

Application Summary and Staff Review

DESCRIPTION OF APPLICATION

Applicant: Needmore Water LLC

Type of Application: Temporary Production Permit in the Middle Trinity Management Zone

Request: Approval of a Temporary Production Permit to withdraw 289,000,000 gallons/year for agricultural and general irrigation. The Temporary Production Permit would be subject to the provision set forth in H.B. 3405 and in the District Rules relating to Temporary Permits. The Temporary and Regular Production Permit would be subject to the District Rules related to pumpage from wells completed in the Middle Trinity Management Zone.

SUMMARY

Needmore Water LLC timely filed a signed and notarized application form and supporting materials on September 18, 2015. Staff confirmed that the applicant meets the eligibility requirements based on the applicant's statements and information documented in the application indicating that the existing nonexempt well was being operated on or before June 19, 2015.

The applicant provided supporting documentation to show the ownership interest of Needmore Water LLC. In 2013 a recorded groundwater rights warranty deed was set in place providing Needmore Water LLC ownership of all groundwater rights from the 5,000 acre property. A special warranty deed was provided demonstrating property ownership in the name of Needmore River Ranch LLC.

Through extensive review District staff evaluated the use type of the well. The 9/18/15 Needmore Water LLC permit application indicated both general and agricultural irrigation as use types prior to 6/19/15; however, that statement was inconsistent with information obtained by staff indicating the actual use. Upon further review of all supplemental information and observations from the District's 10/14/15 site visit, staff's review finds that the well was not equipped for providing water for any type of irrigation due to the lack of an existing piping or conveyance distribution system. The landowner and ranch manager also verbally confirmed that the well was not being used for irrigation. In response the District's follow-up request for information, the applicant also confirmed this indicating that the irrigation was the future planned use and not the actual use at that time. Ultimately, staff review concluded that the well was used solely to supplement a ponded water feature (Appendix A) which is used primarily for recreation (swimming, fishing, and boating) and for wildlife. Although the well is not used to support livestock other than Buffalo and llamas on the Needmore Ranch, the definition of Agricultural Livestock use under District Rule 2.1 includes "wildlife management." District Rule 2.1 defines wildlife management to include "the watering and/or feeding of free-ranging, non-caged, wild animals under a management plan approved by TPWD, US Fish and Wildlife Service, or other governmental agency with authority to approve and regulate wildlife management plan."

While staff has concluded that the well is used solely to fill a ponded water feature primarily used for recreational purposes, "recreational use" is not defined in the Rules and Bylaws and the Board has not had an opportunity to review the classification. On the basis of this information, the District is initially characterizing the use type for Well D as Agricultural Livestock.

The District staff learned during the 10/14/15 site visit that the pump in the well was removed on 8/18/15 by a local well water well driller/pump installer. A documented video log provided to the District confirms the well is currently damaged and in deteriorated condition and is therefore considered an abandoned well pursuant to State law and District rules. Due to the damage in the well, a pump cannot be placed in the well and the well is incapable of production in this current condition. The applicant must address the damage in the well to complete the aquifer test and the hydrogeological report required to process the Regular Permit. In the application request, the applicant calculated a maximum production capacity of 887 acre feet/year (289,030,217 gallons/yr). Those calculations were based on a 22-hour aquifer test conducted in November 2012 (less than the 36-hour test referenced in statute) and assumed a pumping operation of 550 gpm (largest pump that can fit in the well) for 24 hours a day for 365 days of the year. This calculated maximum production capacity was the applicant's requested permit volume. The applicant's calculation of 887 acre-feet as the maximum production capacity of the well does not appear mechanically feasible, nor is it consistent with the District's interpretation of the meaning of the term "maximum production capacity".

Given these considerations and the limited information provided, the General Manager has determined that the appropriate authorized volume shall be calculated based on the actual pump test pumping rate of 428 gpm at 80% of the annual permit term. Accordingly, the District's calculated maximum production capacity is 179,965,440 gallons.

The review process for the regular permit application requires an aquifer test and a hydrogeological report to be considered administratively complete. The District will continue to process the regular permit application provided the well is repaired and recompleted to sufficient standards to allow for an aquifer test, the aquifer test is completed, and the associated Hydrogeologic Report is provided to the District in accordance with the District's aquifer test guidelines and applicable rules.

The pond supplied by groundwater from the well (Well D) is located outside the boundaries of the District. The District is in the process of reviewing whether transport of water from Well D outside the District is authorized under HB 3405 or whether a transport permit and fees are required as would be the case under existing rules applicable to permit holders. Additional guidance will be provided to the applicant during the processing of the Regular Permit.

The District has identified recreation and wildlife as the existing uses and therefore has designated the use type of the well as Agricultural Livestock. The authorized withdrawal volume of well (Well D) is determined to be a maximum production capacity volume of 179,965,440 gallons as calculated and interpreted by the District. This Temporary Production Permit is approved with a special condition prohibiting operation of the well until the Permittee has provided documentation that the well has been repaired and is in good, non-deteriorated condition and therefore no longer abandoned in accordance with the permit conditions and applicable District rules and standards.

STAFF REVIEW OF APPLICATION

I. Timely Filing of Temporary Application Form

Staff confirmed that the applicant timely filed the signed and notarized application form and supporting materials on September 18, 2015.

II. Confirm Eligibility for a Temporary Permit

Staff confirmed that the applicant meets the eligibility requirements because the applicant

stated and documented that the existing nonexempt well was being operated on or before June 19, 2015.

III. Verification of Ownership

Staff confirmed through the Hays County Appraisal District that the 5,000 acre ranch ownership is listed in the owner name of Needmore River Ranch LLC. The temporary permit application was filed in the name of Needmore Water LLC. The applicant provided supporting documentation to show the ownership interest between the differing entities. A special warranty deed was provided demonstrating property ownership in the name of Needmore River Ranch LLC. Additionally, a 2013 recorded groundwater rights warranty deed was provided demonstrating that Needmore Water LLC holds ownership of all groundwater rights from the 5,000 acre property.

IV. Verification of Complete Application Checklist Requirements

Staff reviewed the application materials to verify that all application checklist requirements were adequately satisfied in accordance with District Rule 3-1.55.2. The application must address the following items in detail and it was determined that all items were satisfied.

A. Nature and Purpose of Use

In the submitted application the applicant provided a descriptive statement stating that well (D) is used for irrigation on the ranch property and that all water would be utilized for agricultural and general irrigation

In a letter dated 9/30/15 District staff requested additional information in order to gain a better understanding of the application request and to facilitate in determining whether the existing well in operation prior to 6/19/15 was being operated consistent with the authorization sought in the permit request. Staff requested detailed information of the applicant to:

- provide more clarification and description on the existing agricultural irrigation and general irrigation.
- provide detailed description of vegetation currently receiving irrigation and other relevant related information (e.g. crops, vegetation, recreation etc).
- clarify if requested volume is used primarily for agricultural irrigation or general irrigation.
- provide maps and a detailed description of existing irrigation systems used to convey and distribute groundwater.

In a letter dated 10/9/15 the applicant provided a response that the owner has worked toward improving agricultural productivity and management across the ranch. They have ongoing plans to continue restoring over grazed pasture lands. This ongoing plan entails the following steps:

- Removal of all livestock from the property – cattle has already been removed.
- Allow overgrazed lands to lay fallow and recover, supplement with irrigation when needed.
- Continue to plant and spread improved grass seed.
- Restock with cattle and deer once the pasture have recovered.
- Installation of pipeline and irrigation equipment for the purposes of watering native grasses in the area surrounding the Blanco River in addition to other parts scattered throughout the Ranch.

The letter also stated that some major water improvements were made to support future plans of a three pasture rotation. Those improvements were:

- Constructing a pond, approved by the US Army Corp of Engineers, to capture and provide reliable water within the pasture.
- Construct a 2.5 mile pipeline to provide reliable water within the pasture.
- Conducting an extensive hydrogeological study of groundwater resources. As part of that study, extensive test well drilling was conducted; this resulted in the completion of the existing well (Well D). The objective of the well was to supply water to livestock and wildlife as well as future irrigation.

B. Requested Volume

In the submitted application the applicant provided a descriptive statement stating that an aquifer test was conducted on the well (Well D) to estimate the well's maximum production capacity. The well was equipped with a pressure transducer to measure water level at programmed intervals during the pump test. The data and documentation that the applicant provided state that the test was conducted for 22 hrs at the average pumping rate of 428gpm with a 38 ft drawdown in the pumping well. The applicant stated that the aquifer test data was analyzed using the Theis Recovery method and that based on a pump capable of producing 550 gpm for 24hrs a day for 365 days of the year, the calculated maximum production capacity is 887 acre feet/year (289,030,217 gallons/yr). This calculated maximum production capacity was the applicants requested permit volume.

In a letter dated 9/30/15 District staff requested additional information in order to evaluate the applicant's calculation method and to better analyze the aquifer pump test data derived from a limited duration well test. Staff also requested information to that documented that the well was completed to final completion.

In a letter dated 10/9/15 the applicant provided a response confirming that the intended run time of the well was 24 hours a day 7 days a week and that the maximum capacity determination of 289 MGY is based on the largest pump that could fit within the well (not the pump that was actually in the well). The applicant also confirmed that to the best of their understanding, the well as completed to final completion.

C. Declarations to Comply with District Rules

Staff verified that the declaration statements listed on the application form were initialized or signed by the applicant. Those statements are as listed:

1. A declaration that the applicant will comply with the District Rules and Bylaws, all orders, and permits promulgated pursuant to the District Rules.
2. A declaration acknowledging that the Temporary Permit conveys no vested rights or privileges other than those set forth in this Section.
3. A declaration that the applicant assumes the risk that the District may grant or deny, wholly or partly, the permit application when the District takes final action after notice and hearing to issue a regular Production Permit pursuant to the application.

D. Copy of Applicable Contracts

Staff verified that this application requirement is not applicable to this application.

E. Well Location and Pumping Rate

Staff verified the coordinates of the well location (Appendix B). Staff also verified the applicant's statement that the average pumping rate documented by the previously conducted pump test is 428 gpm.

F. Receiving Area Location

In the submitted application the applicant provided a map that visually identified the only receiving irrigation area to be along the Blanco River, approximately a mile from well (D) (Appendix C).

In a letter dated 9/30/15 District staff requested additional information in order to confirm that the location shown on the receiving area map is the only existing receiving area for the produced water from well (Well D). Staff also requested the applicant to provide a description and a map that depicts all locations of existing areas receiving water from the well.

In a letter dated 10/9/15 the applicant provided a response confirming that the intended receiving areas include:

- Pasture areas identified on the original map as 'receiving irrigation area';
- The constructed pond water feature; and
- Future pasture areas that have not yet been equipped for receiving irrigation.

V. Site Inspection

In a letter dated 9/30/15 District staff requested an onsite inspection of the well and irrigated areas to provide staff additional clarification in their application review. An inspection took place on 10/14/15 2:30pm – 4:20 pm.

District staff in attendance included:

- Brian Hunt - Senior Hydrogeologist
- Kendall Bell-Enders - Regulatory Compliance Coordinator
- Vanessa Escobar - Regulatory Compliance Coordinator

Applicant representatives in attendance included:

- Kaveh Khorzad - technical consultant/hydrogeologist
- Dan Conway - Ranch Manager /Applicant's Alternate Point of Contact listed on the submitted application

An additional follow-up inspection took place on 10/16/15 4-5 pm.

District staff in attendance included:

- John Dupnik – General Manager

Applicant representatives in attendance included:

- Greg LaMantia – Well Owner

Based on information and obtained during the application review and site inspections, staff's primary observations and conclusions are the following:

Dan Conway's verbal description and account of the property is considered as credible and reliable. He has managed and lived on the ranch for 11 years which included management of the ranch for the previous owner prior to Greg LaMantia. Kaveh Khorzad stated multiple times that he has not been out to the ranch since 2012 and therefore was not aware of the pump/well issues. According to Dan Conway's statements and District staff' observations, staff concludes with confidence that this well was in operation before June 2015 and that the well was primarily used to supplement the ponded water feature used for recreational purposes (swimming, boating, fishing). The ponded water feature has been identified by the applicant as also being used to support wildlife. Staff also concluded that there are several contradictions and inconsistencies within the various supporting application materials compared with what was documented during the onsite inspection.

Well/Pump:

- The well is not currently equipped with a pump and is capped. Staff was told that there was an operating pump in the well, but that it was recently pulled by a local well drilling contractor. The well is only turned on when the pond gets low. The pump installer has stated that there was an obstruction/casing malfunction that prevented them from reinstalling the pump. The well was video logged and the video documents the casing damage and the current state of deterioration and inoperable condition..
- There is no piping conveyance system carrying water to irrigated pasture lands in existence on the property.
- There is a short length of PVC piping conveyance system from the well head to the nearby creek tributary. This PVC piping is currently disconnected but previously allowed for conveyance of well water to be directed to the tributary and transported along a 1-mile route to the pond water feature.

Agricultural Irrigation use prior to 6/19/15:

- Agricultural crop land is currently non-existent. Areas where the applicant identified "pastures" in the application materials, were actually overgrown brush/vegetation areas up until recently when they were cleared to be "rangeland pastures" not "Ag crop pastures".
- There are cleared areas referenced as pastures but they are more accurately described as rangeland pastures. There is no irrigation conveyance to any pasture on the 5,000 acre ranch. The land has been cleared to allow the native rangeland to restore itself.
- Native grass seed has been spread out but not irrigated.

Livestock use prior to 6/19/15:

- There were no cattle present throughout. Previous owner had a few longhorn cattle.
- Cattle were removed when LaMantia took ownership and began to restore land in 2012. Cattle were never returned to ranch.
- Some buffalo and llamas were observed in one of the pastures.

Wildlife:

- Wildlife on the property likely includes simple deer, cats and native species that roam the entire ranch. Wildlife has access to the Blanco, tributary waterways and pond.

2.5 mile Water Pipeline: This was mischaracterized in application. It is a Shell Oil pipeline according to Kaveh and Dan and not a water pipeline as described in the supplemental information.

VI. Verification of Beneficial Use Type

The relevant use type for issuance of the Temporary Production Permit is determined by evaluating the period of time that the well (Well D) operated before the effective date of HB 3405 (6/19/15). The 9/18/15 Needmore permit application provided little information for water well usage before June 19, 2015. The application includes a "receiving area map" showing an irrigation area, but no explanation of irrigation was provided.

In a letter dated 9/19/15, the District requested additional information regarding, among other things, use of the water produced from Well D. In a letter dated 10/9/15, the applicant provided additional information in response to the District's letter request. Most of the 10/9/15 letter focused on plans for future agricultural improvements with very little specifics on use of the well prior to June 19, 2015. The letter noted a 2.5 mile water pipeline to provide water to the Southeast Pasture and that the well is used periodically to supplement a "ponded water feature," which is used for watering domestic livestock and native wildlife. Based upon this representation, District staff asked in an 10/12/15 email to the applicant whether Needmore Water LLC had an approved wildlife management plan. The applicant indicated in an 10/12/15 email that there is a Texas Parks & Wildlife Department (TPWD) deer management plan in place and provided an email from a TPWD representative indicating that Needmore Water LLC has an active wildlife management plan.

On 10/14/15, District staff participated in a site visit to the Needmore Ranch. The consulting hydrogeologist, Kaveh Khorzad, and the ranch manager, Dan Conway, accompanied District staff. Mr. Conway reported Well D is used exclusively to fill the pond, there are no water pipelines, and the well has never been used for irrigation. He also reported that all livestock was removed shortly after the property was acquired. Mr. Conway reported the pond was originally constructed and is used currently for fishing, swimming, and enjoyment. Mr. Conway reported that there is a TPWD "breeding plan."

Based upon the information described above, the District is initially characterizing the use type for Well D as Agricultural Livestock. Although there is no livestock other than Buffalo and llamas on the Needmore Ranch, the definition of Agricultural Livestock use under District Rule 2.1 includes "wildlife management." District Rule 2.1 defines wildlife management to include "the watering and/or feeding of free-ranging, non-caged, wild animals under a management plan approved by TPWD, US Fish and Wildlife Service, or other governmental agency with authority to approve and regulate wildlife management plan." While the District has confirmed the existence of a plan, the District has not received a copy of the plan. During the regular permit review process, District Staff will conduct further review on the use type in order to receive adequate documentation that supports the demonstration of Agricultural Livestock - Wildlife Management as the designated use type. While staff has concluded that the well is used primarily to fill the ponded water feature for recreational purposes, "recreational use" is not defined in the Rules and Bylaws and the Board has not had an opportunity to review the classification.

VII. Well Condition

The District staff learned during the 10/14/15 site visit that the pump in the well (Well D) was pulled on September 4, 2015 by a local Texas licensed pump installer. District staff spoke to representatives from at the well drilling company who confirmed that downhole video footage was collected and revealed that the well casing is broken/damaged and partially blocking the well. It's unclear when the damage occurred. The video log provided to the District confirms the well's deteriorated condition and designation as an abandoned well.

Due to the damage, a pump cannot be placed in the well and the well is incapable of production in this current condition. A deteriorated well is considered an "abandoned well" if it remains improperly constructed. The applicant must address the damage in the well to complete the aquifer test required to process the Regular Permit. The District requests that the applicant provide a plan describing how it will address the well condition so that the Regular Permit can be processed.

VIII. Maximum Production Capacity

In the application request, the applicant stated that an aquifer test was conducted in November 2012 and that data was analyzed using the Theis Recovery method. According to the applicant, based on a pump capable of producing 550 gpm for 24 hrs a day for 365 days of the year, the calculated maximum production capacity is 887 acre feet/year (289,030,217 gallons/yr). This calculated maximum production capacity was the applicant's requested permit volume.

The review process for the regular permit application requires an aquifer test and a hydrogeological report to be considered administratively complete. The District will continue to process the regular permit application provided the well is repaired and recompleted to sufficient standards to allow for an aquifer test, the aquifer test is completed, and the associated Hydrogeologic Report is provided to the District in accordance with the District's aquifer test guidelines and applicable rules.

Due to the current damaged/deteriorated condition of the well it is evident that the well is incapable of producing any groundwater at this time. In addition, the calculation of 887 acre-feet as the maximum capacity of the well does not appear mechanically feasible, nor is it consistent with the District's interpretation of the meaning of the term "maximum production capacity". The pumping rates of 550 gpm is not feasible due to the physical limits of the casing and pump dimensions which would preclude installation or efficient operation of the pump used to derive the requested permit volume. Further, the submitted pump test results were inconclusive and there are practical limits to long-term pumping durations and actual well yield.

Although, no standard definition of "Maximum Production Capacity" of a well can be found in the technical literature. The term is similar to *well yield*, which is the volume of water per unit of time discharged from a well (Driscoll, 1986). The well yield is calculated when the "pumping" water level in the well stabilizes (Todd and Mayes, 2005). Inherent to any well yield or well capacity definition is the concept that no harm will occur to the well or pump during the long-term operation of the well, and the yield is practical and feasible. Since this term may apply to long-term (annual) permitting considerations, the definition needs to be firmly rooted

in data, and not speculative or theoretical estimates. Further, the term needs to represent the practical limitations of an actual operating well, realistic pumping durations, and time needed for recovery. On the basis of these practical considerations, the General Manager interprets the meaning of the term “maximum production capacity” as follows:

Maximum Production Capacity: *The amount of water that can be produced from a well completed in compliance with applicable well construction standards that: 1) achieves a stable pumping level and 2) will not cause adverse effects to the pump or well after long-term operation. The amount may be based on a 36-hour pump test and considers the practical operation duration as 80% of the annual permit term. Inherent to this definition is the correct design of the pump (size, efficiency) for the given well construction and conservative aquifer parameters (head, transmissivity).*

Pump test information submitted with the application indicated an actual pumping rate of 428 gpm and a test duration of approximately 22 hours. Although the testing was not conducted for the requisite 36-hour duration and did not achieve a stable pumping level, the General Manager has determined that, given the limited information, the appropriate authorized volume shall be calculated based on the actual pump test pumping rate of 428 gpm at 80% of the annual permit term. Accordingly, the calculated annual Temporary Production Permit volume is 179,965,440 gallons.

IX. Transport of Groundwater

The pond supplied by Well D is located outside the boundaries of the District. The District is in the process of reviewing whether transport of water from Well D outside the District is authorized under HB 3405 or whether a transport permit and fees are required as would be the case under existing rules applicable to permit holders. Additional guidance will be provided to the applicant during the processing of the Regular Permit.

GENERAL MANAGER CONSIDERATIONS BEFORE TAKING ACTION

If the application conforms to the below requirements then the General Manger shall approve and issue a temporary permit for the requested permit volume not to exceed maximum production capacity, without notice or hearing and within 30 days of receipt of the application.

1. the application conforms to the requirements of this section
2. the application is administratively complete
3. the person's drilling, operating, or other activities associated with the well are consistent with the authorization sought in the permit application

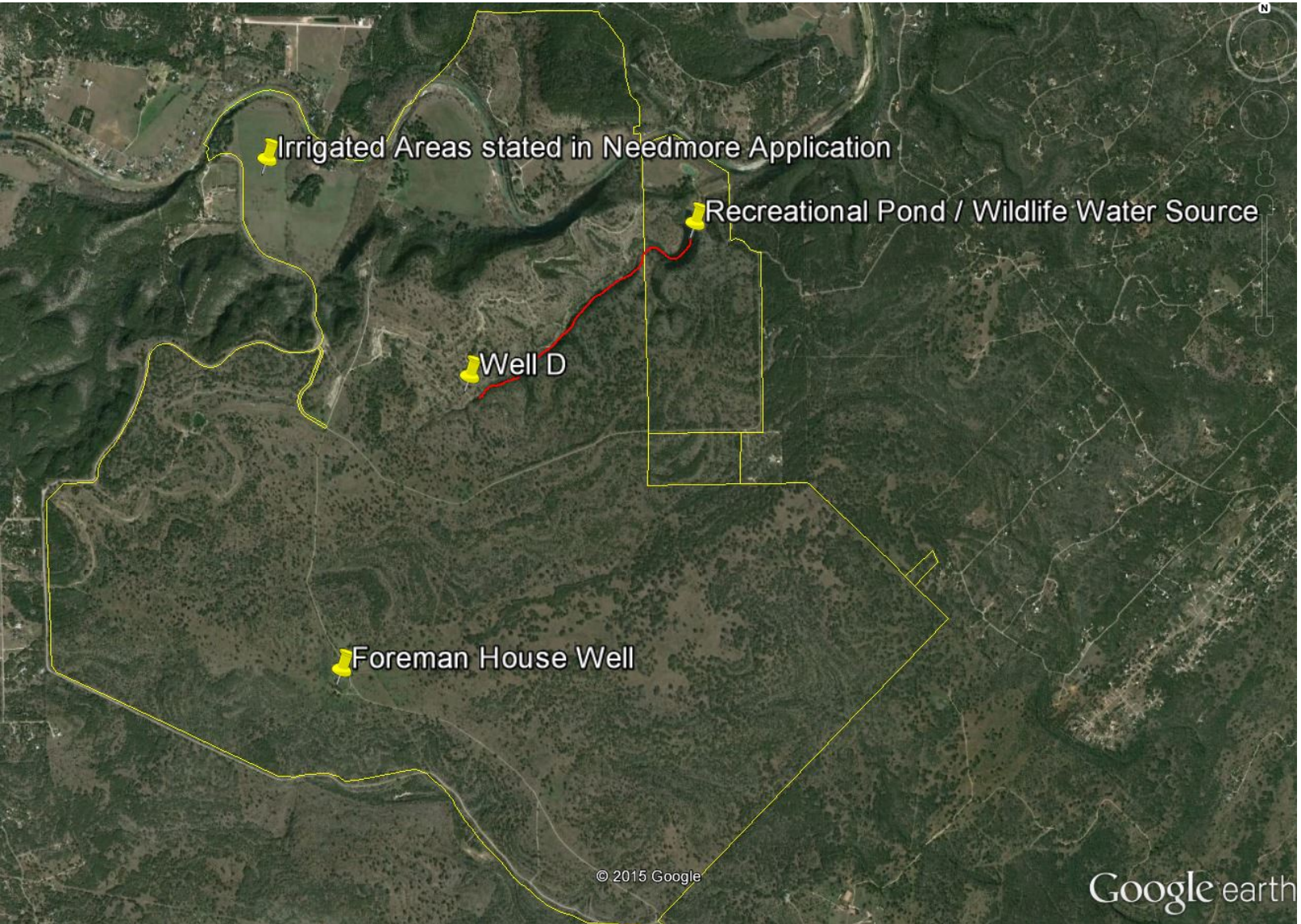
GENERAL MANAGER'S PERMIT DECISION

The District has identified recreation as the primary use type along with wildlife management. Therefore the General Manager has designated the well for Agricultural Livestock use. The authorized withdrawal volume for well D is determined to be a maximum production capacity volume of 179,965,440 gallons as calculated and interpreted by the District. This Temporary Production Permit is approved with a special condition prohibiting operation of the well based on evidence of damage to the well and its current inoperable condition.

APPENDIX A
Images from 10/14/15 Site inspection



APPENDIX B
Map of ranch and well location



APPENDIX C
Applicant's statement of receiving area map

