

MINUTES
MURFREESBORO WATER RESOURCES BOARD
April 27, 2021

The Murfreesboro Water Resources Board met on Tuesday, April 27, 2021 in the conference room at the Operations and Maintenance Building, 1725 S. Church Street. Consistent with the Governor's Executive Order, members of the Water Resources Board participated by electronic means as has been determined necessary to protect the public health, safety, and welfare in light of the COVID-19 pandemic. Present at the meeting were Board members: Dr. Al Carter, Mr. John Sant Amour, Mr. Ron Crabtree, Mr. Brian Kidd, Ms. Sandra Trail, Ms. Kathy Nobles, and Ms. Madelyn Scales-Harris. Also present were Darren Gore, Valerie Smith, Doug Swann, Mary Lancaster, Marshall Fall, Roman Hankins, Steve Tate, John Strickland, Donald Hughes, Randy McCullough, Nathan Corum, Andy McCrary, Mike Bernard, Linda Sullivan, Brent Fowler, Jay Bradley, Saya Qualls, and Ronnie Martin along with other members of the public.

At the request of Dr. Carter, Item E was removed from the Consent Agenda.

Items A, B, C, D, F, G, and H of the Consent Agenda were presented for the following considerations:

A. Consider ADS Professional Services Contract Year 3 extension –

The Department is contracted with ADS, LLC to operate and maintain the Department's 19 permanent sewer flow monitors and 7 rain gauges, to analyze data recorded from these monitors and to report on this data annually. These annual reports, report wet and dry weather capacities and rain dependent inflow and infiltration (RDII) for 18 flow monitor areas. They are also contracted to perform temporary flow monitoring, analyze the temporary data recorded and report findings as well as perform field investigations.

The current Professional Services Contract is nearing the end of its second year which is June 30, 2021. There is an option to extend for two additional one-year periods, with pricing for Years 2 & 3 being established on the consumer pricing index (CPI) for the southern region. The proposed extension adjusts pricing 1.0%. Staff desires to continue to contract their professional service as we have in various forms over the last 27 years.

The contract amendment for the extension is subject to Legal review and approval.

Staff recommended the Board recommend to City Council accepting the renewal of the ADS contract for an additional and final one-year period.

The use of the quantities/units listed in the contract will be within the estimated budget amount for 2021-2022 of \$300,000. The Long-Term Monitoring and Temporary Flow Monitoring quantities/units are

completely used; however, the field inspections change from year to year, so this portion of the total is used within the budgeted amount.

B. Consider GPS rover unit purchase –

MWRD purchased Leica GPS (Global Positioning System) reference stations and survey grade rover units from Earl Dudley & Associates for the purpose of locating and re-locating MWRD's visible above-ground assets related to its water & reclaimed water distribution systems and sewer & stormwater collection systems. The reference station / units have been upgraded/replaced over the years to keep pace with changing technology. The last upgrade/replacement for the two existing units was in 2017.

As staff has grown and development has continued to expand, a need has arisen for an additional survey grade unit. This new unit would be shared between the GIS Technician and the Stormwater inspectors. The unit would be available for on-site verification of elevations, grades, and locations of structures and serve as a back-up if one of the older units fail.

The pricing is available from our vendor Leica Geosystems. Inc.

Staff recommended the Board recommend to City Council approving the purchase of the Leica GPS survey grade unit with associated carbon fiber pole, pole mount, clamp, batteries, charger, software, and handheld input device in the amount of \$24,430.50. Funding will come from the FY21 Capital Expenditures budget.

C. Consider O&M contract amendment with Fortiline –

Bids were opened at O&M to provide meter vaults to Murfreesboro Water Resources Department. Staff requested pricing for 8-meter vaults varying in size. Four bids were received, and staff accepted the lowest from Fortiline.

Staff recommended the Board recommend to City Council extending the contract term for an additional year as allowed by the contract with a price increase. This will be the second year of the five-year agreement.

Fortiline requested to modify the unit price for furnishing meter vaults and agreed to hold the prices for one-year period beginning May 1, 2021 and ending May 21, 2022. The contract contains a provision for increases to the original bid and MWRD staff accepts the price increase due to the price escalation of materials used to supply the vaults. Staff anticipates the total cost to increase from \$15,295.80 to \$17,525.80, a difference of \$2,230.

D. Consider ELI Engineering Supplemental proposal to Work Authorization #5 for design services of Southwest Interceptor Replacement under I-24 –

At the December 2020 meeting the Board approved of WA#5 to design the replacement and upsize of a portion of the Salem/Barfield Interceptor Sewer through the City's Master Services Agreement (MSA) with ELI, LLC approved February 2018.

Staff would like to add to ELI's scope of services to design the replacement of a portion of the 36" Southwest Interceptor (SW) underneath Salem Hwy, just south of this current replacement and upsizing project. Staff determined this section of the SW Interceptor needed replacing in the Fall of 2019 while the Department was contracted with Vortex to perform Lidar/Sonar and Closed Circuit Televising (CCTV) of approximately 24,000 linear feet of the Southwest Interceptor due to recent failures of the Hobas pipe material. The results from this CCTV determined that there was a problem with this Interceptor within the tunnel underneath Salem Hwy. The Department made several attempts to clean and televise this portion of the Interceptor to get a better look at the project and it was determined that the pipe was not at a constant slope and it appeared that the pipe had buckled or was humped up and holding flow upstream.

It is staffs desire to replace this portion of the SW Interceptor, which is currently Hobas pipe, with Ductile Iron Pipe within the tunnel.

Staff recommended the Board recommend to City Council approving the Supplement to WA#5 with ELI, through the MSA.

The funding for this design was not funded through the Operating Budget so it is requested to come from Working Capital Reserves. The original amount of WA#5 was not to exceed \$83,687 and this Supplement would add to this in an amount of \$14,270 for a total of \$97,957. The revised estimate for this construction is \$1.68M.

F. Consider Amendment 1 to the Master Services Agreement with MR Systems, Inc. –

MR Systems, Inc. has provided the Department professional services for over 13 years and was integral to both the Water Plant and Water Resource Recovery Facility upgrades during that time.

The MSA stated that the contract was effective for a 3-yr period and that the parties may extend or renew the agreement by written instrument establishing a new term. The amendment 1 extends the agreement for an additional 3-years with updated standard hourly rates.

Staff recommended the Board recommend to City Council approving amendment 1 to the Master Services Agreement (MSA) with MR Systems, Inc.

G. Consider Thompson Lane PS #10 panel installation and upgrades –

Staff is requesting approval to install a new human machine interface (HMI) and three variable frequency drives (VFD) at Pump Station #10 – Thompson Lane. This pump station was last upgraded in 2004 and is not equipped with this newer technology. Most importantly, a variable frequency drive reduces power consumption and wear-and-tear on the pump motor. Without the VFD, the pump operates at a fixed speed which uses a lot of electricity even when the demand for the pump is not at its peak. This is not only expensive but adds stress to the pump. Additionally, these specific VFD's have an auto clean function to unclog impellers by running the pump in special sequences to free the pump from debris.

Staff recommended the Board recommend to City Council approving the sole source purchase from Bertelkamp Automation, Inc. to install an HMI control panel with three VFD drives for a cost of \$38,353.

This cost also includes 5-year equipment warranty and provide three days of on-site start-up support and training. Funding was approved in MWRD's FY2021 Capital Budget.

H. Sewer pump stations wetwell cleaning information –

At the request of staff, Travis Wilson with LJA submitted a proposal in the amount of \$8,500 to put together bid specifications and to advertise and bid the cleaning of five wetwells at these SPS's:

1. Wilkinson Pike SPS #50
2. County Farm Road SPS #41
3. DeJarnette Lane SPS #14
4. Thompson Lane SPS #10
5. Overall Creek SPS #38

The wetwells of these stations are large and deep. Cleaning these with the "mat" that has formed on the top of the wetwell liquid level is a little more than our O&M staff can handle especially coupled with the requirement of by-passing these stations during the work.

This work is estimated to be a maximum of \$150,000 and is recommended to be funded from Working Capital Reserves.

A motion was made by John Sant Amour to accept Items A, B, C, D, F, G, and H of the Consent Agenda as presented and it was seconded by Brian Kidd. The Board voted unanimously to approve.

Items E removed from the Consent Agenda was discussed and voted on as an individual item.

E. Consider precast fascia replacement at WRRF –

Maintenance staff determined that the over 20-year-old precast fascia of the WRRF's Post Air, Sand Filters, Clarifiers, Carrousels, and Pretreatment buildings needed to be replaced. Advice was sought from several contractors and the replacement was budgeted in the Department's capital improvement plan.

The City's Purchasing Department issued an Invitation to Bid (ITB). Williams Restoration & Waterproofing, Inc. provided the only bid and it is fully qualified. L & L Contractors and Lovell's Masonry, Inc. gave partial quotes for this work and both were notified about the ITB. However, neither submitted a response.

Staff recommended the Board recommend to City Council approving the replacement of the precast fascia on five buildings at the WRRF by Williams Restoration & Waterproofing, Inc. at a cost of \$148,500. Funding is requested to come from the Department's Rate Funded Capital Budget.

A motion was made by Brian Kidd to accept Item E of the Consent Agenda as presented and it was seconded by Ron Crabtree. The Board voted unanimously to approve.

The March 23, 2021 Board Minutes were unanimously approved as presented.

The Board considered ELI Engineering Work Authorization for Thompson Lane Widening Utility Design Improvements from NW Broad St. to Memorial Blvd.

In 2015 the Department received Preliminary Field Review plans that TDOT was going to reconstruct and widen Thompson Lane. On December 30, 2019, all Utilities received notification to proceed with the engineering necessary to prepare plans, a schedule of working days and cost estimates for the adjustment or relocation of our water, sewer, and repurified water mains that may be in conflict with the reconstruction.

January 22, 2020, the Board approved Engineering Work Authorization #4 (WA#4) under the City's Master Services Agreement (MSA) with Energy, Land and Infrastructure (ELI) for utility design improvements and relocations in conjunction with TDOT plans to widen Thompson Lane. This approval was only for the initial design or "A" date package submittal to TDOT. Staff is now seeking approval for the design of the "B" date package submittal to TDOT.

Staff recommended the Board recommend to City Council approving the WA with ELI in an additional amount of \$233,951.56.

Based on the Board approved recommendations of the 2007 Financial Conditions Assessment prepared by SSR, all water and sewer improvements associated with new roadway or roadway improvements in the City would be funded from the Department's working capital reserves account. It is therefore recommended that the design and construction come from working capital reserves.

Brian Kidd made a motion to approve. Ron Crabtree seconded. The motion unanimously passed.

The Board considered easement donation at Thompson Lane SPS #10.

At the December 2019 meeting the Board approved of a land swap with the developer of the Hooper's Bend Subdivision. The City was to swap a portion of the pump station property in exchange for the same amount of property to the rear of the pump station. This swap of approximately 1906 sf was requested because the current access into the proposed subdivision is not wide enough to meet the City's roadway width requirements. In addition, the swap would allow for a new safer access for the Department into the SPS as well as additional working room around the station.

The developer of Hooper's Bend Subdivision has not yet moved forward with the development. TDOT has approached our Legal Department to request a donation of 889 sf of temporary construction easement and 42 sf of slope easement along the frontage of our SPS. TDOT has plans for a turning lane into the Thompson Square Subdivision, just south of the SPS, hence the need for these easements. This turn lane will also reduce the existing SPS access drive from ~31.5 feet to 15 feet long, hence the reason for the land swap.

Staff wants to work with TDOT on the donation of the easements, but we may have to purchase property or access easement from the developer to build a safer access into the SPS should the development of the subdivision not move forward.

Staff recommended the Board recommend to the Planning Commission and City Council approval of the donation of temporary construction and slope easements to TDOT.

Brian Kidd made a motion to approve. Ron Crabtree seconded. The motion unanimously passed. The Board considered John Bouchard & Sons Task Order 21-03, Oakleigh Pump Station.

The Department has an existing pump station within the Oakleigh Subdivision, PS#37. This pump station was originally built in 1997. The age of this station is not that old relative to other stations in the system however, there are several issues with this station that will be cheaper to replace new than it would be to rebuild and/or renovate. The access to the wetwell is inside the housing of the pump station. Getting the pump nozzle from the vacuum truck inside the housing to pump/vacuum out the wetwell is not possible without completely removing the building, which is already in disrepair as it is rotted away around the base. A maintenance tech could take a hose to spray water into the wetwell which might help to clean the wetwell utilizing the pumps but this requires personnel to be inside of the station, and at the same time the fumes from the wetwell during cleaning are trapped in the housing too. This set up is also not optimal when trying to bypass pump the station should this be necessary during an emergency.

Other issues are the concrete base/foundation for the pumps and housing has cracked in multiple locations and settled and the control panel is outdated and in need of upgrade.

Staff has requested and received a Task Order from John Bouchard (JBS) for the replacement of this station.

Staff recommended the Board recommend to City Council approval of JBS Task Order No. 21-03 for the replacement of this pump station in an amount not to exceed \$273,890. Funding is requested to come from Working Capital Reserves.

John Sant Amour made a motion to approve. Brian Kidd seconded. The motion unanimously passed.

The Board considered John Bouchard & Sons Task Order 21-02, Biosolids Dryer Demolition at Water Resource Recovery Facility.

The Gryphon small-scale biosolids dryer has failed to meet the performance guarantee. Staff is recommending invoking contract condition 4.01(D) that stipulates the City can return the dryer to the supplier for a full refund of the purchase price. Returning the dryer involves disconnection and disassembly costs.

Staff recommended the Board recommend to City Council approving Task Order 21-02 for the dryer demolition at a cost of \$14,657 and return the Gryphon dryer seeking reimbursement of \$648,750.

In 2019 the Department contracted with Gryphon Environmental, LLC for the installation of a small-scale dryer at the WRRF. The project was to demonstrate the dryer's capacity to produce Class A EQ biosolids from the departments dewatered sludge while meeting performance metrics. Ultimately, the installation did not meet several key requirements. In this case, the Department has the right to a refund for the dryer.

Staff is seeking alternative paths forward to test other biosolids dryers prior to moving into full-scale implementation. Based on recent discussions with Republic Services, the Middle Point Landfill has 6 ½ years of air space remaining.

John Sant Amour made a motion to approve. Brian Kidd seconded. The motion unanimously passed.

The Board considered FY22 Water Meter & Sewer Cleanout Fee Revisions.

Last month, the Board recommended a rate increase to increase the minimum monthly water bills only. At a recent staff meeting with O&M, a need to increase the water meter and the sewer cleanout installations was presented because of the significant increase in materials necessary to make these connections. Staff has received several emails from different sources quoting price increases and was informed that some existing material contracts can no longer be honored.

A few examples of the percent increases are:

PVC Pipe - Sewer/Water	60%
PVC Fittings	18%
PVC Conduit	100%-150%
Ductile Iron Pipe	13%
Ductile Iron Restraints & Fittings	15%
Valves & Hydrants	13%
Brass Water Fittings	12%
Precast Meter Vaults	11%
Meter Box & Valve Box Covers	6%

The previous revision to these water and sewer fees below is unknown but has been at least 10 years ago.

Table 1 - Water

Description	Present Cost	Proposed Cost
Meter Connection (Install Meter Only)	\$300	\$540
1" Water Stub	\$325	\$675
1" Complete Tap & Meter (Out of Road)	\$1000	\$1215
1" Complete Tap & Meter (In Road)	\$1000	\$1915
2" Complete Tap & Meter (Out of Road)	\$3750	\$4455
2" Complete Tap & Meter (In Road)	\$3750	\$5120

Table 2 - Sewer

Description	Present Cost	Proposed Cost
Sewer Cleanout Installation	\$100	\$170

The 2" Complete Tap and Meter, inside and outside of road, is the only fee that is not listed within the City Code, but staff thought it prudent to be transparent and receive approval for this revised price as well. This will also be the first City Code revision to include pricing within the roadway and outside of the roadway (pavement).

Staff recommended the Board recommend to City Council approval of the fee increases for FY22. These increases will bring the charges for work performed by the Department in line with actual costs of these installations.

John Sant Amour made a motion to approve. Ron Crabtree seconded. Dr. Carter abstained from voting. The motion unanimously passed.

The Board considered the Water Resources and Stormwater Funds 2022 Draft Budgets.

The Water Resources FY22 draft budget is balanced and is not expected to deviate significantly from the overall revenue and expense total of \$56,609,000. This amount is \$1,068,000 over the FY21 budget and \$717,241 under FY21 projected revenues.

The FY22 total budget increase equates to a 1.9% increase. The % increase represents nominal increases based on metered water sales and sewer sales. Tap receipts, or system development charges, based on one-time revenue associated with growth is budgeted to remain flat, or consistent with FY21's growth trends.

There are \$2,375,000 of sinking funds being earmarked to assign the excess revenue for future construction or repair and replacement; additionally, \$1,256,961 has been reserved for future unforeseen capital expense. The sinking funds identified below have been assigned rate revenue since FY12. The total FY22 earmarked amounts and FY12-21 "banked" amounts are as tabulated below:

Table 1: Designated Sinking Funds FY12-21 and FY22 Budget

Sinking Fund	FY12-21 Balance	FY22 Budget	
		Designated	Balance
General	1,400,000		1,400,000
Lift Station Replacement	1,376,232	250,000	1,626,232
NE FM & PS	3,891,254	625,000	4,516,254
WRRF Sludge/Biosolids	3,200,000	500,000	3,700,000
Sewer Rehab	2,000,000	1,000,000	3,000,000
Future Debt	4,159,380		4,159,380
Future Capital Expense	7,760,432	1,256,961	9,017,393
TOTALS	23,787,298	3,631,961	27,419,259

The use of sinking funds reduces the need to incur debt thereby alleviating the need for future rate increases.

The Murfreesboro Water Resources Department was provided a cost of service study (COSS) from Jackson Thornton Utilities Consultants for FY2019. That study was presented at the March 3, 2020 Board meeting. Jackson Thornton has since that time provided staff a pro forma for FY2024.

MWRD staff is recommending a water rate increase for FY22. An updated cost of service study will be conducted for FY21 after the Department receives our audit, and the water rate design may be adjusted for FY23 or FY24 based on those findings.

Staff is not recommending any changes to the system development charges (a.k.a., connection fees) for residential or nonresidential uses.

The FY21 total operating expenses, including benefits and payroll, increased \$1,060,600 or 4.35% over the FY20 budgeted amount. Total expenses including transfer to reserves increased 1.92%.

The FY22 budget contains the addition of three full-time equivalents and two promotions involving reassignment of job requirements. The total net increase anticipated with the new personnel and promotion/reclassifications is \$170,000. If these positions are approved, the Water Resources Department will increase its current personnel total to 179 full time and 7 part time positions, which includes 9 full-time positions in the Stormwater Department.

The total estimated costs associated with providing 3% across the board for non-exempt step, exempt and open range non-exempt personnel is \$384,000.

The rate funded capital budget is \$11,186,055, which is an increase of \$4,513,055 from the FY21 budget. This amount is almost perfectly offset through a decrease in the Department's expected debt service in FY22, \$4,603,316. MWRD's goal is a minimum of \$5 million per year for routine rate-funded capital purchases (i.e., vehicles, equipment, and repair/replacement projects). FY22's increase in rate funded capital expenditures will equate into staff having to request lesser funds being used from the Department's working capital reserve account.

The Stormwater Fund budget is independent of the Department budget. It is funded from revenue based on a user fee of \$3.25 per single family equivalent. The fund will be in its 13th year in FY22. No change is recommended to the fee. The net revenue generated by the stormwater fee is budgeted at \$3,262,000 with operation expenses budgeted at \$2,283,500, stormwater repair and replacement at \$200,000, and rate funded capital expenditures at \$300,000. The anticipated excess funds above operating expenses and rate funded capital expenditures are \$478,550. The stormwater fund has developed a Capital Improvements Plan, currently totaling \$6,406,000 from FY21 through FY25. A 5-year pro forma has been developed to demonstrate the banking of excess revenues to pay for these proposed capital improvements without incurring any debt. Financial policies for the stormwater enterprise fund were adopted by the Water Resources Board and City Council on May 21, 2013 and July 11, 2013, respectively. An amendment to these policies was approved in FY18 to allow the minimum working reserve balance to be lowered to no less than three months of operating expenses, or \$570,863 for FY22.

The stormwater fund has grown by approximately \$70,000 each year. That is equal to approximately 1,795 single family unit equivalents annually. The average impervious square footage is equal to 3,470 square feet per single family unit, which equates to the City adding approximately 143 acres

of imperviousness annually. These imperviousness areas have been required to meet the City's permanent stormwater runoff treatment standards since 2008.

Staff recommended the Board recommend approval of the FY22 Water Resources Draft Budget to City Council.

Ron Crabtree made a motion to approve. Brian Kidd seconded. The motion unanimously passed.

Staff recommended the Board recommend approval of the FY22 Stormwater Draft Budget to City Council.

Brian Kidd made a motion to approve. Ron Crabtree seconded. The motion unanimously passed.

Staff presented and discussed the Water Resources Dashboard Performance for March 2021.

Staff presented the Financial Reports for the year ending March 31, 2021.

There being no further business, the meeting was adjourned.

Alphonse Carter, Jr., Vice Chairman