



**NOTICE
GLENPOOL UTILITY SERVICE AUTHORITY
REGULAR MEETING**

A Regular Session of the Glenpool Utility Service Authority will be held at 6:00 p.m. immediately following the Glenpool City Council Meeting on April 5, 2021 at Glenpool City Hall, City Council Chambers, 12205 S. Yukon Ave., 3rd Floor, Glenpool, Oklahoma.

NOTE: The Glenpool Utility Service Authority will be assembled for the meeting at the City Council Chambers, 12205 S. Yukon Ave, Glenpool, Oklahoma. Members of the public are invited to attend the in-person meeting, or join a live broadcast at this link:

Join Zoom Meeting

<https://us02web.zoom.us/j/89753555435?pwd=QzdFVjA1b0lKa1lSUFlKbUNrUUxtdz09>

Meeting ID: 897 5355 5435

Passcode: 974088

One tap mobile

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The GUSA Board welcomes comments from citizens of Glenpool who wish to address any item on the agenda.

- Speakers attending in **PERSON** are required to complete the Request to Speak form located on the agenda table and return to the City Clerk **PRIOR TO THE CALL TO ORDER**.
- Speakers attending via **ZOOM** are required to complete the Request to Speak form located on our website: <https://glenpoolonline.civicweb.net/document/19057/Request%20to%20Speak%20Form.pdf> and email it to the City Clerk: Wknight@cityofglenpool.com **PRIOR TO 6:00 PM, APRIL 5, 2021.**

AGENDA

	Page
A) Call to Order - Timothy Lee Fox, Chairman	
B) Roll Call, Declaration of Quorum – Wendy Knight, Secretary; Timothy Lee Fox, Chairman	
C) Public Works Director Report - Rob Werley	
1) GUSA PW report mar 2021	3 - 4
D) Scheduled Business	
1) Discussion and possible action to approve minutes from March 1, 2021, and March 15, 2021 meetings. (Wendy Knight, Secretary) GUSA - 01 Mar 2021 - Minutes - Html GUSA - 15 Mar 2021 - Minutes - Html	5 - 10

- 2) Discussion and possible action to approve a quote from COGENT, for one (1) air pump replacement unit at the wastewater treatment plant, in an amount not to exceed \$13,853.00, to be funded from the approved FY 2020/2021 GUSA Budget Item No.02-6-16-6278 (Sewer Improvements) and to authorize the City Manager to execute same. (Lynn Burrow, Community Development Director) 11 - 17
[Approval of Wastewater Plant Equipment Replacement](#)
- 3) Discussion and possible action to accept the public waterline extension serving a portion of *South 75 Business Park*, located on the south side of 161st Street - east of Broadway Street. 18 - 24
(Lynn Burrow, Community Development Director)
[Waterline Acceptance South 75 Business Park](#)

E) Adjournment

This notice and agenda was posted at Glenpool City Hall, 12205 S. Yukon Ave., Glenpool, Oklahoma, on April 1, 2021, by 4:00 pm.

Signed: Wendy Knight

Secretary



5 April 2021

To: Honorable Chairman and Trustee's, Glenpool Utility Service Authority

From: Rob Werley, Public Works Director

RE: March 2021 Public Works Operations Report

The following information is a summary of the work that is in progress or has been completed by Public Works crews for the month of March:

Wastewater:

- New chlorine and bisulfite pumps installed.
- 1 sewer call; stoppage was on customer side, customer was notified.
- Sewer line preventive maintenance, applying root killer and degreasing additives into manholes.
- Pulled pump #2 at Eden South lift station due to issues with pump and impeller.
- Replaced bad level float at Shell lift station.

Water:

- Meter reading started on 1 March and ended on 5 March.
- 31 defective registers replaced.
- 19 re-reads were completed.
- 9 door hangers placed out for non-sufficient funds.
- 211 service orders were completed for Utility billing.
- 91 customers shut off for non-payment.
- 185 Line locates were completed.
- Monthly bac-t samples were taken, all samples passed.
- Landscape repairs from where water leaks were fixed.
- Replaced 200' of 1" water service for animal control building.
- Repaired 7 service line leaks (assisted Glenpool school employees with a leak on their side of the meter at the Middle School.
- Repaired 1 water main leak.
- Had 1 road bore done for new water service at 14888 S Birch St
- Installed 4 new water services.
- Replaced 1 fire hydrant, placed back into service on Dogwood.

12205 S. Yukon, Glenpool, OK 74033 OFFICE: 918-322-5409 FAX: 918-209-4641
Mayor Tim Fox, Vice-Mayor Momodou Ceesay, Councilors: Joyce Calvert, Brandon Kearns, and Jacqueline Lund
City Manager David Tillotson, Assistant City Manager Susan White, City Clerk Wendy Knight
www.glenpoolonline.com

Parks:

- Daily check of parks pick up trash and empty trash cans.
- Power washed splash pad and water features.
- Power washed gazebos, pavilion, metal roofs, at Black Gold Park.
- Power washed playground equipment at all parks.
- Trimmed trees at Black and Gold Park.
- Made repairs to broken boards at horseshoe pit.
- Painted sides of the skate park ramps.
- Made repairs to the fence by splash pad.
- Filled sink hole by storm drain at soccer fields.
- Mowing and weed eating at Parks.

Streets:

- Trimmed willow trees and picked up trash in ROW on 121s between Waco and Hwy 75.
- Replaced and repaired various street signs in Kendallwood North.
- Trimmed back limbs at 126th & 33rd Ave that were causing issues with traffic.
- Pothole repairs numerous locations.
- Preventive maintenance to plows and sanders.
- Mowing and weed eating ROW's.

NOTE: 2 Water / Sewer laborers went to training and received licenses: Cody Campbell obtained his 'D' Water and 'D' Wastewater licenses; Josh Henley obtained his 'C' Wastewater lab license.

Streets and Parks employees received a word of thanks from a customer for trimming the limbs at 126th St & 33rd Ave. so quickly after she put in a "Report a concern" issue online.



MINUTES
GUSA Meeting
Monday, March 1, 2021 Council Chambers 6:00 PM

TRUSTEES PRESENT: Tim Fox
Momodou Ceesay
Joyce Calvert
Jacqueline Triplett-Lund

TRUSTEES ABSENT: Brandon Kearns

STAFF PRESENT: David Tillotson
Susan White
Wendy Knight
Lynn Burrow
Rob Werley
Bart Harris
Lea Ann Reed

STAFF ABSENT: Lowell Peterson

- A) Call to Order - Timothy Lee Fox, Chairman**
Chairman Fox called the meeting to order at 6:41 p.m.
- B) Roll Call, Declaration of Quorum – Wendy Knight, Secretary; Timothy Lee Fox, Chairman**
Wendy Knight called the roll, Chairman Fox declared a quorum present.
- C) Public Works Director Report - Rob Werley**
[GUSA PW report feb 2021](#)
- D) Scheduled Business**
- 1) Discussion and possible action to approve minutes from February 1, 2021 meeting.
(Wendy Knight, Secretary)
- Moved by Jacqueline Triplett-Lund, seconded by Joyce Calvert
- To approve the minutes as presented.*
- For Against Abstained Absent**

Tim Fox	x				
Momodou Ceesay	x				
Joyce Calvert	x				
Jacqueline Triplett-Lund	x				
Brandon Kearns				x	
	4	0	0	1	

CARRIED.

[GUSA - 01 Feb 2021 - Minutes - Html](#)

- 2) Discussion and possible action to accept the public sanitary sewer improvements serving Scissortail addition: Blocks 1-3.
(Lynn Burrow, Community Development Director)

Moved by Momodou Ceesay, seconded by Jacqueline Triplett-Lund

To table this item to a Special meeting on March 15, 2021.

	For	Against	Abstained	Absent
Tim Fox	x			
Momodou Ceesay	x			
Joyce Calvert	x			
Jacqueline Triplett-Lund	x			
Brandon Kearns				x
	4	0	0	1

CARRIED.

[Acceptance of Sanitary Sewer Improvements - Scissortail](#)

- 3) Discussion and possible action to accept the public waterline extension serving *Twin Mounds* and *Glenpool Ridge* additions.
(Lynn Burrow, Community Development Director)

Mr. Burrow presented and recommended Board approval of a public waterline extension serving *Twin Mounds* and *Glenpool Ridge* additions. This waterline extension was permitted for construction by the Oklahoma Department of Environmental Quality (ODEQ) and was inspected by City staff during construction for compliance with the approved construction plans and State and City design criteria. It should be noted that the subject waterline extension was constructed within general utility easements created by several separate instruments and the *Glenpool Ridge* Subdivision plat. The Maintenance Bond issued by the waterline Contractor (Morton Construction and Consulting Co.)

covers 100% of the total cost of the waterline facilities in question for the required one-year period from GUSA acceptance.

Moved by Momodou Ceesay, seconded by Jacqueline Triplett-Lund

To accept the public waterline extension serving Twin Mounds and Glenpool Ridge additions.

	For	Against	Abstained	Absent
Tim Fox	x			
Momodou Ceesay	x			
Joyce Calvert			x	
Jacqueline Triplett-Lund	x			
Brandon Kearns				x
	3	0	1	1

CARRIED.

[Acceptance of Waterline - Twin Mounds](#)

E) Adjournment

Chairman Fox declared the meeting adjourned at 6:51 p.m.



MINUTES
Special GUSA Meeting
Monday, March 15, 2021 Council Chambers 6:00 PM

TRUSTEES PRESENT: Tim Fox
Momodou Ceesay
Joyce Calvert
Jacqueline Triplett-Lund
Brandon Kearns

STAFF PRESENT: David Tillotson
Susan White
Lowell Peterson
Wendy Knight
Lynn Burrow
Jim Martin

- A) Call to Order - Timothy Lee Fox, Chairman**
Chairman Fox called the meeting to order at 7:16 p.m.
- B) Roll Call, Declaration of Quorum – Wendy Knight, Secretary; Timothy Lee Fox, Chairman**
Wendy Knight called the roll, Chairman Fox declared a quorum present.
- C) Scheduled Business**
- 1) Discussion and possible action to accept the public sanitary sewer improvements serving *Scissortail* addition: *Blocks 1-3*, tabled from March 1, 2021.
(Lynn Burrow, Community Development Director)
- Mr. Burrow presented and recommended Board acceptance of the public sanitary sewer improvements serving *Scissortail* addition: *Blocks 1-3*, tabled from March 1, 2021. These sanitary sewer improvements were permitted for construction by the Oklahoma Department of Environmental Quality (ODEQ) and were inspected by City Staff during construction for compliance with the approved construction plans as well as State and City design criteria. The Maintenance Bond issued by the

General Contractor for the Scissortail project (Ira M. Green Construction Company) covers 100% of the total cost of the sanitary sewer facilities in question for the required one-year period from GUSA acceptance.

Moved by Momodou Ceesay, seconded by Tim Fox

To accept the public sanitary sewer improvements serving Scissortail addition: Blocks 1-3, tabled from March 1, 2021.

	For	Against	Abstained	Absent
Tim Fox			x	
Momodou Ceesay	x			
Joyce Calvert	x			
Jacqueline Triplett-Lund	x			
Brandon Kearns	x			
	4	0	1	0

CARRIED.

[GUSA Presentation Acceptance of Sanitary Sewer Improvements - Scissortail](#)

- 2) Discussion and possible action to approve the Contract Bid received from Beytco, Inc. for the Hickory Street Sanitary Sewer Liftstation Rehab Project in a total amount not to exceed \$97,990.00, to be funded from the approved FY 2020/2021 Budget Item No. 02-6-16-6278: Sewer Improvements, and to authorize the City Manager to execute the same. (Lynn Burrow, Community Development Director)

Mr. Burrow presented and recommended Board approval of the Contract Bid received from Beytco, Inc. for the Hickory Street Sanitary Sewer Liftstation Rehab Project in a total amount not to exceed \$97,990.00, to be funded from the approved FY 2020/2021 Budget Item No. 02-6-16-6278: Sewer Improvements, and to authorize the City Manager to execute the same. The final engineering design documents for this project were completed by Midwest Engineering Group, LLC and approved by City Staff in May, 2019. Subsequently, the project was publicly advertised and placed for public bid on February 3rd, 2021. A Pre-Bid meeting was held on February 19th, 2021 and bids accepted and publicly read on February 26th.

Moved by Brandon Kearns, seconded by Jacqueline Triplett-Lund

To approve the Contract Bid received from Beytco, Inc. for the Hickory Street Sanitary Sewer Liftstation Rehab Project in a total amount not to exceed \$97,990.00, to be funded from the approved FY 2020/2021

Budget Item No. 02-6-16-6278: Sewer Improvements, and to authorize the City Manager to execute the same.

	For	Against	Abstained	Absent
Tim Fox	x			
Momodou Ceesay	x			
Joyce Calvert	x			
Jacqueline Triplett-Lund	x			
Brandon Kearns	x			
	5	0	0	0

CARRIED.

[GUSA Presentation Hickory Street Liftstation Contract Award](#)

D) Adjournment

Chairman Fox declared the meeting adjourned at 7:22 p.m.



MEMORANDUM

TO: CHAIRMAN FOX
GLENPOOL UTILITY SERVICES AUTHORITY

FROM: LYNN BURROW, PE
COMMUNITY DEVELOPMENT DIRECTOR

RE: ACCEPTANCE OF A QUOTATION FOR REPLACEMENT
EQUIPMENT: WASTEWATER TREATMENT FACILITY

DATE: APRIL 5, 2021

BACKGROUND

This item is for Board consideration and action regarding the approval and acceptance of a quotation received from COGENT Automatic Engineering Service Center in the total amount of \$13,853.00 per the attached documentation. The quote covers the purchase and installation of one air pump unit dealing with the City's wastewater treatment facility. As stated, the quote covers the replacement of one of four existing air blower units that pump compressed air into the diffuser system at the treatment plant to increase the dissolved oxygen levels in all three lagoon cells. The existing damaged pump is likely one of the original units that were installed in the late 1990's and has been in rotation with the other three like pumps since that time. The plant operates at least three of the four pumps on a continuous 24/7 basis. Thus, total operating hours on these blower units accumulate very quickly.

Staff Recommendation:

Staff has reviewed the quotation from COGENT to replace the damaged blower unit and recommends Board approval of same in the total amount of \$13,853.00 to be funded from the approved FY 2020/2021 GUSA Budget under Item No.02-6-16-6278 (Sewer Improvements) and to authorize the City Manager to execute same.

Attachments:

- A. Quotation Documents from COGENT Automating Engineering Service Center.

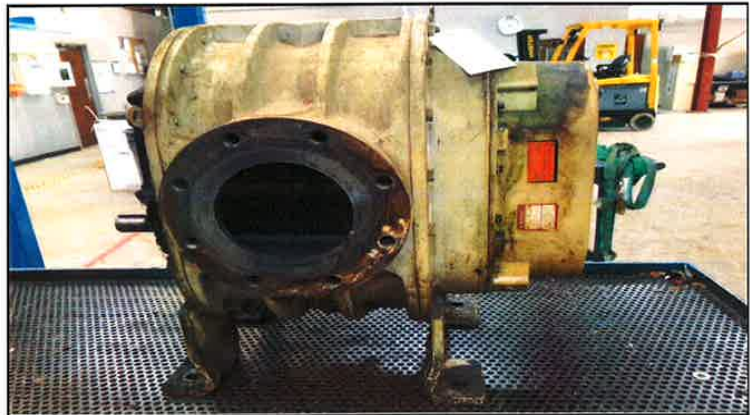
 COGENT		Automatic Engineering Service Center	
Opportunity Number	OP-524898	Date	3/23/2021
PQ/Order Number	7033383	Salesman	Mike Kish
Customer	City of Glenpool	Customer Stock #	
Contact Name, First	Rob	Service Type	Service
Contact Name, Last	Werley	Brand	Automatic Engineering
Contact Phone	918-332-3822	Market	Industrial
Contact Cell		Fluid Being Pumped	Poo Air
Contact Email	rwerley@cityofglenpool.com	Equipment Location/ID #	
Manufacturer	Sutorbilt		
Model	GAGMDPA		
Serial #	S027734		
Item Type / Description	Blower		
Additional Items	None		
Level of Repair	L2 - Full DCI with Clearances Noted, Sandblasting, Estimate with Pictures, and Repair Report		
DCI Technician	Jorge Jimenez	DCI Date	3/17/2021

Pump As Found/Received

Notes:

Blower brought in to Shop for DCI.

*** Blower is determined to be damaged beyond economical repair, recommend replacement***



Drive End**Inspection Notes**

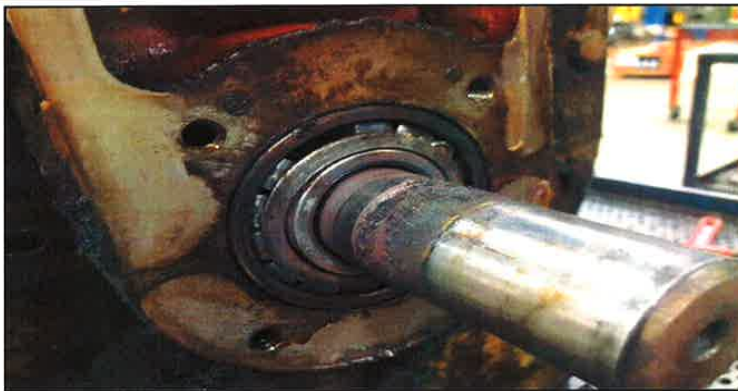
After removing initial drive cover plate, noticed that the lower bearing on drive end was severely damaged. Shaft had severe deflection; also noticed that the shaft was damaged, as well as the cover plate.

Work Scope

Plate cover, shaft (Impeller Unit) Plate cover are damaged beyond economical repair. Replacement would be recommended.

**Bearing & Shaft****Inspection Notes**

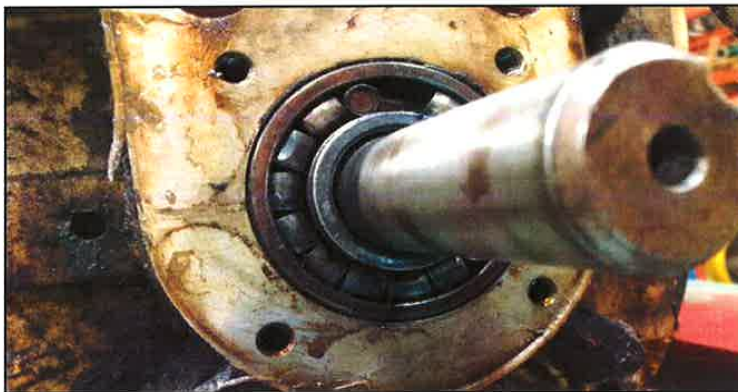
Damaged bearing and damaged shaft, close up. Severe movement found in shaft.

Work Scope**Bearing & Shaft (Close Up)****Inspection Notes**

Missing Bearing rollers, gap in bearing is severe.

Work Scope

Replacement recommended.



Drive End Plate Cover**Inspection Notes**

Plate cover damaged, can see the deflection/movement of the shaft.

Work Scope

Replacement is recommended.

**Drive End Plate Cover (Inside)****Inspection Notes**

Internal view of plate cover.

Work Scope**Casing****Inspection Notes**

Impeller Casing, damaged, shaft movement allowed whole unit to move, causing impeller and casing damage.

Work Scope

Recommend replacement.



Casing	
Inspection Notes Unit rubbing has created burrs/gouges internally.	
Work Scope	

Conclusions							
Paint Type and Color	Bin Location						
Primary Cause of Failure Other: The wear on the bearings cause the shaft and impeller to move and rub the housing. The wear on the impeller and housing will not allow the blower to build up the correct pressure to allow the unit to work like it should.							
Additional Notes & Suggestions Current Unit Beyond Economical Repair							
Parts Required							
<table border="1"> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>							
Inspection Reviewed By	Date						
Rick Ramey	3/18/2021						

SERVICE ESTIMATE

Customer: City of Glenpool Contact : Rob Werley Date: 02/25/2021 Phone: 918-332-3822 Fax: 918-209-4626 Project: Pull Blower For Repair Quote #: 7033383 Opp #: OP-524898	Automatic - Municipal Tulsa 412 N. Redbud Ave. Broken Arrow, OK 74012 Phone: 918-585-5703 Fax: 918-585-5707	 AUTOMATIC ENGINEERING A COGENT COMPANY
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Dear Rob,

We are pleased to offer the following estimate for your review.

Line No	Quantity	Description of Unit	Net Each	Net Ext.
---------	----------	---------------------	----------	----------

Pulled Blower in field and brought into shop for inspection
Upon inspection, it is determined that the blower is Beyond Economical Repair
Suggestion, Replace With New

1 1.00 **GARDNER DENVER LAMSON**
 Serial Number - S027734
 1.00 BLOWER,7M

Materials **\$12,258.00**

Labor **\$1,595.00**

Total **\$13,853.00**

Disassembly, Cleaning, Inspection and Estimating Charge **\$1,595.00**

Amount due if this unit is not repaired. An invoice for this charge will automatically generate within 90 days of this estimate. This charge is for DCI (Disassembly, Clean and Inspect). All units left at our facility for more than 6 months will be scrapped unless written notification is received.

Delivery: 3 week(s) after receipt of P.O.
 FOB Point: Shipping Point
 Terms of Payment: Upon Receipt
 Quote Validity: 30 Days

Thank you for the opportunity to provide you with this estimate. Please let us know how you would like to proceed.

Quoted By:
Jessica McVey
jmcvey@cogentcompanies.com

Salesrep:
Joe Holbrook

STANDARD TERMS AND CONDITIONS

Price is FOB shipping point and does not include any freight charges. Price does not include any applicable duties or sales tax, use tax, excise tax, value-added or other similar taxes that may apply to this equipment and/or project. Unless specifically stated, price does not include manual or automatic controls, starters, protective or signal devices, wiring, anchor bolts, gauges, vibration isolation devices, installation, startup or testing.

If the price is included in a proposal, the price is firm for receipt of an order within 30 days of the date shown on the proposal. Any additional terms and conditions included in the proposal are specifically included in these terms and conditions.

Unless otherwise expressly agreed to in writing by Seller, all shipments are FOB Seller shipping point at which point title also transfers.

Payment is due upon receipt of the invoice. An interest charge of 1-1/2% per month will be added to past due balances. Retainage of any invoiced amount is unacceptable unless specifically agreed to by Company at the time of order, and shall in no case exceed a period of 120 days. If payments are not timely received by Company, and this account is turned over to an attorney for collections, Customer agrees to pay all reasonable costs and attorney fees incurred in collection of the past due amounts.

Payment of 'commercial transaction' invoices by credit card will be charged a fee based upon Cogent's average discount rate for credit card transactions for the prior calendar year. This fee will change annually and is currently 2.55%.

All equipment either rented from or through Company is subject to all of the terms and conditions listed on the back of the rental contract. Pricing does not include any overtime running of power equipment.

In no event shall Company's obligations and liabilities under this Agreement include any direct, indirect, punitive, special, incidental or consequential damages or losses that Customer may suffer or incur in connection with this sale, service or rental, including, but not limited to, loss of revenue or profits, damages or losses as a result of Customer's inability to operate, perform its obligations to third persons or injuries to goodwill; nor shall Company's liability extend to damages or losses Customer may suffer or incur as a result of such claims, suits or other proceedings made or instituted against Customer by third parties. Customer remises, releases and discharges Company from any and all liability or damages which might be caused by failure to deliver any equipment within the agreed time by Company.

Customer shall be responsible for determining the good operating condition of all materials and equipment prior to accepting the materials and equipment. NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE IS MADE UNLESS THE SAME IS SPECIFICALLY SET FORTH IN WRITING AND ACCEPTED IN WRITING BY COMPANY, BUT IN SUCH CASE THE WARRANTY OR GUARANTEE IS LIMITED AS ABOVE PROVIDED. Notwithstanding the foregoing, Company will pass through to the Customer any warranty provided by the manufacturer of any equipment supplied by Company.

Customer covenants and agrees to defend, indemnify and hold Company harmless from any claims, damages or liability arising out of the use, maintenance or delivery of the equipment or materials purchased or rented hereunder. Customer shall further defend, indemnify and hold Company harmless from any and all damages to third persons or to property caused by Customer's use or possession of the equipment or materials, to the fullest extent allowable by law.

In connection with a proposal, if Customer has any further questions or comments regarding the proposal, please feel free to contact Company. If the proposal meets with Customer's approval, please sign, date and mail or fax a copy of the proposal back to Company's office, and the identified equipment will be ordered and/or scheduled for delivery.

This agreement shall be governed by the laws of the state where the Company's branch office is located from which the equipment is rented or purchased. Customer further agrees that venue and jurisdiction shall be appropriate in the county in which Company's branch office is located from which the equipment was rented or purchased. Any provisions hereof which may prove unenforceable under any law shall not affect the validity of any other provision hereof.

Revised January 2019



MEMORANDUM

**TO: CHAIRMAN AND BOARD OF TRUSTEES
GLENPOOL UTILITY SERVICES AUTHORITY**

**FROM: LYNN BURROW, PE
COMMUNITY DEVELOPMENT DIRECTOR**

**RE: ACCEMPTANCE OF PUBLIC WATERLINE EXTENSION
SERVING A PORTION OF SOUTH 75 BUSINESS PARK**

DATE: APRIL 5, 2021

BACKGROUND

This item is for Board consideration and action regarding the approval and acceptance for ownership a certain public waterline extension constructed to serve a portion of South 75 Business Park. The waterline in question is located on the south side of 161st Street – east of Broadway Street per the attached 'As-Built' construction documents. This waterline extension was permitted for construction by the Oklahoma Department of Environmental Quality (ODEQ) and was inspected by City staff during construction for compliance with the approved construction plans and State and City design criteria. It should be noted that the subject waterline extension was constructed within the 161st Street right-of way dedicated to the public as part of the recorded subdivision plat of South 75 Business Park: Phase III. For maintenance purposes, the attached Letter of Credit issued by 1st Bank of Hominy on behalf of Falcon Field Services, Inc. covers 100% of the total cost of the waterline facilities in question for the required one-year period from GUSA acceptance.

Staff Recommendation:

Staff recommends that the Board approve the acceptance of this waterline extension for ownership as illustrated in the attached 'As-Built' construction documents and as supported and secured by the attached Letter of Credit for maintenance purposes.

Attachments:

- A. South 75 Business Park 'As-Built' Waterline Construction Plans
- B. 1st Bank of Hominy Letter of Credit – Falcon Field Services, Inc.



P.O. BOX 8 • 117 N. PRICE
HOMINY, OK 74035
(918) 885-2161
FAX (918) 885-2822

IRREVOCABLE LETTER OF CREDIT

April 5, 2021

Irrevocable Letter of Credit # 27

Beneficiary:
City of Glenpool
PO Box 70
Glenpool, OK 74033

Contractor:
Falcon Field Service, Inc.
PO Box 146
Hominy, OK 74035

Amount: \$42,085.00

Expiration Date: April 5, 2022

We hereby issue in your favor this Irrevocable Standby Letter of Credit which is available by payment of your draft at sight drawn on 1st Bank in Hominy bearing the clause "Drawn under Letter of Credit #27 issued by 1st Bank in Hominy" when accompanied by the following documents:

1. An official statement from the City of Glenpool that Falcon Field Service, LLC., has failed to comply with the terms of its development contract with the City of Glenpool in regard to the project known as "A certain waterline installation along 161st Street serving a portion of the South 75 Business Park" in accordance with standards set out in stated construction plans (or otherwise communicated to, and agreed to by Falcon Field Service, Inc.
2. The original Letter of Credit.

Presentation of this Letter of Credit for payment may be made at the office of 1st Bank in Hominy at 117 N. Price Ave., Hominy, OK 74035 by causing same to be delivered by recognized national carrier without the necessity of the physical presence of a representative of the Beneficiary. 1st Bank in Hominy and the City of Glenpool agree that any litigation with regard to this Letter of Credit shall be held before a Court of appropriate jurisdiction in Tulsa County, Oklahoma.

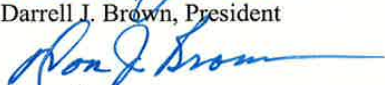
This Letter of Credit #27 is valid for one calendar year from April 5, 2021 and NOT automatically renewable.

This Letter of Credit #27 is subject to the Uniform Customers and Practice for Documentary Credits (2007 revision), International Chamber of Commerce – Publication 600.

1st Bank in Hominy


Tom D. Smith
President/CEO

Falcon Field Service, Inc.


Darrell J. Brown, President

Don J. Brown, Vice President

Since 1906

Utilities to Serve South 75 Business Park Tract 5

PART OF THE NORTHWEST QUARTER (NW/4) OF SECTION TWENTY-SIX (26),
TOWNSHIP SEVENTEEN (17) NORTH, RANGE TWELVE (12) EAST OF THE INDIAN MERIDIAN
A SUBDIVISION WITHIN THE CITY OF GLENPOOL, TULSA COUNTY, STATE OF OKLAHOMA

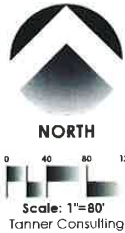


THESE ABBREVIATED RECORD DRAWINGS REFLECT FIELD NOTES, MEASUREMENTS AND SURVEY DATA RELATED TO THE STORM DRAINS, SANITARY SEWER AND WATER MAINS THAT ARE SUBJECT TO PUBLIC MAINTENANCE. THIS INFORMATION HAS BEEN PREPARED IN ACCORDANCE WITH CITY REQUIREMENTS AS OF OUR LAST FIELD VISIT ON FEBRUARY 23, 2021.

ALL OTHER INFORMATION DEPICTED ON THESE RECORD DRAWINGS IS BASED ON ORIGINAL DESIGN INTENT AND DOES NOT REPRESENT THE EXTENT TO WHICH THE PLANS WERE FOLLOWED. DEVIATIONS, REVISIONS OR OMISSIONS UNDERTAKEN BY THE OWNER AND CONTRACTOR ARE UNKNOWN.

DAN E. TANNER, P.E.
CA # 2661 EXPIRES - 6/30/202

2.23.2021



DEVELOPER:
South 75 Business Park, LLC
A TEXAS LIMITED LIABILITY COMPANY
CONTACT: REX ROBERTSON
EMAIL: rex@forddevelopment.net
16400 Dallas Parkway, Suite 140
Dallas, Texas 75248-1389
Phone: (972) 858-1111

Full Set Index

SHEET NUMBER - NAME
GE01 - COVER SHEET
GE02 - UTILITY PLAN
WL01 - WATELINE PLAN & PROFILE
SS01 - FORCE MAIN PLAN & PROFILE
SS02 - WATER & SEWER DETAILS

Quantities

Private Force Main:
RIGHT OF WAY CLEARING AND RESTORING
EXCAVATION AND BACKFILL
2-INCH PIPE, HDPE
CONNECTION TO EXISTING MANHOLE
BORE AND 6" CONDUIT
45° VERTICAL BEND

Public Waterline:	
RIGHT OF WAY CLEARING AND RESTORING	778 LY
EXCAVATION AND BACKFILL	344 CY
8-INCH PVC PIPE, C900	778 LY
CONNECTION TO EXISTING 12" WATERLINE	1 EA
12"x12"x8" TAPPING SLEEVE AND VALVE	1 EA
45° BEND	1 EA
8" VALVE	2 EA
8" PLUG	1 EA
3-WAY FIRE HYDRANT ASSEMBLY	2 EA
(INCLUDES HYDRANT & RISER, TEE, GATE VALVE, LEADER & BLOCK)	



Tanner
Consulting
LLC
CIVIL ENGINEERING | LAND SURVEYING
LANDSCAPE ARCHITECTURE | PLANNING

5323 SOUTH LEWIS AVENUE
TULSA OKLAHOMA 74105-6539
OFFICE: 918.745.9929
www.tannerbaitshop.com



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MILESTONE	DATE
REVISION 1	1/29/202

PLOT DATE 2/23/21

ALL CONSTRUCTION TO BE IN STRICT
ACCORDANCE WITH CURRENT CITY OF
GLENPOOL STANDARDS AND SPECIFICATIONS
(INCLUDING O.D.O.T. 2009 EDITION)

South 75 Business Park Tract 5
W. 161st St. S. & U.S. Hwy 75
Glenpool, Oklahoma

PROJECT	16075
ISSUE DATE	2/23/21

PLAN SCALE (H)	1" = 80'
(V)	N/A

Cover Sheet

GE01

OF 05

- 1.1 TOPOGRAPHIC INFORMATION SHOWN HEREIN WAS PROVIDED BY TANNER CONSULTING, LLC.
- 1.2 ALL GRADES ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
- 1.3 WHEREVER THE WORD "CITY" APPEARS HEREIN THE SAME SHALL CONCLUSIVELY BE DEEMED TO MEAN THE CITY OF GLENPOOL, OKLAHOMA UNLESS THE CONTEXT CLEARLY DICTATES OTHERWISE.
- 1.4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY WORK ORDERS AND PERMITS FROM THE CITY, INCLUDING PROVISION OF BONDS AND INSURANCE AS REQUIRED.
- 1.5 THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT AT LEAST 24 HOURS PRIOR TO START OF CONSTRUCTION.
- 1.6 ONE-TIME CONSTRUCTION STAKING SHALL BE PROVIDED BY THE OWNER, ANY RESTAKING WILL BE REQUESTED AND PAID FOR BY THE CONTRACTOR.
- 1.7 RIGHT-OF-WAY PERMIT IS REQUIRED FOR ALL WORK IN CITY OF GLENPOOL RIGHT-OF-WAY. PLEASE CALL 918-322-5409 FOR PERMIT INFORMATION.
- 1.8 UNLESS SPECIFIED OTHERWISE, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CITY OF GLENPOOL STANDARDS, OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY STANDARDS AND OKLAHOMA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND/OR THE APPROPRIATE LOCAL AUTHORITIES.

Benchmark 1

PK NAIL FOUND IN ASPHALT 47 LF EAST OF
NORTHWEST CORNER OF SECTION 26 AND
10 LF SOUTH OF NORTH EDGE OF ASPHALT
OF WEST 161ST STREET SOUTH.
ELEVATION = 771.663' (NAVD88)
N: 44614.6757 E: 2557153.9303

Benchmark 2

SPIKE FOUND IN FENCE POST, LOCATED ON EAST RIGHT OF WAY LINE OF U.S. HIGHWAY 75 APPROX. 760' NORTH OF THE CENTERLINE INTERSECTION OF U.S. HIGHWAY 75 AND WEST 166TH STREET SOUTH.

ELEVATION = 774.69' (NAVD88)
N: 342729.270 E: 2557188.56

Contact List

CITY OF GLENPOOL
LYNN BURROW
PO BOX 70
GLENPOOL, OK 74033
PHONE: (918) 322-5409

COX COMMUNICATIONS
ROBERT DREW
11811 EAST 51ST STREET
TULSA, OK 74145
PHONE: (918) 286-4657

ONEOK
NEAL JONES - NEW SERVICE
2001 S. HIGHWAY 81
MEDFORD, OK 73759
PHONE: (580) 396-6304

OG&E
KEN LUCAS NEW CONSTRUCTION
PO BOX 321 M/C M228
OKC 73101
PHONE (405) 553-4224

AT&T
ROB MYER
5305 E. 71ST STREET
TULSA, OK 74136
PHONE: (918) 596-4237

Legend

BDM	BUILDING
BNG	BENCHMARK
BL	BUILDING LINE
B/BS	CHESED BOX, SET
CL	CENTERLINE
CO	SEWER CLEAN-OUT
CONC	CONCRETE
COR	CORNER
EPED	ELECTRIC PEDESTAL
ESMT	EASEMENT
FI	FIRE HYDRANT
FL	FLOWLINE
FLT	FLOWLINE, THROAT
FNC	FENCE
FND	FOUND
G	GUTTER
GUY	GUY ANCHOR
HUP	HORIZONTAL ELLIPTICAL PIPE
IP	IRON PIN
IPF	IRON PIN, FOUND
IP	IRON PIN, SET
MAE	MUTUAL ACCESS ESMT
OE	OVERHEAD ELECTRIC
PFT	PIPE FLAG, ELECTRIC
PFI	PIPE FLAG, TELEPHONE
PP	POWER POLE
PPD	POWER POLE WITH DIP

PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
R/C	REINFORCED CONCRETE PIPE
R/W	REINFORCED WATERLINE ESM
RF	RIGHT-OF-WAY
SD	STORM DRAIN
SDES	STORM DRAIN END SECTION
SDH	STORM DRAIN HEADWALL
SDH	STORM DRAIN HOLE
SDMH	STORM DRAIN MANHOLE
SF	SQUARE FEET
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SQ	SQUARE YARDS
TC	TOP OF CURB
TOG	TOP OF GRATE
TP	TOP OF PAVING
TPED	TELEPHONE PEDESTAL
TR	TOP OF RIM
WL	WATERLINE
WM	WATER METER
WMH	WATER MANHOLE
WV	WATER VALVE
UG	UNDERGROUND GAS LINE
UE	UNDERGROUND ELECTRIC
UFG	UNDERGROUND TELEPHONE
UFGT	UTILITY TRANSFORMER
U/FM	UNDER FLOOR TRANSFORMER

- 7.1 ALL SANITARY SEWER COLLECTION SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS,
- 7.2 ALL SANITARY SEWER COLLECTION SYSTEM CONSTRUCTION SHALL BE INSPECTED BY THE INSPECTORS FOR THE AUTHORITY HAVING JURISDICTION, IN ACCORDANCE WITH JURISDICTIONAL POLICY.
- 7.3 THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BEFORE EXCAVATING, AND SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PUBLIC OR PRIVATE UTILITY COMPANIES IN THE VICINITY OF CONSTRUCTION.
- 7.4 THE CONTRACTOR SHALL VERIFY THE INVERT AND FLOWLINE ELEVATIONS OF THE EXISTING SANITARY SEWER PRIOR TO LAYING ANY NEW PIPE.
- 7.5 PVC SEWER PIPE SHALL BE ASTM D1784 SDR-35, UNLESS OTHERWISE SHOWN.
- 7.6 SDR-21 PVC PIPE SHALL BE USED AT ANY POINT WHERE THE CENTERLINE CUT IS SIXTEEN (16) FEET OR MORE.

- 7.7 TEES FOR FUTURE SERVICE CONNECTIONS SHALL BE INSTALLED AND PLUGGED DURING MAIN CONSTRUCTION.
- 7.8 IN-LINE SERVICE TEES SHALL BE OF THE SAME MATERIAL AS PIPE INSTALLED. FOR EXAMPLE, UNDER PAVED DRIVING SURFACES, THE MAIN AND SERVICE TEE SHALL BE DUCTILE IRON PIPE (DIP).
- 7.9 SPECIAL RISERS SHALL BE INSTALLED FOR EACH LOT WHERE THE MAIN SEWER DEPTH WILL BE TWELVE (12) FEET OR GREATER BELOW FINISHED GRADE.
- 7.10 TAPS ON EXISTING LINES, THAT DID NOT HAVE TEES INSTALLED DURING CONSTRUCTION, SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARD DRAWINGS.
- 7.11 MANHOLES LESS THAN 4'-6" IN HEIGHT SHALL HAVE A FULL 5'-0" INSIDE DIAMETER FROM TOP TO BOTTOM.
- 7.12 ALL PRECAST MANHOLES SHALL HAVE ADJUSTABLE TOP RIMS PROVIDING SIX (6) INCHES PLUS OR MINUS, FOR ADJUSTMENT TO FINAL GRADES. ELEVATIONS SHOWN ON PLANS MAY BE ADJUSTED WHILE THE WORK IS IN PROGRESS TO CONFORM TO FINAL IN-PLACE PAVING AND LANDSCAPE

7.13 THE UTILITY CONTRACTOR ASSUMES THE RISK OF ORDERING PRECAST CONCRETE COMPONENTS PRIOR TO FIELD STAKING AND REVIEW OF FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

7.14 THE UTILITY CONTRACTOR SHALL BE REQUIRED TO VACUUM TEST ALL MANHOLES ACCORDING TO CURRENT CITY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.

7.15 BEDDING, BACKFILL, AND COMPACTION SHALL BE IN ACCORDANCE WITH CITY STANDARD DRAWINGS. STREET BACKFILL AND COMPACTION REQUIREMENTS SHALL EXCEED TWO (2) FEET BACK OF CURB. WHEN REPAIRING A SEWER IN SERVICE 3/8 INCH CHIPS SHALL BE USED FOR BEDDING AND INITIAL BACKFILL.

7.16 ALL SERVICE TEES ARE STATIONED FROM THE IMMEDIATE DOWNSTREAM MANHOLE.

7.17 WHEN WORKING IN OR ADJACENT TO EXISTING SUBDIVISIONS ONLY ONE (1) DAYS WORK OF TRENCH MAY BE OPEN AT A GIVEN TIME. THIS REQUIREMENT MAY BE MODIFIED, IN WRITING BY THE PUBLIC WORKS DIRECTOR, FOR A SPECIFIC PROJECT.

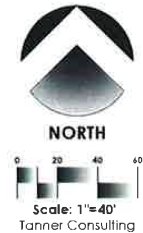
- 7.18 CONTRACTOR SHALL COORDINATE ROAD CLOSURES WITH AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.
- 7.19 CONTRACTOR SHALL SUBMIT PROFESSIONAL ENGINEER'S TRENCH EXCAVATION PLAN FOR ALL EXCAVATIONS IN EXCESS OF 20 FEET.
- 7.20 THE OWNER SHALL FURNISH AS-BUILT FIELD NOTES AND QUANTITIES TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
- 7.21 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-656-5-(b), LEAKAGE TESTS ARE REQUIRED FOR ALL GRAVITY LINES. HYDROSTATIC TESTS MUST USE A 2-FOOT TEST HEAD AND LEAKAGE INWARD OR OUTWARD SHALL NOT EXCEED 10 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
- 7.22 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-656-5-4(d)(7), MANHOLE LEAKAGE TEST MUST BE IN ACCORDANCE WITH THE ASTM STANDARD FOR THE TEST TO BE USED.

* INDICATES BACKFLOW PREVENTION REQUIRED FOR BUILDING ELEVATION (BELOW UPSTREAM AND/OR DOWNSTREAM MANHOLE RIM)

PK NAIL FOUND IN ASPHALT 47 LF EAST OF
NORTHWEST CORNER OF SECTION 26 AND
10 LF SOUTH OF NORTH EDGE OF ASPHALT
OF WEST 161ST STREET SOUTH.
ELEVATION = 771.663' (NAVD88)
N: 44614.6757 E: 2557153.9303

SPIKE FOUND IN FENCE POST, LOCATED ON EAST RIGHT OF WAY LINE OF U.S. HIGHWAY 75 APPROX. 760' NORTH OF THE CENTERLINE INTERSECTION OF U.S. HIGHWAY 75 AND WEST 166TH STREET SOUTH;

ELEVATION = 774.69' (NAVD88)
N: 342729.270 E: 2557188.560



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MILESTONE	DATE
REVISION 1	1/29/202

PLOT DATE 2/23/21

ALL CONSTRUCTION TO BE IN STRICT
ACCORDANCE WITH CURRENT CITY OF
GLENPOOL STANDARDS AND SPECIFICATIONS
(INCLUDING O.D.O.T. 2009 EDITION)

South 75 Business Park Tract 5

W. 161st St. S. & U.S. Hwy 75

Glenpool, Oklahoma

PROJECT	16075
ISSUE DATE	2/23/21

PLAN SCALE (H)	1"= 40'
(V)	N/A

Utility Plan

GE02

OF 05

- 8.1 ALL WATER DISTRIBUTION SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY PUBLIC WORKS DEPARTMENT STANDARDS AND SPECIFICATIONS.
- 8.2 ALL WATER DISTRIBUTION SYSTEM CONSTRUCTION SHALL BE INSPECTED BY THE INSPECTORS FOR THE AUTHORITY HAVING JURISDICTION, IN ACCORDANCE WITH JURISDICTIONAL POLICY.
- 8.3 THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BEFORE EXCAVATING, AND SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PUBLIC OR PRIVATE UTILITY COMPANIES IN THE VICINITY OF CONSTRUCTION.
- 8.4 THE PROJECT RESPONSIBLE CONTRACTOR AND ANY OTHER SUB-CONTRACTORS UNDER SEPARATE CONTRACT, IS/ARE REQUIRED TO HAVE A PRE-CONSTRUCTION MEETING WITH CITY STAFF. SUCH A MEETING IS REQUIRED BEFORE ANY INFRASTRUCTURE CONSTRUCTION IS PERFORMED.
- 8.5 THE CITY SHALL OPERATE ALL VALVES. ALL VALVES SHALL BE LOCATED OUTSIDE OF STREET PAVING AND SHALL HAVE A 2" DIAMETER X 4" FORMED CONCRETE COLLAR INSTALLED AROUND VALVE BOXES.

- 8.6 FLUSHING, TESTING, AND DISINFECTION SHALL BE PERFORMED BY THE CONTRACTOR, AT HIS EXPENSE, UNDER THE SUPERVISION OF THE CITY.
- 8.7 DIG THROUGH LOCATOR TAPE WILL BE BURIED 2 FEET ABOVE THE LINE.
- 8.8 WHEN C-900 PVC IS USED, A NO. 8 COATED COPPER WIRE SHALL BE TAPED TO THE TOP SURFACE OF THE PIPE AND CONNECTED TO EACH FIRE HYDRANT BY ATTACHING TO A BOLT, JUST ABOVE GROUND LEVEL.
- 8.9 ALL DISTRIBUTION LINES IN CONDUIT AND AT DRAINAGE FEATURE CROSSINGS SHALL BE CONSTRUCTED WITH RESTRAINED JOINTS.
- 8.10 ALL MAIN LINES SHALL HAVE A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF EIGHT (8) FEET OF COVER, UNLESS OTHERWISE SHOWN HEREIN.
- 8.11 BEDDING, BACKFILL, AND COMPACTION OVER WATER LINES SHALL BE IN ACCORDANCE WITH STANDARD DRAWINGS. BACKFILL AND COMPACTION REQUIREMENT FOR STREET CROWNING SHALL EXTEND TWO (2) FEET BACK OF CURB.
- 8.12 DISTRIBUTION LINES SMALLER THAN FOUR (4) INCHES SHALL NOT BE INSTALLED.

- A. FIRE HYDRANTS SHALL BE A MINIMUM 5 1/4 INCH NOZZLE TYPE AND OF THE KENNEDY, MUELLER, OR AMERICAN DARLING BRAND NAME.
- B. EACH HYDRANT SHALL BE SET WITH THE STREAMER NOZZLE FACING THE STREET AND WITH A MINIMUM CLEARANCE OF EIGHTEEN (18) INCHES ABOVE THE FINISHED GRADE.
- C. ALL EXPOSED PORTIONS OF FIRE HYDRANTS SHALL BE PAINTED WITH A SAFETY RED ENAMEL AS MANUFACTURED BY GLIDDEN OR DUPONT.

8.14 WHEN WORKING IN OR ADJACENT TO EXISTING SUBDIVISIONS ONLY ONE (1) DAYS WORTH OF TRENCH MAY BE OPEN AT A GIVEN TIME, THIS REQUIREMENT MAY BE MODIFIED, IN WRITING BY THE PUBLIC WORKS DIRECTOR, FOR A SPECIFIC PROJECT.

8.15 ALL FITTING BENDS, TEES AND FIRE HYDRANTS SHALL HAVE MECHANICAL JOINT RESTRAINTS, WITH MIDCO GRIP RINGS,

- 8.14 WHEN WORKING IN OR ADJACENT TO EXISTING SUBDIVISIONS ONLY ONE (1) DAYS WORTH OF TRENCH MAY BE OPEN AT A GIVEN TIME. THIS REQUIREMENT MAY BE MODIFIED, IN WRITING BY THE PUBLIC WORKS DIRECTOR, FOR A SPECIFIC PROJECT.
- 8.15 ALL FITTING BENDS, TEES AND FIRE HYDRANTS SHALL HAVE MECHANICAL JOINT RESTRAINTS, WITH MIDCO GRIP RINGS.

- 8.16 NO CONSTRUCTION ACTIVITIES ON THE WATER SYSTEM ARE PERMITTED UNTIL THE CITY ENGINEER'S OFFICE HAS RECEIVED A COPY OF THE ODEQ "PERMIT TO CONSTRUCT" AND AUTHORIZATION TO PROCEED WITH THE WATER SYSTEM HAS BEEN PROVIDED BY THE CITY ENGINEER.
- 8.17 CONTRACTOR SHALL COORDINATE ROAD CLOSURES WITH AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.
- 8.18 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-2(a), PIPE INSTALLATION MUST BE IN ACCORDANCE WITH AWWA STANDARDS.
- 8.19 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-2(b), CONTRACTOR TO PROVIDE CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL BURIED PIPE. TAMP BACKFILL MATERIAL IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. REMOVE ALL STONES FOUND IN THE TRENCH TO A DEPTH OF AT LEAST 6 INCHES BELOW THE BOTTOM OF THE PIPE.
- 8.20 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-2(d), CONTRACTOR TO PROVIDE REACTION BLOCKING DESIGNED TO PREVENT MOVEMENT AT ALL TEES, BENDS, PLUS, AND HYDRANTS.

- 8.21 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-2(i), CONTRACTOR TO TEST INSTALLED PIPE FOR LEAKAGE PER AWWA STANDARD SPECIFICATIONS. LEAKAGE MUST NOT EXCEED 10 GAL/INCH DIAMETER PER MILE OF PIPE PER 24 HOURS AT 150 PSI TESTING PRESSURE.
- 8.22 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-2(ii), CONTRACTOR TO DISINFECT ALL WATERLINES ACCORDING TO AWWA STANDARD SPECIFICATIONS. CONTRACTOR TO OBTAIN SAFE BACTERIOLOGICAL SAMPLES ON TWO CONSECUTIVE DAYS BEFORE PLACING THE WATERLINE INTO SERVICE.
- 8.23 ODEQ NOTE: IN ACCORDANCE WITH OAC 252-626-19-3(b), DRAINS FROM FIRE HYDRANT BARRELS SHALL NOT BE CONNECTED TO SANITARY SEWER OR STORM DRAINS.



Benchmark 1 
PK NAIL FOUND IN ASPHALT 47 LF EAST OF
NORTHWEST CORNER OF SECTION 26 AND
10 LF SOUTH OF NORTH EDGE OF ASPHALT
OF WEST 161ST STREET SOUTH.
ELEVATION = 771.663' (NAVD88)
N: 44614.6757 E: 2557153.9303

Benchmark 2 

SPIKE FOUND IN FENCE POST, LOCATED ON EAST RIGHT OF WAY LINE OF U.S. HIGHWAY 75 APPROX. 760' NORTH OF THE CENTERLINE INTERSECTION OF U.S. HIGHWAY 75 AND WEST 166TH STREET SOUTH.

ELEVATION = 774.69' (NAVD88)
N: 342729.270 E: 2557188.560



845-162

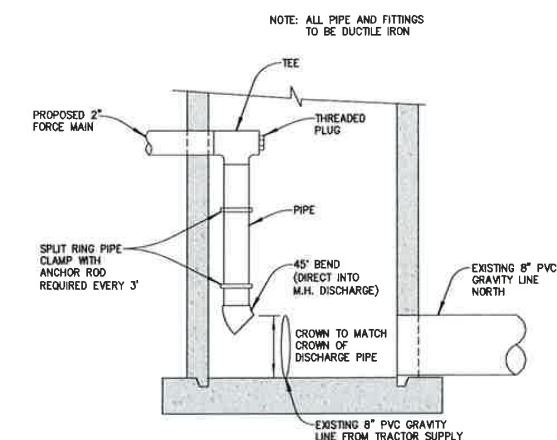
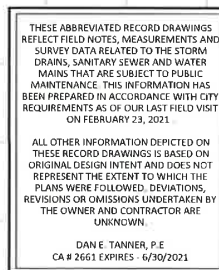


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REVISION	DATE
REVISION 1	1/29/2021

PLOT DATE 2/23/21

ALL CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH CURRENT CITY OF GLENPOOL STANDARDS AND SPECIFICATIONS (INCLUDING O.D.D.'S 2009 EDITION)



Force Main Manhole Connection

South 75 Business Park Tract 5
W. 161st St. S. & U.S. Hwy 75
Glenpool, Oklahoma

PROJECT	16075
ISSUE DATE	2/23/21

PLAN SCALE: (H) 1" = 50'
(V) 1" = 5'

Force Main Plan & Profile

SS01 OF 05

DESCRIPTION—Backfill that portion of the total backfill down to but not including the pipe embedment material. The backfill shall be only material free of roots, debris, stones, lumps of dirt, clods, stones, organic matter, debris or other objectionable material. All backfilling shall be done in such a manner as not to disturb or injure the pipe or structures over or against which it is being placed. Any pipe or structures disturbed during the backfilling operation shall be repaired. Backfilling operations shall be opened up and repaired when backfilled as herein specified. The placing of backfill material shall not begin until the structures to be backfilled are ready to receive the backfill. Backfilling of structures or structures or portion of structures shall be done immediately when so ordered by the Engineer. The top surface of all kops of all structures shall be readily graded where the backfilling operation is completed. Backfilling material shall be removed and replaced when such material shall be carefully replaced in a manner satisfactory to the Engineer. The top twelve inches of backfill shall be of as good quality as the original topsoil, which is to be replaced.

2. **COMPACTING REQUIREMENTS** – All backfill shall be placed and compacted in six (6") inch lifts for hand-lamped equipment and thirty (30") lifts of self-propelled or power driven equipment to the following minimum percent of Standard Proctor Density of Related Density as specified by ASTM D-1557. The minimum compaction of Soil and Soil Aggregate Mixtures, and ASTM D-2049 "Text for Related Density of Cohesionless (Granular) Soils, respectively. ASTM Test D-2049 shall be performed on cohesionless (Granular) soils. Cohesive backfill material shall reach the indicated compaction levels at plus (+) or minus (-) three (3%) percent of optimum moisture content. The lift thickness shall be determined, if necessary, to meet the compaction requirements specified herein.

3. **COMPACTING METHODS** - Compacting methods may vary depending on the materials or as approved by the Engineer. a **COHESIVE MATERIALS** - Compaction of cohesive materials may be obtained the use of impact type equipment in confined areas; pneumatic tire and engine driven rammers may also be used. In relatively narrow trenches, self propelled rammers may also be used. In wide trench sheepfoot rollers may be used.

Pipe Nominal Size (inches)	Minimum Trench Width (feet)	Maximum Trench Width (feet)
1/2	3.00	5.00
15	3.25	6.00
16	3.50	6.50
21	3.75	5.25
24	4.00	6.00
27	4.25	6.25
30	4.50	6.75
33	4.75	8.25
36	5.25	9.00
42	6.25	9.50
48	7.00	11.00
54	8.00	11.50
66	9.00	12.50
72	9.75	13.00
78	10.50	13.00
84	11.00	14.00
90	11.50	14.50
96	12.00	15.00
102	12.50	15.50

ALL OTHER INFORMATION DEPICTED ON THESE RECORD DRAWINGS IS BASED ON ORIGINAL DESIGN INTENT AND DOES NOT REPRESENT THE EXTENT TO WHICH THE PLANS WERE FOLLOWED. DEVIATIONS, REVISIONS OR OMISSIONS UNDERTAKEN BY THE OWNER AND CONTRACTOR ARE UNKNOWN.

2.23.2021

Diagram illustrating the cross-section of a trench for a 6" diameter pipe. The diagram shows the pipe (6" diameter) surrounded by bedding (6" minimum) and backfill. The trench is lined with embedment material. The width of the trench is indicated as "SEE TRENCH WIDTH TABLE".

Diameters sixty-six (66") inches to one-hundred-two (102") inches shall be Class V.

Embedment is that material to be placed from a minimum of six (6") inches below bottom of the pipe to the springline (half pipe diameter) or to a minimum of six (6") inches above top of pipe for rigid and flexible pipes, respectively, the remaining material to be placed over the embedment is considered backfill.

1. **GENERAL** – Embedment material for all rigid and flexible pipes shall be sand or in areas that is unstable crushed rock meeting the requirement of either ASTM D-2321, Class 1A, or ASTM C-33, Number 57 or 67 and graduations shown below:

2. **COMPACTION REQUIREMENTS** – All embedment material shall be placed in six (6") inch lifts to the following minimum percent of Standard Proctor Density as determined by ASTM D-698, "Tests for Moisture – Density Relations of Soil-Aggregate Mixtures", and ASTM D-2049, "Test for Related Density of Cohesionless Soils", respectively.

2. **COMPACTION REQUIREMENTS** – All embedment material shall be placed in six (6") inch lifts to the following minimum percent of Standard Proctor Density as determined by ASTM D-698, "Tests for Moisture – Density Relations of Soil-Aggregate Mixtures", and ASTM D-2049, "Test for Related Density of Cohesionless Soils", respectively.

1 All construction shall be in accordance with The City of Glenpool Standard Specifications for Construction of Public Improvements.

- 2 All work not classified as a contract pay item shall be considered as an incidental and not paid for directly.

- 3 All excavation under existing and future pavement shall be backfilled with sand.**

4. All materials exposed during construction shall be backfilled with sand.

- 5 Pipe leakage tests shall be performed by the contractor in accordance with the Glenpool Sewer requirements. Leakage tests are required for all gravity lines. Hydrostatic tests must use a 2-foot test head and leakage inward or outward must not exceed 10 gallons per inch of pipe diameter per mile per day. Contractor to follow procedures specified in ASTM E1003-13.

- 6 Deflection tests shall be performed on all flexible pipe. The test shall be conducted after the final backfill has been in place for at least thirty (30) days. No pipe shall exceed a deflection of more than five (5%) percent. If the deflection test is to be run using a rigid ball and mandrel, it shall have a diameter equal to ninety-five (95%) percent of the inside diameter of the pipe taking into account manufacturing tolerances. The test shall be performed without mechanical pulling devices.

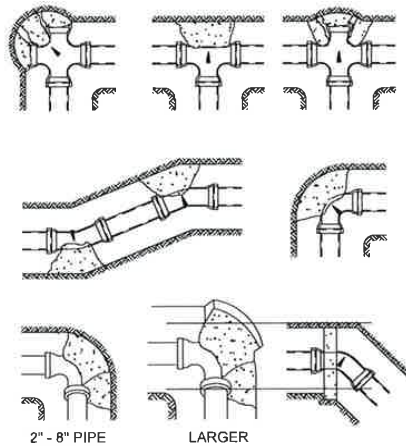
- 7 Polyvinyl chloride (PVC) pipes shall conform to ASTM D-3034, ASTM F-679, and ASTM F-789; and ASTM F-89-49 for profile wall pipe. Regardless of size, open profile wall pipe will be allowed only on sections of pipe where there are no apparent service connections.

- 8 Special sanitary sewer pipe shall be required to satisfy minimum horizontal and vertical clearance requirements from waterlines, wells and petroleum storage tanks, as established by the Oklahoma State Department of Environmental Quality (ODEQ).

- 3 Special assembly sawpipe shall be either PVC or Ductile Iron Pipe (DIP). Special PVC pipe shall conform to ASTM D-2241 and SDR 32.5 for sizes four (4") inches to thirty-six (36") inches, or AWWA C-900 and AWWA C-905; with a minimum DR rating of eighteen (18) for pipe sizes four (4") inches to (12") inches and a minimum DR rating of 32.5 for pipe sizes greater than twelve (12") inches. DIP pipes shall meet the requirements specified below.

- 10 Ductile Iron Pipe (DIP) shall conform to the requirements of AWWA C-151.
a EXTERIOR COATING - The exterior surfaces of ductile iron pipe, specifications and fittings shall be coated with an asphaltic coating in accordance with ASTM A746, section 6.1, of AWWA E-151.

- b INTERIOR COATING** – Interior surfaces of pipe and fittings shall be lined with fourty (40) mills of virgin Polyethylene complying with ASTM D-1248 or Chemical Polyethylene Lining, Corporate II tx-5 Minute Number 17116, manufactured by Madison Chemicals, Inc, Canada, or approved equal. The lining materials shall be compounded with a minimum of two (2%) percent carbon black to resist ultra violet rays.
- c THICKNESS** – Unless otherwise specified, Ductile Iron Pipe shall have the following table.



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REVISION	DATE
REVISION 1	1/29/202

PLOT DATE 2/23/21

ALL CONSTRUCTION TO BE IN STRICT
ACCORDANCE WITH CURRENT CITY OF
CLEENPOOL STANDARDS AND SPECIFICATIONS
(INCLUDING O.D.O.T. 2009 EDITION)

South 75 Business Park Tract 5

W. 161st St. S. & U.S. Hwy 75

Glenpool, Oklahoma

PROJECT 16075
ISSUE DATE 2/23/21

PLAN SCALE (H)	N/A
(V)	N/A

Water & Sewer Details

SS02

OF 05