MINUTES
City Council Public Works & Utilities Committee

Wednesday, June 3, 2026 – 3:30 p.m.
City Council Chambers

Members Present:	Lauren Wise, Chair, Council Member Gary Daniel, Vice Chair, Council Member Owen Carson, Citizen Member Mayor Maureen Copelof, Ex-Officio
Staff Present:	Wilson Hooper, City Manager David Todd, Assistant City Manager Wesley Shook, Public Works Director Dennis Richardson, Water Treatment Plant Supervisor Aaron Winans, Wastewater Treatment Plant Supervisor Shawnee Cummings, Assistant to the City Manager
Guests:	Harvey Sankey, Alvin Fuller (Summit Engineering)

A. Welcome and Call to Order

Committee Chair Lauren Wise called the meeting to order at 3:31 p.m.

B. Certification of Quorum

Assistant to the City Manager Shawnee Cummings certified that a quorum was present.

C. Approval of Agenda

Mr. Carson moved, seconded by Mr. Daniel to approve the agenda as presented. The motion carried unanimously.

D. Approval of Minutes – May 6, 2026 Meeting

Mr. Daniel moved, seconded by Mr. Carson to approve the minutes of the May 6, 2026 meeting as presented. The motion carried unanimously.

E. Wastewater Treatment Plant Update

Mr. Todd stated that this update will cover the RBC failure last month. The RBC's consist of 8 units and each have their own rotating shaft. 4 shafts make a train, which operates as a unit, and it affects how the whole train operates. When 1 shaft failed, we lost a quarter of a train and quickly lost almost half of our plant capacity.

Mr. Todd explained that the City previously purchased used RBC shafts to use as replacements and we had a shaft on hand, which allowed us to get a contractor on site to replace the shaft quickly. To replace the shaft, you have to drain the basin that the RBC operates in and the water in the basin helps the RBC float a little bit. When draining the basin, the RBC sunk a little bit and it ripped the bearings out from the concrete, breaking the concrete basin. Staff worked to get an emergency repair performed to fix the concrete basin; however, Staff did not realize that when Hurricane Helene hit and flooded the plant, it damaged our 2 spare shafts. Sediment developed in the bottom of the shaft, either from sitting or being underwater. Normally when replacing a shaft, the shaft has little cups on it and they bubble air up that the cups catch, causing the shaft to rotate. When replacing our shaft, the air was not strong enough to make it rotate, so Mr. Winans created a sprinkler that sprays water into the cups, adding weight so the shaft would rotate.

Mr. Todd said they have been working on it since the shaft broke and it started out taking 6 minutes for the shaft to do a full rotation. Before the shaft broke, it would rotate in about a minute. With the sprinkler and after giving it some time, the rotation has gotten down to 2 minutes. Mr. Todd added that you cannot use a pressure washer to remove sediment, as it will break the plastic discs on the shaft.

Mr. Todd said we have one shaft left and it is flood-damaged, but it is also a high-density shaft. Originally, RBCs were designed with 3 low-density shafts and 1 high-density shaft. Since we only have a high-density shaft, it cannot be placed in any position in an RBC and must be placed in the number 4 spot. Neither of our RBCs currently have a high-density shaft, so if we break another shaft, we will place the spare shaft in the number 4 spot on one of the RBCs and move the shaft in the number 4 spot to the broken shaft position. At that point, we would have no spares. Mr. Todd and Mr. Winans are looking for used equipment dealers to find spares.

Mr. Todd said with the WWTP update, Phase 1 goes out for bid in July and construction will take about 18 months. He added that we have not started design for Phase 2, plus we will have to construct it. As an estimate, we will still be using RBCs for the next 5 years and will need spare shafts. He and Mr. Winans previously thought RBCs were obsolete and no longer manufactured, but they learned that air-driven RBCs, similar to ours, are no longer manufactured. Electric-driven RBCs are still manufactured, so one option moving forward would be to replace an air-driven RBC with an electric RBC. An electric RBC might be the spare we purchase, but from initial guesses, it would be much more expensive than a used shaft. If unable to find a used shaft, then an electric RBC is an option. He is talking to KCI about whether that is something we want to look into for long-term reliability of the plant.

Mr. Todd added that they asked KCI to include Davidson River Village in their flow projections. KCI did not initially include Davidson River Village, as they did not identify a flow given that their model is based on buildable development. Mr. Fuller had also created a flow projection of Davidson River Village, but it was based on a model several years back that was used our best guess of how Davidson River Village would develop and is different from what we know now. KCI was tasked

with using their developable model to include Davidson River Village but reduced to more closely match what we believe it would be built at now. KCI plugged that information into their flow projection model and updated the flow numbers with 2025 data. Mr. Fuller's previous project, the Gallimore Sewer Basin Rehabilitation, showed a substantial reduction in inflow and infiltration (I&I) and when you incorporate the 2025 data into that model, flow projections drop significantly. Given the drop, it pushed time and flow projections out, giving us more time before our WWTP reaches capacity thresholds. The City may not need to increase capacity as quickly as we thought and may want to consider renovating the RBCs as a short-term solution, depending on cost. Mr. Todd said they are looking at that option, not necessarily to recommend it, but so we have all our options available.

Mr. Wise asked if there is a big retrofitting cost to use the electric RBCs. He said he would assume you would have to do something to the basin to get the electric out there. Mr. Todd said he thinks the basin itself may be okay, but the connection to the shaft, a motor, a drive, a gearbox, belts, and a reduction box would be needed. Mr. Winans said there may not be enough power in the motor control, but he has not gotten any quotes back. Mr. Winans added that he just got a notification that the RBC rotation is down to 1 minute and 10 seconds, but they are still using a sprinkler.

Mr. Daniel said his understanding is that we raise our sewer fees 4% every year because we are still paying for retrofitting work that was done 5 years ago. His concern is that we are still paying for that and still not operating in great condition, so any thought of retrofitting our infrastructure again would raise concerns. He does not think we should continue to pay to retrofit things and then not be able to afford to fix them. Mr. Todd said the biggest difference is that Phase 1 of the WWTP renovation is $13 million and we are bidding that in July. Phase 2 is estimated to be $90-120 million, and we still need to find money to get design done. Mr. Todd said he is bringing this up because we need to do some risk analysis until we get funding identified. Mr. Daniel said he understands that and he is just giving a word of caution based on his observation. Mr. Wise asked what the design cost is for Phase 2. Mr. Todd said $2.5 million. Staff requested congressional spending from State and Federal representatives, but the request would not be fulfilled for another year.

Mayor Copelof said when she talked with Representative Anna Ferguson, she was very familiar with the needs of our WWTP. Mr. Carson and Mr. Sankey said they also mentioned the WWTP to Representative Ferguson when they each talked with her.

F. Water and Sewer AIA

Mr. Todd said we have been talking about this for a long time and the project is largely done. City Council is required to approve a resolution accepting and adopting the results of the Asset Inventory and Assessment (AIA) plan for the City to get full grant reimbursement. Mr. Todd showed the deliverables, which are large binders that cover the water and sewer systems and contain printed copies of the GIS maps that were created. He added that Staff will give a brief presentation and bring a resolution to Council at the June 15th Council meeting. There is one outstanding piece of the AIA, an

Operations and Maintenance (O&M) Plan, which is currently in its draft form. The O&M Plan may not be finished by the June 15th Council meeting, so Staff would request Council to approve the AIA results pending receipt of the O&M Plan.

Sewer AIA

The scope of services included field inspections and GIS locations of manholes, gravity sewer lines, sewer lift stations, forcemains, and smoke testing, data organization, geodatabase preparation, demand projections using NCDOT Transportation Analysis Zone (TAZ) Data, and assessment of condition and adequacy of facilities. The data collected was used to prepare a capital improvement program and a repair and replacement program.

The City's wastewater treatment plant (WWTP) was constructed in the 1980's, updated in 2014, and has capacity for 2.5 million gallons per day (MGD). The City also has 15 sewer lift stations, 58 miles of gravity sewer lines, and 7 miles of forcemain. Current demand consists of 3,257 residential customers, 516 commercial customers, 100 institutional customers, and 1 industrial customer. Approximately 0.71 MGD of flow was billed, but the plant receives about 1.5 MGD in influent flow.

The City's sewer system is broken into 13 basins:

- Brushy Creek
- Singing Branch
- Jumping Branch
- Gallimore
- Elm Bend
- Lambo Creek
- Kings Creek
- Lambs Creek
- Pisgah Forest
- Davidson River
- Turkey Creek

The Gallimore Road, Neely Road, and Wilson Road Pump Stations are the primary pump stations and each serve about 4-5 of the sewer basin tributaries. Gallimore Road Pump Station discharges to the Neely Road Pump Station, which then conveys both stations' sewage to the WWTP, while Wilson Road conveys its sewage directly to the plant.

Mr. Fuller said there is approximately 300,000 linear feet of gravity sewer lines in the City, of which approximately 55,000 linear feet are clay lines. Clay lines are a significant portion of the sewer lines in Brushy Creek Basin, Kings Creek Basin, and Lambo Creek Basin. He added that there are about 1,900 manholes, of which about 1,600 were inspected and 300 are still to be located. About 235 manholes exhibited signs of I&I, with almost half in the Brushy Creek Basin. There are 86 manholes that require a new cover.

In inventorying lift stations, Mr. Fuller explained that they measured horsepower, power, and availability of backup power. Mr. Todd added that since the inventory, a few of the pump stations now have backup generators. Lastly, they inventoried forcemains, including pipe size, length in linear feet, material, and discharge location.

Over the past 4 years, there has been a decline in the influent flow to the WWTP and an increase in the amount billed, indicating there has been progress in addressing I&I and repairing infrastructure. In 2020, I&I was about 62% of the flow to the WWTP and in 2025, that has decreased to 40%. The City has conducted significant rehabilitation and replacement work in the past 10 to 15 years, with a focus on replacements in Kings Creek, rehabilitation of Gallimore Road sewer basin, and a pump station replacement.

Mr. Fuller said that field inspections were used in combination with City Staff's institutional knowledge to assess condition of the existing collection system. The in-depth analysis determined that Brushy Creek, Kings Creek, Lambs Creek, and Lambo Creek all have urgent issues that must be addressed soon. Additionally, lift station assessments documented flow, capacity, whether the station has onsite power, whether the station can accommodate growth, and any site-specific concerns. Mr. Todd added that Pisgah Fish Camp sewer lift station renovations will begin next week.

NCDOT TAZ data is used to predict growth trends to better plan and design roadway improvements. In this case, Mr. Fuller explained that they used TAZ data and known upcoming developments to predict future growth and expected flows to the WWTP. Load levels for each sewer basin were broken down between residential, commercial, and industrial customers and using current load levels and expected growth, projected loads were estimated. I&I was subtracted out from the total to get the most accurate figures. Substantial growth is expected between 2025 and 2030 but slows significantly between 2030 and 2040. As the City continues to address I&I issues, the influent flow decreases; demand for sewer is not expected to reach 2022 levels until 2040.

Mr. Fuller then prioritized the concerns from the assessment into a capital improvement plan (CIP) and assigned cost estimates to the improvements. For example, priority 1 projects will include gravity sewer improvements to sewer lines on 8 different streets and are estimated to cost $3.2 million. For improvements in priority groups 1-3, Mr. Fuller recommended seeking SRF grants through NCDWI. For other priority group projects, Mr. Fuller advised that developers may be able to finance those improvements when constructing new developments or the City may want to engage in public-private partnerships. Mr. Todd added that NCDWI really wanted to see that the City has a plan for improvements and that needs have been prioritized.

The repair and replacement program identifies areas that need to be addressed but did not rise to the level of the 6 priority groups in the CIP. Mr. Fuller said these projects can be addressed as funding allows, and much of it could be completed in-house.

Water AIA

The scope of services included field inspections and GIS locations of fire hydrants, valves, blow-offs, and air release valves, data organization, geodatabase preparation that includes information on water mains, water storage tanks, and lift stations, preparation of a new hydraulic model, demand projections using NCDOT TAZ Data, and assessment of condition and adequacy of facilities. The data collected was used to prepare a capital improvement program and a repair and replacement program.

The City's water treatment plant (WTP) was constructed in the 1980's, updated in 2014, and can produce 2.6 MGD. The City also has 7 water storage tanks, 6 water booster pump stations, 1 hydropneumatics pump station, 96 miles of water main, and 574 fire hydrants. Current demand consists of 3,865 residential customers, 621 commercial customers, 113 institutional customers, and 2 industrial customers. Approximately 0.75 MGD of water was billed, but the plant produces about 1.56 MGD. A major leak was located and repaired in August of 2025, which reduced demand by about 0.4 MGD.

The City's water system consists of 6 hydraulic gradients, including the primary system, Burrell Mountain, Deer Lake, Straus Park, White Squirrel, and Eagle Point. Of the gradients, the primary system is the largest and serves the bulk of the City's customers.

All water mains were inventoried, specifying pipe size and length in both feet and miles. Approximately 1,800 linear feet of water main was deemed to be undersized by NCDEQ and will require replacement. The minimum pipe size for public water supply lines is 2", so any ¾" and 1" lines in the City will need to be replaced to meet that requirement. Additionally, the City has a significant amount of cast iron water mains in its system, primarily in the downtown area. Cast iron pipes are not inherently problematic and can last a long time, so Mr. Fuller said he has worked with Staff to identify the areas where those lines are actually causing problems. Mr. Fuller said 574 fire hydrants were also inspected and inventoried, of which about 115 did not have hydrant valves.

Water storage facilities were inventoried, including the date constructed, overflow elevation, capacity, and what facility the tank is filled by. The State requires that you have half of an average day's usage in storage, which would be about 0.8 MGD, and the City retains about 3 MG in storage. Inventory of the City's pump stations noted each station's flow, horsepower, and availability of backup power.

Mr. Fuller said that field inspections were used in combination with City Staff's institutional knowledge to assess condition of the existing distribution system. Billing and production records were also used to determine water loss, and hydraulic modeling was used to determine performance, water age, and fire flow. Mr. Fuller displayed a graph with produced water, billed water, and unaccounted for water; the graphic showed that after the August 2025 leak was repaired, water sales significantly exceeded unaccounted for water for the first time in several years. In 2022, unaccounted for water comprised 52.6% of water produced and in 2026, it is about 46%.

Out of the City's 574 fire hydrants, 43 were in fair condition and 24 were in poor condition. About 180 fire hydrants were installed before 1990 and 80 hydrants had unknown installation dates. For 90 hydrants, Mr. Fuller said they were unable to find the valve, either because of landscaping, paving over it, or other various reasons.

The pump station assessments documented type, whether the station can accommodate growth, and site-specific concerns, including excessive run times, outdated pumps, unstable structures, and SCADA issues. Assessment of the water mains identified problematic areas that need to be addressed using City Staff's institutional knowledge.

Mr. Fuller said that they constructed a hydraulic model using GIS and TAZ data and calibrated with flow tests. Models were run based on demand, system water supply, water age, and available fire flow. The biggest concerns were the locations of the Burrell Mountain and White Squirrel pump stations, and fire flow concerns with the inclusion of Davidson River Village. Projected demand for 2040 was approximately 1.9 MGD, so even in 2040, the City would still have plenty of water storage with 3 MG.

Mr. Fuller said that water age is critical to ensure there are no areas of the system with stale water and age should not exceed 360 hours. He advised monitoring chlorine residuals, as there were problems seen in the 2025 model at Straus Park, Deer Lake, western parts of the City near the reservoirs, and near the Wal-Mart tank. For the 2030 model, there were concerns in Straus Park, Deer Lake, and near the Wal-Mart tank. For the 2040 model, the areas of concern were the same as those in the 2025 model.

In running the fire flow model, the model was run to determine future fire flows as it relates to current demand and anticipated system growth. Per regulatory requirements, fire hydrants need to be able to maintain 500 gallons per minute for 2 hours at peak demand and maintain a minimum 20 pounds of pressure per square inch (psi). In 2025, the western portion of Deer Lake, the area near Chickadee Lane, and the Burrell Mountain area are all deficient in meeting the regulatory requirements. For the 2030 and 2035 models, the areas of concern remain the same. For the 2040 model, the development of Davidson River Village will affect the fire flow in Straus Park. Mr. Fuller provided recommendations to address these areas of concern, including relocation of a pump station, relocation of a PRV, and replacing/installing water mains in certain areas.

Mr. Fuller explained that they used TAZ data and known upcoming developments to predict future growth and expected demand for the WTP. Current demand was broken down between residential, commercial, and industrial customers and using current demand levels and expected growth, projected demand levels were estimated. Estimated water loss was also subtracted to maintain accuracy. Projected demand is expected to stay around 1.5 MGD through 2035 but jumps to 1.9 MGD in 2040 with the addition of Davidson River Village. The addition of Davidson River Village could trigger NCDEQ's 80/90 rule, which states that when you hit 80% of your capacity, you must obtain an approved engineering plan for WTP expansion and when you hit 90%, you must have permitting and design completed. Water storage was determined to be sufficient, and the distribution system was determined to be sufficient through 2039.

Necessary improvements identified in the assessment were then prioritized into a capital improvement plan (CIP) and assigned cost estimates. For example, priority 1 projects will include improvements to water mains on 7 different streets and relocation of a PRV, which are estimated to cost $3.4 million. For improvements in priority groups 1-4, Mr. Fuller recommended seeking SRF grants through NCDWI. For other priority group projects, Mr. Fuller advised that funding is to be determined. Mr. Todd added that the total of the CIP for sewer exceeds the total of the CIP for water, indicating greater need for sewer improvements.

The repair and replacement program identifies areas that need to be addressed but did not rise to the level of the 6 priority groups in the CIP. Mr. Fuller said it primarily concerns fire hydrant replacements and new pumps and generators for pump stations. These projects can be addressed in-house as funding allows.

In looking at the total financial impact for both systems, Mr. Fuller incorporated the City's current debt service and showed a financial model from 2026 to 2040. If the City obtains grants and slowly introduces CIP projects as debt service for prior projects falls off, the City will have the ability to start addressing the issues without taking on significant debt or having to significantly raise rates.

Mr. Carson asked about the fire hydrants that do not meet regulatory requirements and if that means potential problems fighting a fire. Mr. Fuller said not necessarily, as the hydrants will still have enough water to fight a fire, but residents who are served by the same pump station may be temporarily without water or may notice a difference. Mr. Fuller added that it would not be great, but we could still fight a fire.

Mr. Todd thanked Mr. Fuller, as this information was extremely important, and what he does not want to do is let the information sit on a shelf. Mr. Hooper said unfortunately, the AIA was not complete prior to preparing the budget so none of the projects are baked in, but we have enough to at least get us started and we can always apply for grants. Mr. Fuller added that the projects are grouped in terms of priority, but the City can always pull projects from different areas and complete them individually.

Mr. Wise thanked Mr. Fuller for the work he performed. Mr. Wise also asked Mr. Richardson if he could explain how the water distribution system works so he could have a better understanding. Mr. Richardson explained that when the water plant is running, they are providing water directly to customers and filling tanks, and when the water plant is not running, the tanks provide water to customers.

Mr. Carson inquired as to whether water age could factor into the taste of the water, as he has heard some people saying they can taste chlorine in the water. Mr. Fuller said not all of the water is getting turned over because consumption is pulling water from the plant during peak demand and there may not be as much usage overnight, which is when the water from the tanks would get fully turned over. Mr. Fuller added that most of the time, you will have good water because the daytime usage is being fed by freshly pumped water at the WTP, but water used at 3am when the plant is not running will have a higher age. Mr. Todd added that any homes that get their water directly from the tank, primarily homes at higher elevations, will experience higher water ages. Mr. Fuller said their analysis also does not account for flushing of the tanks, which can help.

Mr. Richardson explained that they conduct maximum resident time testing, which tests the water at the far edges of town to ensure it is holding the necessary chemicals by the time it reaches those areas. When the water leaves the plant, the chlorine level is 1.5 and by the time it reaches the far end of town in the summer, the chlorine level is 0.7. In the winter, the chlorine levels at the far end of town can be up to 1.2. Water uses chlorine

much faster in hotter weather and as water age increases. The legal limit for chlorine levels is 0.2. Mr. Fuller said he would defer to the actual water samples over the models.

Mr. Carson moved, seconded by Mr. Daniel to recommend approval of the AIA results and refer it to the full Council for approval of a resolution adopting and accepting the plan, pending completing of the O&M manual. The motion carried unanimously.

G. Public Comment

Harvey Sankey asked if the RBC shaft will hold up the renovations at the WWTP, to which Mr. Winans said it will have no bearing. Mr. Sankey asked about Buncombe County's extra shafts, to which Mr. Todd said that Buncombe County is keeping their shafts for now, as they are also in the midst of a renovation.

Mr. Sankey added that the AIA was a great presentation and he lives in Straus Park. He asked if any fire hydrants in Straus Park need replacement, to which Mr. Fuller said not right now, but they will need to be replaced if Davidson River Village is constructed.

Mr. Daniel said he spoke to Madeline Magin and she asked if there was an update in relation to the traffic engineer looking at the King St., French Broad St., and Railroad Ave. intersection. Mr. Hooper said he needs to check if that intersection was discussed yet.

H. Set Next Meeting – Wednesday, July 1, 2026 at 3:30pm

The next regular meeting of the committee will be on July 1, 2026 at 3:30pm.

I. Adjourn

There being no further business, the meeting was adjourned at 5:29 p.m.

Minutes Approved: July 1, 2026

Lauren Wise, Chair, Council Member
Gary Daniel, Vice Chair, Council Member

Shawnee A. Cummings

Shawnee Cummings
Assistant to the City Manager