

Bluebonnet Groundwater Conservation District
1903 Dove Crossing Lane Suite A, P.O. Box 269
Navasota, TX 77868
Phone: 936-825-7303 Fax: 936-825-7331
Email: BGCD@bluebonnetgroundwater.org

BGCD Well ID #: _____

NON-EXEMPT WATER WELL REGISTRATION APPLICATION

Please complete all questions. Please print or type information, or place an "x" in the appropriate space.

Drill New Well: X Register an Existing Well: _____ Replace Existing Well: _____ - Increase Size of Existing Well: _____
Increase Pump Size of Existing Well: _____ Abandon/Cap/Plug Existing Well: _____ Perform Dye Trace: _____

Well Owner Dos Aguas Water LLC. Phone 936-295-3150

Address 455 FM 2296 HUNTSVILLE, TE AS 77340

Fax: _____ Email: dosaguaswater HOTMAIL.COM

Drilling Company: J&S Water Wells Phone 979-865-2393 Address
1056 E First Street Bellville, Texas 77418

Fax: _____ Email: _____

Driller _____ License# _____

Well Location: County, Walker _____ Well Site Address or Location: Near 6 Pine Ridge Lane, Huntsville, Texas 77340

Latitude 30°37'35.88"N Longitude 95°28'42.55"W

Proposed Water Use: Public Water Supply: TEST WELL Industrial: _____ Recreational: _____ Commercial: _____

Hydraulic Fracturing: _____ Transport Outside of District: _____

Proposed depth: 400 ft Aquifer Jasper Date drilling is scheduled to begin Jan 2025 (Test Well)

Proposed casing size: _____ Type _____ Proposed casing depth: 130 ft. Pump depth: 320 ft. Pump size 2 hp.

Pump: Turbine: _____ Submersible: ☒ Windmill: _____ Other (specify): _____

Pump fuel or power source: Electricity: ☒ Natural Gas: _____ Wind: _____ Other (specify): _____

Pump Bowls: Size 3 # of Stages: 7 Pump Column: Inside Diameter: 4 (TBD) in. Length: 290 ft.

Pump discharge pipe: Size 2 in. Rated pump horsepower: 7.5 HP Pump Discharge: 75 - 250 (TBD) gpm

Water bearing formation: _____

Estimated Annual Water Production: 246 Acre-Feet or 80,000,000 Gallons

If the water produced from this well will be used in whole or in part on property other than the property where the well is located, **describe the location where the water will be used.** Transportation of water produced and moved to another location may require a District Transportation Permit. See District Rules, Section 10 or contact the District office for information.

BLUEBONNET GROUNDWATER CONSERVATION DISTRICT

Permit form approved on: _____

By: _____ Zach Holland, General Manger

(Continued) NON-EXEMPT WATER WELL DRILLING PERMIT FORM (Continued)

The following documentation, attachments and fee payments must accompany this form when it is submitted for consideration by the District.

- a. Plat or map showing location of the property and location on property of well for which form is submitted.
- b. If owner and/or operator of a well is different from property owner, provide written documentation from property owner authorizing construction and operation of this well.
- c. All the information and documentation required for the type and class of well for which authorization is requested by Section 8 of the District Rules and that information and documentation required by Rule 8.5.
- d. Forms for non-exempt well authorizations must be accompanied by the information required by Rule 8.5A1:
 - a. 8.5A1(e) – a statement of the projected effect of the proposed withdrawal on the aquifer or aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users in the District;
 - b. 8.5A1(f) – the applicant’s water conservation plan or a declaration the applicant and subsequent user will comply with the District’s management plan;
 - c. 8.5A1(g)(2) – well construction diagram;
 - d. 8.5A1(g)(3) – a map showing the location of the proposed well or wells, all existing well, hydrologic features, and geologic features located within half (1/2) mile radius of the proposed well or wells site;
 - e. 8.5A1(h) – the applicant’s well closure plan or a declaration the applicant will comply with well plugging guidelines and report closure to the applicable authorities, including the District.
- e. Payment for applicable fees must accompany the form. Additional fees may apply as documented in the District’s adopted Fee Schedule.

Well Development Fee	\$75.00	
Operating Permit Application Fee	\$375.00	
Hydrogeologic Report Fee – applicable if well completed with eight (8) inches or greater inside casing diameter		
	Phase I-a Report (less than 200MG/yr)	Phase I-b Report (> 200MG/yr)
District Prepared Report	\$1,500.00	\$7,500.00
Applicant Prepared/District Review	\$500.00	\$1,500.00

- f. Forms for new non-exempt wells must be accompanied by an Operating Permit Application and, if appropriate, a Transport Permit Application.

I, the undersigned applicant, hereby agree and certify that:

- a. this well will be drilled within 30 feet of the location specified and not elsewhere;
- b. I will furnish the District with a copy of the completed driller’s log, any electric log, the well completion report, and any water quality test report within 60 days of completion of this well and prior to production of water there from (other than such production as may be necessary to the drilling and testing of such well);
- c. in using this well, I will avoid waste, achieve water conservation, protect groundwater quality and the water produced from this well will be for a beneficial use;
- d. I will comply with all District and State well plugging and capping guidelines in effect at the time of well closure;
- e. I agree to abide by the terms of the District Rules, the District Management Plan, and orders of the District Board of Directors currently in effect and as they may be modified, changed, and amended from time to time;
- f. I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief.

Signature: MaKayla Commander Date: 12/04/2024
Printed Name: MaKayla Commander Title: Project Manager

Bluebonnet Groundwater Conservation District

303 E. Washington Ave., P.O. Box 269

Navasota, TX 77868

Phone: 936-825-7303 Fax: 936-825-7331

Email: BGCD@bluebonnetgroundwater.org

BGCD Well ID #: _____

WELL OPERATING PERMIT APPLICATION

Please complete all questions. Please print or type information or place an "x" in the appropriate space.

Drill New Well: ☒ Register an Existing Well: _____ Replace Existing Well: _____ Increase Size of Existing Well: _____

Increase Pump Size of Existing Well: _____ Abandon/Cap/Plug Existing Well: _____ Perform Dye Trace: _____

Well Owner DOS AGUAS WATER, LLC Phone 936-295-3150Address 455 FM 2296 HUNTSVILLE, TEXAS 77340

Fax: _____ Email: _____

Drilling Company J&S Water Wells Phone 979-865-2393Address 1056 E First Street Bellville, Texas 77418

Fax: _____ Email: _____

Driller _____ License# _____

Well Location: County WALKER 911 address of well site NEAR 6 PINE RIDGE LANE, HUNTSVILLE. TEXAS 77340Latitude 30°37'35.88"N Longitude 95°28'42.55"WProposed Water Use: Public Water Supply: ☒ Industrial: _____ Recreational: _____ Commercial: _____

Hydraulic Fracturing: _____ Transport Outside of District: _____

Status of well as of application date:

☐ Operating Well (Date drilled _____)☐ Well Completed but not operating (Date Drilled _____)☒ Well Development permit attached or awaiting approval (Test Well)Authorization to produce the following quantity of water annually from this well is: 80,000,000 Gallons

A well operating permit is normally issued for a period of one year (12 months). If a permit for a longer period of time is requested, attach a statement detailing the reasons for a longer permit period and the period of time requested.

If the water produced from this well will be used in whole or in part on property other than the property where the well is located, **describe the location where the water will be used.** Transportation of water produced and moved to another location may require a District Transportation Permit. See District Rules, Section 10 or contact the District office for information.**BLUEBONNET GROUNDWATER CONSERVATION DISTRICT**

Permit application approved on: _____

By: _____ Zach Holland, General Manger

(Continued) WELL OPERATING PERMIT APPLICATION (Continued)

The following documentation, attachments and fee payments must accompany this application when it is submitted for consideration by the District.

- a. Plat or map showing location of the property and location on property of well for which application is submitted.
- b. If the owner and/or the operator of well is different from the property owner, provide written documentation from the property owner authorizing construction and operation of this well.
- c. All the information and documentation required for the type and class of well for which authorization is requested by Section 8 of the District Rules and in particular that information and documentation required by Rule 8.5.
- d. If this permit application is for a well completed with an inside casing diameter of eight (8) inches or greater, or for any of the conditions enumerated in District Rule 8.5 F, a current hydrogeological report (a report completed within 18 months of the date of this application is considered current) shall be submitted with this application.
- e. Payment for applicable fees must accompany application. For a non-exempt well the appropriate Operating Permit Application Fee (\$375.00 + \$750.00 if inside casing diameter is eight (8) inches or greater) must be included.
- f. The applicant's water conservation plan and if any subsequent user of the water is a municipality or entity providing retail water services, the water conservation plan of that municipality or entity shall also be provided. In lieu of a water conservation plan, a declaration that the applicant and/or a subsequent user if any subsequent user is a municipality or entity providing retail water services will comply with the District Management Plan.
- g. The applicant's Drought Contingency Plan and a copy of any subsequent user's Drought Contingency Plan or a declaration that the applicant or a subsequent user will comply with District rules, policies and Board actions in drought conditions.

I, the undersigned applicant, hereby agree and certify that:

- a. in using this well, I will avoid waste, achieve water conservation, protect groundwater quality and the water produced from this well will be for a beneficial use;
- b. I will comply with all District and State well plugging and capping guidelines in effect at the time of well closure;
- c. I agree to abide by the terms of the District Rules, the District Management Plan and orders of the District Board of Directors currently in effect and as they may be modified, changed and amended from time to time;
- d. I hereby certify that the information contained herein is true and correct to the best of my knowledge and belief.


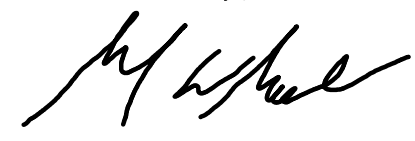
Signature: Makayla Commander Date: 1/31/2025

Printed Name: Makayla Commander Title: Project Manager

CONSTRUCTION DRAWINGS FOR
DOS AGUAS PROPOSED WATER WELL #4
TO SERVE
LEGACY RANCH SUBDIVISION
WALKER COUNTY, TEXAS
JANUARY 2025

REV	DATE
COMMENT	
REV	DATE
COMMENT	





1/7/2025

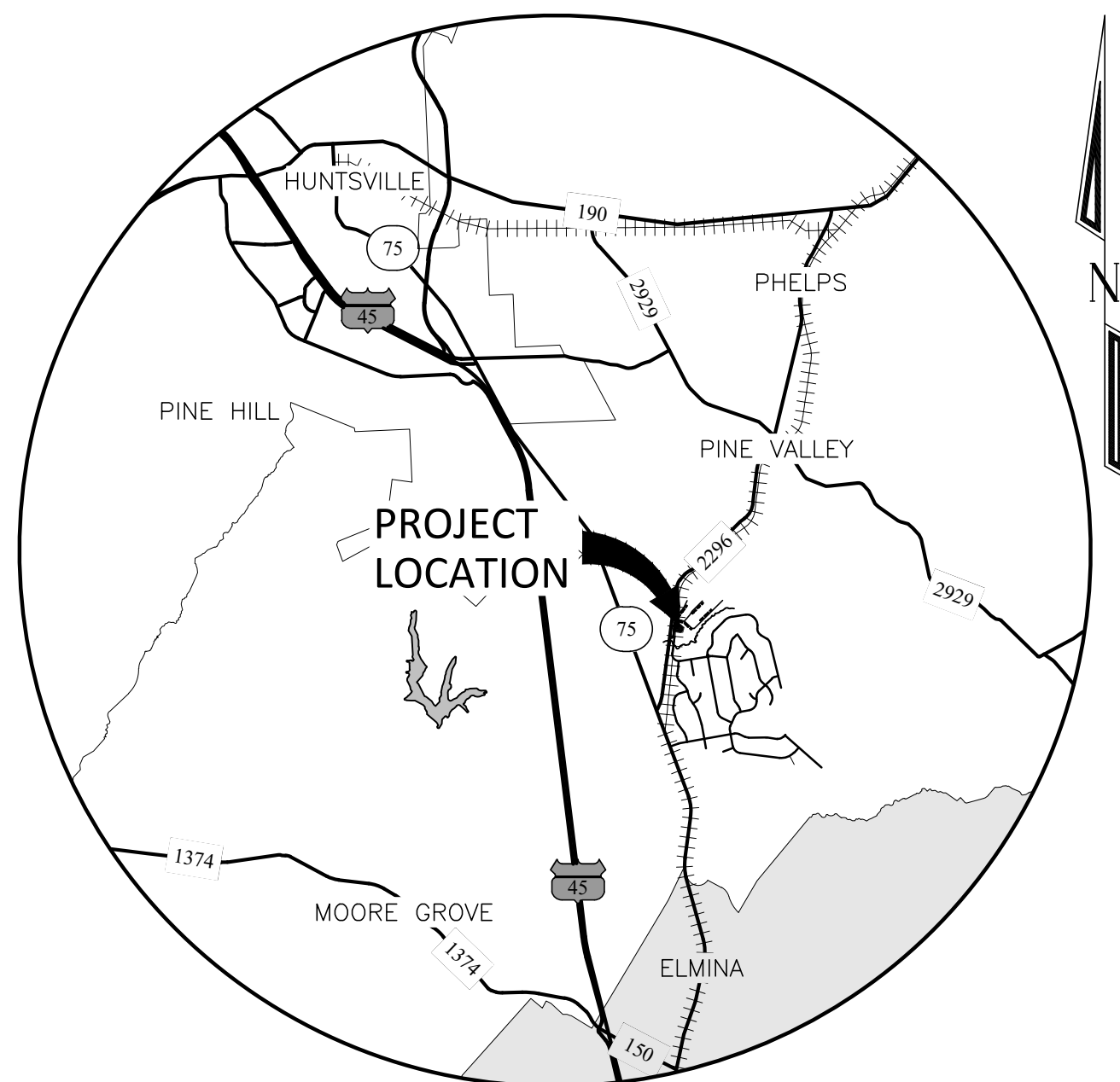
COVER

CONSTRUCTION DRAWINGS FOR
DOS AGUAS PROPOSED WATER WELL #4
TO SERVE
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WALKER COUNTY, TEXAS

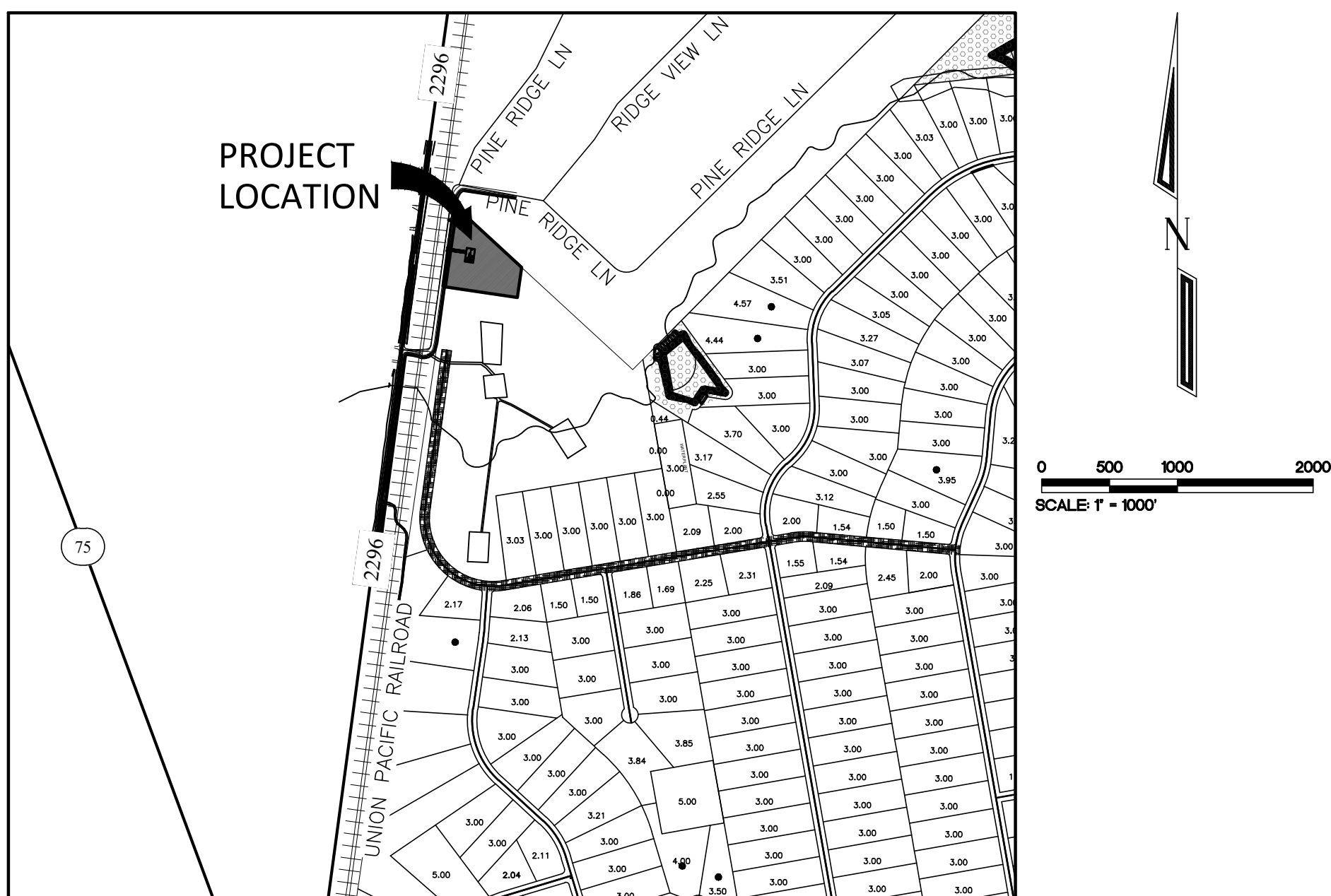
LIGHTPOINT ENGINEERING, LLC
604 W. WORKSHAM ST., STE 100
WILLIS, TEXAS 77378
TEL (936) 256-2626
TBPE Firm No. 18938

ISSUED FOR CONSTRUCTION
DOS AGUAS WATER LLC
435 FM 2296
HUNTSVILLE, TX 77340

JOB #
GCL718-03A
SHEET:
1 OF: 6



VICINITY MAP
WALKER COUNTY
SCALE : N.T.S.



HUNTSVILLE TEXAS
WALKER COUNTY

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	CONSTRUCTION NOTES
3	EXISTING SITE
4	PROPOSED SITE
5	PROPOSED SANITARY CONTROL EASEMENT PLAN
6	WELL DETAILS

FLOOD PLAIN: THIS PROJECT DOES NOT LIE WITHIN THE 100 YEAR FLOOD PLAIN IN ACCORDANCE WITH FEMA COMMUNITY MAP PANEL NO.48471C0400D, CITY OF WALKER, TEXAS. EFFECTIVE DATE AUGUST 16, 2011.

"I CERTIFY THAT THESE PLANS WHICH BEAR MY SEAL HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND ARE IN COMPLIANCE WITH ALL APPLICABLE CITY, STATE, AND FEDERAL REQUIREMENTS."

CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, AND CONFIRM POINTS OF CONNECTIONS TO EXISTING IMPROVEMENTS, INCLUDING CONFIRMATION OF ELEVATIONS AND GRADES OF EXISTING FACILITIES AND UTILITIES PRIOR TO STARTING ANY GRADING, PAVING OR UTILITY INSTALLATION. VERIFICATION OF LOCATIONS AND FUNCTIONS OF EACH EXISTING STRUCTURE OR SYSTEM AND ALL EXISTING UTILITY GRADES AND INVERT ELEVATIONS IS THE CONTRACTOR'S RESPONSIBILITY. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. ANY CONFLICTS OR ERRORS BETWEEN EXISTING FIELD CONDITIONS AND ENGINEERING PLANS MUST BE RESOLVED PRIOR TO STARTING EXCAVATION OR SETTING ANY GRAVITY SEWER (STORM OR SANITARY) AND APPURTENANCES.

LOCATION AND ELEVATION OF EXISTING IMPROVEMENTS SHOWN HEREIN ARE PROVIDED BY OTHERS. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AT ALL CROSSINGS AND CONNECTION POINTS PRIOR TO ANY TRENCHING OR EXCAVATION OPERATIONS. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.

CAUTION!!
BEFORE YOU DIG - CALL

DIG TESS (800) 344-8377
SAM HOUSTON (800) 458-0381
CONSOLIDATED COMMUNICATIONS 811 FOR BURIED OR 1-(888) 800-1611 SERVICE
LONE STAR NOTIFICATION CENTER (800) 669-8344
RELIANT ENERGY ENTEX

ITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS
MENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS
E CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH
MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM,
IC WATER SYSTEMS MUST ALWAYS MEET TCEQ'S "RULES AND REGULATIONS FOR

3. THESE PUBLIC WATER FACILITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (CEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D. WHEN CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED. AT A MINIMUM, CONSTRUCTION FOR PUBLIC WATER SYSTEMS MUST ALWAYS MEET CEQ'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
2. THE PREMISES, MATERIALS, TOOLS, AND DRILLING EQUIPMENT SHALL BE MAINTAINED SO AS TO MINIMIZE CONTAMINATION OF THE GROUNDWATER DURING DRILLING OPERATION.
3. WATER USED IN ANY DRILLING OPERATION MUST BE OF SAFE SANITARY QUALITY. WATER USED IN THE MIXING OF DRILLING FLUIDS OR MUD SHALL CONTAIN A CHLORINE RESIDUAL OF AT LEAST 0.5 MILLIGRAMS PER LITER (MG/L).
4. THE SLUSH PIT SHALL BE CONSTRUCTED AND MAINTAINED SO AS TO MINIMIZE CONTAMINATION OF THE DRILLING MUD.
5. NO TEMPORARY TOILET FACILITIES SHALL BE MAINTAINED WITHIN 150 FEET OF THE WELL BEING CONSTRUCTED UNLESS THEY ARE OF A SEALED, LEAKPROOF TYPE.
6. THE CONSTRUCTION, DISINFECTION, PROTECTION, AND TESTING OF A WELL TO BE USED AS A PUBLIC WATER SUPPLY SOURCE MUST MEET THE FOLLOWING CONDITIONS:
 - a. THE CASING MATERIAL USED IN THE CONSTRUCTION OF WELLS FOR PUBLIC USE SHALL BE NEAR CARBON STEEL, HIGH STRENGTH LOW ALLOY STEEL, STAINLESS STEEL, OR PLASTIC. THE MATERIAL SHALL CONFORM TO THE MOST RECENT AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS. THE CASING SHALL EXTEND A MINIMUM OF 18 INCHES ABOVE THE ELEVATION OF THE FINISHED FLOOR OF THE PUMP ROOM OR NATURAL GROUND SURFACE AND A MINIMUM OF ONE INCH ABOVE THE SEALING BLOCK OR PUMP MOTOR FOUNDATION BLOCK WHEN PROVIDED. THE CASING SHALL EXTEND AT LEAST TO THE DEPTH OF THE FLOODED WATER FORMATION TO BE DEVELOPED AND DEEPER, IF NECESSARY, IN ORDER TO ELIMINATE ALL UNDESIRABLE WATER BEARING STRATA. WELL CONSTRUCTION MATERIALS CONTAINING MORE THAN 0.25 PERCENT LEAD ARE PROHIBITED.
 - b. THE SPACE BETWEEN THE CASING AND DRILL HOLE SHALL BE SEALED BY USING ENOUGH CEMENT UNDER PRESSURE TO COMPLETELY FILL AND SEAL THE ANNULAR SPACE BETWEEN THE CASING AND THE DRILL HOLE. THE WELL CASING SHALL BE CEMENTED IN THIS MANNER FROM THE TOP OF THE SHALLOWEST FORMATION TO THE DEPTH OF THE EARTH'S SURFACE. THE DRILLER SHALL UTILIZE A PRESSURE CEMENTATION METHOD IN ACCORDANCE WITH THE AWWA STANDARD FOR WATER WELLS (A100-15) OR MOST RECENT, APPENDIX C: SECTION 2 (POSITIVE DISPLACEMENT EXTERIOR METHOD); SECTION 3 (INTERIOR METHOD WITHOUT PLUG); SECTION 4 (POSITIVE PLACEMENT, INTERIOR METHOD, DRILLABLE PLUG); AND SECTION C5 (PLACEMENT THROUGH FLOAT SHOE ATTACHED TO BOTTOM OF CASING).
 - c. THE GROUTING MIXTURE USED TO PRESSURE CEMENT THE ANNULAR SPACE SHALL BE NEAT CEMENT AS STATED IN THE CEMENTING SPECIFICATIONS. THE GROUTING WATER SHALL BE MIXED TO A MAXIMUM OF 6% BY DRY WEIGHT, BENTONITE AND 2% BY DRY WEIGHT, CALCIUM CHLORIDE MAY BE ADDED. THE MINIMUM ANNULAR SPACE BETWEEN THE OUTSIDE DIAMETER OF THE CASING PIPE AND THE BOREHOLE SHALL BE NO LESS THAN 1 1/2 INCHES IN RADIAL THICKNESS OR THREE INCHES IN NET DIAMETRICAL DIFFERENCE AND THE PRESSURE GROUTING SHALL BE FROM THE BOTTOM UPWARD UTILIZING ONE OF THE METHODS LISTED IN THIS SUBPARAGRAPH FOR ALL PUBLIC WATER SYSTEM GROUNDWATER WELL CONSTRUCTION.
 - d. ALL GRAVEL SHALL BE OF SELECTED AND GRADED QUALITY AND SHALL BE THOROUGHLY DISINFECTED WITH A 50 MG/L CHLORINE SOLUTION AS IT IS ADDED TO THE WELL CAVITY.
 - e. SAFEGUARDS SHALL BE TAKEN TO PREVENT POSSIBLE CONTAMINATION OF THE WATER OR DAMAGE BY TRESPASSERS FOLLOWING THE COMPLETION OF THE WELL AND PRIOR TO INSTALLATION OF PERMANENT PUMPING EQUIPMENT.
 - f. UPON WELL COMPLETION, OR AFTER AN EXISTING WELL HAS BEEN REWORKED, THE WELL SHALL BE DISINFECTED IN ACCORDANCE WITH RECENT AWWA STANDARD C654-13 OR MOST RECENT FOR WELL DISINFECTION EXCEPT THAT THE DISINFECTANT SHALL REMAIN IN THE WELL FOR AT LEAST 12 HOURS.
7. DECONTAMINATION OF DISINFECTING WATER SHALL BE IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD C655-09 OR MOST RECENT.
8. THE WELL SITE SHALL BE FINE GRADED SO THAT THE SITE IS FREE FROM DEPRESSIONS, REVERSE GRADES, OR AREAS TOO ROUGH FOR PROPER GROUND MAINTENANCE SO AS TO ENSURE THAT SURFACE WATER WILL DRAIN AWAY FROM THE WELL. IN ALL CASES, ARRANGEMENTS SHALL BE MADE TO CONVEY WELLS PUMP DRAINAGE, BACKFLOW, AND FLOOD AND FLOOR DRAINAGE AWAY FROM THE WELLHEAD. SUITABLE DRAIN PIPES LOCATED AT THE OUTER EDGE OF THE CONCRETE FLOOR SHALL BE PROVIDED TO COLLECT THIS WATER AND PREVENT ITS PONDING OR COLLECTING AROUND THE WELLHEAD. THIS WASTEWATER SHALL BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ANY NUISANCE FROM MOSQUITO BREEDING OR STAGNATION. DRAINS SHALL NOT BE DIRECTLY CONNECTED TO STORM OR SANITARY SEWERS.
9. A CONCRETE SEALING BLOCK EXTENDING AT LEAST THREE FEET FROM THE WELL CASING IN ALL DIRECTIONS, WITH A MINIMUM THICKNESS OF SIX INCHES AND SLOPED TO DRAIN AWAY AT NOT LESS THAN 0.25 INCHES PER FOOT SHALL BE PROVIDED AROUND THE WELLHEAD.
10. WELLHEADS AND PUMP BASES SHALL BE SEALED BY A GASKET OR SEALING COMPOUND AND PROPERLY VENTED TO PREVENT THE POSSIBILITY OF CONTAMINATING THE WELL WATER. A WELL CASING VENT SHALL BE PROVIDED WITH AN OPENING THAT IS COVERED WITH 16-MESH OR FINER CORROSION RESISTANT MATERIAL, SLOPING DOWNWARD, ELEVATED AND LOCATED SO AS TO MINIMIZE THE DRAWING OF CONTAMINANTS INTO THE WELL. WELLHEADS AND WELL VENTS SHALL BE AT LEAST TWO FEET ABOVE THE HIGHEST KNOWN WATERMARK OR 100 YEAR FLOOD ELEVATION, IF AVAILABLE OR ADEQUATELY PROTECTED FROM POSSIBLE FLOOD DAMAGE BY LEVELS.

11. IF A WELL BLOW OFF LINE IS PROVIDED, ITS DISCHARGE SHALL TERMINATE IN A DOWNWARD DIRECTION AND AT A POINT WHICH WILL NOT BE SUBMERGED BY FLOOD WATERS.
12. A SUITABLE SAMPLING COCK SHALL BE PROVIDED ON THE DISCHARGE PIPE OF EACH WELL PUMP PRIOR TO ANY TREATMENT.

13. FLOW MEASURING DEVICES SHALL BE PROVIDED FOR EACH WELL TO MEASURE PRODUCTION YIELDS AND PROVIDE FOR THE ACCUMULATION OF WATER PRODUCTION DATA. THESE DEVICES SHALL BE LOCATED TO FACILITATE DAILY READING.

14. ALL COMPLETED WELL UNITS SHALL BE PROTECTED BY INTRUDER RESISTANT FENCES, THE GATES OF WHICH ARE PROVIDED WITH LOCKS OR SHALL BE ENCLOSED IN LOCKED, VENTILATED WELL HOUSES TO EXCLUDE POSSIBLE CONTAMINATION OR DAMAGE TO THE FACILITIES BY TRESPASSERS. THE GATES OR WELL HOUSES SHALL BE LOCKED DURING PERIODS OF DARKNESS AND WHEN THE PLANT IS UNATTENDED.

15. AN ALL-WEATHER ACCESS SHALL BE PROVIDED TO EACH WELL SITE. 16. AN AIR RELEASE DEVICE SHALL BE INSTALLED IN SUCH A MANNER AS TO PRECLUDE THE POSSIBILITY OF SUBMERGENCE OR POSSIBLE ENTRANCE OF CONTAMINANTS. IN THIS RESPECT, ALL OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER, CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT.

NS MUST BE AUTHORIZED

1. REVISIONS TO THESE ENGINEERING PLANS MUST BE AUTHORIZED BY LIGHTPOINT ENGINEERING PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY LIGHTPOINT ENGINEERING, MIKE MATHENA (936-2561-2626) 48 HOURS PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL:
 - a. NOTIFY ALL APPROPRIATE UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION.
 - b. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR ENGINEER APPROVAL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY AND SAFETY PROVISIONS FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR THE STORAGE OF MATERIALS IN SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES DURING ALL HOURS UNTIL PROJECT COMPLETION.
5. CONTRACTOR IS RESPONSIBLE FOR KEEPING ACCURATE RECORDS SHOWING THE INSTALLED LOCATIONS OF ALL IMPROVEMENTS, AND SHALL PROVIDE TO THE ENGINEER UPON PROJECT COMPLETION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE MUD AND /OR DIRT DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY. ALL EQUIPMENT AND DEBRIS FROM CONSTRUCTION TO BE REMOVED FROM THE SITE AT END OF PROJECT.
7. AFTER DISTURBED AREAS HAVE BEEN COMPLETED TO THE LINES, GRADES, AND CROSS-SECTIONS SHOWN ON THE PLANS, CONTRACTOR IS RESPONSIBLE FOR ACHIEVING 70% VEGETATION COVERAGE.
8. SIGNING, BARRICADING AND LIGHTING FOR CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE AND OTHER APPLICABLE STATE OR LOCAL STANDARDS. SIGNS, BARRICADES AND LIGHTS SHALL BE KEPT CLEAN, OPERATIONAL AND PROPERLY POSITIONED TO ASSURE PROPER SAFETY PRECAUTIONS.
9. ALL TESTING PROCEDURES USED ON THIS PROJECT SHALL CONFORM TO THE TCEQ, AWWA, NSF OR OTHER APPLICABLE STANDARDS. THE TESTING EXPENSE SHALL BE BORNE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
10. TEXAS LAW SECTION 1466C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN 6 FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATION, TITLE 29, PART 910.130 (I) AND PART 1926.440 (A) (15) REQUIRE A MINIMUM CLEARANCE OF 10 FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND

OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF YOU OR YOUR COMPANY MUST WORK NEAR OVERHEAD POWER LINES, CALL THE POWER COMPANY FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT YOUR EXPENSE.

1. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITH FACILITIES IN THE PROJECT LOCATION A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES IN THE RESPECTIVE WORK AREAS. ADEQUATE PROVISIONS FOR PROTECTING EXISTING FACILITIES SHOULD BE EMPLOYED.
2. ALL UNDERGROUND UTILITY LINES, SHOWN ON THE PLANS ARE TO MAKE THE CONTRACTOR AWARE THAT THE EXIST, NEITHER THE OWNER, NOR THE ENGINEER, GUARANTEES THEIR ACCURACY. THERE IS NO GUARANTEE THAT ALL EXISTING UTILITIES ARE SHOWN.
3. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT ALL CROSSINGS TO DETERMINE IF ANY CONFLICTS EXIST BEFORE COMMENCING ANY CONSTRUCTION. NOTIFY THE ENGINEER AT ONCE OF ANY CONFLICTS.
4. THE LATEST TCEQ REGULATIONS MUST BE FOLLOWED FOR CROSSINGS OF SANITARY SEWER MAINS AND WATER MAINS. IT IS THE INTENT THAT THE MOST ECONOMICALLY ACCEPTABLE ALTERNATIVE BE USED. ACCORDINGLY, FIELD VERIFICATION OF EXISTING UTILITY GRADES IS IMPERATIVE.
5. FINAL COVER OF INSTALLED LINES SHALL NOT BEGIN PRIOR TO OBSERVATION AND ACCEPTANCE BY THE OWNER OR ENGINEER.
6. CONNECTIONS TO EXISTING LINES SHALL INCLUDE ALL REQUIRED FITTINGS AND MATERIALS REQUIRED TO MAKE A TIE IN MEETING ALL APPLICABLE REQUIREMENTS.
7. THE LOADING AND UNLOADING OF ALL MATERIALS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL TAKE PLACE ON THE SITE. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR MATERIALS AND EQUIPMENT.
8. ALL MATERIALS AND EQUIPMENT SHALL BE BOTH FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.
9. CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISIONS OF OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF OSHA OR REFERRED TO IN THE REGULATION, PART 1926, SUB-PART A AS PUBLISHED IN THE FEDERAL REGISTER, VOLUME 54, NO. 209, DATED OCTOBER 31, 1989, AND LATEST REVISIONS.
10. DETAILS PREPARED DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY CHAPTER 756, SUBCHAPTER "C" OF THE TEXAS HEALTH AND SAFETY CODE.
11. CONTRACTOR IS RESPONSIBLE FOR COVERING OPEN EXCAVATIONS DURING NON-WORKING HOURS.
12. ALL TRENCHES, INCLUDING TRENCHES FOR LEADS AND STUBS UNDER PAVEMENT AND TO A POINT ONE (1) FOOT BELOW TO A POINT IMMEDIATELY BELOW THE SURGRADE. TRENCHES OTHER THAN UNDER PAVEMENT SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL IN 6 INCH LAYERS AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO T99). MOISTURE CONTENT OF BACKFILL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEMENT STABILIZED SAND SPECIFICATIONS. SEE DETAIL SHEETS FOR BEDDING AND OTHER DESIGN REQUIREMENTS.
13. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, AND CONFIRM POINTS OF CONNECTIONS TO EXISTING IMPROVEMENTS, INCLUDING CONFIRMATION OF ELEVATIONS AND GRADES OF EXISTING FACILITIES AND UTILITIES PRIOR TO STARTING ANY GRADING, PAVING OR UTILITY INSTALLATION. VERIFICATION OF LOCATIONS AND FUNCTIONS OF EACH EXISTING STRUCTURE OR SYSTEM AND ALL EXISTING UTILITY GRADE AND INVERT ELEVATIONS IS THE CONTRACTOR'S RESPONSIBILITY. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY. ANY CONFLICTS OR ERRORS BETWEEN EXISTING FIELD CONDITIONS AND ENGINEERING PLANS MUST BE RESOLVED PRIOR TO STARTING EXCAVATION OR SETTING ANY GRAVITY SEWER (STORM OR SANITARY) AND APPURTENANCES. CONTRACTOR IS RESPONSIBLE FOR COMPLETING CERTIFICATION FORM 060293 IN THE BID PACKAGE PRIOR TO START OF CONSTRUCTION.
14. ALL UNSATISFACTORY AND/OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE HAD REMOVED AND SITE BY THE CONTRACTOR. INCLUDE COST OF THIS WORK, INCLUDING Haul, IN OTHER ITEMS OF THIS PROJECT.
15. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION OF PROPOSED FACILITIES.
16. CONTRACTOR SHALL CONFINE ALL WORK EFFORTS WITHIN THE DESIGNATED WORK AREA UNLESS SPECIFICALLY AUTHORIZED BY THE OWNER. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO NEIGHBORING PROPERTIES.
17. THIS DESIGN WAS BASED ON A SURVEY PROVIDED BY OTHERS.
18. CONTRACTOR IS RESPONSIBLE OF SITE SECURITY AT EACH WATER PLANT SITE DURING CONSTRUCTION.

THIS PROJECT RANGING IN SIZE FROM

1. ALL PVC WATER MAINS USED IN THIS PROJECT RANGING IN SIZE FROM 6" THROUGH 16" SHALL BE C-900-81 OR LATEST REVISION.
2. ALL WATER MAINS UNDER STREET PAVEMENT - 4" THROUGH 12" IN DIAMETER, IF NOT SPECIFIED OTHERWISE, SHALL BE AWWA C-900 PVC PIPE.
3. ALL WATER LINES, AFTER INSTALLATION, SHALL BE THOROUGHLY DISINFECTED ACCORDING TO AWWA SPECIFICATIONS C-601 AND THEN FLUSHED BEFORE BEING PLACED INTO SERVICE. WATER SAMPLES SHALL BE COLLECTED FOR BACTERIOLOGICAL ANALYSIS AND LINES SHALL NOT BE ACCEPTED FOR SERVICE UNTIL WATER SAMPLES MEET THE REQUIREMENTS OF THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION.
4. CONTRACTOR TO ALLOW MINIMUM 6" CLEARANCE BETWEEN PROPOSED WATER LINE AND OTHER EXISTING OR PROPOSED UTILITIES.
5. MINIMUM OF ONE JOINT OF PIPE SHALL BE INSTALLED GATE VALVE AND PLUG ON DEAD END LINES.

LOCATION OF ENTEN MAIN LINES (TO INCLUDE UNIT GAS TRANSMISSION, AND/OR INDUSTRIAL GAS SUPPLY CORPORATION, WHERE APPLICABLE) AS SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE (A COMMITTEE OF THE UTILITY INDUSTRY) FOR THE CITY OF CHICAGO TO OBTAIN THE LOCATION OF THE SERVICE LINES FIELD LOCATED. 1) WHEN ENTEN PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713)967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS. 2) WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF ENTEN FACILITIES, A QUALIFIED PERSON SHALL COMPLY WITH THE FOLLOWING EXCAVATION PROCEDURES. 3) WHEN ENTEN FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.

1. ALL INTERNAL PLANT PIPING SHALL BE DUCTILE IRON PIPE OR WELDED STEEL PIPE RATED FOR AN INTERNAL WORKING PRESSURE OF 150 PSI. PIPE USED WITH THREADED OR FLANGED CONNECTIONS SHALL BE THICKNESS CLASS 53 (MINIMUM). ALL PIPING SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH ANSI/AWWA C151-96.
2. DUCTILE IRON AND WELDED STEEL PIPE WILL BE CEMENT MORTAR LINED IN ACCORDANCE WITH ANSI/AWWA C104-A21.4-95 (AND NSF STANDARD 51). ALL OTHER PIPE SHALL HAVE INTERNAL COATING WHICH MEETS NSF STANDARD 61.
3. FLANGED FITTINGS AND/OR COMPRESSION-TYPE PUSH ON FITTINGS SHALL BE RATED FOR AN INTERNAL WORKING PRESSURE OF 150 PSI. ALL FITTINGS SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH ANSI/AWWA C110/A21.10-93.
4. ALL THREADED FLANGES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH ANSI/AWWA C115/A21.15-94.
5. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL UNDERGROUND TEES, BENDS AND LATERALS. THEY SHALL BE BUILT IN ACCORDANCE WITH DETAILS PROVIDED.
6. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED. UNDERGROUND DUCTILE IRON PIPING CONNECTIONS AT TO BE BOLTS AND PUSH-ON AFTER THE FIRST JOINT BELOW GRADE.
7. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.
8. ALL INTERNAL WATER PLANT VALVES SHALL OPEN COUNTERCLOCKWISE. VALVES WITHIN PUBLIC STREET RIGHTS-OF-WAY SHALL OPEN CLOCKWISE. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH ANSI/AWWA C509-94 (GATE VALVES) AND ANSI/AWWA C504-94 (BUTTERFLY VALVES).
9. ALL ABOVE-GRADE VALVES 12 INCHES AND SMALLER SHALL BE FLANGED AND OS&Y GATE VALVES WITH RESILIENT SEATS.

10. ALL BELOW-GRADE VALVES 12 INCHES AND SMALLER SHALL BE N.R.S GATE VALVES WITH RESILIENT SEATS, GASKETED AND HUB-ENDS, EXCEPT WHERE FLANGED ENDS ARE CALLED OUT ON THE DRAWINGS.
11. ALL VALVES LARGER THAN 12-INCH SHALL BE GASKETED, FLANGED RUBBER SEATED BUTTERFLY VALVES. ABOVE-GROUND BUTTERFLY VALVES SHALL HAVE POST INDICATOR AND HANDWHEEL.
12. ALL BURIED VALVES SHALL BE EQUIPPED WITH VALVE BOXES.
13. SIX-INCH TO 12-INCH WATER LINES SHALL HAVE A MINIMUM COVER OF FOUR FEET. 16-INCH AND LARGER WATER LINES SHALL HAVE A MINIMUM COVER OF FIVE FEET.
14. ALL EXCAVATIONS OVER FIVE FEET DEEP SHALL HAVE TRENCH SAFETY SYSTEM.
15. ALL WATERLINE CONSTRUCTION IS TO BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
16. ALL PIPE SHALL BE SUPPLIED IN ACCORDANCE WITH SECTION 02610. ALL BURIED DUCTILE IRON PIPE SHALL BE COVERED WITH 8 MILS MINIMUM OF COATING EPOXY AND WRAPPED WITH POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANSI/AWWA C105/A21.5-93.
17. ALL PRESSURE OR ALTITUDE GAUGES SHALL HAVE A 4-1/2" FACE DIAMETER, LIQUID FILLED STAINLESS STEEL CASE WITH 1/2" BOTTOM CONNECTION.
18. PROVIDE PROTECTIVE COATING FOR TANKS, PIPING, VALVES, CONTROL BUILDING AND OTHER APPURTENANCES IN ACCORDANCE WITH SECTION 09916.
19. CONTRACTOR SHALL FOLLOW CONSTRUCTION DETAILS IF DRAWINGS DIFFER FROM REFERENCE STANDARDS.
20. SITE FENCING SHALL CONSIST OF A SIX FOOT HIGH CHAIN LINK FENCE WITH THREE STRANDS OF BARBED WIRE.
21. ALL KNOWN EXISTING OR FUTURE SANITARY SEWER LINES WITHIN 200 FEET OF THE WATER PLANT ARE SHOWN.
22. HYDRO-MULCH SEED THE DISTURBED AREAS OF THE PLANT IN ACCORDANCE WITH SPECIFICATIONS.
23. CONTRACTOR SHALL OBTAIN ALL CITY, COUNTY, STATE AND FEDERAL PERMITS. ENGINEER WILL ASSIST WHERE NECESSARY. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY THE COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT PRIOR TO STARTING CONSTRUCTION.
24. CONTRACTOR TO CONTACT THE UTILITY COORDINATING COMMITTEE FOR LOCATION OF EXISTING FACILITIES AT LEAST 48 HOURS BEFORE STARTING CONSTRUCTION.
25. CONTRACTOR SHALL PROTECT, MAINTAIN, AND RESTORE TO ORIGINAL CONDITION OR BETTER ANY ON-SITE OR OFF-SITE AREAS THAT ARE AFFECTED BY CONSTRUCTION.
26. REINFORCED WELDED WIRE FABRIC MUST BE PROVIDED IN SHEETS. ROLLED WELDED WIRE FABRIC IS NOT ALLOWED.
27. NEAT FORMS ARE ALLOWED ON ALL FOUNDATIONS EXCEPT GROUND STORAGE TANK RINGS. GROUND STORAGE TANK RINGS MUST BE INSPECTED FOR HONEYCOMBING INSIDE AND OUT PRIOR TO BACKFILL.



My wife

1/7/2025

CONSTRUCTION NOTES

**CONSTRUCTION DRAWINGS FOR
DOS AGUAS PROPOSED WATER WELL #4
TO SERVE
LEGACY RANCH SUBDIVISION
WALKER COUNTY TEXAS**

LIGHTPOINT ENGINEERING, LLC

604 W. WORTHAM ST., STE 100
WILLIS, TEXAS 77378
TEL (936) 256-2626
TBPE Firm No. 18938

ISSUED FOR CONSTRUCTION

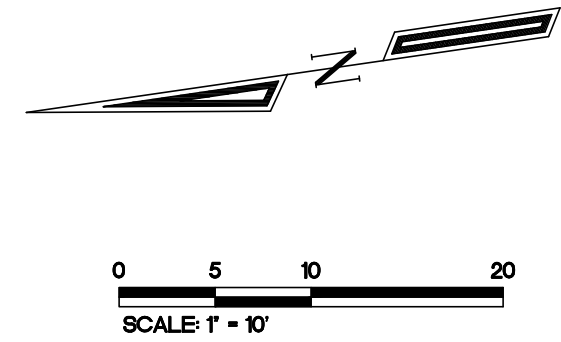
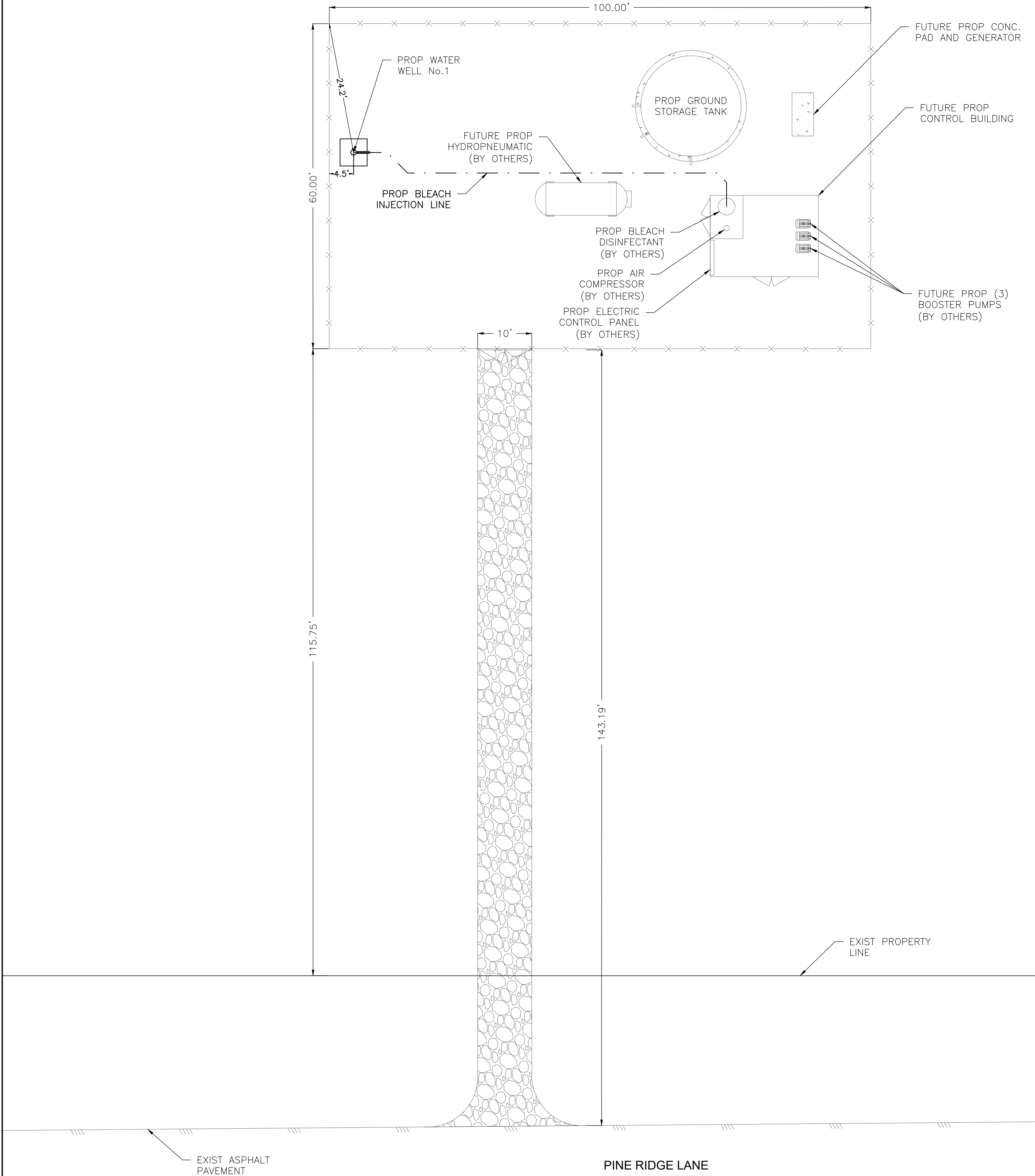
DOS AGUAS WATER LLC
455 FM 2296
HUNTSVILLE, TX 77340

JOB #

GCL718-03A

SHEET:

2 OF: 6



- CONSTRUCTION NOTES:
1. CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND DIMENSIONS.
 2. LOCATION OF UNDERGROUND UTILITIES AND PIPES ARE APPROXIMATE, MUST FIELD VERIFY.

- WELL INSTALLATION NOTES:
1. DISRUPTION TO THE EXISTING WATER SERVICE AND TREATMENT SHALL BE MINIMIZED AT ALL TIMES.
 2. WATER WELL HEADER CONFIGURATION AND HOOK- UP INTO OTHER FACILITIES OF THIS WATER PLANT SHALL BE CONDUCTED BY OTHERS (SITEWORK CONTRACTOR).
 3. NO LIVESTOCK SHALL BE ALLOWED WITHIN 50 FEET OF THE PROPOSED WATER WELL.
 4. WELL BUFFER ZONE IS PART OF SANITARY SEWER CONTROL EASEMENT. NO SEPARATE EASEMENT REQUIRED.

CAUTION!!
BEFORE YOU DIG – CALL

DIG TESS

(800) 344-8377

SAM HOUSTON

(800) 458-0381

CONSOLIDATED COMMUNICATIONS

811 FOR BURIED OR 1-(888) 800-1611 SERVICE

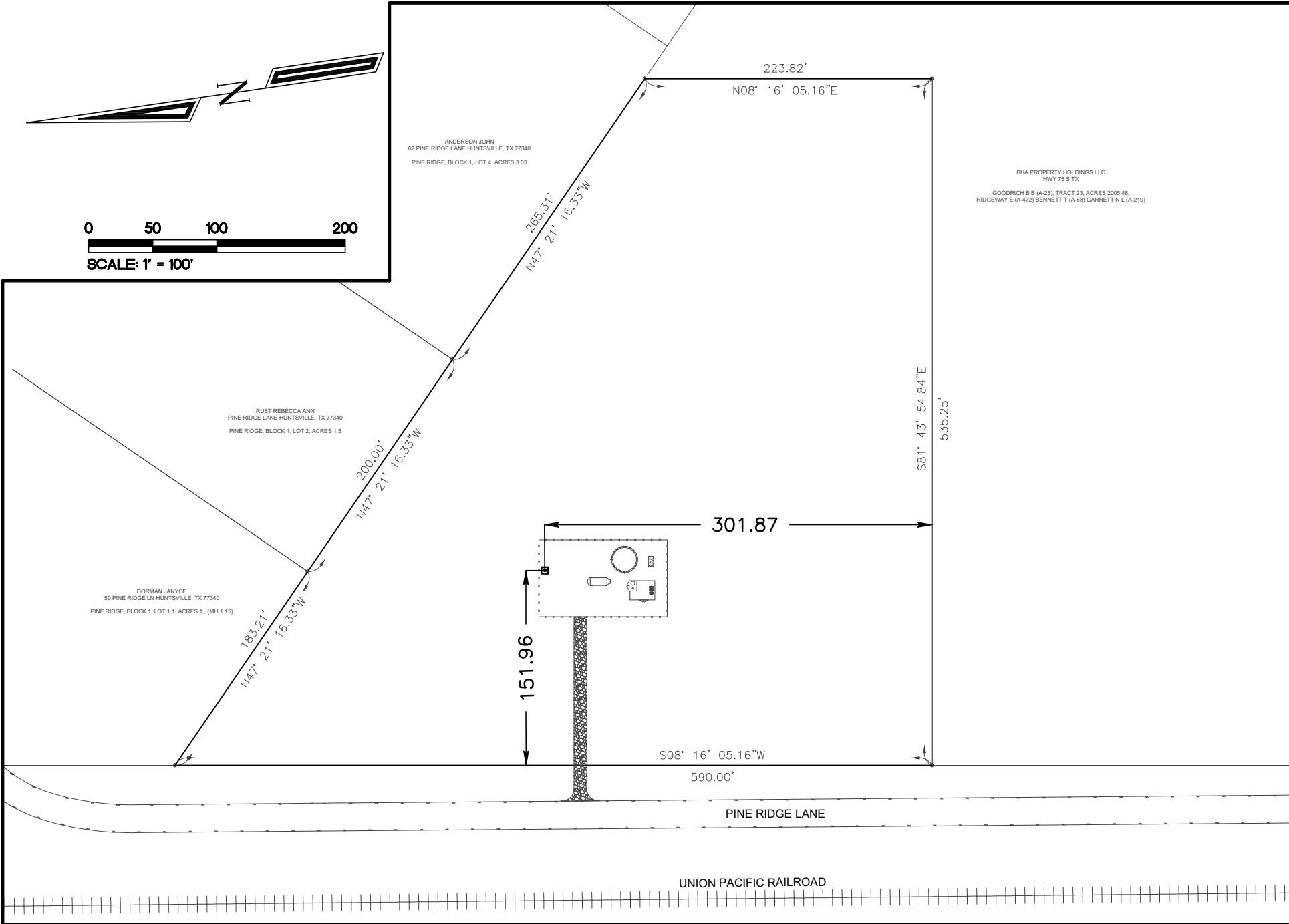
LONE STAR NOTIFICATION CENTER

(800) 669-8344

RELIANT ENERGY ENTEX

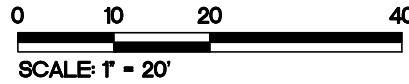
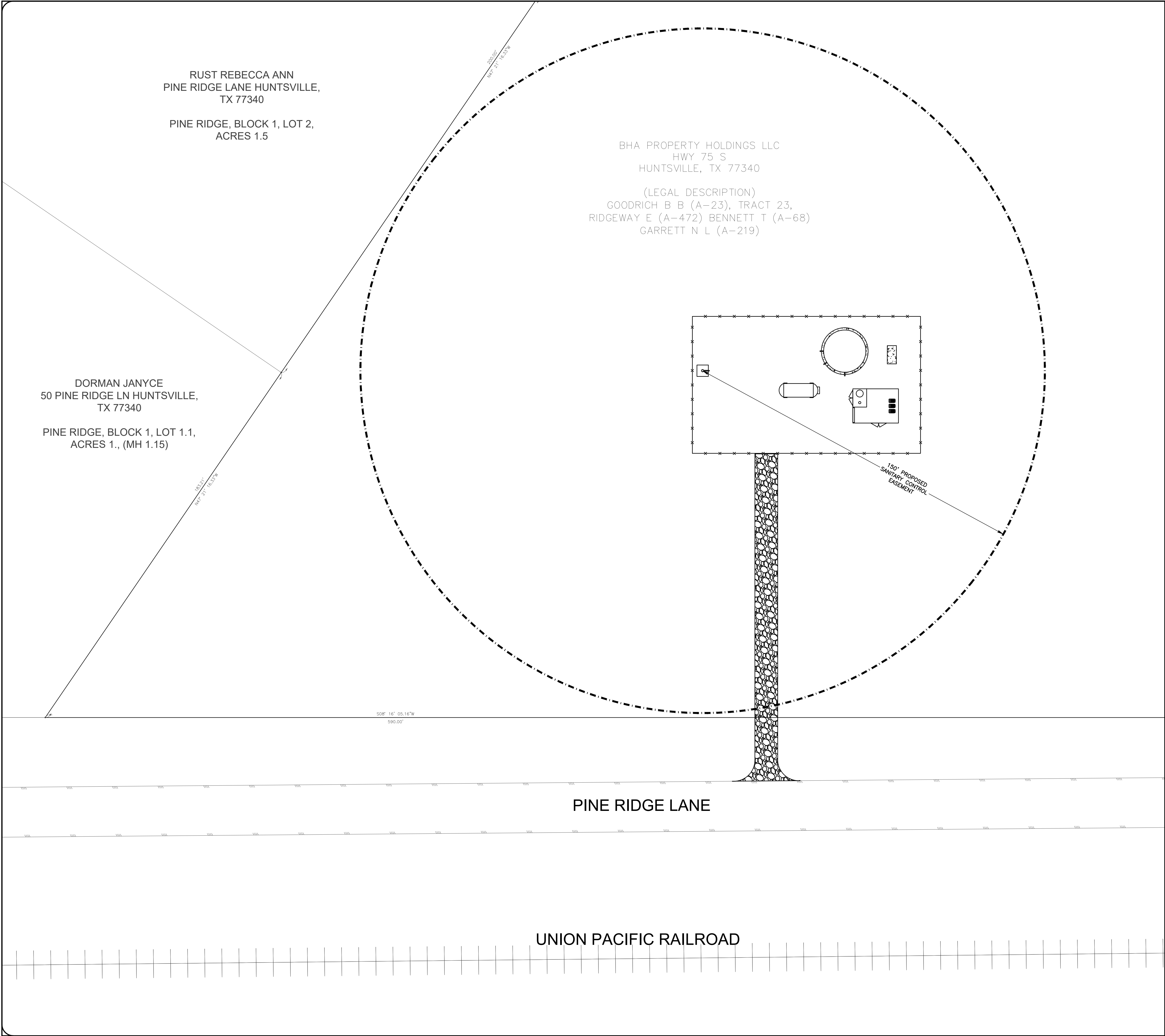
LOCATION OF EXISTING UNDERGROUND UTILITY LINES INDICATED ON THIS PLAN ARE APPROXIMATE, AND THE CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO COMMENCEMENT OF ANY TRENCHING OR EXCAVATION OPERATIONS.

ALL CONSTRUCTION SHALL BE DONE PER TCEQ STANDARD SPECIFICATIONS; LATEST REVISIONS.



OVER SITE VIEW

REV	DATE
COMMENT	
REV	DATE
COMMENT	
<div> <i>Michael W. Mathena</i></div>	
1/7/2025	
PROPOSED SITE	CONSTRUCTION DRAWINGS FOR DOS AGUAS PROPOSED WATER WELL #4 LEGACY RANCH SUBDIVISION WALKER COUNTY, TEXAS
<div><div>LIGHTPOINT ENGINEERING, LLC</div><div>604 W. WORKSHAM ST., STE 100 WILLIS, TEXAS 77378 TEL (936) 256-2626 TBPE Firm No. 18938</div></div>	
ISSUED FOR CONSTRUCTION DOS AGUAS WATER LLC 435 FM 2296 HUNTSVILLE, TX 77340	
JOB # GCL718-03A	
SHEET: 4 OF: 6	



LEGEND

150' PROPOSED SCE BOUNDARY (TO BE OBTAINED BY OTHERS)	
EXISTING ASPHALT PAVEMENT	
UNION PACIFIC RAILROAD	

REV		DATE	
COMMENT			
REV		DATE	
COMMENT			
<div> <i>Michael W. Mathena</i></div>			
1/7/2025			
PROPOSED SANITARY CONTROL EASEMENT PLAN		CONSTRUCTION DRAWINGS FOR DOS AGUAS PROPOSED WATER WELL #4 LEGACY RANCH SUBDIVISION WALKER COUNTY, TEXAS	
<div>LIGHTPOINT ENGINEERING, LLC 604 W. WORKSHAM ST., STE 100 WILLIS, TEXAS 77378 TEL (936) 256-2626 TBPE Firm No. 18938</div>			
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JOB # GCL718-03A			
SHEET: 5 OF: 6			

CAUTION!!
BEFORE YOU DIG – CALL

DIG TESS	(800) 344-8377
SAM HOUSTON	(800) 458-0381
CONSOLIDATED COMMUNICATIONS	811 FOR BURIED OR 1-(888) 800-1611 SERVICE
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RELIANT ENERGY ENTEX	

LOCATION OF EXISTING UNDERGROUND UTILITY LINES INDICATED ON THIS PLAN ARE APPROXIMATE, AND THE CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO COMMENCEMENT OF ANY TRENCHING OR EXCAVATION OPERATIONS.

ALL CONSTRUCTION SHALL BE DONE PER TCEQ STANDARD SPECIFICATIONS; LATEST REVISIONS.

William R. Hutchison, Ph.D., P.E., P.G.

Independent Groundwater Consultant

909 Davy St.

Brenham, TX 77833

512-745-0599

billhutch@texasgw.com

www.texasgw.com

February 13, 2025

Mr. Zach Holland
General Manager
Bluebonnet Groundwater Conservation District
PO Box 269
Navasota, TX 77868-0269

RE: Phase I-a Report: Dos Aguas Water LLC

Dear Mr. Holland,

This letter represents the Phase I-a report for the Dos Aguas Water LLC Test Well permit application that I received from Arantza Cabrera via email on February 5, 2025.

“Estimated Annual Water Production” is 80 million gallons per year, which is below the 200 million gallon per year threshold for Phase I of the permit application process. Therefore, the application requires the preparation of a Phase I-a analysis of potential drawdown.

Well Locations on HAGM Grid

The latitude and longitude data on the application were used to convert the location data to x- and y-coordinates in the GAM coordinate system using Surfer, a commercial gridding program. The FORTRAN program *PointRC.exe* was used to find the HAGM cell for those x- and y-coordinates. The results of this effort yielded that the well is in HAGM row 21, column 130.

The applications noted well depth of 400 feet, which would place the bottom of the well in the Jasper Aquifer (HAGM layer 4), the outcrop formation at this location.

Grid Parameters, HAGM Parameters, HAGM Results, Theis Parameters

The Excel spreadsheet named *BGCD Parameters.xlsx* contains the data needed for the review and Phase I-a calculations for cells designated in the four counties of the Bluebonnet Groundwater Conservation District. The data for row 21, column 130 were copied and transposed into the spreadsheet *Dos Aguas Phase I-a Tables.xlsx*. Results from all model layers (except for the Theis Results) are summarized into four tables as follows:

- Table 1: Grid Parameters
- Table 2: HAGM Parameters
- Table 3: HAGM Results
- Table 4: Theis Parameters

Table 1. Grid Parameters for City of Dos Aguas LLC Test Well

County Name	Walker
County Code	236
Outcrop Layer	4
Layer	4
Row	21
Column	130
x-coordinate (GAM-ft)	6341326.5
y-coordinate (GAM-ft)	19486548
Surface Elevation (ft MSL)	372
Cell Top Elevation (ft MSL)	372
Cell Bottom Elevation (ft MSL)	-488
Cell Thickness (ft)	860
Clay Thickness (ft)	523
Clay Thickness (% of Cell Thickness)	60.81

Table 2. HAGM Parameters for Dos Aguas LLC Test Well

County Name	Walker
County Code	236
Outcrop Layer	4
Layer	4
Row	21
Column	130
Hydraulic Conductivity (ft/day)	2.21
Transmissivity (gpd/ft)	14,204
Leakage (1/day)	0.00E+00
Storativity (dimensionless)	1.80E-01
Elastic Storativity (dimensionless)	5.67E-06
Inelastic Storativity (dimensionless)	5.67E-04

Table 3. HAGM Results for Dos Aguas LLC Test Well

County Name	Walker
County Code	236
Outcrop Layer	4
Layer	4
Row	21
Column	130
Groundwater Elevation in 2009 (ft MSL)	253
Groundwater Elevation in 2080 (ft MSL)	93
DFC Drawdown (ft)	161
Artesian Head (ft)	-119
Subsidence in 2009 (ft)	0
Subsidence in 2080 (ft)	0.09
Subsidence from 2009 to 2080 (ft)	0.09
Cell Pumping in 2009 (AF/yr)	13.36
Cell Pumping in 2080 (AF/yr)	68.81

Table 4. Theis Parameters for Dos Aguas LLC Test Well

County Name	Walker
County Code	236
Outcrop Layer	4
Layer	4
Row	22
Column	130
Drawdown in Production Well at 100 gpm for 36 hours	14.20
Drawdown 1/2 mile from Production Well at 100 gpm for 36 hours	0.99
Drawdown 1/2 miles from Production Well at 100 gpm for 1 year	5.13
Drawdown-Pumping Ratio for Production Well for 36 hours	0.14202
Drawdown-Pumping Ratio for 1/2 mile from Production Well for 36 hours	0.00994
Drawdown-Pumping Ratio for 1/2 mile from Production Well for 1 yr	0.05131

Please note that in Table 4, the cell adjacent to the well location is used (as highlighted in yellow). Because the location of the well is in an outcrop cell, the storativity for that cell is 0.18 (see Table 2). This is an unrealistic value and known limitation of the HAGM for a cell that is 860 feet thick (please refer to Table 1). For purposes of drawdown calculations, the cell adjacent to the well location provides a more realistic assessment of expected drawdown given the objectives of a Phase I-a report.

Theis Equation Calculations

Groundwater production data from the permit applications were used along with the drawdown-pumping ratios contained in Table 4 to develop three estimates of drawdown for each well:

- Scenario 1: drawdown in the production well after 36-hours of pumping at three times the average annual pumping rate
- Scenario 2: drawdown in a well ½ mile from the production well after 36 hours of pumping at three times the annual pumping rate
- Scenario 3: drawdown in a well ½ mile from the production well after one year at the average pumping rate.

Results of these calculations are presented in Table 5.

Table 5. Theis Results for Dos Aguas LLC Test Well

Production Summary	Value
Annual Permit Production Limit (gallons)	80,000,000
Annual Permit Production Limit (acre-feet)	246
Average Pumping Rate (gpm)	152
3X Average Pumping Rate (gpm)	457
Permit Capacity (gpm)	75-250

Evangeline		
Drawdown Calculations	Drawdown-Pumping Ratios	Calculated Drawdown (ft)
Production Well - 36 hours (3X avg pumping)	0.14202	64.85
1/2 mile from Production Well - 36 hours (3X avg pumping)	0.00994	4.54
1/2 mile from Production Well - one year (avg pumping)	0.05131	7.81

Please note that the pumping rate that appears on the permit application is given as a range (75 to 250 gpm). Based on the calculations in Table 5, the average production rate to achieve 80 million gallons per year is 152 gpm. Thus, the lower end of the range provided in the permit application is not realistic, and the annual permit production limit may need to be adjusted once the well is constructed and tested.

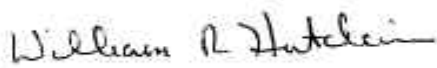
These data represent the best integrated data of the area from a regional perspective. The local-scale data will be developed as part of the Phase II investigation. This will include more site-specific information and data on aquifer depth, clay content, and aquifer parameters calculated from the 36-hour pumping test.

Recommendation

Based on the results of the Phase I-a report, the application should be approved, and the Phase II investigation should proceed to verify the Phase I-a estimates related to the aquifer (e.g. clay content) and related to aquifer performance (e.g. drawdown at the end of the 36-hour pumping test and aquifer transmissivity).

I appreciate the opportunity to work with you on this effort. Please call me at 512-745-0599 or email me at billhutch@texasgw.com if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "William R. Hutchison". The signature is fluid and cursive, with the first name "William" and last name "Hutchison" clearly distinguishable.

William R. Hutchison, Ph.D., P.E., P.G.