

**SALLISAW MUNICIPAL AUTHORITY
SPECIAL MEETING**

July 29, 2020

**Time: Immediately Following the
Meeting of the Board of City Commissioners**

**WHEELER EVENT CENTER
103 NORTH WHEELER
SALLISAW, OK**

A G E N D A

- 1. Meeting called to order**
- 2. Declaration of a quorum**
- 3. Discuss and Consider Approval of Contract for Engineering Services with Neel, Harvell and Associates, P.C., Consulting Engineers, Related to the Installation of a Mechanical Bar Screen at the Wastewater Treatment Plant, in the Amount of \$45,500.00**
- 4. Discussion and Possible Guidance to Staff on Inspection of the Water Plant Raw Water Storage Basin.**
- 5. Administrative Reports**
- 6. Adjourn**

Posted: JULY 24, 2020

Time: 8:40 am

Kim Jamison

AGENDA ITEM COMMENTARY

Meeting Date: July 29, 2020
Board: Sallisaw Municipal Authority
Subject: Wastewater Treatment Plant Bar Screen

ITEM TITLE: Discuss and Consider Approval of Contract for Engineering Services with Neel, Harvell and Associates, P.C., Consulting Engineers, Related to the Installation of a Mechanical Bar Screen at the Wastewater Treatment Plant, in the Amount of \$45,500.00

INITIATOR: City Manager

STAFF INFORMATION SOURCE: Neel Harvell and Associates, P.C.

BACKGROUND: The item will allow us to begin engineering to replace the existing bar screen at the wastewater treatment plant. The current screen is severely worn and in need of replacement.

Replacement of the screen will help keep solids such as plastics, wood, metal, cloth, etc. from entering the plant.

EXHIBITS: 1. Bar Screen Engineering Draft

KEY ISSUES:

1. Age and deterioration of the bar screen dictates it must be replaced.
2. Total project estimate, including engineering, is \$512,216.56.

FUNDING SOURCE: Sallisaw Municipal Authority Series 2020 Bond Funding

GL# for Purchase Order 090-705-57503

RECOMMENDATION: Staff recommends approval of the agreement.

CONTRACT FOR ENGINEERING SERVICES

THIS AGREEMENT, made and entered into this ____ day of _____, 2020, by and between NEEL, HARVELL and ASSOCIATES, P.C. , CONSULTING ENGINEERS, hereinafter called ENGINEER, and the **Sallisaw Municipal Authority**, hereinafter called the OWNER.

WITNESSETH, that whereas the OWNER intends to perform certain Improvements to the
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Mechanical Bar Screen

NOW, THEREFORE, THE OWNER AND ENGINEER, for the considerations hereinafter set forth, agree as follow:

1. THE ENGINEER AGREES to serve as the OWNER'S professional representative in the preparation of the plans and specifications and in the general construction observation of the PROJECT during construction for compliance with these plans and specifications and to provide the following detailed services to the OWNER in connection with the PROJECT.
 - (a) Perform all necessary services regarding the proposed PROJECT to provide preliminary plans and preliminary cost data for the OWNER.
 - (b) Perform the necessary surveys and compile necessary data for use in the design of the PROJECT.
 - (c) Prepare the detailed construction drawings and specifications for the improvements and furnish the OWNER with three (3) copies of same, procure the approval of any and all approving agencies having jurisdiction over the PROJECT as directed by the OWNER, procure all necessary permits for construction of the PROJECT, prepare proposal forms, notices to bidders, complete working drawings, specification, and contract documents satisfactory to the OWNER for the effective coordination and execution of the construction work and furnish detailed estimates of cost of the construction utilizing the completed drawings and specification as approved.

- (d) Render assistance in obtaining bids, attend bid openings, analyze bids received, make recommendations as to the lowest and best bidder and render assistance in the award of the contracts.
 - (e) Furnish general supervision during the construction phase of the PROJECT which shall include horizontal and vertical control information for the setting of construction stakes, approval of working drawings, preparation of monthly pay estimates and other general administrative work on the PROJECT.
 - (f) The ENGINEER shall have the authority to make minor changes during the construction to insure the OWNER that the work will be properly constructed. All extra work must be added by change order and must be approved by the OWNER, the Contractor, and the ENGINEER.
2. THE OWNER AGREES to pay the ENGINEER for the services as described in the preceding paragraphs at the rates as set forth below. These payments constitute complete compensation for the services rendered by the ENGINEER.
The fee shall be as follows:

Preliminary Engineering	\$ 3,500.00
Engineering	\$ 35,000.00
Surveying	\$ 2,500.00
Inspection	\$ 4,500.00

Total Engineering Fees	\$ 45,500.00
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Seventy percent (70%) of the Engineering Fee shall be due and payable upon the approval by the OWNER of the plans and specification. The remaining thirty percent (30%) shall be spaced in equal monthly payment over the period of the construction contract.

The OWNER shall pay the cost of all review fees and special tests ordered by him in addition to the above fee.

The OWNER shall pay as additional costs any right of way or easements survey, cost of topographic maps for master planning, including field work necessary for horizontal and vertical control, and any other additional work not covered by the preceding paragraphs of this contract, at the following hourly rates.

Engineer, Principal	\$ 125.00
Engineer, Project	\$ 100.00
Surveying	\$ 325.00
Engineering CAD Technician	\$ 75.00
General Inspection	\$ 50.00
Full Time Inspection	\$ 65.00
CAD	\$ 75.00
Secretary	\$ 35.00
Reproduction & Misc. Expenses	Actual Cost

No deductions shall be made from the ENGINEER'S fee on account of penalties, liquidated damages, or other sums withheld from the payment to the contractors.

3. THE COST OF THE WORK as referred to herein, means the cost to the OWNER, but such cost shall not include any ENGINEER'S or Special consultant's fee or reimbursements or cost of land or right of way, or cost of equipment (not designed or specified by the ENGINEER), or cost of insurance, or the cost of any administrative or legal expense, or special test or review fees authorized by the OWNER.
4. DRAWINGS AND SPECIFICATIONS ARE the property of the OWNER whether the work for which they are made be executed or not.
Sets of plans and specifications will be furnished to the OWNER at his request and without cost to the OWNER other than the direct expense of producing the copies, specifications, blueprints of drawings and the copies of other documents relating to the work which the OWNER may require for his own use of record. Upon completion of the work the ENGINEER will furnish the OWNER with one (1) set of reproducible "As-Built" plans as required by the OWNER.
5. THIS CONTRACT MAY BE TERMINATED by either party upon thirty (30) days notice in writing. In the event that the contract is terminated by the OWNER at no fault of the ENGINEER, the ENGINEER shall be paid promptly for all work performed to the date of termination. If the ENGINEER should default, no payment shall be made to him except for the portion of the work performed which will be of value to the OWNER and which the OWNER decides to purchase.

All completed or partially completed designs, plans and specifications prepared under this contract shall become the property of the OWNER when and if the contract is terminated.

6. THE OWNER AND ENGINEER each binds himself, his partners, successors, executors or administrators and assigns to the other party to this agreement, and to the partner, successors, executors, administrators, and assigns to such other party in respect of all covenants of this agreement. Except as above, neither the OWNER nor the ENGINEER shall assign, sublet, or transfer his interest in this Agreement without the written consent of the other.

IN WITNESS WHEREOF the parties hereto have made and executed this AGREEMENT the day and year first above written.

OWNER:

Sallisaw Municipal Authority
P.O. Box 525
Sallisaw, Oklahoma 74955

ENGINEER:

Neel, Harvell and Assoc., P.C.
Consulting Engineers & Planners
123 North Oak
Sallisaw, Oklahoma 74955

BY: _____
Mayor

BY: _____
P. Doug Harvell, P.E.

ATTEST:

ATTEST:

BY: _____
Clerk

BY: _____
Scott Neel

AGENDA ITEM COMMENTARY

Meeting Date: July 29, 2020
Board: Sallisaw Municipal Authority
Subject: Raw Water Storage Basin

ITEM TITLE: Discussion and Possible Guidance to Staff on Inspection of the Water Plant Raw Water Storage Basin.

INITIATOR: General Manager

STAFF INFORMATION SOURCE: Staff
Hawkins Weir Engineers, Inc

BACKGROUND: This item was discussed during the last budget retreat. During the retreat the decision was made to conduct a second evaporation test of the basin for comparison to the previous test conducted in June 2018. At a recent meeting of Mayor Martens, Commissioner Gay and myself, an idea of draining the raw water basin for inspection was discussed.

To evaluate the basin again, a second evaluation or draining and inspecting the bottom of the basin is an option. We can perform either or both tasks.

EXHIBITS: 1. Hawkins Weir Groundwater Report 2018

KEY ISSUES: Hawkins Weir has provided a proposal to conduct a second evaluation of the raw water basin during the month of August. The cost of this test would be \$10,500.00, plus consultant fees and reimbursable expenses.

As of July 23rd, Brushy Lake was still full, but beginning to lower slowly.

FUNDING SOURCE: NA

RECOMMENDATION: Provide guidance to staff.

August 13, 2018

HAND DELIVERY

Mr. Keith Skelton
City Manager
City of Sallisaw
P. O. Box 525
Sallisaw, Oklahoma 74955

Re: Sallisaw Water Treatment Plant Groundwater Runoff
HWEI Project No. 2018069

Dear Mr. Skelton:

Per our Agreement for Professional Services, we have evaluated 4-weeks of groundwater flow data from the Sallisaw Water Treatment Plant (WTP) site between June 18 and July 26, 2018. The purpose of this evaluation is to quantify the groundwater flow exiting the Sallisaw WTP site and possibly impacting private property owned by Phillip Dean Gay (Refer to Exhibit A). Another purpose of this evaluation is to determine the probable source of the groundwater.

During the identified period, groundwater flow exiting the southwest corner of the Sallisaw WTP site averaged 10.5-gallons per minute (GPM). This groundwater flow was measured on the downstream end of an existing 30-inch diameter RCP culvert located underneath Eppler Road (Refer to Exhibit B). Measurable precipitation (i.e. rainfall) during this period was limited to three (3) dates, therefore it can be assumed that the majority of the flow was groundwater. A groundwater flow of 10.5-GPM is the equivalent of 15,120-gallons per day (GPD).

We monitored the level of the existing Raw Water Storage Basin to determine whether its level dropped while flow into or out of the basin was suspended. We simultaneously conducted pan evaporation testing in an attempt to quantify daily evaporation losses from the basin. On most days, the basin level dropped 0.01-feet over a 7-hour period between 8:00 a.m. and 3:00 p.m. The volume of 0.01-feet (i.e. 1/8-inch) in the basin is approximately 16,230-gallons. The pan evaporation test results averaged 0.33-inches, but would be considerably less after taking into consideration an appropriate pan evaporation coefficient. The purpose of a pan evaporation coefficient is to correct evaporation rates observed in a pan to more closely reflect a larger body of water, in this case the basin. Based on the results of the Raw Water Storage Basin monitoring level and the factored pan evaporation test results, it is our opinion that the basin is leaking and generating the majority of groundwater flows exiting the Sallisaw WTP site.

We also monitored fluoride levels in Brushy Creek Lake, Raw Water Storage Basin, and Clearwell, as well as the flow exiting the Sallisaw WTP site and can confirm that there are no apparent leaks associated with either of the two (2) finish water clearwells. All of the aforementioned data is identified in the enclosed Table 1.



Mr. Keith Skelton, City Manager
Page 2
August 13, 2018

The existing 30-inch diameter RCP culvert is primarily designed to accommodate stormwater runoff from the Sallisaw WTP site and some of its adjoining property to the west. The stormwater drainage area consists of approximately 15.2 acres and is capable of generating stormwater flows of 20.8 cubic feet per second (CFS), 24.4 CFS, and 27.3 CFS for the 2-year, 5-year, and 10-year storm events, respectively. While the 30-inch diameter RCP culvert was installed during the Sallisaw WTP Project, it is important to note there was an 18-inch diameter CMP culvert located underneath Eppler Road prior to construction of the plant. The stormwater drainage area did not increase as part of the Sallisaw WTP Project; therefore, it is understood that the existing open-channel ditch located downstream of the Sallisaw WTP always accommodated stormwater runoff and possibly some of the identified groundwater.

There is no question that construction of the 1.5-million gallon (MG) Clearwell exacerbated the groundwater flows originating on the Sallisaw WTP site. The reason being that groundwater was encountered during subgrade construction for the 1.5 MG Clearwell. Essentially, the clearwell subgrade was undercut and a large circular french drain was constructed to capture the groundwater and drain it away from the subgrade of the clearwell. This groundwater drains directly into a storm drainage system located on the Sallisaw WTP site, ultimately discharging into the 30-inch diameter RCP culvert located underneath Eppler Road.

We recommend the mitigation of groundwater flows exiting the Sallisaw WTP site by pumping these groundwater flows to the Residuals Pump Station for disposal. This option would require the construction of a new stormwater junction box and installation of a small capacity submersible pump and force main underneath the Sallisaw WTP main entrance drive to discharge into the Residuals Pump Station wet well per the enclosed Exhibit C. We considered other mitigation alternatives but determined that the recommended option is the least expensive alternative to address the groundwater issues inherent to the Sallisaw WTP site. If agreeable, we would be glad to submit a proposal to amend our Agreement for Professional Services to design these recommended improvements.

If you have any questions or comments, please do not hesitate to call.

Sincerely,

HAWKINS-WEIR ENGINEERS, INC.

A handwritten signature in blue ink that reads "Brett D. Peters".

Brett D. Peters, P.E.

BDP/gch
Enclosures: Exhibits A, B, and C
Table 1

Z:\18\2018069 SALLISAW WTP GROUNDWATER RUNOFF\DRAWINGS\PHOTO.DWG, 8/9/2018 1:49 PM, MIKE HENSON, LAYOUT1



HW HAWKINS WEIR
ENGINEERS, INC.

Van Buren | Fort Smith | Fayetteville | Little Rock
(479) 474-1227 | (479) 242-4685 | (479) 455-2206 | (501) 374-4846

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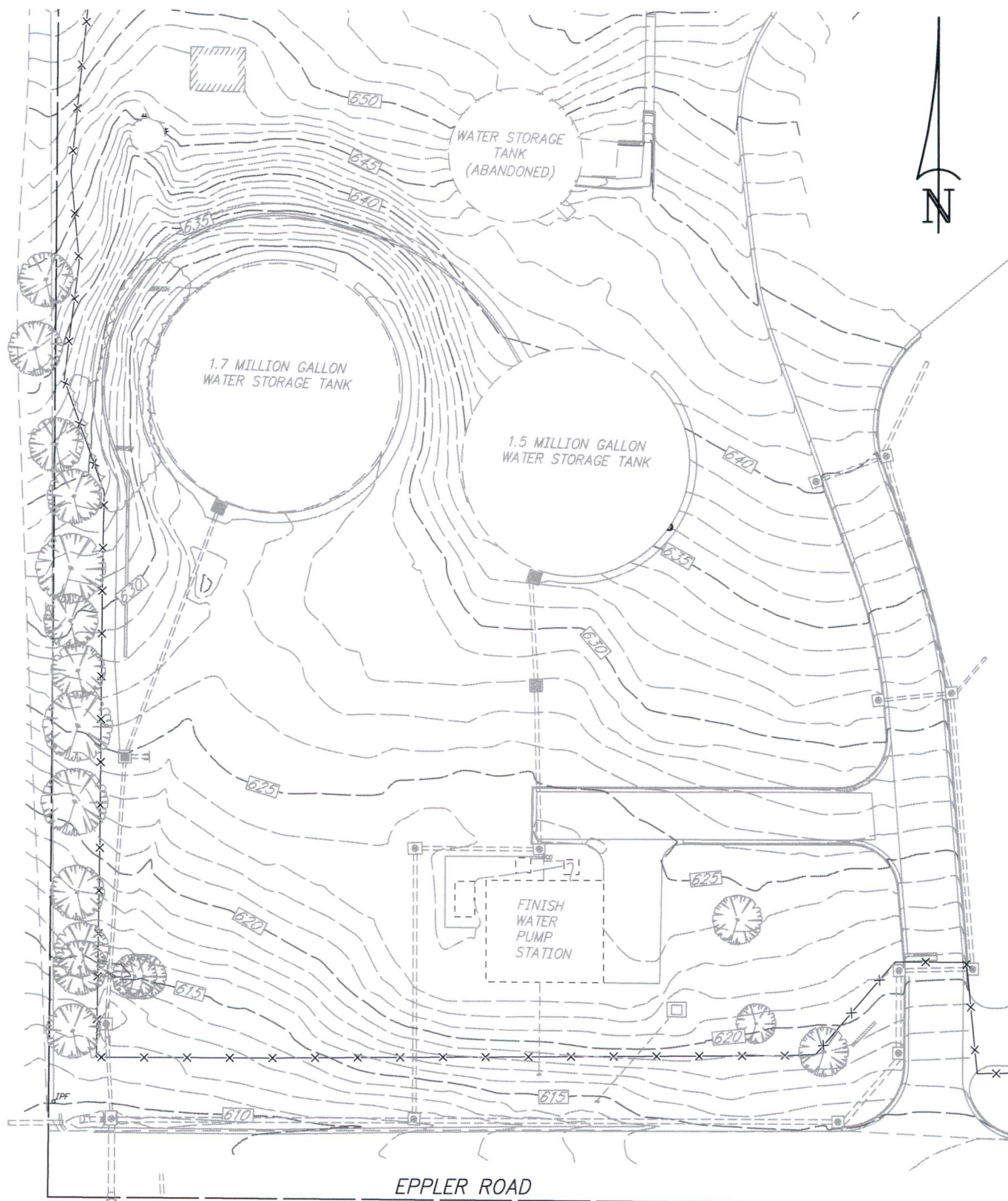
EXHIBIT A
SALLISAW WTP GROUNDWATER RUNOFF
VICINITY MAP

AUGUST 2018

1"=400'

2018069

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Van Buren (479) 474-1227	Fort Smith (479) 242-4685	Fayetteville (479) 455-2206	Little Rock (501) 374-4846
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EXHIBIT B
SALLISAW WTP GROUNDWATER RUNOFF
EXISTING DRAINAGE SYSTEM LAYOUT

AUGUST 2018

1"=60'

2018069

TABLE 1
GROUNDWATER RUNOFF EVALUATION
SALLISAW WATER TREATMENT PLANT
AUGUST 2018

DATE	RAW WATER STORAGE BASIN LEVEL (FEET)		PAN EVAPORATION LEVEL (INCHES)		PRECIPITATION (INCHES)	FLUORIDE LEVELS (PPM)				FLOW EXISTING WTP SITE STORM DRAIN PIPE
	8:00 A.M.	3:00 P.M.	8:00 A.M.	3:00 P.M.		BRUSHY CREEK LAKE	RAW WATER STORAGE BASIN	CLEARWELL	STORM DRAIN PIPE	
06/18/18	5.71	5.71	3.00 ⁽¹⁾	2.75	0.00	0.13	0.19	0.60	0.19	11 gpm
06/19/18	5.54	5.54	3.00	2.75	0.00	0.17	0.24	0.57	0.19	10 gpm
06/20/18	5.53	5.60 ⁽²⁾	3.00	2.75	0.00	0.20	0.22	0.63	0.18	10 gpm
06/21/18	5.60	5.62 ⁽²⁾	3.00	2.75	1.60	0.18	0.22	0.54	0.17	11 gpm
06/22/18	5.67	5.66 ⁽²⁾	3.00	2.75	0.00	0.14	0.23	0.78	0.17	11 gpm
06/23/18	5.74	5.85 ⁽²⁾	3.00	2.75	0.97	0.16	0.22	0.69	0.19	11 gpm
06/24/18	5.31	5.38 ⁽³⁾	3.00	2.50	0.41	0.15	0.31	0.67	0.16	10 gpm
06/25/18	5.28	5.28	3.00	2.50	0.00	0.17	0.28	0.71	0.16	10 gpm
06/26/18	5.28	5.28	3.00	2.50	0.00	0.14	0.24	0.86	0.10	11 gpm
06/27/18	5.44	5.43	3.00	2.50	0.00	0.16	0.23	0.64	0.09	10 gpm
06/28/18	5.34	5.34	3.00	2.75	0.00	0.15	0.23	0.62	0.11	11 gpm
07/02/18	5.36	5.35	3.00	2.75	0.00	0.13	0.22	0.65	0.10	11 gpm
07/03/18	5.29	5.30	3.00	2.75	0.00	0.17	0.21	0.73	0.13	11 gpm
07/05/18	5.34	5.33	3.00	2.75	0.00	0.14	0.20	0.70	0.12	11 gpm
07/09/18	5.36	5.36	3.00	2.75	0.00	0.16	0.21	0.64	0.14	10 gpm
07/10/18	5.40	5.40	3.00	2.50	0.00	0.15	0.22	0.61	0.14	10 gpm
07/11/18	5.38	5.37	3.00	2.50	0.01 ⁽⁴⁾	0.14	0.20	0.70	0.16	11 gpm
07/14/18	5.37	5.37	3.00	2.50	0.00	0.14	0.21	0.61	0.09	10 gpm
07/15/18	5.27	5.27	3.00	2.50	0.00	0.16	0.20	0.70	0.11	11 gpm
07/16/18	5.31	5.30	3.00	2.75	0.00	0.15	0.21	0.39	0.12	10 gpm
07/17/18	5.29	5.29	3.00	2.50	0.00	0.14	0.20	0.41	0.10	11 gpm
07/18/18	5.20	5.20	3.00	2.75	0.00	0.12	0.22	0.58	0.09	11 gpm
07/19/18	5.18	5.17	3.00	2.75	0.00	0.09	0.23	0.52	0.11	10 gpm
07/20/18	5.13	5.13	3.00	2.75	0.00	0.04	0.20	0.61	0.12	10 gpm
07/23/18	5.09	5.08	3.00	2.75	0.00	0.06	0.24	0.63	0.07	10 gpm
07/24/18	4.89	4.88	3.00	2.75	0.00	0.01	0.21	0.71	0.08	10 gpm
07/25/18	4.86	4.85	3.00	2.75	0.00	0.07	0.19	0.53	0.12	10 gpm
07/26/18	4.83	4.83	3.00	2.75	0.00	0.11	0.20	0.60	0.14	10 gpm

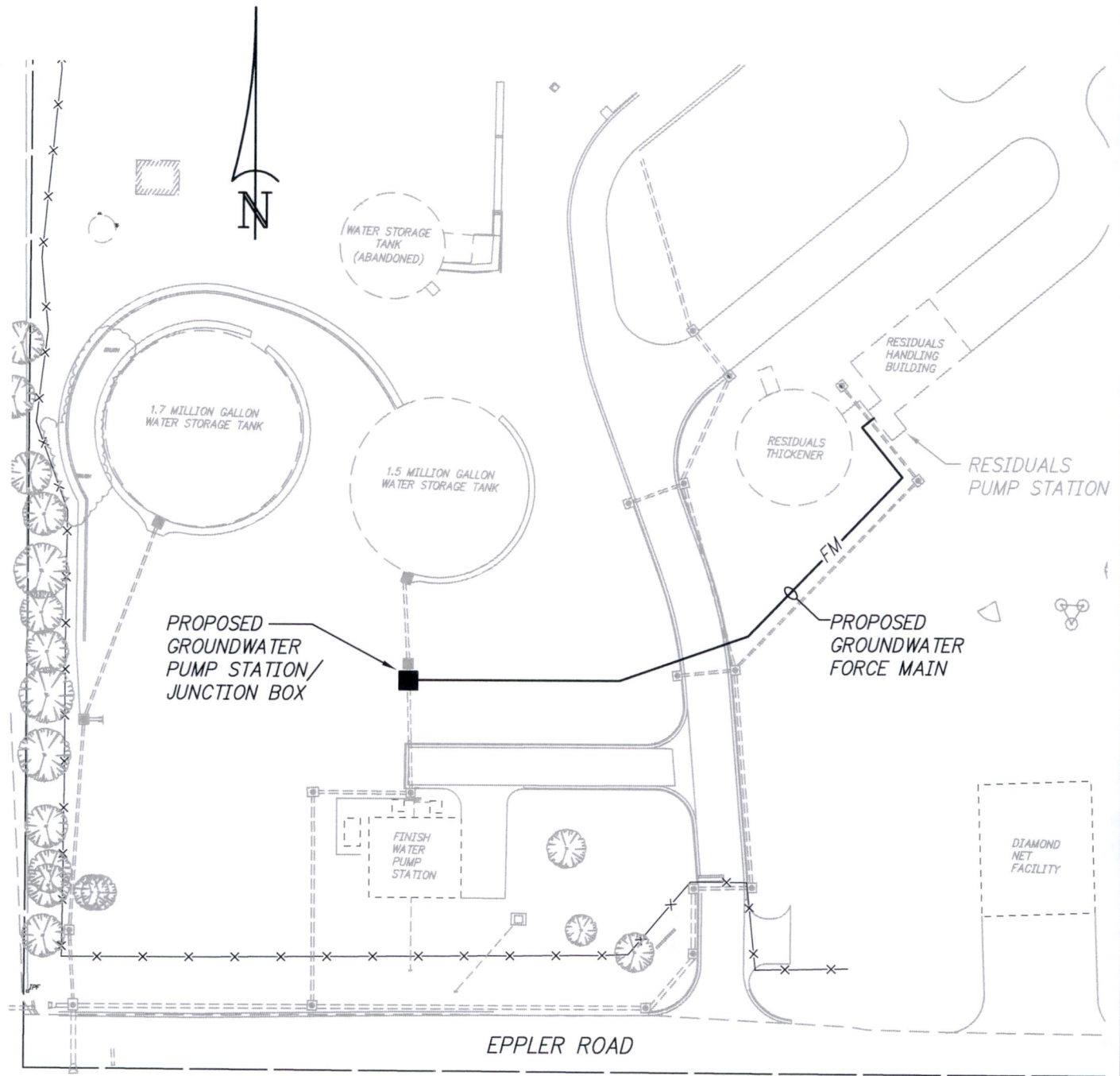
⁽¹⁾Evaporation Pan filled to 3-inch level daily

⁽²⁾Clearwell full, overflow to Raw Water Storage Basin occurred

⁽³⁾Overflow to Raw Water Storage Basin occurred

⁽⁴⁾Trace Rainfall

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ENGINEERS, INC.

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EXHIBIT C
SALLISAW WTP GROUNDWATER RUNOFF
GROUNDWATER MITIGATION IMPROVEMENTS

AUGUST 2018

N.T.S.

2018069