

A Special Meeting of the Hickory City Council was held in Hickory, North Carolina on Thursday, April 18, 2024, at Hickory Metro Convention Center, in the Conover 3 and Conover 4 Meeting Space, located at 1960 13<sup>th</sup> Avenue Drive SE, Hickory.

On Thursday, April 18, 2024 at approximately 8:15 a.m., a Special Council-Staff Retreat was convened.

The following members were present: Mayor Hank Guess, Alderman Tony Wood, Alderwoman Charlotte Williams, Alderman Danny Seaver, Alderman David Zagaroli, Alderman Anthony Freeman, and Alderwoman Jill Patton. A quorum was present.

Staff present were: City Manager Warren Wood, Assistant City Manager Rick Beasley, Deputy City Manager Rodney Miller, Assistant City Manager Yaidee Fox, Planning Director Brian Frazier, Public Works Director Steve Miller, Fire Chief Matt Hutchinson, Airport Manager Chad Hunsucker, Library Director Sarah Greene, Police Chief Reed Baer, Communications and Marketing Manager Dana Kaminske, Communications Specialist Sarah Killian, Human Resources Director Mitch Friar, Business Services Manager Dave Leonetti, Public Utilities Director Shawn Pennell, Administrative Assistant Iris Childers, Management Analyst Breanna Ikard, Infrastructure Grants Manager Karen Dickerson, Construction Project Manager Will Hamblin, Recreation Center & Events Coordinator Kyle Mishler, Deputy City Clerk Crystal Mundy, and City Clerk Debbie D. Miller

Others Present were Catawba County Economic Development Corporation President, Scott Millar, and CWWMG President Jeff Lineberger, Chief Executive Officer of Hickory Metro Convention Center Mandy Hildebrand, Western Piedmont Council of Governments Planner Johnny Wear, Western Piedmont Council of Governments Executive Director Anthony Starr, and citizen Bob Vollinger

Media: Hickory Daily Record Reporter Miya Banks

I. Call to Order

Welcome – Mayor Hank Guess

Mayor Guess welcomed the City of Hickory family in attendance. He recognized Anthony Starr, Mandy Hildebrand, and Scott Millar, who he considered part of the City of Hickory family. He expressed Mandy Hildebrand for the use of the Convention Center facility. He was excited about everything that was going on. He commended all of the co-workers for all their efforts on all of the projects and day to day services that the City had going on. He asked the department heads to express their appreciation for all they do everyday for the City of Hickory. The City was receiving accolades and getting noticed for everything that was going on in Hickory, North Carolina.

Overview of the Day – City Manager Warren Wood

City Manager Warren Wood gave out the Wi-Fi code for the Convention Center. He noted that this was the 40<sup>th</sup> Council Retreat. It started in 1984 with City Manager Gary McGee. He highlighted what they would discuss during the retreat: the City's water system, Jeff Lineberger with Duke Energy, and the Catawba-Wateree Management Group was present and would be presenting. They would learn a lot about the Catawba River and the lake system and how it functions. Public Utilities Director Shawn Pennell would follow-up with history about the City's water system which began in 1904. A lot of focus on water and water management and being good stewards of the river and the lake. Catawba County Economic Development Corporation President Scott Millar would discuss economic development. He advised he would discuss the Innovation District.

Strategic Planning Initiatives – City Manager Warren Wood

- Water System Overview
- Economic Development
- Innovation District

City Manager Warren Wood referred to a PowerPoint presentation and displayed a map which was the obligations that the City has, and the communities water services were provided to. Water was a limited resource, and they would discuss capacity, and future needs. The innovation district was much about marketing and branding an area. They would include the OLLE Art Walk because they thought there was tremendous opportunity for redevelopment in this area and it would tie into the Appalachian State University (ASU) Hickory Campus. He noted there were a have of billion dollars' worth infrastructure that were either North Carolina Department of Transportation (NCDOT) projects, or City of Hickory projects, for example US 321, Riverwalk, Aviation Walk, connecting the Aviation Walk to the Aviation Museum, and Catawba Valley Community College (CVCC) Workforce Center. They would tour later in the day a site that would become the City's Environmental Education Center/Nature Center, which contained approximately 18-acres. It was located on the river on a parcel that the City had purchased. The City had been buying a lot of property over the years along the lake for protection, watershed protection along the lake because they do not want all of that developing, particularly upstream from the City's intake.

City Manager Warren Wood mentioned the \$40 million dollar bond program and they leveraged it to \$50 million dollars, almost \$100 million dollars in projects going forward. Over the past 5 years almost 1,900 permitted homes. They want to grow unofficially 1.5 to 2 percent and that was about

what that translated into population wise. They do not want to see explosive growth but some growth. The region was older demographically, so it was important to have younger folks, working aged people living here. Mr. Scott Millar would discuss industrial development at Trivium, speculative building partnerships, and the Airport as an economic driver. ASU Hickory had gone from zero to 60 in almost no time. Their enrollment was really good, and they planned on doubling their enrollment every year. They had \$40 million dollars to renovate that building within the next 5 years, floor by floor. Also, the partnership with Catawba Valley Community College (CVCC) Workforce Development and the Aviation Museum which was under construction. They would tour all of that. He displayed a map of the Hickory Trails and mentioned that the walking system was 10 miles of trail. They had previously done the ribbon cutting for the Riverwalk. The next ribbon cutting would be for Aviation Walk. The first leg of the OLLE Art Walk would be tying in Riverwalk to that. The City Walk was completed. They would tour Trivium. There was a lot of great activity happening downtown and more coming with 111 Main. They had not seen this sort of development in the downtown area. When they did the bond referendum for the trail system this was what they envisioned, and they thought that it would happen and was happening.

II. Water Resiliency / Lake Hickory & Catawba River – CWWMG President Jeff Lineberger

City Manager Warren Wood introduced Vice Chair of Catawba-Wateree Management Group Jeff Lineberger who was also the General Manager for Water Strategy, Hydro Licensing & Lake Services for Duke Energy.

Vice Chair of Catawba-Wateree Management Group and General Manager for Water Strategy, Hydro Licensing & Lake Services for Duke Energy Jeff Lineberger gave a PowerPoint presentation. His team at Duke did the long-range water supply planning for all of the power generation assets in the Carolinas. Without water the lights do not come on. Water was going to be absolutely necessary to produce electricity in this country and in the world. They have to take care of the water if they are going to take care of economic development, life, and the environment. It was absolutely necessary, and everyone had a role. He highlighted the topics he would discuss, the Catawba-Wateree lake system, key partnerships, and the inter-basin transfers (IBT).

Mr. Lineberger referred to the PowerPoint and displayed a photo of Oxford Dam Hydro Station, it was the structure that formed in Lake Hickory, completed in 1928. It was still in operation producing electricity. It produced enough energy in a typical year to power approximately 7,200 average homes across the service area.

Mayor Guess asked the condition of the dam.

Mr. Lineberger advised that it was in very good condition. It was almost 100 years old. A lot of their powerplants were antiques. Over the years they had done regular maintenance of all of the hydro stations along the Catawba and other hydro stations that they owned. They had replaced the water wheels on some of them, but some of them still had the original water wheels. They rewind the generators on a regular basis and all the routine maintenance. They have changed the electronics out so they can now stop and start those from Charlotte as well as locally. They also had a project to add additional voice mechanisms to the flood gates to have more redundancies there.

Mayor Guess asked if the structure and concrete were good.

Mr. Lineberger advised it was in excellent condition.

Alderman Wood referred to the 7,200 homes, he asked where the rest of the power was generated from.

Mr. Lineberger advised Duke Energy had hydro power, solar, gas fired generation with simple-cycled combustion turbines that were basically jet engines that turn the generators to generate electricity. They also had gas fire steam plants that burn gas, create steam and the steam turns those turbines to make electricity. They have nuclear power and coal fired generation.

Mr. Lineberger referred to the PowerPoint and displayed the Bridgewater Hydro Stations at Lake James. The station in the photo was built in 1916 but was no longer there. Lake James was built with three dams. They had built new dams just downstream of the three dams that created Lake James. They had to build a new powerhouse and tear the old one down. Lake James was very important to the resiliency of the water supply Hickory uses.

Mr. Lineberger referred to the PowerPoint and displayed a map of the boundary of the basin and described it as an irregularly shaped funnel, that was why it was important from a water supply standpoint. Without rainfall they do not have any water. That was where all of the surface water and groundwater came from. The rain that falls would wind up in the Catawba River if it was not taken out and used in some other way. He pointed out the area which was the sub basin of the Catawba Basin known as the South Fork. It was the largest sub basin in the Catawba. That sub basin under North Carolina State Law was defined as a separate river. North Carolina defines 17 river basins as being regulatory river basin bodies. There were two in the Catawba, the South Fork, and the rest of the Catawba. If they move water from the Catawba into the South Fork basin or vice versa that was an inter-basin transfer.

City Manager Warren Wood commented that the Henry Fork Wastewater Treatment Plant discharged into the Henry River which fed into that, but it came back into the Catawba further down.

Mr. Lineberger advised the South Fork was approximately 12 percent of the drainage area of the Catawba-Wateree river basin. The whole upper 225 miles of this river had a bunch of Duke Energy lakes on it. They built 11 reservoirs there. The lower part, Low Lake Wateree River stayed that for 76 miles and winds through the swamp and then joins the Conway River and forms the Santee and eventually winds up in Charleston.

Mr. Lineberger referred to the PowerPoint and displayed an elevational drawing of the Catawba-Wateree hydro power project. He commented that this was where their company started, on April 30, 1904, they began the operation of their first hydro power station. It was at the location of what is now the Wylie hydro plant, it was called the Catawba Hydro and had one customer. A textile customer, Victoria Cotton Mill in Rock Hill. The founders of their company had a vision in economic development. They wanted to provide a low cost, reliable energy cost for industry and manufacturing, particularly the textile industry, to give this region a way to grow its way out of an agricultural economy. They were called the Southern Power Company in 1904. He referred to the 11 reservoirs which were all thought of around the early 1900s timeframe. It was the first river basin in the country that was comprehensively planned and developed for electricity production and the concept caught on after that. All the reservoirs were important, some more important than others in terms of water storage. There were 11 of them located on almost 80,000 surface acres and a whole lot of shoreline miles, 255 billion gallons of usable water storage. There was more water storage than that in those reservoirs, but some of them they could not get to. He explained how they define usable storage, what was the shallowest regional water intact that was located within that reservoir. That was defined as a critical reservoir elevation. They do not want to go below that elevation because if they do, they are putting someone's water intake at risk. About 20 percent of their generating capacity in the Carolinas relies on the water supply here. They have a couple of nuclear plants, McGuire, which was located on Lake Norman and Catawba, which was on Lake Wylie. Marshall Steam Station and Allen Steam Station on Lake Norman and Lake Wylie were coal fired plants. They had two nuclear and two coal fired plants in the river basin, and 12 hydro stations. Each dam had at least one hydro power station on it. Water was the driving force for hydro power. Great Falls reservoir actually had two hydro stations on it. A really important concept here, the power company and the region grew up together. Their hydro reservoirs were the most integrated into the community and they also provide the raw water storage that many of the communities use and supply about two million people with drinking water. There was also a lot of industrial use there. Some agricultural use, not a whole lot out of these reservoirs. A tremendous recreational asset. A lot of folks are dependent on them to manage these reservoirs.

Mr. Lineberger referred to the PowerPoint and displayed a chart showing the usable water storage. Each one of the lakes had some amount of usable water storage in it, but they were not all the same size. Some of them could be drawn down further than others, some of them had a lower critical reservoir elevation than others. He noted the percentages of the 255 billion gallons total that were usable. The four big lakes that controlled most of that were Lake James, Lake Norman, Lake Wylie, and Lake Wateree. Particularly Lake James and Lake Norman. All of it was important when they get into drought particularly. This was their "savings account" when they are not getting enough inflow. When in a drought you do not know how long it may last. When the inflow to the reservoir stops dropping off, evaporation goes up, because it was typically hotter and dryer during droughts, so they dip into the "savings account". It was not that big of one even though 255 billion gallons sounded like a big number, relative to how much rainfall they get, about 46 inches per year, that was only about 7 percent of the total average rainfall. It was a decent "savings account" but not one they could take lightly.

Mr. Lineberger referred to the PowerPoint and displayed a chart showing the numbers that humans did not control. Rainfall drives the systems, 46 inches per year was the average number for the upper part of the Catawba, which was a little higher, and for the lower part it was a little lower. That generated into runoff and stream flow, into the reservoir system. Then you also have natural evaporation which occurs all of the time, 24/7. It really occurred in heavy amounts during the summer, 204 million gallons per day was the annual average of natural evaporation of the 11 reservoirs. On a really hot summer day, sunny, with wind, the number was closer to 330 million gallons per day. That number was bigger than the net withdrawal of all the human uses added together. He pointed out the categories that humans controlled. The numbers for 2022 added up to about 210 million gallons per day. On average, humans were withdrawing about the same amount out of the lake system as average national evaporation, but much less than the evaporation rate in the summertime. Then they have outflows out of the Wateree which was the last reservoir.

City Manager Warren Wood asked if the 255 million gallons of usable storage the amount above municipal water intakes or was it everything in the river bottom.

Mr. Lineberger advised that was the amount above the municipal and Duke Energy water intakes. That was not everything that was stored in the reservoir. Everything that was stored in the reservoir was a much bigger number than that, but you could not normally get to it without some type of significant modification.

Catawba County Economic Development Corporation President Scott Millar asked if 112 million gallons was public water supply, net or take out only.

Mr. Lineberger commented that was net. It was 112 million gallons per day taking into account the gross withdrawals, and subtracting back off what was returned to the lake system. He pointed out the negative number for industrial. He mentioned that a lot of the industries would have their own source to supply them, usually groundwater. They may have wells that supply them to get their water, but when they discharge it, they send it to municipal wastewater treatment plants. That

winds up being a negative withdrawal, or an addition back to the lake system.

Alderwoman Patton commented that if they were using a well it was still pulling from that water.

Mr. Lineberger advised it was pulling from the groundwater. What they were tabulating was the surface water. It was effected by groundwater; in normal times these lakes were fed by groundwater as well as surface water. When they get deep into droughts, as they had seen in the record droughts, they have groundwater reversal occur. The groundwater table goes so far down it then becomes a drain on the reservoir. The water reverses and starts coming from the reservoir into the ground to fill the hole. That only happens when you have very lengthy droughts. They saw it in 2007-2009 drought of record. They saw it in the 1998-2002 drought too.

Mr. Lineberger referred to the PowerPoint and displayed Lake Hickory Landmarks. He pointed out the Duke Energy owned public recreation areas, and the recreation areas owned by others Riverbend Park below the dam at Oxford, and Riverwalk Park that was opened several weeks ago. The water intake relative to Hickory, 32 million gallons per day, and the former Long View intake, now owned by Hickory on the other side, 2 million gallons per day. He noted where Lake Hickory began, which was where Lake Rhodhiss was located. The lake was 18 and ½ miles long, and relatively deep. He noted the approved water intake capacities. Anything inside the license project boundary which in general was the full pond elevation for each of those 11 lakes, had to go through a lake use permitting program for Duke to comply with its Federal license. They have to review and approve all water intakes, discharges, bridge and powerline crossings, boat docks, etc., that break that Federal license boundary.

City Manager Warren Wood asked about the request for additional capacity, the inter-basin transfers, do they have a formula that they use. The inter-basin transfers were actually negative on the whole system in terms of people wanting to draw the water out or increase their permit.

Mr. Lineberger explained if water leaves the basin and did not return at all, it was water that was lost to the 11-lake water supply system.

City Manager Warren Wood commented that effects everybody, whether they were upstream or downstream of the IBT.

Mr. Lineberger mentioned that those impacts occur in different ways, and they have sophisticated water quantity models that identifies what those impacts were and could look long range and do what was relative to weather patterns and things like that to really get a feel for it, how they could measure that impact.

Alderwoman Williams commented in the past there had been requests and probably would get more. She asked if Mr. Lineberger got involved in the full analysis where they would have a part in this in terms of IBT requests.

Mr. Lineberger advised he would discuss the IBT later in his presentation.

City Manager Warren Wood commented that the City had one water plant, they ideally need a secondary water treatment facility which would be the Long View Plant. The Long View intake was originally permitted for 2 million gallons per day. They would have to get that permitted for “x” million gallons per day and go through that process to have that done. IBT’s plays into the City’s ability to get the water. He mentioned out west where it was the wild west and they do not have all of these regulations and it was all these water wars.

Mr. Lineberger commented that it was a whole different system, a property rights-based system and here we have a riparian based system. More of a community asset, and everybody that has riparian rights owns property adjoining a natural waterway has the right to reasonable use of water that flows by their property. Lakes were not natural waterways. Hickory’s water intake on Lake Hickory, riparian rights do not really apply to Hickory. That was the way the law was in the east. He discussed some figures about Lake Hickory and Oxford Dam, the dam that formed Lake Hickory, and the Oxford hydro station which was built into Oxford Dam. He pointed out the lake level convention. Each lake has a different full pond elevation. Lake James full pond was 1,200 feet above sea level, Lake Wateree’s full pond was 225 ½ feet above sea level. There was 1,000 feet of vertical drop there. Their system operators operated 28 hydro stations in the Carolinas, and it was hard for them to keep up with all of those different individual numbers. To make that easy they just said that full pond for every one of Duke’s lakes would be referred to on local datum as 100.0 feet. That way if someone tells them that Lake Norman was at 100.0 feet local datum, it was at full pond. If it gets a little higher, it will spill over the dam if they do not act. It made it easier. If they said Lake Hickory was at 97 would mean the level at Lake Hickory at the dam was 3-feet below full pond for Lake Hickory.

Mr. Lineberger discussed relicensing, which was a big deal. They had to get a license from the Federal government to develop the hydro project. Ten of the 11 lakes were built before there was any licensing requirement. They were built from 1904 to 1929. When they proposed Lake Norman in the 50s, by that time there was a Federal law that said if a private entity was going to dam up public waters for hydro power you had to get a license from the Federal Government before they could do that. To build Lake Norman they had to get a license. That same law said that if there were other reservoirs in that river system that were hydraulically connected, they depend on the water coming from or to a reservoir, then those reservoirs had to be licensed too. In the 1950s to build Lake Norman they had to get a Federal license. Instead of getting 11 licenses they put them all under one license. It was a very unusual license. There were a few if these the Federal

government had that more than three or four reservoirs together, there were 11. It made it very complicated from a relicensing standpoint. The original license was issued in 1958 and had to be renewed in 2008. The relicensing process was a minimum of 5 ½ years long and it was longer than that for them. Because there was so many stakeholders and potentially competing interests, and this river basin was so important to the region, that in the early 2000s instead of just doing what the regulations required, which meant there would be very little public interaction until after they filed the license application. They added the whole voluntary enhancement part to it where they set up stakeholder teams with the intent of negotiating and getting to a place, a region, to recommend to FERC, Federal Energy Regulatory Commission, what they wanted in the new license of how this lake system should operate for the next 30-50 years. That was easier said than done.

Mr. Lineberger explained the relicensing process. They had 6 stakeholder teams, North Carolina State team and South Carolina State team. They were largely the stakeholders that you could look into a regulation and find their name. Lots of State and Federal agencies, the Catawba Indian Nation. He pointed out the advisory groups that consisted of local governments, water dependent businesses, landowners, and regional staff folks that were involved. They set up the 6 teams, and each of the teams met at least once a month, most of the meetings all day, and that went on for three years. They also had 30 technical studies going on to measure all of the existing and potential impacts of different ways they could operate going forward to try to find the best place, the best comprehensive plan to submit to the Federal government and to say this is what they wanted to put in the new license so that this regions water and electric supply, and public recreational opportunities, and environment would be safe for 50 years. He mentioned that Tom Carr and Cal Overby were the representatives of the City of Hickory. In the end they got to the 400-page contract, comprehensive relicensing agreement, and 70 parties signed it, there were 85 parties that were eligible, and 15 parties decided they thought they could get something better by going directly to the FERC. He was most proud of the attendance at these meetings. He noted that 27 local governments and tribes signed the agreement, including the City of Hickory. It was a real testament to people realizing the importance of what they were doing, staying involved and being willing to listen to the interest of other people, and coming up with something that met not only their interest but the interest of others. A real testament to collaborative planning.

City Manager Warren Wood commented in 2004 the Concord/Kannapolis IBT fight geared up. He asked if that conversation entered into all of this.

Mr. Lineberger advised that it entered into the water supply that was done as part of this process, that was the first comprehensive 50 year look ahead for water demands in the basin. It was incorporated there. It got included in some of the meetings. They started to put some language in there about how IBTs should be handled, but the State agencies that were also participating in their process was the ones that had to certify the IBTs and North and South Carolina both said if they put something in there they were out. They could not predetermine what their regulatory actions would be. The comprehensive relicensing agreement (CRA) was silent relative to positions on the inter-basin transfers. It did some things that helped with that conversation. They were relicensed in 2015. Their license expired in 2008, but the law allowed them to keep operating under the old license until FERC issued a new one. A supreme court case delayed that license, South Carolina sued North Carolina over the Concord and Kannapolis inter-basin transfer certification. The supreme court took that case, established a special master to handle it, and after a lot of frank conversations at the Catawba-Wateree River Basin Advisory Commission, it was settled. The settlement agreement was signed in 2010, and 90% of the settlement was the river basin just went through the relicensing process that dealt with water supply issues and how the lakes were going to be operated to support those local water supplies. They thought they had solved most of this. That was what the settlement agreement said. They would have to go back through some of those detailed communications as new inter-basins were proposed. They increased minimum flow releases where there was a flowing river stretch downstream. They established a set band on each lake that they would try to stay within. The old license did not have that requirement in it. A lot of new public recreation stuff, tons of public recreation investments mainly aimed at land-based recreation that people would expect to do when coming to a lake.

Mr. Lineberger discussed partnerships. They had two that made a huge difference in the river basin here in terms of resiliency. Drought Management Advisory Group was the first one, they were the opposite of a storm response team. A drought was like a storm, but it sneaks up on you. You are in it for a few months before you realize it. Who knew when a drought was going to end. They have a low inflow protocol that has 5 stages, increasing water use restrictions. When there was plenty of rainfall there was plenty of water in this lake system and plenty of water for future growth. When they get into a drought situation, they have to start reducing the amount of water that is being used. From Hickory's standpoint stage 0 was like a watch. Stage 1 voluntary water conservation. Stage 2 mandatory water use restrictions. Stage 3 increased mandatory water use restrictions. Stage 4 emergency water use restrictions. Hopefully they would not get to stage 4. The drought of 2007-2009, the ink had just dried on the relicensing agreement. All the water supplies and Duke commented that FERC had not approved this plan yet, but they went ahead and started doing it. In 2006, it was the new drought of record for the whole river basin that lasted through 2009. They got to stage 3 which was the second stage of mandatory use restrictions. They had used most of the usable storage in the lake system. They still had Lake James. They had a piping issue at McGuire that required them to keep Lake Norman at 3 feet higher than its critical reservoir elevation was. That had been fixed and they could take Lake Norman down 10 feet if they needed to. It started raining again and filled the lakes back up. The low inflow protocol absolutely worked. If they would have not used it, they would have uncovered the water intakes in the 2007-2009 drought.

City Manager Warren Wood commented that was where those IBTs come in, 255 billion gallons between an intake of all these lakes and full pond, well when there was a drought, and you are a foot over the intake then that really becomes critical. You do not think about it when it was raining, you think about it when it not raining.

Alderman Wood commented the water that falls into this basin goes into the river. He asked if the water fell on his property, and he has a lot of property, and he wants to capture it and hold that water. Does he own it?

Mr. Lineberger advised it does not own it. Nobody owns the water in North Carolina, it is a public trust resource. He would own his land and with the proper permits he could build a dam, and he could catch that water. Under North Carolina State law an impounder, if you build a dam, the impounder was entitled to superior rights to use of the excess water above what would have naturally been flowing at the time. That takes lawyers to go through and figure out what that all means. Duke Energy was an impounder on all 11 lakes on the Catawba, and they are also a Federal licensee which gives them additional authority. They do not own the water. They know that the whole region had to have it. One important thing that came out of the relicensing agreement was the leveling that occurred. From their company's standpoint in the past, they thought of the water supply that was impounded there as being plenty forever, and nobody would ever have to worry about a drought in the Catawba basin, but they were wrong. They did need to worry about droughts because droughts had gotten worse. The leveling that occurred was a recognition that the public water supply and the electric supply were joined at the hip. They were equally important. They could not have modern life without both of them. It made no sense for their company to not recognize that and not protect the public water supply with every bit of the fervor that they protect the electric supply. Their management understands that.

Alderman Wood commented that it was interesting because they were generating revenue off of a resource that they do not own. That was an interesting balance he thought.

Mr. Lineberger commented the water essentially was the fuel for the hydro stations. It was the cooling agent for the steam power resources. That was why they had to get a Federal license that made sure what they were doing was the best fit for comprehensive development of the waterway which were the words out of the Federal Power Act. Comprehensive development meant that all of those uses need to be accounted for. They had to get equal treatment which did not necessarily mean the power that they generate versus how much water comes out for public water supply. The volumes did not have to be the same, but they had to be very considerate.

Alderman Freeman asked what a stage 4 water restriction would look like for him living in the City.

Mr. Lineberger advised all outdoor water uses would be eliminated, and he would be asked to use as little water as he could inside of his home. From Duke's perspective they would be asking all of their electric customers to reserve electricity because they have to use a lot of water to produce electricity. In stage 4, they have lost control of the lake levels. In stage 4, more than likelihood they have had the groundwater reversal, and there was lots of evaporation, and the tributaries were dry, and the lakes were going to wherever they go to until it starts raining. Hopefully they would not get there. Stage 4 was really bad, and they had not seen a drought that would cause stage 4, but they were not in control of how bad droughts can be.

Public Utilities Director Shawn Pennell commented that they were looking at pretty much anything that was non-essential. They would not be washing cars at home, watering lawns, essential use only, showers, etc.

Alderwoman Williams asked if it got to that what about the commercial car washes.

City Manager Warren Wood asked if they closed the car washes down last time.

Mr. Pennell advised they did not. Just washing cars at home when they were in stage 3.

City Manager Warren Wood thought that restaurants were asked to serve something other than water.

Alderwoman Williams remembered that they did not automatically give you a glass of water you had to ask for it.

Mr. Lineberger mentioned that most of the commercial car washes recycle a whole lot of their water anyway. Everybody was cutting back when they were in a drought like that. It was a disruption to your normal life, but it reminds us that we are not in charge of how much water we get, and it is so important to everything that we do in our normal lives, and we have to use it efficiently. They get reports from each of the water suppliers every year of how much water they have withdrawn and returned so they can account for it in the system. That changed people's habits for a long time. It got people to be more accountable for their water usage. They will be challenged with more droughts in the future. They were in a better place now to communicate and to process that because of the partnerships. The other group was the Catawba-Wateree Water Management Group, they look out for the long-term water supply needs. It was a 501-C3 non-profit organization.

City Manager Warren Wood referred to the drought conversation they just heard, there was a couple of jurisdictions in North Carolina on the Catawba River that already have 43 million gallons in IBT and there was one that was going to be asking for another 30 million gallons so that was 72 million gallons taken out of the basin into another basin, if the next one was approved.

Alderwoman Patton mentioned that they look at it, and weight it, and to be fair to each one of these municipalities. She asked if there was some formula involved in that. Like the IBT that was coming up, were they given more weight to their requests versus all the other cities or was a legal issue.

Mr. Lineberger commented that IBT certifications were issued by the North Carolina Department of Environment over environmental quality, if in North Carolina, or South Carolina Department of Health and Environmental Control, if in South Carolina. Duke Energy does not issue an IBT certification. They were a stakeholder in the process for IBTs. Those agencies that had lead were accountable for running their process which included an environmental impact statement which should evaluate all of the environmental and human impacts of what was being proposed both in the source river basin where the water is coming from and the receiving river basin where the water was going to. Duke Energy's role in that was as a member of the Catawba-Wateree Water Management Group to look at the big water quantity model and to run scenarios through that to measure some of those impacts and then provide that information to the State agency that was overseeing the process. They were a stakeholder in that. He referred to the Catawba-Wateree Water Management Group (CWWMG), a corporation. Duke Energy and 18 public water utilities had all relied on the common resource working together. They had spent over \$9 million dollars on projects that would have not gotten done otherwise to help make the water system more resilient during that time. They had developed the first river basin plan in the Carolinas, the Water Supply Master Plan, it was finished in 2014. Under the supreme court settlement agreement, the Water Management Group was accountable for updating that plan at least every ten years. They were updating it now. It was going to be called the Integrated Water Resources Plan. Instead of just looking at quantity, it was going to relook at quantity but also water quality issues like source water protection. It was a great forum to discuss issues like IBTs. Charlotte was proposing to increase their IBT. The Water Management Group Board was meeting next week to begin that conversation about whether there was a way this could be done differently or better to address all of the interest in the basin. It was a shared resource and there was a shared responsibility that everyone had whether they were transferring water in and out of the basin or not. Hickory has an IBT if they move water from Lake Hickory to the South Fork. Statesville, who has a water intake on Lookout Shoals, Charlotte, Mooresville, Lincoln County, Mt. Holly, and Gastonia were all impacted by that, because that water leaves Lake Hickory and does not come back in until Lake Wylie. All the intakes previously named were in the stretch of Catawba between Lake Hickory and Lake Wylie. In a lot of ways, what they do here, because they have a defined sub basin that they serve both sides of it, which was similar to what Charlotte has. The river basin for the Catawba runs almost down the middle of Mecklenburg County. Charlotte serves all of Mecklenburg County. He thought that about 60% of Mecklenburg County was in the Catawba basin and the other 40% was in the Yadkin Pee Dee river basin. To serve their home constituents the people that have Charlotte Water Service directly, they were not wholesaling it, that had to be an inter-basin transfer.

Alderman Wood commented that the transfer that they were getting ready to ask for, do they have capacity in their ability to provide water from their water system to use all of that. Was this to serve more customers? What was the end game for this transfer that they were asking for?

Mr. Lineberger commented that as far as their intakes on the lake they already had enough approved capacity to support the level of the inter-basin transfer. As far as them building new waterlines and things like that within Mecklenburg County, they were doing that all the time just like every other growing area.

Alderman Wood commented that they would not be able to grow without this water.

Mr. Lineberger commented that they would not be able to grow in the Yadkin River part in Mecklenburg County without additional water.

Mr. Lineberger advised there were a lot of IBTs in the Catawba-Wateree river basin. City Manager Warren Wood mentioned some of those. There had been about a half of dozen that had gotten certifications. They had gone through the regulatory process and been certified by that State agency that says you can move this much water. Because there were a whole lot of inter-basin transfers going on before there was even a law requiring that. The entities that were doing those IBTs before the law came into effect were grandfathered. Most of them up to whatever their facility capacity was at that time. That time was July 1, 1993 in North Carolina. Hickory was already doing an inter-basin transfer at that time, so they were grandfathered at some level by the State. As Hickory grows, they could eventually get to the trigger point that requires Hickory to then go get an inter-basin transfer certificate and go through the process that everybody else goes through. He thought that was often something that was forgotten. If they looked at the boundary for the Catawba-Wateree basin and overlay the county boundaries on top of that, every single county in the Catawba-Wateree river basin, had other river basins in it. The point being, if the goal in the county was a countywide municipal water supply, they would deal with inter-basin transfers eventually. They would be in that boat. It was not an unusual thing now and would not be an unusual thing going forward in terms of meeting the growth in this river basin.

Mr. Lineberger discussed Duke Energy's interest here. In an ideal world they would want all of the water to stay in the river basin where God put it. Wherever the rain falls that water stays in the river basin. That would be their ideal because that was most likely to be very simply sustainable. That was not in a practical world though for the reasons he just talked about. Population centers do not follow the river basin boundaries they cross over. It was very hard to build large new reservoirs now, he would not say impossible. Someday they would need to build some more, but it was very

hard to do. The inefficiency of physically splitting the water system, he was sure it would cost Hickory a whole lot of money if they had to say 20% of the population that was served in the South Fork basin, if they had to say all of that water had to come out of the South Fork River and had to go back to the South Fork River and the other 80% could come out of the Catawba and go back to the Catawba. That would be expensive to do that. There were some practicalities and there were probably going to be some more inter-basin transfers.

Mr. Lineberger advised the alternative from Hickory had to be thorough. Due diligence in the alternatives review was really where there was “hay to be made” here. Specifically, where was the water coming from. Some of the inter-basin transfer proposals in the past had just said it would come out of the Catawba somewhere and would go into the Yadkin somewhere. They could not measure impacts that way. Define the ins and outs. Why can’t you return some of it to the source basin? Why can’t you do something different with the wastewater system planning? Could they do something different there so some of the water they supplied from that adjoining basin gets used and then comes back to the basin it came from.

Alderman Seaver asked if IBTs lasted forever or were they reevaluated to see if they were meeting that level or not. Do they take some back? How does that work?

Mr. Lineberger explained the reevaluation occurred by the State agency that issued it. Typically, every year, perhaps every quarter, they have to send in a report to the agency saying this was how much inter-basin transfer we did in the last time period. Once they get up to some trip point, which they were starting to approach what their permitted level was, then they have to submit a plan for how they will meet the growth past that timeframe. If they had one and did not use it, he was not sure that anyone was really in that boat, because the process was so painful that if you did not think you were going to use it, you would not go into the process in the first place. He did not know that for a fact, that would be a good question for DEQ.

Mr. Lineberger commented maybe there was some opportunity to buy water from a neighboring utility in a part of the river basin that was outside of their source base. Instead of them supplying all of the water, they buy some from somebody else to supply, and keep the water in the river basin in which it was used. Those were the kinds of things they would have a lot of discussion on in the Water Management Group relative to what Charlotte was proposing. He was not going to prejudge where they would come out on that. He was not going to say here is Duke Energy’s position right now today. As they had seen from working through these relicensing issues sometimes the conversation generates into ideas that nobody had before, and you wind up with pathways that nobody really conceived before and all of a sudden, they are being interested in a better way. He knew that conversation was going to occur, and he hoped it would be productive.

Mayor Guess asked who leads these conversations and ultimately makes the decision if it does not have to go to court.

Mr. Lineberger advised the decision maker for Charlotte would be DEQ and the Environmental Management Commission which has oversight over the Department of Environmental Quality. They would be the decision maker and would not be sitting in the conversations that they were going to be having as water users.

Mayor Guess asked how many people that was basically. The group or the board that ultimately decides.

Mr. Lineberger commented the DEQ was basically staff for the Environmental Management Commission, they would run the proposal through the process and then send a recommendation to the Environmental Management Commission. The Environmental Management Commission (EMC) would say yes or no to that. That was a State level board, 12-15 people, they met in Raleigh every month. They do all kinds of things, not just inter-basin transfers.

Mayor Guess asked if Hickory had a representative or a person on that per se.

Mr. Lineberger had not looked at who was on that EMC right now. He was not sure.

Alderman Wood asked if Duke’s assets were exclusive to the Catawba-Wateree river basin, or did they run into situations where they have an inter-basin transfer request where Duke has access on both basins.

Mr. Lineberger advised they have hydro assets all over North and South Carolina, particularly from the Yadkin River west, they had lots of hydro assets. In Charlotte’s case, could Duke eventually use some of the water at their Blewett Falls hydro station on the Pee Dee? Probably. They would discharge it to the Rocky River, Rocky River discharges in Pee Dee just upstream from their Blewett Falls hydro station. They could get a little bit of generation out of that. They would not get as much generation as they did in Catawba.

Alderman Wood asked how they weighted the benefit of the transfer from Duke’s prospective.



Mr. Lineberger advised the impact of hydro was a piece of what Duke would consider. Duke Energy was in the economic development business. They wanted to see the whole service area grow, be healthy, and prosper. They want to support those communities in that growth. It was hard for them to ever try to say community “X” you cannot grow when others are growing. It had to be done as wisely as they could do it and they have to manage these water resources the best way that they can. He gave an example if there was a water withdrawal from the Catawba that was going to the Yadkin Pee Dee and it was upstream of Tillery, they have two, Tillery hydro station and downstream of it was Blewett Falls, if the discharge was upstream of Tillery they would get a little more generation out of that water, because it would go through two hydro stations. That would not break or make Duke Energy’s decision on whether or not they thought they needed to weigh in on the IBT proposal. It would not do it because it was so small.

Mr. Lineberger referred to the PowerPoint and discussed access to water, since economic development was part of the discussion. They had an access area that was undeveloped on Lake Hickory, nothing on it. They had a plan in the 2028-2032 time period to put some relatively minor facilities there, a gravel parking lot, and non-motorized boating access. But for that relicensing agreement, if that Long Shoals access area was leased to someone else, then they would also consider developing some more facilities there. It was about 19-acres but was not in Hickory’s ETJ (extra-territorial jurisdiction). It was not very far from it.

City Manager Warren Wood advised that it was contiguous to a satellite annexation, it was just beyond Catawba Springs, but it touched City limits.

Mr. Lineberger commented that it was an opportunity that they might want to think about as they move forward. Public access to water was a big deal. As they saw in the pandemic the use levels were out of the roof right now for public access areas. This could be a good opportunity perhaps.

City Manager Warren Wood advised they had talked about more recreational opportunities for the northeast because that was the population that was underserved. Sandy Pines was under design now, but this was another opportunity. Wittenburg was an example of a partnership with Alexander County and Duke Energy.

Mr. Lineberger commented that the lease opportunity here would be for \$1 per year through 2055, and what Duke would get out of that was potentially the City operating this on a day-to-day basis as a park. If the plan involved motorized boating access, they would also have the North Carolina Wildlife Resources Commission maintain the motorized boating facilities under a separate contract with Duke. These partnerships were growing and bringing in some tremendous new opportunities to populations that do not have boats, a lot of times. Everybody needs to be able to enjoy water resources.

City Manager Warren Wood commented that they could not make any commitments but put it on the radar screen at some point to look at.

Mr. Lineberger shared some information sources. They could get a lot of information off of Duke’s website, [www.duke-energy.com/community/lakes](http://www.duke-energy.com/community/lakes), off the Water Management Group’s website, [www.catawbawaterewmg.org](http://www.catawbawaterewmg.org), and they have a mobile app for mobile phones called Lake View. They could sign up for that and it would provide lake levels on any lake they may choose. They could set up which lakes you want. There were also phone numbers 1-800-829-5253 for lake levels and flow releases, and Lake Services and Public Recreation 1-800-443-5193. If there was an issue relative to lake use permitting, they could send an email to [LakeServices@duke-energy.com](mailto:LakeServices@duke-energy.com). If there was one relative to public recreation at one of the access areas, you could email [PublicRecreation@duke-energy.com](mailto:PublicRecreation@duke-energy.com).

Mr. Lineberger referred to the PowerPoint and displayed old photos of Oxford Dam. He loved old stuff. He pointed out a photo of Oxford Dam under construction on December 11, 1927. There was not a lot of mechanized equipment out there, there were a lot of cranes, etc., but no rolling stock there. He showed a photo from October of 1928. That was only 10 months. In 10 months’, time it was a finished hydro station. They could not do that today; it would probably take more like 5 years to move that fast. He showed an aerial photo which he thought had been colored enhanced, because he did not believe they had colored aerial photography. There were no houses located near the dam on the lower part of the reservoir during that time. That reminds them of how much things had changed, the real housing boom started in the 60s along the reservoirs and really jumped in the 80s. It was a beautiful site there, of a beautiful reservoir.

Mr. Scott Millar commented that this was a perfect lead in as he was going to talk about the importance of electricity and maintaining electrical assets for the City’s growth. In 2029 and 2034 two of the four, and then four of the four, coal fired units at Marshall were slated to be shutdown as a part of the carbon plan. He asked how much hydro generation would occur following that.

Mr. Lineberger explained at Marshall they have four coal fired units right now, and they were also being supported with natural gas. A couple of them could burn natural gas part of the year and they were also talking about installing a combustion turbine there as well. That was all fossil fired generation there. All of the hydro generation on Lake Norman occurred at the dam downstream

and it was going to continue. They had four really big hydro units down there and would continue to produce hydro power there. They were not building new hydro stations these days except for maybe one place at their Bad Creek location in the Mountains of South Carolina right on the North Carolina/South Carolina line. They had a pump storage station, which was a hydro power station, that just had the ability to reverse its turbines. When they need electricity on the grid then they release the water from the upper reservoir, and it floods down into the mountain across the turbines and out into Lake Jocassee and produces electricity. When they have excess electricity on the grid, most of the time at night, but sometimes when there was a whole lot of solar coming in and there was not a lot of demand, they reverse those turbines and pump the water back up 1,200 feet through the mountain and back into the upper reservoir. Bad Creek acts like a battery. That water does not wear out so you could do that all day long, forever. That water would be just fine. They were relicensing that project now and as part of that were investigating digging a second tunnel in the mountain, putting a second powerhouse in there, using the same reservoirs. They would not change how much water was available, they would double how fast they could move it, which would provide a great asset to help them integrate more solar and more wind into this electric system, because as they know solar, and wind are great, but they do not always deliver and do not always lineup with when the demands are on their electric system. Hydro was here to stay as far as Duke Energy was concerned, it was where they started, and was very important to them. They could not meet their electric customer's demands nearly with just hydro, it takes nuclear and fossil. He thanked Council for their time.

Alderman Zagaroli asked if they were going to build anymore nuclear stations.

Mr. Lineberger advised that those were called SMR, small modular reactors. Largely it was the same technology, like McGuire, except it was small now, and would be dispersed more. They would be building some new nukes in the future, in the very near term would unfortunately be some more gas generation. It was okay, it was cost effective, it was very reliable, but it produced carbon. The objective was by 2050 to be carbon neutral. They had a long way to go and had a lot of challenges. They were making some very good progress though. He expected in 50 years from now, their generating portfolio to look very different. Hydro would be in there because nothing is forever, but they do refer to it as their forever generation because they continue to invest in it to maintain it and the fuel source was renewable and it was free.

The Council took a break at approximately 9:43 a.m. and resumed at approximately 9:58 a.m.

III. Importance of Water & Overview of Hickory's Water System –  
Public Utilities Director Shawn Pennell

City Manager Warren Wood introduced Public Utilities Director Shawn Pennell. Mr. Pennell would discuss the City's system, a lot of the history of the system, and a lot of the big decisions that were made in previous City Council's that got them to where they are today. They were on the front end of having some big decisions related particularly to the water side. The current City Council was sitting where other City Council members sat years ago. They would not be making any decisions today, but where going to start having these conversations. This was more than what they do every day and strategically Mr. Pennell would discuss the history and the decisions that had been made and the decisions they would be faced with.

Public Utilities Director Shawn Pennell gave a PowerPoint presentation. He referred to Mayor Guess' question regarding the members of the (EMC) Environmental Management Commission, and advised that was a 15-member commission, the Governor, the Senate Pro Tempore, the Speaker of the House, and the Commissioner of Agriculture appointed those 15 members. He noted J.D. Solomon was the current Chair for that Commission.

Mr. Pennell referred to the PowerPoint and displayed a photo of a set of plans that were on file from 1904. These were the original sewer lines as they were designed by an engineering firm he referred to as Rhode Island. This was the profile of the sewer system in downtown Hickory. He pointed out that there were street names.

City Manager Warren Wood advised originally the City limits were one mile from the Station. One big, one mile circle.

Mr. Pennell knew they heard that the street names in Hickory were so hard, finding a name versus a number, you could probably figure out the numbers. He advised some of the sewer system was still in service from the blueprints of 1904. He referred to the PowerPoint and displayed a schematic drawing of the original water plant. It was constructed in 1904 as well and water was pulled out of the Henry Fork River. The plant was built at 11<sup>th</sup> Street and 2<sup>nd</sup> Avenue NW, which was currently right behind where Station 3 was located. According to Wikipedia, in 1904 the population was approximately 2,500.

City Manager Warren Wood noted this was pre-Lake Hickory. Henry Fork was probably closer to town than the Catawba River was, so they decided to pull water out of the Henry Fork.

Mr. Pennell referred to Mr. Lineberger's presentation stating that the dam was finished in 1929. The population in 1910 was approximately 3,700; in 1920 it grew to approximately 5,000; and in 1930 the population was approximately 7,300. Those numbers were important as you see the progression of the water system and how those numbers came about. He referred to another

blueprint on the PowerPoint and pointed out the Henry Fork River.

Alderman Wood asked if he had an idea of the extent to which they treated water back then.

Mr. Pennell advised it was filtered just like it is now. He did not find that there was any kind of chlorination.

Alderwoman Williams asked what year fluoride was added.

Mr. Pennell commented that Hickory was actually the first municipality in North Carolina to do fluoride and that was in the 50s.

City Manager Warren Wood had heard the story that when the City told the public, there was a lot of concern about putting fluoride in the water, they were going to do it on a certain date. They did not do it that date, and people were saying they did not feel well because of the fluoride, but they had not put the fluoride in the water yet. He did not know if that was true or not.

Mr. Pennell advised in 1929, which coincided with the dam, they built a new raw water intake on the Catawba. He pointed out on the PowerPoint slide the Catawba before and after the dam was built. He pointed out the elevation of full pond from Southern Power, which was Duke now, and he pointed out the low level. He pointed out a structure, the wet well, and a pipe that went into it. That was the current building located beside Highway 321. That building was still there at Riverwalk. The plans were from 1927, so the building was built between 1927 and 1929 to get water out of the new lake.

City Manager Warren Wood commented that was a big decision to move the water intake from Henry Fork in anticipation of Lake Hickory being built, because that was going to be a bigger supply. They could have just said they were going to keep drawing out of the Henry Fork and not doing anything different. That really set them up for where they are today.

Mr. Pennell commented that set them up for moving forward. This was from 1927 to 1929, and the population really started growing. In 1920 the population was approximately 5,000; in 1930 it went to approximately 7,300; and in 1940 the population was approximately 13,000.

Alderwoman Williams asked what caused the population growth.

City Manager Warren Wood advised Hickory's manufacturing and industrial sides really started to takeoff around that time.

Mr. Pennell noted that he pointed out the population growth because if they do not have the water and increase the water supply, they would not have the population growth. People were making the decision to move the intake over to this larger water reservoir. It was greatly effected from 1930 to 1940, in 10 years the population almost doubled.

City Manager Warren Wood commented on the river, based on this split, there was an island where the old intake was, which was probably why the 321 bridge was built there.

Mr. Pennell commented that he had some photos for a different presentation, but the old Horseford Creek Bridge was down below where the blue boat docks were. That covered bridge washed out in the 1916 flood. It was rebuilt and then tore down when the 321 bridge was built. In 1935 plans were made for the construction of a new water plant at the current location on Old Lenoir Road. He referred to the PowerPoint and pointed out the plant, the intake, the waterline construction to tie everything in, one 235,000-gallon tank off the railroad tracks, another location of a 235,000-gallon tank, and another 235,000-gallon tank at where Westmont Gym was located now. There were three 235,000-gallon tanks in the system. Now they have 5-million-gallon tanks in town.

City Manager Warren Wood commented that was another decision, they were growing and needed a new water plant, that was when the decision was made to put in a water plant at the current site.

Mr. Pennell advised construction started in 1934 for the plant. He referred to the PowerPoint and displayed a blueprint of what the footprint looked like. In 1947 it was upgraded. Currently the only thing they have left of that plant is a half of a million-gallon clear well. Nothing else existed from that plant today.

Catawba County Economic Development President Scott Millar thanked Mr. Pennell for sharing all this knowledge.

Alderman Wood commented from a regulatory standpoint and a logistics standpoint could the intake that was associated with Long View's water plant be tied into the City of Hickory's water plant as a redundant source.

Mr. Pennell advised logistically yes, regulatory yes, with some paperwork and some permitting. In 1947 there was a major waterline project. He referred to the installation of the "F" Avenue tank which had a spiral staircase and spine architecture. That was the first million-gallon tank.

City Manager Warren Wood commented that was the same tank that was installed in 1947.

Mr. Pennell noted they performed regular maintenance on it. It was the exact same structure. He referred to the blueprint on the PowerPoint and pointed out the 20" line that ran from the plant to

the tank. He displayed a photo of the original plant. Various upgrades were made to this plant. As the upgrades were made the population continued to grow. Which one drives the other? You could not have one without the other. They go hand in hand. They went to a 4-million-gallon plant in 1960 and the population was approximately 19,000. In 1960 they added another million-gallon clear well to store water in. There was a plant upgrade to 8 million gallons in 1962, and the population grew to approximately 20,500. In 1974, the plant upgraded to 16 million gallons. They really doubled the capacity of the plant in a relatively short period of time. They saw some pretty good growth in population and industry. There was a lot of industry going on. In 1965 construction began on a 16" waterline that connected Hickory to Conover. That was one of the first connections with a neighboring municipality. That was adequate until 1974. Construction began on another addition which increased the capacity from 8 million-gallons to 16-million gallons. That addition included more filters, more clear well storage with the 2 million gallons at the plant, more pumps, they added three 500 horsepower pumps, another 20" main, another 20" raw waterline to pump water up from the river and get it into the plant, and they added another million gallons of storage at 9<sup>th</sup> Avenue, which was public works. In 1987 the City voted and passed a bond referendum to upgrade the treatment plant. That made it go from 16 million to 32 million, which was where they currently were. Conover agreed to be a partner in that upgrade. They purchased 2 million gallons originally and agreed to do another million gallons for a total of 3 million gallons that they have capacity in the plan. He referred to a drawing on the PowerPoint which was what the plant was today. He pointed out what was added, the clear well, the building and everything down at the river. In 1996, there was a one-million-gallon tank relocated from Startown Road to Mountain View to serve that area.

City Manager Warren Wood asked Mr. Pennell to discuss the importance of the elevated tanks and how they helped the system to operate.

Mr. Pennell explained they pump water from the plant, and it goes into the tanks. The tanks were what drove their pressure. All the tanks they see in town were one HDL or level one overflow, they all operate on the same level. They could turn all of the pumps at the plant off and everybody would still have more or less the same water pressure. They were required to have half of a day storage in the system to meet customer demands. The more customer demands they have the more storage they have to have for those customers. They have 16 million gallons of storage currently. They were meeting those demands. He would discuss the Long View plant that was purchased. The biggest reason was because they have the clear wells there and the tankage was already there, that was additional storage. That could be refurbished for pennies on the dollar, and they would have that for on day demand in case something happens for storage.

City Manager Warren Wood advised during the day was when the most water usage occurred and then they replenish it at night, and it starts all over the next day.

Mr. Pennell referred to the PowerPoint photo and commented that the tank was from the bottom of the bowl to over elevation 30 feet. They would try and maintain a level, a set number goal as a minimum, but at night they would top it off. They would get to 27-28 feet in that tank. When the usage was up and during the night it would come down and the amount would get back up to where they were comfortable with it. They do that with all of the tanks. In 2002 they built a 36" water line that went to the Town of Maiden. That was really big in getting Apple, and it was also a loop for the southeast of Catawba County. That line served in one form or fashion all of the Microsoft campuses. That was a really big decision that the City made to install that line to serve the area. In 2020, probably the cheapest tank anybody could build from then until now in the country, they built on Springs Road. They built it for approximately \$3 per gallon, and it was more than double that now since COVID.

Mayor Guess asked if there was a need for a tank for anywhere else. Where would be the location of a tank if they had to have one?

Mr. Pennell advised they had not done any studies beyond that. They were currently concentrating on storage in general and that was why they were looking at something close to the plant like the Long View plant. He gave a general synopsis of the system. They served the greater Hickory area, Conover, Brookford, Hildebran, Alexander County, Long View, Icard Water Corporation, Caldwell County, Town of Catawba, Claremont, Maiden, and Catawba County, they all get water from Hickory's water plants.

City Manager Warren Wood referred to the 1987 bond referendum. The selling point was building a regional water treatment facility, and you get the economy of scale. The more customers you have to spread the expense across the cheaper it was for everybody. That was the concept behind that bond referendum that passed. It had proven true.

Alderman Wood commented even though it was regional did they have a sense of what the current capacity would serve in terms of population for Hickory, was that knowable?

Mr. Pennell advised approximately 900 miles of water line and they served more than 120,000 people per day from the plant. He referred to the PowerPoint slide and displayed a map of the basin. He pointed out the location that was closer to the headwaters of the basin. He discussed the current demands and projected future demands. They have to project demands out to 2070 right now. He pointed out the permitting for the surface water supply, which was 32 million. He pointed out the purchases, which was the contract with Granite Falls to supply water to MDI, because they do not have a waterline there. He pointed out the service demand area, which was Hickory, on a peak day. The average number was approximately 8.5 to 9 million gallons per day. The report had to use a peak day.

City Manager Warren Wood noted those were direct Hickory customers.

Mr. Pennell pointed out the number which was direct Hickory customers. If they were projecting out through 2070, what they think was direct Hickory numbers would be.

City Manager Warren Wood commented that the residential development had an impact, but it did not have near the impact that it used to.

Mr. Pennell advised on the residential impact they were seeing about 120 gallons per day, and it would take a lot of houses to impact those numbers.

Alderman Wood asked why the severe jump between 2023 and 2030, and then it levels off to 1 percent. What were they anticipating happening demand as a percent of supply? What was happening during these 7 years.

Mr. Pennell advised they were looking at the numbers from all of the developments, and saying if they were all developed out, the Microsoft campuses and other projects like that. They were saying that it was going to level out, they did not have anything promised past then. Available land, they could not annex like they used to. The numbers were readjusted annually. The sales were all of the bulk customers. They have to look at their growth, i.e. how Conover was growing and everything they had going on, everybody. They have to plug those numbers in and then they go to the max contract usually, right now that was all the water they could buy.

City Manager Warren Wood commented they had sold capacity. For example, if he was Alexander County and had bought 2 million gallons, they have to act as if they were using 2 million gallons on that chart, but they were only using half of that in terms of their daily demand.

Mr. Pennell pointed out the numbers associated with that example, what the contract numbers were. He noted that Maiden was not using 3-million gallons per day they were not even half of that.

City Manager Warren Wood advised they had to hold that.

Mr. Pennell commented that they had to hold that in reserve. He pointed out the number that was almost 22.5 million gallons per day. They were a 32-million-gallon plant, but on a peak day approximately 17 million gallons. He explained that was because of the contract obligations.

City Manager Warren Wood noted that was a hot summer day, it was usually less than 15.

Mr. Pennell commented that on a day like today, they would do approximately 12 million.

City Manager Warren Wood commented that with all of that long-term planning they need to be careful about allocating out more capacity, because now they were getting into needing another plant, playing it safe, having enough storage and that was where the Long View plant came in. There were other jurisdictions who were talking about wanting more capacity. They could do that, but it was going to cost them more today than it did 10 years ago.

Alderman Patton asked how often they renegotiated those.

Mr. Pennell explained each contract has an expiration date, and they were all different. He thought Alexander County's was up next and it was in 2026.

Alderman Patton inquired how long the contract was for.

Mr. Pennell advised usually it was 20 years. Usually on water supply they want a long-term deal.

Mayor Guess asked if each of those they were selling to were completely dependent on Hickory for their water resource.

Mr. Pennell responded yes.

City Manager Warren Wood noted that Mooresville was an exception that was for emergencies. That was why they were saying we have a great water plant and have not had any issues, and they were big enough now where they need to think about when a lot of cities get to be their size, they start thinking about a second water plant. He mentioned that Asheville and Mooresville had two water plants. That was the point where they are now.

Alderman Wood commented historically they had doubled capacity when they had done something like this. Would that be the plan to double the capacity?

City Manager Warren Wood commented probably not. He thought it was 5 million gallons at the Long View plant.

Mr. Pennell advised that was why they needed to look at projected future demands, and any other partners. If Alexander County said they think they were going to have a big growth and need 5 million gallons. They would have to pay for the 5 million gallons.

Alderman Wood asked if they were recovering. It was so capital intensive. Were they recovering

with what they charge the costs of processing water plus capital costs?

City Manager Warren Wood referred to the capacity charges, they went way up. They had a study done, and now as people come on to the system, they were recouping what it was going to cost to accommodate that long term.

Alderwoman Patton asked if they anticipated adding to the service areas.

Mr. Pennell thought there was a chance for some small areas but no big wholesale.

City Manager Warren Wood mentioned that nowhere in the City's planning was the City of Newton thought of in terms of Hickory serving them. They have their own water plant and pull out of Jacobs Fork, and they pump it into an impoundment. The City had helped them out when their system had gone down a couple of times.

Alderman Wood asked if they were doing anything in south Caldwell County. Was the water plant that served them in good condition?

City Manager Warren Wood advised that was Granite Falls and they had their own water plant. They had talked about doing a line to MDI but what they had now worked up there.

Mr. Pennell noted that they go into Caldwell County a little bit through Alexander County, near Crystal Falls, because they could not get water pressure.

City Manager Warren Wood mentioned that MDI already had sewer, one of the considerations about putting water and sewer in southern Caldwell County was there was a lot of undeveloped land west of the City's water plant on the other side. The fact that property was vacant and was watershed protection. You start thinking about that. Granite Falls could serve some of that. The fact that property was protected watershed and undeveloped right now was good for Hickory.

Alderman Seaver referred to MDI having the City's sewer system but not water.

City Manager Warren Wood advised that was the deal that was worked out years ago with Caldwell County and Granite Falls. MDI would be served with water by Granite through the City of Hickory, it was a billing thing. The City serves MDI's sewer.

Mr. Pennell commented on all that being said that was where the City started and where they were currently. Where were they going? Where do they want to be? They were at that intersection now. They had already been ready for what had come to them. They had never really shied anybody away. When Mr. Millar talks with clients, he will check with Mr. Pennell to see if they have the capacity. They do not want to get to the point where they say we have to look at that hard, we have to think about it. They are at the intersection of where are we and where are we going to go? He referred to a map on the PowerPoint and noted the towns that had water treatment facilities. He advised that Lenoir, Granite Falls, Valdese, Morganton, Hickory, and Newton all had water plants. Possible interconnections to help Hickory help them. Do they want to refurbish the Long View plant for just storage? Do they want to possibly make it operational again? Does the plant need to be upsized? Those were all questions that need to be asked and considered. Do they need to make it a different type of plant? It was a conventional plant now; do they need to make it a newer technology plant if they do?

Alderwoman Patton asked when it was last operational.

Mr. Pennell advised about 10 years ago when they connected to the City of Hickory.

City Manager Warren Wood advised they bought their intake and came back and purchased the plant. They have a study going on right now. Where does it make sense? There was a place close to the Lenoir system, tying that in. That way they could serve them if they needed help, or they could serve just from an emergency perspective and looking at interconnecting the lines. To Mr. Pennell's point, what makes the most sense related to this plant.

Mr. Pennell added do that in steps. Do they go ahead and get the additional storage? Then what do they work towards next? They needed to keep that process going so they were ready.

City Manager Warren Wood commented they would be coming back to Council with a pretty big number for a recommendation related to all of that.

Mr. Pennell reiterated they had a study with an engineering firm right now.

Alderman Wood asked how many gallons it held.

Mr. Pennell pointed out the location of the clear wells, and advised there was 2 ½ million gallons of storage at this plant. For what they brought the whole property for, they could not build any part of any of those tanks.

Alderman Wood asked if he knew why they held on to the property after they connected to Hickory's system. Did Hickory offer to buy it 10 years ago?

Mr. Pennell knew they bought the intake back then.

City Manager Warren Wood thought at the time Hickory was not interested in it. They thought that nobody would be interested in it. Then they found out and went through the process. They would drive by there on the afternoon tour.

Mr. Pennell referred to properties the City had purchased. Up towards Rhodhiss in Burke County they purchased property for watershed protection. They installed a trash trap, which was Public Works Director Steve Miller's idea. A great job there, it was working well keeping trash out of the lake. They City has a good relationship with the Riverkeepers as well. What do they do next? Treatment, investment in waterline interconnectivities, and IBTs.

City Manager Warren Wood advised they would be bringing Council more on each one of those. IBT more than anything. The Western Piedmont Council of Governments (COG) was going to be riding herd on this issue for the four-county region. Anthony Starr was meeting with the folks in South Carolina where the other end of the basin comes up.

Alderman Seaver asked if the meeting in Hickory was going to be the first one.

City Manager Warren Wood confirmed that was the very first meeting.

Mr. Pennell referred to an article he received and read the title and first paragraph. "Water is more valuable than oil, the corporation cashing in on America's drought". This was in Lake Tahoe because their water was way different than Hickory's, they way they do stuff. He read the paragraph "Nearly a decade ago Green Stone Resource Partners LLC, a private company, backed by global investors bought almost 500 acres of agricultural land here, the first of its kind deal the company recently sold water rights tied to the land to the Town of Queen Creek a suburb of Phoenix for a \$14 million-dollar gross profit." This was 500 acres of farmland they bought that had water rights, 200 miles away. They sold it to a developer to build houses. That directly related to Alderman Wood's question. That was not how things work in Hickory. He was thankful they could not do that. And they do not have to deal with those type of questions. That was why they were able to be permitted and regulated the way they were and being able to grow. He wanted to drive home, that was how important water was. Somebody was willing to pay \$14.5 million dollars, gross profit, for water that was supposed to be at a farm for a house.

Alderman Wood referred to Mr. Lineberger's presentation how Duke Energy recycles, or pumps water up through a mountain and they continuously run it through the turbine. What permitted a municipality from doing the same thing with their treated water, pumping it back to where it was used again in getting the recycled flow from it? What prevented them from doing that?

Mr. Pennell responded economics. It was done but not here, because they have the water source that they could just put it back in the lake. They do a water balance that they were taking this much out and putting this much back. They can just pull more water out and it was cheaper to do that than pumping it all the way back and starting all over again. It was just pure economics.

Alderwoman Patton asked if he saw that ever changing if they got into a period of extended drought, that might have to be something they would have to consider.

Mr. Pennell commented that was possible, yes. They do that out west and it was a lot more difficult to permit and do that here through DEQ. It was pretty difficult, and he did not know anybody that did it. There were even places that had reused water. It was in a purple pipe. They put it in their system in Cary, discharged water from the wastewater plant that they use for irrigation, but it was really cost prohibitive for Hickory to do it.

Alderman Wood commented not unless they have a semi-closed system.

City Manager Warren Wood asked Mr. Pennell to discuss what he had seen on water quality during his time on Lake Hickory, and also, they always plan for the worse case, to discuss the worst case for their intake in drought conditions and low water levels.

Mr. Pennell advised the water quality of the water they pull in and treat from the lake was good or better than it had ever been. They test raw water throughout the process and the finished water in the plant approximately ever 15 minutes or so. Somebody was doing some form of test. He referred to Mr. Lineberger's comment with the Water Management Group, they were doing pretty extensive testing throughout the basin and in the lake. They had really good water quality in the lake.

City Manager Warren Wood had heard operators that had been there for 30 years say that it was a lot cleaner than when they started due to all of the regulations. It was not as much agricultural and chemicals going into that.

Mr. Pennell noted that the biggest problem they had was high turbidity. Cloudiness when they have really hard rains, and runoff from upstream, and the lake looks muddy.

City Manager Warren Wood commented in the catastrophic drought level conditions what was the contingency plan to make sure there was water on top of the intake.

Mr. Pennell explained the drought of record, 2007-2009, everybody was worried, but they still had plenty of water over the intake.

City Manager Warren Wood asked how deep the full pond was.

Mr. Pennell advised full pond was approximately 18 feet deep. They had two 42-inch pipes that go out into the lake and were located on the bottom. They still had over 10 feet of water over the pipes. They could see them at the building, but they were still at the bottom. They were good.

Alderman Seaver referred to the past drought and asked if they ever got to stage 4.

Mr. Pennell advised they had not been to stage 4; they were at stage 3. Lately they had got to a stage 1, last year. He explained the way that works was they met monthly. They have groundwater monitors all throughout the basin and there were complex formulas to get in and out. They look at groundwater, storage index, etc. It was a very scientific formula.

Mayor Guess asked if any of the bottled water came from Hickory.

Mr. Pennell advised that they did not have any customers that had bottled water on their system. The potential was there, yes. If someone wanted to build one in Trivium they could, but they had not seen that.

Alderman Wood referred to Alderwoman Williams' comment about businesses being impacted by the low water protocols. In stage 4 would there be some businesses impacted by that, for example a car wash. At what point would businesses be affected by their ability to use water.

Mr. Pennell commented that stage 4 potentially, but he did not have that in front of him.

Alderman Wood commented that they all would be affected as far as irrigation and things like that, but he was referred to the actually functioning of a business. That was serious.

City Manager Warren Wood mentioned golf courses, and their watering, and all of that stuff goes away.

Alderwoman Williams asked if the City currently had the technology to monitor the weather patterns that would indicate if there was going to be a drought.

City Manager Warren Wood advised some of the best data they get was from Duke Energy.

Mr. Pennell commented that was part of their meetings and Duke had their meteorologist in the meetings with them and they presented it to them.

City Manager Warren Wood referred to Mr. Lineberger's comment that "you really do not know that you are in a drought until you are". He did not know how they modeled that at all.

Mr. Jeff Lineberger advised they had a whole team of meteorologists and also contract meteorologists. They do try and predict those droughts. They were hard to predict. Part of it was the shape of the Catawba River basin, how narrow it was. The narrowest point was only 30 miles wide. It seems like a lot, but river basin wise, that was narrow for the weather pattern to come over. Drought triggers also include the US Drought Monitor which was meteorologists and agencies from all over the country, every week produce a drought report that showed color coded wise where the droughts were occurring, they could see them grow from one week to another. They took their information and looked at what percentage of the Catawba-Wateree basin was in different levels of dryness or drought and that was one of the triggers that determined which stage. They were doing the best they could. It was an unprecise science. He had a lot of respect for meteorologists because it was complicated to predict what was going to happen, days, months, down the road. They have a hard time predicting tomorrow.

Alderman Wood commented that Duke did a great job of predicting heavy rain. Social media does a great job of "why are they drawing down the lake". They knew that heavy rain was coming.

Mr. Lineberger commented from a flood management standpoint they were looking 10 days to 2 weeks ahead. As far as acting at a hydro station, they seldom take that action more than 3 days ahead because they do not want to push the water downstream of the Wateree and the big rain does not come.

City Manager Warren Wood commented in 1916 it wiped out everything.

Alderman Wood asked Mr. Lineberger if Duke generated power in real time. He asked if it was generated when it was used. He asked if they had storage capability for power.

Mr. Lineberger advised the vast majority of the electricity they produced was used on demand. When it was produced it was put on the grid and used at that time. It was one of the most manufactured products in our lives, but there was very little capability to actually store it.

The Council took a break at approximately 10:45 a.m. and resumed at approximately 10:59 a.m.

#### IV. Economic Development – EDC President Scott Millar

Catawba County Economic Development Corporation Scott Millar gave a PowerPoint presentation. He wanted to make sure that everyone recognized not just the short-term impacts to the City from good economic development but the long-term economic impacts as well. He displayed the Catawba County Economic Development Corporation's (EDC) mission statement. He advised their



challenge and mission was to build a diversified economic base. He used the analogy of the 3-legged stool. In the early 2000s and 2008 recession when they got their legs chopped out of furniture, textiles, and fiber optics, their entire stool got a whole lot shorter. He noted that 45,000 workers lost their jobs during that period of time. They try to maintain a diversity, just like you do with your investment portfolio, you need to make sure you are diversified both short-term and long-term. They need to look 30 years down the road to make sure the industries they have, that help pay the bills for everybody, they need to make sure it grows and is diversified just like their investment portfolio. They were looking at new businesses and industries, i.e. Microsoft, the steel warehouses, those types of industries that were new to here, but also to take care of those that existed here and had been so important to the economy. To make sure those existing companies stay and grow, and also to foster the creation of jobs. The impact of good local development was on the property tax, because they were trying to increase the property tax, so they were sharing the wealth by bringing in people that were going to expand the tax base that pays for good water, fire, police protection, etc., and all of these city services. Expand that so property tax rates do not have to go substantially higher in order to pay the ever-increasing costs of paying for those services. Add new people to pay for those and you do not have to, that was the idea of what they were trying to do. The State gets money from the creation of jobs. State incentives were based on the creation of jobs, more so than local incentives were.

Mr. Millar referred to the PowerPoint and displayed a photo of cookies. He passed around cookies to Council members and others. He asked what ingredients were in the cookie. He displayed the ingredients for a great cookie. He noted that it was not just the ingredients but also the process of making the cookies. He referred to Mr. Shawn Pennell's presentation of the process of water, developing it, storing it, and paying for it. All of those things were a part of the process. He asked which ingredients were more important. If you left out any of the ingredients, you would not have a cookie. All the ingredients were very important to the entire process. You had to have the right ingredients and the right amount of each ingredient. He referred to the PowerPoint and displayed Great City Ingredients. You have to have a mixture of ingredients to have a great City. Those ingredients included, police, fire, coworkers, etc. You could not have too many specific things. You have to have diversification of existing industries, new industries coming in to help pay the tax bills and expand the tax base, and retail and commercial. It was easy to drive through Trivium and look at the brand-new stuff that was out there. He discussed the new commercial/retail that was coming on. Two new hotels, and a new market on Old Lenoir Road.

Alderman Wood thought that it was the small businesses, the entrepreneurial. Big companies were important, but the bigger they are the more dependent you are upon them. He liked the small companies.

Mr. Millar used Atriax as an example. He referred to what they did with the facility there.

Alderwoman Patton mentioned housing all over.

Mr. Millar asked if they would like to be one of the municipalities in North Carolina that did not have new housing going on. He referred to a discussion with the Chamber Foundation and a whole group regarding the new workforce and talent study that was going on there. If you do not have new housing, then you do not have new people to work because they could not necessarily afford the housing stock that we have. You have got to have new people moving in, which the new housing stock was facilitating. If you do not do that, he would not be able to recruit the industries that they were going to be talking about.

City Manager Warren Wood saw at the Council of Governments (COG) yesterday that there were 7,600 vacant jobs in the four-county region. That points to the need for people to move here.

Alderman Wood commented the balance of steady growth, something that he thought was easy to take for granted was the location. Where we are located in North Carolina. Look at what was happening in the mid-west with tornadoes. Those kinds of things. We were so fortunate to live where we are and are insulated from that a little bit. He thought they had a responsibility to take care of the environment that we enjoy, and it was drawing people. It had to be balanced or you could lose that.

Mr. Millar commented that mix of too much chocolate or too much salt. Mr. Millar discussed arts and culture. They had seen the arts and culture impact survey that had been sent out. It was important too. They had a whole host of institutional facilities that were located here as well. Appalachian State University (ASU), and Lenoir-Rhyne University (LRU) were bringing back the seminary facility, that was going to impact them from that perspective. Catawba Valley Community College (CVCC), the Regional Workforce Facility that was being built at the Airport which they would tour later in the day. That had the opportunity to be programming for augmented reality, virtual reality, artificial intelligence, all of those things that they do not quite understand yet, but if we do not start to begin to understand and train within those opportunity sectors, we will not be able to recruit the industries of the future. He received data that showed the 7 largest United States corporations. Everyone of those 7 were younger than 40 years old. Ten years ago, it would have been a lot of other players, that was substantially different today and if they do not try and keep up, particularly with workforce training facilities, they were doing a job of doing particularly at the 13-64 level, those opportunities. They need to make sure they keep those facilities capable of training what those next jobs are going to be once they determine what they are going to be. They also have strong regional and State relationships. They were perfectly blessed from the geographic perspective to take advantage of Charlotte, and to take advantage of Atlanta to Richmond, the I85 to I95 corridors that were there. They had the opportunity and the livability factors that were going to have a big influence on where companies were going to locate.

Mr. Millar asked where they were today. A strange world, strange situation right now. They do not have challenges associated with no growth, but there were those surrounding them that had some of those issues. It was going to be a weird year for them with the election going on, who knew what was going to happen. There were people who were not making decisions right now because they could not decide where things were going to be and whether they were going to be in their favor or not come the election date in November. Right now, there were strong geopolitical issues going on in the Mideast, Europe, Russia, and the Ukraine. People do not know what was going on in the world, let's wait and see. There are inventories leftover from COVID that were substantial and that were driving issues. There were a lot of companies that were having slow sells now, but they were relying on the backlog they had during COVID and were trying to whittle those down before they started making investments. The communications folks are waiting on the sales that were going to be generated from the recent Federal funding of the (BEAD) broadband programming. Corning, CommScope, Prism, a lot of the big fiber related companies in Catawba County, because AT&T, Verizon, and other telecom systems were not buying because they expect the BEAD funding to come out and pay for things, so they do not have to. AT&T was not spending money because they thought the Federal government was going to spend it and it was not coming out of the Federal government as quickly as they would like. It was impacting the folks locally. They would see that at the Corning facility at Trivium. It was not as full as they thought it was going to be. It was on schedule, but it was not packed with people as of yet because of the COVID hangover.

Mr. Millar discussed electric vehicles. A year ago, they were talking about how they would be overrun with battery manufactures/battery suppliers, components for electric vehicles, and those sorts of opportunities. Tesla just laid off 10% of its workforce. Rivian and other electric vehicle manufacturers were concerned about where the future was right now. Toyota was the big headline for the State of North Carolina right now being in the catbird seat because of their positioning with hybrids as opposed to pure electric vehicles right now. Their chairman had stated for the last 5 years that they were not going electric vehicles yet, they were going to hybrids, and they were going to look at hydrogen as an option for fueling these vehicles as well. Who knows who is right? He thought that there was a gap between the early adopters of electric vehicles and the mainstream that was going to supply them. He thought that electric vehicles were going to move forward, but it had taken longer than was expected a year ago.

Mr. Millar advised that there was no slowdown in data centers. For example, the 3 sites that Microsoft was building in Catawba County, that was announced a year and a half ago, two of them are underway right now. The Maiden site and the Conover site were being graded. They were moving toward a bid on the Hickory site in about 4-6 weeks. There was no real slowdown, it was just the process that was getting them to that point. The Conover site would take 10 months to grade, 1.6 million cubic yards of dirt was going to be moved on that site. They would then go straight into building the facilities on that site. Maiden was about 6-8 weeks later, and Hickory was 6-8 weeks behind Maiden. Hickory had the small 4<sup>th</sup> facility out on Tate Boulevard that would be undergoing construction sometime in the near future. He did not have the time schedule, but he did not have any concerns about that one being built with the same rapidity that the others were being built. Because of artificial intelligence and the growth of the cloud, and the growth of the entire data industry, Microsoft, and others, there would be quicker development of those sites than was anticipated a year and a half ago when they made that announcement. That development was going to keep moving forward, there was absolutely no pause in data center opportunities and who knows there may be added opportunities for growth as they move forward.

Mr. Millar congratulated the City of Hickory as the Downtown was named one of the top ten, number 9. Good job. It was great. He discussed programmatic planning. In 2004, following the downturn in 2002, they had great concerns over where the economic future lay. They were hemorrhaging all of these jobs; they were invested fully in the 3 stool legacy industries that they had. What were they going to do? They started doing call centers, distribution centers elsewhere in the County, they started doing all sorts of different things from pure manufacturing and they started programs such as the spec building programs and others to try to figure out and diversify the economy. They were similar to that right now. The EDC, the County, and all of the cities were participating in an analysis of industry growth opportunities. They hired the Site Selection Group out of Dallas, Texas and Greenville, South Carolina to spend a good bit of time to try and figure out where their next opportunity sectors were. How did they start getting data centers to begin with? They started realizing that power they had left over from Duke Energy and the transmission lines and the capacity they built primarily to serve the textile industry, they also had the legacy water and sewer capacities in the municipalities that was left over. What industry sectors were they going to be able to recruit? They had excess power and excess water and sewer. Then they started chasing data centers before anybody else started chasing them. They started doing special functions specific to that target sector. They started going around the United States talking to those people, and they started developing a business park that was focusing on data centers. They started developing properties, part of Hickory's benefit for Conover's Microsoft facility, Hickory paid a healthy portion of the development costs for the multijurisdictional piece of property in Conover. Hickory put money in, he thought it was 19% of the costs of the development of that site, and now Hickory would get 19% of the income stream from the future tax proceeds that were generated by Microsoft on that site. For the period of time that multijurisdictional park pays out, Hickory was going to benefit from tax base that was not developed inside the City of Hickory. They were in essence getting income from something outside of the jurisdictional boundaries.

City Manager Warren Wood commented that it was a dividend.

Mr. Millar responded substantially, yes. He referred to the PowerPoint and displayed a photo of a pasture. Who would invest in a pasture? Hickory did. It was Trivium. Today there was \$400

million dollars' worth of investment there, and several hundred diversified jobs that paid well over the County average manufacturing wage. A lot of today's discussion had already been about decisions. He backed up from the development of Trivium Corporate center and thought about what facilitated that. Hickory developing the sewer project back in 2004 or before, was when Hickory made the decision to develop the infrastructure that facilitated these jobs. It took a while, but the decisions they made, just like decisions that were made in 1904 to invest in water treatment facilities, the same was true in 2004 as well. Those sorts of development decisions were what was paying off for Hickory today. Likewise, they were getting two different Microsoft projects because of the investment decisions they made a while back. They negotiated a boundary agreement with the City of Newton to facilitate the development of that site near Target, but on Hickory's side of the boundary agreement. They were getting all of that.

City Manager Warren Wood commented that boundary agreement also allowed that project to happen all around the County, because if it did not, none of that would have happened.

Mr. Millar advised the design of Microsoft required 3 different sites that were 10 kilometers apart. If that site had not been negotiated through Hickory, because Newton could not serve the utility needs of that site. If that site got axed off the list, then the other two sites did not fit the configuration that Microsoft required. Without this site all three of those sites would not have happened.

Alderman Seaver asked what the triangularization was there.

Mr. Millar explained it was the latency with data from location to another could not exceed a certain timeframe. Their configuration required that everything being within that pre-designed pattern. The Tate Boulevard facility near the hospital was the central hub for all three of those. Information would be shared from that out to the others. He had already told them that the project was moving forward, and Hickory would be benefiting greatly from the decisions that they made on the boundary agreement and the participation in the multijurisdictional arrangement 10 or more years ago. They get everything west of the boundary line agreement that was negotiated.

Mr. Millar discussed other investments that were impacting economic development that were here. He thought they had meetings in the CVCC Workforce Solutions Center. They probably had been to the Manufacturing Solutions Center in Conover. All of these were development of facilities, Hickory's tax payments were helping to fund, and they were benefiting from those. A few years back they all participated in the Lenoir-Rhyne University (LRU) Health Sciences Facility and the purchase of that which had facilitated a lot of other partnerships with the hospitals. They have Appalachian State University – Hickory (ASU). The Regional Innovation Center at the Airport, which they would see in the tour later today. The NC School of Science & Math in Morganton. He thought they tend to forget about that a little bit because of the distance between Hickory and Morganton. He encouraged them to take a road trip and see what was going on there. He was on that board with astronauts, and a whole lot of other smart people. For them to be able to train the people that they are training at a high school level, and the projects they were doing at a high school level, was phenomenal. He thought they could tap into that reserve of opportunity a little more than they do right now. He had already spoken about the renaissance out on Old Lenoir Road which was facilitated by all of the bond investments. If he were an investor in the City of Hickory, the opportunity that lies in the Old Lenoir Road corridor would be phenomenal. If you think about what had happened in the river arts district at Asheville and other areas, there were so many opportunities that were being developed there, but there was also all sorts of other opportunities and pockets within the City of Hickory and the County that were investment opportunities that he thought the business community was looking at pretty strongly now.

Mr. Millar mentioned that City Manager Warren Wood would discuss the Airport Innovation District. He discussed the industrial growth analysis process. What they were trying to do was look at different sectors and figure out what fits with their workforce, and what fits with the land development in play, what fits with their utilities, and figure out what was the next target market they should be focusing in on. He explained this was how they were going into it specifically for biotech. He advised Council would be invited to an upcoming workshop were they would go into details and discussions about the sectors they had looked at. They broke up the County into four different areas. One which was southeastern Catawba County, and it was interesting to see the difference in workforce because of the impact with Charlotte within a 20–40-minute drive time. It may be the southeast marketplace has a different potential than the Trivium marketplace or another area of the County just because of the workforce availability and the costs of doing business within that sector. They were going into a whole lot of different details to try and figure that out. They had looked at biotech and for a long time he had argued that this area's workforce does not wear white lab coats. Why should they chase after biotech opportunities? He mentioned Greenville, North Carolina, Sanford, North Carolina, and now Concord, North Carolina and even Lenoir. If you drive through Lenoir, the old Broyhill Furniture Headquarters on the left, was now a pharmaceutical operation and there were about 1,000 people employed in the City of Lenoir now making pharmaceuticals, biotech-oriented types of jobs. Other communities that you would not necessarily consider to be biotech opportunity sites are now proving to be that way. They were looking at a lot of different opportunities within that field. They will get more details on that in a few weeks.

Mr. Millar advised that he left this at a high level as well because he knew that City Manager Warren Wood would be discussing it. They had discussed innovation and entrepreneurship, that small business play, how were they going to facilitate that? They were also doing an analysis trying to figure out where that could go, where should that go, what could be developed? They were really looking at the area between ASU, the Catawba River, Lake Hickory, the Airport, and that area for opportunities within that innovation sector and trying to drive that. How do they do that? He thought it was yet to be determined.

Mr. Millar referred to the PowerPoint and pointed out that Hickory was Charlotte's great northwest from a marketing perspective that seems to be where they had gained the most traction for opportunities that the EDC was working with but realized that growth was not going to slow down, and it was not going to stop. Make good decisions based on the expectations that growth was going to impact them. Take what you like and leave the rest, was where he left that analysis.

V. Innovation District – City Manager Warren Wood

City Manager Warren Wood advised prior to Appalachian State University (ASU) Hickory announcing, Assistant City Manager Rick Beasley had come up with a concept of an Innovation District out US 321, OLLE Art Walk, up to Lackey, west past the Airport and south to the town limits of Long View. If they think about the assets they have, they will have the Lackey Project, ASU-Hickory, Aviation Museum, the Stadium, and the Airport. They would visit a future site of an Environmental Education Center. They have a lot of property the City owns for watershed protection. In total the City owned about 1,000 acres in this area, much of which would remain undeveloped because of topography and watershed. They had all the fundamentals in place in the right place, they felt like for something special to happen over time. Particularly with Old Lenoir Road and what they all knew was going to happen there with redevelopment that they were already starting to see. The Riverwalk, the Aviation Walk, all of that would be tied in. Total there was approximately \$500 million dollars, mostly public, the private side would be the Lackey project. Public/private investment going on in a pretty concentrated area. US321, ASU, the trail system, 17<sup>th</sup> Street extension, pre-bid was yesterday, the Aviation Museum, Workforce Innovation Center, Crawdads Stadium, Airport, Lackey Project, so they have a lot of investment that had occurred. In an Innovation District, they may call it something else as they were in a planning process right now, it could be biotech, aviation focus, ASU has a big sustainability program, and emphasis, it could be all of that. It could be a multitude of things. They were going through a planning process with ASU, Mr. Scott Millar, Catawba County, and some other private sector folks about what and where.

City Manager Warren Wood referred to the PowerPoint and displayed a photo of ASU-Hickory. He pointed out US 321, and Clement Boulevard. They were doing some land use projections and looking at topography, traffic counts, accessibility, and what makes sense where. He displayed another rendering and pointed out Clement Boulevard. If you were driving west down Clement Boulevard, right now there was a tree lined area, but the topography lends itself to something like was on the conceptual renderings of what could happen. There were absolutely private sector interests in all of this. Some from out of State. Then they have the Airport, that asset. Deputy City Manager Rodney Miller, and Airport Manager Chad Hunsucker were working on projects. Construction Project Manager Will Hamblin just came got back from a pre-bid meeting on the next set of hangars. There were 7 potential bidders, which was good news. A lot going on at the Airport. They were going to start leveraging that more as an economic development asset. They had the end of the old secondary runway that had been set aside for some economic development activity. All of that was coming together. It was really unique that they have that many assets, that much public investment in a pretty concentrated area. It has a lot of potential about what could happen. ASU continues to grow. There were going to have space needs and need space outside of that building. They were going to need more buildings, which was a good problem to have. They say that over time there could be more students at the Hickory campus than there were in Boone. They cannot grow anymore in Boone. He had heard them say that a number of times.

City Manager Warren Wood discussed the T-hangar development. They had a partnership with Burke County, as the tax base goes up, they remit half of the tax increase back to the City of Hickory and it goes back into more hangar development. They were going to do the next set of T-hangars and then they have a box hangar next. They would tour the west ramp at the airport, and they would take a tour and look at all of this. Aviation Museum was well underway. He showed photos of the Crawdads Stadium. The Aviation Walk was really coming along and looked great. Riverwalk looked great and people were out there all of the time. They had talked about OLLE Art Walk and what was going to happen there with redevelopment. That would be the private sector. They were already buying property. Having the OLLE Art Walk, so close to ASU, he could see those two with the plan in process feeding off of each other and having a cool vibe down that corridor because it would be very accessible with bike/ped. They received an update on the Diedra Lackey Memorial Park from Mr. Bob Lackey on that yesterday, which was really good, they were still moving forward. He commented they had all these bookends, all these projects strategically located, how do they leverage that? He mentioned the US 321 widening project. They would have two bridges that would arch over the lake. The City would keep the northbound bridge and turn it into a pedestrian bridge. Pursue funding to expand the 10-foot-wide multiuse path up to MDI, there were 2,000 people that worked there. They need to think about this too, they will be up and under US 321, he thought it would be wide enough for vehicles but mostly pedestrians. When the project was done that was going to provide some really neat access to potentially expand the trail system west.

Alderman Seaver commented that would come up over the train tracks.

City Manager Warren Wood advised it would come up and over the railroad and come in close to where the intake was located. It would be arched up and over the river.

Alderman Seaver mentioned the Department of Transportation was out there working yesterday.

City Manager Warren Wood commented that he had seen them in the lake. They were drilling or something, taking samples in the lake. They were going to tour a property they had talked about. He referred to the PowerPoint and displayed a photo of the property. The property was located at Drowning Creek on Airport-Rhodhiss Road. It was 18 acres. The City had purchased it and was looking to do an Environmental Education Center at this site. This really lends itself to what the

vision was. He showed renderings of some of the enhancements that could be made. There was a 100 foot drop off cliff. The view was really nice. He pointed out the area where the railroad was located from the property. It had water access. He advised there was a railroad trestle at Drowning Creek, the property sits on that and there was a dock down there. It had water access, that was a good investment for the City.

City Manager Warren Wood mentioned a lot with the Innovation District was branding it, marketing it as something. You get the first one and then the next one. The boundaries were loosely defined at this point. A lot of what they were working on with the planning of it was branding it, and marketing it in a particular way that would make it play off the assets that it has.

Alderman Wood asked how they would prevent it from being left to the winds of the private market and have another general retail area.

City Manager Warren Wood advised the City owned around the Airport, and around ASU-Hickory, the City owned quite a bit of property. They control all of that on Clement Boulevard on the south side and the west side when you get to a certain point. That was a strategic piece.

Alderman Wood commented that they would be selective about it.

City Manager Warren Wood responded yes.

Alderman Seaver commented maybe some warehouse space around the Airport.

City Manager Warren Wood advised they would like to see aviation industry, some kind of aerospace. With ASU and all of their sustainability initiatives, there were two water plants there, the lake there, all the undeveloped property, there was a lot that could be leveraged in that realm on the sustainability side.

City Manager Warren Wood mentioned they would have lunch and then take a tour of Trivium, the biosolids facility, they went there last year, but they would see the progress which had been made. They would ride by ASU-Hickory, the Aviation Museum, the Long View Water Treatment Plant. They would go to the Airport, and drive across the runway and go to the terminal area. They would then ride out to the site for the Environmental Education Center. They would drive through the OLLE Art Walk area, the Historic Ridgeview Walk as well as the affordable housing projects that the City had been involved in. They would then return to the Convention Center. He advised if there was time either CEO of the Convention Center Mandy Hildebrand or Assistant City Manager Rick Beasley could give them a tour of the 46,000 square foot expansion that had taken place at the Convention Center.

City Manager Warren Wood thanked Administrative Assistant Iris Childers, Executive Assistant for the City Manager Crystal Mundy, and Assistant City Manager Yaidee Fox for their work on the retreat. He introduced Management Analyst Breanna Ikard who had been working for the City for several months.

At approximately 11:47 p.m. Council broke for lunch and took a tour of the Hickory Metro Convention Center with CEO Mandy Hildebrand.

## VI. Bus Tour

At approximately 12:36 p.m. Council left the Convention Center for the bus tour. They drove past Trivium East. Sewer infrastructure was to begin within the next 2 weeks. There would be a signalized intersection placed on Startown Road. Driving through Trivium Corporate Center they passed Corning, and Cataler. The walking trails were pointed out behind the facilities. The trails have elevated levels and wetlands. City Manager Warren Wood advised the complex would have their own HOA to regulate their site maintenance. They drove past the Stonemont Building. It was noted that Lots 5 and 11 were still vacant. They drove past American Fuji Seal and Gusmer.

The Council proceeded to the Henry Fork Plant Bio-Solids Facility. This was a \$35 million dollar project. While in route Council passed a City pump station and an area of property that was going to be donated for a pocket park. The location of the property was noted that was coming up on the May 7<sup>th</sup> Council agenda for annexation.

Public Utilities Director Shawn Pennell explained the structures at the Henry Fork Plant Bio-Solids Facility. He mentioned that the clarifiers were used alternately. They hope to have the construction completed by the 4<sup>th</sup> quarter of 2024. The finished sludge product would be sold after processing. He commented that this was a 9-million-gallon plant, and they were processing approximately 3 million gallons now. He pointed out the boundary of the property. He explained that a worker was performing a task called wasting sludge at the primary clarifier main valves. This was done at certain time(s) of the day. The plant was manned 24/7. The sludge flows down through two 30" lines from Henry Fork. It was pumped there and then gravity fed to the facility. They could do three times what it was presently doing. He pointed out the location of where the chlorine was stored.

Leaving the Henry Fork Plant Bio-Solids Facility City Manager Warren Wood pointed out Deitz Road which was where the State Park would be located in the future. They drove by the ASU-Hickory campus. It was noted where a 10' wide multimodal path would be located near 17<sup>th</sup> Street. The City owns approximately 15 acres behind the Pizza Hut location. Developers were showing interest in the property and could possibly be developed as office related jobs, not manufacturing. The bus drove by the location of the Aviation Walk and the tremendous views were pointed out.

Progress was being made on the Aviation Museum. Concrete had been poured at the site. The project completion date for that project was March of 2025. They were hoping to get a restaurant that would be interested in occupying the 3<sup>rd</sup> floor of the structure to enjoy the phenomenal views. They drove by the Long View Water Treatment Plant that the City of Hickory had purchased.

The bus then entered into the Airport. It was noted the runway did not have a 1,000 feet safety area. They were looking at the quicksand system as a precaution if someone came off the runway. An EMAS system was installed to get them into compliance. This location was the highest elevation in Hickory at 1,225 feet. They drove by the CommScope hangar, as well as the new hangars recently completed, and the area where the next set of hangars would be constructed. It was noted that the old runway 119 had been decommissioned and converted to a taxiway. The paving for the new T-hangars just occurred last week. There was still a large waiting list for hangars. All 12 of them were full and they would start construction on the other ones soon. It was mentioned that the FAA would not pay to pave a secondary runway but would pay 90/10 for a taxiway.

The Council then went to the Nature Center Property. A new road would be constructed. The property contained approximately 18 acres and was located on Drowning Creek. The property had a view of the lake, a trail to a boat dock, as well as a picnic area. They could possibly create a pavilion open space. Renderings were displayed of what the property could potentially look like. There was a space that would be used as a commercial kitchen.

Leaving the Airport location City Manager Warren Wood pointed out the 15 acres off of Clement Boulevard that the City owned, of which \$900,000 had been paid through a grant. The new shelter was pointed out off of Highway 321 near the Riverwalk. They traveled down Old Lenoir Road where OLLE Art Walk would be located in the future. They drove by the Historic Ridgeview Walk and the JR Development affordable housing projects which were under construction. They returned to the Convention Center.

- VII. At approximately 3:00 p.m. the discussions concluded, and the meeting was adjourned.

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Mayor

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City Clerk