

WATER AND SEWER BOARD

Tuesday, December 6, 2016
Operations & Maintenance Facility
1725 South Church Street
3:30 PM

AGENDA

1. Consent Agenda:
 - A. Consider a revision to the CUD/MWSD boundary 2
 - B. Consider purchase of Barracuda Backup Appliance software..... 4
 - C. Consider a request to abandon a sewer easement for Ford of Murfreesboro..... 6
 - D. Consider contingency allocations for Sinking Creek WWTP Phase 4D 9
 - E. Consider Final Change Order to SRWTP Hydrogen Peroxide Addition 14
 - F. Consider Final Change Order to NW Broad Street Pump Station Replacements 18
 - G. Consider Final Change Order to 2015 Sanitary Sewer Rehabilitation project 22
 - H. Consider purchase of a replacement truck for FOG program 28
 - I. Consider bids for construction piping materials 31
2. Consider minutes from the October 25, 2016 meeting..... 36
3. Consider refunding overcharges for 976 New Salem Highway..... 47
4. Consider AMI Project Change Orders #2 and #3 51
5. Consider a Revocable License Agreement for Recreational Use on the Coleman Farm 53
6. Consider Engineering Task Orders from LittleJohn Engineering Associates for Sanitary Sewer Rehabilitation project..... 58
7. Consider Amendment to City Code Chapter 33 – Water and Sewers, Regarding Use of Septic Tank Effluent Pump (STEP) Sewer Treatment Systems 72
8. DRAFT 2016 J. Percy Priest Lake, Tennessee Water Supply Storage Reallocation Report and Associated DRAFT Water Supply Agreement 76
9. Dashboard
10. Financials
11. Other business
12. Adjourn



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MEMORANDUM

DATE: November 28, 2016
TO: Water and Sewer Board
FROM: Valerie H. Smith
RE: Consolidated Utility District (CUD)
Boundary Revision for Fed-Ex
Addition to Amendment #5

Background

For this additional revision to Amendment #5 of the CUD/MWSD Boundary, there is only one property to consider which is a proposed part of the new Fed-Ex site along S. Rutherford Blvd. There is a small portion of property in the southwest corner of the site that is currently within CUD's boundary. The majority of the Fed-Ex site is within the Department's water service area and it is only logical for this small area in the southwest corner of the site to be incorporated into the Department's service area as well. Consolidated Utility District's Board has approved this revision to the boundary at their November Board meeting.

An amendment document will be prepared by our Legal Department, and these changes will be considered a part of Amendment #5 to the boundary.

Recommendation

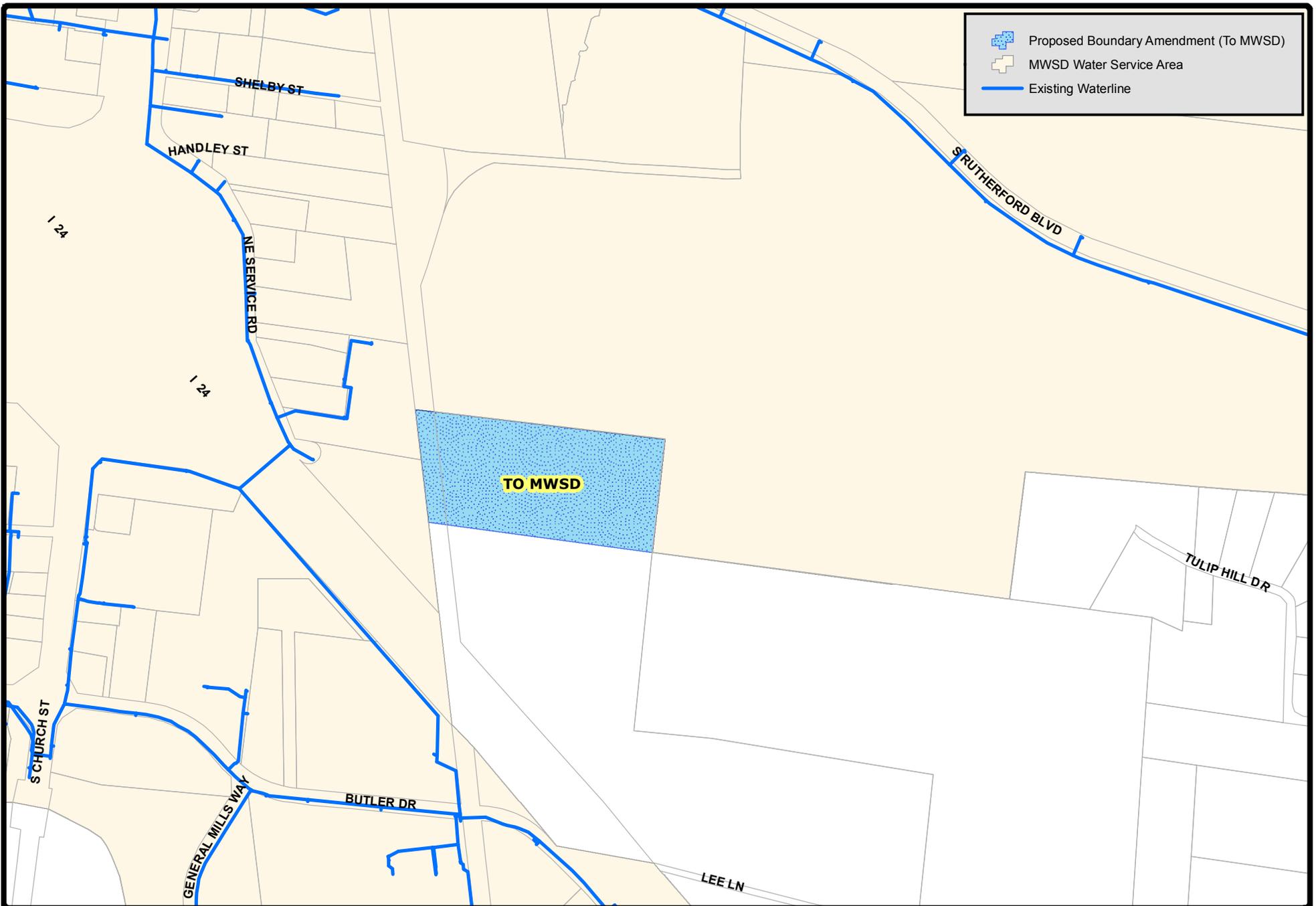
Staff recommends the Board recommend to City Council approval of the revisions to the CUD/MWSD boundary and the Mayor executing an amendment to the Water Service Boundary.

Fiscal Impact

The small portion of property being added to our system is only for proposed future parking and landscaping buffer so it will not have an impact on the water and sewer connection fees.

Attachments

GIS Exhibit of the Proposed Boundary Revision



MURFREESBORO WATER AND SEWER DEPARTMENT

Exhibit - Proposed MWSD Boundary Amendment #5 - FedEx

SCALE : 1" = 700'



November 2016
TAB



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MEMORANDUM

DATE: November 2, 2016
TO: Water and Sewer Board
FROM: Brian Pollock
SUBJECT: Request to Purchase Server Backup Support

Background

Barracuda Backup System support will end January 13, 2017. MWSD currently uses a Barracuda Appliance with cloud storage to create backup copies of department servers and files. The Barracuda System was purchased in January, 2015. The support is due annually and includes software updates, replacement of any failed components and the cloud storage. The system is functioning as intended and is a valuable asset to our department for the assurance that it provides.

The pricing is available from a National IPA Technology Solutions Cooperative Contract through CDW-G.

Recommendation

Staff recommends the Water and Sewer Board recommend to City Council approving the purchase of the referenced 1 year of Barracuda support.

Fiscal Impact

Funding for the support would come from prepaid maintenance accounts. Cost for 1 year renewal is \$15,813.89.

Exhibits

CDW-G Quote HLZB768

QUOTE CONFIRMATION



DEAR BRIAN POLLOCK,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
HLZB768	10/27/2016	BARRACUDA	1702669	\$15,813.89

QUOTE DETAILS				
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
Barracuda Energize Updates virus definitions update - 1 year Mfg. Part#: BBS890A-E1 UNSPSC: 81111812 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (130733)	1	2479418	\$3,212.94	\$3,212.94
Barracuda 1yr Instant Replacement for Barracuda Backup Server 890 Mfg. Part#: BBS890A-H1 UNSPSC: 81111812 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (130733)	1	1646976	\$3,927.14	\$3,927.14
Barracuda Backup Server 890 Unlimited Cloud Storage - subscription license Mfg. Part#: BBS890A-B1 UNSPSC: 43233204 Electronic distribution - NO MEDIA Contract: National IPA Technology Solutions (130733)	1	2688602	\$8,673.81	\$8,673.81

PURCHASER BILLING INFO	SUBTOTAL	\$15,813.89
Billing Address: MURFREESBORO WATER & SEWER DEPT ACCOUNTS PAYABLE PO BOX 1477 MURFREESBORO, TN 37133-1477 Phone: (615) 848-3200 Payment Terms: Net 30 Days-Govt State/Local	SHIPPING	\$0.00
	GRAND TOTAL	\$15,813.89
DELIVER TO Shipping Address: MURFREESBORO WATER & SEWER DEPT BRIAN POLLOCK PO BOX 1477 MURFREESBORO, TN 37133-1477 Phone: (615) 848-3200 Shipping Method: ELECTRONIC DISTRIBUTION	Please remit payments to: CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515	

Need Assistance? CDW•G SALES CONTACT INFORMATION		
	Gina Sperando	(877) 535-5650 ginaspe@cdwg.com

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at



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MEMORANDUM

DATE: November 28, 2016
TO: Water and Sewer Board
FROM: Valerie H. Smith
SUBJECT: Sewer Easement Abandonment
Ford of Murfreesboro

Background

This easement abandonment request is from Phillip Piercy, the project Engineer with LittleJohn Engineering Associates, Inc. on behalf of the Developer. They are requesting the abandonment of an existing twenty (20) foot sewer easement. The existing easement was for the original design of a sewer main extension to serve the new building. However, once construction began, an existing sewer main on-site was found and was used to connect to and extend a new, shorter line serve the newly constructed building. Therefore, this easement is no longer necessary.

Recommendation

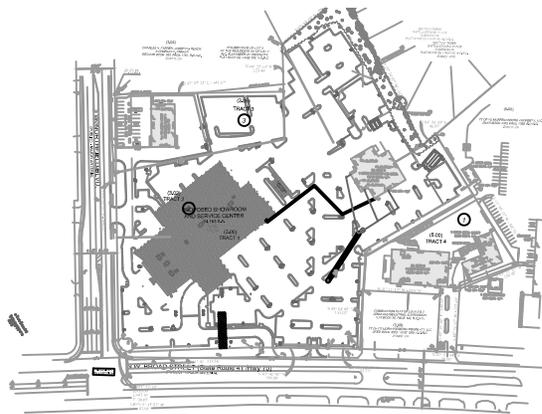
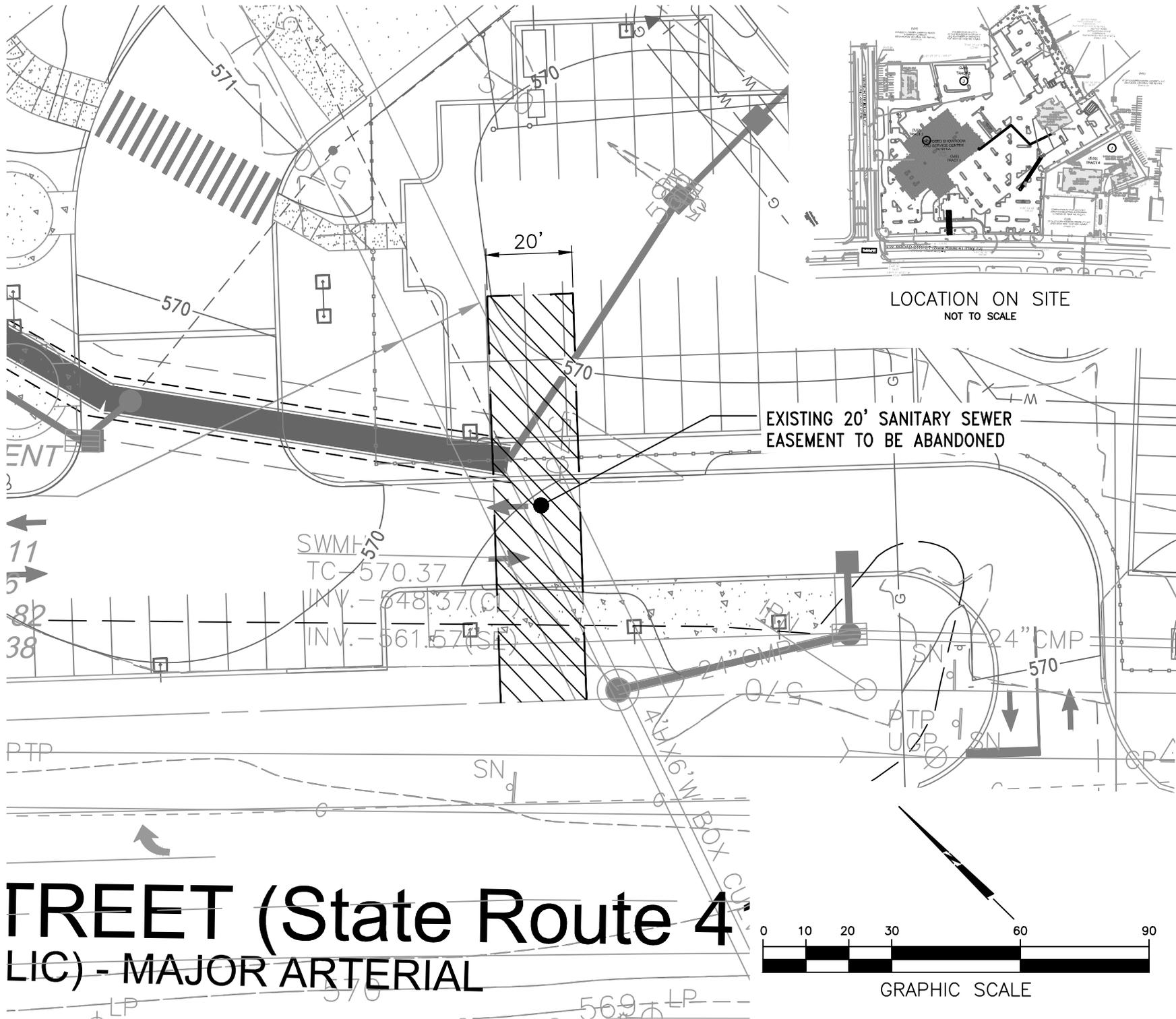
Staff recommends that the Board recommend to the Planning Commission and City Council approval of abandoning this existing sewer easement.

Fiscal Impact

Not applicable. The existing easement was dedicated to the Department by plat.

Attachments

Easement Abandonment Exhibit
LittleJohn- Request for Abandonment



LOCATION ON SITE
NOT TO SCALE

**STREET (State Route 4
LIC) - MAJOR ARTERIAL**



GRAPHIC SCALE

Title: SEWER EASEMENT ABANDONMENT EXHIBIT	
Proj. # 20141086	Dwg. No. 11/23/16
Date:	

Project:
Ford of Murfreesboro
1550 NW Broad Street
Murfreesboro, TN 37129

Littlejohn
 An S&ME Company

1835 21st Avenue South, NASHVILLE, TENNESSEE 37212
 T: 615.335.4144 F: 615.335.4020 www.littlejohn.com

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Littlejohn

An S&ME Company

November 23, 2016

Ms. Valerie Smith
Murfreesboro Water and Sewer Department
PO Box 1477, 300 NW Broad Street,
Murfreesboro, TN 37130

**RE: Ford of Murfreesboro
1550 NW Broad Street
Easement Abandonment**

Dear Valerie,

As you are aware during the construction of this project the decision was made to serve the site in a different location than originally planned. This change was made after the plat was recorded to establish the easement for the original sewer location. With the change this easement is no longer needed. Brad Thomas with BWSC has submitted a revised plat to the City which will abandon this easement and establish a new easement in the location where the sewer line and water services have been installed.

Please present this request to abandon the unnecessary easement to your board for approval. I have attached an exhibit showing the location of the easement. We will forward a description of the easement as soon as it is obtained from the surveyor.

We have submitted a mandatory referral process through the planning department for the abandonment of the easement also.

Please give me a call if you have any questions or require additional information for your review and approval of this request.

Sincerely,

LITTLEJOHN ENGINEERING ASSOCIATES, INC.

D. Phillip Piercy, PE



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MEMORANDUM

DATE: November 28, 2016
TO: Water and Sewer Board
FROM: Valerie Smith
SUBJECT: Contingency Allowance Allocations for Sinking Creek WWTP Phase 4D

Background

The Department received bids for the Sinking Creek Plant Expansion – Phase 4D on January 8, 2015. At that meeting the Board approved to award the project to 3D Enterprises the contract in the amount of \$30,472,000. As part of the referenced project, Item #4 within Schedule C of the Construction Contract is a contingency allowance of \$500,000.

The attached change control log which identifies the recent allowance allocation issued through field work change directives. Note that these work change directives do not change the contract price, only adjust the remaining balance of the contingency allowance. The final contract price will be adjusted accordingly in a future change order or a final balancing change order at the end of the project.

The following table is provided to update the Board on the current field work change directives and the remaining contingency allowances.

Project	Contingency Allowance	Prior Contingency Allocations	Current Contingency Allocations	Remaining Contingency Allowance
Phase 4D Expansion	\$500,000	\$238,057.00**	\$ 23,575.00 *	\$238,368.00

*CCF # – 33 & 34 (Current)

**CCF #'s (1 Rev. 2, 2, 5-9, 11-13, 17-30 (previously approved)(cumulative)

Recommendation

Staff recommends the referenced contingency allocation for the Phase 4D Expansion be authorized. A final contract amount accounting for all contingency items will be brought to the Board and City Council for approval in a final balancing change order.

Fiscal Impact

There is no fiscal impact at this time to the Department’s State Revolving Fund (SRF) loan, as the contingency allowance has been approved within the contract and the contract amount remains unaffected.

Attachments

SSR Recommendation Letters
 Change Control Form



November 23, 2016

Mrs. Valerie Smith
Assistant Director, Murfreesboro Water and Sewer Department
P.O. Box 1477
Murfreesboro, TN 37133-1477

**RE: Sinking Creek WWTP Phase 4D – Expansion
Murfreesboro, TN
Proposed CCF No. 33 (3D COP No. 24)
CG2 2014-338; SRF 2014-339**

Dear Mrs. Smith:

Attached are four (4) copies of proposed Change Item No. 33 including a Summary Log of all proposed changes to date, including CCF No. 34. The following summarizes the change item and provides recommendation of its approval.

Change Item No. 33 was requested by SSR to provide additional handrail at the new Clarifiers area to meet Codes requirements. Due to the small height difference between proposed grade elevation and Clarifier No. 5 top of wall elevation, handrail is required on the clarifier wall to avoid a fall hazard. Also, due to the large height difference between proposed grade elevation and the top of clarifier pump room slab elevation, handrail on top of the pump room slab is required to avoid a fall hazard. SSR has reviewed this proposed change and recommends that MWSD approve it. If approved, this change item would result in a \$22,800.00 decrease to the Construction Contingency Allowance. There will be no increase in the contract time as a result of this change item.

As stated, SSR has reviewed these proposed change and recommend it be approved and the contingency allowance be adjusted accordingly. Note that the total contract price will not be adjusted, only the contingency amount. Please review the enclosures and if acceptable to you, execute and forward one (1) signed copy to me.

If you have any questions, please contact me.

Sincerely,

SMITH SECKMAN REID, INC.

A handwritten signature in blue ink, appearing to read "Brentley D. Fowler", is written over the company name.

Brentley D. Fowler / PE
BDF/bdf
Enclosures

cc: Darren Gore (w/encl) – MWSD
MDF (w/encl) – SSR
RBH (w/encl) – SSR
File (1) (w/encl) – 12-41-019.0
File (12) (w/encl) – 12-41-019.0

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November 23, 2016

Mrs. Valerie Smith
Assistant Director, Murfreesboro Water and Sewer Department
P.O. Box 1477
Murfreesboro, TN 37133-1477

**RE: Sinking Creek WWTP Phase 4D – Expansion
Murfreesboro, TN
Proposed CCF No. 34 (3D COP No. 25)
CG2 2014-338; SRF 2014-339**

Dear Mrs. Smith:

Attached are four (4) copies of proposed Change Item No. 34 including a Summary Log of all proposed changes to date. The following summarizes the change item and provides recommendation of its approval.

Change Item No. 34 was requested by SSR to add current transducers (CTs) for Sludge Recirculating Pump Motors, MT6021 (MT6021-CT) and MT6024 (MT6024-CT) in panel MCC-N6A. Use of CTs to monitor motors is consistent with other locations throughout the plant. SSR has reviewed this proposed change and recommends that MWSD approve it. If approved, this change item would result in a \$775.00 decrease to the Construction Contingency Allowance. There will be no increase in the contract time as a result of this change item.

As stated, SSR has reviewed these proposed change and recommend it be approved and the contingency allowance be adjusted accordingly. Note that the total contract price will not be adjusted, only the contingency amount. Please review the enclosures and if acceptable to you, execute and forward one (1) signed copy to me.

If you have any questions, please contact me.

Sincerely,

SMITH SECKMAN REID, INC.

A handwritten signature in blue ink, appearing to read "Brentley D. Fowler", is written over the company name.

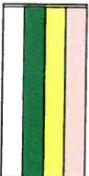
Brentley D. Fowler, PE
BDF/bdf
Enclosures

cc: Darren Gore (w/encl) – MWSD
MDF (w/encl) – SSR
RBH (w/encl) – SSR
File (1) (w/encl) – 12-41-019.0
File (12) (w/encl) – 12-41-019.0

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CHANGE CONTROL LOG

Owner: Murreesboro Water & Sewer Department
 Project: Nam Sinking Creek WWTP Phase 4D Expansion
 Contract No: N/A
 Engineer: Smith Sackman Reid, Inc.
 Contractor: 3D Enterprises Contracting Corporation



Original Contract Amount: \$ 30,472,000.00
 Contingency Allowance Amount: \$ 500,000.00
 Adjusted Contingency Allowance Amount: \$ 238,368.00

S/R	3D	Change Order No.	Change Type	Brief Description of Change Item	Status (Pending/Under Review/Approved/Rejected)	Date From/To Contractor	Date Submitted to Owner	Date Approved/Rejected by Owner	Add/Deduct (+/-) Amount	Add/Deduct Cumulative Amount	Adjusted Contingency Amount	Adjusted Contract Amount
4		N/A	RFP	Add Headworks paving-irrigation-piping and landscaping to Phase 4D-seepe	Withdrawn	4/16/2015	Withdrawn	Withdrawn	\$ -	\$ -	\$ 600,000.00	\$ 30,472,000.00
4-REV		N/A	RFP	Add Headworks paving partial-landscaping to Phase 4D-seepe	Withdrawn	6/11/2015	Withdrawn	Withdrawn	\$ -	\$ -	\$ 600,000.00	\$ 30,472,000.00
1-REV2		TBD	RFP	Delete landscaping and irrigation Delete diffusers from Post Aeration equipment	Approved	8/5/2015	10/7/2015	Approved	\$ (25,800.00)	\$ (25,800.00)	\$ 525,800.00	\$ 30,472,000.00
2		2	RFP	Change stairs platform from galv to alum.	Approved	9/1/2015	9/2/2015	9/5/2015	\$ (11,200.00)	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
3		N/A	FO	Add signal wiring for Main PS pump-discharge valves	Approved	4/23/2015	N/A	N/A	\$ -	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
4		N/A	RFP	Revise electrical service per MED	Withdrawn	6/28/2015	7/29/2015	8/6/2015	\$ -	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
5		TBD	RFP	Revise electrical service per MED	Withdrawn	6/19/2015	Withdrawn	Withdrawn	\$ -	\$ (37,000.00)	\$ 537,000.00	\$ 30,472,000.00
5-REV		TBD	RFP	Revise electrical service per MED	Approved	8/10/2015	1/14/2016	2/5/2016	\$ 82,856.00	\$ 45,856.00	\$ 454,144.00	\$ 30,472,000.00
6		TBD	RFP	Algeae Cleaning System attachment arm	Approved	7/20/2015	7/28/2015	9/3/2015	\$ 7,600.00	\$ 53,456.00	\$ 446,544.00	\$ 30,472,000.00
7		TBD	RFP	Tertiary Filter embed conduit	Approved	7/24/2015	7/28/2015	9/3/2015	\$ 2,500.00	\$ 55,956.00	\$ 444,044.00	\$ 30,472,000.00
8		TBD	RFP	HVAC upgrade in Post Aeration Control Room	Approved	9/9/2015	1/8/2016	2/5/2016	\$ 52,740.00	\$ 108,696.00	\$ 391,304.00	\$ 30,472,000.00
9		TBD	RFP	Revise Final Clarifier EDI type	Approved	9/24/2015	10/6/2015	11/5/2015	\$ 3,300.00	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
10		TBD	RFP	Provide sleeves under roadway for (ultra irrigation piping, electrical changes to MCC and control room layouts)	Pending	9/1/1939	Pending	Pending	\$ -	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
11-REV1		TBD	FO	Electrical changes to MCC and control room layouts	Withdrawn	10/7/2015	Pending	Pending	\$ -	\$ 111,996.00	\$ 388,004.00	\$ 30,472,000.00
11-REV1		TBD	RFP	Various electrical changes	Approved	10/20/2015	2/10/2016	4/7/2016	\$ 7,900.00	\$ 119,896.00	\$ 380,104.00	\$ 30,472,000.00
12		TBD	RFP	Headworks Facility electrical revisions/clarifications	Approved	10/20/2015	2/10/2016	4/7/2016	\$ 2,600.00	\$ 122,496.00	\$ 377,504.00	\$ 30,472,000.00
13		TBD	WCDC	Replacement of existing Filter backwash flow meter	Approved	11/9/2015	3/15/2016	4/7/2016	\$ 20,533.00	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
14		TBD	RFP	Knockout wall at gate opening for future OX Ditch	Withdrawn	4/24/2015	N/A	N/A	\$ -	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
15		TBD	FO	UV power feed relocation	Approved	1/18/2016	N/A	N/A	\$ -	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
16		TBD	RFP	Additional generator/ATS signals	Pending	1/26/2016	N/A	N/A	\$ -	\$ 143,029.00	\$ 356,971.00	\$ 30,472,000.00
17		TBD	RFP	Add ultrasonic flow meter at Main PS	Approved	2/4/2016	3/15/2016	4/7/2016	\$ 11,120.00	\$ 154,149.00	\$ 345,851.00	\$ 30,472,000.00
18		TBD	RFP	Installation of the Allen-Bradley Power Monitors into the Eaton switchgear	Approved	5/4/2016	5/17/2016	7/27/2016	\$ 17,080.00	\$ 171,229.00	\$ 328,771.00	\$ 30,472,000.00
19		TBD	CCR	60" TRE Junction Box in lieu of tapping sleeve	Approved	2/22/2016	3/24/2016	5/11/2016	\$ (10,000.00)	\$ 161,229.00	\$ 338,771.00	\$ 30,472,000.00
20		TBD	RFP	Addition of area lights and receptacles at clarifiers. Photocell and lighting control.	Approved	5/18/2016	6/8/2016	8/1/2016	\$ 30,240.00	\$ 191,469.00	\$ 308,531.00	\$ 30,472,000.00

CHANGE CONTROL LOG

Owner: Murreeshoro Water & Sewer Department
 Project Name: Sinking Creek WWTP Phase 4D Expansion
 Contract No: N/A
 Engineer: Smith Seckman Reid, Inc.
 Contractor: 3D Enterprises Contracting Corporation

Original Contract Amount: \$ 30,472,000.00
 Contingency Allowance Amount: \$ 500,000.00
 Adjusted Contingency Allowance Amount: \$ 238,368.00

SR	3D	Change Order No.	Change Type	Brief Description of Change Item	Status (Pending/Under Review/Approved/Rejec- ted)	Date From/To Contractor	Date Submitted to Owner	Date Approved/Rejec- ted by Owner	Add/Deduct (+/-) Amount	Cumulative Add/Deduct Amount	Adjusted Contingency Amount	Adjusted Contract Amount
21	12	TBD	RFP	Replace building architectural precast fascia panels with brick	Pending	3/18/2016	3/18/2016	8/1/2016	\$ (20,000.00)	\$ 171,469.00	\$ 328,531.00	\$ 30,472,000.00
22	16	TBD	RFP	Item 2 on RFI 33 Counter-flashing @ UV basin for building/canopy joint Provide steel beams & additional reinforcing steel for pipe supports per revised drawings S 1.3-05 & S5.4-05	Under Review	4/19/2016	5/12/2016		\$ 912.00	\$ 172,381.00	\$ 327,619.00	\$ 30,472,000.00
23	16	TBD	RFP	Provide FRP door, frame and hardware at FCPR south entrance Modify door 8-3 from hollow metal to FRP with 90 mm fire rating Provide factory applied epoxy coating on coils Provide new bucket in available space with MCC-N5A with 2 1/2 A random breakers Relocate LVT sensor and transmitter	Under Review	5/3/2016	5/12/2016		\$ 28,392.00	\$ 200,773.00	\$ 299,227.00	\$ 30,472,000.00
24	16	TBD	RFP	Additional Hach WIMS licenses	Under Review	5/3/2016	5/12/2016		\$ 6,696.00	\$ 207,469.00	\$ 292,531.00	\$ 30,472,000.00
25	17	TBD	RFP	Air Tubing at Screens and Heat Tracing/Insulation at Grit Piping	Under Review	5/9/2016	6/8/2016		\$ 3,160.00	\$ 210,629.00	\$ 289,371.00	\$ 30,472,000.00
26	18	TBD	RFP	Support column at Tertiary Filter Door ID 8-3	Approved	5/27/2016	6/2/2016	8/1/2016	\$ 2,758.00	\$ 213,387.00	\$ 286,613.00	\$ 30,472,000.00
27	21	TBD	RFP	Access cover for Oxidation Ditch	Approved	8/17/2016	8/19/2016	9/20/2016	\$ 2,890.00	\$ 216,217.00	\$ 283,783.00	\$ 30,472,000.00
28	19	TBD	RFP	Filter Control Building ceiling height revisions	Approved	8/23/2016	8/24/2016	9/1/2016	\$ 10,500.00	\$ 226,717.00	\$ 273,283.00	\$ 30,472,000.00
29	20	TBD	RFP	Handrail at Clarifier Area	Approved	8/23/2016	8/24/2016	9/1/2016	\$ 4,800.00	\$ 231,517.00	\$ 268,483.00	\$ 30,472,000.00
30	TBD	TBD	RFP	Handrail at Clarifier Area	Approved	9/13/2016	10/21/2016	11/3/2016	\$ 6,540.00	\$ 238,057.00	\$ 261,943.00	\$ 30,472,000.00
31	TBD	TBD	RFP	Access cover for Oxidation Ditch	Pending	10/10/2016	Pending	Pending	\$ 238,057.00	\$ 238,057.00	\$ 261,943.00	\$ 30,472,000.00
32	TBD	TBD	FO	Filter Control Building ceiling height revisions	Approved	10/4/2016	N/A	N/A	\$ -	\$ 238,057.00	\$ 261,943.00	\$ 30,472,000.00
33	24	TBD	RFP	Handrail at Clarifier Area	Pending	11/21/2016	11/23/2016	Pending	\$ 22,800.00	\$ 260,857.00	\$ 239,143.00	\$ 30,472,000.00
34	25	TBD	RFP	CTs for Sludge Recirc Pumps (MT6021 and MT6024)	Pending	11/21/2016	11/23/2016	Pending	\$ 775.00	\$ 261,632.00	\$ 238,368.00	\$ 30,472,000.00
Totals									\$ 261,632.00	\$ 261,632.00	\$ 238,368.00	\$ 30,472,000.00

- Notes:
 1. CCR - Contractor change request.
 2. CL - Claim.
 3. FO - Field Order.
 4. RFP - Request for proposal.
 5. WCD - Work change directive.



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MEMORANDUM

DATE: November 28, 2016
TO: Water and Sewer Board
FROM: Valerie H. Smith
SUBJECT: SRWTP Hydrogen Peroxide Addition
Final Change Order #3

Background

The City Council and the Water and Sewer Board approved for Staff to work with Smith Seckman Reid (SSR) on the development of a scope for design and construction of a hydrogen peroxide feed system based upon the results of the disinfection by-product study submitted in December 2013.

SSR was approved to complete the design in February 2014 and bids were received on October 28, 2014. At the March 2015 Board Meeting, the project was awarded to W&O Construction along with Change Order #1 to reduce the scope of the project for the Hydrogen Peroxide feed system to a total of \$416,023.

Attached is the Final Balancing Change Order #3 for approval. This change order will add a total of \$3,481 to the contract mainly for field conditions that were different than the field conditions. Staff and SSR recommend approval of the Final Balancing Change Order.

Recommendation

Staff recommends that the Water and Sewer Board recommend to the City Council approval of Change Order #3 to add to the contract \$3,481.00 for a total of \$419,504.

Fiscal Impact

The initial construction cost of the project was \$416,023, \$61,023 over the original budgeted amount. The Department's original budget was \$355,000 from working capital reserves. All funding was approved from working capital reserve account.

Attachments

SSR Recommendation Memo
Change Order No. 3



CHANGE ORDER NO. 03

Date	November 18, 2016		
Project:	Water Treatment Plant Hydrogen Peroxide Addition	Contract No.:	N/A
Owner:	City of Murfreesboro, TN	Owner Project No.:	N/A
Engineer:	Smith Seckman Reid, Inc.	SSR Project No.:	14-41-007.0
Contractor:	W&O Construction Company	Government Project No.:	N/A

The contractor is hereby authorized and directed to make the changes described below, and agrees to furnish all labor, materials, and equipment to accomplish the changes in accordance with the applicable portions of the Contract Documents for this project.

Description of Change (Including Location and Reasons Therefore):

Due to unforeseen conditions (i.e., conditions located below grade that could not be anticipated before construction began), the size of the 3-sided vault located in the pavement needed to be enlarged to account for actual field conditions (cost of \$3,783.00). Also, two optical leak sensors were deleted from the scope of work as they were deemed unnecessary (credit of \$756.00). Total Cost Change Order No. 3 (with Contractor allowed markup of 15%) = \$3,481.00

Enclosures and References: Proposal Summary from W&O Construction itemizing change order request.

	AMOUNT		CONTRACT TIME
Original Contract Price	\$1,192,000.00	Substantial Completion Date Prior to Change Order	01/30/2016
Contract Price Prior to Change Order	\$416,023.00	Final Payment Date Prior To Change Order	03/30/2016
Net Amount This Change Order	\$3,481.00	Net Time This Change Order	0 days
Revised Contract Price	\$419,504.00	Revised Substantial Completion Date	06/20/2016
		Revised Final Payment Date	08/19/2016

Remarks:

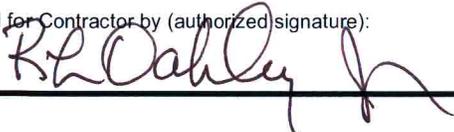
- The party initiating the change order request is:
 Contractor
 Owner
 Engineer
- Does this change order:
 - Affect the work of other contractors?
 Yes
 No
 - Require additional work by other contractors?
 Yes
 No
 - Constitute entire cost of the change?
 Yes
 No

Agreement:

In executing this change order, it is mutually agreed that the amounts provided for herein will be accepted by the contractor as full compensation for all known costs associated in the work, including all direct and indirect costs, and any and all known costs associated with delays or additional time, if any which may be required as a result of said changes.

Recommended for Approval by Engineer (authorized signature):  Date: November 18, 2016

Authorized for Owner by (authorized signature): _____ Date: _____

Accepted for Contractor by (authorized signature):  Date: 11/18/2016



November 18, 2016

Valerie Smith
Murfreesboro Water and Sewer Department
300 NW Broad Street
Murfreesboro, TN 37130-3543

**RE: Change Order No. 03 (final closeout)
Water Treatment Plant Hydrogen Peroxide Addition
Murfreesboro Water and Sewer Department
Murfreesboro, Tennessee
SSR Job Number: 14-41-007.0**

Dear Valerie,

Please find enclosed four (4) copies of Final Closeout Change Order No. 03 for the above-referenced project executed by Smith Seckman Reid, Inc. and W & O Construction Company. This change order is a result of two issues:

1. Unforeseen conditions (i.e., below-grade conditions) at the project site that could not have been anticipated by the Contractor (W&O Construction Company) prior to commence of construction. Upon excavation of that portion of the paved area of the site where the new three-sided filtrate level control vault is located, the Contractor discovered conditions that conflicted with the Contract Documents. The Contractor advised the Engineer, who in consultation with MWSD, determined that the most cost effective solution to the issue was to increase the size of the vault.
2. M R Systems had two optical leak sensors in their scope of work that were also in the scope of work for the tank manufacturer. As a result, the superfluous sensors were removed from M R Systems' scope of work.

If acceptable, please sign Change Order No. 03 where indicated and return two (2) fully-executed copies to our office (see address below):

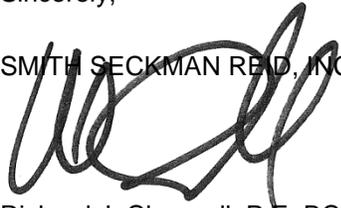
Mr. Richard Chappell, P.E.
Smith Seckman Reid, Inc.
2995 Sidco Drive
Nashville, TN 37204

Please contact us should you have any questions or require additional information.

Page 2

Sincerely,

SMITH SECKMAN REID, INC.



Richard J. Chappell, P.E. BCEE
Project Manager

RJC/

Enc.

cc: Darren Gore, Alan Cranford, Alison McGee – City of Murfreesboro (via email)
R. L. Oakley, Mike McCarty, Tim Huddleston, Brian Kyffin – W & O Construction Co. (via email)
File



MEMORANDUM

DATE: December 1, 2016
TO: Water and Sewer Board
FROM: Valerie H. Smith
SUBJECT: NW Broad Street Pump Station Replacements
Final Change Order #5

Background

At the May 2013 Board meeting, the Board approved the design contract with Civil Infrastructure Associates (CIA) to abandon three (3) existing pump stations along NW Broad Street. They are PS #2, #19, & #20. The Department received bids for the Pump Station Replacements on April 21, 2015 and the project was awarded to J. Cumby Construction, Inc. in the amount of \$976,089.00 at the April 28, 2015 Board meeting. Since this time there have been four (4) change orders approved by the Board for a total contract amount of \$1,067,389.00.

The contractor has completed the work all but an area of paving. Attached is a letter of explanation and recommendation from CIA. This change order will deduct a total of \$57,157.00 from the current contract. The majority of the work removed from the contract, was for curbing and pavement replacement. Staff and City Administration felt that a more comprehensive pavement restoration was necessary for the frontage road parallel to Broad Street in front of Kubota that was beyond the scope of our contract. City Administration requested some prep work from Cumby to prepare for the paving as listed on the change order in the amount of \$12,926. The City will use their outside contracts for the curb work and paving, which has much better pricing than our contract, and our participation amount will not exceed the deducted amount. CIA and Staff recommend approval of the Final Balancing Change Order.

Recommendation

Staff recommends that the Water and Sewer Board recommend to the City Council approval of Final Change Order #5 to deduct \$57, 157.00 from the contract for a total of \$1,010,232.

Fiscal Impact

\$1.5M was committed in the Working Capital Reserves account for FY 2015-2016 for pump station upgrades.

Attachments

- CIA Recommendation Letter
- Final Change Order #5

December 01, 2016

Ms. Valerie Smith, P.E.
Assistant Director, Murfreesboro Water and Sewer Department
220 NW Broad Street
Murfreesboro, TN 37130

RE: Northwest Broad Street SPS Replacements
Proposed Change Order #5 (final balancing change order)
Recommendation Letter
MWSD Project No: 13003, CIA Project No: 2013-02

Dear Valerie:

Attached are four (4) copies of proposed Change Order #5 for the referenced project. The proposed changes are further described below:

1. Add Item No.35 (Existing pavement demolition):

CIA concurs with MWSD inspection and street department staff with regard to the needed repairs to Battlefield Parkway. During construction, this street was heavily trenched for the new sewer, already had been heavily trenched for a previous reclaimed water line and very near the boring and jacking equipment access pit. The existing street base/binder/surface sections were not as thick as originally thought and in those locations, not able to bear the weight of the construction equipment. JCumby and the Murfreesboro Street Department agreed to both participate in the street repair. JCumby performed the pavement saw cuts and demolition and disposal of the existing damaged curb. The street department provided the new paving section, including materials and labor. The demolition work breakdown for JCumby is detailed on the attached sheet. In addition to the breakdown attached, an additional \$438.00 of saw cutting was later requested by the street department to accommodate the size of the curbing machine. The total requested sum for the item is \$12,926.00 (\$12,488 from the attached bread down plus the additional request of \$438.00).

2. Miscellaneous Allowance (Concrete Flume):

The old and existing sewage pump station in front of Precision Wood was removed and repairs to the previously raveled fill and surrounding area were successfully made. To protect the new work and surrounding area from experiencing future similar types of storm water erosion, a small concrete flume was constructed from the curb cut in the Precision Wood asphalt parking area, directly to the storm water inlet in the vicinity of the new construction. This flume should protect the area around the utility work within from future erosion/raveling issues. This will result in a net deduct from the contract sum (Miscellaneous Allowance) of \$400.00.

3. Final Balance of Installed Quantities vs Contract Sum:

Pay Request #16 reflects the complete project with the exception of the items listed in this change order.

Ms. Valerie Smith, P.E.
RE: Northwest Broad Street SPS Replacements
12/01/2016
Page 2 of 2

PR#16:	\$990,001.00
Miscellaneous Allowance quantities	\$7305.00
Additions in CO#5:	<u>\$12,926.00</u>
Actual quantities installed:	\$1,010,232.00

If you have any questions, please call.

Sincerely,



Linda Sullivan, P.E.
President
CIA - Civil Infrastructure Associates, LLC

Cc: Darren Gore – MWSD Director
Greg Shirley – JCumby, Inc.
Charles White - MWSD Inspector

PROJECT:

NW Broad St. SPS Replacements
 Murfreesboro Water and Sewer Department
 220 NW Broad Street
 Murfreesboro Tennessee 37130

CHANGE ORDER NUMBER: 5 (final balancing)

DATE OF ISSUANCE: December 2016

ENGINEER PROJECT NO: 2013-02

TO:

J. Cumby Construction, Inc.
 C/O Mr. Greg Shirley
 165 W. Broad Street
 Cookeville, TN 38501

ENGINEER:

Civil Infrastructure Associates, LLC
 Linda Sullivan, P.E.
 602 North Walnut Street
 Murfreesboro, TN 37130

The contract is changed as follows (See attached sheets for additional detail):

1. Add Item No. 35 – Existing paving demolition required for city street department to completely and correctly restore Battlefield Parkway street base/binder/surface/curbing in lieu of leaving old patches, adding new patches, and leaving other indications of impending pavement failure areas \$12,926.00
2. Concrete Flume (\$3,095.00 remaining in miscellaneous allowance, deduct from allowance) \$-400.00
3. Balance final quantities, bid vs installed (deduct from contract sum)..... \$-57,157.00

Original Contract Sum was \$976,089.00
 Net change by previous authorized Change Orders \$91,300.00
 The Contract Sum prior to this Change Order was \$1,067,389.00
 The Contract Sum will be (decreased) by this Change Order \$57,157.00
 The New Contract Sum including this Change Order \$1,010,232.00
 The Date of Final Completion is November 23, 2016.

Authorized:

<p>Engineer: Linda Sullivan, P.E. Civil Infrastructure Associates, LLC 602 North Walnut Street Murfreesboro, Tennessee 37130</p>	<p>Contractor: J. Cumby Construction, Inc. 165 W. Broad Street Cookeville, Tennessee 38501</p>	<p>Owner: MWS Department 220 NW Broad Street Murfreesboro, Tennessee 37130</p>
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<p>Linda Sullivan, P.E.</p>	<p>Greg Shirley</p>	<p>Shane McFarland, Mayor</p>
<p>Date</p>	<p>Date</p>	<p>Date</p>



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MEMORANDUM

DATE: December 1, 2016
 TO: Water and Sewer Board
 FROM: Valerie H. Smith
 SUBJECT: 2015 Sanitary Sewer Rehabilitation
 Final Changer Order #3

BACKGROUND

Bids were received for the 2015 Sewer Rehabilitation project on October 13, 2015 and the Board approved to award the project to SBW Constructors, LLC (SBW) in the amount of \$2,737,276.90. Two previous change orders have been approved bringing the current contract amount to a total of \$2,795,064.

The project is completed except for a few punchlist items and close out paperwork. Attached is a recommendation letter from LittleJohn Engineering Associates with a final change order #3 balancing the quantities for the project. The change order deducts a total of \$427,120.86 from the project for a final balance of \$2,367,943.14.

RECOMMENDATION

Staff would like to recommend the Board to recommend approval from the City Council for the Final Change Order #3 for a total deduct of \$427,120.86 and a total contract balance of \$2,367,943.14.

FISCAL IMPACT

No additional impact. Funding was from the 2014/2015 & 2015/2016 Rate Funded Rehabilitation Budgets & 2014/2015 Working Capital Reserves. The below table shows the remaining allocation.

Rehab Rate Funded Budget 2014/2015				
Total Budget	WO#	Project	Project Expenditure	Remaining 2014/2015 Budget
\$1,250,000	112.233	Basin MF02,07, 09B & MH's	\$158,677.45	\$1,091,322.55
	112.369	Rehab Specifications	9,833.75	\$1,081,488.80
	112.334	LEA Review of Basins 6-3 & 6-4	\$6,922.50	\$1,074,566.30

Rehab Rate Funded Budget 2015/2016				
Total Budget	WO#	Project	Project Expenditure	Remaining 2015/2016 Budget
\$1,250,000 + \$1,074,566.30	112.369	Rehab Specifications	\$5,166.25	\$2,319,400.05
	112.466 & 468	Rehab Project Design & Inspect.	\$234,558.09*	\$2,084,841.96
Working Capital Reserves 2014/2015				
Total Budget	WO#	Project	Project Expenditure	Remaining 2015/2016 Budget
\$1,000,000 + \$2,084,841.96	112.142	LMK Demo	\$4,650.00	\$3,080,191.96
	112.467	Rehab Project Construction	\$2,367,943.14**	\$712,248.82

ATTACHMENTS

LEA Recommendation
Final Change Order #3

*Per Eng. Inv.#15 Proj. 15075

**Per Final C.O. Proj. 15075



November 30, 2016

Ms. Valerie Smith, PE
Assistant Director
Murfreesboro Water & Sewer Department
220 NW Broad Street
Murfreesboro, TN 37130

**RE: Murfreesboro 2015 Rehabilitation Project
Murfreesboro, Tennessee
Proposed Change Order No. 3**

Dear Ms. Smith:

Attached is the proposed Change Order No. 3 which provides a finalization of all quantities to close out the project. The current contract value is \$2,795,064.00. With the deduction of all unused quantities, the final contract value is \$2,367,943.14. All scheduled work has been completed; however, the contractor is still working on a few punch list items before preparing the final pay application. These punch list items should not affect the final quantities as presented in this attached change order.

Please review the enclosures and execute if found acceptable.

If you have any questions regarding this change order, please contact me to discuss at your convenience.

Sincerely,

LITTLEJOHN – AN S&ME COMPANY

A handwritten signature in black ink that reads "Travis E. Wilson". The signature is written in a cursive style with a long horizontal stroke at the beginning.

Travis E. Wilson, PE
Principal Project Manager

Attachment – Proposed Change Order No. 3

CHANGE REQUEST FORM (CRF)

Owner Contract No. Project No. 15075
Project Name: Murfreesboro 2016 Rehabilitation Project
Engineer: Littlejohn - An S&ME Company
Contractor: SBW Constructors, LLC

Requested By: Murfreesboro Water & Sewer Department
Drawing: _____
Problem Desc: Final Change Order - Project Close-out

Revised Scope Description/Details

Item No.	Description	Unit	Qty	Unit Price	Item Total
ADD					
2a	16.5 mm CIPP	LF	1	\$160.00	\$160.00
3a	15 mm CIPP	LF	11	\$150.00	\$1,650.00
3b	PVC SDR 26 Mainline Sewer Open Cut Replacement	LF	4	\$633.00	\$2,532.00
4a	13.5 mm CIPP	LF	4	\$116.00	\$464.00
4c	Service Lateral Repair - CIPP connection only	EA	15	\$4,800.00	\$72,000.00
6e	New Cleanout Installation for CIPP Laterals	EA	5.3	\$2,500.00	\$13,250.00
7a	Mainline Sewer 7.5 mm CIPP 4-ft Sectional Liner	EA	1	\$4,600.00	\$4,600.00
9a	6.0 mm CIPP	LF	13	\$45.52	\$591.76
9d	New Cleanout Installation for Open Cut Replacement Laterals	EA	11	\$2,300.00	\$25,300.00
9f	Service Lateral Replacement - Open Cut up to 25-Linear Feet	EA	5	\$3,507.24	\$17,536.20
9g	Mainline Sewer Point Repair 0-foot to 15-foot Depth - Open Cut Repair up to 20 Feet in Length	EA	3	\$20,000.00	\$60,000.00
9i	Mainline Sewer 6 mm CIPP 6-ft Sectional Liner	EA	4	\$3,413.98	\$13,655.92
10b	Repair Serviced Lateral - CIPP Beyond 25-Linear Feet	LF	686.1	\$150.00	\$102,915.00
10c	Replacement - 0- Foot to 12-Foot Cut Beyond First 25-Linear Feet	LF	2	\$325.00	\$650.00
12a	Lining_48-inch Diameter Manhole	VF	112.86	\$325.00	\$36,679.50
12d	Manhole Bench & Invert Repair	EA	4	\$4,000.00	\$16,000.00
15a	Asphalt	SF	1872	\$35.00	\$65,520.00
SUBTOTAL ADD					\$433,504.38

Item No.	Description	Unit	Qty	Unit Price	Item Total
DEDUCT					
1a	21 mm CIPP	LF	334	\$230.00	\$76,820.00
3c	Service Lateral Repair - CIPP connection and up to 25 Linear Feet (without clean-out installation)	EA	1	\$6,000.00	\$6,000.00
3d	Service Lateral Repair - CIPP Connection only	EA	1	\$5,000.00	\$5,000.00
3f	New Cleanout Installation for CIPP Laterals	EA	1	\$2,500.00	\$2,500.00
3h	Remove Intruding Lateral Tap or Gasket	EA	1	\$1,000.00	\$1,000.00
4b	Service Lateral Repair - CIPP connection and up to 25 Linear Feet (without clean-out installation)	EA	19.8	\$6,000.00	\$118,800.00
4e	New Cleanout Installation for CIPP Laterals	EA	41	\$2,500.00	\$102,500.00
4f	New Cleanout Installation for pen Cut Replacement Laterals	EA	1	\$7,900.00	\$7,900.00
4g	Remove Intruding Lateral Tap or Gasket	EA	1	\$1,000.00	\$1,000.00
5a	Ductile Iron Pipe Mainline Sewer Open Cut Replacement	LF	8	\$700.00	\$5,600.00
6a	10.5 mm CIPP	LF	72	\$85.00	\$6,120.00
6b	Service Lateral Repair - CIPP connection and up to 25 Linear Feet (without clean-out installation)	EA	2	\$5,350.00	\$10,700.00
6c	Service Lateral Repair - CIPP connection only	EA	1	\$4,500.00	\$4,500.00
6d	New Cleanout Installation for Open Cut Replacement Laterals	EA	1	\$2,300.00	\$2,300.00
6f	Service Lateral Replacement - Open Cut up to 25-Linear Feet	EA	1	\$7,500.00	\$7,500.00
6h	Remove Intruding Lateral Tap or Gasket	EA	1	\$1,000.00	\$1,000.00
8a	6.0 mm CIPP	LF	1	\$65.00	\$65.00
8c	Service Lateral Repair - CIPP connection only	EA	1	\$4,000.00	\$4,000.00
8d	New Cleanout Installation for Open Cut Replacement Laterals	EA	1	\$2,300.00	\$2,300.00
8e	New Cleanout Installation for CIPP Laterals	EA	1	\$2,500.00	\$2,500.00
8f	Service Lateral Replacement - Open Cut up to 25-Linear Feet	EA	1	\$9,000.00	\$9,000.00
8g	Mainline Sewer Point Repair 0-foot to 15-foot Depth - Open Cut Repair up to 20 Feet in Length	EA	2	\$20,000.00	\$40,000.00
8h	Remove Intruding Lateral Tap or Gasket	EA	1	\$1,000.00	\$1,000.00
9b	Service Lateral Repair - CIPP connection and up to 25 Linear Feet (without clean-out installation)	EA	5	\$4,210.57	\$21,052.85
9c	Service Lateral Repair - CIPP connection only	EA	1	\$3,186.38	\$3,186.38
9e	New Cleanout Installation for CIPP Laterals	EA	1	\$2,500.00	\$2,500.00
9h	Remove Intruding Lateral Tap or Gasket	EA	1	\$875.00	\$875.00
9j	Mainline Sewer 6 mm CIPP 15-ft Sectional Liner	EA	1	\$5,689.96	\$5,689.96
10a	Pre CCTV Inspection of Service Laterals (All Mainline Diameters)	EA	6	\$900.00	\$5,400.00
10d	Replacement - 13- Foot to 20-Foot Cut Beyond First 25-Linear Feet	LF	15	\$350.00	\$5,250.00
11b	Additional manhole cores in new manhole	EA	1	\$2,500.00	\$2,500.00
12b	Lining_60-inch Diameter Manhole	VF	48.08	\$585.00	\$28,126.80
12c	Lining_72-inch Diameter Manhole	VF	27	\$680.00	\$18,360.00
12e	Core and Install Boot In existing Manhole 21-inch Pipe	EA	1	\$5,000.00	\$5,000.00
12f	Core and Install Boot In existing Manhole 15-inch Pipe	EA	1	\$4,800.00	\$4,800.00
12g	Core and Install Boot In existing Manhole 10-inch Pipe	EA	1	\$4,500.00	\$4,500.00

Item No.	Description	Unit	Qty	Unit Price	Item Total
12h	Core and Install Boot In existing Manhole 8-inch Pipe	EA	1	\$4,300.00	\$4,300.00
13b	Realign and Seal Frame	EA	1	\$1,500.00	\$1,500.00
15b	Concrete	CY	191.99	\$1,075.00	\$206,389.25
15c	Infrared Pavement Restoration	SF	500	\$6.26	\$3,130.00
15d	Flowable File	CY	250	\$175.00	\$43,750.00
16a	Soils and Concrete Testing	Allowance			\$4,000.00
16b	Cured-In-Place Pipe Testing Laboratory Services	Allowance			\$5,310.00
17a	Crushed Stone	CY	738.5	\$60.00	\$44,310.00
17b	Filter Fabric	SF	500	\$5.00	\$2,500.00
18a	Mainline Pipe Bursting (8-inch DIPS)	LF	139	\$110.00	\$15,290.00
18b	Service Lateral Reinstatement for Pipe Bursting Mainline	EA	2	\$2,400.00	\$4,800.00
SUBTOTAL DEDUCT					\$860,625.24
CHANGE IN CONTRACT VALUE CHANGE ORDER #3					\$2,367,943.14
ORIGINAL CONTRACT VALUE					\$2,737,276.90
CONTRACT VALUE AFTER CHANGE ORDER #1					\$2,795,064.00
CONTRACT VALUE AFTER CHANGE ORDER #2					\$2,795,064.00
Contractor Acknowledgement:					
<input type="checkbox"/> No Change in Contract Amount is required.		<input checked="" type="checkbox"/> A Change in Contract Amount is required:		-\$427,120.86	
<input type="checkbox"/> No Change in Contract Time is required.		<input type="checkbox"/> A Change in Contract Time is required:		PROJECT CLOSE OUT	
_____		<i>James White</i> co-owner			
Architect / Engineer / Inspector / RPR		Contractor			
Change in Contract Amount is within the Contingency Amount authorized under Resolution No. <u>NA</u>			Proceed with Execution		
<input type="checkbox"/> Yes <input type="checkbox"/> No _____			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No _____		
<i>Thomas E. White</i>			_____		
Engineer / Architect Project Manager			Owner's Representative		

Distribution: Engineer, Owner; Central Files



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MEMORANDUM

DATE: November 30, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Request to Purchase F.O.G. Truck Replacement

Background

The Department employs a Fats, Oils, and Grease (FOG) Program Coordinator. In the course of his work, he uses a truck to drive between inspection sites, haul equipment, and various other tasks. The Director of Fleet Services has approved the replacement of this truck, as it has reached the end of its usefulness.

The Water and Sewer Board approved staff's request to budget funds for the purchase of this replacement truck. Tennessee has a state wide contract with Nissan of Cool Springs. This replacement truck would be purchased in accordance with this standing contract.

Recommendation

Staff recommends the Water and Sewer Board recommend to City Council approving the purchase of one (1) Nissan Frontier Truck from Nissan of Cool Springs in the amount of \$25,901 from rate funded capital.

Fiscal Impact

The purchase of the truck was budgeted in the Department's rate funded capital account in the amount of Forty-thousand (\$40,000) dollars. The \$25,901 price is within budget for this purchase.

Exhibits

Price Quote
Fleet Services Approval

Specification Summary	
Brief Description	2017 NISSAN SV FRONTIER CC
Delivery location(s)	MURFREESBORO
Delivery Region	Region 3
Volume Required	1
Delivery Date	110 DAYS FROM ORDER DATE

INSTRUCTIONS FOR VENDORS

- Before completing this worksheet, please ensure you have reviewed the Detailed Vehicle Specification
- For all cells highlighted in green, dealer shall provide a pricing or descriptive response based on the specification
- Blue cells are calculations that cannot be changed directly
- In addition to this worksheet, dealer must submit a detailed specification sheet for the make and model

Description	Price
Vehicle Base Invoice	\$ 26,603.00
Invoice pricing for all optional equipment (as required)	\$ 1,960.00
Fleet incentive (enter as negative number)	\$ (4,250.00)
Cost of after market add-ons	\$ -
Dealer after market service fee	6.00%
Destination Charges*	\$ 940.00
Dealer Profit	\$ 648.00
Vehicle Cost	\$ 25,901.00
Prompt Pay Discount (NET 30)	0%
TOTAL VEHICLE COST (LESS DISCOUNT)	\$ 25,901.00
Number Vehicles Purchased	1
TOTAL EXTENDED COST	\$ 25,901.00

City of Murfreesboro
Vehicle Replacement Request

Requesting Department: MWSD, Sinking Creek Wastewater Treatment Plant
 Contact Person, Title, Phone Number and E-mail address:

Criteria for replacement of vehicles includes operating costs, safety standards, departmental needs, age and mileage. Before any vehicle is recommended for replacement, a technical/maintenance evaluation will be performed by Fleet Management staff

Driver/Operator of Vehicle: Michael McKinstry / FOG Program Coordinator
 Hours in Operation per day/week: 4 hours (day); 5 days/week

Description of existing Vehicle to be replaced including age, mileage, fuel efficiency and identification number from Fleet:
 Please indicate the mileage driven during the previous 12 months:
2001 Ford F-150 XL Super Cab, 157" WB, Current mileage: 94,100. Average fuel economy: 13-14 mpg. Fleet ID: 50659

Justification for vehicle replacement:
 Vehicle was provided to the current position (FOG Program Coordinator) in March of 2015. The vehicle has an extremely long wheelbase that is a design characteristic that can't be changed, and creates an extremely wide turning radius, making navigation through confined areas, especially around parked vehicles, a difficult proposition, lack of 4WD, and the ground clearance typically associated with such, also limits access to difficult terrain typically associated with development project construction sites. Despite the replacement of the tires, a complete front steering system overhaul and alignment, the vehicle still has a very noticeable vibration at sustained highway speeds (45-55 mph), although there are no visible coolant leaks, the coolant reservoir has to be topped off frequently. The vehicle heating system functions only marginally at best, produces cool air instead of just absolutely cold air in the winter. The vehicle odometer display works intermittently, most often not.

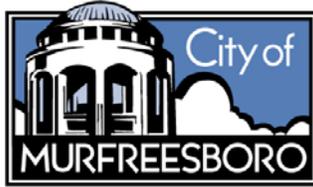
Suggested Replacement Vehicle. If a different category of vehicle is requested, justify by usage. For example, utility body, tool boxes or emergency lighting.
Mid-Sized Nissan Frontier SV KC-4X4 A/T 4.0L V6; 125.9" WB. Truck Value Package available on SV model includes several accessories that would otherwise be added separately such as spray-in bed liner, tow package (Class III receiver, trailer wiring harness), and back-up camera.

Requested Budget for Replacement Vehicle
\$35,000.00: includes estimated vehicle cost (State contract pricing) + Nissan Value Truck Package; and provision for additional accessories including rigid, folding bed cover, in-bed ton box, all weather floor mats and a front mounted Class III receiver hitch for manhole cover, power winch.

Fleet Services Recommendation

Approved as Requested
 Denied and reasons
 Approved with Modifications

Fleet Services Director: Ray H. York 3-1-16



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MEMORANDUM

DATE: December 1, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Sealed Bids for Construction Piping Materials

Background

The Legal and Purchasing Departments instructed Water and Sewer Operations and Maintenance (O&M) to request sealed bids for piping materials necessary for in-house construction projects. The reason for this new purchasing requirement is due to Tennessee state law and City Code requiring contracts or City Council approval for money spent on a specific vendor that exceeds \$25,000 annually. With the volume of materials required for O&M construction operations throughout the year, that amount is typically exceeded on several pipe supply vendors. The table below shows the bid results for piping materials necessary for upcoming projects.

Project: Water Line Replacement Taylor Place & Shelley St.	
Company	Total
Fortiline	\$12,891.47
G&C Supply	\$13,054.36
Hayes Pipe	\$13,404.00
Consolidated Pipe	\$14,092.00
HD Supply	\$14,520.79
Southern Pipe	No Bid

In the past, O&M would solicit materials in allotments not to exceed \$10,000 per quote, but could exceed \$25,000 in aggregate over a year's time. Stone and precast concrete manholes are purchased through standing annual contracts previously approved by the Board and Council. The current contract for stone is with Hoover, Inc. and the current contract for precast concrete manholes is with Forterra Inc. (formerly Sherman Dixie).

Recommendation

Staff recommends the Board recommend to City Council approval of purchasing all piping materials for the projects identified above from the low bidder, Fortiline.

Fiscal Impact

The overall costs associated with piping material bids for the referenced project is \$12,891.47. Funds are available per the O&M construction operations accounts tabulated below as approved by the Water and Sewer Board and City Council in the 2016-2017 (FY17) budget.

**FY17 APPROVED MWSD O&M CONSTRUCTION
ACCOUNTS**

Description	TOTAL AMOUNT
CAPITAL ACCOUNTS	
Meters	\$100,000
Water Taps	\$200,000
Sewer Taps	\$100,000
Repurified water taps	\$5,000
Fire Hydrants	\$25,000
Water Lines	\$425,000
Sewer Lines	\$350,000
OPERATING ACCOUNTS	
Materials Pipe (Trans/Dist) Lines	\$23,000
Paving Material (Water)	\$32,000
Pipe & Materials Private Laterals	\$7,000
Materials Pipe Sewer Rehab	\$41,000
Paving Materials (Sewer)	\$56,000

Attachments

Itemized Water & Sewer Materials Bid
Project Exhibit



CUSTOMER NO	QUOTING BRANCH	QUOTE NO	QUOTE DATE	PAGE
215810	FORTILINE NASHVILLE	5596409	11/22/16	1

CUSTOMER
MURFREESBORO WATER&SEWER DEPT. P.O. BOX 1477 MURFREESBORO, TN 37133

PROJECT INFORMATION
43-SHELLY STREET - TAYLOR PLACE

LINE	QTY	UOM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
30	800	FT	8" PVC WATER LINE MATERIAL 8" C900 DR18 PIPE	5.4700	4,376.00
			Package Sub-total:		4,376.00
50	1	EA	8X8 MJ TAP SLV F/DI TYLER	835.4800	835.48
60	2	EA	8" MJ REGULAR ACCESSORY SET	13.1300	26.26
			Package Sub-total:		861.74
90	1	EA	8" MJ TV O/L 7950 L/ACC	860.6100	860.61
			Package Sub-total:		860.61
110	3	EA	8"X6" MJ HYD TEE C153	91.9800	275.94
120	6	EA	8" MJ REGULAR ACCESSORY SET	13.1300	78.78
			Package Sub-total:		354.72
140	3	EA	6" MJ GV O/L 7571-01 L/ACC	429.9800	1,289.94
150	6	EA	6" MJ REGULAR ACCESSORY SET	11.4600	68.76
			Package Sub-total:		1,358.70
170	1	EA	8" MJ GV O/L 7571-01 L/ACC	655.1600	655.16
180	2	EA	8" MJ REGULAR ACCESSORY SET	13.1300	26.26
			Package Sub-total:		681.42
200	3	EA	5-1/4VO HYD 3'6" 6MJ O/L 129 L/ACC-YELLOW	1,414.8000	4,244.40
			Package Sub-total:		4,244.40

ALL STOCK DELIVERIES ARE SUBJECT TO SHIPPING CHARGES

All material is quoted for shipment within 30 days of bid or quote date. After 30 days,

ALL quote prices are subject to review, based on current market conditions.

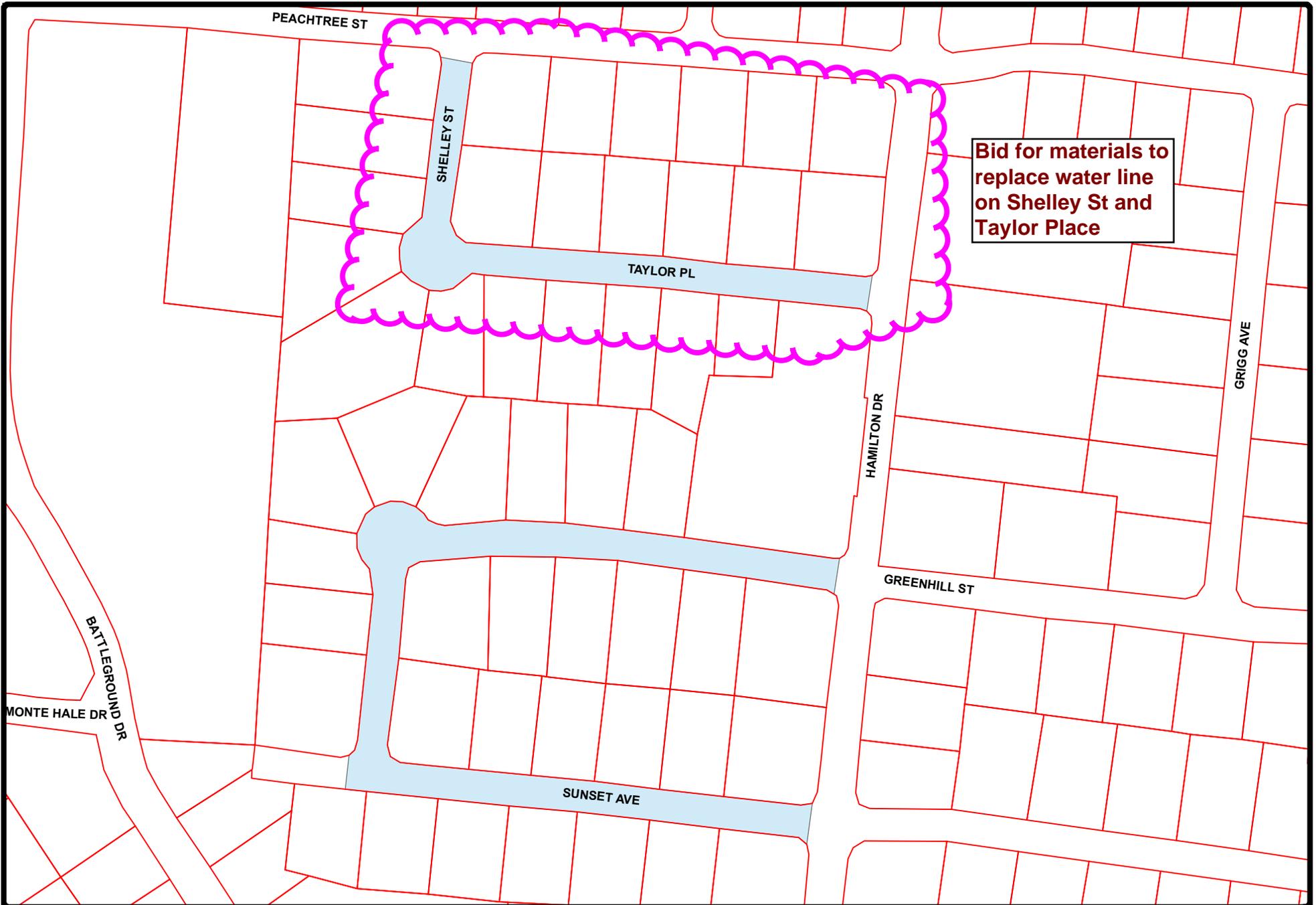
CUSTOMER NO	JOB NAME	QUOTE NO	QUOTE DATE	PAGE
215810	43-SHELLY STREET - TAYLOR PLACE	5596409	11/22/16	2

LINE	QTY	UOM	DESCRIPTION	UNIT PRICE	TOTAL PRICE
220	2	EA	8" MJ 45 C153	50.6800	101.36
230	4	EA	8" MJ REGULAR ACCESSORY SET	13.1300	52.52
			Package Sub-total:		153.88
				Subtotal:	12,891.47
				Tax:	.00
				Bid Total:	12,891.47

Ent By MT1 11/29/16 11:20:43

ALL STOCK DELIVERIES ARE SUBJECT TO SHIPPING CHARGES

All material is quoted for shipment within 30 days of bid or quote date. After 30 days, ALL quote prices are subject to review, based on current market conditions.



MURFREESBORO WATER AND SEWER DEPARTMENT

Water & Sewer Improvements - Greenhill St, Sunset Ave, Taylor Pl, & Shelley St

SCALE : 1" = 200'



MINUTES
MURFREESBORO WATER AND SEWER BOARD
October 25, 2016

The Murfreesboro Water and Sewer Board met on Tuesday, October 25, 2016 in the conference room 4at the Operations and Maintenance Building, 1725 S. Church Street. Present at the meeting were Board members: Mr. John Sant Amour, Mr. Ron Crabtree, Ms. Kathy Nobles, Ms. Madelyn Scales-Harris, and Dr. Al Carter. Also present were Darren Gore, Valerie Smith, Michele Pinkston, Craig Tindall, Doug Swann, Steve Tate, Donald Hughes, Jimmy Stacey, Sharon Seibert, Alan Cranford, Alison McGee, John Strickland, Randy McCullough, Kyle Peters, Lynda Sullivan, Travis Wilson, Mike Bernard, and Kenny Diehl, along with other members of the public.

The Board welcomed Council member Madelyn Scales-Harris as the newest member of the Water and Sewer Board.

The Consent Agenda was presented for the following considerations:

A. Consider purchase of a 6,000 lb capacity lift truck for Stones River WTP –

Staff is in need of a 6,000 lb capacity lift truck to unload heavier items than the current 3,000 lb tow motor. In addition, the lift truck needs the capability to reach the second floor of the membrane building and operate in and around the facility. The tow motor is not capable of this and several items in the last couple of years have exceeded the capacity of the tow motor.

Staff has reviewed the available standing contracts and found a 6,000 lb capacity lift truck equipment that meets all of staff’s specifications on the GSA contract. The pricing of this contract expires January 31, 2017. The details are as follows:

The GSA contract # GS-07F-0199T is through Atlanta Fork Lifts, Inc.

Qty	Item ID/Description	Cost
1	6,000 LB Capacity Lift Truck	\$26,840

Staff recommended the Board recommend that the City Council approve the purchase of a Toyota 6,000 lb capacity internal combustion lift truck from Atlanta Fork Lifts, Inc. This equipment is in the FY 2016/17 rate funded capital budget in the amount of \$35,000.

B. Consider bids for construction piping materials –

The Legal and Purchasing Departments instructed Water and Sewer Operations and Maintenance (O&M) to request sealed bids for piping materials necessary for in-house construction projects. The reason for this new purchasing requirement is due to Tennessee state law and City Code requiring contracts or City Council approval for money spent on a specific vendor that exceeds \$25,000 annually. With the volume of

materials required for O&M construction operations throughout the year, that amount is typically exceeded on several pipe supply vendors. The table below shows the bid results for piping materials necessary for upcoming projects.

Project Name: Shelby-Taylor-Green Hills			
Company	Water	Sewer	Total
HD Supply	\$13,759.23	\$7,517.22	\$21,276.45
Fortiline	\$13,577.05	\$8,250.60	\$21,827.65
Consolidated	\$14,078.00	\$7,816.40	\$21,894.40
Hayes Pipe	\$13,669.00	\$8,236.80	\$21,905.80

In the past, O&M would solicit materials in allotments not to exceed \$10,000 per quote, but could exceed \$25,000 in aggregate over a year’s time. Stone and precast concrete manholes are purchased through standing annual contracts previously approved by the Board and Council. The current contract for stone is with Hoover, Inc. and the current contract for precast concrete manholes is with Sherman Dixie.

Staff recommended the Board recommend to City Council approval of purchasing all piping materials for the projects identified from the low bidder, HD Supply.

The overall costs associated with piping material bids for the referenced project is \$21,276.45. Funds are available per the O&M construction operations accounts tabulated below as approved by the Water and Sewer Board and City Council in the 2016-2017 (FY17) budget.

FY17 APPROVED MWSD O&M CONSTRUCTION ACCOUNTS

Description	TOTAL AMOUNT
CAPITAL ACCOUNTS	
Meters	\$100,000
Water Taps	\$200,000
Sewer Taps	\$100,000
Repurified water taps	\$5,000
Fire Hydrants	\$25,000
Water Lines	\$425,000
Sewer Lines	\$350,000
OPERATING ACCOUNTS	
Materials Pipe (Trans/Dist) Lines	\$23,000
Paving Material (Water)	\$32,000
Pipe & Materials Private Laterals	\$7,000
Materials Pipe Sewer Rehab	\$41,000
Paving Materials (Sewer)	\$56,000

C. Consider a request to abandon a sewer easement for Marymont Springs Subdivision –

This easement abandonment request is from Bill Huddleston, the project Engineer with Huddleston Steele Engineering, Inc. on behalf of the Developer, Bob Parks. They are requesting the abandonment of an existing 15 foot sewer easement. The existing easement was for a future sewer main extension to serve a remaining area of the subdivision and it would have been combined with an additional 15 foot easement. However, the sewer master plan has been re-designed and the remaining area will be served through future roadways. Therefore, this easement is no longer necessary.

Staff recommended that the Board recommend to the Planning Commission and City Council approval of abandoning this existing sewer easement.

D. Consider a request to abandon a sewer easement along Robert Rose Drive –

This easement abandonment request is from Chris Barns, with Murfreesboro Electric Department (MED). They are requesting the abandonment of an existing 25 foot sewer easement. The existing easement was for a future sewer main extension to serve the property. MED is constructing a substation on the property and does not need sewer service. The neighboring properties already have sewer available; therefore, this easement is no longer necessary.

Staff recommended that the Board recommend to the Planning Commission and City Council approval of abandoning this existing sewer easement.

E. Consider purchase of a call recording/reporting phone system module –

The current phone system does not have the ability to record calls or provide call detail reporting. Staff feels the following features are important:

1. Recording calls provides two benefits;
 - a. Monitoring/recording of calls to ensure good customer service skills, and
 - b. Ability to record conversations with customers that need to be archived and attached to their account
2. Full system call detail reporting will enhance our ability to track data, further enabling us to report on call data and create/track KPI related to industry standards.

Staff recommended the Board approve the purchase of the call recording/reporting module for the NEC phone system. Quoted price is \$16,948 through a purchasing cooperative known as The Interlocal Purchasing System (TIPS) approved by the City of Murfreesboro.

This module is in the rate-funded FY16 Capital Budget in the amount of \$16,000.

F. Consider contingency allocations for Sinking Creek WWTP Phase 4D –

The Department received bids for the Sinking Creek Plant Expansion Phase 4D on January 8, 2015. At that meeting the Board approved to award the project to 3D Enterprises the contract in the amount of \$30,472,000. As part of the referenced project, Item #4 within Schedule C of the Construction Contract is a contingency allowance of \$500,000.

The change control log identifies the recent allowance allocation issued through field work change directives. These work change directives do not change the contract price, only adjust the remaining balance of the contingency allowance. The final contract price will be adjusted accordingly in a future change order or a final balancing change order at the end of the project.

The following table is provided to update the Board on the current field work change directives and the remaining contingency allowances.

Project	Contingency Allowance	Prior Contingency Allocations	Current Contingency Allocations	Remaining Contingency Allowance
Phase 4D Expansion	\$500,000	\$231,517.00**	\$ 6,540.00 *	\$261,943.00

*CCF # – 30 (Current)

**CCF #'s (1 Rev. 2, 2, 5-9, 11-13, 17-29 (previously approved)(cumulative)

Staff recommended the referenced contingency allocation for the Phase 4D Expansion be authorized. A final contract amount accounting for all contingency items will be brought to the Board and City Council for approval in a final balancing change order.

There is no fiscal impact at this time to the Department’s State Revolving Fund (SRF) loan, as the contingency allowance has been approved within the contract and the contract amount remains unaffected.

A motion was made by Ron Crabtree to accept the Consent Agenda as presented and it was seconded by Dr. Carter. The Board voted unanimously to approve.

The September 27, 2016 Board Minutes were unanimously accepted as presented.

The Board considered a proposal from Pall Corporation for membrane modules at the Stones River Water Treatment Plant.

The Stones River Water Treatment Plant commissioned its Pall Corporation membranes on December 18, 2008. Since commission, the Pall membranes are working as expected with minimal fiber breaks and very good recovery following the manufacturer’s cleaning program. According to industry standard, membrane modules are designed to last approximately 10 years. Staff expects the Pall Corporation membrane modules to last longer than the 10 years. The original configuration of the membranes consisted of 10 racks with 50 modules each for a total of 500 modules.

In August 2015, staff, in consultation with SSR, recommended using Scinor Water America, LLC membrane modules as a sole source procurement. The Board approved \$70,000 for this purchase. The reason for this selection was that Scinor Water America, LLC is the only membrane manufacturer for drinking water membranes that produce their membranes fibers using the same method as the Pall Corporation. The justification for this sole source procurement was simply to provide a trial of the Scinor Water America, LLC membrane modules in a controlled manner to determine if their product is suitable as a competitive bidder to the Pall Corporation.

The trial started in December 2015. Staff removed the Pall Corporation membrane modules from Rack #1 and reallocated those membrane modules to the other 9 racks. Seven of the racks have 56 modules and two racks have 54 modules. The Scinor Water America, LLC membrane modules, a total of 56, were placed on Rack #1. A Scinor Water America, LLC representative was here to observe and direct the installation and startup of the membranes. Upon installation and startup of the Scinor membranes, 14 of the 56 modules failed the integrity testing. Integrity testing (IT) is a test performed on each individual rack that ensures there are no leaks in the membrane fibers. This test is required by the Tennessee Department of Environment and Conservation every 24-hours. Failure of a rack requires staff to locate the module(s) and then pin the fiber that is leaking. Staff and the Scinor Water America, LLC representative could not determine the number of leaks in the 14 modules because there were so many leaks. As a result, the 14 modules were rejected and required replacement. In January 2016, 15 new modules arrived. Of the 15 modules, three modules also failed the initial IT and were rejected. This left Rack #1 at 54 of 56 modules operating. In February 2016, the two remaining modules arrived and were installed. At that time all 56 modules were in full operation.

Staff operated the Scinor membranes alongside the Pall membranes consistently. In May 2016, one Scinor module failed an IT and could not be repaired. This module exhibited the same issues as the previous modules that were rejected. A new module was sent and replaced this bad module. In July 2016, two modules failed an IT. One module failed an IT twice. Of the two modules that failed, one was pinned two times and a replacement was requested for the second module. The replacement arrived on October 14, 2016.

Staff has reviewed the data captured during the membrane comparison from January 1, 2016 through September 30, 2016. The evidence is conclusive, at least on the water quality that staff experiences at the Stones River Water Treatment Plant. The evidence demonstrates that the Pall membrane modules are more consistent in production of water and do not fail as easy as the Scinor membrane modules. In addition, staff has dealt with quality control issues with the Scinor Water America, LLC membranes. A total of 18 modules have been unusable of the 56 modules that staff purchased. When considering the 500 modules purchased from Pall Corporation in 2008, only one module has been replaced. The module was still functioning at the time Pall Corporation replaced it at no cost to the Department.

Staff recommended ending the trial and signing an agreement with the Pall Corporation for replacement of the Scinor modules. The agreement includes replacing the 56 Scinor membranes on Rack #1 with 56 Pall Microza UNA-620A membrane modules and adding two Pall Microza UNA-620A membrane modules to Racks #9 and #10. This will provide 56 modules for each of the 10 racks. The agreement also includes pricing for future purchases, warranty, replacement of 6 feeder headers that are leaking and 10 turbidimeter shutoff valves.

Staff recommended that the Board recommend the City Council to approve the proposal from the Pall Corporation in accordance with the scope of services.

The cost of the work identified in Pall Corporation's Scope of Services is \$168,500. Funding for this work will come from the Department's working capital reserves. The Department created a sinking fund in FY15 earmarking \$400,000 per year for 5 years in anticipation of a \$2.0M dollar cost in replacing all of the Pall membranes by 2019. The cumulative amount of the sinking fund is currently \$1.2M. Based on the proposal submitted by Pall, the replacement costs of the remaining membranes will be \$630,000. Therefore, \$800,000 will cover this current request and future costs. The excess \$400,000 earmarked for the membrane replacement for FY17 will be rebudgeted to another sinking fund; the biosolids processing equipment and storage project.

Dr. Carter made a motion to approve the Scope of Services in the amount of \$168,500. Kathy Nobles seconded. The motion unanimously passed.

Kathy Nobles made a motion to approve the contract with Pall Corporation for pricing of future purchases. Dr. Carter seconded. The motion unanimously passed.

The Board considered an Engineering Task Order from LittleJohn Engineering Associates for the Sanitary Sewer Rehabilitation project.

The Department currently has a Master Services Agreement (MSA) with LittleJohn Engineering Associates (LEA) approved February 2012. We have used the MSA for various projects, the most recent being the 2015 Sanitary Sewer Rehabilitation Project. This project is wrapping up and staff is ready to move forward with the next rehab project. Our new Engineering Technician, Matt Powers who transferred from Operations & Maintenance, has spent this year reviewing our CCTV database, pulling out the sewer mains with the worst defects and making rehabilitation recommendations for our next project. Staff has delivered this information to LEA and asked for a proposal for the design, construction administration and resident inspection for this work.

They have prepared preliminary estimates for the rehabilitation project in the amount of \$3M and provided a proposal in a lump sum amount of \$75,000 for design, in an amount not to exceed \$65,000 for construction administration and in an amount not to exceed \$124,000 for resident inspection. Staff intends to again have a staff inspector present during all aspects of the construction to train under the LEA representative in hopes to be able to minimize the need for inspection assistant for future projects.

This next project includes approximately 19 sewer main point repairs, 4,385 linear feet of open cut sewer main replacements, 15,500 linear feet of cured in place pipe (CIPP), 21 new manholes, 650 vertical feet of manhole lining and 132 sewer lateral linings. Staff would like to accept the proposal in the amount of \$264,000 and issue Task Order #20161017 to LEA to design the next project and have it ready to bid by the end of the year.

Staff recommended that the Board recommend to the City Council approval of the Engineering Task Order with LEA, through our Master Services Agreement, to design, bid, and provide construction administration and inspection not to exceed \$264,000. Bids for construction will be brought back to the Board for approval.

Funding for the Engineering Design will come from the 2016-2017 Budget. Funding for the construction will be from a combination of Rate Funded Budget and Working Capital Reserves from 2014/2015 to the present 2016/2017.

Total Budget Rehab Allocation 2014/2015 to 2015/2016 (1.25M/year)	\$2,500,000
<u>Total Reserve Rehab Allocation 2014/2015 (1M) to 2015/2016 (1.5M)</u>	<u>\$2,500,000</u>
Total:	\$5,000,000
Total Rehab Expenditures 2014/2015 to 2015/2016:	\$3,213,563*
Total Funds Remaining from 2014/2015 & 2015/2016:	\$1,786,437

The below table shows the estimated allocation going forward in 2016/2017:

Rehab Rate Funded Budget 2016/2017				
Total Budget	WO#	Project	Project Expenditure	Remaining 2016/2017 Budget
\$1,250,000 + \$1,786,437	????	2016/2017 Sewer Rehab Project	\$2,736,437	\$300,000
	????	2016/2017 Rehab Engineering & Inspection	\$300,000	\$0
Working Capital Reserves 2016/2017				
Total Budget	WO#	Project	Project Expenditure	Remaining 2016/2017 Reserves
\$1,500,000**	????	2016/2017 Sewer Rehab Project (Remaining)	\$263,563	\$1,236,437

*The expenditures include all of the construction and engineering costs for work order #'s 112.233,369,334, 466 and 142 as well as the current 2015 Rehabilitation project (WO #'s 466, 467 & 468). The final change order for this 2015 project will be brought to the Board for approval in the next couple of months.

** Recent revision to the Capital Improvements Plan for Reserves.

Kathy Nobles made a motion to approve. Ron Crabtree seconded. The motion unanimously passed.

Staff provided the Board a PowerPoint presentation reviewing the Working Capital Reserve Account in conjunction with FY2017-2021 Capital Improvements Plan (CIP).

The Murfreesboro Water and Sewer Department (MWSD) staff has drafted an updated 5-Year Capital Improvements Plan (CIP) from Fiscal Year (FY) 2017 through 2021. The primary focus of this preliminary draft is the capital improvements projected to be funded by working capital reserves. After receiving the FY15-16 draft estimate of the Department's working capital reserve amount of \$55,005,063 provided by Jobe Hastings, PLLC (JH), staff has been able to "reset" the amount of cash available in the Department's working capital reserve account and therefore provide a more updated accurate reflection of the Department's reserve balance.

The FY17-21 Capital Improvements Plan highlights three major project classifications:

1. Projects funded through Debt Service
2. Projects/Purchases funded through Rates
3. Projects/Purchases funded through Working Capital Reserves

The largest components of the FY17-21 CIP are those projects funded through working capital reserves. They are sub-classified as the following:

1. Water and Sewer Capital Improvement Projects
2. Transportation (Water/Sewer Improvements)
3. Sewer Rehabilitation
4. Information Technology Projects

Based on the available cash (designated and undesignated) minus the outstanding committed projects and sanctioned/pending projects, approximately \$24.87M of unassigned cash in reserves is determined available as of Oct 2016 (2nd quarter of FY17). When applying this to the FY17-21 CIP, and assuming projected additional FY17 reserve fund revenue and expenditures, a working capital account balance of available funds is estimated as \$29.21M at FY17 year-end. Subsequent year-end available reserve balances have been estimated over the 5-year CIP horizon.

When plotting that balance against the Department's 12 months operating expenses (i.e., the minimum allowable working capital reserve fund balance), the Board can see that current planned expenditures never go below the secured level. Operation expenses are assumed to increase at 2% annually over the 5-yr CIP. The 12 months' worth of O&M expense is considered a secured minimum balance for the working capital reserve account as approved at the December 17, 2013 Water and Sewer Board meeting through the adoption of the Water and Sewer Enterprise Fund Financial Management Policies. The City Council also approved these policies at their January 9, 2014 meeting.

The major expenditures within the 5-yr CIP are the funding for the Northeast Regional Pumping forcemain and pump station and the Biosolids processing equipment and storage addition. The bulk of these projects are expected to occur starting in FY18 and continuing through FY21. The amounts earmarked in the working capital reserve fund are based on costs associated with the Southeast Regional pumping station and preliminary estimates on biosolids processing equipment and storage. The total

earmarked funds for these projects are currently itemized at \$26.25M; however, this estimate is likely to change as more detailed study and design occurs.

The Northeast regional pump station would take all of the sewer flow from the east side of Memorial Blvd. between Northfield Blvd. and Compton Rd., allow the abandonment of three large pump stations, including the DeJarnette Lane pump station, and ease the surcharging flows that typically occur on the 21" Sinking Creek interceptor.

The biosolids processing equipment and storage addition would take our current biosolids process to a more sustainable platform with the closing of the Middlepoint landfill. Staff is hoping that there is an affordable way to take the biosolids generated at the Sinking Creek plant to a 100% beneficially reusable product by manufacturing Class A biosolids. Class A biosolids is a designation for dewatered and heated sewage sludge that meets U.S. EPA guidelines for land application with no restrictions. Thus, Class A biosolids can be legally used as fertilizer on farms, vegetable gardens, and can be sold to home gardeners as compost or fertilizer.

As is customary in presenting the 5-year Capital Improvements Plan, all debt funded and reserve funded projects are qualified insofar as they must come back before the Board for consideration and recommendation to City Council before expending any funds on them. The CIP is meant to chart out a road-map for the Board to see the Department's priority projects.

Under Other Business, the Board considered SSR, Inc. Engineering Work Order 16-41-016.0, Stones River WTP Improvements.

At the September 27, 2016 Water and Sewer Board meeting, the Board approved using working capital reserve funds, estimated around \$500,000, for the following repair and replacement projects at the Stones River Water Treatment Plant:

1. Replacement of the River Raw Water Intake Bar Screen
2. Repair of Pipe Gallery Leaks
3. Platform Installation for Access to make GAC Valve Actuator repairs.

All three of these projects require design and bidding assistance by Smith Seckman Reid, Inc. (SSR). As such, the Engineering Work Order was prepared itemizing the tasks and estimating the associated man-hours to assist MWSD in making the referenced repairs at the water plant.

Staff recommended the Board recommend to City Council approval of SSR Engineering Work Order 16-41-016.0.

The fiscal impact associated with the proposed Engineering task order is hourly not to exceed \$57,560. The funding is requested to come from the Department's working capital reserves; adequate funding exists to pay for the engineering services associated with the referenced repair and replacement projects.

Kathy Nobles made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

The Board considered a Work Directive for the TDOT Broad Street and Memorial Boulevard project.

In December 2013, TDOT opened bids for the above listed project. The project was awarded to Bell and Associates Construction, LP (Bell). The estimated completion date was May 31, 2016.

The Department signed contracts with TDOT for the construction of the water and sewer mains to be installed through their contract. Staff also executed a Local Government Investment Pool (LGIP) contract/account and deposited a total of \$1,055,893.58 into this account. Actual bid pricing for this work came in at a total of \$906,436.91. Since that time, there have been three Work Change Directives in the amount of \$125,791.62, which brought the Departments total to \$1,032,228.53.

Since the last work directive was approved, which was at the April 2015 Board meeting, Bell has completed the water and sewer main work. They have begun to build and complete the retaining walls which has allowed them to shift traffic and move toward construction of the bridge.

Recently, while Bell was digging out an area for the footing for the retaining wall that will extend along Broadmor Boulevard, they uncovered the existing and newly installed water main. Back when this water main was initially installed, the Department furnished a ductile iron pipe to Bell to install around the water main to serve as a casing for the portion of the existing water main that was under this footing. This casing was to be a safeguard for the pipe, but to also allow us access to the water main should something happen to it in the future underneath this footing.

The portion of existing pipe that was exposed, where the footing is to be installed, did not have the ductile iron casing pipe. This told staff that something in the design had changed with the retaining wall footing. Indeed, the footing was redesigned without our knowledge of the change.

Therefore, staff recommended that an 8" inserta valve be added to the scope of the Broad & Memorial project to have a proactive plan in place for this portion of water main under the retaining wall should something happen to this main in the future. If something were to happen, staff could isolate the portion of water main underneath the footing without customers being without water service. The purchase and installation of the 8" inserta valve will cost \$10,941.07.

Staff recommended the Board recommend to City Council approval of the Work Directive/Scope Change #4.

This project was funded from working capital reserves. The Department deposited \$1,055,893.58 into an LGIP (Local Government Investment Pool) Account to cover the costs associated with the water and sewer improvements being performed by the TDOT Contractor, Bell & Associates Construction, LP. This additional work will not require a change to the TDOT Contract since it does not exceed the amount deposited. This additional amount brings the Departments anticipated costs to \$1,043,169.60.

Ron Crabtree made a motion to approve. Dr. Carter seconded. The motion unanimously passed.

Staff presented and discussed the Water and Sewer Dashboard Performance for September 2016.

Staff presented the Financial Reports for the year ending August 31, 2016.

Staff proposed to combine the November and December Board meetings into one meeting due to the holidays. Therefore, the November 22nd meeting has been cancelled and the December 27th meeting has been rescheduled to Tuesday, December 6th.

There being no further business, the meeting was adjourned.

John Sant Amour, Chairman



... creating a better quality of life

MEMORANDUM

DATE: November 30, 2016
TO: Water and Sewer Board
FROM: Darren Gore, Doug Swann
SUBJECT: **Customer Refund – 976 New Salem Highway**

BACKGROUND

On October 31, 2002 a meter was installed at 976 New Salem Highway. In error, a meter that measured in gallons was installed versus the standard cubic foot meter. The customer has been billed at the cubic foot rate from meter installation in 2002 until the meter was changed in June of 2016 during our AMI implementation. A cubic foot contains 7.48 gallons of water. By billing for each gallon as if it were a cubic foot, the customer was billed 7.48 times what should have been charged.

Staff researched records back to January of 2008 to determine the amount of consumption for each month. We then calculated correct amounts for water, sewer, O&M and taxes that should have been charged. We calculated the difference between what was billed and what should have been paid. We extrapolated the amounts calculated back to November 1, 2002.

RECOMMENDATION

Staff requests that the Board approve a refund in the amount of \$22,471.34 to the customer, representing overcharges from November 2002 to June 2016.

FISCAL IMPACT

These funds will come from reserves.

ATTACHMENTS

Spreadsheet calculations for refund amount (Jan '08 thru June '16)

Month/Year	Billed	Correct	Difference	Water	Sewer	O&M	Tax
	Consumption	Consumption		Adjustment	Adjustment	Adjustment	Adjustment
Jan-08	1710	229	1481	40.59	49.48	13.33	3.96
Feb-08	1880	251	1629	44.63	54.40	14.66	4.35
Mar-08	1570	210	1360	37.27	45.43	12.24	3.63
Apr-08	2250	301	1949	53.41	65.10	17.54	5.21
May-08	2890	386	2504	68.60	83.62	22.53	6.69
Jun-08	2340	313	2027	55.54	67.71	18.24	5.42
Jul-08	2430	325	2105	57.68	70.31	18.95	5.62
Aug-08	1720	230	1490	40.83	49.77	13.41	3.98
Sep-08	2760	369	2391	65.51	79.86	21.52	6.39
Oct-08	2040	273	1767	48.42	59.03	15.91	4.72
Nov-08	2190	293	1897	51.98	63.37	17.07	5.07
Dec-08	2770	370	2400	65.75	80.15	21.60	6.41
Jan-09	7210	964	6246	171.14	208.62	56.21	16.69
Feb-09	2160	289	1871	51.27	62.50	16.84	5.00
Mar-09	1760	235	1525	41.78	50.93	13.72	4.07
Apr-09	2140	286	1854	50.80	61.92	16.69	4.95
May-09	2040	273	1767	48.42	59.03	15.91	4.72
Jun-09	2390	320	2070	56.73	69.15	18.63	5.53
Jul-09	2460	329	2131	58.39	71.18	19.18	5.69
Aug-09	1900	254	1646	45.10	54.98	14.81	4.40
Sep-09	2050	274	1776	48.66	59.32	15.98	4.74
Oct-09	1740	233	1507	41.30	50.35	13.57	4.03
Nov-09	1780	238	1542	42.25	51.50	13.88	4.12
Dec-09	1770	237	1533	42.01	51.21	13.80	4.10
Jan-10	1660	222	1438	39.40	48.03	12.94	3.84
Feb-10	1900	254	1646	45.10	54.98	14.81	4.40
Mar-10	1670	223	1447	39.64	48.32	13.02	3.86
Apr-10	2730	365	2365	64.80	78.99	21.29	6.32
May-10	710	95	615	16.85	20.54	5.54	1.64
Jun-10	1450	194	1256	34.42	41.96	11.31	3.36
Jul-10	1580	211	1369	37.50	45.72	12.32	3.66
Aug-10	1470	197	1273	34.89	42.53	11.46	3.40
Sep-10	1350	180	1170	32.04	39.06	10.53	3.12
Oct-10	2100	281	1819	49.85	60.76	16.37	4.86
Nov-10	1760	235	1525	41.78	50.93	13.72	4.07
Dec-10	1990	266	1724	47.24	57.58	15.52	4.61
Jan-11	2170	290	1880	51.51	62.79	16.92	5.02
Feb-11	1350	180	1170	32.04	39.06	10.53	3.12
Mar-11	1610	215	1395	38.22	46.58	12.55	3.73
Apr-11	1970	263	1707	46.76	57.00	15.36	4.56
May-11	1730	231	1499	41.06	50.06	13.49	4.00
Jun-11	1700	227	1473	40.35	49.19	13.25	3.93
Jul-11	1790	239	1551	42.49	51.79	13.96	4.14
Aug-11	1080	144	936	25.64	31.25	8.42	2.50
Sep-11	1950	261	1689	46.29	56.42	15.20	4.51

Month/Year	Billed	Correct	Difference	Water	Sewer	O&M	Tax
	Consumption	Consumption		Adjustment	Adjustment	Adjustment	Adjustment
Oct-11	1620	217	1403	38.45	46.87	12.63	3.75
Nov-11	1550	207	1343	36.79	44.85	12.09	3.59
Dec-11	1810	242	1568	42.96	52.37	14.11	4.19
Jan-12	1700	227	1473	40.35	49.19	13.25	3.93
Feb-12	1650	221	1429	39.17	47.74	12.86	3.82
Mar-12	2110	282	1828	50.08	61.05	16.45	4.88
Apr-12	1330	178	1152	31.57	38.48	10.37	3.08
May-12	1480	198	1282	35.13	42.82	11.54	3.43
Jun-12	1360	182	1178	32.28	39.35	10.60	3.15
Jul-12	1170	156	1014	27.77	33.85	9.12	2.71
Aug-12	1570	210	1360	37.27	45.43	12.24	3.63
Sep-12	1590	213	1377	37.74	46.01	12.40	3.68
Oct-12	1850	247	1603	43.91	53.53	14.42	4.28
Nov-12	1760	235	1525	41.78	50.93	13.72	4.07
Dec-12	2140	286	1854	50.80	61.92	16.69	4.95
Jan-13	2090	279	1811	49.61	60.47	16.30	4.84
Feb-13	2490	333	2157	59.10	72.05	19.41	5.76
Mar-13	1970	263	1707	46.76	57.00	15.36	4.56
Apr-13	1770	237	1533	42.01	51.21	13.80	4.10
May-13	2170	290	1880	51.51	62.79	16.92	5.02
Jun-13	2000	267	1733	47.47	57.87	15.59	4.63
Jul-13	2200	294	1906	52.22	63.66	17.15	5.09
Aug-13	2340	313	2027	55.54	67.71	18.24	5.42
Sep-13	3560	476	3084	84.50	103.01	27.76	8.24
Oct-13	2940	393	2547	69.79	85.07	22.92	6.80
Nov-13	2360	316	2044	56.02	68.29	18.40	5.46
Dec-13	2000	267	1733	47.47	57.87	15.59	4.63
Jan-14	2700	361	2339	64.09	78.12	21.05	6.25
Feb-14	2580	345	2235	61.24	74.65	20.12	5.97
Mar-14	1880	251	1629	44.63	54.40	14.66	4.35
Apr-14	3000	401	2599	71.21	86.80	23.39	6.94
May-14	2350	314	2036	55.78	68.00	18.32	5.44
Jun-14	1990	266	1724	47.24	57.58	15.52	4.61
Jul-14	2260	302	1958	53.65	65.39	17.62	5.23
Aug-14	1970	263	1707	46.76	57.00	15.36	4.56
Sep-14	2020	270	1750	47.95	58.45	15.75	4.67
Oct-14	2850	381	2469	67.65	82.46	22.22	6.60
Nov-14	1940	259	1681	46.05	56.13	15.13	4.49
Dec-14	2260	302	1958	53.65	65.39	17.62	5.23
Jan-15	2800	374	2426	66.46	81.02	21.83	6.48
Feb-15	2270	303	1967	53.88	65.68	17.70	5.25
Mar-15	9610	1285	8325	228.11	278.06	74.93	22.24
Apr-15	3820	511	3309	90.67	110.53	29.78	8.84
May-15	2100	281	1819	49.85	60.76	16.37	4.86
Jun-15	2200	294	1906	52.22	63.66	17.15	5.09

Month/Year	Billed Consumption	Correct Consumption	Difference	Water Adjustment	Sewer Adjustment	O&M Adjustment	Tax Adjustment
Jul-15	2410	322	2088	57.21	69.73	18.79	5.58
Aug-15	2090	279	1811	49.61	60.47	16.30	4.84
Sep-15	2610	349	2261	61.95	75.52	20.35	6.04
Oct-15	2700	361	2339	64.09	78.12	21.05	6.25
Nov-15	2070	277	1793	49.14	59.89	16.14	4.79
Dec-15	2050	274	1776	48.66	59.32	15.98	4.74
Jan-16	2270	303	1967	53.88	65.68	17.70	5.25
Feb-16	1930	258	1672	45.81	55.84	15.05	4.47
Mar-16	2770	370	2400	65.75	80.15	21.60	6.41
Apr-16	2360	316	2044	56.02	68.29	18.40	5.46
May-16	2510	336	2174	59.58	72.63	19.57	5.81
Jun-16	1990	266	1724	47.24	57.58	15.52	4.61
				5284.07	6441.17	1735.64	515.20

Total 13,976.08

of months above 102

per month 137.02

add'l months Nov '02-Dec '07 62

8,495.26

22,471.34



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MEMORANDUM

Date: December 6, 2016
To: Water and Sewer Board
From: Staff
Subject: **AMI Project Change Orders #2 and #3**

Background

The original project scope of the AMI project included replacement of all 5/8" to 2" water meters and an additional 25 large meters in the 3' to 6" range. All other large meters were to be retrofitted for AMI compatibility. As the project has progressed and all large meters have been evaluated, the scope of this work has changed.

Change Order No. 2

The original scope of 25 large meters to be replaced was reduced to 16. Of the 16, 11 were designated for replacement with Omni C2 meters which function with separate flow ports for low and high flow, thus improving their accuracy at low flow. These meters were more expensive than the originally specified Badger meters in this size range. Overall the change results in a \$1500 credit to the original contract amount.

Change Order No. 3

Sixty-three (63) additional 3"-6" meters have been found to be incompatible for AMI telemetry and must be replaced. Twenty-five (25) were right sized based on historical consumption records. The additional scope of large meter replacement is as follows:

- 1- 1" Badger PD (downsized)
- 5- 1.5" Badger PD (all downsized)
- 10- 2" Badger PD (all downsized)
- 25- 3" Sensus Omni C2 (9 downsized)
- 13- 4" Sensus Omni C2
- 8- 6" Sensus Omni C2

The equipment and installation cost associated with Change Order No. 3 is \$208,239. In addition, downsizing of 25 of these meters is estimated to reduce annual rates revenue by \$14,529.

Total Project Scope Modifications

The subsequent table presents the AMI project Scope Modifications to date including the herein described change orders. As is shown, these changes show a net credit of \$18,394 from the original contract price.

Recommendation

Staff is requesting Board approval of these actions.

Fiscal Impact

The anticipated annual revenue impact is a reduction of rates revenue by \$14,529.

AMI Project Scope Modifications				
Scope Change Directive	Description	Credit	Debit	Net
1 (CO#1)	Right Sizing of 2" meters to 1" and 1 1/2"	\$92,447		\$92,447
2 (CO#1)	Retrofit 120 Omni 2" meters	79,920		79,920
3	Change 60- 2" turbines to 2"PD	9,000		9,000
4	Provide fittings for 65- 2" turbines in 17" setters		7,500	-7,500
5	Purchase 3 additional handhelds		16,425	-16,425
6	Purchase 26 evap meters		6,034	-6,034
7	Retrofit 45 Omni 1 1/2" meters	21,960		21,960
8	Meter Salvage	51,765		51,765
9 (CO#2)	Reduce scope of large meter replacements in contract from 25-16	1,500		1,500
10 (CO#3)	Right size and replace 63 large meters (3"-6") that cannot be retrofit per contract		208,239	-208,239
Total		\$256,592	\$238,198	\$18,394



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MEMORANDUM

DATE: November 29, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Middle Point R/C Flyers Request to Use Portion of Coleman Farm
Consider Revocable License Agreement for Recreational Use

BACKGROUND

Mr. Gary Whitaker, the City's Planning Director was approached in May 2016 by the Middle Point R/C Flyers with a request to use a portion of the Coleman Farm for a radio controlled model airfield (see attached letter and exhibit). Mr. Whitaker has in turn requested that I approach the Board and City Council to consider this recreational use on the subject property.

Mr. David Ives, Assistant City Attorney, developed the attached Revocable License Agreement for Recreational Use and in my opinion affords the City and Department the appropriate safeguards in terms of liability and termination conditions should the Department decide on a different use or sale of the affected property.

This is the area of the Coleman farm is not utilized by the Department in any capacity. The reason for not irrigating this area with repurified water is due to the undulations in topography and close proximity to the East Fork Stones River and several small conveyances feeding the East Fork Stones. As a reminder, this section of the Coleman Farm was originally considered for the Public Safety training facility for the Fire and Police Departments that was ultimately approved and being constructed at the corner of Bridge Avenue and Salem Hwy.

RECOMMENDATION

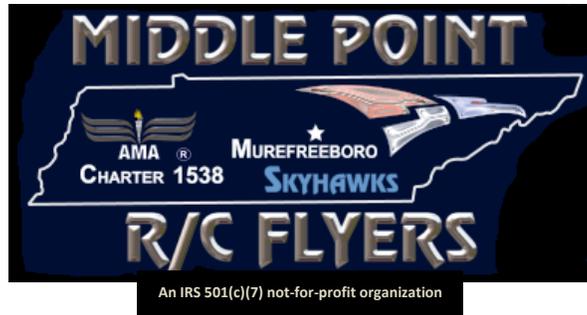
MWSD staff recommends the Board recommend to City Council approval of the Revocable License Agreement for Recreational Use on the Coleman Farm.

FISCAL IMPACT

There is no fiscal impact to the Department in approving this use on the Coleman Farm.

ATTACHMENTS

- May 23, 2016 letter to Gary Whitaker from Middle Point R/C Flyers
- Proposed Layout for Model Aircraft Field on Coleman Farm
- Revocable License Agreement for Recreational Use on Coleman Farm



**PO Box 11532
Murfreesboro, TN 37129**

May 23, 2016

Mr. Gary Whitaker
Planning Director
Murfreesboro Planning Department
111 W. Vine St.
Murfreesboro, TN 37130

Dear Mr. Whitaker,

Thank you for the time that you spent on Friday discussing the vacant city property located off of Central Valley Road. The Middle Point R/C Flyers model airplane club requests the City of Murfreesboro's consideration for the Middle Point R/C Flyers to locate a radio controlled model airfield on the Central Valley Road property.

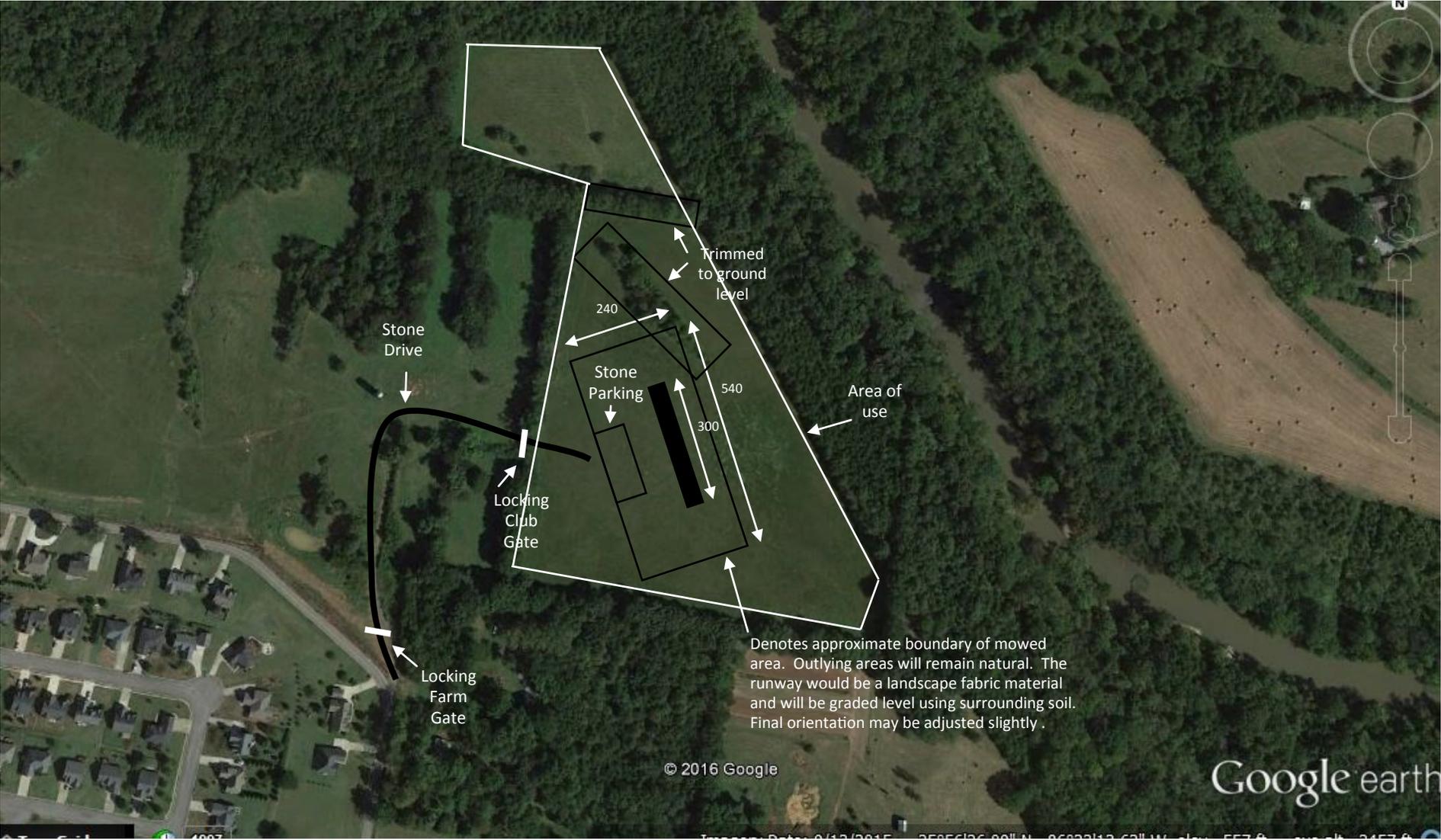
Please advise the steps necessary for us to move forward with this potential use. I am available anytime to discuss this project with you, or any other city official(s). If there are any questions regarding our request please feel free to contact me.

Thank you again for your time and consideration.

Sincerely,

Daniel Wandell
President
Middle Point R/C Flyers
615-439-8554
mprcflyers@gmail.com

Proposed Layout for Model Aircraft Field.



REVOCABLE LICENSE AGREEMENT FOR RECREATIONAL USE

The City of Murfreesboro ("City"), acting through its Water & Sewer Department ("Department") hereby, grants to the Murfreesboro Modelers Association, Inc., d/b/a Middle Point RC Flyers, a Tennessee non-profit corporation ("Club") a revocable license ("License") to access and use a portion of land known as the Coleman Farm for flying radio controlled model aircraft on the following terms and conditions.

1. The area licensed for such use ("Licensed Area") and the access way to and into such area are shown on Exhibit A to this License. City agrees that Club may place its padlock in the chain that secures the Club Gate identified on Exhibit A; Club agrees that the City may have a separate padlock on such chain and shall have access to the Licensed Area for any City purpose.
2. Club understands and agrees that the City may put a padlock in a chain securing the Farm Gate; City agrees that the Club may have a separate padlock on the Farm Gate to allow it access to the Licensed Area.
3. This License shall be for a term of five (5) years, and may be renewed for two (2) additional five (5) year terms unless sooner terminated by either party as provided in this License. Club shall pay to the Department \$10.00 per year, payable on November 1, 2016, and on November 1 of each following year, for the License.
4. Club has inspected the property and accepts the Licensed Area "as is" and with all faults. City and Department shall have no liability for any condition found on or at the Licensed Area or the access way. Club shall immediately notify Department of any defective or unsafe condition found at or on the Leased Area or the access way.
5. Club shall be responsible for collecting all trash, rubbish, litter or garbage from the site and removing it to appropriate facilities.
6. Club represents that it is a non-profit corporation duly incorporated and existing in the State of Tennessee. Club represents that the Licensed Area and access way will only be used for recreation by its members and their guests.
7. Club represents that it and each of its members and guests currently have and will at all times retain liability insurance coverage in an amount of not less than \$2,500,000. Club will add the City as an additional insured, and will provide an appropriate endorsement and Certificate of Insurance to City.
8. No signs or posters shall be placed on or near the property, excepting only
 - a. A permanent sign identifying the Club not exceeding 3 (three) square feet may be placed at or near the Farm Gate, and
 - b. A temporary sign not exceeding 16 sq. ft. may be placed at or near the Farm Gate when the Club is utilizing the Licensed Area.
9. Club represents and warrants that it will not discriminate against any person on any unlawful basis, including but not limited to sex, race, religion, national origin, or disability, and that its programs and activities will comply with the Americans with Disability Act.
10. Club shall indemnify and hold harmless the City, its officers, agents and employees from:
 - a. Any claims, damages, costs and attorney fees for injuries or damages arising, in part or in whole, from the negligent or intentional acts or omissions of Club, its officers,

- employees, agents and/or guests, in connection with activities or events under this License.
- b. Any claims, damages, costs and attorney fees arising from any failure of Club, its officers, employees, agents and/or guests, to observe applicable laws or ordinances.
 - c. Club shall pay City any expenses incurred as a result of Club's failure to fulfill any obligation in a professional and timely manner under the License.
11. Club is authorized, at its expense, to place gravel or crushed stone on the Stone Drive and to create a gravel or crushed stone parking area in the Licensed Area, both areas substantially as depicted on Exhibit A. Club shall be solely responsible for any necessary maintenance or repair of the Stone Drive, the parking lot, the area indicated as "mowed area," and the grass landing strip. All areas outside the "mowed area" and the Stone Drive will be left natural.
 12. Club is authorized, at its expense, to cut substantially to ground level and remove the trees within the "Tree Removal Area" identified on Exhibit A by such process and in such manner as may be approved by the City Engineer or designee.
 13. Club may terminate this License at any time by notifying the Department that it will cease utilization of the Licenses Area and access way.
 14. City may terminate this License by 30 days written notice to Club in the event of any of the following:
 - a. Department or City determining that the Licensed Area is reasonably necessary for use by any department or function of the City or the City elects to sell a portion of the property including the Licensed Area.
 - b. Club defaults in any obligation of Club under this License, or breaches any agreement contained in this License; City may, but shall not be required to, allow Club an opportunity to cure any default or breach.

This License shall be effective only after approval by the Water & Sewer Board and the City Council.

Murfreesboro Modelers Association, Inc.
d/b/a Middle Point RC Flyers

City of Murfreesboro
by Murfreesboro Water & Sewer Dept.

by _____
name _____
Its _____
date _____

by _____
Darren Gore, Director
date _____

Approved by Water & Sewer Board: _____

Approved by City Council: _____



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MEMORANDUM

DATE: November 30, 2016
TO: Water and Sewer Board
FROM: Valerie H. Smith
SUBJECT: Mainline & Lateral Launch CCTV Survey
LittleJohn Engineering Associates
Engineering Task Orders #20161117 & #20161116

BACKGROUND

The Department currently has a Master Services Agreement (MSA) with LittleJohn Engineering Associates (LEA) approved February 2012. We have used the MSA for various projects the most recent being the 2016 Sanitary Sewer Rehabilitation Project Design. For past rehabilitation project design, the Department has provided video and database information to LEA from two sources. One is from a previous outside closed circuit television (CCTV) contract and the other is from our own in house CCTV crews.

The Department has not utilized an outside CCTV contract to concentrate on wet weather CCTV since the winter months of 2014. Also in the past couple of years, staff has come to realize that the normal, daily operation of our own CCTV crews make it difficult to only concentrate our efforts on televising during wet weather. Not having the outside contract nor the time with our own crews to focus on wet weather CCTV is inhibiting our efforts for finding the defects that are allowing the Infiltration/Inflow (I/I) of groundwater into the sewer system and subsequently hindering design of our future sewer rehab projects.

Therefore, staff has requested two proposals from LEA for CCTV. One for the wet weather CCTV of our sewer mainlines, and the other for the CCTV of the public portion of sewer laterals (between the main and the property line or edge of easement) i.e. lateral launch.

The benefit of having wet weather CCTV completed by an outside company, allows our crews to concentrate on operations and maintenance. LEA has the personnel, expertise and time to make sure the City is receiving a quality finished product, i.e. video and database records of the defects, that will integrate into our current database files including mainline and laterals. This product is the “survey” needed to design future sewer rehabilitation projects.

Another benefit of the lateral launch is that the Department doesn’t currently have this technology. The lateral launch will not only give us a record of the integrity of the sewer laterals, but also allow the crew to locate the property line cleanout, if one exists to where it can be raised and utilized. The first 250 lateral launches that staff has designated are somewhat of a pilot study for us to determine the pros and cons of this type of CCTV. Staff has determined that there are approximately 7,500 cleanouts in the system that either are covered up or don’t exist. So this lateral launch CCTV may move into a full scale program for our laterals and cleanouts.

Water and Sewer Department

300 NW Broad Street * P.O. Box 1477 * Murfreesboro, TN 37133-1477 * Office: 615 890 0862 * Fax: 615 896 4259
TTY 615 848 3214 * www.murfreesborotn.gov

RECOMMENDATION

Staff recommends that the Board recommend to the City Council approval of the Engineering Task Orders with LEA, through our Master Services Agreement, for Sewer Mainline and Lateral Launch CCTV in amounts not to exceed \$75,000 and \$96,725.

FISCAL IMPACT

Funding for the Sewer Mainline CCTV (Task #1117) will come from the 2016-2017 Budget (OBJ 525407 - \$420,000) and funding for the Lateral Launch CCTV will be from remaining funds in Working Capital Reserves as shown below.

A combination of Rate Funded Budget and Working Capital Reserves from 2014/2015 to the present 2016/2017:

Total Budget Rehab Allocation 2014/2015 to 2015/2016 (1.25M/year)	\$2,500,000
<u>Total Reserve Rehab Allocation 2014/2015 (1M) to 2015/2016 (1.5M)</u>	<u>\$2,500,000</u>
Total:	\$5,000,000
Total Rehab Expenditures 2014/2015 to 2015/2016:	-- <u>\$2,787,751*</u>
Total Funds Remaining from 2014/2015 & 2015/2016:	= <u>\$2,212,249**</u>

The table below has been re-worked and corrected from last month’s meeting with regard to Budget and Working Capital Reserves and shows the estimated allocation going forward in 2016/2017. Amounts in red are corrected numbers.

Rehab Rate Funded Budget 2016/2017				
Total Budget	WO#	Project	Project Expenditure	Remaining 2016/2017 Budget
\$2,000,000	?????	2016/2017 Sewer Rehab Project (Est. \$3M)	\$2,000,000	\$0.00
Working Capital Reserves 2016/2017				
Total Budget	WO#	Project	Project Expenditure	Remaining 2016/2017 Reserves
\$2,212,249 + \$1,500,000***	????	Remaining 2016/2017 Sewer Rehab Project	\$1,000,000	\$3,711,249
	????	2016/2017 Rehab Engineering & Inspection	\$264,000	\$3,447,249
	????	Lateral Launch CCTV	\$96,725	\$3,350,524

*The expenditures include all of the construction and engineering costs for work order #'s 112.233,369,334, and 142 as well as the current 2015 Rehabilitation project (WO #'s 466, 467 & 468) to date.

**(\$712,248 + 1,500,000 from 2015/2016 Reserves)

*** Recent revision to the Capital Improvements Plan for Reserves.

ATTACHMENTS

LEA Proposal/ Task Orders #20161116 & 20161117

TASK ORDER NO. 20161116

To the AGREEMENT BETWEEN OWNER AND ENGINEER FOR PROFESSIONAL SERVICES

For LATERAL LAUNCH SURVEY – PILOT STUDY AREA

This Task Order made and entered into by and between **MURFREESBORO WATER AND SEWER DEPARTMENT**, hereinafter called the “OWNER” and **LITTLEJOHN ENGINEERING ASSOCIATES, INC.**, hereinafter called the “ENGINEER,” shall be incorporated into and become a part of the Agreement Between Owner and Engineer for Professional Services entered into by the parties hereto on the 28th of August 2012, (the “AGREEMENT”).

PURPOSE

This Task Order authorizes and directs the ENGINEER to proceed in providing to the OWNER professional engineering services for assisting OWNER in the assessment of service lateral connections and the associated location and condition of that portion of each sewer service lateral and cleanout owned by the City.

ENGINEER’S SCOPE OF SERVICES

The Scope of Services, dated December 6, 2016, is enumerated in Exhibit A. It is entitled “Lateral Launch Survey – Pilot Study Area” and consists of 2 pages.

COMPENSATION

As consideration for providing the services enumerated within Exhibit A of this Task Order, the OWNER shall compensate the ENGINEER in accordance with the AGREEMENT. The specific method and/or amount of compensation for this Task Order is enumerated in the attached Exhibit C.

TASK ORDER NO. 20161116

Exhibit A

Date: December 6, 2016

Owner: Murfreesboro Water & Sewer Department

Project Title Lateral Launch Survey – Pilot Study Area

Project Location Murfreesboro, TN

SCOPE OF SERVICES

Task I – Lateral Launch Survey

ENGINEER will coordinate and schedule 250 lateral launch surveys to be completed within areas of the collection system as designated by OWNER (NOTE: Additional laterals will be subject to a change in scope with associated fees). These lateral surveys will be conducted on the portion of the service laterals owned by the City, from the sanitary sewer mainline to the property line. All laterals surveyed will include a standard Lateral Assessment & Certification Program (LACP) inspection as defined by the National Association of Sewer Service Companies (NASSCO) to document structural deficiencies in the inspected pipeline segments, especially the observation of active inflow and infiltration, which will be utilized to develop a design project.

ENGINEER will create GIS maps for the project area based on information provided by OWNER. ENGINEER will coordinate with OWNER and the City Traffic Engineer to develop a project plan to complete the required surveys along City streets and roadways. ENGINEER will coordinate with OWNER to identify the streets in which work will take place. ENGINEER will coordinate with OWNER to provide notification to residents and property owners as needed throughout the project.

ENGINEER will provide the OWNER with a final database with the pipeline scoring as per NASSCO LACP standards summarizing any observations made during the survey. ENGINEER will provide owner with a summary report, in PDF format, for each segment inspected along with the associated video and photos. ENGINEER will provide a technical memorandum summarizing the findings and results of the project.

Schedule

Upon execution of the agreement, ENGINEER will begin to assemble project maps and develop a project plan to complete the work. ENGINEER will coordinate with OWNER and the City to identify access issues that might be addressed prior to beginning work. All field work will be completed prior to June 1, 2017.

TASK ORDER NO. 20161116

Exhibit B

OWNER'S RESPONSIBILITIES

The OWNER shall provide the ENGINEER with assistance in preconditioning or cleaning the line as available to facilitate work.

The OWNER shall assist the ENGINEER in coordination with the City traffic department to facilitate the project work to be completed along streets and roadways.

The OWNER shall provide the ENGINEER GIS data as needed to facilitate work throughout the project.

The OWNER shall provide access to properties and assist with coordinating with property owners as needed.

TASK ORDER NO. 20161116

Exhibit C

COMPENSATION

The ENGINEER will be compensated for the Scope of Services as follows:

The fee for **Task I – Lateral Launch Survey**, will be billed on an hourly basis at standard rates with a not-to-exceed maximum of \$96,725.00. All expenses incurred as part of completing this task will be billed at a rate of cost plus ten percent (10%). Expenses may include but are not limited to mileage, postage, printing, lodging, sustenance, etc. Sub-consultant services for field survey activities are reimbursable at cost, plus ten percent (10%).

The ENGINEER will bill monthly, based on the percentage of work completed each month. Unpaid invoices after 30 days will accrue service charges at 1 1/2% per month and include any costs of collections and reasonable attorney's fees.

IN WITNESS WHEREOF, the parties hereto have executed Task Order No. – 20161116
as a part of the “Agreement between Owner and Engineer for Professional Services-Task Order Edition”
on this, the 6th day of December 2016.

LITTLEJOHN – AN S&ME COMPANY

By: W. Scott McDonald

Printed: W. Scott McDonald

Title: Area Manager

WITNESS: Travis E. Wilson
By: _____

Printed: Travis E. Wilson

Title: Principal Project Manager

CITY OF MURFREESBORO

MURFREESBORO WATER & SEWER DEPARTMENT

By: _____

Printed: Mayor Shane McFarland

Title: Mayor

APPROVED AS TO FORM:

By: _____

Printed: Craig Tindall

Title: City Attorney

TASK ORDER NO. 20161117

To the AGREEMENT BETWEEN OWNER AND ENGINEER FOR PROFESSIONAL SERVICES

For 2017 WET WEATHER SURVEY PROJECT

This Task Order made and entered into by and between **MURFREESBORO WATER AND SEWER DEPARTMENT**, hereinafter called the “OWNER” and **LITTLEJOHN ENGINEERING ASSOCIATES, INC.**, hereinafter called the “ENGINEER,” shall be incorporated into and become a part of the Agreement Between Owner and Engineer for Professional Services entered into by the parties hereto on the 28th of August 2012, (the “AGREEMENT”).

PURPOSE

This Task Order authorizes and directs the ENGINEER to proceed in providing to the OWNER professional engineering services for assisting OWNER in the assessment of sanitary sewer pipelines during wet weather conditions such that a rehabilitation plan and design project might be developed to address inflow and infiltration within portions of the collection system.

ENGINEER’S SCOPE OF SERVICES

The Scope of Services, dated December 6, 2016, is enumerated in Exhibit A. It is entitled “2017 Wet Weather Survey Project” and consists of 2 pages.

COMPENSATION

As consideration for providing the services enumerated within Exhibit A of this Task Order, the OWNER shall compensate the ENGINEER in accordance with the AGREEMENT. The specific method and/or amount of compensation for this Task Order is enumerated in the attached Exhibit C.

TASK ORDER NO. 20161117

Exhibit A

Date: December 6, 2016

Owner: Murfreesboro Water & Sewer Department

Project Title 2017 Wet Weather Survey Project

Project Location Murfreesboro, TN

SCOPE OF SERVICES

Task I – Wet Weather Survey

ENGINEER will coordinate and schedule wet weather survey work to be completed within areas of the collection system as designated by OWNER, up to 35,000 linear feet of pipe from 6-inch to 24-inch pipe. (NOTE: Additional footage or larger diameter pipe will be subject to a change in scope with associated fees). All pipes surveyed will include a standard Pipeline Assessment & Certification Program (PACP) inspection as defined by the National Association of Sewer Service Companies (NASSCO) to document structural deficiencies in the inspected pipeline segments, especially the observation of active inflow and infiltration, which will be utilized to develop a design project. During the survey of each pipeline within the study area, associated manholes will be panned and videoed to document any active infiltration and/or visible structural deficiencies. The survey work will be completed within a window of time subsequent to a storm event resulting in an increase in flow. Upon review, ENGINEER will define this window of time based on historical flow monitoring data.

ENGINEER will create GIS maps for the project area based on information provided by OWNER. ENGINEER will coordinate with OWNER and the City Traffic Engineer to develop a project plan to complete the required surveys along City streets and roadways. ENGINEER will coordinate with OWNER to identify the streets in which work will take place. ENGINEER will coordinate with OWNER to provide notification to residents and property owners as needed throughout the project.

ENGINEER will provide the OWNER with a final database with the pipeline scoring as per NASSCO PACP standards summarizing any observations made during the survey. ENGINEER will provide owner with a summary report, in PDF format, for each segment inspected along with the associated video and photos. ENGINEER will provide a technical memorandum summarizing the findings and results of the project.

Schedule

Upon execution of the agreement, ENGINEER will begin to assemble project maps and develop a project plan to complete the work. ENGINEER will coordinate with OWNER and the City to identify access issues that might be addressed prior to beginning work. Since the work is strictly weather dependent, ENGINEER will begin review of the historical flow monitoring data to determine adequate rain events in which work can be conducted. Once acceptable weather conditions have been met, ENGINEER will facilitate the project work to be completed.

TASK ORDER NO. 20161117

Exhibit B

OWNER'S RESPONSIBILITIES

The OWNER shall provide the ENGINEER with assistance in preconditioning or cleaning the line as available to facilitate work.

The OWNER shall provide the ENGINEER with historical flow data (depth, velocity, flow, rain) within the project area in Excel format.

The OWNER shall provide the ENGINEER access to real-time flow data to assess flow response during CCTV inspections.

The OWNER shall assist the ENGINEER in coordination with the City traffic department to facilitate the project work to be completed along streets and roadways.

The OWNER shall provide the ENGINEER GIS data as needed to facilitate work throughout the project.

TASK ORDER NO. 20161117

Exhibit C

COMPENSATION

The ENGINEER will be compensated for the Scope of Services as follows:

The fee for **Task I – Wet Weather Survey**, will be billed on an hourly basis at standard rates with a not-to-exceed maximum of \$75,000.00. All expenses incurred as part of completing this task will be billed at a rate of cost plus ten percent (10%). Expenses may include but are not limited to mileage, postage, printing, lodging, sustenance, etc. Sub-consultant services for field survey activities are reimbursable at cost, plus ten percent (10%).

The ENGINEER will bill monthly, based on the percentage of work completed each month. Unpaid invoices after 30 days will accrue service charges at 1 1/2% per month and include any costs of collections and reasonable attorney's fees.

IN WITNESS WHEREOF, the parties hereto have executed **Task Order No. – 20161117**
as a part of the “Agreement between Owner and Engineer for Professional Services-Task Order Edition”
on this, the 6th day of December 2016.

LITTLEJOHN – AN S&ME COMPANY

By: W. Scott McDonald

Printed: W. Scott McDonald

Title: Area Manager

WITNESS: Travis E. Wilson
By: _____

Printed: Travis E. Wilson

Title: Principal Project Manager

CITY OF MURFREESBORO

MURFREESBORO WATER & SEWER DEPARTMENT

By: _____

Printed: Mayor Shane McFarland

Title: Mayor

APPROVED AS TO FORM:

By: _____

Printed: Craig Tindall

Title: City Attorney



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MEMORANDUM

DATE: December 1, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: Amendments to the Murfreesboro City Code, Chapter 33—Water and Sewers Ordinance Regarding Use of Septic Tank Effluent Pump (STEP) Systems

SUMMARY STATEMENT

Based on the Board’s recommendation for conditions for consideration for Septic Tank Effluent Pump (STEP) systems servicing City properties, and associated design guideline at the July 26, 2016 meeting, and the subsequent approval of the City Council on August 11, 2016, the following ordinance revisions are necessary for:

- 1) Collection of fees for treating sewerage through a STEP system. The proposed MWSD STEP rate structure would be recommended to align with CUD’s STEP rate structure which is a flat rate of \$28.00 per month plus \$2.00 per thousand gallons of all consumption; and,
- 2) Exclusion of single family units and single family unit equivalents from system development charges (a.k.a., connection fees) and special sanitary sewer assessment fees. Since these developments would not be “buying in” to the capacity of the central collection and treatment system, the aforementioned charges and fees should not be applied.

BACKGROUND

A proposed site off of Dilton-Mankin Rd just outside the City limits of Murfreesboro brought the need for the City of Murfreesboro to consider becoming operators of STEP systems. Staff investigated scenarios to provide conventional sanitary sewer services to the proposed development; however, the developer determined that servicing the site through a STEP system offered the best business case.

The primary role in MWSD accepting the responsibility of operating and maintaining a STEP system was to incentivize the voluntary request by the property owner to be annexed into the City of Murfreesboro and subsequently have the development built to City standards. As such, design guidelines were developed and approved, and now the appropriate fee structure must be adopted in City Code.

The attached draft ordinance addresses the collection of fees and exclusion of system development charges; however, additional minor modifications may be introduced to the ordinance prior to City Council adoption.

RECOMMENDATION

MWSD staff recommends the Board recommend to City Council approval of the draft ordinance amending the Murfreesboro City Code, Chapter 33—Water and Sewers, Sections 33-1, 33-32 and 33-50, regarding use of STEP systems.

FISCAL IMPACT

The fiscal impact associated with this approval allows for the collection of fees for the Department in owning, operating and maintaining a decentralized sewer treatment STEP system.

ATTACHMENTS

- DRAFT Ordinance 16-O-_____

ORDINANCE 16-O-00 amending the Murfreesboro City Code, Chapter 33—Water and Sewers, Sections 33-1, 33-32 and 33-50, regarding use of STEP systems.

WHEREAS, the Murfreesboro Water and Sewer Department worked jointly with City Planning and Engineering to develop conditions for consideration to provide decentralized sewer treatment services to City properties through a Septic Tank Effluent Pump (STEP) system; and

WHEREAS, the Murfreesboro Water and Sewer Department developed design guidelines for servicing City properties through a STEP system; and

WHEREAS, these conditions for consideration for STEP systems servicing City properties and associated design guidelines were recommended by the Water and Sewer Board on July 26, 2016; and

WHEREAS, these conditions for consideration for STEP systems servicing City properties and associated design guidelines were approved by the City Council on August 11, 2016; and

WHEREAS, collection of fees for treating customers' sewerage through a STEP system need to be established; and

WHEREAS, exclusion of single family units and single family unit equivalents from system development charges (a.k.a., connection fees) and special sanitary sewer assessment fees are necessary as no buy-in to the centralized treatment system is applied when STEP systems are employed for sewerage treatment.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MURFREESBORO, TENNESSEE, AS FOLLOWS:

SECTION 1. Section 33-1, Water and sewer rates and charges, of the Murfreesboro City Code is hereby amended at subsection (G)(1) by adding the following to the end of the subtitle after “public utility” and before the period, “and sewer treated through Murfreesboro's centralized treatment facility”.

SECTION 2. Section 33-1, Water and sewer rates and charges, of the Murfreesboro City Code is hereby amended at subsection (G)(2) by adding the following to beginning of the subsection before “Each residential sewer customer”:

“Sewer customers served metered water by a public utility and treated through a decentralized sewage treatment facility. Each sewer customer shall be charged a flat monthly rate of twenty-eight dollars (\$28.00) and a rate of \$2.00 per 1000 gallons (\$.002 per gal) of metered water consumption.”

SECTION 3. Section 33-32, Definitions and abbreviations, of the Murfreesboro City Code is hereby amended at subsection (A) by adding the following definitions alphabetically and renumbering definitions accordingly:

Centralized Wastewater Treatment Facility shall be in reference to the Sinking Creek Treatment Plant operating under National Pollutant Discharge Elimination System (NPDES) permit number TN0022586.

Decentralized Wastewater Treatment System shall mean any system that treats sewage and disposes of treated effluent through a system that is disconnected from the City's central Sinking Creek wastewater treatment plant. A decentralized

system's effluent will not be discharged under the City's National Pollutant Discharge Elimination System (NPDES) permit number TN0022586.

Recirculating Sand Filter shall mean a decentralized treatment system that Septic Tank Effluent Pump (STEP) discharges are collected, treated and land applied through a land application process such as a drip irrigation system.

Septic Tank Effluent Pump (STEP) shall mean a domestic sewage dual chamber holding tank with an effluent pump discharging sewage to the public sewer; primarily discharging to a Recirculating Sand Filter.

SECTION 4. Section 33-50, Sanitary sewer connection or tapping fees and house service fees or charges, of the Murfreesboro City Code is hereby amended at subsection (A)(1) by adding the following in a paragraph above "House service charges based on ROW width:":

"Any of the categories itemized above that discharge into a Decentralized Wastewater Treatment Facility (e.g., Recirculating Sand Filter) whose effluent is land applied through a drip irrigation system and whose assets have been dedicated to MWSD will not be subject to any sanitary sewer connection fees. Sewer connection fees may be assessed as set by resolution on a case-by-case basis should the decentralized wastewater treatment system be funded by MWSD and system development charges (i.e., capacity buy-in fees) required for recoupment of rate payer funded assets."

SECTION 5. That this Ordinance shall take effect fifteen (15) days after its passage upon second and final reading, the public welfare and the welfare of the City requiring it.

Passed:

1st reading _____

2nd reading _____

Shane McFarland, Mayor

ATTEST:

APPROVED AS TO FORM:

Melissa B. Wright
City Recorder

Craig D. Tindall
City Attorney

SEAL



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MEMORANDUM

DATE: November 28, 2016
TO: Water and Sewer Board
FROM: Darren Gore
SUBJECT: DRAFT 2016 J. Percy Priest Lake, Tennessee Water Supply Storage Reallocation Report and Associated DRAFT Water Supply Agreement

BACKGROUND

I have attached for your review the body of the J. Percy Priest Reallocation Report that we've been waiting on since 2009. It is still considered draft. I have also included the portion of Appendix A which is the draft revised water supply agreement that pertains to Murfreesboro only. I have not included the other appendices B-G as they are more technical in nature and would not garner as much interest from the Board. I would be happy to provide all appendices to you if you would like to review them.

The table below summarizes the impact to Murfreesboro, which can be found on pages 131-132 in the body of the report.

Supply User	Additional Withdrawal from JPP (MGD)	Additional Storage Reallocated (Ac-ft)	Lump Sum Cost of Storage	Annual O&M Cost	Total First Year Payment*	Total Storage Reallocated (Ac-ft)	Total Estimated Yield from JPP (MGD)
City of Murfreesboro	1.659	654	\$627,761	\$3,177	\$630,938	5738	14.565

To compare to the original reallocation report in November 2001, MWSD paid \$2,960,159 for 5,084 Acre-feet (\$582.25 per acre-foot) in 2003. This storage volume was supposed to yield 18.6 MGD during a critical drought period.

We are now given an estimate of a yield of 14.565 MGD for the additional cost of \$630,938 (\$964.74 per acre-foot) during a critical drought period. So to get the yield we thought we had in 2003, we would need to pay an additional \$1.5 million, approximately.

So on the surface, the payment of an additional \$630,938 doesn't seem that out of kilter; however, when you compare it to where we thought we were 13 years ago and what we would have to pay to get back to what we thought we had secured, it evokes some angst.

I know that the biggest issue is the Corps not crediting MWSD with 100% of our return flows (flows we put back in the reservoir from the Sinking Creek treatment plant.) That is a point of contention that I believe we should press and not relax on our position, as it would dramatically increase the yield the Corps

has estimated at 14.565 MGD. We have a meeting with the Corps on December 9th at Consolidated Utility District's office to review the draft study and draft agreement. The Board is more than welcome to attend. I will keep Board members informed as we move through the process and new contracts are formed.

RECOMMENDATION

MWSD staff is providing this to the Board as information only. Recommendations will be forthcoming as more information is gathered and consensus is reached on whether to execute a new water supply agreement based on the 2016 reallocation study.

FISCAL IMPACT

There is no immediate fiscal impact; however, should MWSD enter into the currently drafted water supply agreement based on the 2016 water reallocation report for J. Percy Priest Reservoir, an amount of \$627,621 would be paid as a lump sum, and an additional \$3,177 in annual operations and maintenance costs would be incurred.

ATTACHMENTS

- DRAFT 2016 J. Percy Priest Lake, Tennessee Water Supply Storage Reallocation Report (under separate cover)
- DRAFT 2016 J. Percy Priest Lake, Tennessee Water Supply Storage Reallocation Report – Draft Water Storage Agreement (under separate cover)
- King and Spalding Memo – Questions for Dec. 9th Corps of Engineers Meeting (under separate cover)



WATER AND SEWER ***DASHBOARD PERFORMANCE***

November/December 2016



MWSD FY2017-2021 CIP

NO.	PROJECT	2016-2017 2016 Issue	2017-2018 2017 Issue	2018-2019 2018 Issue	2019-2020 2019 Issue	2020-2021 2020 Issue	TOTAL
	Construction- Northeast Regional force main						\$0
	Construction- Northeast Regional pumping station						\$0
	Engineering, Resident Project Representation (4D)	\$200,000	\$200,000				\$400,000
	Process expansion to 24 mgd, Phase 4D	\$10,165,000	\$3,535,000				\$13,700,000
	TOTAL Capital Improvements funded from Debt Service	\$10,365,000	\$3,735,000	\$0	\$0	\$0	\$14,100,000

NO.	PROJECT	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	TOTAL
	Sewer rehab- Account 335	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$1,250,000	\$6,250,000
	Meters, Water/Sewer Taps, Hydrants - 280, 290, 300, 310	\$435,000	\$435,000	\$435,000	\$435,000	\$435,000	\$2,175,000
	Water lines- Account 320	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$1,750,000
	Sewer Lines - Account 330	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$1,750,000
	Water Plant Membrane Replacement Sinking Fund						\$0
	Biolsolids Processing Equip & Storage Sinking Fund	\$700,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,700,000
	Walter Hill Dam Repair/Remediation Sinking Fund		\$125,000	\$125,000	\$125,000	\$125,000	\$500,000
	Lift Station Replacement Sinking Fund	\$285,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,285,000
	NE Regional PS & FM Sinking Fund	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
	GAC Replacement	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$550,000
	Vehicle and Equipment Replacement	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$7,500,000
	TOTAL Capital Improvements funded from Rates	\$5,480,000	\$5,370,000	\$5,370,000	\$5,370,000	\$5,370,000	\$26,960,000

NO.	PROJECT	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	TOTAL
	W&S CAPITAL IMPROVEMENT PROJECTS						
	Misc FY16 Working Reserve Commitments	\$1,400,000					\$1,400,000
	Customer Service Area Security Renovations	\$750,000					\$750,000
	NE Regional Engineering Design	\$250,000	\$1,000,000	\$500,000	\$250,000	\$250,000	\$2,250,000
	NE Regional P.S.			\$2,500,000	\$5,000,000	\$2,500,000	\$10,000,000
	NE Regional Force Main			\$2,500,000	\$5,000,000	\$2,500,000	\$10,000,000
	Walter Hill Dam Repair/Remediation					\$500,000	\$500,000
	Lift Station Rehab/Replacement (#13)	\$500,000	\$1,000,000				\$1,500,000
	Lift Station Rehab/Replacement (#9) Ransom Dr.		\$650,000				\$650,000
	Water Resource Integration Plan (WRIP)	\$400,000					\$400,000
	WTP Membrane Replacement				\$650,000		\$650,000
	Biolsolids Processing Equipment & Storage Addition		\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$6,000,000
	Direct Potable Reuse Pilot		\$200,000				\$200,000
	Stones River Water Qual Sampling / NPDES Permitting	\$200,000	\$250,000	\$250,000	\$150,000	\$150,000	\$1,000,000
	WTP Bar Screen, Pipe Gallery Leaks, Actuator Access	\$200,000	\$300,000				\$500,000
	Subtotal CAPITAL PROJECTS	\$3,700,000	\$4,900,000	\$7,250,000	\$12,550,000	\$7,400,000	\$35,800,000
	TRANSPORTATION (Water/Sewer Imp.)						
	Bradyville Pike		\$500,000	\$500,000	\$500,000		\$1,500,000
	MT Blvd Widening- Greenland to Main	\$250,000					\$250,000
	Lytle St. Relocation (Ph1 & Ph2)	\$750,000	\$750,000				\$1,500,000
	SR 99 Widening- Old Fort to Cason Lane		\$500,000	\$500,000	\$500,000		\$1,500,000
	St. Clair St.		\$500,000				\$500,000
	John Rive Blvd & Rucker Lane		\$200,000				\$200,000
	Cherry Lane Repurified Main Extension (14,600 LF)		\$825,000	\$1,000,000			\$1,825,000
	Maney Avenue Reconstruction - Phase 2		\$250,000	\$250,000			\$500,000
	Wilkinson Pike Reconstruction (MCP to TL)		\$650,000				\$650,000
	Subtotal TRANSPORTATION PROJECTS	\$1,000,000	\$4,175,000	\$2,250,000	\$1,000,000	\$0	\$8,425,000
	REHABILITATION						
	Sewer Rehabilitation - Maintenance Contract	\$1,500,000	\$1,500,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,000,000
	INFORMATION TECHNOLOGY PROJECTS						
	Advanced Metering Infrastructure (AMI)	\$950,000					\$950,000
	IT/Computer Systems Hardware Upgrades	\$50,000	\$50,000	\$50,000	\$100,000	\$100,000	\$350,000
	Electronic Content Management (Scanning/Imaging)		\$150,000	\$150,000	\$150,000		\$450,000
	IT Design Services & Consulting	\$100,000	\$100,000	\$100,000			\$300,000
	Comp Maintenance Management System (CMMS)			\$400,000	\$400,000		\$800,000
	Subtotal INFORMATION TECHNOLOGY PROJECTS	\$1,100,000	\$300,000	\$700,000	\$650,000	\$100,000	\$2,850,000
	TOTAL Projects from Working Capital Reserves	\$7,300,000	\$10,875,000	\$11,200,000	\$15,200,000	\$8,500,000	\$53,075,000

PROJECTED RESERVE FUND BALANCE REVENUE (TAPS)	\$6,000,000	\$4,500,000	\$4,500,000	\$4,500,000	\$4,500,000
PROJECTED ENHANCED REVENUE FOR RESERVES	\$500,000	\$750,000	\$2,000,000	\$2,000,000	\$2,000,000
SINKING FUND DEPOSITS TO RESERVES FROM RATES	\$1,485,000	\$1,375,000	\$1,375,000	\$1,375,000	\$1,375,000
SECURED MIN. BALANCE FOR WORKING CAPITAL RESERVES	\$21,792,755	\$22,228,610	\$22,673,182	\$23,126,646	\$23,589,179
PROJECTED WORKING CAPITAL RESERVE BALANCE	\$51,000,453	\$46,750,453	\$43,425,453	\$36,100,453	\$35,475,453
FUNDS ABOVE SECURED MINIMUM BALANCE	\$29,207,698	\$24,521,843	\$20,752,271	\$12,973,807	\$11,886,274

**Preliminary Draft 5-YR CAPITAL IMPROVEMENTS PLAN (CIP)
STORMWATER UTILITY FUND, FY17-21**

NO.	PROJECT	Originator	2016-2017 2017 FY	2017-2018 2018 FY	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	TOTAL
			<i>Budget</i>	<i>Pro Forma</i>	<i>Pro Forma</i>	<i>Pro Forma</i>	<i>Pro Forma</i>	
	Neighborhood Projects (NP)							
NP-1	Memorial Blvd / Haynes Dr. Drainage Improvements	City Eng	\$75,000	\$150,000	\$125,000			\$350,000
NP-2	Mitchell-Nielson Drainage Project	City Eng	\$50,000	\$50,000				\$100,000
NP-3	Huntwood/Leaf Ave Neighborhood Drainage Imp.	City Eng	\$100,000	\$100,000				\$200,000
NP-4	Southern Meadows / Kimbro Woods Drainage Imp.	City Eng	\$200,000	\$400,000				\$600,000
NP-5	Liberty Dr. / Thatcher Trace Spring Box	City Eng		\$25,000	\$50,000	\$50,000		\$125,000
NP-6	Pennington Drive Drainage Repair/Upgrade (Added)	City Eng						\$0
NP-7	Gateway Pond Repair (Added)	Eng/MWSD						\$0
NP-8	Hardwood Drive Drainage Upgrade (Added)	City Eng	\$100,000	\$250,000				\$350,000
NP-9	Pacific Place/Riverrock Blvd Drainage Imp.	City Eng	\$0	\$150,000	\$200,000			\$350,000
	Subtotal		\$525,000	\$1,125,000	\$375,000	\$50,000	\$0	\$2,075,000
	Water Quality Improvement (Compliance) Projects (WQ)							
WQ-1	Town Creek Bioretention BMP's @ Cannonsburgh	MWSD	\$0	\$75,000				\$75,000
WQ-2	Molloy Lane Water Quality Pond	MWSD		\$100,000	\$100,000			\$200,000
WQ-3	Rosebank Springs Constructed Wetlands	City Eng	\$400,000	\$300,000				\$700,000
WQ-4	Lee's Branch Stream Restoration	City Eng		\$50,000	\$50,000	\$50,000	\$50,000	\$200,000
WQ-5	West Fork Stones River at Cason Trail; bank repair	MWSD						\$0
WQ-6	Bear Branch Water Quality Mitigation	City Eng	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
WQ-7	Sinking Creek Headwater protection BMP	City Eng	\$100,000	\$100,000	\$150,000	\$150,000		\$500,000
WQ-8	Todd's Lake Regional Wetlands Improvements	City Eng						\$0
WQ-9	Hooper's Bottom Regional Water Quality Project	City Eng	\$100,000	\$150,000	\$150,000	\$150,000	\$150,000	\$700,000
WQ-10	Lytle Creek/Ridgley Road Bacteriological Reduction (Added)	MWSD			\$50,000			\$50,000
WQ-11	Memorial Blvd/VA Pond Trash Rack (Added)	MWSD			\$50,000			\$50,000
WQ-12	Spence Creek Restoration	Eng/MWSD	\$100,000	\$25,000	\$25,000	\$25,000	\$25,000	\$200,000
	Subtotal		\$750,000	\$850,000	\$625,000	\$425,000	\$275,000	\$2,925,000
	Public Drainage/Streets Participation Projects (PD)							
PD-1	Maney Avenue Phase 2	City Eng						\$0
PD-2	Town Creek Conveyance (Murfree Springs to Cannonsburgh)	City Eng	\$800,000					\$800,000
PD-3	Maple St. Alley Permeable Paver Project	City Eng						\$0
	Subtotal		\$800,000	\$0	\$0	\$0	\$0	\$800,000
	Parks & Rec and School Participation Projects (PP)							
PP-1	Hobgood School Porous Pavers	City Eng						\$0
PP-2	McFadden LID Project	MWSD						\$0
PP-3	Parks and Rec Office/Ag Center Pervious Parking Lot	MWSD						\$0
PP-4	West Elementary School Porous Pavers/Outdoor Classroom	City Eng						\$0
PP-5	Hobgood School Pervious Pavers Phase 2	City Eng						\$0
PP-6	Black Fox School Pervious Pavers	City Eng						\$0
PP-7	Police HQ Sinking Creek Water Quality Project	City Eng						\$0
	Subtotal		\$0	\$0	\$0	\$0	\$0	\$0
	Watershed Planning Projects / Development Participation (DP)							
DP-1	Warrior Dr. Regional Stormwater BMP	MWSD						\$0
DP-2	Mercury Plaza Shopping Center Pervious Parking Conversion	City Eng						\$0
	Subtotal		\$0	\$0	\$0	\$0	\$0	\$0
	Totals		\$ 2,075,000	\$ 1,975,000	\$ 1,000,000	\$ 475,000	\$ 275,000	\$ 5,800,000

\$ 5,800,000

EFFECTIVE UTILITY MANAGEMENT
Financial Viability
MWSD WORKING CAPITAL ACCOUNT SUMMARY

ESTIMATED Working Capital at 10/31/16

Board Designated (System Dev, Assessments, etc) as of 6/30/16	\$	26,890,920
Undesignated Excess Funds as of 6/30/16		28,114,143
Estimated Reserve Revenue thru 10/31/16		4,108,000
Estimated Reserve Expenditures thru 10/31/16		(5,112,081)
		54,000,983

COMMITTED Reserves at 10/26/16

Pall Membrane Replacement (Rack #1)	168,500	
Misc SSR Work Orders, SRWTP	57,560	
Sewer Rehab Design (Littlejohn)	264,000	
New Chiller at SRWTP	123,622	
Department Participation - Sewer, Springfield Apt	45,813	
Bradyville Pike Utility Design - Neil-Schaffer	62,000	
Cherry Lane Sewer Master Plan - Wisner	17,000	
Aux Generator Intake, SSR Const Admin	20,760	
Auxiliary Raw Water P.S. Generator	480,800	
H-S Eng Services - St. Clair St. Imp	9,000	
Geotech Services for P.S. #13	13,500	
SEC Eng Services - John Rice Blvd Widening	6,500	
Pump Station #13 Replacement	1,515,000	
Amendment to Stones River Sampling	98,920	
Biosolids Master Plan	34,497	
John Bouchard - Fournier Press Install 15-06	291,709	
MR Systems - Fournier Press Install	27,593	
GAC Effluent Filter Actuator Replacement	4,500	
Wilkinson Pike Utilities Design	24,850	
Eng Design for Raw Water Aux Pumps Generator	3,697	
Sewer Rehab Projects (Littlejohn)	463,817	
Lytle St Ph2 Utility Design Services	3,120	
Engineering Services - Fournier Biosolids Press Repl	40,095	
Middle TN Blvd Utility Construction	96,271	
Lytle St. Utility Construction	87,734	
Westin Task Order #11 - AMI Implementation Support	78,440	
Water Resource Integration Plan (WRIP)	362,157	
Johnson Bailey Architect Fee (O&M, C/S)	22,172	
AMI Implementation	652,144	
E. & W. Fork Stones River Water Quality Sampling	125,741	
Pump Station #13 Replacement Design	19,220	
Additional Services Ph4D - SSR Amendment	26,615	5,247,347
		5,247,347

APPROVAL Requests at 12/6/16

Laterla Launch CCTV Sewer Rehab	96,725	
Customer Refund, 976 New Salem Hwy	22,471	
C.O. #3 Broad St. Pump Station Replacements	9,400	128,596
		128,596

BALANCE of Working Capital at 12/6/16 after COMMITMENTS **\$ 48,625,040**

DESIGNATED Projects Pending

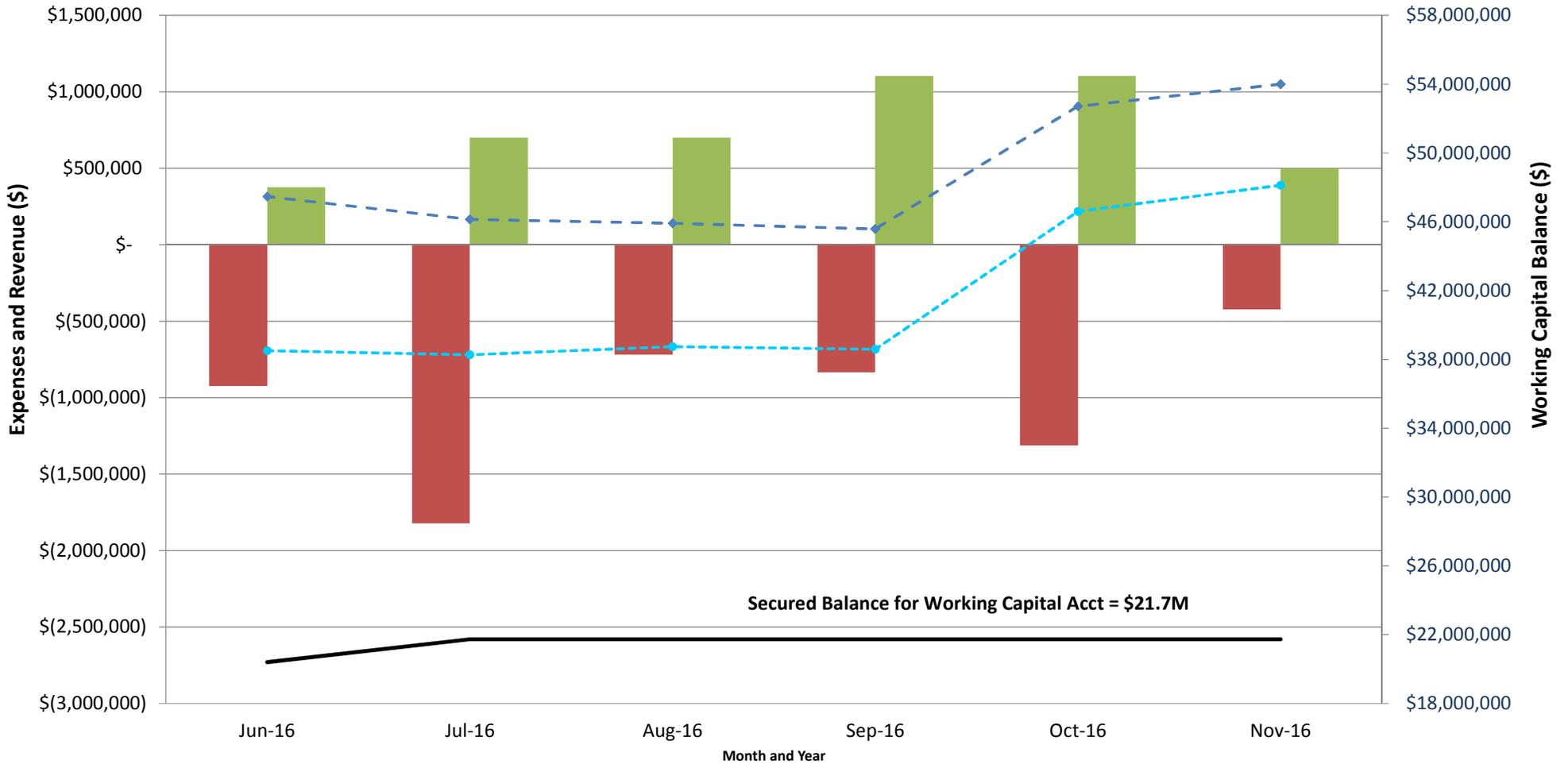
Bar Screen, Trough, Platform Repair @ WTP	500,000	500,000
		500,000

ESTIMATED UNCOMMITTED Working Capital Reserves as of December 6, 2016 **\$ 48,125,040**

SECURED FY16-17 Operating and Maintenance Expenses **\$ 21,729,755**

UNASSIGNED Working Capital Funds (Est. Uncommitted - Secured) **\$ 26,395,285**

MWSD Working Capital Reserves Dashboard

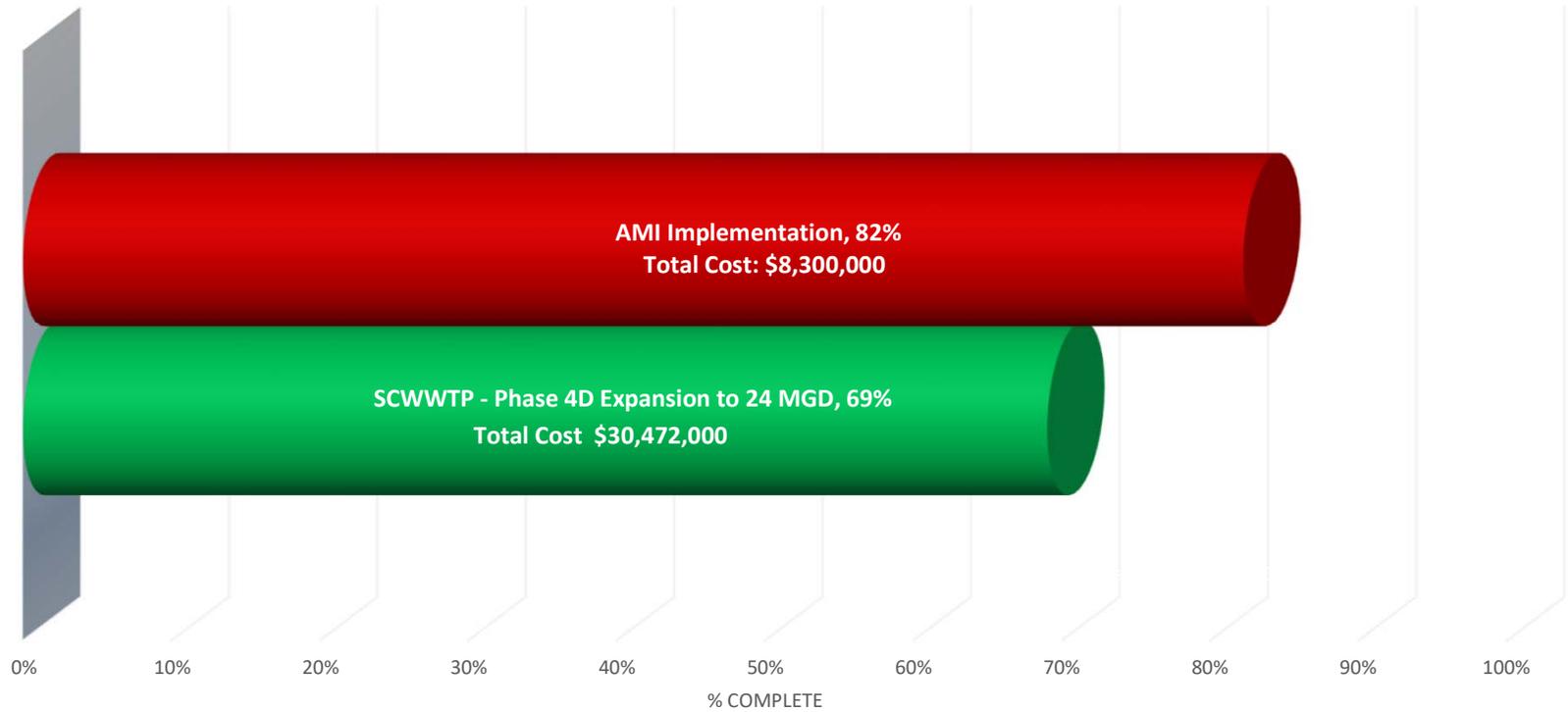


Secured Balance for Working Capital Acct = \$21.7M

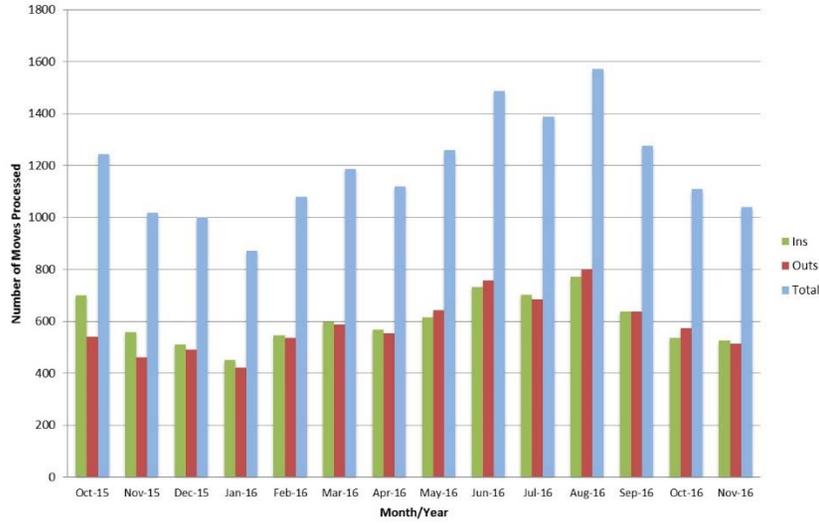
- Working Capital Expenses
- Estimated Working Capital Revenues
- ◆— Estimated Working Capital Balance
- Estimated UNCOMMITTED Working Capital Balance
- Secured Working Capital Reserve

DASHBOARD PERFORMANCE - NOVEMBER 2016

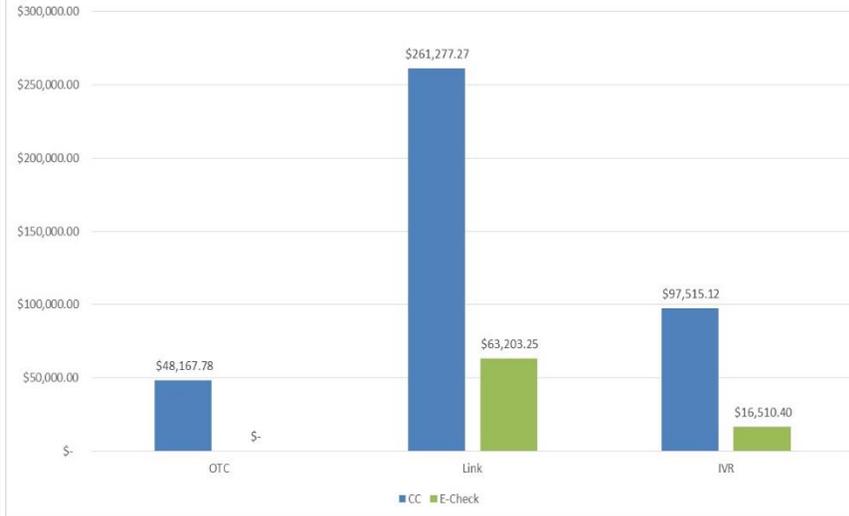
CAPITAL PROJECTS



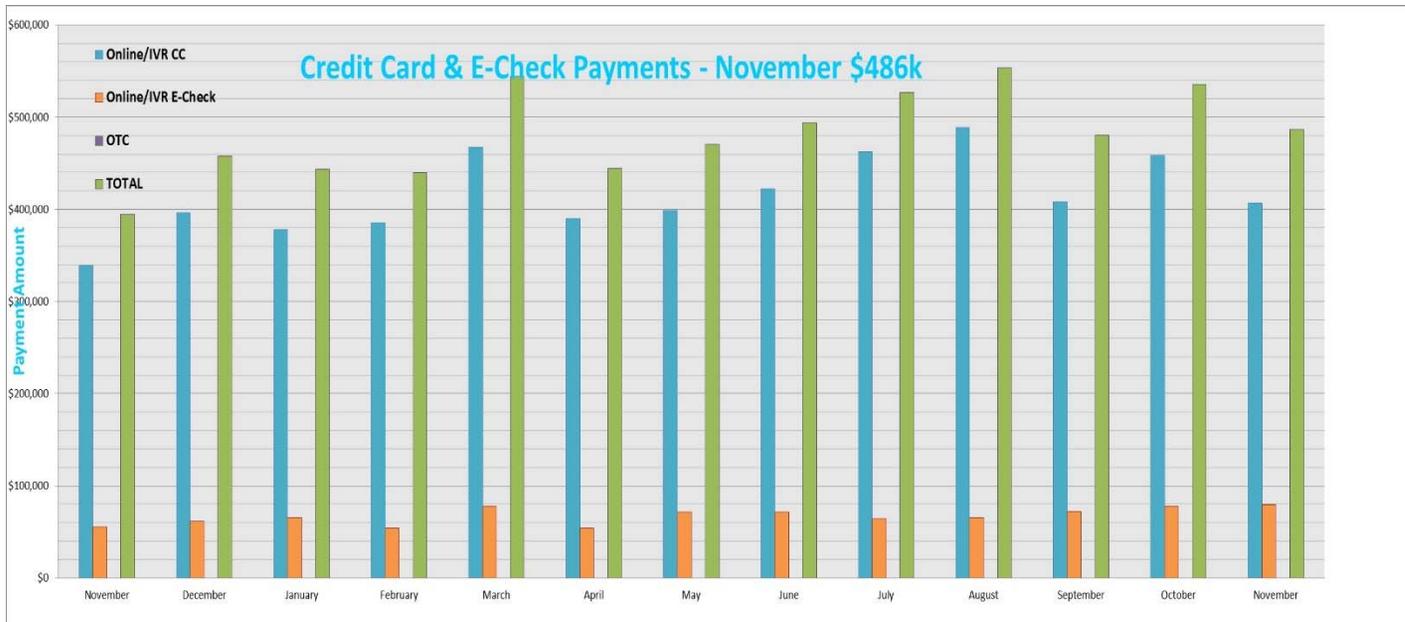
November Moves Processed = 1,041

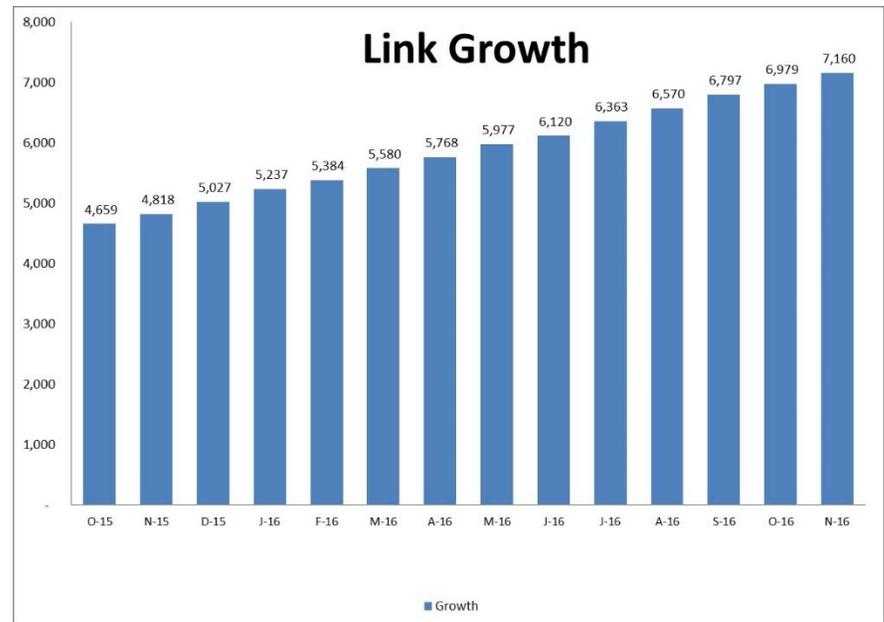
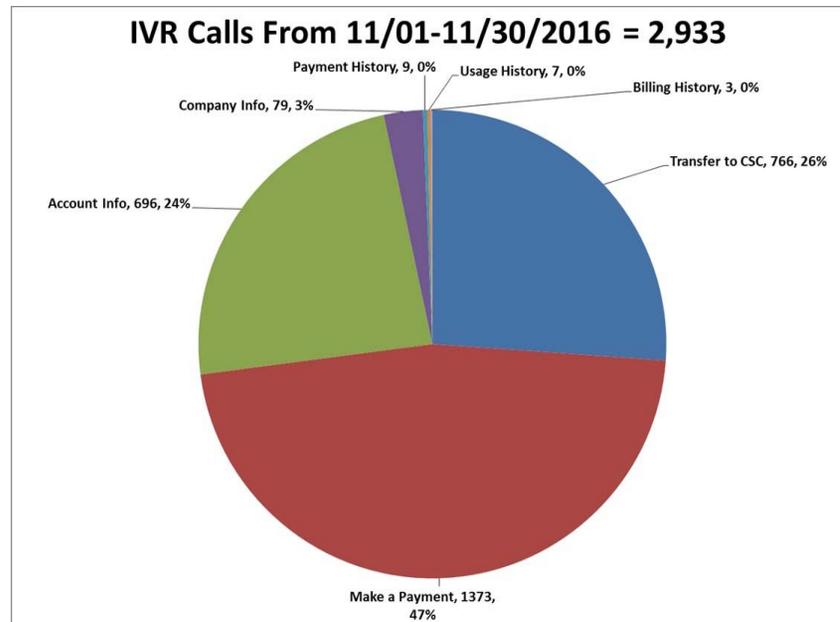
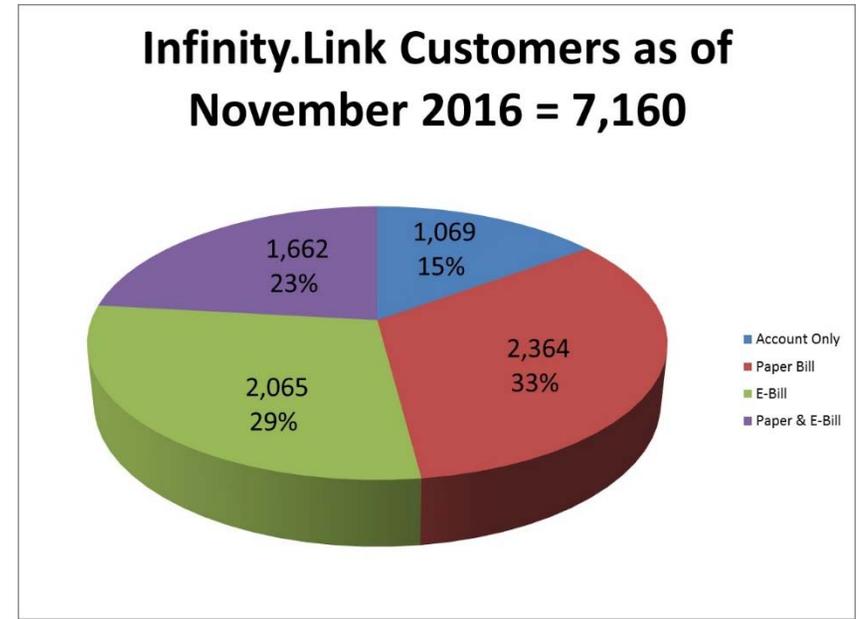
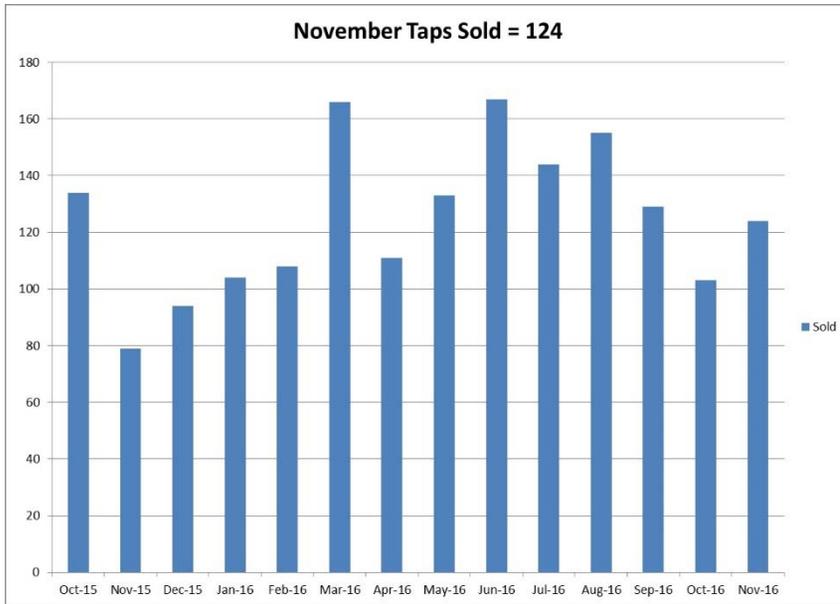


Electronic Payment Method November 2016

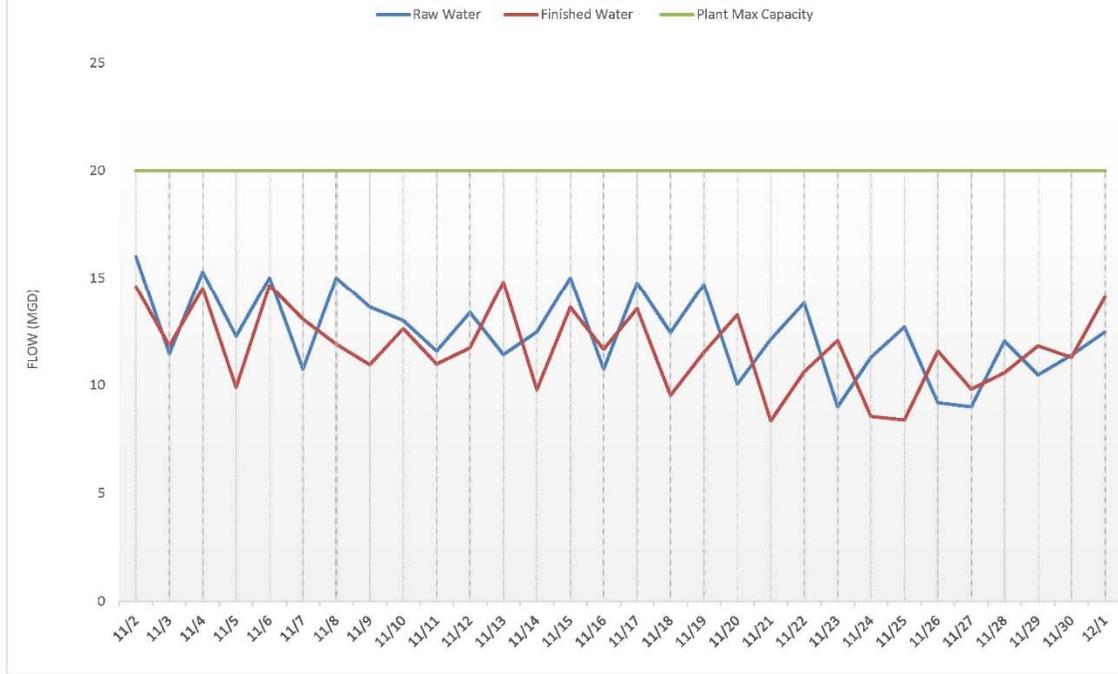


Credit Card & E-Check Payments - November \$486k

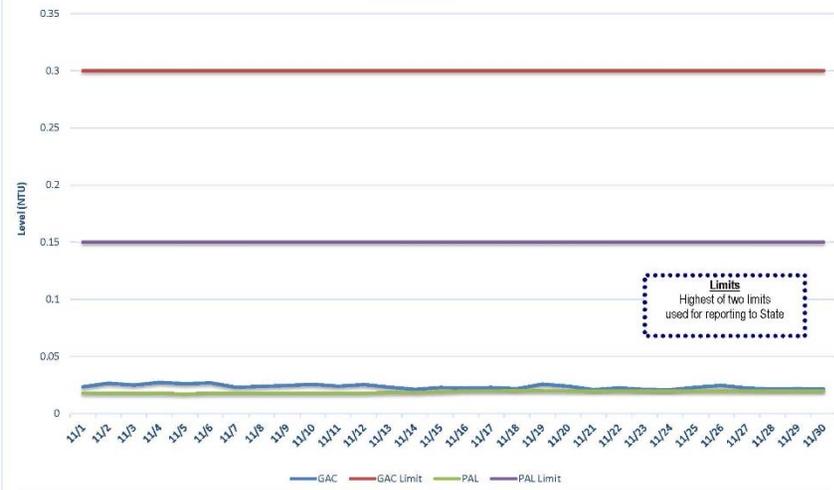




Dashboard Performance for November 2016 Stones River Water Treatment Plant



Turbidity Levels



Lake and River Flow Levels



State Report Coversheet

Month/Year Reported

October 2016

Name of Water Utility Murfreesboro Water & Sewer Department
 Name of WTP Stones River Water Treatment Plant
 County Rutherford
 PWSID 0000491
 Laboratory ID 00450

Bacteria	Total Number of Bacteria Samples for Month	100
Disinfection	Number of Samples	100
	Number of days plant operated	31
	Lowest Residual in Distribution System	1.20
	Lowest Residual Entering Distribution System	1.85
	Average Plant Effluent	3.2
Turbidity	Total Hours Planted Operated	741
	Number of Samples	186
	Maximum Turbidity	0.14
Flow	Average Raw Water Flow	13628
	Maximum Raw Water Flow	17433
Pumpage Data	Total Water Pumped (Lake)	217,774.001
	Average Water Pumped (Lake)	7,024.968
	Maximum Day (Lake)	11,449.000
	Minimum Day (Lake)	2,710.000
	Total Water Pumped (River)	204,698.631
	Average Water Pumped (River)	6,603.182
	Minimum Day (River)	3,413.400
Water Statistics	Water Treated (Raw)	422,472.632
	Water Pumped (Finished)	398,968.562
	Water Transfer - to Murfreesboro (Smyrna, CUD)	0.000
	Water Metered (Sales, OM/Hydrant)	277,267.847
	Water Metered (Vacant Accounts, Fire Protection)	41.188
	Accounted For Water - (Flushing O&M/Eng, Fire, Street)	2,712.410
	Accounted For Water - (Flushing WTP)	969.505
	Process Water (Distribution,Tank,Water Plant)	11,571.615
	Water Transfer - to CUD	0.000
	Water Transfer - to Smyrna	0.000
	Total Accounted For Water	292,562.565
	Non Revenue Water	106,405.997
	Water Loss - Percentage	26.7%
Water Cost Per 1,000 gallons		

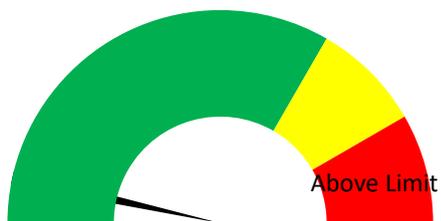
Subtotals		
0	0	
277,267.847	0.000	
0.000	41.188	
2362.5	330.11	19.8
969505		
587.76	0	10983.85

Reports Needed:

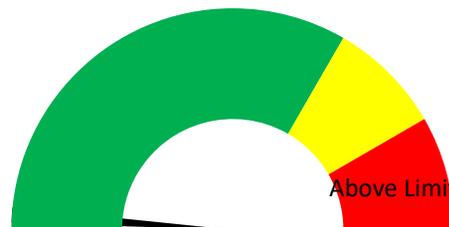
- MOR - Page 1 & 2 **DECEMBER Check YEAR!**
- Distribution
- Monthly Disinfectants Monitoring Report - Page 1 & 2
- Filter Performance Report
- Filter Turbidity Exceedance Report (Only if the filter turbidity exceeds standards)
- Monthly Microbiological Monitoring Report/Disinfectant Monitoring
- TOC & Enhanced Coagulation Report (Quarterly ADDED Data in March, June, September, December)
- Pumpage Data Report
- Bacteria Detail Report (**Check for POSITIVE Bacteria**)
- Flow to/from Smyrna to Smyrna, Dashboard Data to Pamela, Raw Flow to Debbie, PALL Turb to SS Indirect IT Folder, Dist Sheet to Randy
- Copy of Chemicals sheet to Debbie Crocker, Data to WaterLossMonthlyTotals (\\172.19.195.31\ShareA\Admin\Water Loss and Unaccounted for Water)
- Close out and lock Operator Log, convert to PDF, Add to SS Operator Log Folder
- High Service Dist. Monitor Logs to SS Folder
- PALL Data Logs to S3 and HS1 archives to S3
- BE-BH Correction on RAW Sheet/ **AUTOMATIC FLUSHING to KIM**

Dashboard Report October 2016

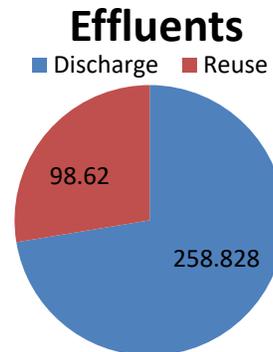
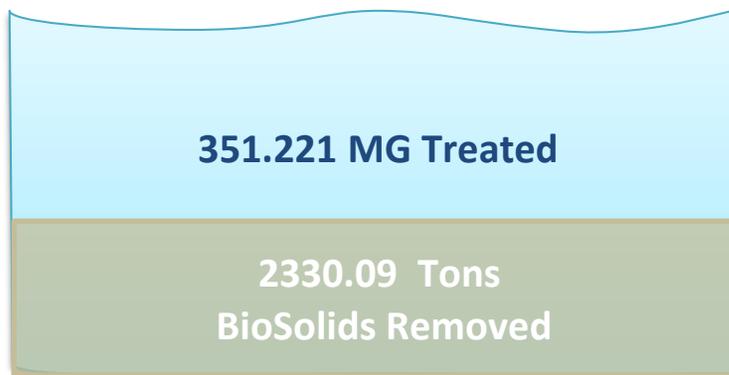
Sinking Creek Wastewater Treatment Plant



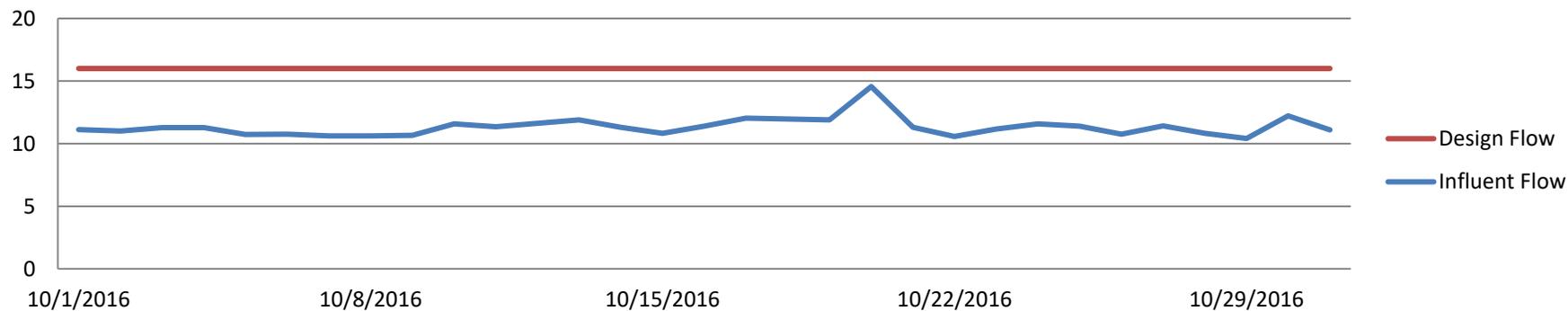
**100%
Removal
BOD**



**99.97%
Removal
NH3**

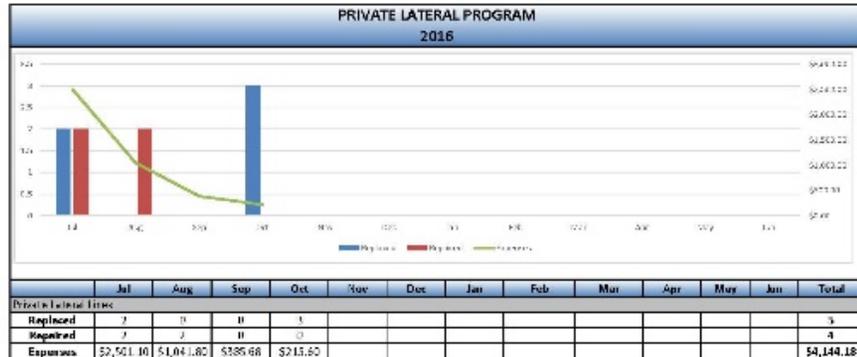
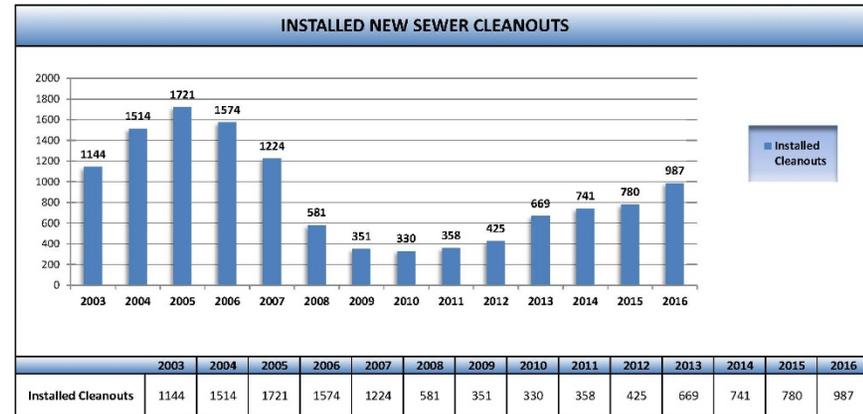
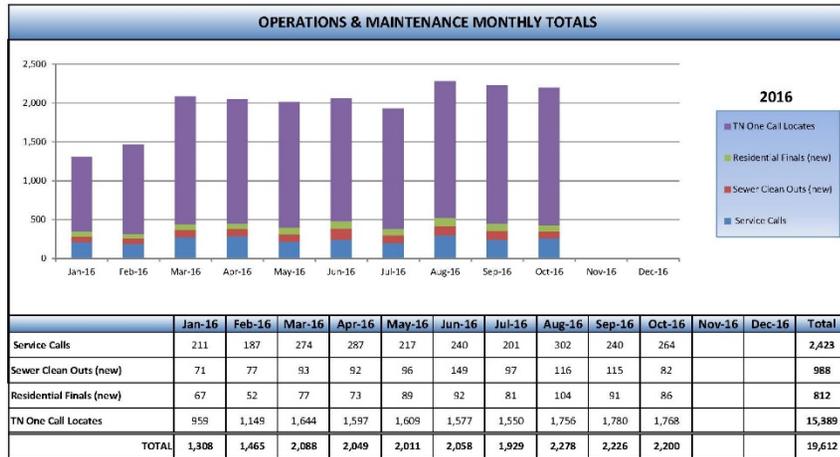


Average Influent Flow



Operations and Maintenance Dashboard

October 2016



ASPHALT MONTHLY QUOTES 2016

Date	Product	Hawkins	Hoover	Lojac	Other	Notes
May	Fine BM	\$50.93	N/A	\$52.25		Hawkins
	Topping	\$54.18	N/A	\$53.00		Lojac
	BM Binder	N/A	\$50.79	N/A		Hoover
June	BM Binder	\$50.50	\$51.00	\$55.78		Hawkins
	Binder	\$50.80	\$51.43	\$54.18		Hawkins
July	Topping	\$58.60	\$59.03	\$62.19		Hawkins
	Binder	\$51.00	\$51.28	\$54.00		Hawkins
August	Binder	\$51.00	\$51.28	\$52.24		Hawkins
September	Binder	\$51.00	\$51.28	\$52.00		Hawkins
October	Binder	\$51.00	\$51.28	\$52.00		Hawkins
	Topping	\$58.00	\$58.83	\$60.00		Hawkins

PURCHASES

Date	Vendor	Hawkins	Hoover	QTY	Total	Approval	Notes
4/14/2016	Lojac	Cold Mix	\$73.00	40.22	\$2,789.26	Taylor	Single source
4/27/2016	Hawkins	Fine BM	\$52.04	43.89	\$2,284.04	Taylor	Single source
5/3/2016	Hawkins	Fine BM	\$50.93	89.85	\$4,576.06	Taylor	
5/4/2016	Lojac	BM	\$52.25	86.12	\$4,499.77	Taylor	Hawkins closed
5/11/2016	Lojac	Binder	\$46.25	99.55	\$4,145.05	Taylor	
5/13/2016	Hoover	BM Binder	\$50.79	19.98	\$1,014.78	Taylor	Single source
6/6/2016	Hawkins	BM Binder	\$50.50	63.80	\$3,221.90	Taylor	
6/9/2016	Hawkins	BM	\$50.50	305.44	\$15,424.72	Taylor	
6/21/2016	Hawkins	Fine BM	\$50.50	15.88	\$801.94	Taylor	
6/22/2016	Hawkins	Fine BM	\$50.50	12.07	\$609.54	Taylor	
7/8/2016	Hawkins	Topping	\$58.60	81.88	\$4,798.17	Taylor	
8/23/2016	Hawkins	Topping	\$58.60	10.01	\$549.75	Taylor	
9/21/2016	Lojac	Binder	\$61.00	10.35	\$556.21	Hughes	
9/27/2016	Hawkins	Binder	\$51.00	91.55	\$4,669.05	Hughes	
9/28/2016	Hawkins	Binder	\$51.00	4.19	\$213.69	Hughes	
10/25/2016	Lojac	BM	\$52.00	108.61	\$5,647.72	Hughes	
10/31/2016	Hawkins	BM	\$51.00	390.23	\$21,403.35	Hughes	
10/31/2016	Hawkins	411-E	\$58.00	27.89	\$116.00	Hughes	



DASHBOARD REPORT

Operations & Maintenance

July 2016 - June 2017

DISTRIBUTION SYSTEMS

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Water Pipe (ft)													
1" Copper	0	0	210	135									345
2" Copper	0	0	78	0									78
Maintenance													
Fire Hydrants (New)	0	9	0	5									14
Fire Hydrants (Blow off)	5	0	0	0									5
Main Water Line Damage	1	4	0	0									5
Main Water Line Leak	2	4	1	7									14
Taps (New)	35	17	10	7									69
Stubs (New)	0	0	0	0									0
Tap (Replacements)	1	2	0	4									7
Meter Connections	12	6	9	4									31

COLLECTION SYSTEMS

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Maintenance													
Sewer Cleanouts (New)	97	116	115	82									410
Sewer Cleanouts (GIS Located)	2	3	2	1									8
Televised Lines & Line Cleaning (ft)													
TV Lines	23,095	27,025	16,719	33,123									99,962
TV Lines (Warranty)	0.00	0.00	0.00	0.00									0.00
TV Laterals	757.00	607.00	999.00	828.00									3,191.00
Line Cleaning	56,287.50	12,614.00	52,576.60	99,055.00									220,533.10
Sewer Rehab													
Maintenance Projects	5	9	14	7									35
Lateral Replacement Pipe (ft)	54	100	70	61									285
Restoration	20	22	16	11									69
Private Lateral													
Laterals Replaced	2	0	0	3									5
Laterals Repaired	2	2	0	0									4
4" SDR-35 (ft)	83	0	0	151									234
6" SDR-35 (ft)	13	8	0	6									27
Stormwater - Televised Lines & Line Cleaning (ft)													
TV Lines	0	0	0	0									0
Line Cleaning	0.00	0.00	2,815.00	0.00									2,815.00



DASHBOARD REPORT

Operations & Maintenance

July 2016 - June 2017

COLLECTION & DISTRIBUTION SYSTEMS

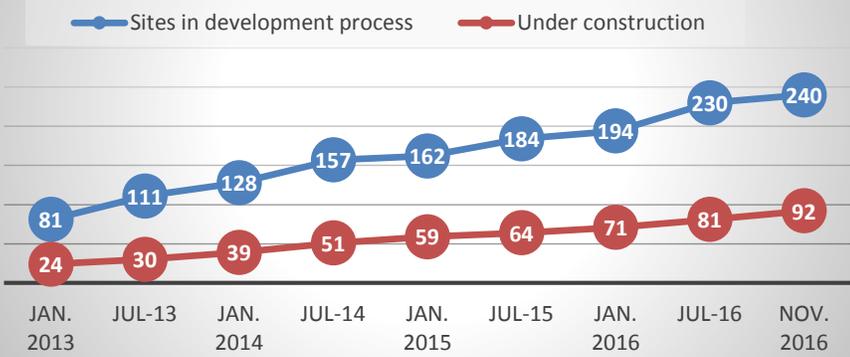
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
SERVICES													
Service Calls	201	302	240	264									1,007
TN One Call Locates	1,550	1,756	1,780	1,768									6,854
Inspections (Water & Sewer)	82	134	119	93									428
Inspections (Finals)	81	104	91	86									362
Total	1,914	2,296	2,230	2,211	0	0	0	0	0	0			8,651
PAVING (tons)													
Asphalt	81.88	10.01	106.09	536.73									734.71
Stone	1,293.53	3,542.14	1,839.28	2,288.51									8,963.46

NEW CONSTRUCTION

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Water Pipe (ft)													
6" C-900	0	0	160	0									160
8" C-900	0	0	1,105	0									1,105
6" Ductile Iron	0	0	21	0									21
8" Ductile Iron	0	0	14	0									14
1" Copper	345	0	0	441									786
2" Copper	0	0	0	0									0
Total	345	0	1,300	441	0	0	0	0	0	0			2,086
Sewer Pipe (ft)													
6" SDR-35 (PVC)	157	513	4	0									674
8" SDR-35 (PVC)	380	994	0	0									1,374
6" Ductile Iron	0	0	0	0									0
8" Ductile Iron	0	0	0	0									0
Total	537	1,507	4	0	0	0	0	0	0	0			2,048
Maintenance													
Tap (Replacements)	0	0	0	13									

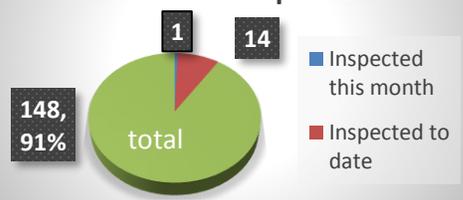
Stormwater Dashboard – November 2016

Construction Phase Inspections of Stormwater Control Measures (SCMs)



Inspection Program

Stormwater Post Construction Inspections

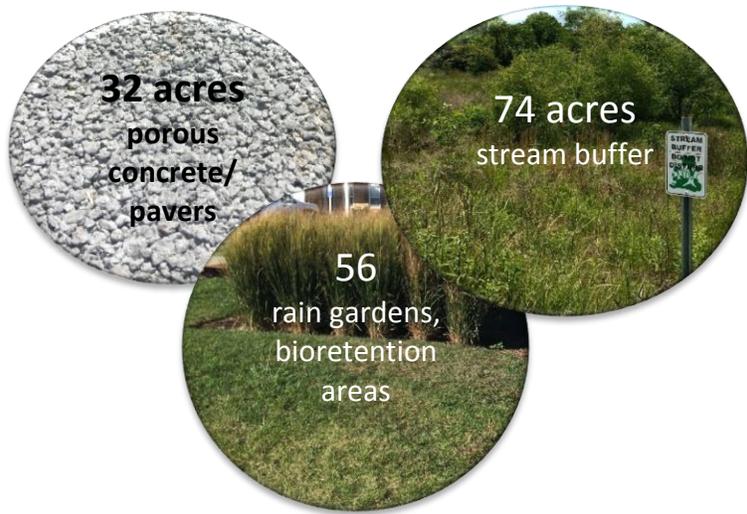


Resident Interactions

Complaints/Consultations



LID/ Green Infrastructure



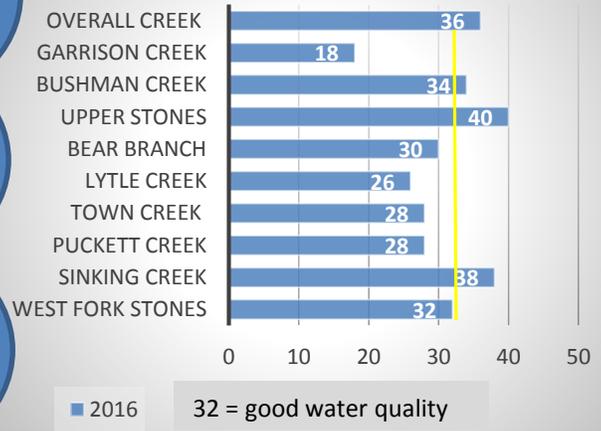
Water Quality Efforts

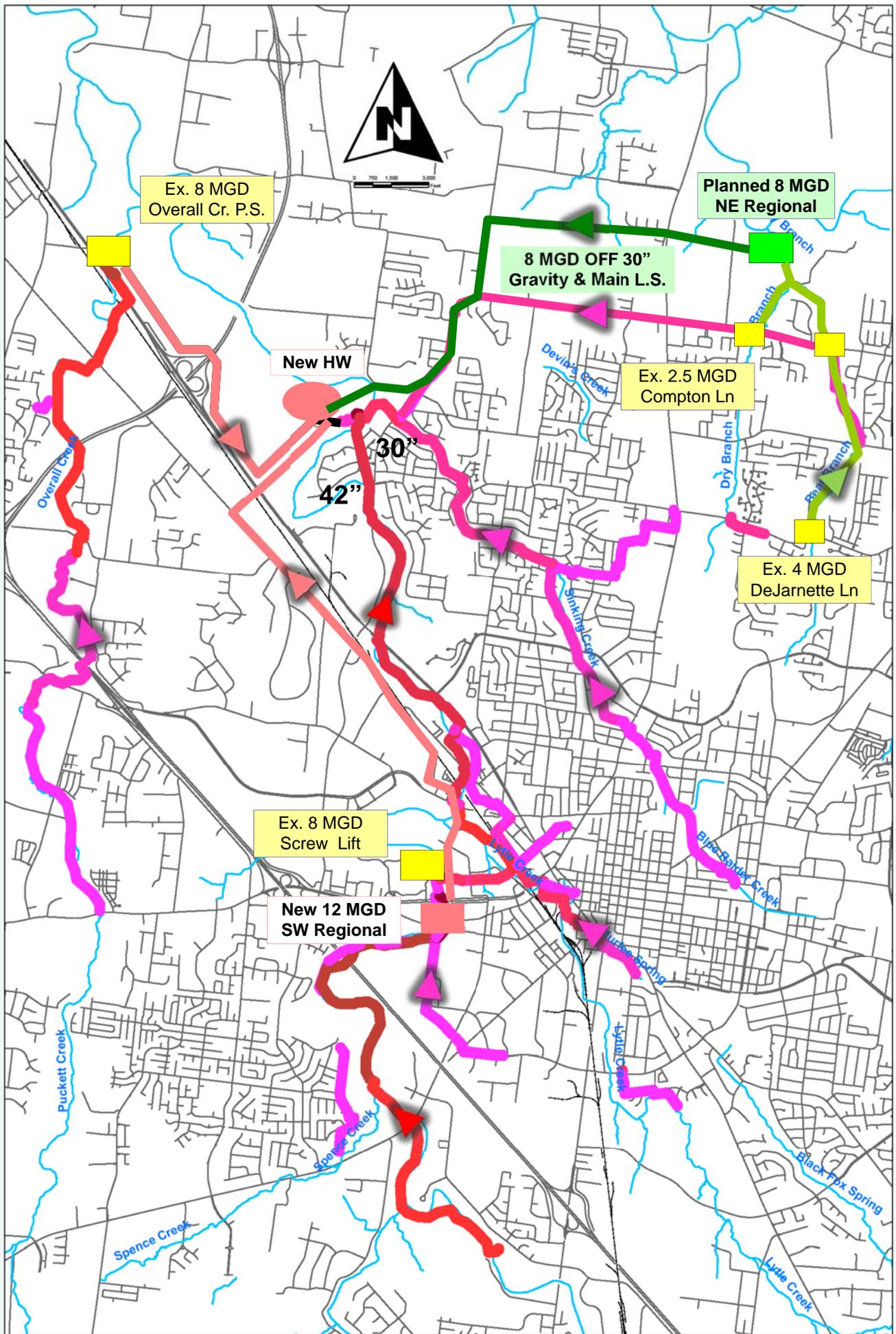
Stormwater Infrastructure

- Junction boxes: 18, 513 ytd
- Headwalls: 5, 17 ytd
- Ponds: 2, 30 ytd
- Gravity mains: 1,982 ft, 5,970 ft ytd
- Weirs: 2, 30 ytd
- Proprietary WQ units: 17
- Underground storage Units: 34

- 3 Bacteria samples
- Drought flow monitoring
- West Fork Stones River bank stabilization

Water Quality Scorecard





**MURFREESBORO WATER & SEWER DEPT.
OPERATING REVENUES AND EXPENDITURES
FOUR MONTHS ENDED OCTOBER 31, 2016**

ACCOUNT DESCRIPTION	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Revenues			
Water Revenue	\$ 5,916,852	\$ 15,932,000	37%
Repurified Revenue	\$ 13,102	\$ 28,000	47%
Sewer Revenues	\$ 8,947,326	\$ 27,259,500	33%
Other Income	\$ 113,767	\$ 175,000	65%
Total Operating Revenue	\$ 14,991,046	\$ 43,394,500	35%
Water Operating Expenses	\$ 3,354,278	\$ 10,028,689	33%
Sewer Operating Expenses	\$ 4,132,020	\$ 11,701,065	35%
Total Operating Expenses	\$ 7,486,298	\$ 21,729,754	34%
Net Earnings from Operations	\$ 7,504,748	\$ 21,664,746	35%
Water Operating Expenses			
31701118 Water Source Operations	\$ 66,159	\$ 246,000	27%
31701137 Water Treatment Personnel	\$ 569,091	\$ 1,835,626	31%
31701138 Water Treatment Operations	\$ 736,489	\$ 2,041,100	36%
31701158 Water Storage Operations	\$ 7,569	\$ 70,500	11%
31701177 Water Distribution Personnel	\$ 244,568	\$ 998,924	24%
31701178 Water Distribution Operations	\$ 76,568	\$ 529,473	14%
31701188 Water T&D Maint Operations	\$ -	\$ 500	0%
31701197 Cross Connection Personnel	\$ 70,884	\$ 216,920	33%
31701198 Cross Connection Operations	\$ 6,969	\$ 38,050	18%
31701237 Water Admin Personnel	\$ 113,660	\$ 359,045	32%
31701238 Water Admin Operations	\$ 132,855	\$ 365,200	36%
31701707 Water Meter Field Svc Personnel	\$ 194,525	\$ 603,496	32%
31701708 Water Meter Field Svc Ops	\$ 27,920	\$ 92,450	30%
O&M Admin Allocation (40%)	\$ 110,232	\$ 371,283	30%
Customer Service Alloction (50%)	\$ 216,052	\$ 668,875	32%
Engineering Allocation (40%)	\$ 81,882	\$ 368,023	22%
Field Inspection Allocation (25%)	\$ 27,980	\$ 92,721	30%
Admin Allocation (40%)	\$ 342,174	\$ 1,130,503	30%
Total Water Operating Expenses	\$ 3,354,278	\$ 10,028,689	33%

**MURFREESBORO WATER & SEWER DEPT.
 OPERATING REVENUES AND EXPENDITURES
 FOUR MONTHS ENDED OCTOBER 31, 2016**

ACCOUNT DESCRIPTION	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Sewer Operating Expenses			
31702317 Sewer Collections Personnel	\$ 360,619	\$ 1,208,909	30%
31702318 Sewer Collections Operations	\$ 23,473	\$ 242,931	10%
31702328 Swr Collex Maint Operations	\$ 3,329	\$ 7,500	44%
31702337 Sewer Rehabilitation Personnel	\$ 1,295	\$ -	
31702338 Sewer Rehab Operations	\$ 34,862	\$ 294,750	12%
31702357 Sewer Pump Stations Personnel	\$ 84,475	\$ 231,496	36%
31702358 Sewer Pump Station Operations	\$ 122,086	\$ 524,904	23%
31702367 Swr Pump Station Maint Personnel	\$ 666	\$ -	
31702368 Swr Pump Station Maint Operations	\$ -	\$ 12,500	0%
31702377 Swr Industrial Surveillance Personnel	\$ 78,934	\$ 245,010	32%
31702378 Sewer Ind Surv Operations	\$ 10,872	\$ 44,075	25%
31702398 Swr Private Laterals Operations	\$ 551	\$ 31,800	2%
31702417 House Services Personnel	\$ 3,382	\$ -	
31702418 House Service Operations	\$ 3,378	\$ 12,000	28%
31702457 Sewer Treatment Personnel	\$ 349,497	\$ 1,186,276	29%
31702458 Sewer Treatment Operations	\$ 557,507	\$ 1,888,520	30%
31702468 Sewer Treatment Maint Operations	\$ 1,307	\$ 102,500	1%
31702477 Sewer Disposal Personnel	\$ 66,453	\$ 206,516	32%
31702478 Sewer Disposal Operations	\$ 111,707	\$ 319,133	35%
31702517 Sewer Admin Personnel	\$ 115,880	\$ 444,057	26%
31702518 Sewer Administration Operations	\$ 107,058	\$ 573,700	19%
31703618 Repurified Operations	\$ 25,401	\$ 208,929	12%
31703637 Repur Distr Personnel	\$ 22,349	\$ 82,808	27%
31703638 Repurified Distribution Operations	\$ 1,132	\$ 5,000	23%
31703658 Repurified Disposal Operations	\$ 37,381	\$ 76,000	49%
O&M Admin Allocation (60%)	\$ 165,347	\$ 556,925	30%
Customer Service Alloction (50%)	\$ 216,052	\$ 668,875	32%
Engineering Allocation (60%)	\$ 122,823	\$ 552,035	22%
Field Inspection Allocation (75%)	\$ 83,939	\$ 278,162	30%
Admin Allocation (60%)	\$ 513,261	\$ 1,695,755	30%
Total Sewer Operating Expenses	\$ 4,132,020	\$ 11,701,065	35%

**TAP SALES AND DEBT SERVICE
FOUR MONTHS ENDED OCTOBER 31, 2016**

	4 months Ended 10/31/16
SUMMARY OF TAP FEES	
Water Taps/Reserves	\$ 30,151
Sewer Taps/Reserves	\$ 2,643,384
Special Assessment Districts	\$ 934,508
	\$ 3,608,043

DEBT SERVICE	YTD ACTUAL	ANNUAL BUDGET	%
Principal	\$ 580,620	\$ 9,801,492	5.9%
Interest	\$ 308,395	\$ 2,007,750	15.4%
	\$ 889,015	\$ 11,809,242	7.5%

Debt Coverage Ratio	YTD	Annual	
Operating Net Earnings	\$ 7,504,748	\$ 21,664,746	35%
Debt Service	\$ 889,015	\$ 11,809,242	8%
	8.44	1.83	