Call to Order

Council Chairman Ken Smith called the meeting to order at 3:07 p.m. in the Council Assembly Room. A quorum was present, including Vice-Chairman Erskine Oglesby and Council members Carol Berz, Anthony Byrd, Demetrus Coonrod, Russell Gilbert, Chip Henderson and Darrin Ledford. City Attorney Wade Hinton and Council Support Specialist Keren Campbell were also present. Councilman Jerry Mitchell was not present this meeting.

Others in Attendance

Transportation: Blythe Bailey, Administrator; ECD: Donna Williams, Administrator; YFD: Jason McKinney, Deputy Administrator of Education; OCA: Keith Reisman, Assistant City Attorney, Public Works: Justin Holland, Administrator - Mounir Minkara, Manager Water Quality - Bill Payne, City Engineer; Green Tambourine: Chelsey, Owner.

Approval of Minutes

On motion of Councilwoman Berz and seconded by Vice-Chairman Oglesby, the minutes of the last meeting (May 15, 2018) were approved as published.

Resolutions - Agenda Item 7B & 7C

These items had been discussed at previous open meetings. Upon no questions or comments, the issues were closed.

Next Week’s Agenda:
June 5, 2018

Resolutions - Agenda Item 7K

This item had been discussed at previous open meetings. Upon no questions or comments, the issue was closed.

Presentation: Mobile Food Units

Mr. Bailey made a presentation Mobile Food Units that included the following:

- Minor Changes and those included in previous draft
- Food Truck Zone
- Feedback and newer changes
A discussion ensued, with Mr. Bailey, Mr. McKinney, Mr. Reisman and Ms. Williams responding to questions on the following topics:

- Feedback received from community (Councilman Henderson)
- Regulations for Parks & YFD Centers (Councilman Henderson)
- Downtown Zones (Councilman Henderson)
- Regulations for Property owners vs. Tenants (Councilman Henderson)
- Time limit on zones (Councilman Henderson)
- Regulations for those operating without licenses (Councilman Gilbert)
- Designated areas without on street parking
- Mechanism to stop unauthorized vendors (Councilman Gilbert)
- Small, pocket parks (Councilwoman Berz)
- Verbiage pertaining to use on neighborhood parks (Councilwoman Berz)
- Procedures for private properties (Councilman Byrd)
- Fees (Councilman Byrd)
- Procure to address enforcement of regulations (Councilman Byrd)
- YFD Fees (Councilwoman Coonrod)
- Allocations of funds (Councilwoman Coonrod)
- Private Property Verbiage (Councilman Ledford)
- Heritage Park (Councilman Ledford)
- Mayor's Designee (Councilman Ledford)
- Procedures to follow with changes to this process (Councilman Ledford)
- Concerns for the Organizations/Vendors already contracted (Chairman Smith)

Chelsey, the owner of Green Tambourine, informed the Council about the services already being provided by her food truck in Chattanooga. Upon no further questions or comments, the issue was closed.

**Water Quality Program Rate Study**

Mr. Minkara and Mr. Payne gave a presentation that covered the following:

- Last Rate Study
- Business Plan
- April 2016 to Present
- Audit of current LOS
- Plan of required elements
- Major Program elements
- Pollution Prevention Activities
- Illicit discharge detection and elimination
- Industrial inspections
- Pollution Prevention/Good Housekeeping
- Public education/Involvement
- LDO Construction site oversight
- Post construction Run-off control
- Biological Sampling and monitoring
- Spill response
- 311 response
- Operations and maintenance crew
- Ditch Maintenance crew
- Inspection vacuum and cleaning inspection
- Drainage and Capital
- Engineering Design
- Construction Management and inspection
- Green Infrastructure
- Capital Projects
- Fiscal sustainability
- Historical Water quality Revenues and expenses
- How will we invest
A discussion ensued in which Mr. Payne responded to questions on the following topics:

- Pipe cleaning
- Growth in ditches
- Projects specifically in District 5 (Councilman Gilbert)
- Increase recommended to maintain plan (Councilman Ledford)
- Difference in prior request (Councilman Ledford)
- Properties services (Councilman Henderson)
- Determinations made final (Councilman Henderson)
- Yearly evaluations (Councilman Henderson)
- Exemptions (Councilman Henderson)
- Informing the public (Councilman Henderson)
- Zoning request (Councilwoman Berz)
- Process for voting on item (Councilwoman Berz)
- Raising rates and impact (Councilwoman Berz)
- Need for ordinance (Councilwoman Berz)
- Public hearing (Councilwoman Berz)

Upon no further questions or comments, the issue was closed.

Adjournment

There being no further business, Chairman Smith adjourned the meeting at 4:50 p.m.
Purpose & Topics

Purpose - Present Recommended Rate Structure

Topics:
- Existing Programs
  - MS4 Permit Program Components
  - Drainage & Capital Programs
- Fiscal Sustainability
  - Recommended Rate Study
  - TN Program Comparison
  - Q & A
Water Quality Program Rate Study

- Last Rate Study 2008
- Business Plan based Level and Cost of Service Rate Study
  - LOS/COS
- April 2016 to Present
- Audit of Current LOS
- Planning of Required Level of Service
  - FY-19 thru FY-23
- Projection of Future Costs & Rates

Major Program Elements

- Public Education and Outreach
- Public Participation/Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping
- Drainage System Maintenance

Existing Programs / Required Responsibilities
Pollution Prevention Activities

Illicit Discharge Detection and Elimination (IDDE)

IDDE is a complex and broad reaching program element.
Purpose: Eliminate "non-stormwater" discharges to the MS4 or "Waters of the State".
Key components of the City’s IDDE program include education, investigations, inspections, and enforcement.

- Approximately 125 anomalies corrected yearly
- Multiple inspections required per anomaly

Illicit Discharge Enforcements by Permit Year

<table>
<thead>
<tr>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
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</thead>
<tbody>
<tr>
<td>77</td>
<td>164</td>
<td>102</td>
<td>105</td>
<td>175</td>
<td>141</td>
<td></td>
<td>101</td>
</tr>
</tbody>
</table>
Construction Site Runoff Control - TMDL

- Performed by ECD/LDO
- Via plans review & inspections
- E&SC significantly protects the environment
- 665 permitted sites in 2017
LDO Construction Site Oversight

Land Disturbing Enforcement

- Stop Work Orders
- Violation Notices resulting in Penalties
- Violation Notices
- Written Warnings
- Verbal Warnings

Post-Construction Runoff Control - TMDL

- Performed by DPW
- Managing conveyance, flood control & pollutants
- ~400 sites inspected annually
  - +/- 1,000 BMP's (Best Management Practices)
  - Oil Skimmers
  - Bioswales
  - Rain Gardens / Vegetation
  - Green Roofs
  - Pervious Pavements
  - Retention / Detention Ponds
Industrial Inspections

230 sites w/NPDES permit

- 100 high risk (chemical facility)
  - 3-year cycle

Commercial sites “near” industrial distinction

- distribution site (not manufacturer)

2,000 annual hrs staff time managing

- 33 high risk + 15 other = 48 annual

Industrial Pollutants:

- nitrates/phosphates from fertilizer
- petroleum
- heavy metals
- temperatures

Pollution Prevention / Good Housekeeping

- What’s good for the goose...

- Goals: Inspection procedures, reducing pollutants from roadways and city owned facilities

- 12 Municipal sites inspected quarterly

- Employee training mandates: Maintenance of parks, open space, fleet, buildings, new construction, land disturb, sw systems
Public Education / Involvement

- Examples - stream cleanups, volunteer days, demonstration projects
- Thousands of staff hours per year

Water Quality Impacts: Pollutants
- Trash
- Heavy Metals
- Pathogens
- Sediment
- Nutrients
- Oil and Grease

Keep it clean, clear and safe.

Biological Sampling & Monitoring

- Wet-Weather Sampling:
  - 5 Homogeneous Land use – 3 times/yr
  - 4 Industrial Sites – 1 time/yr
    - COD, pH, BOD5, TSS, TP, TOC, N, Temp
  - 5 Municipal Sites – 1 time/yr
    - mun. WM facilities, CWS, Summit LF, Moccasin Bend LF, 39th St.
    - Metals, chromium, copper, lead, nickel, zinc, nutrients....

- Watershed Characterizations (7 Total):
  - Sampled monthly, quarterly, semiannually

- Biological Monitoring: 3 sites semiannually
- TMDL Monitoring: 28 locations
- Staffing Levels:
  - 6 employees + 1 supervisor
Spill Response

Spill can be of caustic and toxic chemicals requiring quick response.

- ~22 responses per year
- Responsible to develop Enforcement Response Plan
- Address Repeat Violations
- Document:
  - event,
  - environmental impact,
  - response,
  - remediation,
  - subsequent measures,
  - and follow-up training for prevention

Drainage System Maintenance

CHATT311
Operation & Maintenance Crews
311 Response

- CHATT311 App
- Over 2,000 Annual Water Quality Inquiries and Requests for Investigation
- 6 FTE's to manage investigations, citizens, documentation and design.

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Operations & Maintenance Crews

- CCTV Rodding / Camera Crews
- Rodding and Vacuum Crews
- Floodplain Preservation Program Crew
- Beaver Control Crew
- Street Superintendent
- Street Foreman
- General Stormwater Maintenance Crews
- Flood Events Crews
Construction Crews

- Culvert Crews
  - 2 Operator's with backhoe
  - 2 Drivers / Laborers with various trucks
- Pipe Crews
  - 2 Operator's with backhoe
  - 2 Drivers / Laborers with various trucks
- Masonry Crews
  - 1 Operator
  - 1 Tech
  - 1 Driver
  - 1 Laborer

Ditch Maintenance Crews

- Ditch Maintenance Crews
  - 2 Operators
  - 2 Drivers
  - 2 Techs
  - 2 Laborers
Inspection & Vacuum Cleaning Crews
- 230 Hotspots checked before/during/after major rain events
- 630 miles of pipe
- 1,350 miles of open channel

Drainage & Capital
Engineering Design
Construction Management
Capital Projects
Engineering Design

- 8 Design and Engineering staff members
- ~16,000 hours annually
- 265+ hours on typical drainage project: Swan Rd. modeling & design

Construction Management & Inspection

North St. Elmo (Big Dig) Drainage Improvements Project

- To Optimize & Avoid
- 1 Inspector
- 1 Engineering Coordinator
- Staff hours to manage = 3,000+ hrs
Capital Projects

Anderson Ave. Green Infrastructure

- GI neighborhood retrofit
- Located in ROW of the 900 block of South Holly Street, and the 1600-1700 blocks of Anderson Avenue
- Improving drainage and water quality to Dobbs Branch
- Planning & in-house design started in 2013
- GI mitigates the effects of urbanization on the water quality - sustainable systems
- Storm conveyance reduces incidents in localized flooding.
- Construction (Complete): June 26, 2017 – March 2018
- Total Cost: $1,760,715.53

Andersen Ave. Green Infrastructure

Before
Capital Projects

Valleybrook Subdivision

- Two major road crossings
- Upland watershed delivers more
- Roadway and private property flooding
- Crossing #1 - City crews worked from 4/17 to 10/17
- Crossing #2 - located at the tributary to Rogers Branch & Valleybrook Road; beginning this summer
- Increase conveyance from 2-yr to 25-yr storm
- Total Cost $304,000
- In-house Design & Construction
Valleybrook Subdivision

Capital Projects
Swan Road

- Current infrastructure replacement project
- Hwy 58 area. Existing, 18" pipe being replaced with ~1,200-feet of 48" pipe.
- Property flooding issues. High flow depths across Swan Road and the parking lot at the Lakeside Youth Sports Complex.
- Alleviate localized flooding and mitigate parking lot and ditch heavy scour issues.
- Construction Costs to date = $213,000
- In-house Design & Construction
- Work began Oct. 2017 & is estimated to be complete Oct. 2018
Capital Projects

Agawela Dr. Stream Restoration

- 1500 LF of Stream Stabilization to address Sediment Erosion into South Chick Creek
- Contract Value: $900,000
- Designer: HDR
- Construction Completed: 2017
- Reestablish:
  - Pools, riffles, velocity dissipation, stabilization and groundwater reconnect
Agawela Dr. Stream Restoration

Capital Projects

Hickory Valley Stream Restoration

- 7,333' of restored stream in the Friar Branch watershed.
- Increased channel sinuosity created over 400 feet of additional stream habitat
- Stormwater wetland was installed to treat polluted runoff. Contract Value: $1,500,000
- Construction Completed: July-Dec. 2010 with plantings in Feb. 2011
Capital Projects

North St. Elmo Ave. Improvements
"Big Dig"

- Collapsed CMP under former Wheland Foundry Landfill up to 75' deep
- Aware ~2000 (negotiations), 2008 - 8 years of planning, permitting, funding, design
- New 1,400 LF of 10' x 10' box culvert, 30' deep
- 4 connections installed via Tunnel Bore Machine
- Cost: $17,000,000
Fiscal Sustainability

Revenue & Expense Overview
Recommended Rate Study
TN Program Comparison
Q & A

Historical Water Quality Revenue & Expenses

- Revenue
- Transfer Fund Balance to Capital
- Debt Service
- Personnel & Operations
How will we invest?

Recommended Level of Service
Current Programs
New Programs

Additional Capital Projects
To Address TMDL’s
Stream Bank Stabilization

- Avg. $2M per year for new TMDL Operations & CIP
  - ~20% of proposed increase

Before

Agawela Dr. Stream Restoration
Completed in 2017

After
SFR Detention Pond Maintenance Program

- ~30 Ponds annually
- Requires heavy & light equipment, crews, structures, installed & expended materials, erosion controls, seed, spoils hauling
- Annual Cost: $500,000

Green Infrastructure Installations and Maintenance

- ~21 City Owned properties with BMP's
- More coming each year
- $400,000 per year
- Installation, maintenance, repair, replacement of:
  - plants
  - underdrains
  - stone
  - filter-fabric
  - monitoring stations
  - inlet and outlet structures
Drainage Infrastructure Improvements

Reduce Backlog of Drainage Projects

- $1.0 Million Per Year
- Plus Major Capital Projects
- Upland watersheds contributing "more".
- Work in the ROW
- Addressing the following:
  - citizen requests
  - aging infrastructure
  - backlog of projects

Non-TMDL Capital Projects

<table>
<thead>
<tr>
<th>Non-TMDL Capital Projects</th>
<th>Total 5 Year Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culvert Upgrades - Citico Creek</td>
<td>$1,120,000</td>
</tr>
<tr>
<td>USACE/FEMA Floodplain Culvert Replacements Projects</td>
<td>$450,000</td>
</tr>
<tr>
<td>Green Infrastructure of the Avondale YFD Center</td>
<td>$800,000</td>
</tr>
<tr>
<td>Automated flood warning system</td>
<td>$450,000</td>
</tr>
<tr>
<td>Combined sewer separation/attenuation Projects</td>
<td>$12,269,000</td>
</tr>
<tr>
<td>Storm sewer collection system improvements</td>
<td>$2,440,000</td>
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<tr>
<td>Water quality improvements, Stay On Volume Coupon Bank</td>
<td>$750,000</td>
</tr>
<tr>
<td>Landscape Design</td>
<td>$300,000</td>
</tr>
<tr>
<td>Home buyout program</td>
<td>$1,050,000</td>
</tr>
<tr>
<td>Conveyance and water quality wetland improvements</td>
<td>$250,000</td>
</tr>
<tr>
<td>Conveyance, detention and water quality improvements</td>
<td>$2,850,000</td>
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<tr>
<td>Heavy Equipment Purchases</td>
<td>$1,370,000</td>
</tr>
<tr>
<td>On-Call Floodplain Modeling</td>
<td>$600,000</td>
</tr>
<tr>
<td>WQ Operations Building at City Wide Services Yard</td>
<td>$450,000</td>
</tr>
<tr>
<td>Pump Station Repairs</td>
<td>$2,500,000</td>
</tr>
<tr>
<td>WQ Lab/Storage</td>
<td>$150,000</td>
</tr>
<tr>
<td>Total</td>
<td>$28,149,000</td>
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TMDL Capital Projects

<table>
<thead>
<tr>
<th>TMDL Capital Projects</th>
<th>Total 5 Year Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritizing GI Projects to address TMDLs</td>
<td>$100,000</td>
</tr>
<tr>
<td>Various stream restoration projects</td>
<td>$750,000</td>
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<tr>
<td>Stream Restoration - Citico Creek</td>
<td>$2,290,000</td>
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<tr>
<td>Stream Restoration - Lynnbrook WPA Ditch</td>
<td>$200,000</td>
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<tr>
<td>East Lake Water Quality Restoration</td>
<td>$400,000</td>
</tr>
<tr>
<td>Various areas of stream buffer purchased into conservation to protect streams.</td>
<td>$450,000</td>
</tr>
<tr>
<td>Green Infrastructure of City Alleyways</td>
<td>$750,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4,940,000</strong></td>
</tr>
</tbody>
</table>

Recommended Operating Expenses and Capital Projects

- Capital Projects Cost
- Operating Expenses

 FY2019: $19,870,000
 FY2020: $22,130,000
 FY2021: $22,360,000
 FY2022: $23,510,000
 FY2023: $23,700,000

Total: $10,282,400
Recommended Total Gross Revenue

- FY2018: $21,033,255
- FY2019: $23,402,400
- FY2020: $25,682,400
- FY2021: $28,192,400
- FY2022: $30,952,400
- FY2023: $33,982,400

Fiscal Year

Recommended Land Disturbance Permit Fees

Recent Annual Revenue ~$75,000

- Simple Residential - $ 250 min. (up to 1 acre disturbed area) $250
- Complex - $ 250 per acre $250
- Revision after second review (each) $1,000
- Post-issued revision (each) $1,000
- Variance or Infeasibility Request $1,375
- Bonds/Letter of Credit (each) $675
- Driveway Tile/Culvert Sized By City (each) $500
- As-Built Survey/Certification Review (each) $675
- Grading Only - per acre $250
- Timber Removal Permit - per acre $250
- Tree Ordinance (each) $500

Estimated Annual Revenue Next 5 Years $362,400
Recommended Annual ERU's

- FY2018: $115.20, 0.00%
- FY2019: $126.49, 9.80%
- FY2020: $138.78, 9.71%
- FY2021: $152.33, 9.77%
- FY2022: $167.22, 9.77%
- FY2023: $183.54, 9.76%

Calculated Rate/ERU/Year: Red
Annual Rate Increase: Blue

Recommended Level of Service

Average 9.75% increase per year for five years

FY 2018: $115.20 per ERU
FY 2019: $126.49 per ERU

$11 Increase
How do we compare?

Quality of Life

- Factors
  - Environment
  - Drainage
  - Flood Control

- Funding
  - Property Tax
  - Water Quality Fee
Program Funding Comparison
Tennessee Phase 1 Programs

<table>
<thead>
<tr>
<th>City</th>
<th>Property Tax/$100 Assessed Value</th>
<th>ERU sq ft</th>
<th>$ ERU/Yr</th>
<th>Program Budget</th>
<th>General Revenue</th>
<th>WQ User Fee</th>
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</thead>
<tbody>
<tr>
<td>Memphis, TN</td>
<td>$3.271481</td>
<td>Tiered</td>
<td>7 Tiers</td>
<td>$30,110,000</td>
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<td>x</td>
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<tr>
<td>Nashville/Davidson County, TN</td>
<td>$3.1255</td>
<td>Tiered</td>
<td>15 Tiers</td>
<td>$34,275,000</td>
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<tr>
<td>Knoxville, TN</td>
<td>$2.4638</td>
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<tr>
<td>Chattanooga, TN</td>
<td>$2.2770</td>
<td>3,200</td>
<td>$115.20</td>
<td>$19,500,000</td>
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Final Thoughts

- Required Permit Programs
- Expected Quality of Life - Constituent Expectations
- Balanced Funding
- Funding Efficiency
- Program Transparency & Accountability