Surface Water Availability Team prior to submitting the application, (512) 239-4691).

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the William E. Bates Original Survey No. _____, Abstract No. 90 _____, Denton _____County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude ^{33.197767} °N. Longitude ^{-96.848900} °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. 🕥 / N

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:_______ Future Pond 5 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>17.2</u>
- c. The impoundment is on-channel \times or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? **V** / **N**
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? **(Y** / **N**

d. Is the impoundment structure already constructed? Y /N

- i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N
 a. If yes, provide the Site No. _____and watershed project name______
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For **any** proposed new structures or modifications to structures:

Pond layout is conceptual. Coor- dination with TCEQ Dam Safety will occur before beginning construction.	1.	Applicant must contact TCEQ Dam Safety Section at (512) 239-0326, <i>prior to submitting an Application.</i> Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? Y/N Provide the date and the name of the Staff Person
	2.	As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that: a. No additional dam safety documents required with the Application. Y / N
		 b. Plans (with engineer's seal) for the structure required. Y / N c. Engineer's signed and sealed hazard classification required. Y / N d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **(V)** N
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: 2.7

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the <u>William E. Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude ^{33.197527} <u>N, Longitude</u> <u>-96.846496</u> W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>23.6</u>
- c. The impoundment is on-channel_X____ or off-channel_____ (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? (Y)/ N
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? (V)/N

d. Is the impoundment structure already constructed? Y /N

- i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
 - 3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure? Y / N
 a. If yes, provide the Site No. _____and watershed project name_____
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For **any** proposed new structures or modifications to structures:
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y**/**N** Provide the date and the name of the Staff Person_____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. Y / N
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

Pond layout is conceptual. Coordination with TCEQ Dam Safety will occur before beginning construction.

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **𝔅** / **N**
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: <u>3.5</u>.

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: 75033
- c. In the Carter Jackson Survey Original Survey No. _____, Abstract No. 665 _____, Denton County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude ^{33.215704} °N. Longitude ^{-96.855873} °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program)AutoCAD Civil 3d
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. ①/N

WORKSHEET 2.0 Impoundment/Dam Information

This worksheet **is required** for any impoundment, reservoir and/or dam. Submit an additional Worksheet 2.0 for each impoundment or reservoir requested in this application.

If there is more than one structure, the numbering/naming of structures should be consistent throughout the application and on any supplemental documents (e.g. maps).

1. Storage Information (Instructions, Page. 21)

- a. Official USGS name of reservoir, if applicable:_ Existing Pond 7 (Unofficial Name)
- b. Provide amount of water (in acre-feet) impounded by structure at normal maximum operating level: <u>10.4</u>
- c. The impoundment is on-channel \times or off-channel (mark one)
 - 1. Applicant has verified on-channel or off-channel determination by contacting Surface Water Availability Team at (512) 239-4691? **V**
 - 2. If on-channel, will the structure have the ability to pass all State Water inflows that Applicant does not have authorization to impound? $\mathbf{\hat{N}}/\mathbf{N}$
- d. Is the impoundment structure already constructed? $\sqrt[6]{N}$
 - i. For already constructed **on-channel** structures:
 - 1. Date of Construction:
 - 2. Was it constructed to be an exempt structure under TWC § 11.142? Y / N
 a. If Yes, is Applicant requesting to proceed under TWC § 11.143? Y / N
 b. If No. has the structure been issued a native of violation by TCEO2 V / N



Unknown

b. If No, has the structure been issued a notice of violation by TCEQ? Y / N
3. Is it a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil

- Conservation Service (SCS)) floodwater-retarding structure? Y / N
 - a. If yes, provide the Site No. _____and watershed project name_____
 b. Authorization to close "ports" in the service spillway requested? Y / N
- ii. For **any** proposed new structures or modifications to structures: N/A
 - 1. Applicant **must** contact TCEQ Dam Safety Section at (512) 239-0326, *prior to submitting an Application*. Applicant has contacted the TCEQ Dam Safety Section regarding the submission requirements of 30 TAC, Ch. 299? **Y / N** Provide the date and the name of the Staff Person_____
 - 2. As a result of Applicant's consultation with the TCEQ Dam Safety Section, TCEQ has confirmed that:
 - a. No additional dam safety documents required with the Application. Y / N
 - b. Plans (with engineer's seal) for the structure required. Y / N
 - c. Engineer's signed and sealed hazard classification required. $\rm ~Y$ / $\rm N$
 - d. Engineer's statement that structure complies with 30 TAC, Ch. 299 Rules required. Y / N

- 3. Applicants **shall** give notice by certified mail to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir to be constructed, will be located. (30 TAC § 295.42). Applicant must submit a copy of all the notices and certified mailing cards with this Application. Notices and cards are included? **(V)** N
- iii. Additional information required for **on-channel** storage:
 - 1. Surface area (in acres) of on-channel reservoir at normal maximum operating level: 2.7

2. Structure Location (Instructions, Page. 23)

- a. On Watercourse (if on-channel) (USGS name): Unnamed Tributary to Panther Creek
- b. Zip Code: <u>75033</u>
- c. In the Louisa Netherly Survey Original Survey No. _____, Abstract Denton County, Texas.

* A copy of the deed(s) with the recording information from the county records must be submitted describing the tract(s) that include the structure and all lands to be inundated.

** If the Applicant is not currently the sole owner of the land on which the structure is or will be built and sole owner of all lands to be inundated, Applicant must submit documentation evidencing consent or other documentation supporting Applicant's right to use the land described.

d. A point on the centerline of the dam (on-channel) or anywhere within the impoundment (off-channel) is:

Latitude 33.214772 °N. Longitude -96.850143 °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- di. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- dii. Map submitted which clearly identifies the Impoundment, dam (where applicable), and the lands to be inundated. See instructions Page. 15. ①/ N

WORKSHEET 3.0 **DIVERSION POINT (OR DIVERSION REACH) INFORMATION**

This worksheet is required for each diversion point or diversion reach. Submit one Worksheet 3.0 for each diversion point and two Worksheets for each diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

Diversion Information (Instructions, Page. 24) 1.

- a. This Worksheet is to add new (select 1 of 3 below):

 - X Diversion Point No.
 Upstream Limit of Diversion Reach No.
 - 3. Downstream Limit of Diversion Reach No.
- 5.8 _____ cfs (cubic feet per second) **b.** Maximum Rate of Diversion for **this new point** or 2600 gpm (gallons per minute)
- c. Does this point share a diversion rate with other points? Y $/\mathbb{N}$ If yes, submit Maximum Combined Rate of Diversion for all points/reaches_____cfs or_____gpm
- **d.** For amendments, is Applicant seeking to increase combined diversion rate? Y / N N/A

** An increase in diversion rate is considered a new appropriation and would require completion of Section 1, New or Additional Appropriation of State Water.

e. Check ($\sqrt{}$) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed):

Check		Write: Existing or Proposed
one		
	Directly from stream	
Х	From an on-channel reservoir	Proposed
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

f. Based on the Application information provided. Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. (Y)/N

If ves, the drainage area is 0.3831 sq. miles. (If assistance is needed, call the Surface Water Availability Team at (512) 239-4691, prior to submitting application)

2. **Diversion Location (Instructions, Page 25)**

a. On watercourse (USGS name):

Unnamed Tributary to Panther Creek

- 75033 **b.** Zip Code:
- c. Location of point: In the William E. Bates Original Survey No. _____, Abstract Denton No. 90 County, Texas. .

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

d. Point is at: N, Longitude -96.847142 33.193564 °W Latitude Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

WORKSHEET 3.0 **DIVERSION POINT (OR DIVERSION REACH) INFORMATION**

This worksheet is required for each diversion point or diversion reach. Submit one Worksheet 3.0 for each diversion point and two Worksheets for each diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

Diversion Information (Instructions, Page. 24) 1.

- a. This Worksheet is to add new (select 1 of 3 below):

 - 1.
 X
 Diversion Point No.

 2.
 Upstream Limit of Diversion Reach No.
 - 3. Downstream Limit of Diversion Reach No.
- b. Maximum Rate of Diversion for this new point ^{3.3} _____ cfs (cubic feet per second) or 1500 gpm (gallons per minute)
- c. Does this point share a diversion rate with other points? Y / NIf yes, submit Maximum Combined Rate of Diversion for all points/reaches_____cfs or_____gpm
- **d.** For amendments, is Applicant seeking to increase combined diversion rate? Y / N N/A

** An increase in diversion rate is considered a new appropriation and would require completion of Section 1, New or Additional Appropriation of State Water.

e. Check ($\sqrt{}$) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed):

Check		Write: Existing or Proposed
one		
	Directly from stream	
Х	From an on-channel reservoir	Proposed
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

f. Based on the Application information provided. Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. (Y)/N

If ves, the drainage area is 0.1514 sq. miles. (If assistance is needed, call the Surface Water Availability Team at (512) 239-4691, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

- a. On watercourse (USGS name): Unnamed Tributary to Panther Creek
- **b.** Zip Code: 75033
- c. Location of point: In the <u>William E. Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton County, Texas.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

d. Point is at: Latitude 33.192178 °N, Longitude -96.841914 °W. Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): <u>AutoCAD Civil 3D</u>
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.

WORKSHEET 3.0 **DIVERSION POINT (OR DIVERSION REACH) INFORMATION**

This worksheet is required for each diversion point or diversion reach. Submit one Worksheet 3.0 for each diversion point and two Worksheets for each diversion reach (one for the upstream limit and one for the downstream limit of each diversion reach).

The numbering of any points or reach limits should be consistent throughout the application and on supplemental documents (e.g. maps).

Diversion Information (Instructions, Page. 24) 1.

- a. This Worksheet is to add new (select 1 of 3 below):

 - 1.
 X
 Diversion Point No.

 2.
 Upstream Limit of Diversion Reach No.
 - 3. Downstream Limit of Diversion Reach No.
- **b.** Maximum Rate of Diversion for **this new point** $^{0.9}$ _____ cfs (cubic feet per second) or 400 gpm (gallons per minute)
- c. Does this point share a diversion rate with other points? Y $\langle N \rangle$ If yes, submit Maximum Combined Rate of Diversion for all points/reaches_____cfs or_____gpm
- **d.** For amendments, is Applicant seeking to increase combined diversion rate? Y / N N/A

** An increase in diversion rate is considered a new appropriation and would require completion of Section 1, New or Additional Appropriation of State Water.

e. Check ($\sqrt{}$) the appropriate box to indicate diversion location and indicate whether the diversion location is existing or proposed):

Check		Write: Existing or Proposed
one		
	Directly from stream	
Х	From an on-channel reservoir	Proposed
	From a stream to an on-channel reservoir	
	Other method (explain fully, use additional sheets if necessary)	

f. Based on the Application information provided. Staff will calculate the drainage area above the diversion point (or reach limit). If Applicant wishes to also calculate the drainage area, you may do so at their option.

Applicant has calculated the drainage area. (Y) / N

If yes, the drainage area is____0.1032 sa. miles. (If assistance is needed, call the Surface Water Availability Team at (512) 239-4691, prior to submitting application)

2. Diversion Location (Instructions, Page 25)

a. On watercourse (USGS name):

Unnamed Tributary to Panther Creek

- b. Zip Code: 75033
- c. Location of point: In the Carter Jackson Survey Original Survey No. _____, Abstract No. _____, Abstract County, Texas.

A copy of the deed(s) with the recording information from the county records must be submitted describing tract(s) that include the diversion structure. For diversion reaches, the Commission cannot grant an Applicant access to property that the Applicant does not own or have consent or a legal right to access, the Applicant will be required to provide deeds, or consent, or other documents supporting a legal right to use the specific points when specific diversion points within the reach are utilized. Other documents may include, but are not limited to: a recorded easement, a land lease, a contract, or a citation to the Applicant's right to exercise eminent domain to acquire access.

d. Point is at: Latitude 33.216533 °N, Longitude -96.855000 °W. Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

- e. Indicate the method used to calculate the location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D
- f. Map submitted must clearly identify each diversion point and/or reach. See instructions Page. 38.
- g. If the Plan of Diversion is complicated and not readily discernable from looking at the map, attach additional sheets that fully explain the plan of diversion.



WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be to replace water lost to evaporation and divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the **current** TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? **Y**/**N** If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: Lower Trinity, Woodbine and Paluxy
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp. Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation .
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y /N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_____

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is <u>19.72</u> acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>0.07</u> cfs or <u>29</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton _____, County, Texas.
- g. Point is at: Latitude <u>33.195442</u>°N, Longitude <u>96.851981</u>°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):_AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.



WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation and irrigation
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: Lower Trinity, Woodbine and Paluxy
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation _. Report
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior

to construction

- ci. Is the source of the water being discharged a surface water supply contract? Y /N If yes, provide the signed contract(s).
- cii. Identify any other source of the water_

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>2.18</u> cfs or <u>977</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. 90 _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.193519</u>°N, Longitude <u>96.848242</u>°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.



WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation and irrigation
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 A copy of the groundwater well permit if it is located in a Groundwater Conservation
 - A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y /N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>1.22</u> cfs or <u>548</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.192393</u> °N, Longitude <u>96.841926</u> °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):____AutoCAD Civil 3D _____

Map submitted must clearly identify each discharge point. See instructions Page. 15.



WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. Instructions Page. 26. Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.

- a. The purpose of use for the water being discharged will be divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: Lower Trinity, Woodbine and Paluxy
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y/N If yes, provide the signed contract(s).
- cii. Identify any other source of the water__

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is _______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. 0.04 18
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the <u>William E Bates</u> Original Survey No. _____, Abstract No. ⁹⁰ , <u>Denton</u> County, Texas.
- g. Point is at: Latitude <u>33.197572</u>°N, Longitude <u>96.848447</u>°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):_____AutoCAD Civil 3D

Map submitted must clearly identify each discharge point. See instructions Page. 15.



WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. Instructions Page. 26. Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.

- a. The purpose of use for the water being discharged will be divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation Report
 - 3. Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y/N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is ______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. 0.06 27
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code. _____
- f. Location of point: In the ^{William E Bates} Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.197922</u> °N, Longitude <u>96.845053</u> °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program)^{AutoCAD Civil 3D}

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Well #6

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. **Instructions Page. 26.** *Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.*

- a. The purpose of use for the water being discharged will be divert for recreation and irrigation
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage losses N/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped:
 - 2. Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y/N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___
WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is _______acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses. 0.33 149
- b. Water will be discharged at this point at a maximum rate of ______cfs or _____gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the Louisa Netherly Original Survey No. _____, Abstract No. _____, Denton _____County, Texas.
- g. Point is at: Latitude <u>33.216503</u>°N, Longitude <u>-96.854836</u>°W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program): <u>AutoCAD Civil 3D</u>

Map submitted must clearly identify each discharge point. See instructions Page. 15.

Well #7

WORKSHEET 4.0 DISCHARGE INFORMATION

This worksheet required for any requested authorization to discharge water into a State Watercourse for conveyance and later withdrawal or in-place use. Worksheet 4.1 is also required for each Discharge point location requested. Instructions Page. 26. Applicant is responsible for obtaining any separate water quality authorizations which may be required and for insuring compliance with TWC, Chapter 26 or any other applicable law.

- a. The purpose of use for the water being discharged will be to replace water lost to evaporation and divert for recreation.
- b. Provide the amount of water that will be lost to transportation, evaporation, seepage, channel or other associated carriage lossesN/A See calcs % and explain the method of calculation: The discharge will come from a groundwater well that will discharge into the proposed ponds.

Is the source of the discharged water return flows? Y /N If yes, provide the following information:

- 1. The TPDES Permit Number(s).______ (attach a copy of the current TPDES permit(s))
- 2. Applicant is the owner/holder of each TPDES permit listed above? Y / N

PLEASE NOTE: If Applicant is not the discharger of the return flows, the application should be submitted under Section 1, New or Additional Appropriation of State Water, as a request for a new appropriation of state water. If Applicant is the discharger, then the application should be submitted under Section 3, Bed and Banks.

- 3. Monthly WWTP discharge data for the past 5 years in electronic format. (Attach and label as "Supplement to Worksheet 4.0").
- 4. The percentage of return flows from groundwater_____, surface water____?
- 5. If any percentage is surface water, provide the base water right number(s) ______.
- c. Is the source of the water being discharged groundwater? (Y)/ N If yes, provide the following information:
 - 1. Source aquifer(s) from which water will be pumped: Lower Trinity, Woodbine and Paluxy
 - Any 24 hour pump test for the well if one has been conducted. If the well has not been constructed, provide production information for wells in the same aquifer in the area of the application. See <u>http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp.</u> Additionally, provide well numbers or identifiers_See attached, Groundwater Availability Evaluation _.
 - Report
 - Indicate how the groundwater will be conveyed to the stream or reservoir. Groundwater will be pumped to recharge the existing pond through a proposed well.
 - 4. A copy of the groundwater well permit if it is located in a Groundwater Conservation District (GCD) or evidence that a groundwater well permit is not required. A permit will be obtained prior to construction
- ci. Is the source of the water being discharged a surface water supply contract? Y/N If yes, provide the signed contract(s).
- cii. Identify any other source of the water___

WORKSHEET 4.1 DISCHARGE POINT INFORMATION

This worksheet is required for **each** discharge point. Submit one Worksheet 4.1 for each discharge point. If there is more than one discharge point, the numbering of the points should be consistent throughout the application and on any supplemental documents (e.g. maps). **Instructions, Page 27.**

For water discharged at this location provide:

- a. The amount of water that will be discharged at this point is <u>18.36</u> acre-feet per year. The discharged amount should include the amount needed for use and to compensate for any losses.
- b. Water will be discharged at this point at a maximum rate of <u>0.06</u> cfs or <u>27</u> gpm.
- c. Name of Watercourse as shown on Official USGS maps: Unnamed Tributary to Panther Creek
- d. Zip Code: 75033
- f. Location of point: In the Louisa Netherly Original Survey No. _____, Abstract No. 962 ______ Denton County, Texas.
- g. Point is at: Latitude <u>33.215136</u> °N, Longitude <u>-96.849917</u> °W.

*Provide Latitude and Longitude coordinates in decimal degrees to at least six decimal places

h. Indicate the method used to calculate the discharge point location (examples: Handheld GPS Device, GIS, Mapping Program):_AutoCAD Civil 3D _____

Map submitted must clearly identify each discharge point. See instructions Page. 15.

WORKSHEET 5.0 ENVIRONMENTAL INFORMATION

This worksheet is required for new appropriations of water in the Canadian, Red, Sulphur, and Cypress Creek Basins. The worksheet is also required in all basins for: requests to change a diversion point, applications using an alternate source of water, and bed and banks applications. **Instructions, Page 28.**

1. New Appropriations of Water (Canadian, Red, Sulphur, and Cypress Creek Basins only) and Changes in Diversion Point(s)

Description of the Water Body at each Diversion Point or Dam Location. (Provide an Environmental Information Sheet for each location),

a. Identify the appropriate description of the water body.

🗆 Stream

🗆 Reservoir

Average depth of the entire water body, in feet: _____

b. Flow characteristics

If a stream, was checked above, provide the following. For new diversion locations, check one of the following that best characterize the area downstream of the diversion (check one).

□ Intermittent – dry for at least one week during most years

□ Intermittent with Perennial Pools – enduring pools

Perennial – normally flowing

Check the method used to characterize the area downstream of the new diversion location.

□ USGS flow records

□ Historical observation by adjacent landowners

- Personal observation
- □ Other, specify: _____
- c. Waterbody aesthetics

Check one of the following that best describes the aesthetics of the stream segments affected by the application and the area surrounding those stream segments.

It is our understanding that

Trinity River Basin is a SB3 basin, therefore according to

Page 28 Section 1 is not re-

quired.

- 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

d. Waterbody Recreational Uses

Are there any known recreational uses of the stream segments affected by the application?

Primary contact recreation (swimming or direct contact with water)

Secondary contact recreation (fishing, canoeing, or limited contact with water)

Non-contact recreation

Submit the following information in a Supplemental Attachment, labeled Addendum to Worksheet 5.0:

- 1. Photographs of the stream at the diversion point or dam location. Photographs should be in color and show the proposed point or reservoir and upstream and downstream views of the stream, including riparian vegetation along the banks. Include a description of each photograph and reference the photograph to the map submitted with the application indicating the location of the photograph and the direction of the shot.
- 2. Measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on the new diversion structure).
- 3. If the application includes a proposed reservoir, also include:
 - i. A brief description of the area that will be inundated by the reservoir.
 - ii. If a United States Army Corps of Engineers (USACE) 404 permit is required, provide the project number and USACE project manager.
 - iii. A description of how any impacts to wetland habitat, if any, will be mitigated if the reservoir is greater than 5,000 acre-feet.

2. Alternate Sources of Water and/or Bed and Banks Applications

For all bed and banks applications:

a. Indicate the measures the applicant will take to avoid impingement and entrainment of aquatic organisms (ex. Screens on the new diversion structure).

b. An assessment of the adequacy of the quantity and quality of flows remaining after the proposed diversion to meet instream uses and bay and estuary freshwater inflow requirements.

If the alternate source is treated return flows, provide the TPDES permit number_____

If groundwater is the alternate source, or groundwater or other surface water will be discharged into a watercourse provide:

a. Reasonably current water chemistry information including but not limited to the following parameters in the table below. Additional parameters may be requested if there is a specific water quality concern associated with the aquifer from which water is withdrawn. If data for onsite wells are unavailable; historical data collected from similar sized wells drawing water from the same aquifer may be provided. However, onsite data may still be required when it becomes available. Provide the well number or well identifier. Complete the information below for each well and provide the Well Number or identifier.

Parameter	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Sulfate, mg/L			Sumpres		
Chloride,					
mg/L					
Total					
Dissolved					
Solids, mg/L					
pH, standard					
units					
Temperature*,					
degrees					
Celsius					

* Temperature must be measured onsite at the time the groundwater sample is collected.

b. If groundwater will be used, provide the depth of the well ______ and the name of the aquifer from which water is withdrawn ______.

WORKSHEET 6.0 Water Conservation/Drought Contingency Plans

This form is intended to assist applicants in determining whether a Water Conservation Plan and/or Drought Contingency Plans is required and to specify the requirements for plans. **Instructions, Page 31.**

The TCEQ has developed guidance and model plans to help applicants prepare plans. Applicants may use the model plan with pertinent information filled in. For assistance submitting a plan call the Resource Protection Team (Water Conservation staff) at 512-239-4691, or e-mail wras@tceq.texas.gov. The model plans can also be downloaded from the TCEQ webpage. Please use the most up-to-date plan documents available on the webpage.

1. Water Conservation Plans

- a. The following applications must include a completed Water Conservation Plan (30 TAC § 295.9) for each use specified in 30 TAC, Chapter 288 (municipal, industrial or mining, agriculture including irrigation, wholesale):
 - 1. Request for a new appropriation or use of State Water.
 - 2. Request to amend water right to increase appropriation of State Water.
 - 3. Request to amend water right to extend a term.
 - 4. Request to amend water right to change a place of use. *does not apply to a request to expand irrigation acreage to adjacent tracts.
 - 5. Request to amend water right to change the purpose of use. **applicant need only address new uses.*
 - 6. Request for bed and banks under TWC § 11.042(c), when the source water is State Water **including return flows, contract water, or other State Water.*
- b. If Applicant is requesting any authorization in section (1)(a) above, indicate each use for which Applicant is submitting a Water Conservation Plan as an attachment:
 - 1. _____Municipal Use. See 30 TAC § 288.2. **
 - 2. ____Industrial or Mining Use. See 30 TAC § 288.3.
 - 3. _____Agricultural Use, including irrigation. See 30 TAC § 288.4.
 - 4. _____Wholesale Water Suppliers. See 30 TAC § 288.5. **

**If Applicant is a water supplier, Applicant must also submit documentation of adoption of the plan. Documentation may include an ordinance, resolution, or tariff, etc. See 30 TAC §§ 288.2(a)(1)(J)(i) and 288.5(1)(H). Applicant has submitted such documentation with each water conservation plan? Y / N

c. Water conservation plans submitted with an application must also include data and information which: supports applicant's proposed use with consideration of the plan's water conservation goals; evaluates conservation as an alternative to the proposed

appropriation; and evaluates any other feasible alternative to new water development. See 30 TAC § 288.7. Applicant has included this information in each applicable plan? Y / N

2. Drought Contingency Plans

- a. A drought contingency plan is also required for the following entities if Applicant is requesting any of the authorizations in section (1) (a) above indicate each that applies:
 - 1. _____Municipal Uses by public water suppliers. See 30 TAC § 288.20.
 - 2. ____Irrigation Use/ Irrigation water suppliers. See 30 TAC § 288.21.
 - 3. _____Wholesale Water Suppliers. See 30 TAC § 288.22.
- b. If Applicant must submit a plan under section 2(a) above, Applicant has also submitted documentation of adoption of drought contingency plan (*ordinance, resolution, or tariff, etc. See 30 TAC § 288.30*) **Y** / **N**

WORKSHEET 7.0 ACCOUNTING PLAN INFORMATION WORKSHEET

The following information provides guidance on when an Accounting Plan may be required for certain applications and if so, what information should be provided. An accounting plan can either be very simple such as keeping records of gage flows, discharges, and diversions; or, more complex depending on the requests in the application. Contact the Surface Water Availability Team at 512-239-4691 for information about accounting plan requirements, if any, for your application. **Instructions, Page 34.**

1. Is Accounting Plan Required

Accounting Plans are generally required:

- For applications that request authorization to divert large amounts of water from a single point where multiple diversion rates, priority dates, and water rights can also divert from that point;
- For applications for new major water supply reservoirs;
- For applications that amend a water right where an accounting plan is already required, if the amendment would require changes to the accounting plan;
- For applications with complex environmental flow requirements;
- For applications with an alternate source of water where the water is conveyed and diverted; and
- For reuse applications.

2. Accounting Plan Requirements

- a. A **text file** that includes:
 - 1. an introduction explaining the water rights and what they authorize;
 - 2. an explanation of the fields in the accounting plan spreadsheet including how they are calculated and the source of the data;
 - 3. for accounting plans that include multiple priority dates and authorizations, a section that discusses how water is accounted for by priority date and which water is subject to a priority call by whom; and
 - 4. Should provide a summary of all sources of water.
- b. A **spreadsheet** that includes:
 - 1. Basic daily data such as diversions, deliveries, compliance with any instream flow requirements, return flows discharged and diverted and reservoir content;
 - 2. Method for accounting for inflows if needed;
 - 3. Reporting of all water use from all authorizations, both existing and proposed;
 - 4. An accounting for all sources of water;
 - 5. An accounting of water by priority date;
 - 6. For bed and banks applications, the accounting plan must track the discharged water from the point of delivery to the final point of diversion;
 - 7. Accounting for conveyance losses;
 - 8. Evaporation losses if the water will be stored in or transported through a reservoir. Include changes in evaporation losses and a method for measuring reservoir content resulting from the discharge of additional water into the reservoir;
 - 9. An accounting for spills of other water added to the reservoir; and
 - 10. Calculation of the amount of drawdown resulting from diversion by junior rights or diversions of other water discharged into and then stored in the reservoir.

WORKSHEET 8.0 CALCULATION OF FEES

This worksheet is for calculating required application fees. Applications are not Administratively Complete until all required fees are received. **Instructions, Page. 34**

1. NEW APPROPRIATION

	Description	Amount (\$)
	Circle fee correlating to the total amount of water* requested for any new appropriation and/or impoundment. Amount should match total on Worksheet 1, Section 1. Enter corresponding fee under Amount (\$).	\$250.00
	In Acre-Feet	
Filing Fee	a. Less than 100 \$100.00	
	b. 100 - 5,000 \$250.00	
	c. 5,001 - 10,000 \$500.00	
	d. 10,001 - 250,000 \$1,000.00	
	e. More than 250,000 \$2,000.00	
Recording Fee		\$25.00
Agriculture Use Fee	Only for those with an Irrigation Use. Multiply 50 x $\frac{320.8}{2000}$ Number of acres that will be irrigated with State Water. **	\$160.40
	Required for all Use Types, excluding Irrigation Use.	
Use Fee	Multiply \$1.00 x Maximum annual diversion of State Water in acrefeet. **	
	Only for those with Recreational Storage.	\$158.60
Fee	Multiply \$1.00 $x^{158.6}$ $$ acre-feet of in-place Recreational Use State Water to be stored at normal max operating level.	\$100.00
Storage Fee	Only for those with Storage, excluding Recreational Storage.	
	Multiply 50 $\ensuremath{\mathbb{C}} x$ acre-feet of State Water to be stored at normal max operating level.	
Mailed Notice	Cost of mailed notice to all water rights in the basin. Contact Staff to determine the amount (512) 239-4691.	\$460.60
	TOTAL	\$ 1054.60

2. AMENDMENT OR SEVER AND COMBINE

	Description	Amount (\$)
Filing Fee	Amendment: \$100	
	OR Sever and Combine: \$100 x of water rights to combine	
Recording Fee		\$12.50
Mailed Notice	Additional notice fee to be determined once application is submitted.	
	TOTAL INCLUDED	\$

3. BED AND BANKS

	Description	Amount (\$)
Filing Fee		\$100.00
Recording Fee		\$12.50
Mailed Notice	Additional notice fee to be determined once application is submitted.	
	TOTAL INCLUDED	\$























048





049 050 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













055 056 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













081 082 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













087 088 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













093 094 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













099 100 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













105 106 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017















 118
 119

 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













124 125 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017













134 699 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017











704 705 Photos were taken on 04/21/2017, 04/27-28/2017, 05/02/2017, 05/04/2017, and 05/18/2017







DSCN6384-005



DSCN6385-006



DSCN6386-007



DSCN6387-008





DSCN Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6390-011



DSCN6391-012



DSCN6392-013



DSCN6393-014





DSCN6394-015 DSCN6395-016 Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6396-017



DSCN6397-018



DSCN6398-019



DSCN6399-020



DSCN6400-021 DS Photos were taken on 06/13-14/2017 and 06/20-22/2017

DSCN6401-022



DSCN6402-023



DSCN6403-024



DSCN6404-025



DSCN6405-026



406-027 DSCN6407-028 Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6408-029



DSCN6409-030



DSCN6410-031



DSCN6411-032



DSCN6412-033 DS Photos were taken on 06/13-14/2017 and 06/20-22/2017

DSCN6413-034



DSCN6414-035



DSCN6415-036



DSCN6416-037



DSCN6417-038



N6418-039 DSCN6419-040 Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6420-041



DSCN6421-042



DSCN6422-043



DSCN6423-044



045 DSCN6425-046 Photos were taken on 06/13-14/2017 and 06/20-22/2017


DSCN6426-047



DSCN6427-048



DSCN6428-049



DSCN6429-050





DSCN6430-051 DS Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6435



DSCN6436



DSCN6437



DSCN6438



DSCN6441



Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6443



DSCN6444



DSCN6453



DSCN6454



DSCN6463

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6464



DSCN6465



DSCN6466



DSCN6467



DSCN6468



DSCN6469

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6470



DSCN6471



DSCN6472



DSCN6473



DSCN6474



DSCN6475

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6476



DSCN6477



DSCN6478



DSCN6479



DSCN6481

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6482



DSCN6483



DSCN6823



DSCN6824



DSCN6825



DSCN6826

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6827



DSCN6828



DSCN6829



DSCN6830



DSCN6831



DSCN6832

Photos were taken on 06/13-14/2017 and 06/20-22/2017



DSCN6833



DSCN6834



DSCN6835



DSCN6836



DSCN6837



Photos were taken on 06/13-14/2017 and 06/20-22/2017









FIELDS

Frisco, Texas August 2021

-

20210715001430000 07/15/2021 02:44:41 PM AF 1/6

AFFIDAVIT OF CHANGE OF NAME OF FHQ HOLDINGS LP TO FHQ DEVELOPMENT PARTNERS LP

STATE OF TEXAS § SCOUNTIES OF COLLIN AND § DENTON §

Before me, the undersigned notary public, FHQ Development Partners LP, a Delaware limited partnership ("Owner"), states the following and executes this Affidavit:

1. The document attached hereto as Exhibit A is a true and correct copy of that certain Certificate of Amendment to the Certificate of Limited Partnership of FHQ Holdings LP, whereby the name of Owner was changed from "FHQ Holdings LP" to "FHQ Development Partners LP", filed with the Office of the Secretary of State of the State of Delaware on July 22, 2021 (the "Amendment").

 Owner owns certain interests in property and related assets and rights in Collin and Denton Counties, Texas (the "Property").

3. The purpose of this Affidavit is to reflect the ownership of the Property as being in the name of Owner as changed pursuant to the Amendment.

Executed this $\frac{12^{30}}{12}$ day of July, 2021.

FHQ DEVELOPMENT PARTNERS LP, a Delaware limited partnership

By: FHQ HOLDINGS GP LLC, a Delaware limited liability company, its general partner

By

Name: Todd M. Watson Title: Vice President

ACKNOWLEDGMENT

STATE OF TEXAS)) COUNTY OF DALLAS)

This instrument was acknowledged before me on July <u>7</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ DEVELOPMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



rances Harper

Notary Public, State of Texas

<u>Exhibit A</u>

Certificate of Amendment

[sec attached]



The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "FHQ HOLDINGS LP", CHANGING ITS NAME FROM "FHQ HOLDINGS LP" TO "FHQ DEVELOPMENT PARTNERS LP", FILED IN THIS OFFICE ON THE TWELFTH DAY OF JULY, A.D. 2021, AT 6:29 O'CLOCK P.M.



6996025 8100 SR# 20212684654

You may verify this certificate online at corp.delaware.gov/authver.shtml

Authentication: 203658402 Date: 07-13-21

CERTIFICATE OF AMENDMENT TO THE CERTIFICATE OF LIMITED PARTNERSHIP OF FHO HOLDINGS LP

The undersigned, desiring to amend the Certificate of Limited Partnership of FHQ Holdings LP pursuant to the provisions of Section 17-202 of the Delaware Revised Uniform Limited Partnership Act, does hereby certify as follows:

FIRST: The name of the limited partnership is FHQ Holdings LP.

SECOND: Article 1 of the Certificate of Limited Partnership shall be amended to read as follows:

Name. The name of the limited partnership is FHQ Development Partners LP.

THIRD: Article 2 of the Certificate of Limited Partnership shall be amended to read as follows:

 <u>Registered Office and Registered Agent</u>. The address of the registered office of the Partnership in the State of Delaware is 1675 S. State St., Ste. B, Dover, Delaware 19901, and the Partnership's registered agent at that address is Capitol Services, Inc.

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of Amendment to the Certificate of Limited Partnership as of this 12¹⁴ day of July, 2021.

GENERAL PARTNER:

FHQ HOLDINGS GP LLC

By:

Name: Todd M. Watson Title: Vice President

State of Delaware Secretary of State Division of Corporations Delivered 06:29 PM 07/12/2021 FILED 06:29 PM 07/12/2021 SR 20212684654 - File Number 6996025



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/15/2021 02:44:41 PM S46.00 DFOSTER 20210715001430000



Denton County Juli Luke County Clerk

Instrument Number: 127601

ERecordings-RP

AFFIDAVIT

Recorded On: July 15, 2021 12:25 PM

Number of Pages: 7

" Examined and Charged as Follows: "

Total Recording: \$50.00

*********** THIS PAGE IS PART OF THE INSTRUMENT ***********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	127601
Receipt Number:	20210715000448
Recorded Date/Time:	July 15, 2021 12:25 PM
User:	Terri B
Station:	Station 20

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

AFFIDAVIT OF CHANGE OF NAME OF FHQ HOLDINGS LP TO FHQ DEVELOPMENT PARTNERS LP

STATE OF TEXAS § SCOUNTIES OF COLLIN AND § DENTON §

Before me, the undersigned notary public, FHQ Development Partners LP, a Delaware limited partnership ("Owner"), states the following and executes this Affidavit:

1. The document attached hereto as Exhibit A is a true and correct copy of that certain Certificate of Amendment to the Certificate of Limited Partnership of FHQ Holdings LP, whereby the name of Owner was changed from "FHQ Holdings LP" to "FHQ Development Partners LP", filed with the Office of the Secretary of State of the State of Delaware on July 22, 2021 (the "Amendment").

2. Owner owns certain interests in property and related assets and rights in Collin and Denton Counties, Texas (the "Property").

3. The purpose of this Affidavit is to reflect the ownership of the Property as being in the name of Owner as changed pursuant to the Amendment.

Executed this $\frac{12^{30}}{12}$ day of July, 2021.

FHQ DEVELOPMENT PARTNERS LP, a Delaware limited partnership

By: FHQ HOLDINGS GP LLC, a Delaware limited liability company, its general partner

By

Name: Todd M. Watson Title: Vice President

Active 62718296.3

ACKNOWLEDGMENT

STATE OF TEXAS)) COUNTY OF DALLAS)

This instrument was acknowledged before me on July <u>7</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ DEVELOPMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



rances Harper

Notary Public, State of Texas

<u>Exhibit A</u>

Certificate of Amendment

[sec attached]



The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "FHQ HOLDINGS LP", CHANGING ITS NAME FROM "FHQ HOLDINGS LP" TO "FHQ DEVELOPMENT PARTNERS LP", FILED IN THIS OFFICE ON THE TWELFTH DAY OF JULY, A.D. 2021, AT 6:29 O'CLOCK P.M.



6996025 8100 SR# 20212684654

You may verify this certificate online at corp.delaware.gov/authver.shtml

Authentication: 203658402 Date: 07-13-21

CERTIFICATE OF AMENDMENT TO THE CERTIFICATE OF LIMITED PARTNERSHIP OF FHO HOLDINGS LP

The undersigned, desiring to amend the Certificate of Limited Partnership of FHQ Holdings LP pursuant to the provisions of Section 17-202 of the Delaware Revised Uniform Limited Partnership Act, does hereby certify as follows:

FIRST: The name of the limited partnership is FHQ Holdings LP.

SECOND: Article 1 of the Certificate of Limited Partnership shall be amended to read as follows:

Name. The name of the limited partnership is FHQ Development Partners LP.

THIRD: Article 2 of the Certificate of Limited Partnership shall be amended to read as follows:

 <u>Registered Office and Registered Agent</u>. The address of the registered office of the Partnership in the State of Delaware is 1675 S. State St., Ste. B, Dover, Delaware 19901, and the Partnership's registered agent at that address is Capitol Services, Inc.

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of Amendment to the Certificate of Limited Partnership as of this 12¹⁴ day of July, 2021.

GENERAL PARTNER:

FHQ HOLDINGS GP LLC

BYS

Name: Todd M. Watson Title: Vice President

State of Delaware Secretary of State Division of Corporations Delivered 06:29 PM 07/12/2021 FILED 06:29 PM 07/12/2021 SR 20212684654 - File Number 6996025



The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "FHQ HOLDINGS LP", CHANGING ITS NAME FROM "FHQ HOLDINGS LP" TO "FHQ DEVELOPMENT PARTNERS LP", FILED IN THIS OFFICE ON THE TWELFTH DAY OF JULY, A.D. 2021, AT 6:29 O`CLOCK P.M.



Authentication: 203658402 Date: 07-13-21

Page 1

6996025 8100 SR# 20212684654

You may verify this certificate online at corp.delaware.gov/authver.shtml

CERTIFICATE OF AMENDMENT TO THE CERTIFICATE OF LIMITED PARTNERSHIP OF FHQ HOLDINGS LP

The undersigned, desiring to amend the Certificate of Limited Partnership of FHQ Holdings LP pursuant to the provisions of Section 17-202 of the Delaware Revised Uniform Limited Partnership Act, does hereby certify as follows:

FIRST: The name of the limited partnership is FHQ Holdings LP.

SECOND: Article 1 of the Certificate of Limited Partnership shall be amended to read as follows:

1. Name. The name of the limited partnership is FHQ Development Partners LP.

THIRD: Article 2 of the Certificate of Limited Partnership shall be amended to read as follows:

 <u>Registered Office and Registered Agent</u>. The address of the registered office of the Partnership in the State of Delaware is 1675 S. State St., Ste. B, Dover, Delaware 19901, and the Partnership's registered agent at that address is Capitol Services, Inc.

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of Amendment to the Certificate of Limited Partnership as of this 2th day of July, 2021.

GENERAL PARTNER:

FHQ HOLDINGS GP LLC

By:

Name: Todd M. Watson Title: Vice President

State of Delaware Secretary of State Division of Corporations Delivered 06:29 PM 07/12/2021 FILED 06:29 PM 07/12/2021 SR 20212684654 - File Number 6996025

Denton County Juli Luke County Clerk

Instrument Number: 125158

ERecordings-RP

WARRANTY DEED

Recorded On: July 12, 2021 03:51 PM

Number of Pages: 11

" Examined and Charged as Follows: "

Total Recording: \$66.00

******* THIS PAGE IS PART OF THE INSTRUMENT **********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	125158
Receipt Number:	20210712000801
Recorded Date/Time:	July 12, 2021 03:51 PM
User:	Debra B
Station:	Station 42

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

§ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTY OF DENTON

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS BROOKSIDE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS BROOKSIDE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantee</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Denton County, Texas and described in <u>Exhibit A</u> attached hereto and made a part hereof for all purposes (the "<u>Land</u>"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Denton County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the $\frac{12.44}{12.44}$ day of July, 2021.

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Walson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>4</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of

SPECIAL WARRANTY DEED (Fields Brookside Investment Partners LP) Signature Page

GRANTEE:

FIELDS BROOKSIDE INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

100 100 100

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>7</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS BROOKSIDE INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



Carcer Harps

Notary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the W. H. Bates Survey, Abstract No. 83, William E. Bates Survey, Abstract No. 90 and the Memphis, El Paso and Pacific Railroad Company Survey, Abstract No. 941, City of Frisco, Denton County, Texas and being part of the remainder of Tract 3, a called 1,722.364 acre tract of land described in a Special Warranty Deed to FHQ Holdings LP, as recorded in Instrument No. 2018-93106 of the Official Records of said county, and being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found on the north right of way line of Panther Creek Parkway, a variable width right of way, as described in a deed to the City of Frisco, recorded in Instrument No. 2008-9796 of said Official Records and on the east line of Lone Star High School, an addition to the City of Frisco, according to the plat, recorded in Document No. 2009-135 of the Plat Records of said county, for the most westerly, southwest corner of said Tract 3;

THENCE North 00°13'48" West, leaving the north right-of-way line of said Panther Creek Parkway and along the east line of said Lone Star High School, common to the west line of said Tract 3, a distance of 437.66 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

THENCE leaving said common line and crossing said Tract 3, the following courses and distances:

North 89°46'12" East, a distance of 512.53 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 40°52'11" East, a distance of 439.31 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 82°27'31" East, a distance of 202.74 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 9°37'01" West, a distance of 84.86 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a tangent curve to the left having a central angle of 39°08'36", a radius of 220.00 feet, and a chord bearing and distance of North 29°11'19" West, 147.39 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 150.30 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the end of said curve;

North 48°45'37" West, a distance of 412.77 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 84°24'12" West, a distance of 14.38 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 40°32'32" West, a distance of 586.62 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a tangent curve to the right having a central angle of 48°54'42", a radius of 280.00 feet, and a chord bearing and distance of South 64°59'52" West, 231.83 feet;

In a southwesterly direction, with said curve to the right, an arc distance of 239.03 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the end of said curve, being on the common line of said Tract 3 and said Lone Star High School;

THENCE North 00°13'48" West, along west line of said Tract 3, the east line of said Lone Star High School and the east line of a called 219.034 acre tract described in a deed to the City of Frisco, as recorded in Volume 4205, Page 111 of the Deed Records of said county, a distance of 2,428.40 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

THENCE leaving the west line of said Tract 3 and the east line of said 219.034 acre tract and crossing said Tract 3, the following courses and distances:

South 89°52'38" East, a distance of 174.39 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a tangent curve to the left having a central angle of 18°41'06", a radius of 2045.00 feet, a chord bearing and distance of North 80°46'48" East, 663.96 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 666.91 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 71°26'15" East, a distance of 66.38 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 18°33'45" East, a distance of 90.51 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 69°33'15" East, a distance of 87.24 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 57°32'28" East, a distance of 115.94 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 52°30'02" East, a distance of 143.91 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 50°33'28" East, a distance of 85.28 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 43°30'34" East, a distance of 65.38 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 22°48'16" East, a distance of 159.16 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 16°32'26" East, a distance of 75.33 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 33°27'53" East, a distance of 105.37 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 53°04'35" East, a distance of 321.74 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 55°44'13" East, a distance of 50.05 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 54°00'37" East, a distance of 136.15 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 64°36'25" East, a distance of 68.14 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 64°56'02" East, a distance of 50.00 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 64°57'40" East, a distance of 153.47 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 54°23'54" East, a distance of 84.46 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 46°41'40" East, a distance of 84.46 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 40°11'55" East, a distance of 81.29 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 37°01'42" East, a distance of 70.00 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 31°26'25" East, a distance of 50.24 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 37°01'42" East, a distance of 71.66 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 35°22'39" East, a distance of 72.74 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 33°53'11" East, a distance of 72.74 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 32°23'44" East, a distance of 72.74 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 39°04'26" East, a distance of 73.62 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 47°31'41" East, a distance of 77.14 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 56°01'43" East, a distance of 87.09 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 62°04'38" West, a distance of 202.17 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a non-tangent curve to the right having a central angle of 15°24'42", a radius of 1,020.00 feet, and a chord bearing and distance of South 17°05'39" East, 273.54 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 274.36 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the end of said curve;

South 09°23'18" East, a distance of 404.90 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 54°50'42" East, a distance of 14.03 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a non-tangent curve to the right having a central angle of 44°57'27", a radius of 280.00 feet, and a chord bearing and distance of South 76°48'11" East, 214.11 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 219.70 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the end of said curve;

North 87°33'23" East, a distance of 15.51 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

North 48°24'50" East, a distance of 26.88 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

South 41°35'10" East, a distance of 80.00 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

South 48°24'50" West, a distance of 20.00 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

South $00^{\circ}54'43"$ West, a distance of 13.51 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

South 46°35'23" East, a distance of 12.53 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;
South 43°22'05" West, a distance of 57.00 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 46°35'23" West, a distance of 10.50 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set;

North 89°28'39" West, a distance of 14.65 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a non-tangent curve to the left having a central angle of 37°33'49", a radius of 632.73 feet, and a chord bearing and distance of South 28°22'37" West, 407.43 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 414.82 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a non-tangent curve to the left having a central angle of 17°51'51", a radius of 150.00 feet, and a chord bearing and distance of South 00°38'26" West, 46.58 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 46.77 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a reverse curve to the right having a central angle of 08°17'29", a radius of 500.00 feet, and a chord bearing and distance of South 4°08'45" East, 72.29 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 72.36 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the end of said curve;

South 00°01'31" East, a distance of 81.46 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

South 45°01'37" East, a distance of 56.57 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set for corner;

North 89°58'17" East, a distance of 95.50 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a tangent curve to the right having a central angle of 10°34'30", a radius of 290.00 feet, and a chord bearing and distance of South 84°44'28" East, 53.45 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 53.52 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set at the beginning of a reverse curve to the left having a central angle of 10°34'18", a radius of 270.00 feet, and a chord bearing and distance of South 84°44'22" East, 49.75 feet;

In a southeasterly direction, with said curve to the left, an arc distance of 49.82 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", set on the south line of said Tract 3 and the north right-of-way line of the aforementioned Panther Creek Parkway;

THENCE along the south line of said Tract 3 and the north right-of-way line of said Panther Creek Parkway, the following courses and distances:

South 89°58'29" West, a distance of 1,025.05 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found at the beginning of a tangent curve to the left having a central angle of 1°08'54", a radius of 10,060.00 feet, and a chord bearing and distance of South 89°24'02" West, 201.62 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 201.62 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found at the end of said curve;

South 88°49'35" West, a distance of 1,329.26 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found at the beginning of a tangent curve to the right having a central angle of 00°23'57", a radius of 9,940.00 feet, and a chord bearing and distance of South 89°01'34" West, 69.27 feet;

In a southwesterly direction, with said curve to the right, an arc distance of 69.27 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found at the end of said curve;

North 86°33'35" West, a distance of 146.68 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found for corner;

South 89°37'34" West, a distance of 140.49 feet to a 5/8 inch iron rod with a red plastic cap, stamped "KHA", found for corner;

North 45°22'39" West, a distance of 24.04 feet to a 1/2 inch iron rod found for corner;

South 89°37'34" West, a distance of 30.00 feet to the **POINT OF BEGINNING** and containing 155.992 acres or 6,795,006 square feet of land, more or less.

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

COUNTY OF COLLIN

§ KNOW ALL PERSONS BY THESE PRESENTS:

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS EAST VILLAGE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Jiane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "Property").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Collin County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN,

[Signature Pages Follow]

Executed effective as of the 12th day of July, 2021.

200 000 000

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>4</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

100 100 100

FIELDS EAST VILLAGE INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>7</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS EAST VILLAGE INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

FRANCES HARPER ID # 1197444-7 Notory Public, State of Texas My Commission Expires 07/15/2024

Nótary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Collin County School Land Survey, Abstract No. 148, and the William Rogers Survey, Abstract No. 780, City of Frisco, Collin County, Texas and being a portion of a called 545.090-acre tract of land described as Tract 2 in a deed to FHQ Holdings LP, recorded in Instrument No. 20180807000990770, Official Public Records of Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2-inch iron rod found for the southeast corner of said Tract 2, common to the northwest corner of a called 80.006-acre tract of land described in a deed to Belknap FP, LTD., recorded in Volume 4288, Page 162, Deed Records, Collin County, Texas, same being on the westerly line of a 100-foot wide right-of-way to the Burlington Northern Santa Fe Railroad Company, recorded in Volume 128, Page 319, said Deed Records, same also being in a gravel road, known as Panther Creek Parkway (public use right-of-way, no record found);

THENCE South 89°37'33" West, along the common line of said Tract 2 and said 80.006-acre tract and along the northerly line of a called 137.311-acre tract of land described in a deed to Belknap FP, LTD., recorded in Volume 4288, Page 152, said Deed Records, and generally along said Panther Creek Parkway, a distance of 2393.12 feet to a point for corner;

THENCE departing the southerly line of said Tract 2 and the northerly line of said 137.311-acre tract and said Panther Creek Parkway and crossing said Tract 2 the following courses and distances:

North 9°25'44" West, a distance of 2089.36 feet to a point for corner;

North 51°58'34" East, a distance of 283.93 feet to a point at the beginning of a tangent curve to the right having a central angle of 15°57'13", a radius of 1000.15 feet, a chord bearing and distance of North 59°57'11" East, 277.59 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 278.49 feet to a point for the end of said curve to the right;

North 67°55'48" East, a distance of 743.47 feet to a point at the beginning of a tangent curve to the left having a central angle of 40°21'11", a radius of 1200.18 feet, a chord bearing and distance of North 47°45'12" East, 827.92 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 845.28 feet to a point for the end of said curve to the left;

North 27°34'37" East, a distance of 557.47 feet to a point for corner;

South 62°25'23" East, a distance of 225.00 feet to a point for corner;

South 44°47'21" East, a distance of 420.86 feet to a point for corner;

South 11°37'14" East, a distance of 677.63 feet to a point for corner;

South 42°55'11" East, a distance of 637.50 feet to a point for corner;

South 78°40'51" East, a distance of 75.00 feet to a point for corner on the common line of said Tract 2 and the aforementioned Burlington tract;

THENCE South 11°19'09" West, a distance of 2183.83 feet to the **POINT OF BEGINNING** and containing 182.31 acres (7,941,435 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$\$0.00 CARLA 20210713001409860

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

COUNTY OF COLLIN

§ KNOW ALL PERSONS BY THESE PRESENTS:

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS MIDTOWN EAST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "Property").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Collin County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN,

[Signature Pages Follow]

Executed effective as of the 12+h day of July, 2021.

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GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July $\frac{4}{2}$, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

Signature Page

GRANTEE:

FIELDS MIDTOWN EAST INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By: Name: Todd M. Watson

Title: Vice President

STATE OF TEXAS

1001 1001 1001

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>?</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS MIDTOWN EAST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

FRANCES HARPER 10 # 1187444-7 Notary Public, State of Texas. My Committeion Expires 07/15/2024

By Cho

Notary Public, State of Texas

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Charles L. Smith Survey, Abstract No. 807, the Collin County School Land Survey, Abstract No. 148, and the William Rogers Survey, Abstract No. 780, City of Frisco, Collin County, Texas and being a portion of a called 545.090-acre tract of land described as Tract 2 in a deed to FHQ Holdings LP, recorded in Instrument No. 20180807000990770, Official Public Records of Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the south corner of a corner clip at the intersection of the northerly right-of-way line of Panther Creek Parkway (variable width right-of-way, Document No. 2008-9801, said Official Records, and Instrument No. 20060131000133560, Official Public Records, Collin County, Texas) and the easterly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas), common to a southwest corner of said Tract 2;

THENCE North 44°36'07" West, along said corner clip, a distance of 56.26 feet to the north corner of said corner clip;

THENCE along the common line of said Tract 2 and said Dallas North Tollway the following courses and distances:

North $0^{\circ}50'08''$ East, a distance of 6.98 feet to a point at the beginning of a tangent curve to the right having a central angle of $52^{\circ}44'23''$, a radius of 2714.79 feet, a chord bearing and distance of North $27^{\circ}12'20''$ East, 2411.62 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 2498.91 feet to a point for the end of said curve to the right;

North 53°34'31" East, a distance of 2189.63 feet to a point for corner;

THENCE South 9°25'44" East, departing said common line and crossing said Tract 2, a distance of 3631.57 feet to a point for corner on the southerly line of said Tract 2, same being on the northerly line of a called 137.311-acre tract of land described in a deed to Belknap FP, LTD., recorded in Volume 4288, Page 152, said Deed Records, same also being in a gravel road, known as Panther Creek Parkway (public use right-of-way, no record found);

THENCE South 89°37'33" West, along the common line of said Tract 2 and said 137.311-acre tract and along said Panther Creek Parkway (no record found), a distance of 1859.67 feet to the northwest corner of said 137.311-acre tract, same being on the easterly line of Estates at Cobb Hill, Phase 2, an Addition to the City of Frisco, Texas, according to the plat thereof recorded in Volume 2006, Page 465, Plat Records, Collin County, Texas;

THENCE North 0°14'24" West, along the common line of said Tract 2 and said Estates at Cobb Hill, Phase 2, and along Panther Creek Parkway (Volume 2006, Page 465, said Plat Records), a distance of 23.35 feet to a 1/2-inch iron rod with plastic cap stamped "JBI" found for the northeast corner of said Estates at Cobb Hill, Phase 2;

THENCE South 89°58'29" West, continuing along said common line and the northerly right-ofway line of said Panther Creek Parkway (Volume 2006, Page 465, said Plat Records), a distance of 478.70 feet to a point for corner;

THENCE departing said common line and along the common line of said Tract 2 and the aforementioned Panther Creek Parkway (Document No. 2008-9801, said Official Records), the following courses and distances:

North 0°03'16" West, a distance of 60.00 feet to a point for corner;

South 89°58'29" West, a distance of 628.00 feet to a point for corner;

North 86°15'11" West, a distance of 304.01 feet to a point for corner;

South 89°58'29" West, a distance of 150.10 feet to the **POINT OF BEGINNING** and containing 182.38 acres (7,944,479 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$50.00 CARLA 20210713001409870

20210713001409880 07/13/2021 03:44:15 PM D1 1/9

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

$\mathring{\$}$ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>") for the benefit of **FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantee</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the 12^{H} day of July, 2021.

100 100 100

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Tódd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>1</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

100 100 100

FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>?</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

FRANCES HARPER Notary Public, State of Texas My Commission Explais 07/15/2024

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Notary Public, State of Texas

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Charles L. Smith Survey, Abstract No. 1185, the William E. Bates Survey, Abstract No. 90, the Clayton Rogers Survey, Abstract No. 1133, (all in Denton County), the Charles L. Smith Survey, Abstract No. 807, and the Collin County School Land Survey, Abstract No. 148 (both in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas and Instrument No. 20180807000990770, Official Public Records, Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a southeast corner of said Tract 3, common to the north corner of a corner clip at the intersection of the westerly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas) and the northerly right-of-way line of Panther Creek Parkway (variable width right-of-way);

THENCE South 45°09'45" West, along said corner clip, a distance of 57.76 feet to the south corner of said corner clip;

THENCE along the common line of said Tract 3 and said Panther Creek Parkway the following courses and distances:

South 89°30'18" West, a distance of 156.10 feet to a point for corner;

South 85°46'42" West, a distance of 307.70 feet to a point for corner;

South 89°30'18" West, a distance of 1150.26 feet to a point for corner;

North 86°50'00" West, a distance of 156.59 feet to a point for corner;

South 89°30'18" West, a distance of 159.27 feet to a point for corner;

North 45°18'40" West, a distance of 56.39 feet to a point for corner;

South 89°42'37" West, a distance of 0.03 feet to a point for corner;

THENCE departing said common line and crossing said Tract 3 the following courses and distances:

North 0°06'24" West, a distance of 160.00 feet to a point for corner;

North 3°59'49" West, a distance of 150.32 feet to a point for corner;

North 0°08'36" West, a distance of 336.81 feet to a point at the beginning of a tangent curve to the right having a central angle of 5°11'07", a radius of 2440.01 feet, a chord bearing and distance of North 2°26'54" East, 220.75 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 220.82 feet to a point for the end of said curve to the right;

North 90°00'00" East, a distance of 545.43 feet to a point for corner;

South 60°09'08" East, a distance of 486.72 feet to a point at the beginning of a tangent curve to the left having a central angle of 15°30'47", a radius of 468.17 feet, a chord bearing and distance of South 67°54'31" East, 126.37 feet;

In a southeasterly direction, with said curve to the left, an arc distance of 126.76 feet to a point at the beginning of a compound curve to the left having a central angle of 18°18'49", a radius of 347.97 feet, a chord bearing and distance of South 84°49'19" East, 110.75 feet;

In a southeasterly direction, with said curve to the left, an arc distance of 111.22 feet to a point at the beginning of a compound curve to the left having a central angle of 24°27'08", a radius of 259.82 feet, a chord bearing and distance of North 73°47'43" East, 110.04 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 110.88 feet to a point at the beginning of a compound curve to the left having a central angle of 63°26'33", a radius of 171.98 feet, a chord bearing and distance of North 29°50'52" East, 180.85 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 190.43 feet to a point at the beginning of a compound curve to the left having a central angle of 24°27'08", a radius of 259.82 feet, a chord bearing and distance of North 14°05'59" West, 110.04 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 110.88 feet to a point at the beginning of a compound curve to the left having a central angle of 18°18'49", a radius of 347.97 feet, a chord bearing and distance of North 35°28'57" West, 110.75 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 111.22 feet to a point at the beginning of a compound curve to the left having a central angle of 15°30'47", a radius of 468.17 feet, a chord bearing and distance of North 52°23'45" West, 126.37 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 126.76 feet to a point for the end of said curve to the left;

North 60°09'08" West, a distance of 543.67 feet to a point for corner;

North 89°12'11" West, a distance of 647.61 feet to a point at the beginning of a nontangent curve to the right having a central angle of 24°01'15", a radius of 2440.00 feet, a chord bearing and distance of North 27°36'08" East, 1015.48 feet; In a northeasterly direction, with said curve to the right, an arc distance of 1022.95 feet to a point for the end of said curve to the right;

North 39°36'46" East, a distance of 550.12 feet to a point at the beginning of a nontangent curve to the left having a central angle of 35°55'47", a radius of 1258.02 feet, a chord bearing and distance of North 20°52'17" East, 776.03 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 788.89 feet to a point for the end of said curve to the left;

North 0°06'28" East, a distance of 162.70 feet to a point for corner;

North 45°11'50" East, a distance of 56.52 feet to a point at the beginning of a non-tangent curve to the right having a central angle of 2°10'52", a radius of 2845.00 feet, a chord bearing and distance of South 88°14'35" East, 108.29 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 108.30 feet to a point for the end of said curve to the right;

South 89°32'04" East, a distance of 148.19 feet to a point at the beginning of a nontangent curve to the right having a central angle of 18°01'28", a radius of 2855.00 feet, a chord bearing and distance of South 75°10'04" East, 894.44 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 898.14 feet to a point for the end of said curve to the right;

South 66°09'20" East, a distance of 102.75 feet to a point at the beginning of a tangent curve to the right having a central angle of 20°22'42", a radius of 1955.00 feet, a chord bearing and distance of South 55°57'59" East, 691.68 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 695.34 feet to a point for the end of said curve to the right;

South 38°38'32" East, a distance of 219.61 feet to a point at the beginning of a nontangent curve to the right having a central angle of 2°54'12", a radius of 1940.00 feet, a chord bearing and distance of South 37°52'35" East, 98.29 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 98.30 feet to a point for the end of said curve to the left;

South 36°25'29" East, a distance of 161.74 feet to a point for corner;

South 8°34'31" West, a distance of 56.57 feet to a point for corner on easterly line of said Tract 3, same being on the westerly right-of-way line of the aforementioned Dallas North Tollway;

THENCE along the common line of said Tract 3 and said Dallas North Tollway the following courses and distances:

South 53°34'31" West, a distance of 68.60 feet to a point at the beginning of a tangent curve to the left having a central angle of 52°44'23", a radius of 3014.79 feet, a chord bearing and distance of South 27°12'20" West, 2678.12 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 2775.06 feet to a point for the end of said curve to the left;

South 0°50'08" West, a distance of 12.41 feet to the **POINT OF BEGINNING** and containing 155.33 acres (6,766,205 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM S58.00 CARLA 20210713001409880

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Denton County Juli Luke County Clerk

Instrument Number: 125160

ERecordings-RP

WARRANTY DEED

Recorded On: July 12, 2021 03:51 PM

Number of Pages: 9

" Examined and Charged as Follows: "

Total Recording: \$58.00

*********** THIS PAGE IS PART OF THE INSTRUMENT ***********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	125160
Receipt Number:	20210712000801
Recorded Date/Time:	July 12, 2021 03:51 PM
User:	Debra B
Station:	Station 42

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

§ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>") for the benefit of **FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantee</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the 12^{H} day of July, 2021.

100 100 100

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Tódd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>1</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

100 100 100

FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>?</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS MIDTOWN WEST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

FRANCES HARPER Notary Public, State of Texas My Commission Explais 07/15/2024

ana and

Notary Public, State of Texas

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Charles L. Smith Survey, Abstract No. 1185, the William E. Bates Survey, Abstract No. 90, the Clayton Rogers Survey, Abstract No. 1133, (all in Denton County), the Charles L. Smith Survey, Abstract No. 807, and the Collin County School Land Survey, Abstract No. 148 (both in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas and Instrument No. 20180807000990770, Official Public Records, Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a southeast corner of said Tract 3, common to the north corner of a corner clip at the intersection of the westerly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas) and the northerly right-of-way line of Panther Creek Parkway (variable width right-of-way);

THENCE South 45°09'45" West, along said corner clip, a distance of 57.76 feet to the south corner of said corner clip;

THENCE along the common line of said Tract 3 and said Panther Creek Parkway the following courses and distances:

South 89°30'18" West, a distance of 156.10 feet to a point for corner;

South 85°46'42" West, a distance of 307.70 feet to a point for corner;

South 89°30'18" West, a distance of 1150.26 feet to a point for corner;

North 86°50'00" West, a distance of 156.59 feet to a point for corner;

South 89°30'18" West, a distance of 159.27 feet to a point for corner;

North 45°18'40" West, a distance of 56.39 feet to a point for corner;

South 89°42'37" West, a distance of 0.03 feet to a point for corner;

THENCE departing said common line and crossing said Tract 3 the following courses and distances:

North 0°06'24" West, a distance of 160.00 feet to a point for corner;

North 3°59'49" West, a distance of 150.32 feet to a point for corner;

North 0°08'36" West, a distance of 336.81 feet to a point at the beginning of a tangent curve to the right having a central angle of 5°11'07", a radius of 2440.01 feet, a chord bearing and distance of North 2°26'54" East, 220.75 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 220.82 feet to a point for the end of said curve to the right;

North 90°00'00" East, a distance of 545.43 feet to a point for corner;

South 60°09'08" East, a distance of 486.72 feet to a point at the beginning of a tangent curve to the left having a central angle of 15°30'47", a radius of 468.17 feet, a chord bearing and distance of South 67°54'31" East, 126.37 feet;

In a southeasterly direction, with said curve to the left, an arc distance of 126.76 feet to a point at the beginning of a compound curve to the left having a central angle of 18°18'49", a radius of 347.97 feet, a chord bearing and distance of South 84°49'19" East, 110.75 feet;

In a southeasterly direction, with said curve to the left, an arc distance of 111.22 feet to a point at the beginning of a compound curve to the left having a central angle of 24°27'08", a radius of 259.82 feet, a chord bearing and distance of North 73°47'43" East, 110.04 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 110.88 feet to a point at the beginning of a compound curve to the left having a central angle of 63°26'33", a radius of 171.98 feet, a chord bearing and distance of North 29°50'52" East, 180.85 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 190.43 feet to a point at the beginning of a compound curve to the left having a central angle of 24°27'08", a radius of 259.82 feet, a chord bearing and distance of North 14°05'59" West, 110.04 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 110.88 feet to a point at the beginning of a compound curve to the left having a central angle of 18°18'49", a radius of 347.97 feet, a chord bearing and distance of North 35°28'57" West, 110.75 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 111.22 feet to a point at the beginning of a compound curve to the left having a central angle of 15°30'47", a radius of 468.17 feet, a chord bearing and distance of North 52°23'45" West, 126.37 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 126.76 feet to a point for the end of said curve to the left;

North 60°09'08" West, a distance of 543.67 feet to a point for corner;

North 89°12'11" West, a distance of 647.61 feet to a point at the beginning of a nontangent curve to the right having a central angle of 24°01'15", a radius of 2440.00 feet, a chord bearing and distance of North 27°36'08" East, 1015.48 feet; In a northeasterly direction, with said curve to the right, an arc distance of 1022.95 feet to a point for the end of said curve to the right;

North 39°36'46" East, a distance of 550.12 feet to a point at the beginning of a nontangent curve to the left having a central angle of 35°55'47", a radius of 1258.02 feet, a chord bearing and distance of North 20°52'17" East, 776.03 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 788.89 feet to a point for the end of said curve to the left;

North 0°06'28" East, a distance of 162.70 feet to a point for corner;

North 45°11'50" East, a distance of 56.52 feet to a point at the beginning of a non-tangent curve to the right having a central angle of 2°10'52", a radius of 2845.00 feet, a chord bearing and distance of South 88°14'35" East, 108.29 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 108.30 feet to a point for the end of said curve to the right;

South 89°32'04" East, a distance of 148.19 feet to a point at the beginning of a nontangent curve to the right having a central angle of 18°01'28", a radius of 2855.00 feet, a chord bearing and distance of South 75°10'04" East, 894.44 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 898.14 feet to a point for the end of said curve to the right;

South 66°09'20" East, a distance of 102.75 feet to a point at the beginning of a tangent curve to the right having a central angle of 20°22'42", a radius of 1955.00 feet, a chord bearing and distance of South 55°57'59" East, 691.68 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 695.34 feet to a point for the end of said curve to the right;

South 38°38'32" East, a distance of 219.61 feet to a point at the beginning of a nontangent curve to the right having a central angle of 2°54'12", a radius of 1940.00 feet, a chord bearing and distance of South 37°52'35" East, 98.29 feet;

In a southeasterly direction, with said curve to the right, an arc distance of 98.30 feet to a point for the end of said curve to the left;

South 36°25'29" East, a distance of 161.74 feet to a point for corner;

South 8°34'31" West, a distance of 56.57 feet to a point for corner on easterly line of said Tract 3, same being on the westerly right-of-way line of the aforementioned Dallas North Tollway;

THENCE along the common line of said Tract 3 and said Dallas North Tollway the following courses and distances:

South 53°34'31" West, a distance of 68.60 feet to a point at the beginning of a tangent curve to the left having a central angle of 52°44'23", a radius of 3014.79 feet, a chord bearing and distance of South 27°12'20" West, 2678.12 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 2775.06 feet to a point for the end of said curve to the left;

South 0°50'08" West, a distance of 12.41 feet to the **POINT OF BEGINNING** and containing 155.33 acres (6,766,205 sq. ft.) of land, more or less.

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

COUNTY OF COLLIN

§ KNOW ALL PERSONS BY THESE PRESENTS:

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS POINT EAST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "Property").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Collin County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN,

[Signature Pages Follow]
Executed effective as of the 12^{H} day of July, 2021.

100 100 100

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

Bv:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>9</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

FIELDS POINT EAST INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

100 100 100

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>7</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS POINT EAST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



3.8.03

Notary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Collin County School Land Survey, Abstract No. 148, City of Frisco, Collin County, Texas and being a portion of a called 545.090-acre tract of land described as Tract 2 in a deed to FHQ Holdings LP, recorded in Instrument No. 20180807000990770, Official Public Records of Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at the northwest corner of said Tract 2, common to the southwest corner of a called 5.698-acre tract of land described in a deed to Texas Public Realty, LTD., recorded in Instrument No. 20161027001461850, Official Public Records, Collin County, Texas, same being on the easterly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas);

THENCE North 89°14'40" East, departing the easterly right-of-way line of said Dallas North Tollway and along the common line of said Tract 2 and said 5.698-acre tract, a distance of 1885.90 feet to a 1/2-inch iron rod with plastic cap stamped "HALFF ESMT" found for the northeast corner of said Tract 2, common to the southeast corner of said 5.698-acre tract, same being on the westerly line of a 100-foot wide right-of-way to the Burlington Northern Santa Fc Railroad Company, recorded in Volume 128, Page 319, Deed Records, Collin County, Texas;

THENCE South 11°19'09" West, along the common line of said Tract 2 and said Burlington tract, a distance of 3326.14 feet to a point for corner;

THENCE departing said common line and crossing said Tract 2 the following courses and distances:

North 78°40'51" West, a distance of 75.00 feet to a point for corner;

North 42°55'11" West, a distance of 637.50 feet to a point for corner;

North 11°37'14" West, a distance of 677.63 feet to a point for corner;

North 44°47'21" West, a distance of 420.86 feet to a point for corner;

North 62°25'23" West, a distance of 225.00 feet to a point for corner;

South 27°34'37" West, a distance of 557.47 feet to a point at the beginning of a tangent curve to the right having a central angle of 40°21'11", a radius of 1200.18 feet, a chord bearing and distance of South 47°45'12" West, 827.92 feet;

In a southwesterly direction, with said curve to the right, an arc distance of 845.28 feet to a point for the end of said curve to the right;

South 67°55'48" West, a distance of 743.47 feet to a point at the beginning of a tangent curve to the left having a central angle of 15°57'13", a radius of 1000.15 feet, a chord bearing and distance of South 59°57'11" West, 277.59 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 278.49 feet to a point for the end of said curve to the left;

South 51°58'34" West, a distance of 283.93 feet to a point for corner;

North 9°25'44" West, a distance of 1542.22 feet to a point for corner on the westerly line

of said Tract 2, same being on the easterly right-of-way line of the aforementioned Dallas North Tollway;

THENCE North 53°34'31" East, along the common line of said Tract 2 and said Dallas North Tollway, a distance of 1796.04 feet to a 1/2-inch iron rod with plastic cap stamped "HALFF ESMT" found at the beginning of a tangent curve to the left having a central angle of 17°37'08", a radius of 3424.07 feet, a chord bearing and distance of North 44°45'57" East, 1048.78 feet;

THENCE in a northeasterly direction, continuing along said common line and with said curve to the left, an arc distance of 1052.93 feet to the **POINT OF BEGINNING** and containing 180.40 acres (7,858,224 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$50.00 CARLA 20210713001409890

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

$\mathring{\$}$ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS POINT WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the $12^{1/2}$ day of July, 2021.

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GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>4</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



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Notary Public, State of Texas

GRANTEE:

FIELDS POINT WEST INVESTMENT PARTNERS LP, a Delaware limited partnership

FHQ Holdings GP LLC, By: a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

8 ş §

COUNTY OF DALLAS

This instrument was acknowledged before me on July _7_, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS POINT WEST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Charles L. Smith Survey, Abstract No. 1185, Denton County, the John. R Hague Survey, Abstract No. 406, the Charles L. Smith Survey, Abstract No. 807, and the Collin County School Land Survey, Abstract No. 148 (all in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas and Instrument No. 20180807000990770, Official Public Records, Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a Metal Fence Corner Post found for the southernmost southeast corner of a called 53.7808-acre tract of land described in a deed to Lynn Family Holdings, LTD, recorded in Instrument No. 20120706000819250, Official Public Records, Collin County, Texas, common to an angle point in the easterly line of said Tract 3;

THENCE North 89°06'57" East, along the common line of said Tract 3 and said Lynn tract, a distance of 931.19 feet to a 1/2-inch iron rod found for the southeast corner of said Lynn tract, common to the southwest corner of a called 67.003-acre tract described as Tract One in a deed to Triad Frisco Partners, LLC, recorded in Instrument No. 20150317000290830, said Official Public Records;

THENCE North 89°15'36" East, along the common line of said Tract 3 and said Triad tract, a distance of 1055.56 feet to the southeast corner of said Triad tract, common to the easternmost corner of said Tract 3, same being on the westerly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas), same also being the beginning of a non-tangent curve to the right having a central angle of 13°23'49", a radius of 3124.05 feet, a chord bearing and distance of South 46°52'37" West, 728.81 feet;

THENCE in a southwesterly direction, along the common line of said Tract 3 and said Dallas North Tollway and with said curve to the right, an arc distance of 730.47 feet to a point for the end of said curve to the right;

THENCE South 53°34'31" West, continuing along said common line, a distance of 3717.07 feet to a point for corner;

THENCE departing said common line and crossing said Tract 3 the following courses and distances:

North 81°25'29" West, a distance of 56.57 feet to a point for corner;

North 36°25'29" West, a distance of 161.74 feet to a point at the beginning of a tangent curve to the left having a central angle of 2°54'12", a radius of 2060.00 feet, a chord bearing and distance of North 37°52'35" West, 104.37 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 104.38 feet to a point for the end of said curve to the left;

North 46°15'48" West, a distance of 231.39 feet to a point at the beginning of a nontangent curve to the left having a central angle of 20°22'42", a radius of 2045.00 feet, a chord bearing and distance of North 55°57'59" West, 723.52 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 727.35 feet to a point for the end of said curve to the left;

North 66°09'20" West, a distance of 102.75 feet to a point at the beginning of a tangent curve to the left having a central angle of 18°01'28", a radius of 2945.00 feet, a chord bearing and distance of North 75°10'04" West, 922.64 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 926.45 feet to a point at the beginning of a non-tangent curve to the left having a central angle of 4°52'59", a radius of 1800.00 feet, a chord bearing and distance of North 81°55'44" West, 153.36 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 153.41 feet to a point at the beginning of a non-tangent curve to the left having a central angle of 2°12'08", a radius of 2955.00 feet, a chord bearing and distance of North 88°15'13" West, 113.58 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 113.58 feet to a point for the end of said curve to the left;

North 44°48'23" West, a distance of 56.66 feet to a point for corner;

North 0°05'47" East, a distance of 287.82 feet to a point at the beginning of a non-tangent curve to the right having a central angle of 40°15'02", a radius of 1040.00 feet, a chord bearing and distance of North 28°10'25" East, 715.67 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 730.60 feet to a point for the end of said curve to the right;

North 48°17'56" East, a distance of 449.48 feet to a point at the beginning of a tangent curve to the left having a central angle of 28°43'28", a radius of 1160.00 feet, a chord bearing and distance of North 33°56'12" East, 575.48 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 581.55 feet to a point for the end of said curve to the left;

North 19°34'28" East, a distance of 232.30 feet to a point for corner on the common line of said Tract 3 and a called 179.5349-acre tract of land described as Tract 2 in a deed to Rockhill Legacy I, LP, recorded in Document No. 218-144671, said Official Records;

THENCE South 89°55'05" East, along said common line, passing at a distance of 2668.60 feet a 3/4-inch iron rod found for the southeast corner of said Tract 2, common to the westernmost southwest corner of the aforementioned Lynn tract, and continuing along the same course and along the westerly line of said Lynn tract for total distance of 2736.81 feet to a point for corner;

THENCE South 0°03'54" East, along the common line of said Tract 3 and said Lynn tract, a distance of 361.66 feet to the **POINT OF BEGINNING** and containing 224.19 acres (9,765,791 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$54.00 CARLA 20210713001409900

Statution

Denton County Juli Luke County Clerk

Instrument Number: 125161

ERecordings-RP

WARRANTY DEED

Recorded On: July 12, 2021 03:51 PM

Number of Pages: 8

" Examined and Charged as Follows: "

Total Recording: \$54.00

******* THIS PAGE IS PART OF THE INSTRUMENT **********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	125161
Receipt Number:	20210712000801
Recorded Date/Time:	July 12, 2021 03:51 PM
User:	Debra B
Station:	Station 42

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

§ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS POINT WEST INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the $12^{1/2}$ day of July, 2021.

00 000 000

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>4</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



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Notary Public, State of Texas

GRANTEE:

FIELDS POINT WEST INVESTMENT PARTNERS LP, a Delaware limited partnership

FHQ Holdings GP LLC, By: a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

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COUNTY OF DALLAS

This instrument was acknowledged before me on July _7_, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS POINT WEST INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Charles L. Smith Survey, Abstract No. 1185, Denton County, the John. R Hague Survey, Abstract No. 406, the Charles L. Smith Survey, Abstract No. 807, and the Collin County School Land Survey, Abstract No. 148 (all in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas and Instrument No. 20180807000990770, Official Public Records, Collin County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a Metal Fence Corner Post found for the southernmost southeast corner of a called 53.7808-acre tract of land described in a deed to Lynn Family Holdings, LTD, recorded in Instrument No. 20120706000819250, Official Public Records, Collin County, Texas, common to an angle point in the easterly line of said Tract 3;

THENCE North 89°06'57" East, along the common line of said Tract 3 and said Lynn tract, a distance of 931.19 feet to a 1/2-inch iron rod found for the southeast corner of said Lynn tract, common to the southwest corner of a called 67.003-acre tract described as Tract One in a deed to Triad Frisco Partners, LLC, recorded in Instrument No. 20150317000290830, said Official Public Records;

THENCE North 89°15'36" East, along the common line of said Tract 3 and said Triad tract, a distance of 1055.56 feet to the southeast corner of said Triad tract, common to the easternmost corner of said Tract 3, same being on the westerly right-of-way line of Dallas North Tollway (300-foot wide right-of-way, County Clerk's File No. 95-0069693, Deed Records, Collin County, Texas), same also being the beginning of a non-tangent curve to the right having a central angle of 13°23'49", a radius of 3124.05 feet, a chord bearing and distance of South 46°52'37" West, 728.81 feet;

THENCE in a southwesterly direction, along the common line of said Tract 3 and said Dallas North Tollway and with said curve to the right, an arc distance of 730.47 feet to a point for the end of said curve to the right;

THENCE South 53°34'31" West, continuing along said common line, a distance of 3717.07 feet to a point for corner;

THENCE departing said common line and crossing said Tract 3 the following courses and distances:

North 81°25'29" West, a distance of 56.57 feet to a point for corner;

North 36°25'29" West, a distance of 161.74 feet to a point at the beginning of a tangent curve to the left having a central angle of 2°54'12", a radius of 2060.00 feet, a chord bearing and distance of North 37°52'35" West, 104.37 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 104.38 feet to a point for the end of said curve to the left;

North 46°15'48" West, a distance of 231.39 feet to a point at the beginning of a nontangent curve to the left having a central angle of 20°22'42", a radius of 2045.00 feet, a chord bearing and distance of North 55°57'59" West, 723.52 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 727.35 feet to a point for the end of said curve to the left;

North 66°09'20" West, a distance of 102.75 feet to a point at the beginning of a tangent curve to the left having a central angle of 18°01'28", a radius of 2945.00 feet, a chord bearing and distance of North 75°10'04" West, 922.64 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 926.45 feet to a point at the beginning of a non-tangent curve to the left having a central angle of 4°52'59", a radius of 1800.00 feet, a chord bearing and distance of North 81°55'44" West, 153.36 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 153.41 feet to a point at the beginning of a non-tangent curve to the left having a central angle of 2°12'08", a radius of 2955.00 feet, a chord bearing and distance of North 88°15'13" West, 113.58 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 113.58 feet to a point for the end of said curve to the left;

North 44°48'23" West, a distance of 56.66 feet to a point for corner;

North 0°05'47" East, a distance of 287.82 feet to a point at the beginning of a non-tangent curve to the right having a central angle of 40°15'02", a radius of 1040.00 feet, a chord bearing and distance of North 28°10'25" East, 715.67 feet;

In a northeasterly direction, with said curve to the right, an arc distance of 730.60 feet to a point for the end of said curve to the right;

North 48°17'56" East, a distance of 449.48 feet to a point at the beginning of a tangent curve to the left having a central angle of 28°43'28", a radius of 1160.00 feet, a chord bearing and distance of North 33°56'12" East, 575.48 feet;

In a northeasterly direction, with said curve to the left, an arc distance of 581.55 feet to a point for the end of said curve to the left;

North 19°34'28" East, a distance of 232.30 feet to a point for corner on the common line of said Tract 3 and a called 179.5349-acre tract of land described as Tract 2 in a deed to Rockhill Legacy I, LP, recorded in Document No. 218-144671, said Official Records;

THENCE South 89°55'05" East, along said common line, passing at a distance of 2668.60 feet a 3/4-inch iron rod found for the southeast corner of said Tract 2, common to the westernmost southwest corner of the aforementioned Lynn tract, and continuing along the same course and along the westerly line of said Lynn tract for total distance of 2736.81 feet to a point for corner;

THENCE South 0°03'54" East, along the common line of said Tract 3 and said Lynn tract, a distance of 361.66 feet to the **POINT OF BEGINNING** and containing 224.19 acres (9,765,791 sq. ft.) of land, more or less.

20210713001409910 07/13/2021 03:44:15 PM D1 1/8

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

$\mathring{\$}$ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS PRESERVE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the $(2, \frac{1}{2})$ day of July, 2021.

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson* Title: Vice President

STATE OF TEXAS

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COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>9</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



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Notary Public, State of Texas

GRANTEE:

FIELDS PRESERVE INVESTMENT PARTNERS LP, a Delaware limited partnership

FHQ Holdings GP LLC, By: a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July 7, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS PRESERVE INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

§ ş 8

FRANCES HARPER Notary Public, State of Texes My Commission Expires 07/15/2024

Mancer Harper Notary Public, State of Texas

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the John R. Hague Survey, Abstract No. 1714, the Charles L. Smith Survey, Abstract No. 1185, the William E. Bates Survey, Abstract No. 90, the Memphis, El Paso, and Pacific Railroad Company Survey, Abstract No. 941, the Rueben H. Bates Survey, Abstract No. 68, the John T. Landrum Survey, Abstract No. 764, (all in Denton County), the John. R Hague Survey, Abstract No. 406, and the Charles L. Smith Survey, Abstract No. 807, (both in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a northwest corner of a called 2.1799-acre tract of land described in a deed to Rockhill Legacy I, LP, recorded in Document No. 2018-144671, said Official Records, common to an angle point in the southerly line of a Lot 1, Block A, PGA Frisco Addition, an Addition to the City of Frisco, Texas, according to the plat thereof recorded in Document No. 2020-111, said Official Records, same being an easterly line of said Tract 3;

THENCE South 0°34'51" West, departing the southerly line of said Lot 1 and along the common line of said Tract 3 and said 2.1799-acre tract, a distance of 204.39 feet to a Wood Fence Corner Post found for the southwest corner of said 2.1799-acre tract;

THENCE South 89°55'05" East, continuing along said common line, passing at a distance of 554.74 feet the southeast corner of said 2.1799-acre tract and continuing along the same course and along the southerly line of said Lot 1, for a total distance of 981.47 feet to the easternmost southeast corner of said Lot 1, common to the southwest terminus of Legacy Drive (60-foot wide right-of-way, Document No. 2020-111, said Official Records);

THENCE departing the easterly line of said Tract 3 and crossing said Tract 3 the following courses and distances:

South 19°34'28" West, a distance of 189.82 feet to a point at the beginning of a tangent curve to the right having a central angle of 28°43'28", a radius of 1040.00 feet, a chord bearing and distance of South 33°56'12" West, 515.95 feet;

In a southwesterly direction, with said curve to the right, an arc distance of 521.39 feet to a point for the end of said curve to the right;

South 48°17'56" West, a distance of 449.48 feet to a point at the beginning of a tangent curve to the left having a central angle of 38°56'28", a radius of 1160.00 feet, a chord bearing and distance of South 28°49'42" West, 773.31 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 788.39 feet to a point at the beginning of a non-tangent curve to the left having a central angle of

13°53'29", a radius of 700.00 feet, a chord bearing and distance of South 8°34'32" West, 169.30 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 169.72 feet to a point for the end of said curve to the left;

South 0°09'07" West, a distance of 163.18 feet to a point for corner;

South 45°05'47" West, a distance of 56.57 feet to a point for corner;

North 89°54'13" West, a distance of 110.00 feet to a point for corner;

South 85°58'03" West, a distance of 176.95 feet to a point at the beginning of a nontangent curve to the left having a central angle of 10°23'03", a radius of 1545.00 feet, a chord bearing and distance of South 81°29'29" West, 279.63 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 280.01 feet to a point for the end of said curve to the left;

South 76°17'58" West, a distance of 408.15 feet to the beginning of a tangent curve to the right having a central angle of 30°44'50", a radius of 1955.00 feet, a chord bearing and distance of North 88°19'37" West, 1036.59 feet;

In a northwesterly direction, with said curve to the right, an arc distance of 1049.14 feet to a point for the end of said curve to the right;

North 72°57'12" West, a distance of 128.59 feet to a point at the beginning of a tangent curve to the left having a central angle of 35°36'33", a radius of 3045.00 feet, a chord bearing and distance of South 89°14'32" West, 1862.14 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 1892.45 feet to a point for the end of said curve to the left;

South 71°26'15" West, a distance of 424.33 feet to a point for corner on the southerly line of the aforementioned Lot 1;

THENCE along the southerly line of said Lot 1 the following courses and distances:

North 7°40'16" West, a distance of 258.65 feet to a point for corner;

North 18°52'09" West, a distance of 685.19 feet to a point for corner;

North 53°47'04" West, a distance of 254.77 feet to a point for corner;

North 12°40'43" East, a distance of 281.40 feet to a point for corner;

North 54°08'40" East, a distance of 260.69 feet to a point for corner;

North 14°13'21" East, a distance of 207.82 feet to a point for corner;

North 24°54′29" East, a distance of 411.17 feet to a point for corner; North 33°27′25" East, a distance of 487.53 feet to a point for corner; North 71°50′41" East, a distance of 335.97 feet to a point for corner; North 51°28′26" East, a distance of 709.70 feet to a point for corner; North 75°33′22" East, a distance of 278.76 feet to a point for corner; North 63°42′18" East, a distance of 702.70 feet to a point for corner; North 81°53′14" East, a distance of 366.29 feet to a point for corner; South 77°40′01" East, a distance of 171.20 feet to a point for corner; South 52°01′26" East, a distance of 181.67 feet to a point for corner; South 36°30′33" East, a distance of 159.88 feet to a point for corner; South 66°10′08" East, a distance of 210.57 feet to a point for corner;

South 34°02'30" West, a distance of 163.32 feet to a point for corner; South 29°56'00" West, a distance of 673.75 feet to a point for corner; South 26°12'44" West, a distance of 376.97 feet to a point for corner; South 18°33'33" West, a distance of 421.88 feet to a point for corner; South 11°07'06" East, a distance of 153.19 feet to a point for corner; South 56°47'02" East, a distance of 212.13 feet to a point for corner; South 89°10'14" East, a distance of 252.64 feet to a point for corner; North 81°56'09" East, a distance of 150.33 feet to a point for corner; North 48°03'39" East, a distance of 473.73 feet to a point for corner; North 48°03'39" East, a distance of 200.65 feet to a point for corner; North 46°37'38" East, a distance of 352.07 feet to a point for corner;

North 80°03'04" East, a distance of 583.34 feet to the **POINT OF BEGINNING** and containing 267.74 acres (11,662,701 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$54.00 CARLA 20210713001409910

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Denton County Juli Luke County Clerk

Instrument Number: 125162

ERecordings-RP

WARRANTY DEED

Recorded On: July 12, 2021 03:51 PM

Number of Pages: 8

" Examined and Charged as Follows: "

Total Recording: \$54.00

*********** THIS PAGE IS PART OF THE INSTRUMENT ***********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	125162
Receipt Number:	20210712000801
Recorded Date/Time:	July 12, 2021 03:51 PM
User:	Debra B
Station:	Station 42

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

8

§ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTIES OF COLLIN AND DENTON§

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS PRESERVE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Granter</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County and Denton County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and

of record, if any, in Collin County and/or Denton County, Texas, affecting the Property, (ii) all other matters which a physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN.

[Signature Pages Follow]

Executed effective as of the $(2, \frac{1}{2})$ day of July, 2021.

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson* Title: Vice President

STATE OF TEXAS

60 60 60

COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>9</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



npon/

Notary Public, State of Texas

GRANTEE:

FIELDS PRESERVE INVESTMENT PARTNERS LP, a Delaware limited partnership

FHQ Holdings GP LLC, By: a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July 7, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS PRESERVE INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.

§ ş 8

FRANCES HARPER Notary Public, State of Texes My Commission Expires 07/15/2024

Mancer Harper Notary Public, State of Texas

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the John R. Hague Survey, Abstract No. 1714, the Charles L. Smith Survey, Abstract No. 1185, the William E. Bates Survey, Abstract No. 90, the Memphis, El Paso, and Pacific Railroad Company Survey, Abstract No. 941, the Rueben H. Bates Survey, Abstract No. 68, the John T. Landrum Survey, Abstract No. 764, (all in Denton County), the John. R Hague Survey, Abstract No. 406, and the Charles L. Smith Survey, Abstract No. 807, (both in Collin County), City of Frisco, Denton and Collin County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a northwest corner of a called 2.1799-acre tract of land described in a deed to Rockhill Legacy I, LP, recorded in Document No. 2018-144671, said Official Records, common to an angle point in the southerly line of a Lot 1, Block A, PGA Frisco Addition, an Addition to the City of Frisco, Texas, according to the plat thereof recorded in Document No. 2020-111, said Official Records, same being an easterly line of said Tract 3;

THENCE South 0°34'51" West, departing the southerly line of said Lot 1 and along the common line of said Tract 3 and said 2.1799-acre tract, a distance of 204.39 feet to a Wood Fence Corner Post found for the southwest corner of said 2.1799-acre tract;

THENCE South 89°55'05" East, continuing along said common line, passing at a distance of 554.74 feet the southeast corner of said 2.1799-acre tract and continuing along the same course and along the southerly line of said Lot 1, for a total distance of 981.47 feet to the easternmost southeast corner of said Lot 1, common to the southwest terminus of Legacy Drive (60-foot wide right-of-way, Document No. 2020-111, said Official Records);

THENCE departing the easterly line of said Tract 3 and crossing said Tract 3 the following courses and distances:

South 19°34'28" West, a distance of 189.82 feet to a point at the beginning of a tangent curve to the right having a central angle of 28°43'28", a radius of 1040.00 feet, a chord bearing and distance of South 33°56'12" West, 515.95 feet;

In a southwesterly direction, with said curve to the right, an arc distance of 521.39 feet to a point for the end of said curve to the right;

South 48°17'56" West, a distance of 449.48 feet to a point at the beginning of a tangent curve to the left having a central angle of 38°56'28", a radius of 1160.00 feet, a chord bearing and distance of South 28°49'42" West, 773.31 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 788.39 feet to a point at the beginning of a non-tangent curve to the left having a central angle of

13°53'29", a radius of 700.00 feet, a chord bearing and distance of South 8°34'32" West, 169.30 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 169.72 feet to a point for the end of said curve to the left;

South 0°09'07" West, a distance of 163.18 feet to a point for corner;

South 45°05'47" West, a distance of 56.57 feet to a point for corner;

North 89°54'13" West, a distance of 110.00 feet to a point for corner;

South 85°58'03" West, a distance of 176.95 feet to a point at the beginning of a nontangent curve to the left having a central angle of 10°23'03", a radius of 1545.00 feet, a chord bearing and distance of South 81°29'29" West, 279.63 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 280.01 feet to a point for the end of said curve to the left;

South 76°17'58" West, a distance of 408.15 feet to the beginning of a tangent curve to the right having a central angle of 30°44'50", a radius of 1955.00 feet, a chord bearing and distance of North 88°19'37" West, 1036.59 feet;

In a northwesterly direction, with said curve to the right, an arc distance of 1049.14 feet to a point for the end of said curve to the right;

North 72°57'12" West, a distance of 128.59 feet to a point at the beginning of a tangent curve to the left having a central angle of 35°36'33", a radius of 3045.00 feet, a chord bearing and distance of South 89°14'32" West, 1862.14 feet;

In a southwesterly direction, with said curve to the left, an arc distance of 1892.45 feet to a point for the end of said curve to the left;

South 71°26'15" West, a distance of 424.33 feet to a point for corner on the southerly line of the aforementioned Lot 1;

THENCE along the southerly line of said Lot 1 the following courses and distances:

North 7°40'16" West, a distance of 258.65 feet to a point for corner;

North 18°52'09" West, a distance of 685.19 feet to a point for corner;

North 53°47'04" West, a distance of 254.77 feet to a point for corner;

North 12°40'43" East, a distance of 281.40 feet to a point for corner;

North 54°08'40" East, a distance of 260.69 feet to a point for corner;

North 14°13'21" East, a distance of 207.82 feet to a point for corner;
North 24°54′29" East, a distance of 411.17 feet to a point for corner; North 33°27′25" East, a distance of 487.53 feet to a point for corner; North 71°50′41" East, a distance of 335.97 feet to a point for corner; North 51°28′26" East, a distance of 709.70 feet to a point for corner; North 75°33′22" East, a distance of 278.76 feet to a point for corner; North 63°42′18" East, a distance of 702.70 feet to a point for corner; North 81°53′14" East, a distance of 366.29 feet to a point for corner; South 77°40′01" East, a distance of 171.20 feet to a point for corner; South 52°01′26" East, a distance of 181.67 feet to a point for corner; South 36°30′33" East, a distance of 159.88 feet to a point for corner; South 66°10′08" East, a distance of 210.57 feet to a point for corner;

South 34°02'30" West, a distance of 163.32 feet to a point for corner; South 29°56'00" West, a distance of 673.75 feet to a point for corner; South 26°12'44" West, a distance of 376.97 feet to a point for corner; South 18°33'33" West, a distance of 421.88 feet to a point for corner; South 11°07'06" East, a distance of 153.19 feet to a point for corner; South 56°47'02" East, a distance of 212.13 feet to a point for corner; South 89°10'14" East, a distance of 252.64 feet to a point for corner; North 81°56'09" East, a distance of 150.33 feet to a point for corner; North 48°03'39" East, a distance of 473.73 feet to a point for corner; North 48°03'39" East, a distance of 200.65 feet to a point for corner; North 46°37'38" East, a distance of 352.07 feet to a point for corner;

North 80°03'04" East, a distance of 583.34 feet to the **POINT OF BEGINNING** and containing 267.74 acres (11,662,701 sq. ft.) of land, more or less.

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

COUNTY OF COLLIN

§ KNOW ALL PERSONS BY THESE PRESENTS:

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "<u>Deed</u>") is executed by **FHQ HOLDINGS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantor</u>") for the benefit of **FIELDS UNIVERSITY VILLAGE INVESTMENT PARTNERS LP**, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("<u>Grantee</u>").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Collin County, Texas and described in Exhibit A attached hereto and made a part hereof for all purposes (the "Land"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "Property").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Collin County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN,

[Signature Pages Follow]

Executed effective as of the ______ day of July, 2021.

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

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COUNTY OF DALLAS

This instrument was acknowledged before me on July $\underline{9}$, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

FIELDS UNIVERSITY VILLAGE INVESTMENT PARTNERS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

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STATE OF TEXAS

COUNTY OF DALLAS

This instrument was acknowledged before me on July \uparrow ___, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FIELDS UNIVERSITY VILLAGE INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



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Notary Public, State of Texas

Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Collin County School Land Survey, Abstract No. 148 and the Benjamin J. Naugle Survey, Abstract No. 669, City of Frisco, Collin County, Texas and being all of Tract 1 (called 278.235-acres) as described in a Special Warranty Deed to FHQ Holdings LP, recorded in Instrument No. 20180807000990770, Official Public Records of Collin County, Texas, and being more particularly described as follows:

BEGINNING at northeast corner of said Tract 1 (called 278.235-acres), same being the intersection of the southerly right of way line of County Road 24, as created in a deed to the City of Frisco, recorded in Instrument No. 20140716000737770, Official Public Records, Collin County, Texas with the westerly right of way line of State Highway 289 (Preston Road), as created in a deed to the State of Texas, recorded in Instrument No. 20080417000459060, Official Public Records, Collin County, Texas;

THENCE in a southerly direction, along the westerly right of way line of State Highway 289 (Preston Road), the following:

South 00°26'15" East, generally along a barbed wire fence for part of the way, a distance of 93.11 feet to a wooden fence corner post found for a corner;

South 18°03'14" West, continuing generally along said barbed wire fence, a distance of 75.67 feet to a wooden fence corner post found for a corner;

South 00°26'14" East, continuing generally along said barbed wire fence, a distance of 48.51 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for a corner;

South 18°49'04" East, continuing generally along said barbed wire fence, a distance of 76.11 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for a corner;

South 00°26'21" East, continuing generally along said barbed wire fence, a distance of 1565.43 feet to an aluminum TXDoT right of way monument found for a corner;

South 02°54'39" West, continuing generally along said barbed wire fence, a distance of 221.85 feet to an aluminum TXDoT right of way monument found for a corner;

South 00°24'53" East, continuing generally along said barbed wire fence, a distance of 569.34 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for a corner;

South 02°38'01" East, continuing generally along said barbed wire fence for part of the way, a distance of 21.73 feet to a point in a gravel road, known as Panther Creek Parkway, same being the southeast corner of said Tract 1 (called 278.235-acres), same also being on the northerly line of a called 400.740 acre tract, known as "Tract 2", described in a deed to Panther Creek on Preston, LP, recorded in Instrument No. 20131107001517630, Official Public Records, Collin County, Texas;

THENCE South 89°23'54" West, departing the westerly right of way line of State Highway 289 (Preston Road), along the southerly line of said Tract 1 (called 278.235-acres) and generally along said Panther Creek Road, a distance of 4872.51 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for the southwest corner of said Tract 1 (called 278.235-acres), same being on the casterly line of a 100' wide Burlington Northern Santa Fe Railroad right of way as created in a deed to the St. Louis, San Francisco and Texas Railway Company, recorded in Volume 128, Page 319, Deed Records, Collin County, Texas, from said corner, a found 1/2-inch iron rod bears North 89°24' East, 4.18 feet and a found aluminum disk, stamped "CPLS RPLS 5210" bears South 08°32' West, 24.48 feet;

THENCE North 11°19'09" East, along the westerly line of said Tract 1 (called 278.235-acres), the easterly line of said line of said 100' wide railroad right of way, and generally along the meanders of a barbed wire fence for part of the way, a distance of 2689.71 feet to the southwest corner of aforesaid City of Frisco tract, recorded in Instrument No. 20140716000737770, same being in aforesaid County Road 24, from said corner, a found 1/2-inch iron rod bears North 16°15' East, 1.33 feet and a found 1/2-inch iron rod with a plastic cap, stamped "GULLETT ASSOC", bears South 19°30' West, 15.19 feet;

THENCE in an easterly direction, departing said railroad right of way and along the southerly line of said City of Frisco tract, the following:

North 89°58'43" East, a distance of 2181.75 feet to a point for corner, from which, a found 1/2-inch iron rod with a plastic cap, stamped "MSI WITNESS" bears South 76°54' West, 11.38 feet, and a found PK nail bears North 77°40' West, 25.41 feet;

North 87°50'42" East, a distance of 1420.81 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for a corner, from which, a found 1-inch iron rod bears North 62°56' West, 2.16 feet;

North 00°07'09" West, a distance of 22.00 feet to a 5/8-inch iron rod with a red plastic cap, stamped "KHA" set for a corner;

North 89°54'43" East, a distance of 734.78 feet to the **POINT OF BEGINNING** and containing 278.23 acres (12,119,912 sq. ft.) of land, more or less.



Filed and Recorded Official Public Records Stacey Kemp, County Clerk Collin County, TEXAS 07/13/2021 03:44:15 PM \$50.00 CARLA 20210713001409920

Specifimp

Denton County Juli Luke County Clerk

Instrument Number: 125157

ERecordings-RP

WARRANTY DEED

Recorded On: July 12, 2021 03:51 PM

Number of Pages: 8

" Examined and Charged as Follows: "

Total Recording: \$54.00

******* THIS PAGE IS PART OF THE INSTRUMENT **********

Any provision herein which restricts the Sale, Rental or use of the described REAL PROPERTY because of color or race is invalid and unenforceable under federal law.

File Information:

Document Number:	125157
Receipt Number:	20210712000801
Recorded Date/Time:	July 12, 2021 03:51 PM
User:	Debra B
Station:	Station 42

Record and Return To:

eRecording Partners



STATE OF TEXAS COUNTY OF DENTON

I hereby certify that this Instrument was FILED In the File Number sequence on the date/time printed hereon, and was duly RECORDED in the Official Records of Denton County, Texas.

Juli Luke County Clerk Denton County, TX

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

AFTER RECORDING, RETURN TO:

Hunt Realty Investments, Inc. 1900 N. Akard Street Dallas, TX 75201-2300 Attention: Diane Hornquist

STATE OF TEXAS

§ KNOW ALL PERSONS BY THESE PRESENTS:

COUNTY OF DENTON

SPECIAL WARRANTY DEED

This Special Warranty Deed (this "Deed") is executed by FHQ HOLDINGS LP, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("Grantor") for the benefit of NORTH FIELDS INVESTMENT PARTNERS LP, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("Granter") for the benefit of ANDRTH FIELDS INVESTMENT PARTNERS LP, a Delaware limited partnership, whose address is c/o Hunt Realty Investments, Inc., 1900 N. Akard Street, Dallas, Texas 75201-2300, Attention: Diane Hornquist ("Granter").

Grantor does hereby **GRANT, SELL, AND CONVEY** unto Grantee that certain real property situated in Denton County, Texas and described in <u>Exhibit A</u> attached hereto and made a part hereof for all purposes (the "<u>Land</u>"), together with all improvements and fixtures located on the Land, if any (the Land and such improvements and/or fixtures, together with all right, title and interest of Grantor, if any, in and to (i) all and singular the rights, benefits, privileges, easements, tenements, hereditaments, and appurtenances or in anywise appertaining to the Land; (ii) all strips and gores and any land lying in the bed of any street, road or alley, open or proposed, adjoining such Land, if any; and (iii) all permits, licenses, entitlements, intellectual property rights and other intangible rights, benefits and privileges of Grantor with respect to the Land, including, without limitation, all surveys, drawings and engineering work product (collectively, the "<u>Property</u>").

TO HAVE AND TO HOLD the Property unto Grantee, Grantee's successors and assigns, and Grantor does hereby bind Grantor and Grantor's successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Property unto Grantee, Grantee's successors and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through or under Grantor, but not otherwise.

This conveyance is made and accepted: (a) subject to (i) all reservations, restrictions, covenants, conditions, rights-of-way, mineral leases, royalty and mineral conveyances, easements and any other conveyances of any other subsurface rights and/or substances now outstanding and of record, if any, in Denton County, Texas, affecting the Property, (ii) all other matters which a

physical inspection of the Property would reveal or that are discoverable by means of an accurate survey, and (iii) all other matters or agreements of any kind or nature which may affect the Land and/or the Property, and (b) by Grantor and Grantee, respectively, each of which is wholly-owned by the same person(s) or entity(ies) as of the date of conveyance, and without payment of actual valuable consideration, with the intention that the Grantee is an "Insured" under that certain Owner's Policy of Title Insurance issued by First American Title Insurance Company, Policy Number 1002-247436-RTT, dated as of August 7, 2018 with respect to its interest in the Property.

THE PROPERTY IS HEREBY CONVEYED IN ITS STRICT "AS IS, WHERE IS" AND "WITH ALL FAULTS" CONDITION, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT AS TO TITLE AS EXPRESSLY SET FORTH HEREIN,

[Signature Pages Follow]

Executed effective as of the 12^{th} day of July, 2021.

GRANTOR:

FHQ HOLDINGS LP, a Delaware limited partnership

By: FHQ Holdings GP LLC, a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

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COUNTY OF DALLAS

This instrument was acknowledged before me on July <u>1</u>, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of FHQ HOLDINGS LP, a Delaware limited partnership, on behalf of said limited partnership.



Notary Public, State of Texas

GRANTEE:

NORTH FIELDS INVESTMENT PARTNERS LP, a Delaware limited partnership

FHQ Holdings GP LLC, By: a Delaware limited liability company, its general partner

By:

Name: Todd M. Watson Title: Vice President

STATE OF TEXAS

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COUNTY OF DALLAS

This instrument was acknowledged before me on July _7__, 2021, by Todd M. Watson, a Vice President of FHQ Holdings GP LLC, a Delaware limited liability company, the general partner of NORTH FIELDS INVESTMENT PARTNERS LP, a Delaware limited partnership, on behalf of said limited partnership.



Tances Har Notary Public, State of Texas 12213

SPECIAL WARRANTY DEED (North Fields Investment Partners LP) Signature Page

EXHIBIT A LEGAL DESCRIPTION

BEING a tract of land situated in the Carter Jackson Survey, Abstract No. 665, and the Louisa Netherly Survey, Abstract No. 962, City of Frisco, Denton County, Texas and being a portion of a called 1,722.364-acre tract of land described as Tract 3 in a deed to FHQ Holdings LP, recorded in Document No. 2018-93106, Official Records, Denton County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at a 5/8-inch iron rod with plastic cap stamped "KHA" found for the south corner of a corner clip at the intersection of the northerly right-of-way line of PGA Parkway (variable width right-of-way) and the easterly right-of-way line of North Teel Parkway (variable width right-of-way);

THENCE North 45°25'14" West, along said corner clip, a distance of 56.47 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the north corner of said corner clip;

THENCE along the easterly right-of-way line of said North Teel Parkway the following courses and distances:

North $0^{\circ}19'11''$ West, a distance of 304.14 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for corner;

North 4°07'49" West, a distance of 150.46 feet to a point for corner;

North 0°19'11" West, a distance of 79.20 feet to a point for corner;

North 3°28'13" East, a distance of 310.75 feet to a point for corner;

North 0°20'34" West, a distance of 299.99 feet to the south corner of a corner clip at the intersection of the easterly right-of-way line of said North Teel Parkway and the southerly right-of-way line of U.S. Highway No. 380 (variable width right-of-way);

THENCE North 44°45'21" East, along said corner clip, a distance of 156.98 feet to the north corner of said corner clip, same being on the northerly line of said Tract 3;

THENCE North 88°35'46" East, along the common line of said Tract 3 and said U.S. Highway 380, a distance of 4320.75 feet to a point for the intersection of the southerly right-of-way line of said U.S. Highway 380 and the westerly right-of-way line of Legacy Drive (variable width right-of-way);

THENCE departing said common line and along the westerly right-of-way line of said Legacy Drive the following courses and distances:

South 1°26'03" East, a distance of 81.89 feet to a point for corner;

South 46°26'03" East, a distance of 93.66 feet to a point for corner;

South 0°19'39" East, a distance of 235.01 feet to a point for corner;

South 4°08'30" East, a distance of 300.67 feet to a point for corner;

South 0°19'39" East, a distance of 309.33 feet to a point for corner;

South 0°51'19" East, a distance of 295.55 feet to a point for corner;

South 2°57'27" West, a distance of 150.37 feet to a point for corner;

South 0°51'19" East, a distance of 204.36 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the north corner of a corner clip at the intersection of the westerly right-of-way line of said Legacy Drive and the northerly right-of-way line of the aforementioned PGA Parkway;

THENCE South 44°26'40" West, along said corner clip, a distance of 56.59 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the south corner of said corner clip;

THENCE along the northerly right-of-way line of said PGA Parkway the following courses and distances:

South 89°25'31" West, a distance of 53.27 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found at the beginning of a tangent curve to the right having a central angle of 4°16'43", a radius of 1430.00 feet, a chord bearing and distance of North 88°26'07" West, 106.76 feet;

In a northwesterly direction, with said curve to the right, an arc distance of 106.78 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the end of said curve to the right;

North 88°36'54" West, a distance of 150.38 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for corner;

North 84°32'52" West, a distance of 80.20 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found at the beginning of a tangent curve to the left having a central angle of 5°39'06", a radius of 1560.00 feet, a chord bearing and distance of North 87°22'25" West, 153.82 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 153.88 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the end of said curve to the left;

South 89°48'02" West, a distance of 552.73 feet to a point at the beginning of a tangent curve to the right having a central angle of 9°07'07", a radius of 1440.00 feet, a chord bearing and distance of North 85°38'25" West, 228.93 feet;

In a northwesterly direction, with said curve to the right, an arc distance of 229.18 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the end of said curve to the right;

North 81°04'51" West, a distance of 1390.67 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found at the beginning of a tangent curve to the left having a central angle of 9°26'27", a radius of 2560.00 feet, a chord bearing and distance of North 85°48'05" West, 421.34 feet;

In a northwesterly direction, with said curve to the left, an arc distance of 421.82 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for the end of said curve to the left;

South 89°28'42" West, a distance of 865.50 feet to a point for corner;

North 86°42'43" West, a distance of 150.51 feet to a 5/8-inch iron rod with plastic cap stamped "KHA" found for corner;

South 89°28'42" West, a distance of 314.04 feet to the **POINT OF BEGINNING** and containing 152.18 acres (6,629,065 sq. ft.) of land, more or less.



August 18th, 2021

The Honorable Andy Eads County Judge Denton County Commissioners Court 110 W Hickory Street Denton, TX 76201

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Eads:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

As part of the plan for the development, the aforementioned entities are applying for a Water Rights Permit to construct and maintain reservoirs for in-place recreation and agriculture. The ponds will be located on Unnamed Tributaries to Panther Creek.

The above entities are pursuing this application to appropriate State Water with the Texas Commission on Environmental Quality (TCEQ). Notification of the application will be sent to all Water Rights holders in the Trinity Watershed as well as to all of the members of the Frisco City Council and Denton County and Collin County Commissioners Courts.

Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Angelia Pelham Mayor Pro Tem, Place 3 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Pelham:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18, 2021

Brian Livingston Deputy Mayor Pro Tem, Place 6 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Livingston:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Bobbie J. Mitchell Commissioner Pct. 3 Denton County Commissioners Court 110 W Hickory Street Denton, TX 76201

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Mitchell:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Bill Woodard Mayor Pro Tem, Place 4 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Woodard:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

The Honorable Chris Hill County Judge Collin County Administration Building 2300 Bloomdale Rd., Suite 4192 McKinney, TX 75071

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Hill:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC

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August 18th, 2021

The Honorable Cheryl Williams Commissioner Pct. 2 Collin County Administration Building 2300 Bloomdale Rd., Suite 4192 McKinney, TX 75071

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Williams:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC

FIELDS

August 18th, 2021

Diane Edmondson Commissioner Pct. 4 Denton County Commissioners Court 110 W Hickory Street Denton, TX 76201

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Edmondson:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Sincerely,

Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

The Honorable Darrell Hale Commissioner Pct. 3 Collin County Administration Building 2300 Bloomdale Rd., Suite 4192 McKinney, TX 75071

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Hale:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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John M WE

Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Dan Stricklin Council Member, Place 5 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Stricklin:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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FIELDS

August 18th, 2021

The Honorable Duncan Webb Commissioner Pct. 4 Collin County Administration Building 2300 Bloomdale Rd., Suite 4192 McKinney, TX 75071

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Webb:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Jeff Cheney Mayor 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Cheney:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

John Keating Council Member, Place 1 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Keating:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Ron Marchant Commissioner Pct. 2 Denton County Commissioners Court 110 W Hickory Street Denton, TX 76201

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Marchant:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Ryan Williams Commissioner Pct. 1 Denton County Commissioners Court 110 W Hickory Street Denton, TX 76201

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Mr. Williams:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



Auguat 18th, 2021

The Honorable Susan Fletcher Commissioner Pct. 1 Collin County Administration Building 2300 Bloomdale Rd., Suite 4192 McKinney, TX 75071

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Fletcher:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



August 18th, 2021

Shona Huffman Council Member, Place 2 George A Purefoy Municipal Center 6101 Frisco Square Blvd. Frisco, TX 75034

Subject: Fields Development Application for Permit to Appropriate State Water City of Frisco, Denton County, Collin County, Texas

Dear Ms. Huffman:

FHQ Development Partners LP, VPTM FIELDS LB LLC, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP and North Fields Investment Partnership LP are proposing to construct Fields, a premier multi-use development within the City of Frisco, Denton County, and Collin County, Texas. The project is north of Panther Creek Parkway and east of Teel Parkway.

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Todd Watson, on behalf of FHQ Development Partners LP, Fields Midtown East Investment Partners LP, Fields Midtown West Investment Partners LP, Fields Point West Investment Partners LP, Fields Preserve Investment Partners LP, North Fields Investment Partnership LP, VPTM FIELDS LB LLC



March 31, 2020

> Todd Watson FHQ Holdings, LP 1900 North Akard St. Dallas, Texas 75201

Re: Groundwater Availability Evaluation: Brookside-Frisco, Collin/Denton Counties, Texas

Dear Mr. Watson,

R.W. Harden & Associates (RWH&A) has completed an evaluation of the groundwater resources beneath the Brookside-Frisco development in Collin and Denton counties, Texas. This study focused on estimating the availability of groundwater supplies for various uses including landscape irrigation and/or replenishment of evaporative losses from planned surface water impoundments. Based on information provided by Kimley-Horn and Associates, Inc., it is estimated that average annual needs from the system will be approximately 1,200 acre-feet, while the peak daily demand will be about 1,800 gallons per minute (gpm).

Our review consisted of compilation and analyses of available well construction records, water level and water quality records within a five-mile radius of Brookside-Frisco, the Groundwater Availability Model (GAM) for the Northern Trinity-Woodbine aquifers maintained by the Texas Water Development Board (TWDB), documents disseminated by Groundwater Management Area No. 8 (GMA-8), and the rules and management plan promulgated by the North Texas Groundwater Conservation District (NTGCD).

Target Aquifers

The evaluation results indicate the presence of three potential target aquifer zones beneath the Brookside-Frisco development, which are from shallowest to deepest the Woodbine, Paluxy, and Lower Trinity aquifers. Figure 1 shows the project location and the neighboring wells referenced in this report. Figure 2 consists of a generalized cross-sectional diagram of the aquifer zones beneath Brookside-Frisco. As shown, the Woodbine occurs from about 350 to 700 feet below ground level (bgl). The Paluxy is present from about 1,200 to 1,500 feet bgl, and the Lower Trinity lies from about 1,850 to 2,450 feet bgl at the site. These aquifers dip toward the east-southeast at approximately 50-100 feet per mile and receive recharge through infiltration of precipitation in northeast-southwest trending outcrop areas to the northwest. The Woodbine outcrop is approximately five miles to the northwest, while the outcrop of the Paluxy and the Lower Trinity are about 15 to 25 miles farther northwest, respectively.



Figure 1. TWDB-inventoried Wells within a 5 Mile Radius of Brookside-Frisco





Figure 2. Schematic Cross Section of the Aquifers Underlying Brookside-Frisco

Water Quality

Table 1 lists the concentrations for some of the commonly reported chemical constituents and parameters from the three target aquifers within approximately five miles of Brookside-Frisco, as reported in the groundwater well information database maintained by the TWDB. Water quality analyses indicate that water produced from the Woodbine and Lower Trinity aquifers exceeds Texas Commission on Environmental Quality (TCEQ) secondary drinking water standards for some constituents. The TCEQ regulates public supply water quality using a defined set of primary and secondary drinking water standards for certain water quality constituents. Constituent concentrations above primary drinking water standards are considered a health hazard and must be treated to bring the levels below the specified limits prior to use as a potable public supply. Secondary standards are not considered a public hazard but represent an aesthetic nuisance. If elevated secondary constituents are not treated, approval from TCEQ must be granted before the water can be used for public supplies. Please note that, while it is informative to compare the chemical composition of the groundwater contained in the target aquifers with TCEQ standards for public supplies, groundwater produced for non-potable uses is not regulated by the TCEQ.


Table 1. Regional Water Quality

					Woodbine Wat	er Quality					
State Well Number	pН	Temp (°C)	Calcium (mg/L)	Sodium (mg/L)	Magnesium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	SAR
1849602	8.7		3.0	600	1.0	759	23	288	256	1,557	77
1849901	8.0	I	6.0	710	2.0	757	0	408	370	1,884	64
1849903	8.6		1.0	214	1.0	428	10	67	28	545	36
1849904	8.7		1.0	204	1.0	426	11	54	21	514	35
1849905	8.6		1.0	433	1.0	781	18	114	117	1,080	73
1850201	8.5		4.0	680	1.0	876	19	320	280	1,739	79
1850202	8.4		0.6	175	0.1	384	2	42	12	435	54
1850203	8.5		12 0	697	7.0	903	0	340	313	1,848	40
1850204	8.1		8.0	683	1.0	936	0	328	320	1,751	84
1850301	8.7	31.8	0.4	170	0.3	513	44	46	16	709	53
1850304	8.6		0.8	206	0.2	425	0	68	22	506	53
1850901	8.4		1.4	339	0.4	598	8	157	57	874	57
1858201	8.5		2.0	359	1.0	576	5	189	83	927	52
Average	8.5	32	3.2	421	13	643	11	186	146	1105	58
Maximum	0.0	22	12.0	710	7.0	026	44	409	370	1004	04
Maximum	0.7	32	12.0	710	1.0	330	44	400	570	1004	04
					Paluxy Water	Quality					-
State Well Number	pН	Temp (°C)	Calcium (mg/L)	Sodium (ma/L)	Magnesium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	TDS (mg/L)	SAR
1849605			1.1.81	290	(583	29	97	19	739	-
1850205	8.6	30.2	16	285	10	610	0	87	25	702	56
1850302	87	JUL	1.6	298	0.1	578	31	85	26	702	62
1850504	85		2.0	323	0.5		22	109			63
1850505	8.9		1.6	287	0.5	527	38	97	24	709	41
1950902	9.7	29.0	1.0	267	0.3	525	17	90	19	670	20
1950904	0.7	23.0	1.0	202	0.2	470		96	19	640	52
1849604	0.2		1.6	272	0.0	576	0	90	21	669	50
1645004	8.7	20	1.0	2/1	0.4	570	0	07	21	700	00
Average	8.6	30	2	286	0.5	505	1/	94	22	708	52
Maximum	8.9	30.2	2.3	323	1	637	38	109	26	805	63
				i	ower Trinity Wa	ter Quality		-			-
State Well	- NH	Tomp (%C)	Calcium	Sodium	Magnesium	Bicarbonate	Carbonate	Sulfate	Chloride	TDS	EAD
Number	pn	Temp (C)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	JAN
1850501	8.3	38	2.6	620	3.8	304	0	81	740	1,611	55
1850502	8.3	37	6.0	580	1.0	305	18	91	640	1,499	58
1850503	7.6		23 0	607	8.6	485	0	894	46	1,840	28
1850803	8.5	40	1.4	359	0.6	555	6	189	78	923	64
1850805	8.4	42	2,4	317	0.5	392	5	87	192	816	49
Average	8.2	39	7.1	497	2.9	408	6	268	339	1,338	51
Maximum	8.5	42	23.0	620	8.6	555	18	894	740	1,840	64
TCEQ Secondary Standards (mg/L)	>7.0	N/A	N/A	N/A	N/A	N/A	N/A	300	300	1,000	N/A
Lake Lewisville Quality Standards	6.5-9.0	32						80	60	500	

For the constituents reported, none of the aquifers contain contaminants that exceed primary standards. Total dissolved solids (TDS) is commonly used as a general indicator of water quality; water with TDS concentrations below 1,000 milligrams per liter (mg/L) are considered fresh, brackish water contains between 1,000 and 10,000 mg/L TDS, and water with TDS concentrations in excess of 10,000 mg/L TDS is considered saline. For reference, the average TDS of sea water is approximately 35,000 mg/L. As shown in Table 1 and Figure 1, the groundwater contained in Woodbine is mildly brackish, on average, with concentrations ranging from approximately 500 to 1,900 mg/L, indicating that water quality is variable and site-specific. Four of 13 sampled Woodbine wells report chloride and/or sulfate concentrations above

TCEQ secondary standards. Water quality in the Paluxy aquifer is fresh throughout the region, with other reported major constituents below secondary standards. On average, water in the Lower Trinity aquifer is brackish. Three of the six sampled Lower Trinity wells report chloride or sulfate concentrations above secondary standards.

The produced waters from all target aquifers will likely exceed the TCEQ stream segment standards for Lake Lewisville, which may affect surface discharge permitting (if needed). The water quality of a surface reservoir is often dominated by larger, episodic rainfall runoff events that provide most of the water to the lake. Small creeks can experience a wide range of water quality as evaporation and transpiration concentrate TDS between runoff events. Consequently, the water quality of a contributing stream is generally degraded relative to lake water quality, however variation in rainfall and runoff patterns can periodically improve stream water quality to be equal, or above lake quality. The available data suggest that, in the event that a discharge permit is required, mass balance/mixing calculations will demonstrate that the introduction of groundwater is likely to have a negligible effect on Lake Lewisville water quality because the irrigation discharge volume is small relative to the lake volume.

Water from the three target aquifers may not be appropriate as a sole source of irrigation water due to the relatively high concentrations of sodium and bicarbonate. Excess sodium can be toxic to many plant species, and both bicarbonate and sodium can negatively impact soil permeability over time. As shown in Table 1, the average values of the Sodium Adsorption Ratio (SAR) are 58, 52, and 51, in the Woodbine, Paluxy, and Lower Trinity aquifers, respectively. While different species of plants and types of soil can tolerate a wide range of sodium and bicarbonate, the SAR values shown here are generally considered high for sustained, long-term irrigation. If unblended or untreated groundwater from any of the target aquifers is to be the main source of irrigation water, RWH&A recommends an evaluation of local soils and planned crops be performed by a qualified agronomist.

Groundwater Regulation

The North Texas Groundwater Conservation District (NTGCD or District) regulates groundwater production in Collin and Denton Counties, and was established in 2009. The District is currently operating under a set of rules that were originally adopted in 2010 but have since been amended several times to include new rules regarding well location, spacing, and production rates. The most recent amendment of the rules was ratified February 11, 2020. The rules most applicable to this project are:

- A production permit must be obtained prior to drilling, construction, or operation of a well or well system.
- If the permit applicant is requesting water for the purposes of irrigating an acre or more of landscape, the applicant must agree to install and maintain a smart irrigation controller (weather or soil moisture-based) on the irrigation system.
- Multiple wells that are part of a well system and that are owned and operated by the same entity and are completed in the same aquifer may be aggregated under a single permit.
- If the well(s) will produce at a rate greater than 200 gallons per minute (gpm), a hydrologist's report must be submitted with the production permit application.

- > Wells must be located at least 50 feet from the nearest uncontrolled property.
- New wells that are equipped so that the maximum capacity is above 17.36 GPM must be located at least 1,175 ft + (1.2 x GPM) away from any other well completed in the same aquifer. While this rule is relatively restrictive (a 300 gpm well must be 1,535 feet from the nearest well), RWH&A communications with NTGCD staff indicate that this spacing rule does not apply to wells constructed on the same property as an aggregate well field. In other words, this rule only applies to the spacing between existing wells on adjoining properties and future Brookside-Frisco wells.
- The District assesses a production fee of \$0.10 per 1,000 gallons for all non-exempt water uses except agricultural use, which is assessed a fee of \$1.00 per acre-foot of water. For reference, an acre-foot of water is approximately 325,851 gallons.

As a member of GMA-8, the NTGCD must engage in joint planning with other northern Texas groundwater conservation districts to develop groundwater pumpage impact limits, which are termed "desired future conditions" (DFC). DFCs are defined every five years by GMA-8, which are then used by the TWDB to calculate the "modeled available groundwater" (MAG) for each aquifer regulated by the member conservation districts. MAG values represent the maximum amount of pumpage that can be sustained that results in aquifer impacts that are within DFC limits and must be considered by the NTGCD during well permitting processes. While MAGs are not considered to be regulatory pumpage caps, an application for groundwater production amounts that are large in comparison to established MAG values will require more effort to permit successfully.

Table 2 lists the currently-adopted MAG values for each target aquifer by decade. As shown the estimated annual Brookside-Frisco production of 1,200 ac-ft/yr represents a modest portion of the MAGs that, in RWH&A experience, could likely be permitted without significant opposition from the NTGCD. Please note that updated DFCs are currently being developed and are scheduled to be delivered to the TWDB for MAG calculation in early 2022.

A	Modeled Available Groundwater (MAG) (Acre-Feet per Year)									
Aquiter	2020	2030	2040	2050						
Woodbine	7,879	7,858	7,879	7,858						
Paluxy	6,383	6,366	6,383	6,366						
Lower Trinity	10,596	10,567	10,596	10,567						

Table 2. Aquifer MAG Values for Collin and Denton Counties

Aquifer Transmissivity, Well Efficiency, and Available Drawdown

Maximum well productivity is primarily a function of three parameters: 1) aquifer transmissivity, 2) well efficiency, and 3) available drawdown. The term "transmissivity" describes an aquifer's ability to transmit water through a vertical section of sediments and is used as a general measure of the productivity of an aquifer. All other aspects of the groundwater system being equal, an aquifer with twice the transmissivity of another aquifer can sustain about twice as much production. Well efficiency is a measure of the ease with which an individual well can transmit water from the aquifer through the screen/gravel pack to the

well. Well efficiencies are defined by calculating the ratio of the declines predicted to occur in a theoretical, "perfect" well that incurs no added head loss as water moves from the aquifer to the well to the measured drawdown in a real-world well. Typical efficiencies range from about 50% for wells with straightwall construction, to greater than 90% for wells constructed for higher-capacity municipal applications.

Groundwater is vertically confined within the Woodbine, Paluxy, and Lower Trinity by overlying and underlying relatively-impermeable geologic formations. The downward pressure of near-surface groundwater in aquifer outcrop/recharge zones to the northwest pressurizes the groundwater beneath Brookside-Frisco. Consequently, aquifer (artesian) pressure will drive well bore water levels water above the top of the aquifer that is screened by a well. As wells are pumped, the decline in water level observed in the wells is the result of decreased groundwater pressure rather than desaturation of the aquifer sediments near the well bore. The vertical distance between the static (non-pumping) wellbore water level and the top of the aquifer is commonly referred to as artesian pressure. This distance is important with respect to groundwater availability because, as is the case with aquifer transmissivity, a well with twice as much artesian pressure can produce groundwater at twice the rate. However, rather than assuming that 100% of the available drawdown at a site may be utilized for production, it is beneficial to include some "safety factor" to account for hydrologic uncertainties and unforeseen impacts from other groundwater users when determining the availability of supplies over the long-term. Given that the target aquifers are a major source of groundwater for the region, significant declines in artesian pressure levels are likely in the future, which may affect the availability of groundwater. For this evaluation, it was assumed that 50% of the artesian pressure in the Brookside-Frisco area would be used for production of the intended supply over a 30-year well lifespan.

Water level data recorded during constant-rate aquifer tests are generally the most reliable method of estimating the hydraulic properties of an aquifer. However, no reliable aquifer test data are available from well in the Brookside-Frisco area. To calculate the anticipated well yields at Brookside-Frisco, RWH&A estimated a range of expected aquifer characteristics (aquifer hydraulic conductivity, aquifer depths, and artesian pressure.) using a combination of data and information from previous RWH&A efforts and the GAM.

Regional Interference Drawdown

Groundwater pumpage affects all users of groundwater who produce from the same aquifer; consequently, the well yields and overall groundwater availability of the aquifers beneath Brookside-Frisco will likely decline over time in response to artesian pressure declines (drawdown) imposed by competitive pumping in the region. In order to estimate the potential magnitude of interference drawdown that may occur over the next several decades, RWH&A evaluated the results of GAM simulations conducted by GMA-8 as part of the State's water planning process. These simulations suggest that significant declines will occur in each of the three aquifers beneath Brookside-Frisco over the next thirty years due to groundwater production in the region. Table 3 lists the current amount of artesian pressure, the anticipated regional drawdown, and the future amount of artesian pressure at Brookside-Frisco.



Aquifer	Current Artesian Pressure (Feet)	Regional Drawdown (2020-2050) (Feet)	2050 Artesian Pressure (Feet)		
Woodbine	120	53	67		
Paluxy	760	262	498		
Lower Trinity	1,310	216	1,094		

Table 3. Artesian Pressure and Estimated Regional Interference Drawdown

As shown, impacts from other groundwater users in the region over the next 30 years are anticipated to reduce artesian pressure levels in the Brookside-Frisco area by 44%, 34%, and 16% in the Woodbine, Paluxy, and Lower Trinity aquifers, respectively. The maximum production rates of Brookside-Frisco wells are expected to decline by commensurate proportions by 2050. However, it is important to note that the simulations used by GMA-8 for regional planning incorporate multi-decade predictions (educated guesses) of the locations and production schedules of numerous potential groundwater projects. As such, the amount of drawdown that is predicted to occur in the Brookside-Frisco area is highly-dependent on the accuracy of the predictions/assumptions applied to the GMA-8 simulations by its member groundwater conservation districts.

Well Field Modeling

An analytical groundwater model developed by RWH&A was used to estimate maximum potential future productivity in the Paluxy and Lower Trinity aquifers. Production was modeled through a 30-year interval at average continuous production rates, which allows for accurate assessment of average aquifer declines over that period. As discussed above, modeled drawdown is limited to 50% of the artesian pressure to account for unforeseen future pumpage by other groundwater users near Brookside-Frisco and to allow for production at higher peak rates when needed during summer months. Regional data indicates that the hydraulic properties of the target aquifers are variable in the Brookside-Frisco area. To bracket potential wellfield productivity, both low and high estimated transmissivity scenarios were evaluated for each aquifer. Table 4 shows parameters applied to the model scenarios. The model for this study assumes a 50% well efficiency, which is a typical for a properly constructed straightwall irrigation-supply well.

Description	Woodbine	Paluxy	Trinity							
Low Transmissivity (gal/day/ft)	500	1,880	5,610							
High Transmissivity (gal/day/ft)	2,200	4,860	11,200							
Current Artesian Pressure (ft)	120	760	1,310							
Modeled Available Drawdown (ft)	60	380	655							

Tables 5 through 7 list the simulated long-term maximum production from wells completed in the target aquifers. Multiple wellfield scenarios were modeled, utilizing between one to seven currently-planned well locations on the Brookside-Frisco property. As shown, total system production increases as wells are added to the wellfield. However, due to compounding interference effects between wells, the rate of increase in wellfield productivity declines with each additional well.

Model results suggest that the Woodbine aquifer is not suitable for long-term production in the Brookside-Frisco area due a combination of factors including low aquifer transmissivity, shallow aquifer depth, and relatively-large predicted interference effects from other groundwater users in the region. However, production of up to about 30-50 gpm from individual Woodbine wells may be possible over the short-term where favorable site-specific aquifer characteristics are identified.

Wells	Low Tran	smissivity	High Transmissivity			
	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)		
1	8	8	32	32		
2	7	13	28	56		
3	6	17	24	71		
5	<5	20	17	86		
7	<5	22	13	94		

Table 5. Model Results - Woodbine Aquifer

Wells	Low Tran	smissivity	High Transmissivity			
	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)		
1	55	55	135	135		
2	46	93	115	230		
3	40	119	97	292		
5	29	146	71	357		
7	23	160	56	392		

Table 6. Model Results - Paluxy Aquifer

Tabl	~ 7	Madal	Doculto	Louise	Trinita	Aquifar
IdDi	e /.	Inonei	Results -	Lower	Trifficy	Aquiler

	Low Tran	smissivity	High Transmissivity			
Wells	Avg. Well Yield (gpm)	Total Production (gpm)	Avg. Well Yield (gpm)	Total Production (gpm)		
1	566	566	1,097	1,097		
2	479	958	922	1,843		
3	402	1,205	770	2,311		
5	294	1,468	562	2,809		
7	229	1,600	437	3,058		

The Paluxy is significantly less productive than the Lower Trinity but, because Paluxy groundwater is likely fresh, development of supplemental Paluxy wells at Lower Trinity well sites may be beneficial in some circumstances. If the Lower Trinity transmissivity within Brookside-Frisco is on the higher end of the regional range, two or three wells may be sufficient to produce the desired daily peak capacity of approximately 1,800 gpm. If site-specific characteristics are less favorable, all seven planned well sites



may need to be developed and may produce, on the whole, less than the necessary total capacity.

<u>Conclusions</u>

The available data indicate that the hydraulic properties of the three potential target aquifers vary significantly throughout the region; as a result, the maximum yields from individual wells and from an aggregate Brookside-Frisco well field will be dependent on the hydraulic properties of the aquifer(s) at each well site. It is recommended that test drilling and aquifer testing be performed to document the hydrogeologic conditions beneath potential well sites prior to well design and permitting efforts. If favorable aquifer conditions are found, sufficient production may be obtained from a few larger wells, while several smaller wells may be required to fulfill project demands where less-permeable aquifer sediments are present.

Selection of one or more preferred aquifer zones typically depends on a combination of factors including productivity, reliability, water quality, and cost. The following summarizes the pros and cons associated with each of the potential target aquifers.

Woodbine Aquifer

- > Well depth of approximately 700 feet
- Small capacity wells (up to approximately 30-50 gpm)
- Less expensive wells
- Variable, site-specific water quality
- > Current groundwater availability: 50 to 175 acre-feet per year
- > Future (2050) groundwater availability: less than 30 acre-feet per year

Paluxy Aquifer

- ▶ Well depth of approximately 1,500 feet
- Small to moderate capacity wells (up to approximately to 150 gpm)
- Moderately expensive wells
- ➢ Fresh water quality
- Current groundwater availability: 850 to 2,000 acre-feet per year
- ▶ Future (2050) groundwater availability: 300 to 650 acre-feet per year

<u>Lower Trinity Aquifer</u>

- ➢ Well depth of approximately 2,450 feet
- High capacity wells (up to approximately 1,100 gpm)
- Higher cost wells
- Primarily brackish water quality (but some fresh water in region)
- Current groundwater availability: 4,200 to 7,800 acre-feet per year
- Future (2050) groundwater availability: 2,600 to 4,900 acre-feet per year



The Woodbine is the least productive aquifer beneath Brookside-Frisco and contains groundwater of variable quality. However, construction of relatively shallow, inexpensive Woodbine wells may prove beneficial in circumstances where smaller well yields and poorer water quality are acceptable. The Paluxy contains consistently fresh water in the region and can likely sustain low to moderately productive wells given current artesian pressure levels. However, the overall productivity of the Paluxy is predicted to decline by approximately 34% over the next 30 years, requiring the construction of additional wells to maintain long-term production rates. Large-scale production may be obtained from the Lower Trinity with fewer, higher-capacity wells. Lower Trinity wells will be deeper, larger-diameter, and more expensive, but are predicted to a lesser degree by interference drawdown from other wells in the region. It is likely that the Lower Trinity contains brackish groundwater beneath Brookside-Frisco.

The Woodbine, Paluxy, and Lower Trinity are vertically segregated by thick layers of relatively impermeable sediments. As a result, wells accessing these formations may be constructed at the same site without imposing interference drawdown on one-another. Depending on the desired production, site-specific aquifer properties, water quality, and budgetary constraints, various combinations of wells could be employed to achieve cost-effective results.

The three target aquifers contain "soft" groundwater with high concentrations of sodium relative to dissolved calcium and magnesium. The Sodium Adsorption Ratio (SAR) is commonly used as an indicator of a water's suitability for irrigation use. The average SAR values of the groundwater produced by the target aquifers in the region exceed 50, which is considered unacceptably high for sustained direct irrigation use, especially for areas with low permeability soils. RWH&A recommends that an evaluation of local soils and plants be performed by a qualified agronomist if unblended or untreated groundwater from any of the target aquifers is to be used for long-term irrigation.

Sincerely,

James Bené, P.G. R. W. Harden & Associates, Inc.



The seal appearing on this document was authorized by James E. Bené, P.G. 2089 on March 31, 2021. R.W. Harden & Associates, Inc. TBPG Firm No. 50033.



17	Total	7 (ac-ft)		7 10.00	9 12.30	7 13.14	2 14.69	8 15.32	1 20.81	6 24.34	1 25.90	8 20.51	5 13.95	7 10.04	4 8.72	189.72		
Pond 6 Pond		3.5 2.7		1.25 0.9	1.54 1.1	1.65 1.2	1.84 1.4	1.92 1.4	2.61 2.0	3.05 2.3	3.25 2.5	2.57 1.9	1.75 1.3	1.26 0.9	1.09 0.8	23.80 18.3		
Pond 5	ac.)	2.7	ne (ac-ft)	0.97	1.19	1.27	1.42	1.48	2.01	2.36	2.51	1.98	1.35	0.97	0.84	18.36	189.72	
Pond 4	urface Area (1.8	ration Volum	0.65	0.79	0.85	0.95	0.99	1.34	1.57	1.67	1.32	06.0	0.65	0.56	12.24		
Pond 3	SL	5.6	Evapor	2.01	2.47	2.64	2.95	3.08	4.18	4.89	5.20	4.12	2.80	2.02	1.75	38.08		
Pond 2		8.7		3.12	3.84	4.10	4.58	4.78	6.49	7.59	8.08	6:39	4.35	3.13	2.72	59.16		
Pond 1		2.9		1.04	1.28	1.37	1.53	1.59	2.16	2.53	2.69	2.13	1.45	1.04	0.91	19.72		
	TWDB Evaporation - Max	(in.)		4.30	5.29	5.65	6.32	6.59	8.95	10.47	11.14	8.82	6.00	4.32	3.75	81.60	nnual Evaporation (ac-ft)	
	Month	INICIAL		January	February	March	April	May	June	ylut	August	September	October	November	December	Annual	An	

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Colorado Office 323 West Drake Road, Suite 204 Fort Collins, CO 80526 Phone: 970-282-1800 Fax: 970-226-4662

PH2A Irrigation Master Plan Report

Date:	August 18, 2021	
To:	Mr. Roger McInnis	
From:	Hines Inc	
Re:	Fields Development PH2A Non-Potable Irrigation Master Plan	

The purpose of this memorandum is to present an update of the estimated water requirements and describe the non-potable irrigation water distribution system and related components including irrigation pump station, distribution piping, water metering, and system controls. Irrigation system design standards and recommended equipment will also be presented.

WATER DEMAND SUMMARY

In the following charts, estimated irrigation demand for Ph2A has been developed based on a combination of actual landscape design takeoffs and future design estimates from the project Landscape Architect and owner's representative. While not a part of the immediate scope, updated water demand estimates have been included for Phases 3A, 4A, and North Fields for reference. Annual irrigation water allotments based on NTGCD methodology is shown separately for reference only.

Fields Phase 2A

Project Segment	Gross Area	betegimi Area	Temporary Native Seed	Bermuda Seed	Bermuda Sod	Trees, Shrubs & GC	Ornamental Grass Seed	Annual W Regulreme	ater int	Annual NTGCD Allotment
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Galions	AcFt	Gallons
Brookside South	145	24.21	0.00	5.08	15.01	1.94	2.18	18,561,563	57	10,465,950
Brookside North	110	18.24	0.00	3.83	11.31	1.46	1.64	13,984,424	43	7,885,127
Brookside Sub Area	34	5.64	0.00	1.18	3.50	0.45	0.51	4,324,131	13	2,438,164
Brookside Amenity Center	3.96	1.69	0.00	0.35	1.05	0.14	0.15	1,295,706	4	730,585
Chain of Lakes	69.5	33.03	22.71	4.79	3.76	1.77	0.00	14,231,992	44	14,277,447
The Preserve	267.7	61.57	0.00	12.93	38.17	4.93	5.54	47,205,099	145	26,616,628
City Parks 2A	22.5	14.80	0.00	7.99	4.29	0.89	1.63	10,475,422	32	6,398,020
Totals	653.66	159.18	22.71	36.16	77.09	11.57	11.65	110,078,337	338	68,811,922

Fields Phase 3A

Project Segment	Gross Area	betegimi Area	Temporary Native Seed	Bermuda Seed	Bermuda Sod	Trees, Shrubs & GC	Ornamental Grass Seed	Annual Wa Requireme	ater int	Annual NTGCD Allotment	
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Galions	AcFt	Gallons	
Midtown West	169.6	20.30	0.00	4.26	12.59	1.62	1.83	15,563,805	48	8,775,663	
Point West	224.2	38.90	0.00	8.17	24.12	3.11	3.50	29,824,238	92	16,816,418	
Midtown East	169.1	22.20	0.00	4.66	13.76	1.78	2.00	17,020,516	52	9,597,030	
Totals	562.90	81.40	0.00	17.09	50.47	6.51	7.33	62,408,560	192	35,189,110	

Fields Phase 4A

Project Segment	Gross Area	Intigated Area	Temporary Native Seed	Bermuda Seed	Bermuda Sod	Bermuda Sod	Trees, Shrubs	Trees, Shrubs & GC	Ornamental Grass Seed	Annual Water Requirement		Annual NTGCD Allotment				
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Gallons	AcFt	Gallons						
East Village	174.1	30.50	0.00	6.41	18.91	2.44	2.75	23,384,043	72	13,185,109						
Point East	175.4	32.70	0.00	6.87	20.27	2.62	2.94	25,070,761	77	14,136,166						
University Village	268.2	62.70	0.00	13.17	38.87	5.02	5.64	48,071,458	148	27,105,125						
City Parks 3A 4A	49.5	32.50	0.00	17.55	9.43	1.95	3.58	23,003,461	71	14,049,706						
Totals	667.20	158.40	0.00	43.99	87.48	12.02	14.91	119,529,723	750	68,476,106						

North Fields

Project Segment	Gross Area	intigated Area	Temporary Native Seed	Bermuda Seed	Bermuda Sod	Trees, Shrubs & GC	Ornamental Grass Seed	Annual W Requirem	later ent	Annual NTGCD Allotment
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Gallons	AcFt	Gallons
North Fields	149.8	18.80	0.00	3.95	11.66	1.50	1.69	14,413,771	44	8,127,215

* Hines Water Modeling Assumptions Include:

• TAMU historic ET rates for project area have been applied.

Crop factors vary based on general planting category/type.

• Efficiency factors are based on established industry standards.

• Effective rainfall is estimated at 25% of average annual rainfall. (Rainfall applies only to estimated annual demand, not peak flow rates)

• Irrigation for the months of December, January and February is not included in the annual demand.

The Phase 2A peak daily irrigation withdrawal is estimated at 852,766 gallons with an estimated 3.5inches of peak season daily drawdown based on a total lake surface area of 8.7-acres at Pond 2. Assuming a 14-hr well operation window, an estimated 1,202gpm of total well production would be required to offset the peak daily combined PH2A irrigation demand and evaporative demand at all PH2A lakes. For reference, evaporation data provided by the project civil engineer (Kimley Horn) can be found at the bottom of this report in "Attachment C."

PH2A Peak Well Demand									
Peak Daily Irr. Need	852,766 Gallons								
Peak Daily Evap (Ponds 1, 2, 4, 5)	157,144 Gallons								
14/hr Day Well Operation	1,202 GPM								
16/hr Day Well Operation	1,052 GPM								
18/hr Day Well Operation	935 GPM								

PH2A Pond 2 Drav	v Down
Peak Daily Irr. Need	852,766 Gallons
Peak Daily Evap (Pond 2 Only)	84,931 Gallons
Peak Daily Draw Down	3.5" Inches

IRRIGATION WATER SUPPLY INFRASTRUCTURE

Based on the most recent project discussions and direction, the water source strategy for the site can be summarized as follows: groundwater will be pumped from the Lower Trinity aquifer into a series of ponds within the PH2A project limits to meet evaporative losses (Per Kimley Horn evaporation estimates) and satisfy irrigation withdrawals. An irrigation pump station will extract water from the 8.7-acre "Pond 2" located near the pond 2 pedestrian crossing; the pump station and downstream distribution piping will serve as the primary water source for Brookside South, Brookside North, Brookside Sub-Area, Brookside Amenity Center, Chain of Lakes, The Preserve, and potentially include PH2A City of Frisco parks.

Pump Station: The proposed irrigation pump station will be designed to provide the flow rates, delivery pressures and water filtration necessary to meet the irrigation demand outlined above in the PH2A Water Demand Summary. The pump station Will have a peak flow rate of 2,600 gpm at 125 psi and will include multiple high efficiency vertical turbine pumps installed over top of a circular concrete manhole (wet well) 8-ft in diameter and approximately 15-ft deep, with a 24"dia. intake pipe extending from the manhole to the bottom of the water storage pond. The pre-fabricated vertical turbine pump station will be skid mounted with PLC (programmed logic control), VFD (variable frequency drive), and auto-flushing filters to provide variable flow rates at a constant pressure to the irrigation distribution system. The pump and associated equipment will occupy a space of approximately 18' x 24' – currently the pump location is understood to be attached to the Amenity Center or located near it as a standalone structure. Minimum height required in the pump room or building is 8-ft, with a 6' wide double door, roof access hatch for removing pumps, heater, and ventilation system. The pump station strategy will include the use of multiple pump motors for redundancy in order to maintain full flow capacity in the event of a pump motor failure. The system will be capable of startup cycling to ensure even usage of each pump motor to improve overall system longevity and reliability. A low-flow pressure maintenance (jockey) pump will maintain system pressure and meet low flow needs to reduce cycling of main pumps. The station will require 480V/3PH/60Hz power for efficient operation. Vertical turbine pump stations require minimal maintenance annually, and when maintained well, these types of stations typically operate for 30-40

years. Pump station and related equipment costs have been estimated as indicated in the attached opinion of probable cost, "Attachment B".

Water Treatment: Accurate and detailed water quality data can only be confirmed once the on-site wells are established and tested. However, based on available well water quality data from Lower Trinity wells located near the Fields property, it is expected that the groundwater is of sufficient quality to be useful for project irrigation needs with some water treatment required. It is recommended that water treatment capabilities be integrated at the irrigation pump station, which is expected to include an injection system and a magnetic water conditioner to manage water quality conditions as outlined in the "Groundwater Availability Evaluation: Brookside-Frisco, Collin/Denton Counties, Texas" dated 03/21/2020. Further definition of specific water quality mitigation systems will be provided in the pump station construction document phase of work. As a general water quality note, we recommend that all on-site ponds employ pond aeration to introduce oxygen to the pond and encourage balancing of the aquatic ecosystem.

Distribution Piping: The pump station will supply water for PH2A common areas through a nonpotable water piping network that will extend from the pump station location in both directions and on each side of the Chain of Lakes area. Please refer to "Attachment D" - PH2A Irrigation Master Plan for pipe routing. Distribution piping will be placed within the common landscape areas where submainline connections will be made to serve each segment of the development. In all cases except for The Preserve, each connection point will be located within the Chain of Lake limit of work and include a water meter (Recordall Disc & Turbo Series), pressure regulating valve (Wilkins 500XL Series), and isolation gate valve (Leemco LMV Series). The irrigation systems downstream from the non-potable points of connection will be designed and installed as distinct systems with their own standardized controller units, mainline, master valves, flow sensing, and other downstream components.

Due to infrastructure ownership considerations and potential complications with easements, nonpotable distribution piping does not extend into The Preserve other than two (2) 10-inch stubouts located directly north of Fields Parkway. Each stubout will include a water meter (Recordall Turbo Series) and an isolation gate valve (Leemco LMV Series). As such, the irrigation system design for the Preserve must include extension of the distribution system, appropriate distribution line sizing, flow monitoring, and locating/sizing of non-potable points-of-connection that are appropriate for the served landscape areas within The Preserve. It will be critical that the design of these systems include proper engineering by a qualified design firm to ensure the integrity of the overall non-potable distribution system.

Approximate distribution pipeline quantities and non-potable points of connection are indicated on the masterplan and in the Opinion of Probable Cost found in "Attachment B".

Sub-Metering Strategy: The use of an alternative water source necessities the installation of water metering devices so that the non-potable system owner/operator can accurately track and manage billing of non-potable water use by downstream users. This report assumes that each non-potable point-of-connection supplied with irrigation water will be sub-metered.

Our criteria for selecting a sub-metering system includes:

- Accurate flow readings
- Remote-read capability via cellular network so that drive-by data collection or visual verification is unnecessary

- An intelligent cloud service and user interface that offers ease of use and ability to export data for long term record keeping

Badger Meters, an industry leader in the water meter space, offers a system called "Aquacue" that mirrors the robustness of a municipal-sized system while offering scalability to accommodate smaller sites. The primary hardware system components include a metering device and an attached cellular "endpoint", or communication module. Pictured below, a mechanical water meter is shown on the left and the cellular endpoint is shown on the right. Both items are installed within a valve/meter box, below grade.



Both devices are rated for full submergence in water and all electronics are fully potted. The benefit of fully potted electronics is excellent resistance to water intrusion while the downside is that batteries are not user replaceable which results in the need for product replacement at the end of the battery's useable lifespan; the cellular endpoint battery lasts approximately 10 years based on average usage and the registers that sit atop of the water meters have an internal battery lifespan of 15 years. Replacement of the battery-containing devices does not require removal of the water meter itself.

The communication pathway from the site to a remote computer is summarized below in a graphic produced by Badger Meter:



Access to data is accomplished via a cloud-based web portal that can be accessed via any computer or phone with an Internet connection and web browser. This system offers some additional benefits in the realm of on-call customer support, customizable dashboards for display of information, startup training, ability to use different cellular networks in the event of poor signal with a specific carrier, and security certifications. Based on current list pricing guides from the manufacturer, Hines has prepared a 20-year forecast to include material costs, software setup costs, and recurring monthly fees for an example scenario of 17 metered non-potable connections. (Labor is not included)

Phase 2A Badger Aquacue w/ Recordall Water Meters									
20-Year Forecast									
17 Endpoints (Original Installation)	\$	2,720.00							
17 Endpoints (10yr Replacement)	\$	2,720.00							
17 Water Meters (Original Installation)*	\$	28,749.00							
17 Water Meter Registers (15yr Replacement)	\$	1,700.00							
Installation Accessories	\$	239.70							
Initial Setup/Engagement Fee/Training	\$	2,000.00							
Monthly Service Cost (20 years)	\$	10,200.00							
Estimated 20 Year Materials Cost	\$	48,328.70							
*Assumes 1x 1-in 1x 2-in 13x 3-in 2x 8-in Water M	leter	2							

Does not include installation costs.

Control System: All irrigation systems within the development will have the ability to be managed by a specific control system to ensure standardized management of the system throughout the site. Each sub-mainline connection point will include a master valve and flow sensor that will be connected to the control system to manage irrigation within each project segment. The system will enable global management and precise scheduling to facilitate efficient distribution of the available water supply. Smart water management capabilities, include but are not limited to, intelligent flow management, weather-based scheduling and the ability to detect system leaks. Each field unit will communicate with a cloud-based central system via cellular connectivity with the ability to be managed independently and as a part of the overall system.

See "Attachment A" for the specific controller make & model information, as well as other devices that will work in concert with the controller.

IRRIGATION SYSTEM STANDARDS

The purpose of this document is to define standards around irrigation system development, design, and performance benchmarks for new projects within the Fields development. Ultimately, the goal for each and every project is to achieve the following:

- Construction documents that are clear, concise, and consistent
- An irrigation system that is simple and cost-efficient to construct and maintain
- Highly efficient use of water to reduce waste and reduce water cost
- Design by qualified Certified Irrigation design professionals.

Performance And Maintenance Goals: Every new development site is unique in its demands on the landscape irrigation system, thus requiring unique design elements when planning system layout, equipment selection, and water and power requirements necessary to provide operational high efficiency and long-term low maintenance targets.

Managed landscapes, while highly visible users of water, provide ecological, economic and recreational benefits. It is the stakeholders' responsibility to advocate for efficient irrigation and to incorporate and promote all reasonable practices that minimize water consumption and waste. Total system efficiency is dependent upon many factors that include product selection, designing around proper plant hydrozones, considering site slopes, aspect, controlling sprinkler nozzle pressures, and minimizing water run-off, wind drift and evaporation. Both proper tap and mainline sizing are also

important in increasing system efficiency by ensuring the operating 'window' is not extended beyond design parameters.

Best practices require that the irrigation system is designed to deliver water precisely and efficiently to maintain the function and purpose of the managed landscape while complying with any local limitations and requirements.

The irrigation system shall be assembled and installed according to the irrigation design specifications, locally applied codes and standards, and manufacturers' product requirements. The qualified irrigation contractor or installer shall execute the installation per the plans and specifications and be capable of quality workmanship and the safe use of proper equipment.

To conserve and protect available water resources, the management of the system will optimize the efficient use of water to maintain a healthy and functional landscape with optimal irrigation system performance. This entails careful and active management of the system and adherence to all applicable watering limitations within the jurisdictional area. Management includes active irrigation system maintenance, scheduling, monitoring and evaluation of water use, landscape health, and appearance.

It is recommended that an irrigation design review board be assembled to review final irrigation designs (100% CD Irrigation Design Package) for any systems that will be served by the non-potable irrigation supply. We recommend that this review process be included in the Master HOA standards which will ensure that product selection and technical design intent align with the proposed efficiency standards and hydraulic constraints of the overall system. A qualified irrigation consulting firm should be contracted to provide hourly review services for each new phase of development that will draw from the non-potable irrigation infrastructure.

Design Criteria: Each design should minimally meet the following criteria such that all irrigation systems will provide coverage for all landscape types at a level appropriate for the needs of the proposed plant materials and the intended use.

Controller units will be wall or pedestal mounted units in steel enclosures, managed via the internet in groups or as standalone units. Each unit will require a 120VAC power supply and a cellular communication capability. The recommended control system will utilize real-time Local weather data and rain sensors to facilitate system adjustment based on localized weather conditions and to enable automatic system shutdown during periods of natural precipitation.

A solenoid operated master control valve and flow sensor will be located downstream from each connection point and will connect to the irrigation controller in order to provide system leak protection and ability to track and manage water use.

The irrigation systems anticipated will be a combination sprinkler and drip system using gear driven rotors, pop-up rotator, or pop-up spray sprinklers for turf and ornamental and native grasses and point source drip emitters or in line drip tubing for non-turf plant material. The primary plant material types (turf, trees, shrubs, groundcovers and ornamental grass) will be irrigated on separate control valves.

The irrigation system shall be designed to be drained using compressed air injected at a connection point indicated at each POC. Gate valves shall provide localized isolation of sections of the mainline to assist in system repair and maintenance.

Plastic solenoid control valves shall be rated at 200 psi, having a flow control and pressure regulation capability. Multiple valves may operate simultaneously as programmed from the controller. Each manual and solenoid valve shall be housed in a single valve box for valve access.

Quick coupling valves shall be located just downstream from the flow sensor, at mainline end points and on approximately 300-foot centers in larger areas for maintenance and incidental water needs.

Sprinklers shall be spaced to not exceed the manufacturer's recommended maximum spacing and to minimize over-spray onto hard surfaces or non-irrigated areas. All sprinklers shall be specified to be installed on swing joints.

Dripline shall be UV-resistant and include emitters that possess a check valve and pressure compensation. Each drip zone shall utilize a manual flush valve and an operation indicator. Barbed dripline fittings must be supplied by the same manufacturer as the dripline.

Recommended equipment brands and models are indicated in the attached Preferred Irrigation Equipment Table "Attachment A".

Attachment A – Preferred Irrigation Equipment:

Field Development Preferred Irrigation Equipment List

Date: 7-20-21 Prepared By: Hines Inc

Control System
Rain Bird ESP-LXIVM with IQ4 Central w/ cellular. Use Pro version for over 55 zones.
Grounding every 15 valves or 500ft.
Turf and Seed Areas (15' Maximum)
Hunter PROSPRAY PRS30-CV-R Series with U-Series/HEVANs
(4in Pop Height on turf, 12in Pop Height on taller seeded grasses)
Hunter PROSPRAY PRS40-CV-R with MP Rotator SR Series
(Ain pop-up height on turf 12in pop-up height on taller seeded grasses)
Turf and Seed Areas (30' Maximum)
Hunter PROSPRAY PRS40-CV-R with MP Rotator Series
(Ain non-un height on turf 12in non-un height on taller seeded grasses)
Turf and Seed Areas (25'-40')
Hunter I-20-XX-PRR-R
Turf and Seed Areas (40'-65')
Hunter L-25-XX-R
Shruh Aroas
Netafim Tachling TLHCV/VP PW Buried or On Grade Under Mulch Applications, 33gph
12" emitter encoding 12" row encoding
12 eninter spacing, 12 row spacing
Trace in Turf Areae
Netafim Tachling TLHCVVP RW 22 mb. Drinling configured in concentric rings, with a minimum of 2 rings
for up to 26 inch rootball diameter trace. Include at least 1 ring over rootball and 1 ring outside of rootball
this assumes trees in turf will have much and that drinking will be installed an grade under much Trees in turf
this assumes trees in turi will have much and that dripline will be installed on-grade, under much. Trees in turi
to be on their own zone.
Tuaas in Diantau Rad Augas
Ifees in Planter Deu Areas
Netalim Technine TLHCVR-RW. 338ph. Dripine conligured in concentric rings, with a minimum of 3 rings
tor up to 36-inch rootball diamters. Include at least 1 ring over rootball and 1 ring outside of rootball. Dripline
to be installed on-grade, under mulch. Trees on separate zone from other plant material.
Remote Control Valves
Rain Bird PESBIVM-R (1", 1.5", 2"). PR
Drip Control Valve Assemblies
Rainbird IVM-V-XCZ-100-PRBR Drip Control Zone Kit
Quick Coupler Valve
Rain Bird 44NP 1"
Master Valves
Rain Bird PESBIVM-R (1"-2")
Rain Bird BPESIVM (3")
Flow Sensor
FIoMec QS Series Ultrasonic with IVM-SD sensor decoder
All equipment models to include Purple Non-Potable Indicators

Attachment B – Opinion of Probable Cost:

Fields Phase 2-A NP Infrastructure Prelim Opinion of Probable Cost

Date: 8/18/2021 Prepared By: Hines Inc.

ITEM	DESCRIPTION	UNITS	QUANTITY	ι	JNIT PRICE		TOTAL
1	Pond A VT Pump Station, 2,600 GPM *	EA	1	\$	340,000.00	\$	340,000.00
2	480v/3/60 Power Drop (transformer, disconnect, etc.)	EA	2	\$	25,000.00	\$	50,000.00
3	24" C905 DR 51 PVC OR RCP Wet Well Suction Pipe	LF	150	\$	205.00	\$	30,750.00
4	8' Dia x 15' Deep RCP Wet Well	EA	1	\$	50,000.00	\$	50,000.00
5	16" C905 Class 235 PVC Pipe	LF	200	\$	83.00	\$	16,600.00
6	14" C905 Class 235 PVC Pipe	LF	150	\$	65.00	\$	9,750.00
7	12" Class 200 C900 PVC Pipe	LF	5,520	\$	55.00	\$	303,600.00
8	10" Class 200 C900 PVC Pipe	LF	1,850	\$	43.00	\$	79,550.00
9	8" Class 200 C900 PVC Pipe	LF	2,057	\$	25.00	\$	51,425.00
10	6" Class 200 C900 PVC Pipe	LF	1,420	\$	18.00	\$	25,560.00
11	4" Class 200 C900 PVC Pipe	LF	800	\$	14.00	\$	11,200.00
12	3" Class 200 C900 PVC Pipe	LF	200	\$	12.00	\$	2,400.00
13	10" Point-of-Connection Equip. (6" Gate Valve)	EA	2	\$	1,500.00	\$	3,000.00
14	3" Point-of-Connection Equip. (3" PRV and Gate Valve)	EA	13	\$	2,750.00	\$	35,750.00
15	2" Point-of-Connection Equip. (2" PRV and Gate Valve)	EA	1	\$	1,450.00	\$	1,450.00
16	1.5" Point-of-Connection Equip. (1.5" PRV and Gate Valve)	EA	1	\$	1,000.00	\$	1,000.00
17	Water Meter (Badger Sub-meters)	LS	1	\$	69,465.40	\$	69,465.40
18	Isolation Gate Valves	LS	9	\$	1,000.00	\$	9,000.00
19	Contingency	LS	1		10%	\$	109,050.04
20	Contractor OH & Profit	LS	1		20%	\$	239,910.09
	TOTAL					\$:	1,439,460.53

* Pricing does not include pump house building or enclosure.

General Note: Pricing is based on historical market data and does not account for recent price fluctuations due to COVID19 impact on manufacturing and supply chain.

		Mont	hly Evapora	ation Summ	ary				
		PH2A	PH2A	PH3A	PH2A	PH2A	N. Flds	N. Flds	
		Pond 1	Pond 2	Pond 3	Pond 4	Pond 5	Pond 6	Pond 7	
Manth	TWDB Evaporation - Max			Su	face Area (ac.)			Total
Month	(īn.)	2.9	8.7	5.6	1.8	2.7	3.5	2.7	(ac-ft)
				Evapora	ation Volum	ie (ac-ft)	ieaneanea	ueraneranera -	
January	4.30	1.04	3.12	2.01	0.65	0.97	1.25	0.97	10.00
February	5.29	1.28	3.84	2.47	0.79	1.19	1.54	1.19	12.30
March	5.65	1.37	4.10	2.64	0.85	1.27	1.65	1.27	13.14
April	6.32	1.53	4.58	2.95	0.95	1.42	1.84	1.42	14.69
May	6.59	1.59	4.78	3.08	0.99	1.48	1.92	1.48	15.32
June	8.95	2.16	6.49	4.18	1.34	2.01	2.61	2.01	20.81
July	10.47	2.53	7.59	4.89	1.57	2.36	3.05	2.36	24.34
August	11.14	2.69	8.08	5.20	1.67	2.51	3.25	2.51	25.90
September	8.82	2.13	6.39	4.12	1.32	1.98	2.57	1.98	20.51
October	6.00	1.45	4.35	2.80	0.90	1.35	1.75	1.35	13.95
November	4.32	1.04	3.13	2.02	0.65	0.97	1.26	0.97	10.04
December	3.75	0.91	2.72	1.75	0.56	0.84	1.09	0.84	8.72
Annual	81.60	19.72	59.16	38.08	12.24	18.36	23.80	18.36	189.72
An	nual Evaporation (ac-ft)				1	189.72			
Ann	ual Evaporation (gallons)	11			61	1,820,452			

Attachment C – Kimley Horn Evaporation Data from 08/17/2021

Attachment D – Fields PH2A Irrigation Master Plan: See attached plan sheet MP-1









