

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 368

Minutes of Meeting Thursday, March 7, 2019

The Board of Directors (the "Board") of Harris County Municipal Utility District No. 368 (the "District") met in regular session, open to the public, at 6:30 p.m. on Thursday, March 7, 2019, at the District meeting place located inside the District, whereupon the roll was called of the members of the Board, to-wit:

Roy P. Lackey	President
Tiffani C. Bishop	Vice President/Investment Officer
Sharon L. Cook	Secretary
Eric Daniel	Treasurer
Allison V. Dunn	Assistant Secretary

All members of the Board were present, thus constituting a quorum. Consultants in attendance were: Mike Plunkett, Mike Butler, and Erika Martinez of Eagle Water Management, Inc. ("Operator"); Matthew Carpenter, P.E., and Kameron Pugh, P.E., of IDS Engineering Group ("IDS" or "Engineer"); Kay Townley of Municipal Accounts & Consulting, L.P. ("MAC" or "Bookkeeper"); Craig Rathmann of Rathmann and Associates L.P. ("Financial Advisor"); Kathryn Foss of Municipal Financial Services ("MFS"); and Andrew Johnson, III, and Carter Dean, attorneys, and Mirna Croon, paralegal, of Johnson Petrov LLP ("JP" or "Attorney"). Also present was Juanita Orsak of PulteGroup.

The President called the meeting to order at 6:37 p.m. and in accordance with the notice posted pursuant to law, the following business was transacted:

- I. **Public Comment.** There was no public comment.
- II. **General Business.**
 - A. **District's Website.** There were no matters to report.
 - B. **Pay Bills and Estimates.** Upon motion by Director Cook, seconded by Director Dunn, after full discussion and with all Directors present voting aye, the Board approved Check Nos. 16944 and 16945, which will be reflected on the next Bookkeeper's Report.
 - C. **SCADA Upgrade proposal.** This matter was tabled and discussed in the Engineer's Report.
 - D. **Cellular Modem proposal.** This matter was tabled and discussed in the Engineer's Report.

- E. EVO Report. Ms. Foss presented the revised Report noting that the Report has been revised to reflect that the District's security fees are included in the sewer rate.

[Mr. Rathmann entered the meeting.]

- F. Feasibility Analysis for Braemar Village Pulte Homes ("Feasibility Analysis"). The President recognized Mr. Rathmann who presented to and reviewed with the Board the Feasibility Analysis, a copy of which is attached hereto as Exhibit "A". Mr. Rathmann stated that Pulte projects that it would need to spend \$3,433,452.48 on the infrastructure improvements for the proposed single-family home development. The reimbursement based on the District's debt service tax rate alone is insufficient for Pulte to proceed with the development. Due to an increase in land and construction costs, as well as lower tax rates, it is becoming increasingly harder for mature districts to reimburse developers using the debt service tax only. Some older districts have decided to use the total tax rate in a reimbursement calculation to develop certain tracts. It was noted that it should be taken into consideration that the new single-home family development will not require water and sewer infrastructure repairs in the foreseeable future but will contribute to the District's tax base. The tax revenues from the new development can be leveraged into the older neighborhoods. Mr. Carpenter stated that the District has unutilized water and sewer capacity, thus the operations costs to run the facilities with the new development should not significantly increase. Ms. Orsak stated that Pulte should be able to develop the tract with the 81.6% reimbursement rate (option IV on the feasibility analysis). Discussion ensued after which upon motion by Director Cook, seconded by Director Lackey, after full discussion and with all Directors present voting aye, the Board authorized JP to prepare a Reimbursement Agreement with Pulte using the option that applies the total tax rate and the aggregate Pulte values plus the existing District values (option IV on the feasibility analysis).

[Mr. Rathmann and Ms. Orsak departed the meeting.]

III. Operator's Report. The President recognized Mr. Plunkett who presented to and reviewed with the Board the Operator's Report, a copy of which is attached hereto as Exhibit "B". Mr. Plunkett noted that the District had 100.25% accountability for the period from January 14, 2019 through February 21, 2019. He also noted that 90.03% of the District's water came from the surface water source with the remainder from the District's groundwater wells.

Mr. Plunkett reported that the bacteriological samples taken last month came back positive for e-coli. The e-coli violation was due to the chlorinator malfunction, which has been resolved.

Mr. Plunkett then reviewed with the Board the Termination List, a copy of which is attached to the Operator's Report, and affirmed that all Customers on the list were at least sixty (60) days past due and had been notified in writing of their right to attend this meeting to address the Board or termination of water service would occur at any time after this meeting.

Next, upon motion by Director Dunn, seconded by Director Daniel, after full discussion and with all Directors present voting aye, the Board (i) authorized termination of service to customers listed on the Termination List, in accordance with provisions of the District's Rate Order; and (ii) approved the Operator's Report as presented.

IV. **Engineer's Report.** Mr. Carpenter presented to and reviewed with the Board the Engineer's Report, a copy of which is attached hereto as Exhibit "C".

- A. Extreme Event Swales to Serve Northern Point Subdivision. A final walkthrough inspection was held on February 13, 2019. IDS has provided a punch-list to the contractor and they are working to address the remaining items. The contractor has provided a change order proposal for the construction of a backslope interceptor structure to intercept the drainage from the extreme event swale and the backslope swale. The proposal is in the amount of \$15,570. IDS recommends the Board approve the change order.
- B. Northern Point Stormwater Pump Station and Force Main. IDS has completed preliminary models and calculations for the project. Harris County will upsize the storm sewer during construction of Segment 3 of the Hufsmith-Kohrville Improvements. IDS has prepared a construction cost estimate for the project with a total estimated construction cost of \$812,500. This project is included in the current bond application. Mr. Carpenter then presented a proposal for engineering services and design for the project.
- C. Project for Potential Harris County Joint Partnership. IDS has completed models based on topographic survey data and has selected areas of the street pavement in Northern Point where modifications could be made to allow better sheet flow throughout the subdivision. A cost estimate for the project is \$486,000. The project is included in the current bond application. Mr. Carpenter stated that the project should be a good candidate for potential Harris County joint funding. He also stated that IDS has prepared a concept for an extreme event overflow from the Northern Point Detention Basin to Willow Creek. A cost estimate for that project is \$200,000. The project is included in the current bond application.
- D. Detention Facilities Improvement. IDS has identified a number of repairs and improvements to be made to the District's detention facilities. A construction cost estimate for the project is \$448,000. The project should improve the condition of the existing stormwater facilities and reduce future maintenance costs. The project is included in the current bond application.
- E. Facilities Communication and Security. Mr. Carpenter reported that during conversations with Electrical Field Services regarding pricing for the work to reprogram the PLCs and SCADA equipment for cellular equipment, it was mentioned that the reason the antenna tower at Water Well No. 6 site is non-functional may be because of an inefficient yagi antenna, which is the portion of the antenna that sends the radio signal. EFS has provided a proposal in the amount of \$6,609.45 to replace the existing yagi with a new, more efficient yagi

antenna. If this change allows the towers to communicate, it will allow for immediate use of Water Well No. 6 as well as open the possibility for using towers for the District's remote communications facilities network.

IDS has been working with EFS and Sipes Instrument and Electric Service on determining the feasibility of the Internet Radio Network assuming the new yagi works at the Water Well No. 6 site. Sipes Instrument and Electric Service and Savells and Associates provided a line of site study and tower antenna analysis at no cost to the District. The analysis shows that one 40 foot tower at the Water Well No. 3 site would be sufficient for communications between the plant sites. EFS has provided a quote to install a 50-foot tower at the Water Well No. 3 site not to exceed \$6,000. IDS recommends the District wait until the yagi antenna at Water Well No. 6 is replaced, if approved by the District, before considering this proposal for the tower installation. Discussion ensued regarding the tower option and cellular option (approved at the last meeting). No action was taken on the proposals submitted by EFS and Sipes Instrument and Electric Service.

- F. Hufsmith-Kohrville Improvements. Construction of Segment 2 will be starting soon. This segment involves the relocation of the existing Water Well No. 6 collection line, which will be completed by the Segment 2 contractor. The total cost of the relocation is estimated at \$281,500 and the District is responsible for 50 percent of the portion within Harris County Right-of-Way, which is approximately \$60,000 of the estimated total cost.
- G. Bond Issue No. 14. IDS has prepared Bond Issue No. 14 and has submitted the application to the District's consultants for review.
- H. Water Quality Monitoring for Water Wells Nos. 2, 3, 4, 5, and 6. Mr. Pugh reported that the February 2019 laboratory test results for benzene, toluene, ethyl benzene, or xylene (BTEX) in Water Wells Nos. 2, 3, 4, 5, and 6 are non-detect.
- I. Water Well No. 6 Conditional Acceptance and Sampling Requirements. IDS received a conditional acceptance of Water Well No. 6 on February 25, 2019. The letter states that the well is approved for use and may now be temporarily placed into service. The Texas Commission on Environmental Quality noted that the chemical analysis report shows that the concentration of fluoride exceeds the secondary constituent level. The District must collect and submit chemical samples upon contact from a TCEQ representative or within 180 days of the date of the letter. If the samples show levels higher than the minimum secondary constituent levels, the District may be required to design and install additional treatment equipment. Additionally, there are new sampling requirements for Water Well No. 6, which can be found in the TCEQ approval letter.
- J. Water Plant No. 1 Inspection. The Ground Storage Tanks and Hydropneumatic Tanks at Water Plant No. 1 need to be inspected. The current bond application contains funds for the rehabilitation of these tanks and yard piping. IDS requests authorization to complete the inspection at Water Plant No. 1.

- K. Phase 4 Sanitary Sewer Rehab. IDS has provided a list of recommended repairs and maintenance items to the Operator.
- L. Lift Station Control Panel Replacements. The electrical engineering consultant is preparing a proposal to perform engineering services for the control panels. IDS is working to ensure all the District's requirements for the panels are included in the design.
- M. Wastewater Treatment Plant Rehabilitation. The on-site lift station rehabilitation work is complete. IDS will conduct an inspection of the wet well coatings prior to the end of the one-year warranty period to address any potential deficiencies in the coating.

The Wastewater Treatment Plant rehabilitation project is included in the proposed bond application. IDS has prepared a construction estimate for the project, a copy of which is attached to the Report. Mr. Carpenter then presented a proposal for engineering services for the project.

- N. Bombshells Restaurant. The plans have been approved and the development is under construction.
- O. Northpointe Business Park. It was reported that IDS is waiting to receive agency approvals for the plans submitted by the Developer. IDS has received plans for review and is preparing a review letter with comments.
- P. Little Woodrows. The developer's engineer is preparing plans for a Little Woodrow's west of Coons Road and South of Timber Tech Road, near HMT properties.
- Q. 12.5-Acre Dungrove tract. The developer is requesting reimbursement for the land costs associated with the Dungrove Detention Facilities and Sanitary and Stormwater Pump Station. IDS will prepare calculations to determine the land costs.
- R. 12.9-Acre Tract East of Hufsmith-Kohrville. The developer has dropped his development plan because the storm sewer along Hufsmith-Kohrville does not provide enough outfall depth to serve the tract. There may be an opportunity for the District to partner with Harris County to redesign this storm sewer to allow additional outfall depth for this site.
- S. 42-Acre Favro Family Tract (West of Hufsmith-Kohrville). IDS is preparing a feasibility study for the development. The development includes 63 single-family residential lots, 11 private estate lots, a community center including a club, recreational land, and facilities, and a parking lot. IDS has provided a few land plan options for the developer and will prepare a feasibility study once the developer chooses a land plan.

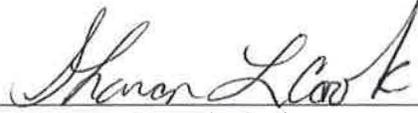
Next, upon motion by Director Cook, seconded by Director Lackey, after full discussion and with all Directors present voting aye, the Board (i) approved the change order for the Extreme Event Swales to Serve Northern Point Subdivision in the amount of \$15,570, as recommended by IDS; (ii) approved an engineering design proposal submitted by IDS related to the Northern Point Stormwater Pump Station and Force Main; (iii) authorized IDS to complete the inspection at Water Plant No. 1; (iv) approved the engineering proposal related to the Wastewater Treatment Plant rehabilitation project; and (v) approved the Engineer's Report.

V. **Attorney's Report.**

- A. **Dungrove Reimbursement Request.** Mr. Johnson reported that Dungrove is requesting reimbursement for the land costs associated with the Dungrove Detention Facilities and Sanitary and Stormwater Pump Station. JP has requested that Dungrove provide reimbursement calculations for review.
- B. **Little Woodrow's Annexation.** This matter was tabled pending receipt of annexation documents from the Developer.
- C. **Sales Tax Issues.** Mr. Dean reported that a meeting request was sent to the President of Harris County Emergency Services Department No. 16 to discuss sales tax revenues. No response has been received as of yet.
- D. **Minutes of February 21, 2019 Board meeting.** Upon motion by Director Dunn, seconded by Director Cook, after full discussion and with all Directors present voting aye, the Board approved the minutes of the February 21, 2019 Board meeting.

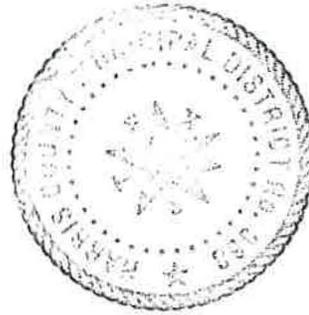
VI. **Adjournment.** With no additional matters before the Board, the Board adjourned the meeting at 8:45 p.m.

PASSED AND APPROVED this 21st day of March, 2019.


Secretary, Board of Directors

Exhibits:

- "A" Feasibility Study
- "B" Operator's Report
- "C" Engineers Report



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HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 368 BRAEMAR VILLAGE PULTE HOMES FEASIBILITY ANALYSIS 3/6/19

I.	100% Developer reimbursement per Pulte Construction Costs	\$ 3,433,452
	Developer Interest (2 years @ 5%)	<u>343,345</u>
	Total	\$ 3,776,797
II.	Pulte values alone available to amortize bonds issued to reimburse Pulte ("stand-alone" analysis)	
A.	Reimbursement available from bonds @ 2019 \$0.58 debt rate	
	2018 debt rate = \$0.55	
	2019 debt rate projected with issuance of \$6,215,000 Series 2019 Bonds = \$0.58	
	Pulte projects 115 homes x \$212,334 =	\$24,418,410
	$\frac{\$24,418,410 (\$0.58) (.99)}{\$100} =$	\$ 140,211
	Debt service on \$2,050,000 bonds @ 5.00%, 27 maturities =	\$ 139,998
	Developer reimbursement from \$2,050,000 Bonds	\$ 1,798,825
	% Reimbursement $\frac{\$ 1,798,825}{\$ 3,776,797}$	47.6%
III.	Pulte values alone available to amortize bonds issued to reimburse Pulte ("stand-alone" analysis)	
A.	Reimbursement available from bonds @ 2018 combined \$0.55 debt rate + \$0.15 maintenance tax rate = \$0.70	
	$\frac{\$24,418,410 (\$0.70) (.99)}{\$100} =$	\$ 169,220
	Debt service on \$2,475,000 bonds @ 5.00%, 27 maturities =	\$ 169,022

Developer reimbursement from \$2,475,000 Bonds		\$ 2,188,338
% Reimbursement	<u>\$ 2,188,338</u> \$ 3,776,797	57.9%
IV. Aggregate Pulte values with existing District values		
Pulte		\$ 24,418,410
District @ 1/1/18		<u>717,386,022</u>
Total		\$741,804,432
A. Reimbursement available from bonds @ 2019 projected \$0.58 debt rate		
	<u>\$741,804,432 (\$0.58) (.99) =</u> \$100	\$ 4,259,441
Debt Service on District's currently Outstanding Bonds		\$ 3,643,081
Debt Service on proposed \$6,215,000 Series 2019 Bonds @ 4.0%, 27 maturities		\$ 380,598
Debt Service on \$3,450,000 Bonds @ 5.0%, 27 maturities		<u>235,607</u>
Total		\$ 4,259,286
Developer reimbursement from \$3,450,000 Bonds		\$ 3,081,925
% Reimbursement	<u>\$3,081,925</u> \$3,776,797	81.6%



P.O BOX 11750
SPRING, TEXAS 77391-1750
281-374-8989

OPERATIONS REPORT

For

HARRIS COUNTY MUD #368

MARCH 7, 2019
BOARD MEETING

MONTHLY ACTIVITY REPORT
FOR
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT # 368

COLLECTIONS DATE RANGE: January 19, 2019 thru February 21, 2019

Water Collections:	\$ <u>73,328.36</u>
Sewer Collections:	<u>161,005.03</u>
NHCRWA Fees:	<u>85,534.66</u>
Security Service Fees	<u>14,355.00</u>
Late Letter Fees:	<u>3,262.30</u>
Penalties:	<u>6,192.64</u>
Deposits:	<u>7,006.34</u>
Transfer Fees:	<u>1,100.00</u>
Miscellaneous:	<u>3,276.41</u>
Unapplied Payments/Overpayments:	<u>4,607.65</u>

TOTAL COLLECTIONS: **\$359,668.39**

CURRENT BILLING DUE FOR PERIOD ENDING February 14, 2019:

Water:	\$ <u>69,408.50</u>
Sewer:	<u>161,253.85</u>
NHCRWA Fees:	<u>85,230.44</u>
Security Service Fee:	<u>11,980.00</u>

TOTAL CURRENT BILLING: **\$327,872.79**

PREPARED BY: EAGLE WATER MANAGEMENT, INC.

**HARRIS COUNTY MUD #368
MARCH 2019 MEETING**

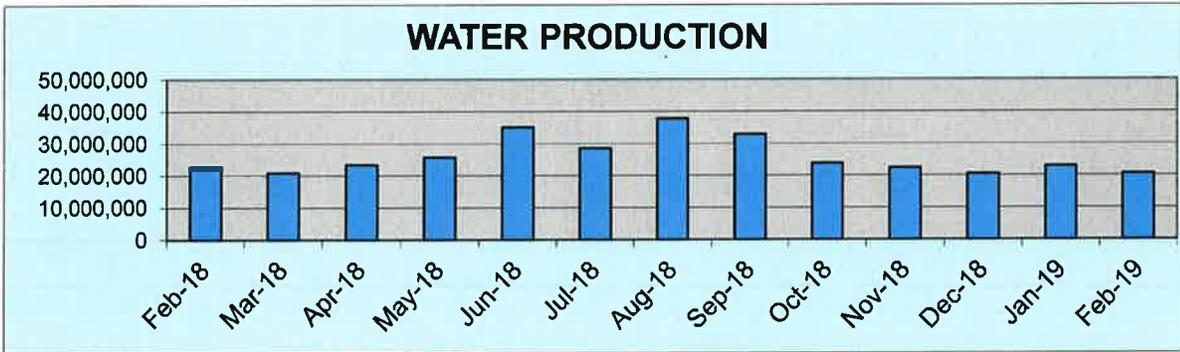
<u>Billing Period: January 14, 2019 thru February 14, 2019</u>	<u>GALLONS</u>	<u>GALLONS</u>
TOTAL WELL GALLONS PUMPED DURING BILLING CYCLE:	2,256,000	
RECEIVED FROM NHCRWA	<u>18,506,000</u>	
TOTAL GALLONS PUMPED:	20,762,000	
<u>WATER LOSSES</u>		<u>LOSS</u>
WASTE TREATMENT PLANT USAGE:		0
INTERCONNECT USAGE DELIVERED:		0
LINE FLUSHINGS:		0
FIRE HYDRANT FLUSHINGS:		51,600
UNAUTHORIZED CONSUMPTION: (Theft - estimate)		0
STORAGE TANK DRAINING/FLUSHING: (Overflow)		0
HYDROPNEUMATIC TANK REFILLS:		0
MAIN BREAKS: (Estimate)		0
SERVICE LINE LEAKS:		0
WATER MAIN FILLINGS:		0
FIRE HYDRANT METER RENTAL USAGE:		0
OTHER: WELL FLUSHING		74,000
TOTAL WATER LOSSES FOR BILLING CYCLE:		<u>125,600</u>
TOTAL NET GALLONS PUMPED:	<u>20,636,400</u>	
GALLONS BILLED FOR BILLING CYCLE:	<u>20,687,000</u>	
PUMP TO BILL PERCENTAGE FOR BILLING CYCLE:		<u>100.2%</u>
<u>ADDITIONAL INFORMATION:</u>		
<u>NUMBER OF CONNECTION ACCOUNTS</u>		
RESIDENTIAL	3,830	
COMMERCIAL	35	
APARTMENTS	0	
NON PROFIT	2	
BUILDERS	0	
IRRIGATION/OTHERS	44	
TOTAL NUMBER OF ACCOUNTS:	<u>3,911</u>	

EAGLE WATER MANAGEMENT, INC.

HARRIS COUNTY MUD #368

WATER PRODUCTION & ACCOUNTABILITY

MO/YR	PUMPED (MG)	BILLED (MG)	%	Four Month Average
Feb-18	22,716,800	21,361,000	94.03%	97.3%
Mar-18	20,842,150	19,226,000	92.25%	96.0%
Apr-18	23,414,000	23,385,000	99.88%	97.1%
May-18	25,684,800	26,005,000	101.25%	96.9%
Jun-18	35,098,050	33,849,000	96.44%	97.5%
Jul-18	28,604,750	26,737,000	93.47%	97.8%
Aug-18	37,714,675	34,283,000	90.90%	95.5%
Sep-18	32,864,205	30,329,000	92.29%	93.3%
Oct-18	23,809,400	22,953,000	96.40%	93.3%
Nov-18	22,439,500	22,507,000	100.30%	95.0%
Dec-18	20,535,400	20,377,000	99.23%	97.1%
Jan-19	22,951,500	22,080,000	96.20%	98.0%
Feb-19	20,636,400	20,687,000	100.25%	99.0%



HARRIS COUNTY MUD #368

**WATER PLANT
MONTHLY FACILITY REPORT**

MONTH OF FEBRUARY 2019

<u>WELL #2 PUMPAGE</u>	<u>CURRENT</u>	<u>LAST MONTH</u>
Average Daily	33,000 gallons	65,000 gallons
Maximum Daily	255,000 gallons	230,000 gallons
Minimum Daily	0 gallons	0 gallons
TOTAL	916,000 gallons	2,010,000 gallons

<u>WELL #3 PUMPAGE</u>	<u>CURRENT</u>	<u>LAST MONTH</u>
Average Daily	5,000 gallons	9,000 gallons
Maximum Daily	122,000 gallons	161,000 gallons
Minimum Daily	0 gallons	0 gallons
TOTAL	142,000 gallons	289,000 gallons

<u>WELL #4 PUMPAGE</u>	<u>CURRENT</u>	<u>LAST MONTH</u>
Average Daily	23,000 gallons	6,000 gallons
Maximum Daily	174,000 gallons	137,000 gallons
Minimum Daily	0 gallons	0 gallons
TOTAL	644,000 gallons	187,000 gallons

<u>WELL #5 PUMPAGE</u>	<u>CURRENT</u>	<u>LAST MONTH</u>
Average Daily	4,000 gallons	2,000 gallons
Maximum Daily	54,000 gallons	60,000 gallons
Minimum Daily	0 gallons	0 gallons
TOTAL	110,000 gallons	60,000 gallons

<u>WELL #6 PUMPAGE</u>	<u>CURRENT</u>	<u>LAST MONTH</u>
Average Daily	3,000 gallons	4,000 gallons
Maximum Daily	74,000 gallons	123,000 gallons
Minimum Daily	0 gallons	0 gallons
TOTAL	74,000 gallons	123,000 gallons

TOTAL PUMPAGE FROM WELLS	1,886,000 gallons	2,669,000 gallons
TOTAL RECEIVED FROM NHCRWA	17,034,000 gallons	19,251,000 gallons
TOTAL COMBINED PRODUCTION	18,920,000 gallons	21,920,000 gallons
PERCENTAGE SURFACE WATER	90.03%	87.82%

PERMIT TERM: **SEPT 1, 2018 THRU AUGUST 31, 2019**

YEAR TO DATE PUMPAGE THRU 2019 PERMIT TERM: **15,990,000 gallons**

YEAR TO DATE RWA WATER THRU 2019 PERMIT TERM: **114,573,000 gallons**

PERCENTAGE SURFACE WATER DURING PERMIT TERM **87.75%**

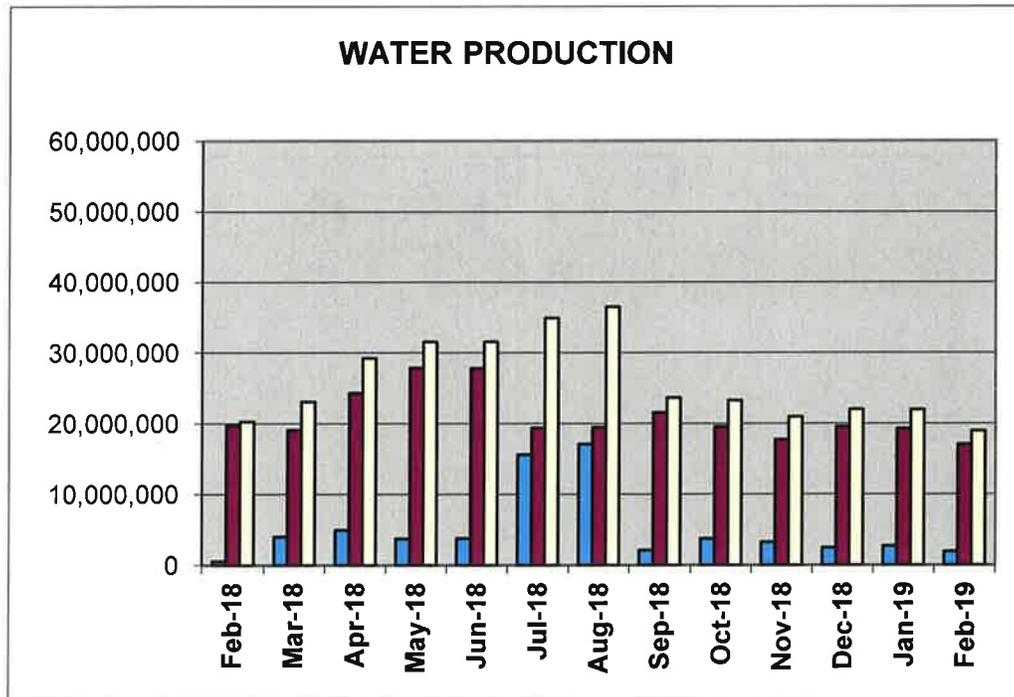
CONDITION OF EQUIPMENT:

FUTURE ANTICIPATED PROJECTS:

HARRIS COUNTY MUNICIPAL UTILITY DISTRICT #368

WATER PRODUCTION REPORT

MONTH/YEAR	PUMPAGE	NHCRWA	TOTAL
Feb-18	526,000	19,751,000	20,277,000
Mar-18	3,977,000	19,093,000	23,070,000
Apr-18	4,940,000	24,292,000	29,232,000
May-18	3,721,000	27,850,000	31,571,000
Jun-18	3,749,000	27,803,000	31,552,000
Jul-18	15,569,000	19,351,000	34,920,000
Aug-18	17,093,000	19,418,000	36,511,000
Sep-18	2,067,000	21,527,000	23,594,000
Oct-18	3,714,000	19,517,000	23,231,000
Nov-18	3,219,000	17,713,000	20,932,000
Dec-18	2,435,000	19,531,000	21,966,000
Jan-19	2,669,000	19,251,000	21,920,000
Feb-19	1,886,000	17,034,000	18,920,000



FEBRUARY 2019

FLOW (GPD)

Average Daily Flow: 659,000 GALLONS

Percent of Rated Capacity: 73%

Minimum Daily Flow: 230,000 GALLONS

Maximum Daily Flow: 1,154,000 GALLONS

TOTAL FLOW: 18,465,000 GALLONS

TPDES PERMIT NO. 12044-001
PERMIT EXPIRATION: 7/16/2023
PERMIT VIOLATIONS: None

SOLIDS HANDLING DATE: 4, 5, 6, 7 gallons 259,206

CONDITION OF EQUIPMENT: _____

FUTURE ANTICIPATED PROJECTS: _____
Replacement of underground valves and clarifier and digester sidewall repairs

**HC MUD 368
Sludge Haul History**

Month/Year	Gallons processed	Cost/gallon	Cost
Jan-17	262,255	\$0.0425	\$11,145.84
Feb-17	0	\$0.0000	\$0.00
Mar-17	281,110	\$0.0425	\$11,947.18
Apr-17	269,777	\$0.0425	\$11,465.52
May-17	0	\$0.0000	\$0.00
Jun-17	372,652	\$0.0425	\$15,837.71
Jul-17	194,619	\$0.0425	\$8,271.31
Aug-17	0		\$0.00
Sep-17	221,601	\$0.0425	\$9,418.04
Oct-17			\$0.00
Nov-17	261,116	\$0.0425	\$11,097.43
Dec-17			\$0.00
2017 Total	1,863,130		\$79,183.03
Jan-18	194,407	\$0.0425	\$8,262.30
Feb-18			\$0.00
Mar-18	189,834	\$0.0425	\$8,067.95
Apr-18	222,061	\$0.0425	\$9,437.59
May-18	284,063	\$0.0425	\$12,072.68
Jun-18			\$0.00
Jul-18	218,999	\$0.0425	\$9,307.46
Aug-18	220,259	\$0.0425	\$9,361.01
Sep-18			\$0.00
Oct-18	207,317	\$0.0425	\$8,810.97
Nov-18			\$0.00
Dec-18	208,701	\$0.0425	\$8,869.79
2018 Total	1,745,641		\$74,189.74
Jan-19			\$0.00
Feb-19	259,206	\$0.0425	\$11,016.26
Mar-19			\$0.00
Apr-19			\$0.00
May-19			\$0.00
Jun-19			\$0.00
Jul-19			\$0.00
Aug-19			\$0.00
Sep-19			\$0.00
Oct-19			\$0.00
Nov-19			\$0.00
Dec-19			\$0.00
2019 Total	259,206		\$11,016.26

Account Name	2016	2017	18-Jun	18-Jul	18-Aug	18-Sep	18-Oct	18-Nov	18-Dec	19-Jan	19-Feb	19-Mar	19-Apr	18-May Total
Graceview Baptist Church	\$1,500	\$2,400	\$200	\$350	\$350	\$350	\$350	\$350	\$350	\$200	\$200	\$350	\$600	\$600
100			45	38	61	66	68	49	75	89	98			\$3,350
Walgreens	\$1,200	\$2,400	\$200	\$200	\$0	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,600
201			24	22	43	32	33	37	43	28	2			\$2,200
Reach Unlimited (12335 White River)	\$1,500	\$2,550	\$200	\$200	\$200	\$600	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$2,200
300			19	20	29	88	27	18	16	15	25			\$1,800
Houston Garden Center	\$1,200	\$2,400	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
410			3	2	5	0	2	2	2	3	1			\$1,750
Quick N Easy (Chevron)	\$1,200	\$2,400	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,750
500			11	14	16	16	22	21	66	44	N/A			\$1,750
Chip-N-Dip										\$200	\$200			\$200
501										45	26			\$2,800
Landmark Property (Strip Center w/ Subway)	\$2,950	\$6,650	\$600	\$350	\$200	\$350	\$200	\$200	\$350	\$200	\$200	\$350	\$350	\$2,800
510			96	66	4	66	1	2	70	59	45			\$3,000
Canyon Cleaners	\$1,800	\$4,000	\$350	\$200	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$3,000
521			60	49	55	50	55	59	50	52	50			\$1,800
Tower Plaza (Strip Center by Chevron)	\$1,200	\$2,550	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
600			24	21	19	23	19	25	23	22	34			\$13,700
Regal Cinema Inc	\$10,000	\$21,700	\$600	\$3,500	\$3,500	\$600	\$200	\$600	\$600	\$3,500	\$600	\$600	\$600	\$13,700
1222			134	206	173	104	31	107	126	188	109			\$4,100
Knoxville Elementary	\$3,000	\$5,500	\$350	\$200	\$200	\$600	\$600	\$600	\$600	\$600	\$350	\$600	\$600	\$4,100
140480			71	1	7	104	99	111	87	58	110			\$1,950
Parkway Chevrolet	\$6,000	\$6,550	\$350	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,950
186910			59	48	47	43	42	38	34	38	47			\$1,800
Kids World Day Care	\$1,200	\$2,400	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
187220			21	13	0	44	19	20	18	16	22			\$1,800
Valero	\$1,200	\$2,400	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
201330			29	28	34	30	25	26	29	24	26			\$4,650
Barkway Pet Resort	\$3,500	\$5,650	\$600	\$350	\$600	\$600	\$350	\$600	\$600	\$600	\$350	\$600	\$600	\$4,650
202221			111	69	112	94	70	85	93	85	53			\$16,350
Blackshear Elementary	\$11,200	\$26,850	\$3,500	\$200	\$350	\$3,500	\$600	\$3,500	\$600	\$600	\$600	\$600	\$600	\$16,350
202561			165	34	70	313	105	349	146	109	183			\$5,400
Texas Roadhouse	\$6,000	\$24,600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$5,400
202770			132	121	141	123	119	132	135	150	145			\$5,400
Fred Haas Nissan	\$6,000	\$7,200	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$5,400
203120			108	106	121	119	112	123	118	131	138			\$1,800
Lacey Food Mart	\$1,200	\$2,400	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
203141			27	23	21	22	10	12	14	14	15			\$1,800
Bahama Bucks	\$1,350	\$2,550	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,800
207320			34	31	35	24	18	12	10	12	10			\$1,950
HMT	\$1,500	\$2,550	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$1,950
207810			18	23	19	25	34	28	25	56	39			\$3,400
Adriatic Café	\$1,100	\$4,200	\$600	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$3,400
208151			86	60	71	58	56	62	62	73	65			\$10,000
Parkway Lube Center		\$1,500	\$200	\$200	\$600	\$200	\$3,500	\$600	\$600	\$3,500	\$600	\$600	\$600	\$10,000
208710			43	0	110	15	680	125	141	152	142			\$92,400
Totals	\$65,800	\$141,400	\$10,550	\$9,100	\$9,700	\$10,700	\$9,900	\$10,400	\$7,950	\$13,750	\$10,350	\$0	\$0	\$0

Code	Name	Value 1	Value 2	Units	Value 1	Value 2	Value 3	Units	of Ex.	Analysis	Type
NODI: -											
X 51040	E. coli										
	1 - Effluent Gross										
Season: 0											
NODI: -											
80082	BOD, carbonaceous [5 day, 20 C]										
	1 - Effluent Gross										
Season: 0											
NODI: -											
	1 - Effluent Gross										
Season: 0											
NODI: -											

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

Parameter Code	Parameter Name	Monitoring Location	Field	Type	Description	Acknowledge
51040	E. coli	1 - Effluent Gross	Quality or Concentration Sample Value 3	Soft	The provided sample value is outside the permit limit. (Error Code: 1)	

Comments

Attachments

No attachments.

Report Last Saved By

HARRIS COUNTY MUD 368

User: mplunkett@eaglewatermanagement.com

Name: Mike Plunkett

E-Mail: mplunkett@eaglewatermanagement.com

Date/Time: 2019-02-11 08:44 (Time Zone: -06:00)

Report Last Signed By

User: mplunkett@eaglewatermanagement.com

Name: Mike Plunkett

E-Mail: mplunkett@eaglewatermanagement.com

Date/Time: 2019-02-11 08:45 (Time Zone: -06:00)



March 7, 2019

Board of Directors
Harris County Municipal Utility District No. 368
c/o Johnson Petrov LLP
1001 McKinney, Suite 1000
Houston, Texas 77002-1223

Reference: District Engineer's Status Report, IDS Job No. 0456-001-MR

Members of the Board:

The status of the various projects in the District is as follows:

GENERAL DISTRICT MATTERS

1. Extreme Event Swales to Serve Northern Point Subdivision

A final walkthrough inspection was held on February 13, 2019. We provided a punchlist to the contractor and they are working to address the remaining items.

Per our request, the contractor has provided a change order proposal for the construction of a backslope interceptor structure to intercept the drainage from the extreme event swale and the backslope swale. The proposal is in the amount of \$15,570.00. **We recommend authorization of this change order.**

2. Northern Point Stormwater Pump Station and Force Main

We have completed preliminary models and calculations for this project. Harris County will upsize the storm sewer during construction of Segment 3 of the Hufsmith Kohrville Improvements. We prepared a construction cost estimate for this project with a total estimated construction cost of \$812,500. This project is included in the current bond application. We can prepare a proposal for engineering services and begin design of the project upon the Board's request.

3. Project for Potential Harris County Joint Partnership

We have completed models based on topographic survey data and have selected areas of the street pavement where modifications could be made to allow better sheet flow throughout the subdivision. We have prepared a cost estimate for this project (\$486,000 construction estimate). This project is included in the current bond application. We believe this project is a good candidate for potential Harris County joint funding.

We have prepared a concept for an extreme event overflow from the Northern Point Detention Basin to Willow Creek. We have prepared a cost estimate for this project (\$200,000

construction estimate). This project is included in the current bond application. We believe this project is a good candidate for potential Harris County joint funding.

4. Detention Facilities Improvements

We have identified a number of repairs and improvements to be made to the District's detention facilities. We have prepared a cost estimate for this project (\$448,000 construction estimate). The project will improve the condition of the existing stormwater facilities and should reduce future maintenance costs. This project is included in the current bond application.

5. Facilities Communication and Security

During conversations with Electrical Field Services regarding pricing for the work to reprogram the PLCs and SCADA equipment for cellular connection, it was mentioned that the reason the antenna tower at Water Well No. 6 site is non-functional may be because of an undersized yagi, which is the portion of the antenna that sends the radio signal. EFS has provided a proposal in the amount of \$6,609.45 to replace the existing yagi with a new, more powerful yagi. If this change allows the towers to communicate, it will allow immediate use of Water Well No. 6 as well as open up the possibility of utilizing the towers for the District's facilities network.

Action: Consider authorization of the proposal from EFS.

We have been working with EFS and Sipes Instrument and Electric Service on determining the feasibility of the Ethernet Radio Network assuming the new yagi works at the Water Well No. 6 site. Sipes Instrument and Electric Service and Savells and Associates provided a Line of Site Study and Tower Antenna Analysis at no cost to the District. The analysis shows that one 40-foot tower at the Water Well No. 3 site (highest water facility site in the District) would be sufficient for communications between the plant sites. EFS has provided a quote to install a 50-foot tower at the Water Well No. 3 site not to exceed \$6,000. We believe the District should wait until the yagi at Water Well No. 6 is replaced, assuming the District approves this work, before considering this proposal for the tower installation.

The District has equipment at some of its facilities that require communication between facilities in order to achieve full operation and functionality of the equipment. Additionally, the District has security cameras at the facilities, and the Board has discussed options to access the security feeds as well as to allow the constables to monitor the feeds and receive security alerts.

We have prepared a list of options, highlighting what functionality is available and what is not available through each option. Additionally, we have prepared a breakdown of capital and monthly costs for each option.

Comcast				
	Functionality	Reliability	Cost	
			Capital	Operations
Security	Yes	Marginal	Low	High
SCADA	Yes	Marginal	Low	High
Operations	No*	Reliable	High	High

The PLCs would need to be upgraded for WW6 operations

Cell Phone				
	Functionality	Reliability	Cost	
			Capital	Operations
Security	No*	Reliable	Low	Moderate
SCADA	Yes	Reliable	Low	Moderate
Operations	No**	Reliable	Low	Moderate

Data limits will impact video uploading

The PLCs would need to be upgraded for WW6 operations

Data limits may impact remote operations

Note that will cellular, we would recommend a land line

Radio				
	Functionality	Reliability	Cost	
			Capital	Operations
Security	Yes	Reliable	High	Low
SCADA	Yes	Reliable	High	Low
Operations	Yes	Reliable	High	Low

Radio towers may not be required for each site

Note that will radio, we would recommend a land line

Security Cameras uploaded to for remote access

SCADA Acquisition of operational data

Operations Communication from plant to plant

Where does video need to be stored?

How robust of a camera system is needed for each site?

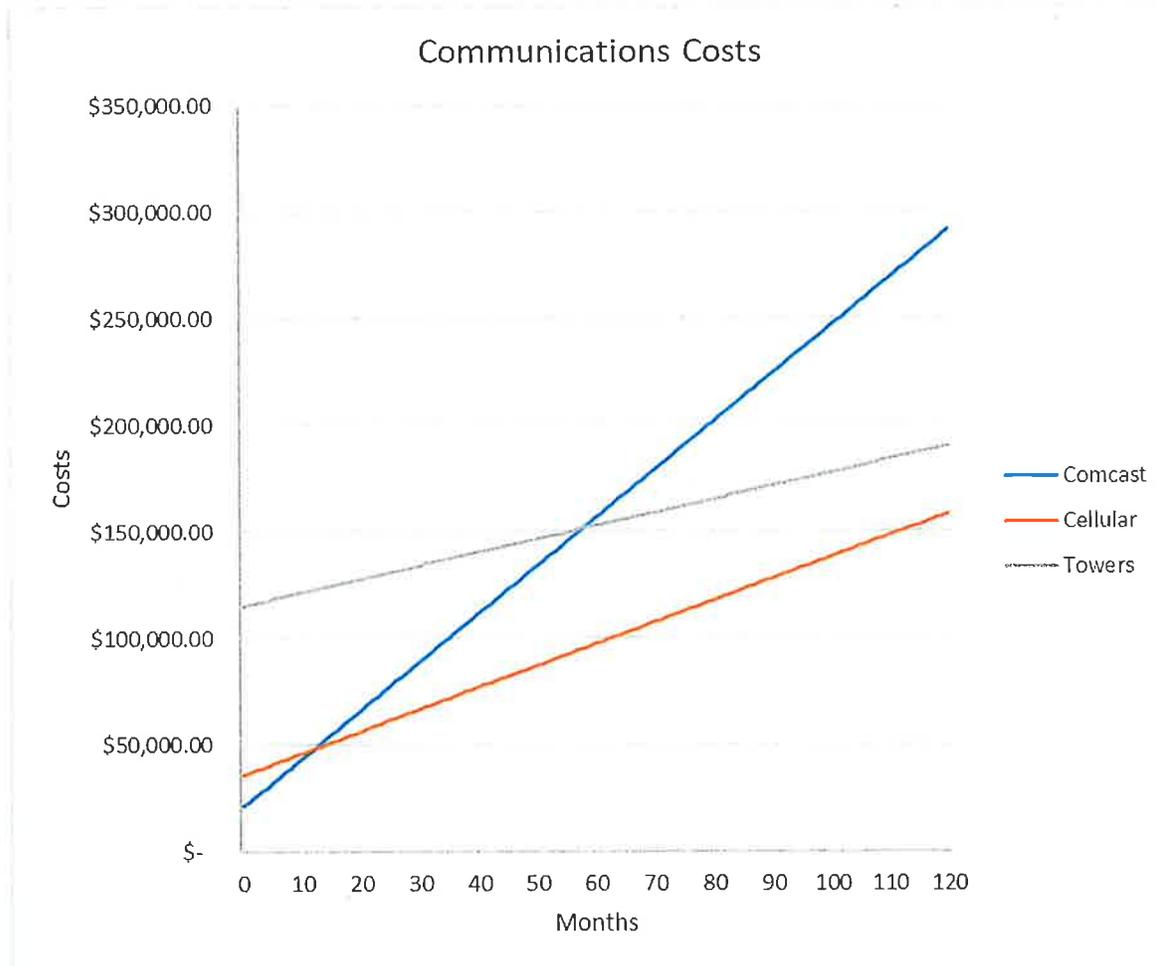
What SCADA is needed for real-time operations?

What sites do we want full SCADA capabilities?

	Comcast	Cellular	Towers
Capital Costs	\$ 21,000	\$ 36,000	\$ 115,010
Monthly Costs	\$ 2,253	\$ 1,018	\$ 627

Note

1. Assumes \$140/month for comcast services per site.
2. Assumes \$45/month for cellular services per site.
3. Comcast and Cell monthly cost assumes \$2,000/site for equipment upgrade/replacement once every 5 years.
4. Tower monthly cost includes \$200 for annual inspections plus \$1500 for equipment replacement once every 5 years (plus cellular service for auto dialers).
5. Based on the assumptions, the break-even point between towers and cellular happens near year 17.



6. Hufsmith Kohrville Improvements

Construction of Segment 2 will be starting soon. This segment involves the relocation of the existing Water Well No. 6 collection line, which will be completed by the Segment 2 contractor. The total cost of the relocation is estimated at \$281,500 and the District is responsible 50% of the portion within Harris County R.O.W., approximately \$60,000 of the estimated total cost.

Design of Segment 3 is nearly complete. Harris County is finalizing the Right-of-Way acquisition. This segment includes the storm sewer that will accommodate the excess drainage proposed from the increased capacity of the Northern Point Pump Station improvements.

7. Bond Issue No. 14

We have prepared Bond Issue No. 14 and have submitted the application to the District's consultants for review and comment. We request authorization to submit the application to TCEQ upon receipt of comments from the consultants.

8. Operations Committee Meeting

The next Operations Committee Meeting has not been scheduled.

WATER SUPPLY SYSTEM MATTERS

9. Water Quality Monitoring for Water Well Nos. 2, 3, 4, 5, and 6

The January 2019 laboratory test results for benzene, toluene, ethyl benzene, or xylene (BTEX) in Well No. 2, Well No. 3, Well No. 4, Well No. 5, and Well No. 6 are non-detect.

10. Water Well No. 6 Conditional Acceptance and Sampling Requirements

We received conditional acceptance of Water Well No. 6 on February 25, 2019. The letter states that the well is approved for use and may now be temporarily placed into service. TCEQ noted that the chemical analysis report shows that the concentration of fluoride exceeds the secondary constituent level. The District must collect and submit chemical samples upon contact from a TCEQ representative or within 180 days of the date of the letter (**due August 14, 2019**). If the samples show levels higher than the minimum secondary constituent levels, the District may be required to design and install additional treatment equipment. Additionally, there are new sampling requirements for Water Well No. 6, which can be found in the attached TCEQ approval letter.

11. Water Plant No. 1 Inspection

The Ground Storage Tanks and Hydropneumatic Tanks at Water Plant No. 1 need to be inspected. The current bond application contains funds for the rehabilitation of these tanks and yard piping. **We request authorization to complete the inspection at Water Plant No. 1.**

WASTEWATER TREATMENT SYSTEM MATTERS

12. Phase 4 Sanitary Sewer Rehab

We have provided a list of recommended repairs and maintenance items to the Operator. He is preparing a proposal to complete this work.

13. Sandy Stream Sewer Capacity Evaluation: Upsize Required for Dungrove Tract

No new activity to report.

14. Lift Station Control Panel Replacements

The electrical engineering consultant is preparing a proposal to perform engineering services for the control panels. We are working to ensure all the District's requirements for the panels are included in the design.

15. Wastewater Treatment Plant Rehabilitation

The on-site lift station rehabilitation work is complete. We will conduct an inspection of the wet well coatings prior to the end of the one-year warranty period to address any potential deficiencies in the coating.

The Wastewater Treatment Plant Rehabilitation project is included in the proposed bond application. We have prepared construction cost estimates for this project, and they are attached to the report. **We have prepared an engineering proposal for your review and approval.**

RESIDENTIAL AND COMMERCIAL DEVELOPMENT PROJECTS

16. Harris County Street Acceptance Status

We have been working with Harris County to investigate the status of all streets within the District eligible for H.C. acceptance. We have been informed that the streets within Willow Falls Section 4 have not been accepted for maintenance. We will coordinate with Harris County to get these streets accepted for maintenance.

Additionally, Pinemeade Lane and Bright Point Court in Stonepine Section 2 are not on the Harris County Road Log. The County believes that this is an internal error and are working to get this issue resolved.

17. NorthPointe Center-Phase II (Santikos)

No new activity to report.

18. Bombshells Restaurant

The plans have been approved and the development is under construction.

19. 136-Acre Finger Tract

No new activity to report.

20. Northpointe Business Park

The engineer is working to obtain agency approvals. We have received plans for review and are preparing a review letter with comments.

21. Braemar Village Tract

The developer is preparing a feasibility for this site.

22. Little Woodrows

The developer's engineer is preparing plans for a Little Woodrow's west of Coons Road and South of Timber Tech Road, near HMT properties. The attorney is preparing the annexation documents.

23. 12.5-Acre Dungrove Tract

The developer is requesting reimbursement for the land costs associated with the Dungrove Detention and Sanitary and Stormwater Pump Station. We will prepare calculations to determine the land costs.

24. 12.9-Acre Tract East of Hufsmith Kohrville

The developer has dropped this development plan, because the storm sewer along Hufsmith Kohrville does not provide enough outfall depth to serve the tract. There may be an opportunity for the District to partner with Harris County to redesign this storm sewer to allow outfall depth for this site.

25. 42-Acre Favro Family Tract (West of Hufsmith Kohrville)

We are preparing the feasibility study for this development. The development includes 63 single-family residential lots, 11 private estate lots, a community center including a club and recreational land and facilities, and a parking lot. We have provided a few land plan options for the developer and will prepare a feasibility report once the developer chooses a land plan.

Harris County Municipal Utility District No. 368
March 7, 2019
Page 8 of 8

We will be glad to answer any questions the Board may have.

Respectfully,



Matthew Carpenter, P.E.



Kameron H. Pugh, P.E.

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16130 Hollister
Houston, TX 77066
Ph. 281-357-5020 Fax: 281-587-5999

To: IDS Engineering Group
Address: 13430 Northwest Fwy #700
Houston, TX 77040

Attn:
Phone: () -
Fax: () -

Project: - NORTHPOINTE EES BACKSLOPE

Item	Description	Quantity	Unit	Unit Price	Total
10	MOBILIZATION	1.000	EA	\$1,200.00	\$1,200.00
20	PIPE CMP 24"	60.000	LF	\$ 142.00	\$8,520.00
40	CONCRETE 5"	200.000	SF	\$ 23.00	\$4,600.00
50	GRADE AND SEED SIDESLOPES	1.000	EA	\$1,250.00	\$1,250.00
Bid Total					\$15,570.00

Subject to Master Agreement: Customer and Company have executed a Master Agreement to set forth the terms by which they agree to do business (the "Agreement"). Work performed under this Proposal is subject to the terms and conditions of the Agreement, which is incorporated herein. The Agreement and this Proposal form the entire agreement with respect to the scope of work described in this Proposal; Customer is not relying on any promises or representations that are not specifically set forth in this Proposal or in the Agreement.

Proposal Duration: This Proposal is valid for 120 days after the Date of Proposal above, but may, at the Company's sole option, be withdrawn or revised or extended at any time before acceptance by the Customer.

Acceptance: The Customer may accept this Proposal either by a) signing where indicated or b) asking the Company in writing to begin work. In the event of either form of acceptance, this Proposal will become part of the contract between the Customer and the Company.

Term: The Work under this Proposal will continue as long as the Customer's Permit requires services from the Company and the Customer is in good financial standing with respect to this Proposal and any other work being done under this Agreement. However when the Customer terminates a Permit, no longer requires authorization to discharge storm water, transfers operational control to another operator, and/or permanently stabilizes disturbed areas under the terms of a Permit, the Company will cease service in that area and will no longer be responsible for providing services for that area.

Camino Services, LLC
16130 Hollister
Houston, TX 77066

Project: NORTHPOINTE EES BACKSLOPE

Proposal Date: 03/07/2019

IDS Engineering Group (the "Customer") Camino Services, LLC (the "Company")

_____ [signature]

_____ [signature]

_____ [printed name]

_____ [printed name]

_____ [title]

_____ [title]

_____ [date]

_____ [date]



Opinion of Probable Cost for Drainage Improvements to Serve Northern Point Subdivision
Options No. 2 - Pump Upgrades

Detailed (Conceptual)

July 10, 2018

Item:	Quantity	Unit	Unit Cost	Total
<u>Extreme Event Swales</u>				
Erosion Control	1	LS	\$ 4,650	\$ 4,650
Drainage Items	1	LS	191,871	191,871
<i>Extreme Event Swales Total</i>				\$ 196,521
<u>Extreme Event Release</u>				
Clearing and Grubbing	1	LS	\$ 15,000	\$ 15,000
Regrade Existing Railroad Ditch	5,000	LF	\$ 30	\$ 150,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 16,500
<i>Extreme Event Release Total</i>				\$ 181,500
<u>Stormwater Pump Station</u>				
Remove and Dispose of Existing Pavement	235	SY	\$ 35	\$ 8,250
7" Concrete Pavement	235	SY	\$ 120	\$ 28,200
Replace Pumps, Supports, Base, Piping	2	EA	\$ 80,000	\$ 160,000
Pump Station Piping Modifications	1	LS	\$ 25,000	\$ 25,000
18-Inch PVC Force Main (HDD)	1,050	LF	\$ 325	\$ 341,250
18-Inch PVC Force Main (Bore and Jack)	200	LF	\$ 350	\$ 70,000
Storm Manhole	4	EA	\$ 4,000	\$ 16,000
Bypass Pumping	1	LS	\$ 25,000	\$ 25,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 64,900
<i>Stormwater Pump Station Total</i>				\$ 738,600



Opinion of Probable Cost for Drainage Improvements to Serve Northern Point Subdivision
Options No. 2 - Pump Upgrades

Detailed (Conceptual)

July 10, 2018

Item:	Quantity	Unit	Unit Cost	Total
<u>Street Paving Modifications</u>				
Remove and Dispose of Concrete Pavement	2,200	SY	\$ 30	\$ 66,000
6-Inch Concrete Pavement w/ Subgrade	2,200	SY	\$ 140	\$ 308,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 37,400
<i>Street Paving Modifications Total</i>				\$ 411,400
<u>Miscellaneous</u>				
Erosion Control	1	LS	\$ 10,000	\$ 10,000
Traffic Control Plan	1	LS	\$ 15,000	\$ 15,000
Performance and Payment Bonds	1	LS	\$ 33,000	\$ 33,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 5,800
<i>Miscellaneous Total</i>				\$ 63,800
<i>Construction Total</i>				\$ 1,591,821
<i>Engineering</i>				\$ 239,000
<i>Contingencies (10%)</i>				\$ 140,000
Total				\$ 1,970,821



Opinion of Probable Cost for Drainage Improvements to Serve Northern Point Subdivision
Options No. 2 - Pump Upgrades

Detailed (Conceptual)

July 10, 2018

Item:	Quantity	Unit	Unit Cost	Total
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Notes:

(1) This opinion of probable cost was prepared on the basis of experience and judgment, utilizing historical bid costs for similar work if available. Actual bids and ultimate construction costs may vary based on market conditions, inflation, and unforeseen field conditions. The final determination of construction cost is made through the bidding process with contractor(s).

(2) Electrical control modifications include the installation of the existing portable generator at this location.

(3) The generator replacement items shown will be necessary if the use of the existing portable generator is not acceptable to the Board.



Opinion of Probable Cost for Detention Facilities Improvements

Detailed (Conceptual)

May 14, 2018

Item:	Quantity	Unit	Unit Cost	Total
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Dungrove Detention Pond

Concrete Pilot Channels	535	LF	\$ 60	\$ 32,100
Regrade Backslope Swales	1,800	LF	\$ 5	\$ 9,000
Spot Repair/Regrade for Erosion	1	LS	\$ 30,000	\$ 30,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 7,150

Dungrove Detention Pond Total **\$ 78,250**

NPE Detention Pond

Regrade Earthen Pilot Channel	865	LF	\$ 10	\$ 8,650
Regrade Backslope Swales	1,000	LF	\$ 5	\$ 5,000
Install New SWQ Structure	1	LS	\$ 60,000	\$ 60,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 7,400

NPE Detention Pond Total **\$ 81,050**

Ashford Place Detention Pond

Concrete Pilot Channel	115	LF	\$ 60	\$ 6,900
Regrade Backslope Swales	725	LF	\$ 5	\$ 3,650
Remove Floatable Collection Screen (Fence)	1	LS	\$ 2,000	\$ 2,000
Install New SWQ Structure	1	LS	\$ 60,000	\$ 60,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 7,300

Ashford Place Detention Pond Total **\$ 79,850**

Ashford Grove Detention Pond

Concrete Pilot Channel	320	LF	\$ 60	\$ 19,200
Regrade Backslope Swales	450	LF	\$ 5	\$ 2,250
Appurtenances, Bonds, Staking, Etc.	10%			\$ 2,150

Ashford Grove Detention Pond Total **\$ 23,600**

Northern Point Detention Pond



Opinion of Probable Cost for Detention Facilities Improvements

Detailed (Conceptual)

May 14, 2018

Item:	Quantity	Unit	Unit Cost	Total
Regrade Backslope Swales	1,000	LF \$	5 \$	5,000
Appurtenances, Bonds, Staking, Etc.	10%		\$	500
<i>Northern Point Detention Pond Total</i>			\$	5,500
<u>Three Lakes East Detention Pond</u>				
Concrete Pilot Channel	1,000	LF \$	60 \$	60,000
Regrade Backslope Swales	500	LF \$	5 \$	2,500
Appurtenances, Bonds, Staking, Etc.	10%		\$	6,250
<i>Three Lakes East Detention Pond Total</i>			\$	68,750
<u>Willow Falls Southeast Detention Pond</u>				
Concrete Pilot Channel	145	LF \$	60 \$	8,700
Regrade Backslope Swales	450	LF \$	5 \$	2,250
Appurtenances, Bonds, Staking, Etc.	10%		\$	1,100
<i>Willow Falls Southeast Detention Pond Total</i>			\$	12,050
<u>Willow Falls Northwest Detention Pond</u>				
Regrade Backslope Swales	750	LF \$	5 \$	3,750
Appurtenances, Bonds, Staking, Etc.	10%		\$	400
<i>Willow Falls Northwest Detention Pond Total</i>			\$	4,150
<u>Stonepine Detention Pond</u>				
Concrete Pilot Channels	195	LF \$	60 \$	11,700
Regrade Backslope Swales	1,800	LF \$	5 \$	9,000
Concrete Pavement at Outfall Discharge	55	SY \$	100 \$	5,500
Appurtenances, Bonds, Staking, Etc.	10%		\$	2,650
<i>Stonepine Detention Pond Total</i>			\$	28,850



Opinion of Probable Cost for Detention Facilities Improvements

Detailed (Conceptual)

May 14, 2018

Item:	Quantity	Unit	Unit Cost	Total
<u>Erosion Control</u>				
Erosion Control	1	LS \$	25,000 \$	25,000
<i>Erosion Control Total</i>			\$	25,000
<i>Construction Total</i>			\$	407,050
<i>Engineering</i>			\$	62,000
<i>Contingencies (10%)</i>			\$	41,000
Total			\$	510,050

Notes:

(1) This opinion of probable cost was prepared on the basis of experience and judgment, utilizing historical bid costs for similar work if available. Actual bids and ultimate construction costs may vary based on market conditions, inflation, and unforeseen field conditions. The final determination of construction cost is made through the bidding process with contractor(s).

ELECTRICAL FIELD SERVICES, INC. DBA
SOUTH TEXAS UTILITIES AND UNDERGROUND

27911 FM 2100 RD
HUFFMAN, TEXAS
281-361-7455
TECL 17932
MASTER # 58676
VJOHNSON@EFSERVICES.NET

www.electricalfieldservices.com

March 4, 2019

HCMUD 368
Mr. Roy

HCMUD 368 Water Plant 6

Supply antenna and 10" of Coax.
Add 1.25" rigid conduit to existing tower top.
Make connection for antenna.
Rent Crane with Basket to install conduit and antenna.

Labor and materials: \$ 6,609.45

Sincerely,
Van Johnson

President
Master Electrician



Savells & Associates Link Analysis Report

Date Generated: 3/3/2019 9:21:28 AM

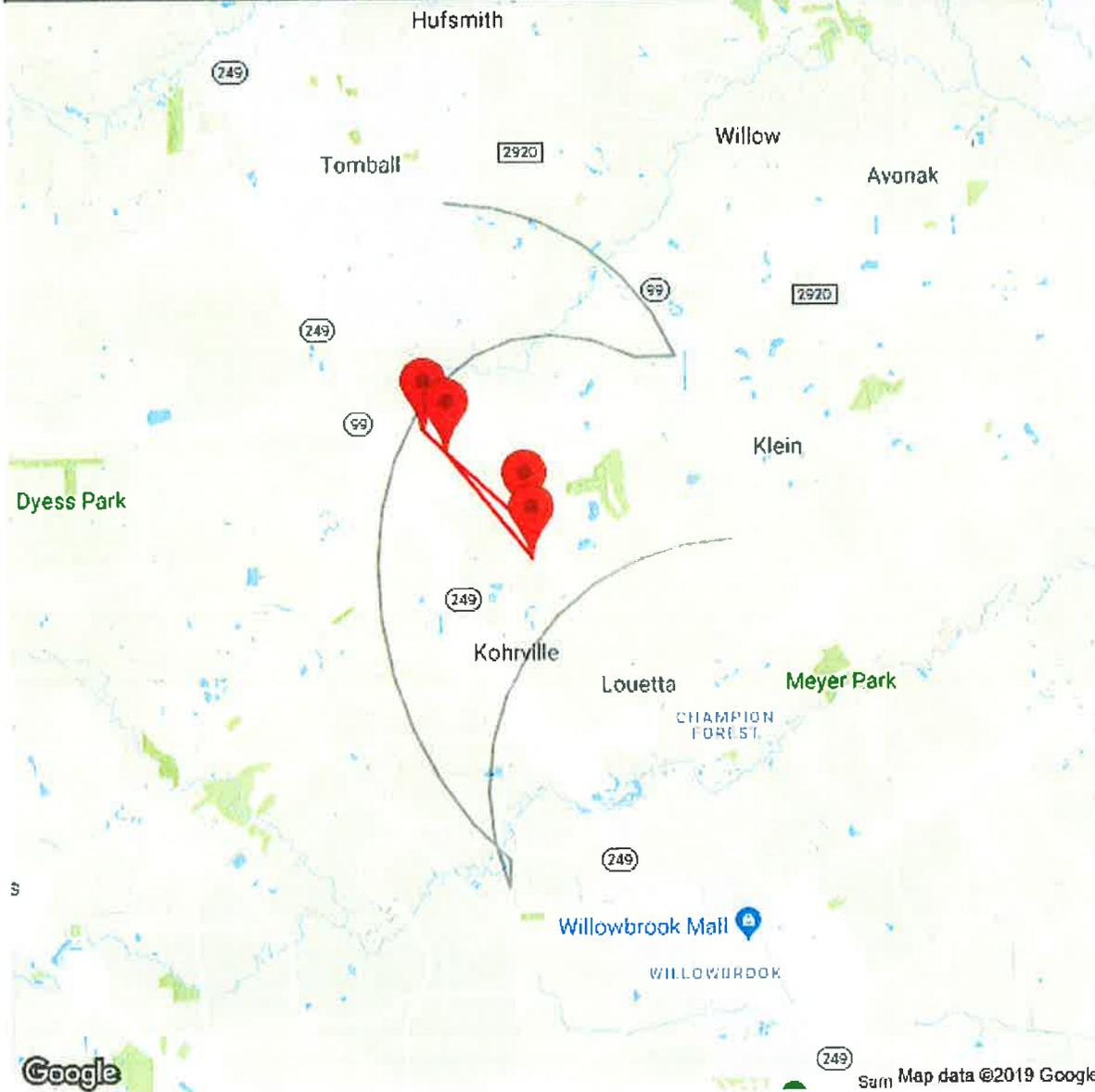
TX Site Information

TX Site Name	HCMUD Water well 3	Radio Type	Custom AP
Latitude	30.047035	Longitude	-95.599458
Ant. Height	40 feet	Ant. Gain	8.0 dBi
Beam Center	0 °	Beam Width	360 °

Parameters

Frequency	928 MHz	Climate	Continental Temperate
Ant. Polarization	H	Measurement System	Imperial System
Misc. Loss	2 dBm	Rain Rate	0 mm/hr

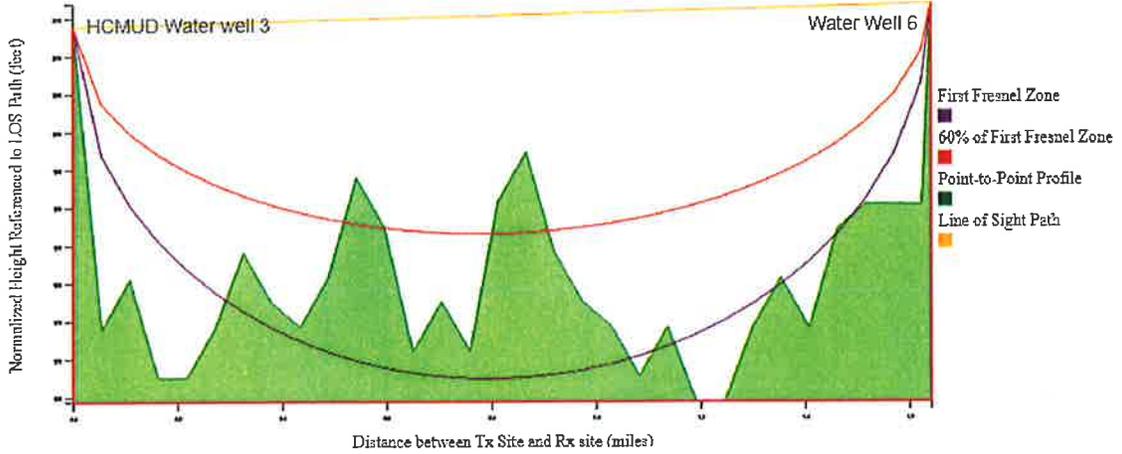
Map



HCMUD Water well 3 - Water Well 6

Latitude	30.0286	Longitude	-95.58213
Total Path Loss	104 dB	Thermal Fade Margin	24 dB
RX Signal Level	-56.067 dBm	Distance between sites	1.64 miles
EIRP	38.0 dBm	Link availability due to rain	n/a
Azimuth	321 °	Tilt	-0.0196 °

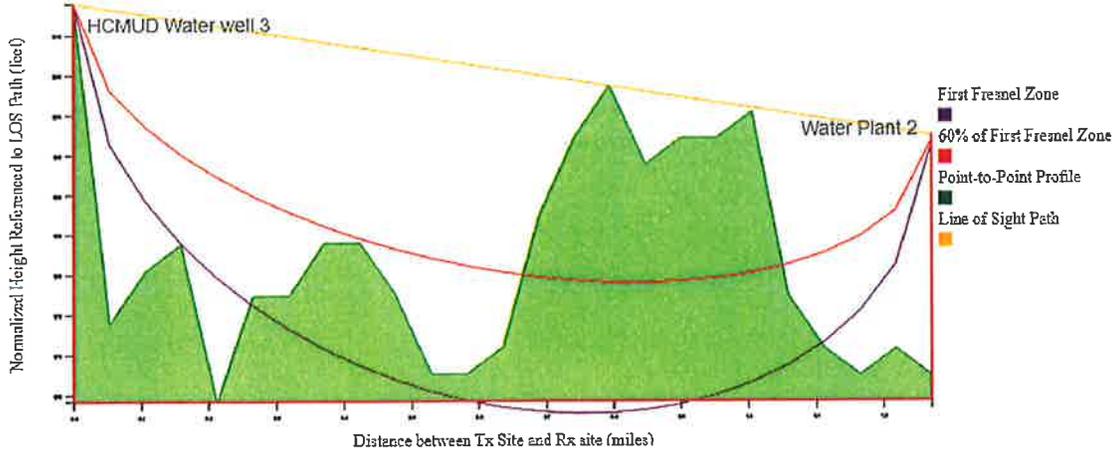
Path profile between TX and RX sites



HCMUD Water well 3 – Water Plant 2

Latitude	30.03468	Longitude	-95.58372
Total Path Loss	102 dB	Thermal Fade Margin	26 dB
RX Signal Level	-54.494 dBm	Distance between sites	1.27 miles
EIRP	38.0 dBm	Link availability due to rain	n/a
Azimuth	312 °	Tilt	0.1414 °

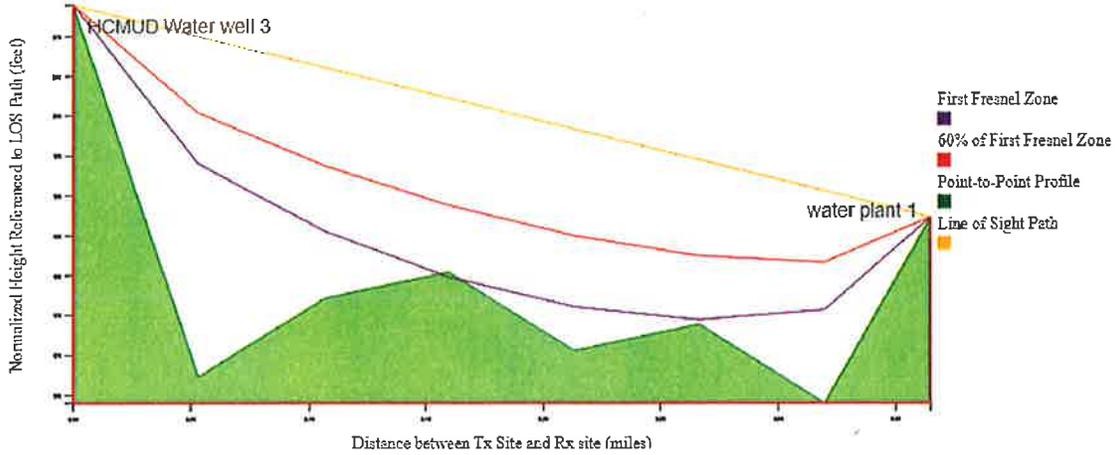
Path profile between TX and RX sites



HCMUD Water well 3 – water plant 1

Latitude	30.05074	Longitude	-95.60381
Total Path Loss	84 dB	Thermal Fade Margin	44 dB
RX Signal Level	-36.438 dBm	Distance between sites	0.36 miles
EIRP	38.0 dBm	Link availability due to rain	n/a
Azimuth	135 °	Tilt	0.79 °

Path profile between TX and RX sites





Opinion of Probable Cost for Water Plant No. 1 Improvements

Detailed (Conceptual)

May 14, 2018

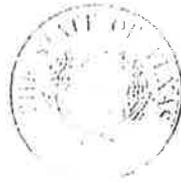
Item:	Quantity	Unit	Unit Cost	Total
<u>WP No. 1 Improvements</u>				
GST 1 - Exterior Coating	1	LS	\$ 35,000	\$ 35,000
GST 2 - Exterior Coating	1	LS	\$ 35,000	\$ 35,000
GST 3 - Exterior Coating	1	LS	\$ 45,000	\$ 45,000
GST 1 - Interior Coating	1	LS	\$ 65,000	\$ 65,000
GST 2 - Interior Coating	1	LS	\$ 65,000	\$ 65,000
GST 3 - Interior Coating	1	LS	\$ 100,000	\$ 100,000
HPT Exterior Coating	2	EA	\$ 10,000	\$ 20,000
HPT Interior Coating	2	EA	\$ 14,000	\$ 28,000
Above Ground Piping Coating	1	LS	\$ 15,000	\$ 15,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 40,800

WP No. 1 Improvements Total	\$ 448,800
<i>Engineering</i>	<i>\$ 68,000</i>
<i>Contingencies (10%)</i>	<i>\$ 45,000</i>
Total	\$ 561,800

Notes:

(1) This opinion of probable cost was prepared on the basis of experience and judgment, utilizing historical bid costs for similar work if available. Actual bids and ultimate construction costs may vary based on market conditions, inflation, and unforeseen field conditions. The final determination of construction cost is made through the bidding process with contractor(s).

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Toby Baker, *Executive Director*



PWS_1011908_CO_20190215_Plan Ltr

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 15, 2019

Mr. Matthew Carpenter, P.E.
IDS Engineering Group, Inc.
13430 Northwest Freeway, Suite 700
Houston, TX 77040

Re: Harris County MUD 368 - Public Water System ID No. 1011908
As-Built Completion Data for Well No. 6
Engineer Contact Telephone: (832) 590-7101
Plan Review Log No. P-12182018-132
Harris County, Texas

CN600737621; RN102906278

Dear Mr. Carpenter:

On December 18, 2018, the Texas Commission on Environmental Quality (TCEQ) received well completion material with your letter dated December 17, 2018 for Well No. 6. Based on our review of the information submitted, the project generally meets the minimum requirements of Title 30 Texas Administrative Code (TAC) Chapter 290 - Rules and Regulations for Public Water Systems and the constructed well is **approved for use** based on the conditions noted below and may now be **temporarily** placed into service. The well's continued use is contingent upon the following conditions:

1. The chemical analysis report submitted shows that the concentration of **fluoride** exceeds the secondary constituent level. When drinking water that does not meet secondary constituent levels is accepted for temporary use, such acceptance is valid only until such time as water of acceptable chemical quality can be made available at reasonable cost to the area(s) in question (30 TAC Chapter 290.118(a)). Continual efforts to address these issues must be made. TCEQ may revoke this authorization at any time should public health or service come into question.
2. A representative of TCEQ's Drinking Water Quality Team will contact the public water system to arrange for the collection of the official chemical samples. It is the water systems responsibility to contact the **Drinking Water Quality Team at (512) 239-4691** if they have not had the official sample collection within **180 days** of the date of this letter.
3. If official chemical analysis testing confirms that a regulated constituent does not meet primary or secondary standards, additional treatment, blending, or public notice may be required. The Drinking Water Quality Team will notify the water system of any additional special requirements for this public water supply source. Plans for any proposed water treatment and blending must be reviewed and approved by the Plan Review Team.

4. This submittal constitutes notification of the addition of a new source as required by 30 TAC Section 290.117(i)(9)(B). In accordance with 30 TAC Section 290.117(d)(2)(E) systems that change treatment or have the addition or deletion of a source of water may be required by the TCEQ to conduct additional monitoring to ensure that the system maintains minimal levels of corrosion. Based upon this addition of a new source, the TCEQ is removing any previous approvals for reduced Lead and Copper Rule monitoring frequency and requiring your system to return to routine sampling for two consecutive six-month periods. **The new two consecutive six-month sampling schedule will be changed to the next viable sampling period by a TCEQ lead and copper program coordinator.** If you have any questions or concerns about the new sampling schedule please contact the lead and copper program at 512-239-4691. Required monitoring is:

- a) **Routine Tap Sampling:** Lead and copper tap sampling during two consecutive six-month periods [290.117(c)(2)(A)(ii)].
- b) **Water Quality Parameter Sampling:** Water quality parameters (WQPs) monitoring at the frequency and locations in the following table and during the same timeframe as the two consecutive 6-month lead and copper tap sampling noted above.

WQP List	Location	Frequency
<ul style="list-style-type: none"> • pH • Total Alkalinity (as CaCO₃) • Calcium • Calcium (as CaCO₃) • Chloride • Iron • Manganese • Sodium • Sulfate • Conductivity • TDS • temperature • orthophosphate or silica 	Routine number of distribution sites and all entry points	Quarterly

Note: Orthophosphate (measured as phosphate-phosphorous (PO₄-P)) must be measured only when an inhibitor containing a phosphate compound is used; inhibitors that contain phosphate include orthophosphate and polyphosphate. Silica must be measured only when an inhibitor containing silicate compound is used.

After successful monitoring with no Action Levels Exceedances you will eligible to have a reduced monitoring schedule again if new sources or new treatment are not added.

As stated above, WQPs will be required for all entry points and distributions sites during four quarters during the two consecutive 6-month lead and copper tap sampling. Please provide a signed and sealed engineering report (see attached engineering report outline guidance) within 7 months of the start date of the first six month period on the results of the first two quarter of WQP samples and the first six-month tap sample results and a

discussion on the corrosiveness of the treated water from the change in treatment. The report shall be submitted to:

Vera Poe, P.E.
Plan Review Team, MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

The well completion data consisted of the following:

- State of Texas Well Report (Tracking No. 210858);
- Well Latitude and Longitude: Lat. 30° 01' 41" N; Long. 95° 35' 17" W
- Driller's log (geologic log and material setting report);
- Cementing certificate;
- 36-hour pumping test results;
- Executed and recorded sanitary control easement;
- U. S. Geological Survey 7.5 minute map showing the well location;
- Three bacteriological sampling results showing no coliform contamination from NOVA on 10/16/2017, 10/17/2017, and 10/18/2017; and,
- Chemical analysis results from Envirodyne Laboratories Inc. dated 7/21/2018:

Primary Contaminants		
Contaminant	MCL (mg/L)	Results
Arsenic	0.01	<0.001
Fluoride	4.0	3.35
Nitrate	10 (as N)	<0.5
Nitrite	1 (as N)	<0.05

Secondary Contaminants		
Contaminant	SCL (mg/L)	Results
Aluminum	0.2	0.049
Chloride	300	80
Copper	1.0	<0.001
Fluoride	2.0	3.35
Iron	0.3	0.113
Manganese	0.05	0.003
pH	≥7 (Standard Unit)	8.10
Sulfate	300	<10
Total Dissolved Solids	1,000	850
Zinc	5.0	0.005

Radionuclide Contaminants		
Contaminant	MCL	Results
Gross alpha	15 pCi/L	0 ± 2.0
Beta Particle	50 pCi/L	2.7 ± 1.1
Radium-226/228	5 pCi/L	0.2 ± 0.1 / 0.8 ± 0.8
Uranium	30 µg/L	0.5 ± 0.3

Corrosive Water Parameters	
Parameter	Result (mg/L)
Alkalinity as CaCO ₃	482
Calcium as CaCO ₃	11.75
Sodium	276.6
Lead	<0.003

The well completion data describes construction of the following:

- One (1) public water supply well drilled to 1,880 feet with 1,529 linear feet (lf) of 20-inch outside diameter (od) steel casing and pressure-cemented 1,529 lf;
- 341 lf of 14-inch od stainless steel screen with 30-inch underream and 341 lf of gravel pack;
- The well is rated for 1,511 gallons per minute (gpm) yield with a 250 horsepower, 8.625-inch, 8-stages submersible pump set at 600 feet deep. The design capacity of the pump is 1,511 gpm at 571 feet total dynamic head; and,
- Various yard piping, valves, fittings, and appurtenances.

This approval is for the above listed items only. Any wastewater components contained in this design were not considered.

The Harris County MUD 368 public water system provides water treatment.

The project is located at 18102 ½ Solomon Road Extension, in Harris County, Texas.

Texas Water Code Section 36.0015 allows for the creation of groundwater conservation districts (GCDs) as the preferred method of groundwater management. GCDs manage groundwater in many counties and are authorized to regulate production and spacing of water wells. **Public water systems drilling wells within an existing GCD are responsible for meeting the GCD's requirements.** The authorization provided in this letter does not affect GCD authority to manage groundwater or issue permits.

The well was approved for construction in our January 16, 2008 letter (Plan Review Log No. P-200710-118).

Please refer to the Plan Review Team's Log No. P-12182018-132 in all correspondence for this project.

Please complete a copy of the most current Public Water System Plan Review Submittal form for any future submittals to TCEQ. Every blank on the form must be completed to minimize any

Mr. Matthew Carpenter, P.E.
Page 5
February 15, 2019

delays in the review of your project. The document is available on TCEQ's website at the address shown below. You can also download the most current plan submittal checklists and forms from the same address.

<https://www.tceq.texas.gov/drinkingwater/udpubs.html>

For future reference, you can review part of the Plan Review Team's database to see if we have received your project. This is available on TCEQ's website at the following address:

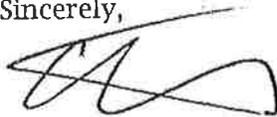
<https://www.tceq.texas.gov/drinkingwater/planrev.html/#status>

You can download the latest revision of 30 TAC Chapter 290 - Rules and Regulations for Public Water Systems from this site.

If you have any questions concerning this letter or need further assistance, please contact Mr. Aditya Kaveeshwar at (512) 239-2609 or by email at Aditya.Kaveeshwar@Tceq.Texas.Gov. If you are unable to contact Mr. Kaveeshwar, please contact another member of the Plan Review Team at (512) 239-4691 or by correspondence at the following:

Plan Review Team, MC-159
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Sincerely,



Craig A. Stowell, P.E.
Plan Review Team
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality



Vera Poe, P.E., Team Leader
Plan Review Team
Plan and Technical Review Section
Water Supply Division
Texas Commission on Environmental Quality

VP/CAS/ak/SS

Enclosure: Engineering Report Outline Guideline
Sample Results

cc: Harris County MUD 368, Attn: Mr. Roy P. Lackey, President, 2929 Allen Parkway, Suite 3150, Houston, TX 77019-7100

Engineering Report Outline

Requirements Related to Slightly Corrosive or Aggressive/Corrosive Water

Public water systems (PWS) as part of plan review approval or prior to granting an exception may be required to submit an engineering report associated with water that appears to slightly corrosive or corrosive/aggressive water. This guidance report outline was developed as a guide for the contents of such engineering reports submitted by a Texas Professional Engineer (P.E.) on behalf of a PWS. **This guidance is not intended for lead or copper action level exceeders that are required to prepare a Corrosion Control Study (CCST) under the Lead and Copper Rule, but may be used a supplemental tool that can be used along-side the CCST staff guidance.** This guidance may also be used by systems proactively reviewing the corrosivity of their water.

Engineering reports related to slightly corrosive or corrosive/aggressive water required by the Plan Review Team may be submitted to the following associated addresses:

Plan Review Team (MC 159)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Engineering Report Content

1. Historic Information

When reviewing the corrosive nature of water on a particular water system, it is necessary to have historical data information for the review. The following is a general guideline for gathering and presenting the necessary historical baseline data to include within the required engineering report framework.

- a) Provide known information of the current distribution and service lines system including pipe material, pipe sizes, and age of piping. Include how this information has been obtained such as record drawings, waterline replacement projects from the past, and purchase orders.
- b) Provide a write-up and schematic on the current water treatment process; provide a historical perspective of the changes to the treatment process with dates and reasons for the process changes.
- c) Include a summary of all historical information and Water Quality Parameter (WQP) data such as include lead, copper, conductivity, total dissolved solids, pH, temperature, alkalinity, chloride, sulfate, calcium and sodium . Provide a complete description of when and why the data was taken and provide any context as it relates to system changes such changes in treatment systems.



Opinion of Probable Cost for Wastewater Treatment Plant Improvements

Detailed (Conceptual)

May 14, 2018

Item:	Quantity	Unit	Unit Cost	Total
<i>WWTP Improvements</i>				
Lift Station - Bypass Pumping	1	LS	\$ 35,000	\$ 35,000
Lift Station - Piping Coating	1	LS	\$ 35,000	\$ 35,000
Digester Interior Wall Coating	6,800	SF	\$ 30	\$ 204,000
North Clarifier Interior Wall Coating	7,500	SF	\$ 30	\$ 225,000
South Clarifier Interior Wall Coating	7,500	SF	\$ 30	\$ 225,000
Clarifiers - Drain, Clean, and Sludge Haul	1	LS	\$ 20,000	\$ 20,000
Digester - Drain, Clean, and Sludge Haul	1	LS	\$ 10,000	\$ 10,000
Clarifier Return Gauging Equipment	1	LS	\$ 15,000	\$ 15,000
Valve Replacement	6	EA	\$ 30,000	\$ 180,000
Solid Waste Building	1	LS	\$ 40,000	\$ 40,000
Appurtenances, Bonds, Staking, Etc.	10%			\$ 98,900

<i>WWTP Improvements Total</i>	\$ 1,087,900
<i>Engineering</i>	\$ 164,000
<i>Contingencies (10%)</i>	\$ 109,000
Total	\$ 1,360,900

Notes:

(1) This opinion of probable cost was prepared on the basis of experience and judgment, utilizing historical bid costs for similar work if available. Actual bids and ultimate construction costs may vary based on market conditions, inflation, and unforeseen field conditions. The final determination of construction cost is made through the bidding process with contractor(s).