



P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

AGENDA ITEM MEMO

BOARD MEETING DATE: January 22, 2026

TO: Board Members

THROUGH: Bryan McMath, Executive Administrator
Ashley Harden, General Counsel
Georgia Sanchez, Chief Financial Officer
Jessica Peña, Deputy Executive Administrator, Water Supply & Infrastructure
Clay Schultz, Director, Regional Water Project Development

FROM: Candice De Lello, Manager, Regional Water Project Development

SUBJECT: Wellborn Special Utility District’s United States Iron and Steel Exemption Request

ACTION REQUESTED

Consider approving the project-specific exemption for Wellborn Special Utility District’s Water Supply and Distribution System Improvements, Project No. 21799 for United States Iron and Steel.

BACKGROUND

Under Texas Government Code Section 2252.203, as added by Senate Bill 1289 during the 85th Texas Legislature, the Texas Water Development Board (TWDB) may grant exemptions to the United States Iron and Steel requirement for specific cases or categories if certain conditions are met. Exemptions can be issued under one of the following three justifications:

1. Iron and steel products produced in the United States are not: (a) produced in sufficient quantities, (b) reasonably available, or (c) of satisfactory quality.
2. Use of iron and steel products produced in the United States will increase the overall project cost by more than 20 percent.
3. Complying with the US Iron and Steel requirements is inconsistent with the public interest.

The Wellborn Special Utility District (District) submitted an exemption request that meets the first criteria listed above, for non-availability of 18-inch steel well casing for its proposed public water supply wells. The District’s exemption request (Attachment 1) includes correspondence with four domestic steel pipe manufacturers, none of which make the required 18-inch diameter pipe for the well casing on the project. In addition, four other

[Our Mission](#) : [Board Members](#)

<p>Leading the state’s efforts in ensuring a secure water future for Texas</p>	<p>L’Oreal Stepney, P.E., Chairwoman W. Brady Franks, Board Member Ashley Morgan, Board Member Bryan McMath, Executive Administrator</p>
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domestic manufacturers were contacted who do not produce the specified 18-inch diameter pipe. The District's project received a commitment for \$43,455,000 from the Texas Water Development Fund that closed on June 21, 2022.

KEY ISSUES

In accordance with the processes in the TWDB's Guidance document (TWDB-1105), the TWDB held an informal public comment period for the exemption request for ten days, from November 19, 2025, ending on December 1, 2025. No comments were received. The District's exemption request included supporting documentation as required in TWDB-1105 and included as Attachment 1. Upon review of the request and public comments, the Executive Administrator recommends the request be granted.

RECOMMENDATION

The Executive Administrator recommends approval of this project-specific United States Iron and Steel exemption for the 18-inch well casing used in the Wellborn Special Utility District's Water Development Fund project.

Attachment:

1. Exemption Request



Public Comment

Proposed United States Iron and Steel Exemption for Wellborn SUD

Comment period ends December 1, 2025, at 5:00 P.M.

The Texas Water Development Board (TWDB) is holding a period of public review and comment on the following project:

- Wellborn SUD, Water Supply and Distribution System Improvements, TWDB Project No. 21799, Water Development Fund

The project submitted a **Non-Availability Exemption Request for United States Iron and Steel (USIS)** requirement. The submitted documentation is attached.

This period of informal public review and comment ends on **December 1, 2025**. If you wish to present comments concerning this USIS exemption request:

1. Email comments with the subject line "USIS Exemption (Wellborn SUD) comments" to Financial_Assistance@twdb.texas.gov



505 Padon Street
Longview, TX 75601
o. 903.553.0500 | f. 903.553.0555
stvinc.com

November 10, 2025

VIA E-MAIL

Mr. Ronnie Christian
Texas Water Development Board
P.O. Box 13231
Austin, TX 78711-3231

RE: TWDB No. 21799 - 2020 Water Supply and Distribution Improvements
CID-01 – Wells Contract
US Iron and Steel Waiver Request

Dear Ronnie:

Please consider this to be our endorsement of the request from Weisinger, Inc. for a US Iron and Steel Requirements Waiver Request for procurement of 18" OD x 0.500" wall thickness steel casing pipe. When we specified this pipe, we had no idea that it was not available from domestic pipe mills. The documentation provided by Weisinger, Inc. and their material provider, Cierra Pipe, Inc., is attached. The waiver is requested because the material is not available from domestic pipe mills.

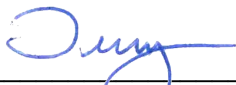
While the pricing criteria for a US Iron and Steel waiver eligibility is not applicable for this situation of unavailability, Weisinger, Inc. has evaluated the option of increasing the size of the casing from 18" to 20". Domestic 20" casing is available. The bid price for the 18" casing based on the use of non-domestic steel was \$423,500 per well or ($\$423,500 \times 3 =$) \$1,270,500 for the three wells. If the 20" domestic casing is substituted, the cost increases to ($\$265,000 + 423,500 =$) \$688,500 per well. This cost includes reaming a larger hole and increased volume of required cementing. Thus, the total cost for the three wells is ($\$688,500 \times 3 =$) \$2,065,500, a 63% increase for increasing the casing size from 18" to 20". In our professional opinion, this is not economically feasible option.

Mr. Ronnie Christian
November 10, 2025
Page 2 of 2

We appreciate the opportunity to express our support of this waiver request. Please do not hesitate to advise if you have any questions or comments.

Sincerely yours,

STV Inc.
Texas Registered Firm No. F-204

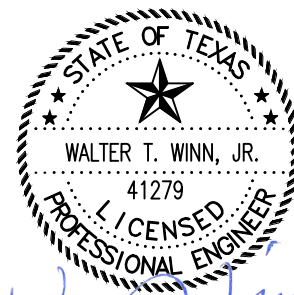


Walter T. Winn, Jr., P.E.
Vice President

Attachments:

- Weisinger, Inc. Unavailability Notice
- Cierra Pipe, Inc. Waiver Request
- Cierra Pipe, Inc. Summary E-Mail
- Pipe Mill Unavailability E-Mails

Pc: Michael Weisinger – Weisinger, Inc. (w/attach. via e-mail)
Jordan Miller – Weisinger, Inc. (w/attach., via e-mail)
Campbell Young – Wellborn SUD (w/attach., via e-mail)
Eric Chandler - Wellborn SUD (w/attach., via e-mail)



WEISINGER INCORPORATED

PO Box 909 • Willis, TX 77378
936-756-7721 • 281-353-8484 • 936-756-7723 fax
www.weisingerinc.com

October 2, 2025

STV Inc.
505 Padon Street
Longview, Texas 75601

Attn: Terry Winn, P.E., BCEE, DWRE, F. ASCE

RE: Material Unavailability – Wellborn SUD Simsboro Wells

Mr. Winn:

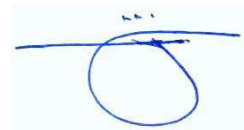
We are writing to inform Wellborn SUD, STV Inc., and the Texas Water Development Board (TWDB) of a material availability issue affecting the project. Specifically, we are unable to procure all necessary materials while adhering to the TWDB's requirement to use only domestic materials.

The unavailable item is the 18-inch domestic casing. There are very few manufacturers capable of producing this size, and due to low demand for this diameter, availability is further limited. We have contacted every domestic manufacturer with the ability to produce this casing, and none are able to supply the material for this project.

As a result, we respectfully request an exception or waiver to use non-domestic 18-inch casing. This material is readily available and meets all project specifications.

Please contact us with any questions or comments. We appreciate the opportunity to offer our services and we wait for your response.

Sincerely,



Michael Weisinger
Vice President

General:

- 18"OD x .500" API 5L X-52- Domestic Pipe
- Linear Feet
- 1,370 ft
- Unable to obtain price due to the unavailability of material
- Unable to obtain delivery time due to the unavailability of material
- Roberston County, Texas
- Cierra Pipe, Inc.- 4511 Brittmoore Rd., Houston, TX, 77041
- Bobby Kanz, President
- The 18" OD x .500" API 5L X-52 is not an item that is produced domestically very often. We have contacted the following mills in the United States: Stupp Corp, American Steel, US Steel, Nucor, Atlas Tube, Bull Moose, Jindal, Berg and Dura Bond. All of these mills told us they did not have any stock and no future plans to produce this size. Therefore, I do not think there is any way to supply domestic 18" for this job in the time frame of the project. As a result, we respectfully request an exception or waiver to use non-domestic 18-inch casing. This material is readily available and meets all project specifications
- Proof of Good Faith Effort to solicit bids for domestic material attached

Availability Waiver Request:

- Cierra called each of the following mills to see if they have any available domestic 18" material. All of these mills told us they did not have any stock and no future plans to produce this size
- Documentation of the Mills responses attached
- See attached tentative project schedule
- See attached plans for the estimated quantity of material needed and specifics on material needed.
- See attached letter from the Prime Contractor explaining the non-availability of domestic material and requests to use nondomestic pipe
- Statement/Letter from Supplier confirming the non-availability of domestic material with supporting documents attached

Additional Consideration & Supporting Info:

- To the best of our knowledge and based on industry experience from our supplier, if this material, being so uncommon, was required in other like projects. Then other request to use nondomestic material in lieu of domestic has had to have taken place on comparable project.
- Time of delivery or availability for the proposed foreign materials: Foreign materials are available now and will be at any time for the project.
- For domestic materials, please indicate if they are unavailable: Domestic materials are unavailable which is why we are submitting this request.

CIERRA PIPE, INC. SUMMARY E-MAIL

Jordan Miller

From: Michael Weisinger
Sent: Wednesday, October 29, 2025 11:17 AM
To: Jordan Miller
Cc: Seth Flynt
Subject: FW: 18" x .500"
Attachments: FW: 18 .500; Nippon Steel - 20" WT 0.500"; FW: quote for a buy; FW: 20" .500 X65

From: Samantha Alvarez <samantha@cierrapipe.com>
Sent: Wednesday, October 29, 2025 10:43 AM
To: Michael Weisinger <mweisinger@weisingerinc.com>
Cc: Bobby Kanz <Bobby@cierrapipe.com>
Subject: 18" x .500"

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and verify the content is safe.

Good Morning.

In reference to your requirements for **18" x .500"W API 5L X-52 domestic line pipe**, the following is what we have found in the market.

California Steel – Temporarily Closed

Stupp – Permanently Closed

American Steel – Temporarily Closed, due to lack of orders

US Steel/Nippon – Only manufactures up to 9 7/8", email attached

Nucor – Only makes ASTM A-252, does not meet spec

Atlas Tube – Only makes ASTM A-252, does not meet spec

Bull Moore – Only makes ASTM A-252, does not meet spec

Jindal – None in stock & none scheduled to be manufactured, email attached

Berg Steel – Starts manufacturing at 24"

Dura Bond – Does not manufacture 18", email attached

Well Spun – None in stock and none scheduled to be manufactured, email attached

No other Mills make 18"OD x .500"W API 5L X-52 ERW Line Pipe in the U.S.

No prices were received due to there being no pipe available.

If we can do anything else, please let us know.

Thank you.

Kind Regards,
Samantha Alvarez

PIPE MILL UNAVAILABILITY E-MAILS

Jordan Miller

From: Joe Burks <joe@cierrapipe.com>
Sent: Monday, October 27, 2025 10:40 AM
To: Bobby Kanz
Subject: FW: 18 .500

Joe Burks | Cierra Pipe, Inc.
Vice President



5780 SH 22 E | Hillsboro, TX 76645
V: 713-434-1114 | F: 713-434-0896
joe@cierrapipe.com | www.cierrapipe.com

From: Adam Norris <adam.norris@dura-bond.com>
Sent: Monday, October 27, 2025 10:39 AM
To: Joe Burks <joe@cierrapipe.com>
Subject: 18 .500

Hi Joe

Thanks for the call - unfortunately we haven't made 18 .500 for quite some time and due to our extended orderbook and lack of accumulation, we have no plans to roll.



ADAM NORRIS

Sales – Welded Steel Pipe and Coating

Office: 724-327-0782 EXT. 4339

Mobile: 724-858-6160

5790 Kennedy Ave

Export PA 15632

www.dura-bond.com

Jordan Miller

From: Leo Kim <LKim@nst-us.com>
Sent: Tuesday, August 19, 2025 10:32 AM
To: Bobby Kanz
Subject: Nippon Steel - 20" WT 0.500"

Dear Bobby,



This is Leo from NSTA Houston.
Hope your week is going well and thank you for the opportunity to support your business.

**NIPPON STEEL
TRADING**

I checked with USS pipe mill, but it seems like USS pipe mill can only produce OD from 4-1/2" to 9-7/8".

We are checking with Welspun mill in Little Rock, AR and see if they can offer for this inquiry. I will get back to you with an update.

Best regards,

Leo Kim – Houston sales
NIPPON STEEL TRADING AMERICAS, INC.
Suite 1500, 820 Gessner Road Houston, TX 77024
Direct: +1 713-266-7910 | Cell: +1 713-504-6447
Email: Lkim@nst-us.com

Jordan Miller

From: Bobby Kanz <Bobby@cierrapipe.com>
Sent: Wednesday, October 29, 2025 11:05 AM
To: Bobby Kanz
Subject: FW: 20" .500 X65

From: Joe Burks <joe@cierrapipe.com>
Sent: Tuesday, October 28, 2025 8:56 AM
To: Bobby Kanz <Bobby@cierrapipe.com>
Subject: FW: 20" .500 X65

Joe Burks | Cierra Pipe, Inc.
Vice President



5780 SH 22 E | Hillsboro, TX. 76645
V: 713-434-1114 | F: 713-434-0896
joe@cierrapipe.com | www.cierrapipe.com

From: Alma Moreno <alma_moreno@welspun.com>
Sent: Tuesday, October 28, 2025 8:54 AM
To: Joe Burks <joe@cierrapipe.com>
Subject: RE: 20" .500 X65

Good morning Joe,

Unfortunately, we don't have the ability to make 18" OD at all.

Thank you,

Alma Moreno
Business Development and Proposals Manager

Welspun Global Trade LLC

15721 Park Row, Suite 230, Houston, Texas 77084, United States of America
Cell: 832-265-4902 Tel: 281-492-3232

<https://url.avanan.click/v2/r01/www.welspun.com.YXAzOndlaXNpbmdicmluYzphOm86ZGE1MzI1ODE4MTU5NWNmMzUyMmExNjg4ZmY1YmEyNmQ6NzoyYTlkOjAyZjJmMmJkNjMwMDJjOWJjYWU5MDJhNDZhN2Q1Zml0OTU0NjhmOWMxM2VhOGFhMDIhZjcxZWY4NWlyNDQ2NTc6dDpUOkYwww.welspunpipes.us.com>

Welspun Group - Leading Tomorrow Together (Home Textile | Pipes And Plates | Infrastructure and Energy)
Think before you print

From: Joe Burks [<mailto:joe@cierrapipe.com>]
Sent: Tuesday, October 28, 2025 8:53 AM

Jordan Miller

From: Bobby Kanz <Bobby@cierrapipe.com>
Sent: Wednesday, October 29, 2025 10:53 AM
To: Bobby Kanz
Subject: FW: quote for a buy

From: Joe Burks <joe@cierrapipe.com>
Sent: Tuesday, October 28, 2025 2:10 PM
To: Bobby Kanz <Bobby@cierrapipe.com>
Subject: FW: quote for a buy

Joe Burks | Cierra Pipe, Inc.
Vice President



5780 SH 22 E | Hillsboro, TX 76645
V: 713-434-1114 | F: 713-434-0896
joe@cierrapipe.com | www.cierrapipe.com

From: Matt Chestnut <Matt.Chestnut@jindaltubular.us>
Sent: Thursday, August 14, 2025 3:34 PM
To: Joe Burks <joe@cierrapipe.com>; April Schatte <april.schatte@jindaltubular.us>
Subject: Re: quote for a buy

Joe,

Can't help on the 18", but I have the 24" .500 X52M in stock right now! DRLs 40-42'

Matt Chestnut
Cell: (832) 808-4583

From: Joe Burks <joe@cierrapipe.com>
Sent: Thursday, August 14, 2025 3:30:09 PM
To: April Schatte <april.schatte@jindaltubular.us>; Matt Chestnut <Matt.Chestnut@jindaltubular.us>
Subject: quote for a buy

April, we have the order for the following if you can please offer for the best delivery;

4110' 18" x .500 API 5L GRX-52, PSL-2, DRL'S

2400' 24" x .500 API 5L GRB/X-42 or X-52 (just need 50K PSI min yield, DRL'S

Jordan Miller

From: Bobby Kanz <Bobby@cierrapipe.com>
Sent: Wednesday, October 29, 2025 11:05 AM
To: Bobby Kanz
Subject: FW: 20" .500 X65

From: Joe Burks <joe@cierrapipe.com>
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Subject: FW: 20" .500 X65

Joe Burks | **Cierra Pipe, Inc.**
Vice President



5780 SH 22 E | Hillsboro, TX. 76645
V: 713-434-1114 | F: 713-434-0896
joe@cierrapipe.com | www.cierrapipe.com

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To: Joe Burks <joe@cierrapipe.com>
Subject: RE: 20" .500 X65

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Thank you,

Alma Moreno
Business Development and Proposals Manager

Welspun Global Trade LLC

15721 Park Row, Suite 230, Houston, Texas 77084, United States of America
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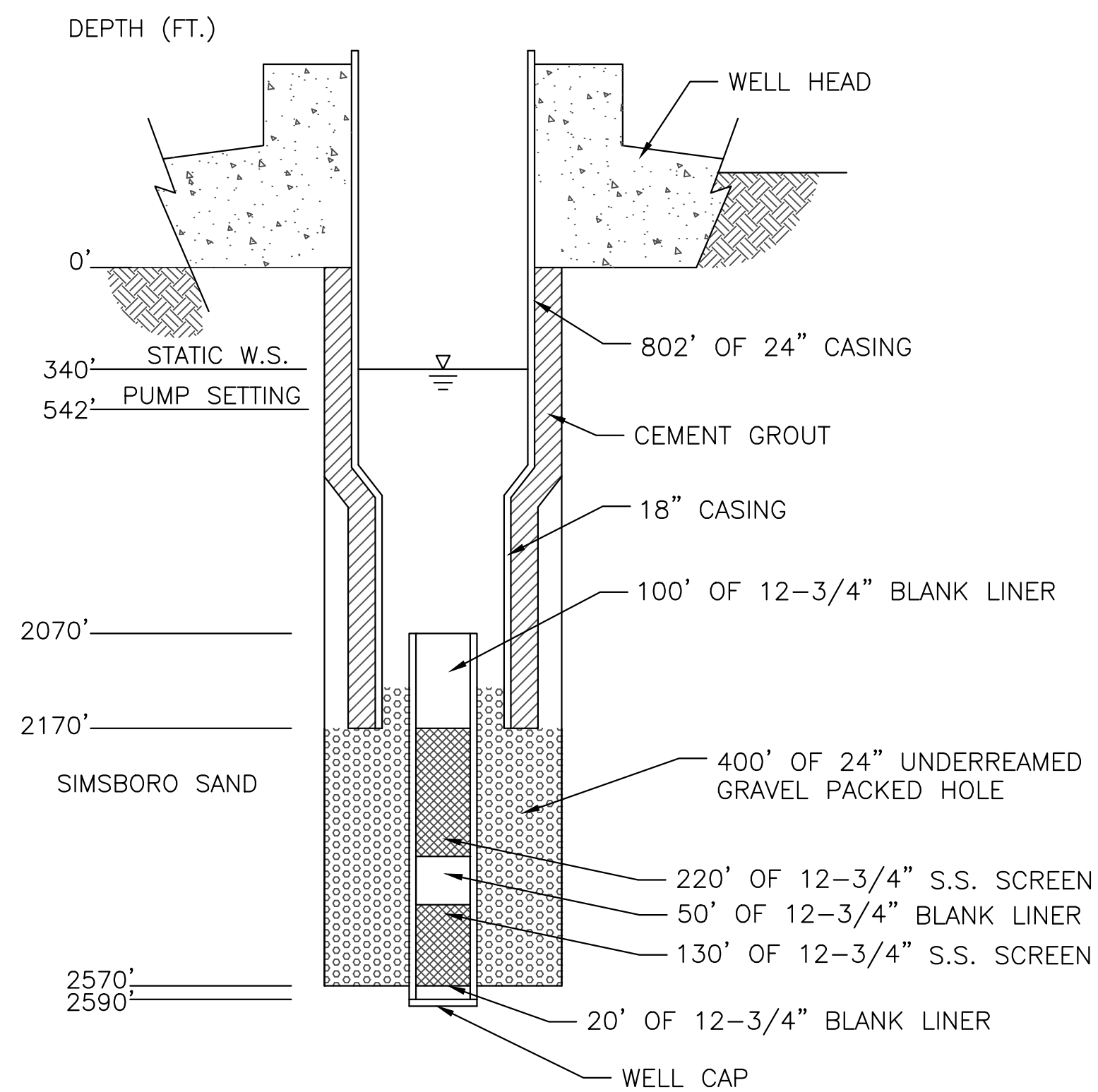
Welspun Group - Leading Tomorrow Together (Home Textile | Pipes And Plates | Infrastructure and Energy)
Think before you print

From: Joe Burks [<mailto:joe@cierrapipe.com>]
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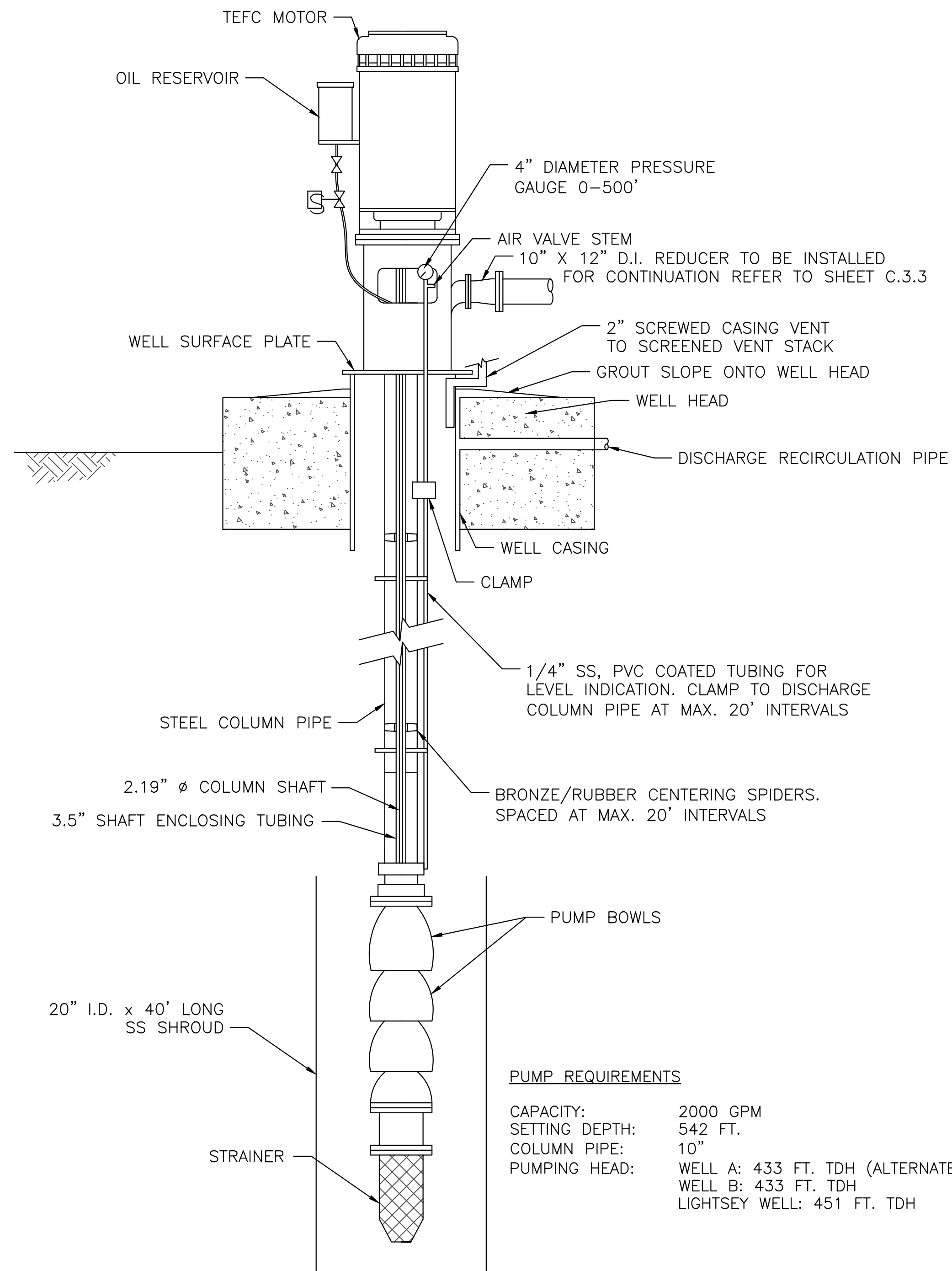
Wellborn SUD Simsboro Wells

Primary Column	Start Date	End Date	Q4			Q1			Q2			Q3			Q4				
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
1 <input type="checkbox"/> Wellborn SUD Simsboro Wells	11/03/25	12/25/26																	
2 <input type="checkbox"/> Lightsy Well	11/03/25	05/16/26																	
3 <input type="checkbox"/> Mobilization	11/03/25	11/26/25																	
4 Access Road, Well Pad, Construction	11/03/25	11/16/25																	
5 Site Prep/ Clearing/Conductor, Mats	11/17/25	11/20/25																	
6 Mobilize Drilling Rig & Equipment	11/20/25	11/26/25																	
7 Thanksgiving Break	11/26/25	12/01/25																	
8 <input type="checkbox"/> Drilling Operations	12/01/25	03/28/26																	
9 Drill Test Hole	12/01/25	12/10/25																	
10 Log Test Hole	12/10/25	12/10/25																	
11 Install Temporary Test Well/ Take Water Samples	12/11/25	12/24/25																	
12 Christmas/New Years Break	12/24/25	01/05/26																	
13 Ream Test Hole for Surface Casing, Set Casing & Cement	01/05/26	02/03/26																	
14 Resume Setting Casing & Cementing	02/03/26	02/15/26																	
15 Underream Pilot Hole Below Surface Casing, Set Screen & Liner, Gravel	02/15/26	03/06/26																	
16 Develop Well w/ Drilling Rig	03/06/26	03/19/26																	
17 Demobilize Drilling Rig	03/19/26	03/28/26																	
18 <input type="checkbox"/> Well Development	03/28/26	05/11/26																	
19 Furnish & Install Test Pump, Motor & Equipment	03/28/26	04/01/26																	
20 Begin Development & Perform Test Pump	04/01/26	04/21/26																	
21 Remove Test Pumping Equipment	04/21/26	04/25/26																	
22 Provide water quality analysis, Well report & TCEQ package	04/21/26	05/11/26																	
23 <input type="checkbox"/> Site Work	04/26/26	05/16/26																	
24 Well foundation	04/26/26	05/02/26																	
25 Install 12" aboveground piping	05/02/26	05/16/26																	

Primary Column	Start Date	End Date	Q4			Q1			Q2			Q3			Q4		
			Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
26																	
27	Well B	11/09/25	08/24/26		Well B												
28	Mobilization	11/09/25	04/01/26		Mobilization												
29	Access Road, Well Pad Construction, Culverts	11/09/25	12/24/25		Access Road, Well Pad Construction, Culverts												
30	Christmas/New Years Break	12/24/25	01/05/26		Christmas/New Years Break												
31	Site Prep/ Clearing/Conductor/Mats	12/31/25	01/03/26		Site Prep/ Clearing/Conductor/Mats												
32	Mobilize Drilling Rig & Equipment	03/28/26	04/01/26														
33	Drilling Operations	04/02/26	06/19/26														
34	Drill Test Hole	04/02/26	04/11/26														
35	Log Test Hole	04/12/26	04/12/26														
36	Ream Test Hole for Surface Casing, Set Casing & Cement	04/13/26	05/12/26														
37	Underream Pilot Hole Below Surface Casing, Set Screen & Liner, Gravel	05/13/26	06/01/26														
38	Develop Well w/ Drilling Rig	05/28/26	06/10/26														
39	Demobilize Drilling Rig	06/10/26	06/19/26														
40	Well Development	06/20/26	08/11/26														
41	Furnish & Install Test Pump, Motor & Equipment	06/20/26	06/24/26														
42	Begin Development & Perform Test Pump	06/25/26	07/15/26														
43	Remove Test Pumping Equipment	07/16/26	07/20/26														
44	Provide water quality analysis, Well report & TCEQ package	07/22/26	08/11/26														
45	Site Work	07/21/26	08/24/26														
46	Well foundation	07/21/26	07/27/26														
47	Install 12" aboveground piping	07/27/26	08/10/26														
48	Install 18" aboveground piping	08/10/26	08/24/26														
49																	
50	Well A	12/24/25	11/25/26		Well A												
51	Mobilization	12/24/25	11/25/26		Mobilization												
52	Access Road, Well Pad Construction, Culverts	12/24/25	01/30/26		Access Road, Well Pad Construction, Culverts												
53	Site Prep/ Clearing/Conductor/Mats	01/31/26	02/03/26		Site Prep/ Clearing/Conductor/Mats												
54	Mobilize Drilling Rig & Equipment	06/19/26	06/23/26														



A WELL DETAIL
NTS



PUMP REQUIREMENTS

CAPACITY: 2000 GPM
 SETTING DEPTH: 542 FT.
 COLUMN PIPE: 10"
 PUMPING HEAD: WELL A: 433 FT. TDH (ALTERNATE)
 WELL B: 433 FT. TDH
 LIGHTSEY WELL: 451 FT. TDH

B VERTICAL TURBINE PUMP
NTS

NO.	REVISION	BY	DATE

VERIFY SCALE BAR LENGTH EQUALS ONE INCH ON ORIGINAL DRAWING. VERIFY LENGTH ON THIS SHEET AND ADJUST SCALE ACCORDINGLY.

0 1" AND ADJUST SCALE ACCORDINGLY.

WELLBORN SPECIAL UTILITY DISTRICT
WELLS CONTRACT
WELLS - DETAILS AND
VERTICAL TURBINE PUMP

DESIGN: M. RABENALDT
 DRAWN: J. TORRES
 REVIEW: D. STANLEY, P.E.
 CP&Y: WSUD2000191.02

THIS DOCUMENT IS FOR REGULATORY REVIEW ONLY. IT IS NOT INTENDED FOR BIDDING, PROCUREMENT, OR CONSTRUCTION PURPOSES.

SECTION 33 11 13.11

POTABLE WATER SUPPLY WELLS

PART 1 GENERAL:

1.01 SCOPE OF WORK

- A. The deep wells to be constructed under this Contract shall comply with the conditions set forth herein and with the American Water Works Specification A 100: Standard Specifications for Deep Wells and Texas Commission on Environmental Quality rules and regulations as set forth in 30 TAC 290, Subchapter D.
- B. Scope of Work: The work to be done under this section includes the furnishing of all labor, material, transportation, tools, supplies, equipment, and appurtenances, unless herein specifically excepted necessary for the complete and satisfactory construction of the proposed water supply wells described herein.
- C. Permits, Certificates, Laws, and Ordinances: The Contractor shall, at his own expense, procure all permits, certificates, and licenses required of him by law for the execution of his work. He shall comply with all ordinances, rules, and regulations, as well as, all federal, state, and local laws, which regulate the performance of the work.
- D. Drilling/Operating Permits for the project wells have been obtained from the Brazos Valley Groundwater Conservation District, Permit No. BVDO-0284 (Well A) and Permit No. BVDO-0285 (Well B), Permit No. BVDO-0400 (Lightsey Well) and a copy of the Permits are attached herein.
- E. Location: The well to be constructed herein is to be located on property easements of Wellborn Special Utility District. Refer to the drawings for a location map of the proposed sites.
- F. Boundaries of Work: The Owner shall provide land and/or easements for the work specified in this Contract and shall make suitable provisions for ingress and egress and the Contractor shall not enter on or occupy with men, tools, equipment, or materials any ground outside the property of the Owner without written consent of the Owner of such ground. The Contractor may use areas identified in the plans for materials and equipment storage temporarily during construction. Other Contractors and employees or agents of the Owner may for all necessary purposes enter upon the work and premises used by the Contractor and the Contractor shall conduct his work so as not to impede unnecessarily any work being done by others on or adjacent to the site.
- G. Protection of Site: Except as otherwise provided herein, the Contractor shall dispose of all cuttings, drillings, debris, and unused materials on either entirely within the well site easements as shown on the plans or on the nearby Wellborn SUD Benchley Plant Site (13278 State Hwy 6, Bryan, Texas 77807) as directed by the Engineer; and shall, upon completion of the work, restore the site as nearly as possible to its original condition. The Contractor shall be responsible for replacing any facilities that have been damaged beyond restoration, or destroyed, at his own expense. Water pumped from the well

shall be conveyed to a place where it is possible to dispose of the water without damaging property or creating a nuisance.

- H. Bidder Qualifications: To submit a bid for this contract, the following are minimum qualifications to be demonstrated in the Statement of Qualifications form listing of similar projects included as part of the bid documents:
1. Contractor must have completed five (5) public water supply wells with the following minimum parameters:
 - a. Depth of 2,000'
 - b. 16" or greater diameter casing cemented in place
 - c. Gravel packed hole with a diameter of 24" or greater
 2. The field superintendent to be present during all drilling and completion activities shall maintain a current State of Texas TDLR Water Well Driller license and shall have completed ten (10) years of related experience constructing two-piece gravel packed water wells of similar depths and sizes.
- I. Wells A, B, and Lightsey: The wells to be constructed under this section are to be approximately two (2) each 2,590 feet deep and shall be comprised of the following principal items:
1. 802 feet of 24" surface casing (from +2 ft to -800 ft)
 2. 1,370 feet of 18" casing (from -800 ft to -2,170 ft)
 3. 170 feet of 12-3/4" blank liner (from -2,070 ft to -2,170 ft; from -2,390 ft to -2,440 ft; and from -2,570 ft to -2,590 ft)
 4. 350 feet of 12-3/4" stainless steel wire-wrapped screen (from -2,170 ft to -2,390 ft and from -2,440 ft to -2,570 ft)
 5. 400 feet of 24" diam. under-reamed gravel-packed hole (from -2,170 ft to -2,570 ft)

1.02 TEST HOLE

- A. General: The Contractor shall drill a test hole at each of the three (3) proposed sites to the approximate depth of 3,000 feet. The premises, materials, tools, and drilling equipment shall be maintained so as to minimize contamination of the ground water during the drilling operation. Water used in the drilling operation shall be of potable water quality and shall contain a chlorine residual of at least 0.5 mg/l. The slush pit shall be constructed and maintained so as to minimize contamination of the drilling mud. No temporary toilet facilities shall be located within 150' of the well being constructed. Water for drilling is available from the Owner at no cost, other than conveying the water to the well site, from the on-site potable water ground storage tank drain line.
- B. Well Log: The Contractor shall keep an accurate log of the well and shall give a daily report of the materials passed through and the thickness of the various sands. The Contractor shall provide all reasonable facilities for the inspection of the work by the Engineer or his representative.

Also, the Contractor shall run an electric log of the well, with three resistivity curves made on a 50 OHM scale and the spontaneous potential curve made on a 10 MV scale

and with the vertical scale to be with both 2" and 5" per 100 feet. The Contractor shall make recommendation of the material settings to the Engineer based on the logs.

- C. Sieve Analyses of Drill Cuttings: The Contractor shall have standard sieve analyses run on all drill cutting samples of water-bearing sands obtained from the pilot hole. Prior to the making of the analysis, the Contractor shall obtain approval by the Engineer of the laboratory and method and sieve sizes selected for the analysis. Three copies of the results shall be furnished to the Engineer.
- D. Alignment: As the drilling of the test hole progresses, a straight line test of the well each 30 feet shall be made. The hole shall not vary from a plumb line by more than one degree. An Eastman single shot instrument or equivalent will be acceptable for making the alignment test. A geophysical deviation survey may be performed by a company regularly providing this service after completion of the pilot hole as an alternative to the Eastman method. The Contractor shall furnish the necessary equipment and bear all the expenses of making the test under the supervision of the Engineer. Should the test show the well to have a greater variation than herein specified, the Contractor will be required to straighten the old hole or to drill a new one.
- E. Aquifer Test: The following aquifer tests shall be performed at no additional cost to the Owner for the purpose of evaluation of aquifer yield and water quality at the following approximate intervals:
 1. Well Site A – from -2,170 ft to -2,570 (Simsboro formation)
 2. Well Site B – from -150 ft to -300 ft (Sparta formation)
 3. Well Site B – from -1,000 ft to -1,200 (Carrizo formation)
 4. Well Site B – from -2,170 ft to -2,570 (Simsboro formation)
 5. Lightsey Well – from -2,170 ft to -2,570 (Simsboro formation)

Each test shall consist of installation of a section of well screen and a pump in the identified aquifer, isolation of the aquifer from adjacent aquifers, and pumping to obtain a water sample for analysis. Care shall be taken to ensure that the water sample is as free of drilling mud and other drilling residue as possible. The contractor shall submit to the Engineer a recommendation for screen setting depth and screen length for each test. The aquifer test pumping rate shall be a minimum of 100 gpm. Water analyses shall include testing for the following constituents:

Total Dissolved Solids	Arsenic	Color
Total Suspended Solids	Asbestos	Turbidity
Conductance	Cadmium	Corrosivity
Silica	Beryllium	Phenolphthalein Alkalinity
Calcium	Barium	Total Alkalinity
Magnesium	Cyanide	Hardness

Sodium	Lead	Free Carbon Dioxide
Carbonate	Zinc	pH
Bicarbonate	Copper	Fluoride
Sulfate	Chromium	Manganese
Chloride	Silver	Dissolved Iron
Nitrate	Selenium	Total Iron
Nitrite	Aluminum	Mercury
Antimony	Thallium	Silver
Hydrogen Sulfide		

- F. Abandonment of Well Due to Water Quality or Quantity: In the event the above analysis indicates that the proposed well will not produce water of the required quality or quantity, the Contractor shall abandon and plug the test hole in accordance with requirements of the Texas Commission on Environmental Quality (TCEQ).

1.03 DEEP WATER WELL

- A. After analysis of the test holes have indicated that the water in the aquifer is present in sufficient quantity and suitable quality, the Engineer will direct the Contractor to proceed with the setting of the wells with under-ream, gravel-pack, and installation of blank liner and screen, for either the Base or Alternate Bid conditions. The test hole shall be reamed to a diameter of at least 6 inches greater than the diameter of the casing to allow for effective cementing.

Water for drilling is available from the Owner at no cost other than the cost for conveying the water to the well site. Two sources are available:

1. An existing fire hydrant inside the fence of the nearby Wellborn SUD Benchley Plant Site (13278 State Hwy 6, Bryan, Texas 77807) to fill tanks for transport.
- B. There is an existing 12" water distribution line on the well site property along SH 6 and existing 6" and 8" line along Old Hearne Rd. that can be used. The Contractor can request that the Owner install a tap at the Contractor's expense, or he can use an existing flush valve on the line and convey the water to the well site.
- C. **Casing:** Casing shall be standard seamless steel or lapweld casing, furnished with standard couplings or welded joints. The casing shall be API 5L Standard, 24" & 18" O.D. with a minimum wall thickness of 0.5" and shall have a minimum weight per foot of 125.5 & 93.45 lbs, respectively. Water well casing shall conform to AWWA A100.
- D. Setting: The 24" & 18" O.D. casing shall be placed with the top set as directed by the Engineer. The bottom of the casing shall be fitted with a substantial and appropriate float shoe. Centralizers shall be installed on the casing at 80' intervals to assure adequate space in the annulus between the drilled hole and casing for cementing. (The Contractor shall notify the Engineer 72 hours before cementing)

- E. Cementing: The annular space between the inner or protective casing and the outer casing or hole shall be filled with cement grout. Cementing shall be performed using a pressure cementation method in accordance with AWWA A100 Appendix C: Section C.2 (Positive Displacement Exterior Method); Section C.3 (Interior Method Without Plug); Section C.4 (Positive Placement, Interior Method, Drillable Plug); and Section C.5 (Placement Through Float Shoe Attached to Bottom of Casing). Neat cement shall consist of a mixture of API Spec. 10, Class A (similar to ASTM C150, Type I) and water in the ratio of not more than 6 gal. of water per 94- lb. sack of cement weighing approximately 118 lb/ft³.

A maximum of 6 percent, by dry weight, unbeneficiated (not enhanced or "high yield") bentonite may be added to the neat cement grout. With bentonite additive, the mixture of cement and water should begin at the base ratio of 5.2 gal. of water per 94-lb. sack of cement plus an additional 0.65 gal. of water per sack of cement for each 1 percent bentonite additive. Note also that the bentonite contribution to the mixture is affected by the mixing protocol, that is, whether the bentonite is mixed dry with the dry cement prior to adding mixing water or instead is added first to the mixing water (prehydrated) prior to the addition of cement. Prehydrated bentonite generates more effect, such that 1 percent of bentonite added first to the mixing water (prehydrated) has the same effect as 3.6 percent of bentonite by dry weight mixed first with the dry cement. The additional gallons of mixing water required (0.65 gal. of water for each 1 percent bentonite dry mixed) must be selected with consideration to the different mixing protocols and the relative effect of the bentonite in each protocol. The mixture, method of mixing, and consistency of grout shall be approved by the Engineer.

- F. Under-Reaming: The hole shall be drilled out and the Contractor shall then drill and under-ream the entire area to be developed to a diameter of not less than 24" except as described for the pre-packed screen alternative below. The hole shall be drilled to the usual tolerance that is customary for holes of this size and depth. A Caliper Log shall be made, by a company approved by the Engineer, of the entire under-reamed section to determine whether or not it meets these specifications.

All drilling through the water-bearing sand shall, insofar as practicable, be done with water as clean as possible.

- G. Screens and Blank Liner: An inner casing consisting of screen and blank liner shall be set centrally through the guide hole in the under-reamed section. The blank liner and pipe base for screen shall be API 5L Standard, 12-3/4" O.D. with a wall thickness not less than 0.5" and weighing not less than 65.42 lbs. per foot.

The screens shall be set opposite the water-bearing sections. All screens shall be of stainless steel wedge wire wrapped pipe base construction with inlet slots that widen inwardly from the surface as manufactured by Alloy Machine Works, Houston, TX, or approved equal. Base pipe shall have wall thickness equal to or greater than the thickness specified for the blank liner above.

The size of opening shall be determined in accordance with the effective size and uniformity coefficient of the sands in the water-bearing strata. The openings shall be

so designed as to prevent clogging and shall be free of jagged edges, irregularities, or anything which will accelerate or contribute to clogging or corrosion.

The joints of blank liner and screen shall be connected by threaded couplings and shall be set in one continuous string and shall be fitted with a suitable number of centering guides approved by the Engineer.

A minimum of 20' of blank liner shall be installed below the last screen section. The bottom of the liner shall be closed with a suitable well cap.

- H. Graveling: After setting the liner and screen, the annular space between the under-reamed walls and the liner shall be completely filled with a well-graded, specially selected, washed and screened filter gravel. Gravel shall be placed in the annulus between the screen and under-reamed hole from the bottom up using a tremie to prevent formation of voids or pockets in the gravel pack.

Gravel shall extend in the magazine between the 18" O.D. and 12-3/4" O.D. casings to 50 feet above the bottom of the surface casing.

- I. Gravel Type: The type and size of the gravel to be used shall be determined and selected by the Contractor from the character and sieve analysis of the water-bearing formation. The gravel selected by the Contractor shall be one of or a mixture of water well gravels furnished and processed by Unimin Texas Company at Voca, Texas, Carmeuse Lime & Stone at Brady, Texas, or approved equal. The gravel shall be hard, well rounded, water-worn sands or gravels composed of at least 95% silica. The gravel shall be free of all dirt, trash, clay, or other foreign substances. Crushed gravel shall not be used. A sample of the gravel and the sieve analysis of the gravel shall be delivered to the Engineer for approval prior to placement by the Contractor. The Engineer's approval of the gravel shall in no way, however, relieve the Contractor of meeting all the well performance guarantees required by these specifications and other contract documents.

The gravel shall be thoroughly disinfected with a 50mg/l chlorine solution as it is placed in the well.

- J. Developing: On completion of the graveling process, the well shall be washed, agitated, and developed until water is free of mud and sand. Gravel shall be added as required during development and/or test, and on completion of test, the gravel level shall be checked and additional gravel added if necessary to bring the magazine level back to required level.

The Contractor shall furnish all necessary pumps, compressors, plungers, bailing, or other needed equipment and shall develop the well by such approved methods as shall be necessary to give the maximum yield of water per foot of drawdown and extract from the water-bearing formation the maximum practical quantity of such sands as may, during the life of the well, be drawn through the screen when the well is pumped under maximum conditions of drawdown. A minimum total development time of 240 hours is required. The Contractor shall submit his proposed development procedure including the timing of each step and manufacturer's data sheets for any chemicals to the Engineer for approval a minimum of 72 hours before the procedure is started.

- K. Production Tests: When construction of the well has been completed, pumping tests shall be performed to quantify the production capacity of the well. Extreme care shall be taken in accurately recording the capacity and water levels during testing. The Contractor may be required to repeat a test if he does not obtain and record accurate readings acceptable to the Engineer.

The Contractor, at his own expense, shall provide all pumping equipment required for the testing and standard devices for both discharge and water depth measurement. Power for test shall be provided by the Contractor.

1. Test No. 1 – Step Test: After the well has been developed and cleared to the satisfaction of the Engineer, a series of 3 hour drawdown tests shall be performed with a 3 hour recovery period after each test. Pumping rate and drawdown shall be measured and recorded at 15 minute intervals. The pumping rates shall be as follows:
 - a. 1,000 gpm
 - b. 1,500 gpm
 - c. 2,000 gpm
 - d. 2,500 gpm
2. Test No. 2 – 36 Hour Test: After allowing for a minimum recovery time of 24 hours after completion of Test 1, a test run of 36 hours duration shall be made, during which test hourly readings of water produced and depth to the water level in the well shall be measured by the representatives of the Contractor and of the Engineer. The average of the last twelve hourly readings shall be taken as the official capacity of the well. Water produced during the production test shall be conveyed off site using temporary piping or hose to a location in the existing surface drainage system that is capable of accepting the flow rate generated by the testing.

This test shall run with the space between the test pump column and liner open to atmosphere. The test pump shall be capable of pumping 2,500 gpm at the required pump setting.

The recovery of the water level will be recorded at one hour intervals for a minimum period of 12 hours or until near the maximum recovery is reached.

- L. Well Performance Criteria: The minimum efficiency criteria for well completion shall be 75%. Determination of final well efficiency will be made by the Engineer based on the data from the 36 hour constant discharge pumping test using calculated transmissivity from the test. The methods used for determining the three-hour specific capacity and the transmissivity shall be methods normally used by professional groundwater hydrologists.

- M. Testing for Plumbness and Alignment: All holes shall be constructed and all casing and liners set round, plumb, and true to line as defined herein. To demonstrate the compliance of his work with this requirement, the Contractor shall furnish all labor, tools, and equipment and shall make the tests described herein in the manner prescribed by, and to the satisfaction of, the Engineer. Tests for plumbness and alignment must be made after the complete construction of the well and before its acceptance. Additional tests, however, may be made by the Contractor during the performance of the work. No specific payments shall be made by the Owner for making these tests.

Plumbness and alignment shall be tested by lowering into the blank liner to the full depth a section of pipe 40 feet long or a dummy of the same length. The outer diameter of the plumb shall not be more than 1/2" smaller than the diameter of that part of the casing or hole being tested. If a dummy is used, it shall consist of a rigid spindle with three (3) rings, each ring being 12" wide. The rings shall be truly cylindrical and shall be spaced one at each end of the dummy and one ring in the center thereof. The central member of the dummy shall be rigid so that it will maintain the alignment of the axes of the rings.

Should the plumb or dummy fail to move freely throughout the length of the casing or hole or should the well vary from the vertical in excess of 2/3 of the smallest inside diameter of that part of the well being tested per 100 feet of depth, or beyond limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at his own expense. Should the Contractor fail to correct such faulty alignment or plumbness, the Engineer may refuse to accept the well. In no event will the provisions of this paragraph with respect to alignment be waived.

An alternate test for plumbness and alignment may be used by the Contractor if approved by the Engineer.

- N. Confirmation Video Inspection: As a final confirmation that the well component setting depths were installed as planned, a video inspection shall be conducted in the presence of the Engineer. A recording of the inspection shall be provided to the Engineer in digital form. The costs to the Owner for this test shall be in accordance with the bid proposal.
- O. Water Analysis: Acceptance of the well will be contingent upon analyses of water produced during the 36 hour production test to be performed by an approved commercial laboratory at no additional expense to the Owner. A duplicate sample shall be provided to the Engineer as backup. The analyses shall include testing for parameters set forth below of this Section, and bacteriological testing for parameters set forth in Paragraph 3.R of this Section.

Water analyses shall include testing for the following constituents:

Total Dissolved Solids	Arsenic	Color
Total Suspended Solids	Asbestos	Turbidity
Conductance	Cadmium	Corrosivity
Silica	Beryllium	Phenolphthalein Alkalinity
Calcium	Barium	Total Alkalinity
Magnesium	Cyanide	Hardness
Sodium	Lead	Free Carbon Dioxide
Carbonate	Zinc	pH
Bicarbonate	Copper	Fluoride

Sulfate	Chromium	Manganese
Chloride	Silver	Dissolved Iron
Nitrate	Selenium	Total Iron
Nitrite	Aluminum	Mercury
Antimony	Thallium	Silver
Hydrogen Sulfide		

P. Modification of Well Due to Water Quality: In the event that the above analysis indicates that the completed well will not produce water with total suspended solids less than 5 mg/l, the Contractor shall continue development or modification of gravel pack at his own expense. Should the Contractor fail to correct such inadequate quality, the Engineer may refuse to accept the well.

Q. Disinfection: After the well has been completely constructed, it shall be thoroughly cleaned of all foreign substances, including tools, timbers, rope, debris of any kind, cement, oil, grease, joint dope, and scum. The casing pipe shall be thoroughly swabbed, using alkalis, if necessary, to remove oil, grease, or joint dope. The well shall then be disinfected with a chlorine solution.

The chlorine solution used for disinfecting the well shall be of such volume and strength and shall be so applied that a concentration of at least 50 ppm of chlorine shall be obtained in all parts of the well. Chlorine solution shall be prepared and applied in accordance with the directions of, and to the satisfaction of, the Engineer, and shall remain in the well for a period of at least six hours.

Acceptance of the well will be contingent upon the Contractor flushing the disinfectant chlorine solution; followed by collecting water samples to be submitted for microbiological analysis, to be performed by an approved commercial laboratory, until three successive daily raw water samples are free of coliform organisms.

R. Well Closure: After testing, sterilization, and approval by the Engineer, the Contractor shall furnish and install a temporary cap on the well to prevent contamination of the well prior to installation of the well pump.

S. Well Head: A reinforced concrete well head shall be constructed in accordance with the plans.

T. Well Guarantee: The Contractor shall guarantee the well to produce clean water at the official capacity established during the production tests with the sand content (total suspended solids) not exceeding 5 mg/l and shall also guarantee the well against all defective materials and workmanship for a period of one year, agreeing to make good any defects that may develop during this one-year period without cost to the Owner.

U. Well Completion Report: Upon completion of the well, the Contractor shall furnish the Owner four (4) bound and one digital copy of a Completion Report including a complete written log of the well showing the formations encountered, the type and location of all

material setting, well cementing data, the water quality analysis, the production test data, the caliper log, and all other pertinent information required to complete properly detailed records of the well.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION