
**Gwinnett County Sustainability Commission
Meeting Minutes**

Wednesday, October 20, 2021

Gwinnett Justice and Administration Center
75 Langley Drive, Lawrenceville, GA 30046
Conference Room C (Second Floor)

Present: Laura Hernandez, Daniel Hilton, Krupesh Patel, Dr. Marshall Shepherd, Venus Singh

1. Call to Order

Laura Hernandez, Chairperson, called the meeting to order and welcomed everyone at 4:30pm.

2. Approval of Agenda

{Action: Approved; Shepherd; Second: Patel; Vote:5-0; Hernandez-Yes; Hilton-Yes; Patel-Yes; Shepherd-Yes; Singh-Yes}

3. Approval of Minutes

The September 15, 2021, meeting minutes were approved.

{Action: Approved; Patel; Second: Hilton; Vote:5-0; Hernandez-Yes; Hilton-Yes; Patel-Yes; Shepherd-Yes; Singh-Yes}

4. Review and Approval of Draft Bylaws

The GCSC Bylaws were approved.

{Action: Approved; Shepherd; Second: Singh; Vote:5-0; Hernandez-Yes; Hilton-Yes; Patel-Yes; Shepherd-Yes; Singh-Yes}

5. Election of a Vice-Chairperson

A motion was made to nominate Daniel Hilton as Vice-Chairperson.

{Action: Approved; Patel; Second: Shepherd; Vote:5-0; Hernandez-Yes; Hilton-Yes; Patel-Yes; Shepherd-Yes; Singh-Yes}

6. Presentation on Drawdown Georgia

Dr. Marshall Shepherd, member of the GCSC, presented an overview of the Drawdown Georgia: Reducing Georgia's Carbon Footprint in Beneficial and Equitable Ways.

<https://www.drawdownga.org>. Dr. Shepherd will follow-up contact information to GCSC members regarding workshops and rollout.

7. Presentation on Gwinnett County Water Tower Project

Melissa Meeker, Director, Water Innovation Center Development, presented an overview of the Gwinnett County Water Tower Project. <https://www.theh2otower.org>

8. Internal Sustainability Sub-Team Presentation

Sustainable Sites, Trees & Greenspace, Land Use

Marcus Canada, Section Manager, Department of Planning and Development, presented an overview of Sustainable Sites, Trees, Greenspace and Land Use.

9. At previous meeting, GCSC members were asked to contact the Commissioner who appointed them to inquire about his or her priorities for environmental sustainability. Here are a few: Overdevelopment and trees, litter, community education on recycling, glass recycling, CHaRM program <https://livethrive.org> and biosolids as fertilizer for community to use.

10. Public Comments

No members of the public provided comments.

11. Adjournment

The meeting was adjourned at 6:03pm

{Action: Approved; Singh; Second: Hilton; Vote: 4-0; Hernandez-Yes; Hilton-Yes; Patel-Yes; Shepherd-Not present; Singh-Yes}

Bylaws

Article I. Name

The name of this Commission shall be the Gwinnett County Sustainability Commission (GCSC).

Article II. Purposes

The purposes of the GCSC include:

- To review and consider the environmental sustainability needs of Gwinnett County now and in the future based upon existing and projected growth patterns.
- To review and assess environmental sustainability options for Gwinnett County, including those suggested by members of the community.
- To review and assess the feasibility of differing environmental sustainability options in Gwinnett County.
- To review and assess options for reducing Gwinnett County's environmental impact through its buildings, fleets, and practices.
- Provide public education and outreach on sustainability issues and encourage the community to reduce its environmental impact.

Article III. Objectives

The objectives of the GCSC include:

- As requested, the GCSC may review and provide comments on any sustainability plans in which the County is currently engaged, or in which the County plans to engage.
- As requested, the GCSC may assess current and planned infrastructure and programs with regard to their level of environmental sustainability, while considering the current and future needs of Gwinnett County's residents, businesses, and visitors. In doing so, the GCSC should consider factors such as current and projected population of Gwinnett County and financial feasibility.
- The GCSC should review and consider multiple sustainability options and review the feasibility of each.
- As requested, the GCSC may assess and provide recommendations for public outreach and education on sustainability issues.
- The GCSC will prepare at least one annual written report, including its recommendations, concerning the County's existing sustainability practices and programs with the goal of maintaining the Gwinnett Standard of being an environmental leader of local governments in Georgia. The report should include information that presents the scope of the Commission's environmental sustainability work and the basis for its recommendations, such as infrastructure

needs, feasibility of proposed approaches, quality of life, and potential economic benefits and impacts.

Article IV. Authority

The exclusive authority of the GCSC is to review and assess needs, options, and information and to make recommendations to the Board of Commissioners and the County Administrator on environmental sustainability matters. The GCSC has no independent authority to act on any recommendations.

Section 1.

The GCSC shall have no power to enter into contracts of any nature nor to spend public funds.

Section 2.

In the absence of written consent, no board member shall be required to provide any sum of money, property, or service other than services described herein to the GCSC.

Section 3.

The GCSC shall have no power to bind any member or any citizen to any debt, liability, or obligations in the absence of an expressed written authorization from the party to be bound.

Section 4.

In their capacity as GCSC members, members are not County employees and have no authority to hold themselves out as such.

Section 5.

The GCSC shall have no powers beyond those expressly set forth in the GCSC's Enabling Resolution and in these Bylaws.

Article V. Membership

Section 1. Structure of the Commission

The GCSC will represent a variety of viewpoints, interests, and community segments so that it may collectively represent the interests of Gwinnett County. The Board of Commissioners will select and appoint individuals who are critical thinkers with the ability and aptitude to objectively review options without being unduly influenced by preconceived notions about environmental sustainability. No individual who is an announced candidate for elected office at any level or has a position, paid or volunteer, with any active political campaign is eligible to serve as a member of the GCSC. The

GCSC will be made up of five members, each of whom shall be residents of Gwinnett County, to be appointed as follows:

One member appointed by the Commission Chairwoman,
One member appointed by the Commissioner for District 1,
One member appointed by the Commissioner for District 2,
One member appointed by the Commissioner for District 3, and
One member appointed by the Commissioner for District 4.

Section 2. Term of Board Membership

Members shall serve two-year staggered terms. In order to create staggered terms, the initial members appointed by the Commissioners for Districts 1 and 3 shall serve an initial term of one year. After this initial one-year term, the members appointed by the Commissioners for Districts 1 and 3 shall also serve two-year terms. Members serve at the pleasure of the Board of Commissioners and by be removed by a majority vote of the Board of Commissioners at any time. Vacancies on the GCSC shall be filled in the same manner as the original appointment was made.

Section 3. Compensation

Members will serve in non-paying volunteer positions.

Section 4. Voting Rights

Each member shall be entitled to one vote and may cast that vote on each matter submitted to a vote by the GCSC. Proxy voting and absentee ballots shall not be permitted.

Section 5. Termination of Membership

If a member ceases to be a resident of Gwinnett County, that person shall no longer hold membership in the GCSC. The GCSC, by affirmative vote of the majority of all members, can inform the Gwinnett County Board of Commissioners that a member is not fulfilling their duties. Members serve at the pleasure of the Board of Commissioners and by be removed by a majority vote of the Board of Commissioners at any time.

Section 6. Transfer of Membership

Membership in the GCSC is neither transferable nor assignable.

Section 7. Resignation/Vacancy

Any member may resign by filing a written resignation with the Gwinnett County Board of Commissioners and the GCSC Chairperson. Vacancies on

the GCSC shall be filled in the same manner as the original appointment was made.

Section 8. Absences

It is the responsibility of each member to inform the Chairperson when the member will be absent from a meeting. In the event that a member is absent from 75% or more meetings held in a calendar year, that individual may be replaced in accordance with the provisions of Article V, Section 5.

Article VI. Officers

Section 1. Officers

The GCSC, by majority vote, shall elect a Chairperson who will be responsible overall direction and work progress of the GCSC which includes ensuring use of quality assurance/quality control practices and procedures; facilitating the use of advisors; and providing updates to the Board of Commissioners and the County Administrator, as necessary.

The GSCS, by majority vote, shall also elect a Vice Chairperson who be responsible for the duties of the Chairperson in the event of their absence or as requested by the Chairperson.

Section 2. Eligibility, Election, and Term of Office

The Chairperson and Vice Chairperson of the GCSC shall be elected annually, serve a term of one year, and may serve no more than two consecutive terms. Except for the initial year, for a board member to be nominated for the office of Chairperson or Vice Chairperson, the member shall first have actively served on the GCSC for no less than one calendar year and have attended no less than 75% of the previous calendar year's meetings. Election shall be by a majority vote of all members of the GCSC in attendance at the time of election. Except for the initial year, future elections shall be held at the last scheduled meeting of the calendar year. The term of office shall begin immediately upon election during the inaugural year of the board and on January 1 of the next calendar year for all future elections.

Section 3. Duties of the Officers:

The Chairperson shall:

- Preside at all meetings of the GCSC.

- Prepare an agenda prior to each meeting and submit to board members for advance review. See Article VII, Section 5 of these Bylaws.
- Ensure meetings are conducted in an orderly manner per Roberts Rules of Order and the Georgia Open Meetings Act.
- Sign all letters, reports, and other GCSC communications.
- Perform duties incidental to the office of Chairperson and other duties as may be prescribed by the GCSC.

The Vice Chairperson shall:

- Assume responsibilities of Chairperson in the event of the Chairperson's absence or as requested by the Chairperson.

Article VII. Meetings

Section 1. Regular Meetings

The GCSC shall meet regularly on a quarterly basis, at minimum, or more frequently as decided by GCSC. All meetings of the GCSC will be open to the public. Meetings shall occur at a regular and consistent day and time.

Section 2. Special Called Meetings

Special called meetings may be called by the Chairperson or by a majority vote of the GCSC.

Section 3. Quorum

A quorum of the members shall be present in order for the GCSC to conduct business. A quorum shall consist of three members of the GCSC.

Section 4. Conduct of Meetings

All regular meetings and special meetings of the GCSC shall be conducted in accordance with Roberts Rules of Order or in accordance with an appropriate adaptation thereof and in accordance with the Georgia Open Meetings Act.

Section 5. Agenda

The Chairperson, with assistance from County staff, shall determine the meeting agenda. Members of the GCSC may request the addition of agenda items by contacting the Chairperson at least five (5) business days prior to the deadline for publicly posting the agenda. The Chairperson shall submit a final agenda to the Support Services Department Director, or designee, for

posting on the County website in accordance with the requirements of the Georgia Open Meetings Act.

Section 6. Meetings Open to the Public

Regular and special called meetings of the GCSC shall be open to the public as required by the Georgia Open Meetings Act. Notification of regular meetings are to be posted on the Gwinnett County website seven calendar days preceding the meeting date. Cancellations are to be posted on the Gwinnett County website as soon as practical.

Section 7. Recommendations

The GCSC shall submit only recommendations which have been approved by a majority vote. All recommendations for action must be submitted in writing to the Board of Commissioners and the County Administrator.

Article VIII. Operation

Section 1. County Staff

The GCSC may request the assistance of County staff and advisors to operate efficiently and effectively. County staff, including but not limited to the Department of Support Services and Gwinnett Environmental Sustainability Team, shall provide available information and support as may be reasonable to assist the GCSC and shall provide administrative assistance.

Section 2. Subcommittees

The GCSC may create such subcommittees and/or advisory committees to carry out its purpose with timeliness and efficiency. The GCSC will state the purpose, size, and scope of authority of any subcommittee or advisory committee upon its creation. Any subcommittee or advisory committee may be terminated at any time. Membership on any subcommittee or advisory committee shall be determined by the GCSC with input from appropriate County staff. The GCSC will name at least one of its members to preside over the subcommittee or advisory committee. Members of any subcommittee or advisory committee may participate in the GCSC meetings as appropriate.

Section 3. Reports

Any written reports and recommendations, including reports of subcommittees and/or advisory committees, shall be presented to the GCSC for consideration. The GCSC will provide written recommendations to the Board of Commissioners and the County Administrator.

Article IX. Amendments to the Bylaws

Proposed Amendments to the Bylaws shall be presented to the Chairperson for addition to the meeting agenda in accordance with Article VII, Section 5. Once the Amendment is considered by the GCSC, these Bylaws may be amended with a majority vote of the members.



DRAWDOWN GA

Drawdown Georgia:
Reducing Georgia's Carbon Footprint in
Beneficial and Equitable Ways

Dr. J. Marshall Shepherd
University of Georgia



- Climate change presents real risks to Georgia and the rest of the world.
- Proactively managing those risks presents real opportunities.
- Addressing this challenge at scale will require creativity and innovation.
- Project Drawdown pioneered this type of new thinking at the global level.
- Drawdown Georgia brings a Georgia lens to this analysis.



Starting Point: Project Drawdown Solutions

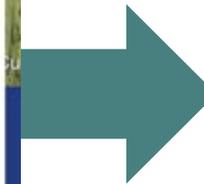


Paul Hawken
an environmentalist,
entrepreneur, journalist,
and author
pioneer in sustainability

PROJECT DRAWDOWN

View the solution | [Twitter](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [email sign up](#) | [donate](#) | [Search](#)

<p>ELECTRICITY GENERATION</p> <ul style="list-style-type: none"> Biomass Cogeneration Concentrated Solar Energy Storage (Distributed) Energy Storage (Utilities) Geothermal Grid Flexibility In-Stream Hydro Methane Digesters (Large) Methane Digesters (Small) Micro Wind Microgrids Nuclear Rooftop Solar Solar Farms Solar Water Waste-to-Energy Wave and Tidal Wind Turbines (Offshore) Wind Turbines (Onshore) 	<p>FOOD</p> <ul style="list-style-type: none"> Biochar Clean Cookstoves Composting Conservation Agriculture Farmland Irrigation Farmland Restoration Improved Rice Cultivation Managed Grazing Multistrata Agroforestry Nutrient Management Plant-Rich Diet Reduced Food Waste Regenerative Agriculture Silvopasture System of Rice Intensification Tree Intercropping Tropical Staple Trees <p>WOMEN AND GIRLS</p> <ul style="list-style-type: none"> Educating Girls Family Planning Women Smallholders 	<p>BUILDINGS AND CITIES</p> <ul style="list-style-type: none"> Bike Infrastructure Building Automation District Heating Green Roofs Heat Pumps Insulation Landfill Methane LED Lighting (Commercial) LED Lighting (Household) Net Zero Buildings Retrofitting Smart Glass Smart Thermostats Walkable Cities Water Distribution <p>LAND USE</p> <ul style="list-style-type: none"> Afforestation Bamboo Coastal Wetlands Forest Protection Indigenous Peoples' Land Management Peatlands Perennial Biomass Temperate Forests Tropical Forests 	<p>TRANSPORT</p> <ul style="list-style-type: none"> Airplanes Cars Electric Bikes Electric Vehicles High-speed Rail Mass Transit Ridesharing Ships Telepresence Trains Trucks <p>MATERIALS</p> <ul style="list-style-type: none"> Alternative Cement Bioplastic Household Recycling Industrial Recycling Recycled Paper Refrigerant Management Water Saving - Home 	<p>COMING ATTRACTIONS</p> <ul style="list-style-type: none"> A Cow Walks Onto A Beach Artificial Leaf Autonomous Vehicles Building With Wood Direct Air Capture Enhanced Weathering of Minerals Hydrogen-Boron Fusion Hyperloop Industrial Hemp Intensive Silvopasture Living Buildings Marine Permaculture Microbial Farming Ocean Farming Pasture Cropping Perennial Crops Repopulating the Mammoth Steppe Smart Grids Smart Highways Solid-state Wave Energy
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20 High-Impact Solutions

1. Climate change presents real risks to Georgia and the rest of the world.
2. Proactively managing those risks presents real opportunities.
3. Addressing this challenge at scale will require creativity and innovation.
4. Project Drawdown pioneered this type of new thinking at the global level.
5. **Georgia Drawdown brings a Georgia lens to this analysis.**

20 Drawdown Georgia Solutions for 2030

Electricity

-  Cogeneration
-  Demand Response
-  Rooftop Solar
-  Large-Scale Solar
-  Landfill Methane

Transportation

-  Electric Vehicles
-  Energy-Efficient Cars
-  Energy-Efficient Trucks
-  Mass Transit
-  Alternative Mobility

Food & Agriculture

-  Composting
-  Conservation Agriculture
-  Plant Rich Diet
-  Reduced Food Waste

Buildings & Materials

-  Recycling
-  Refrigerant Management
-  Retrofitting Buildings

Land Sinks

-  Afforestation & Silvopasture
-  Coastal Wetlands
-  Temperate Forest Protection & Management



What does 1 megaton of carbon reduction look like?



Rooftop Solar:

295,000 new 5 KW home solar systems by 2030



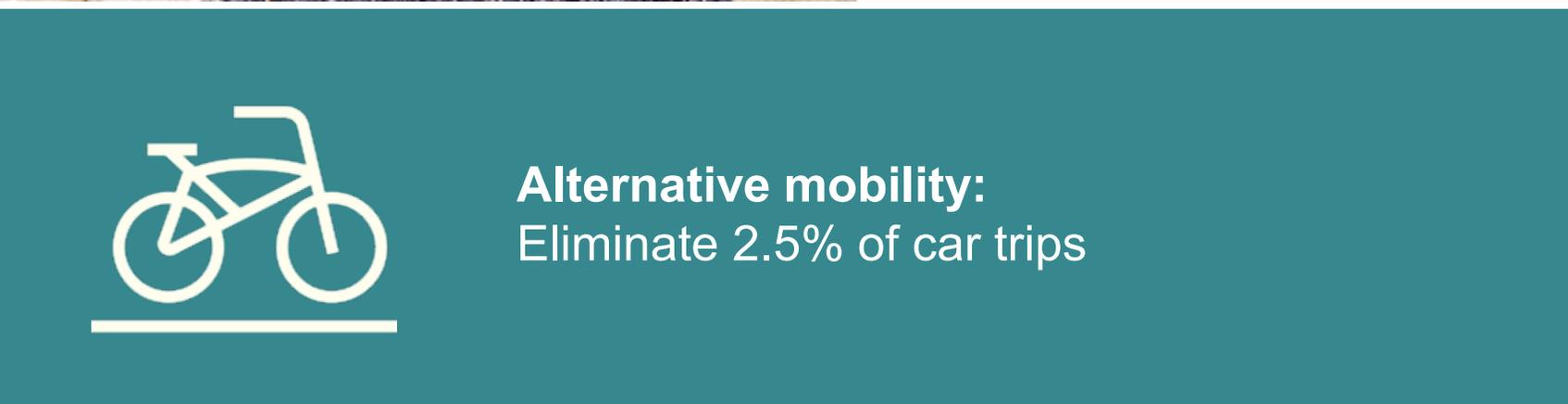
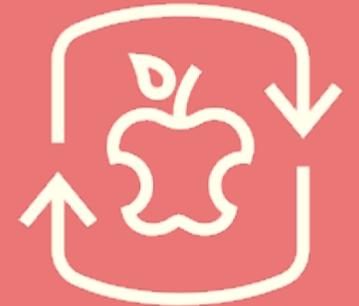
Confirm photo permission
<https://www.solarcrowdsource.com/how-it-works-solarize/>



Confirm photo permission
<https://www.foodwellalliance.org/communitybased-composting>

Composting:

Divert ~2 million tons of organic waste from landfiling to composting by 2030



Alternative mobility:

Eliminate 2.5% of car trips



Confirm photo permission
<https://www.ajc.com/news/local/gridlock-guy-safety-tips-for-cyclists-and-motorists-sharing-the-roads/OZkac3mircBD7MEHUIFk1I/>

Current Activities: Geospatial tracking & business engagement to activate Drawdown solutions in Georgia

1. Track the GHG Footprint of Georgia's Counties and Metro Areas

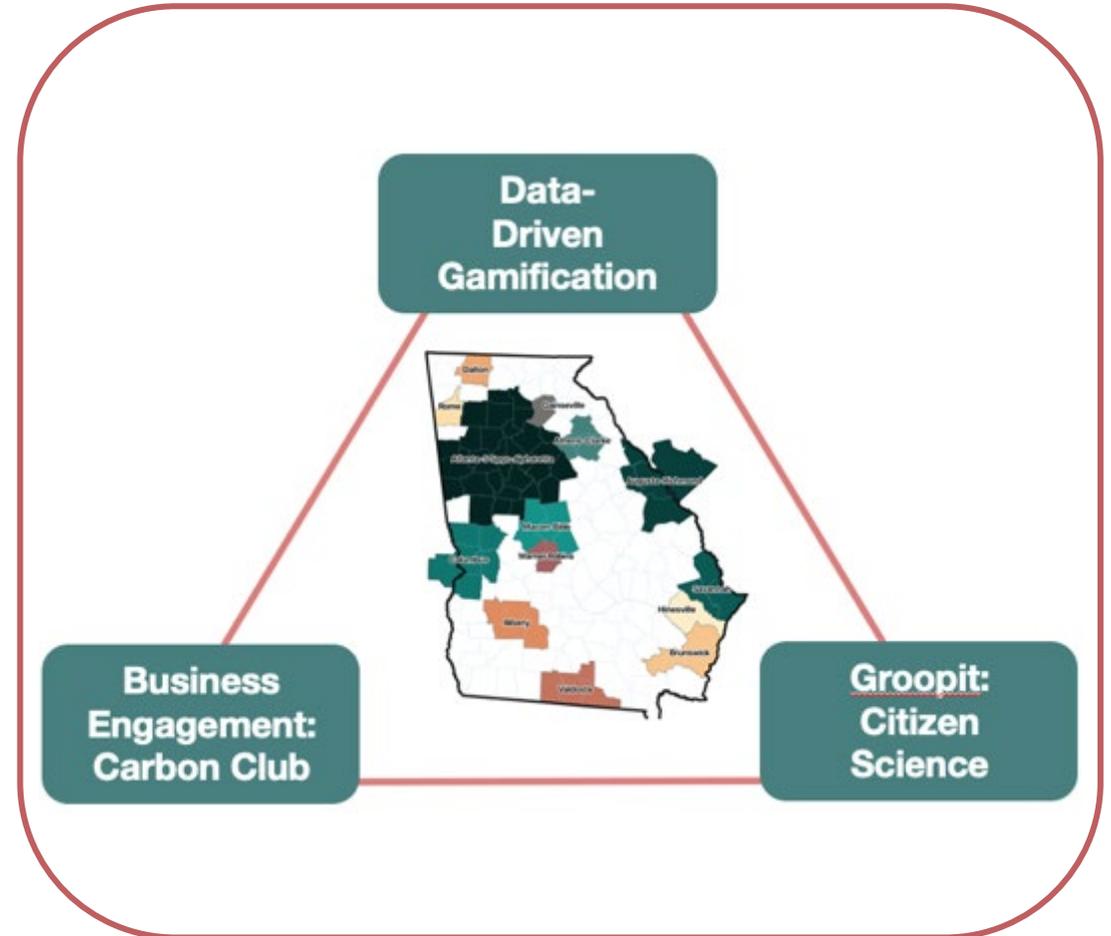
Goal: Develop a GHG tracking system for Georgia to underpin Drawdown Georgia activation

2. Engage Business

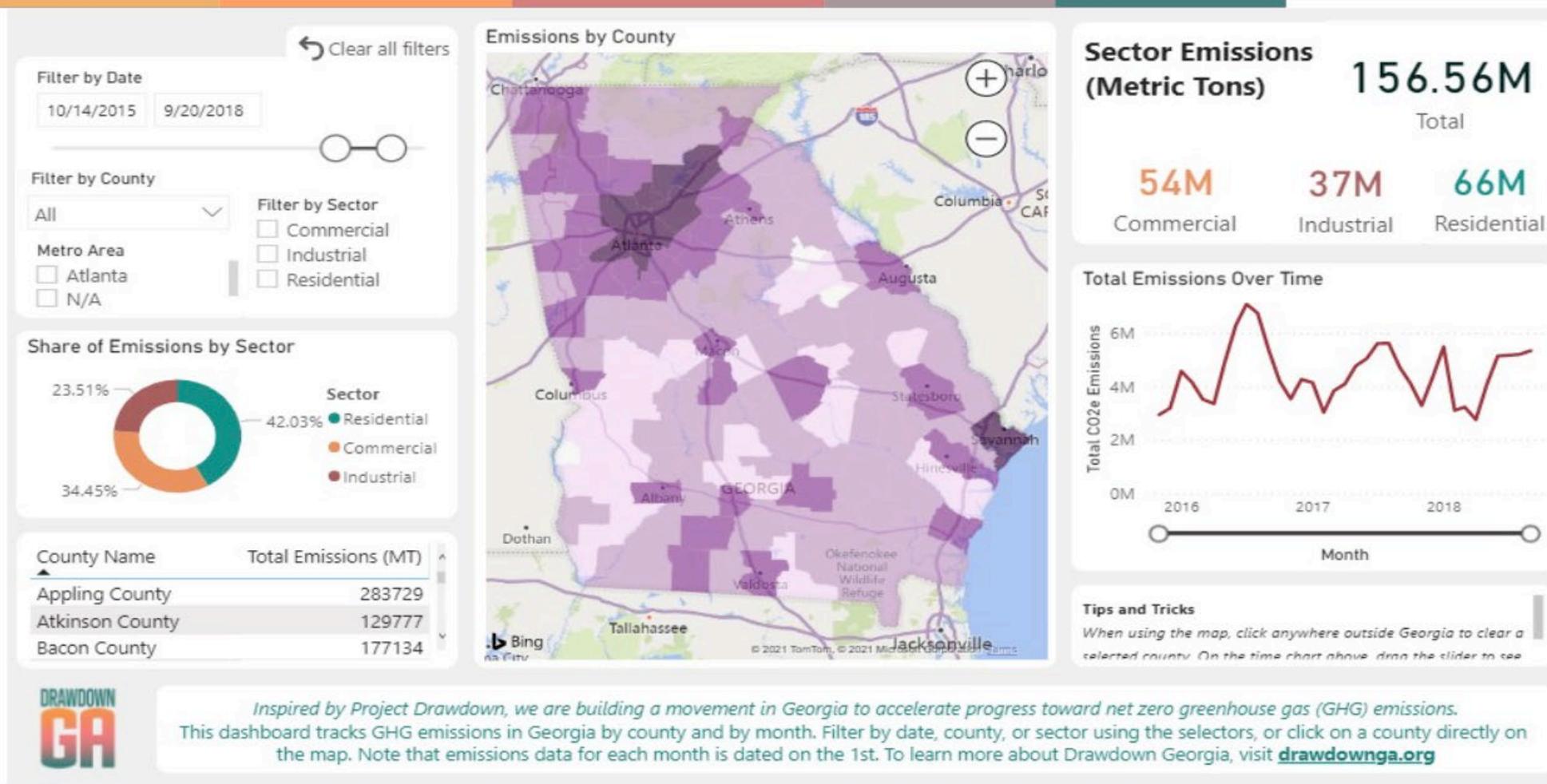
Goal: Make the output of Georgia Drawdown accessible to business decision makers to stimulate interest in individual and collective commitments

3. Evaluate, Plan and Track Activation of Five Solutions

Goal: Triangulate approaches to activate high-impact solutions in Georgia



Illustrative Drawdown Georgia dashboard



Illustrative Drawdown Georgia dashboard

Filter by Date
10/14/2015 9/20/2018

Filter by County
All

Metro Area
 Atlanta
 N/A

Filter by Sector
 Commercial
 Industrial
 Residential

Emissions by County

Sector Emissions (Metric Tons)

4.87M Total

2M Commercial 1M Industrial 2M Residential

Share of Emissions by Sector

County Name	Total Emissions (MT)
Chatham County	4868311
Chattahoochee County	107995
Chattooga County	385073

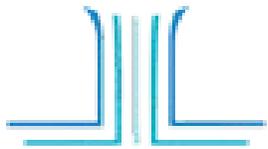
Total Emissions Over Time

Tips and Tricks

When using the map, click anywhere outside Georgia to clear a selected county. On the time chart above, drag the slider to see



Inspired by Project Drawdown, we are building a movement in Georgia to accelerate progress toward net zero greenhouse gas (GHG) emissions. This dashboard tracks GHG emissions in Georgia by county and by month. Filter by date, county, or sector using the selectors, or click on a county directly on the map. Note that emissions data for each month is dated on the 1st. To learn more about Drawdown Georgia, visit drawdownga.org



THE WATER TOWER
INNOVATE. ENGAGE. PIONEER.

Introduction to The Water Tower
Melissa Meeker - Melissa@theh2otower.org

View from The Water Tower

- Our Vision
 - To be a thriving ecosystem of water innovation fueled by imagination, informed by research, and powered by pioneers.
- Our Mission
 - **TWTG (501c4)** will develop world-class physical infrastructure and dynamic human capital needed to inspire and implement transformational programming.
 - **TWTI (501c3)** will be a hub for solutions in research, technology, training and engagement for water utilities ensuring access to safe, affordable and resilient water services.



The Water Tower Board of Directors

The Water Tower at Gwinnett (501c4)

- Melvin Everson, Gwinnett Technical College
- Jennifer Fennell, Jackson EMC
- Jann Joseph, Ph.D., Georgia Gwinnett College
- Nick Masino, Gwinnett Chamber and Partnership Gwinnett
- Daniel R. Sosebee III, CPA, Moore Stephens Tiller
- John D. Stephens, JDS Holdings LLC
- Maurice Thompson II, Consultuoso
- Jessica Rantamaki, Geo-Hydro Engineers

The Water Tower Institute (501c3)

- Paul Bowen, Ph.D, Retired, The Coca-Cola Company
- Glen T. Daigger, Ph.D., P.E., BCEE, NAE, University of Michigan and One Water Solutions LLC
- Terrell S. Gibbs, Ph.D., P.E., CERM
- Christopher A. Impellitteri, Ph.D., US EPA Office of Research and Development
- Linda MacGregor, P.E., City of Gainesville
- Nick Masino, Gwinnett Chamber and Partnership Gwinnett
- Andrew D. Morris, J.D., Atlanta Regional Commission and Metro North Georgia Water Planning District
- Eileen O'Neill, Ph.D., Water Principles LLC

**REIMAGINE
THE FUTURE**



THE FOUR PILLARS

01

02

03

04



THE FOUR PILLARS

APPLIED
RESEARCH



02

03

04

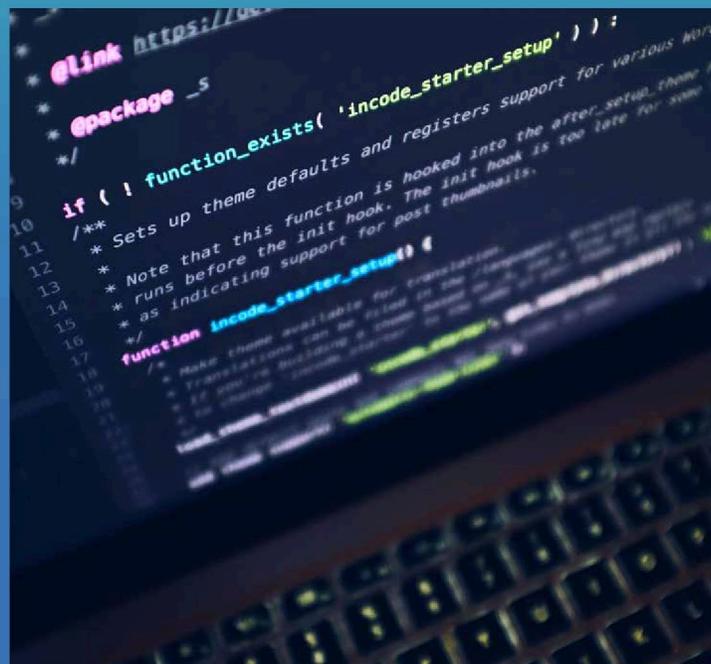


THE FOUR PILLARS

APPLIED
RESEARCH



TECHNOLOGY
INNOVATION



03

04



THE FOUR PILLARS

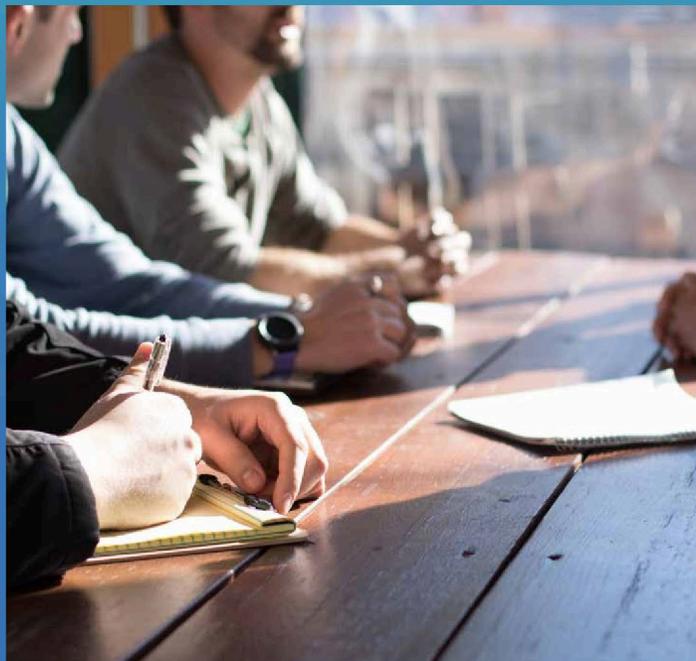
APPLIED
RESEARCH



TECHNOLOGY
INNOVATION



WORKFORCE
DEVELOPMENT



04



THE FOUR PILLARS

APPLIED RESEARCH



TECHNOLOGY INNOVATION



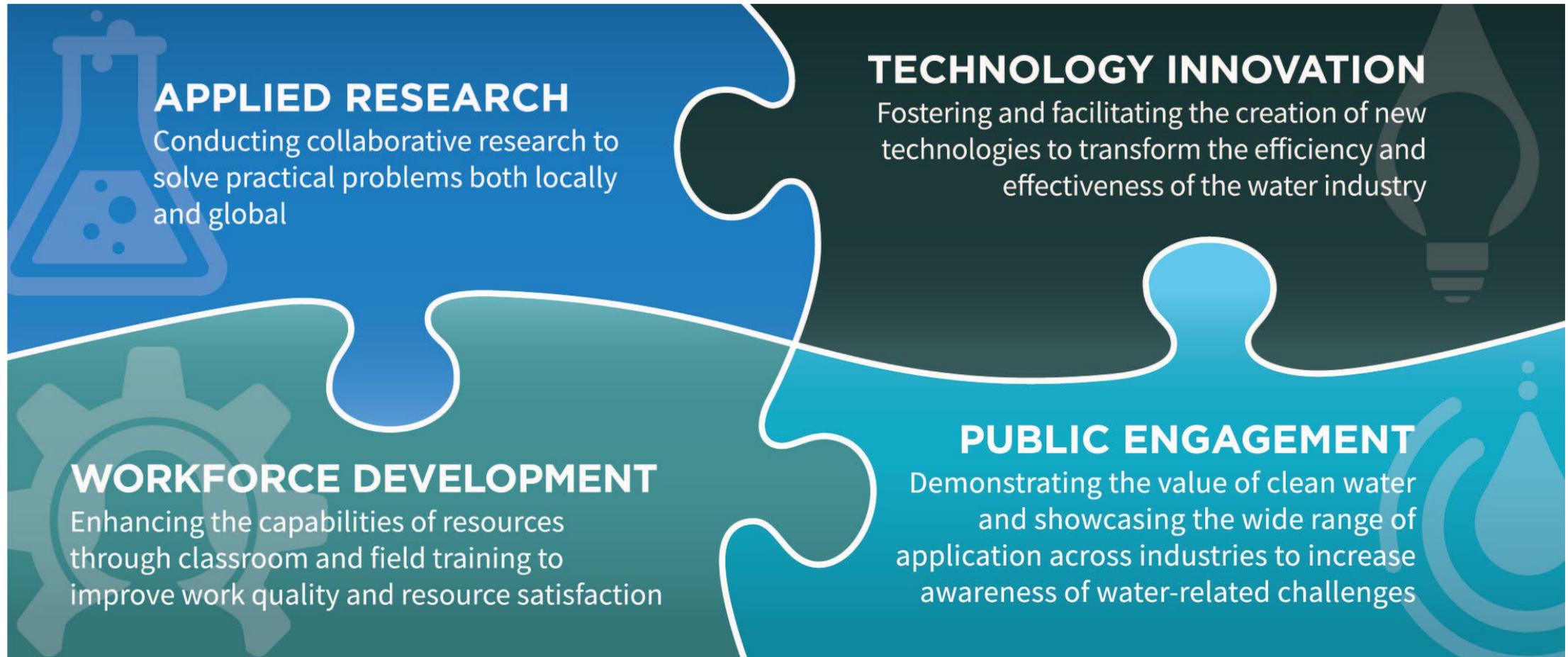
WORKFORCE DEVELOPMENT



COMMUNITY ENGAGEMENT

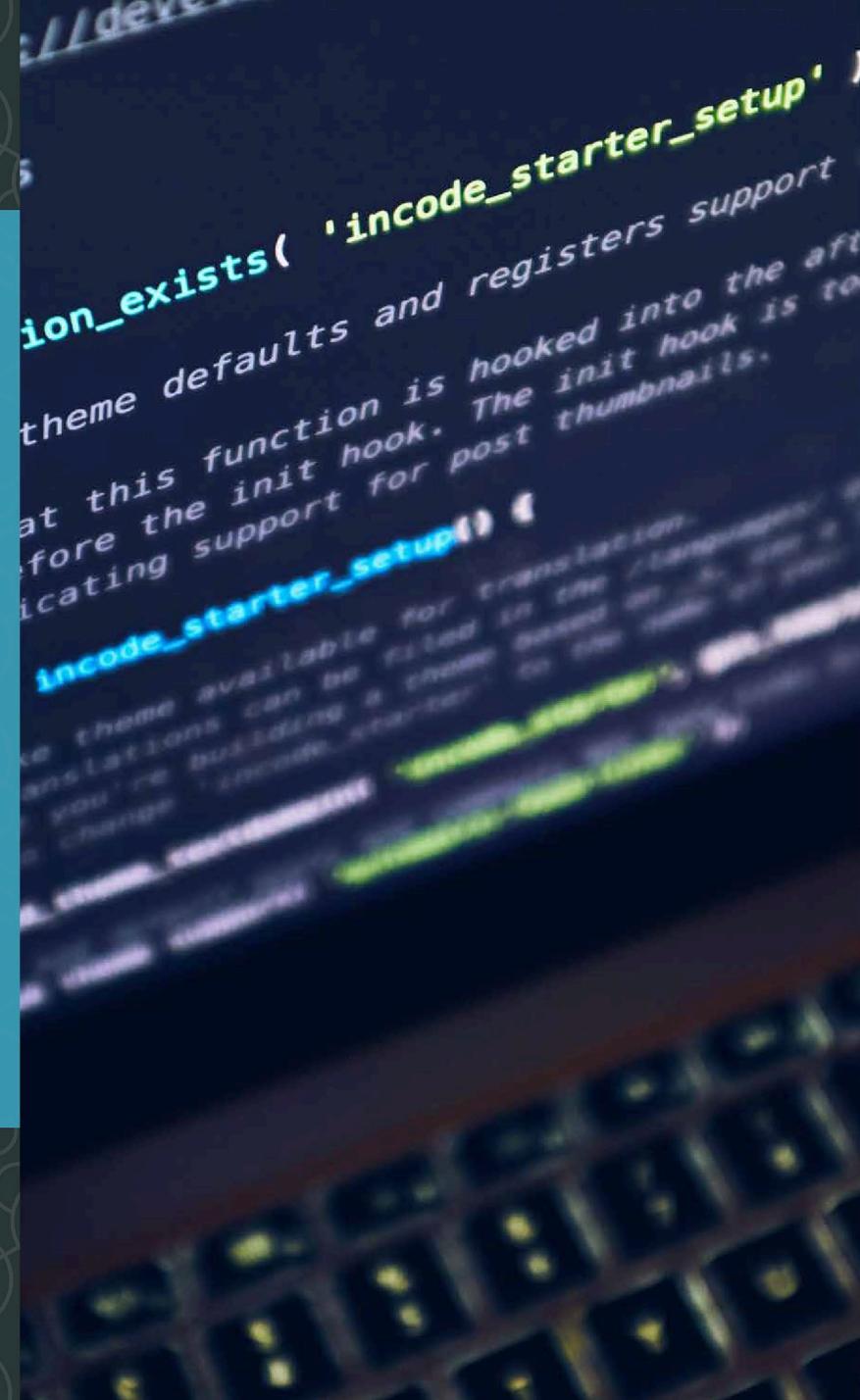


Four Key Pillars: Working Together



TECHNOLOGY INNOVATION

- demonstration and validation
- workspace and support
- connections critical for deployment





- Primary Influent
- Secondary Effluent
- Advanced Treated Reuse
- Digital Twin/APIs

Water Industry Technology Focus Areas

Climate Action – Net Zero Initiatives

- Smart Tech to drive efficiencies
- Energy production

Water Security

- One Water
- Access, Treatment, Protection, Workforce

Micro pollutants & PFAS control regulation and technology

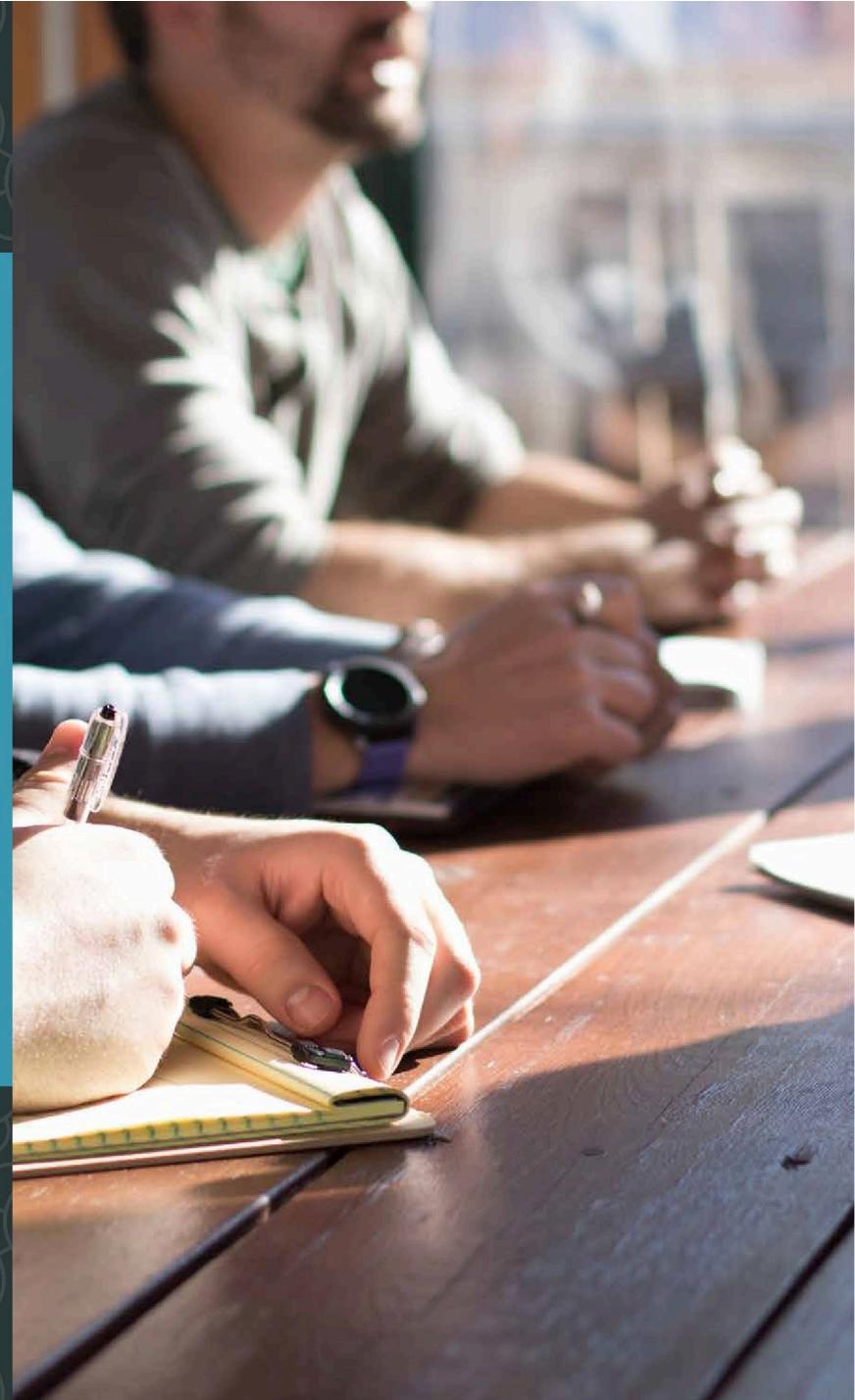
Service 4.0 – Digital Transformation

- Enhance customer service interaction and engagement
 - Transparency
 - Personal responsibility



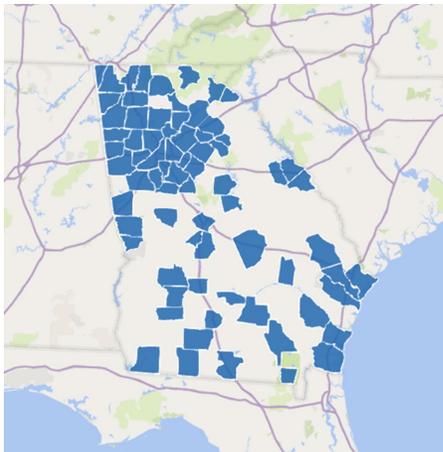
WORKFORCE DEVELOPMENT

- in-the-field and other specialty water-industry training
- career pipeline through recruitment
- internships and apprenticeships

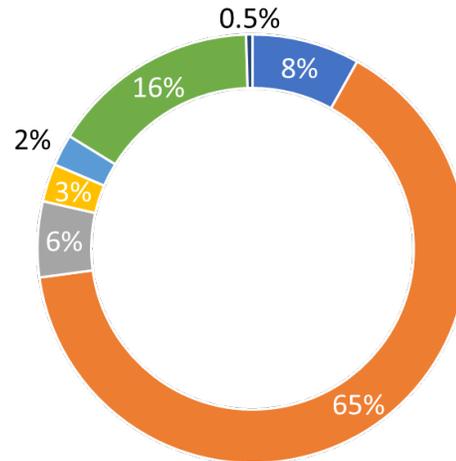


Workforce Scan & Benchmarking

- 95/55 utilities
- > 210 Reqs

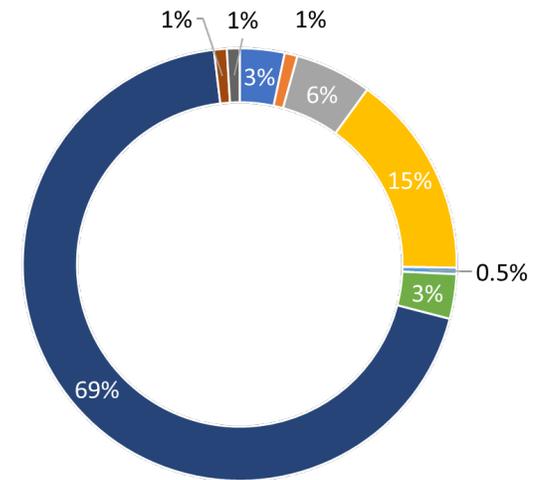


Education



- Not Specified
- High School Diploma or GED
- Associate's Degree
- Technical or Vocational School
- Currently Enrolled in College/University
- Bachelor's Degree
- Master's Degree and above

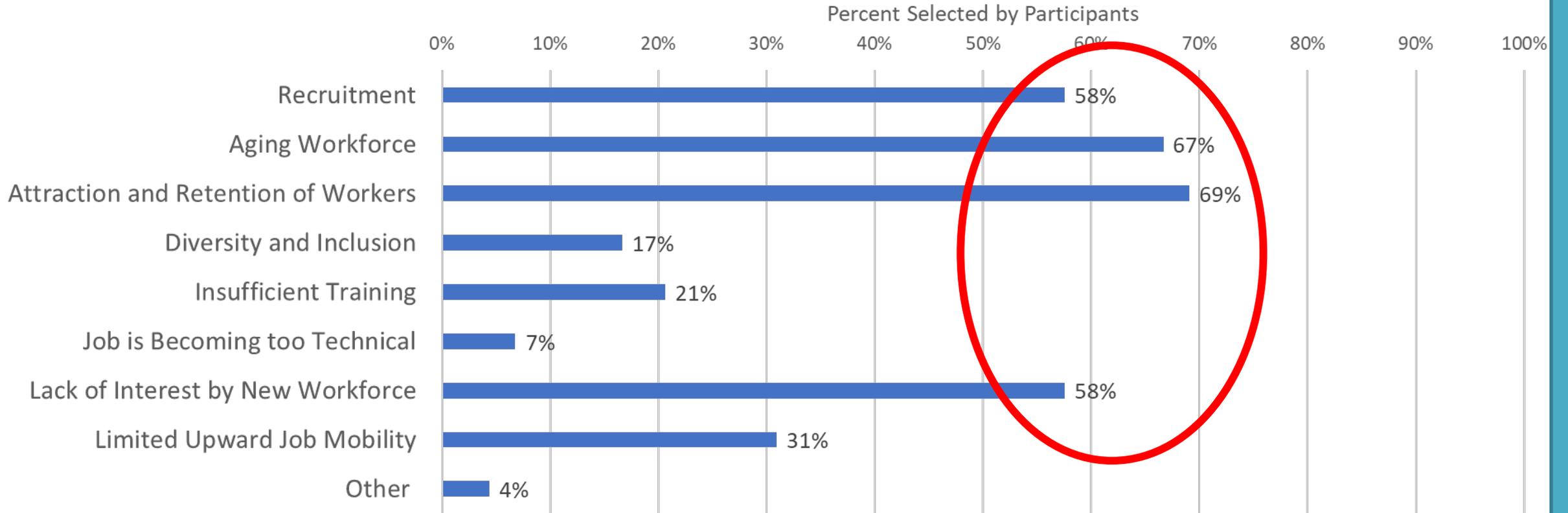
Department



- Administration
- Customer Service
- IT
- Operations and Maintenance
- None
- Communications
- Engineering
- Management
- Procurement



Key Challenges



Workforce Development

- *Goal: Become a hub of high-quality training and professional development needed to develop a pipeline of next-generation workers for the water sector from GED to PhD.*
- Partners
 - Georgia Water and Wastewater Institute
 - North Georgia Campus
 - Prime Power
 - Heavy Equipment College of America

Seeking GA approval as an official Trainer Provider Location to facilitate funding.



Water Workforce for Resilient Communities

- Focused on entry level trades:
 - Class III Water/Wastewater Operators
 - Maintenance Technicians
 - Laboratory Technicians
- Target Trainees
 - High school seniors
 - Young Adults 18-25
 - “At Promise”



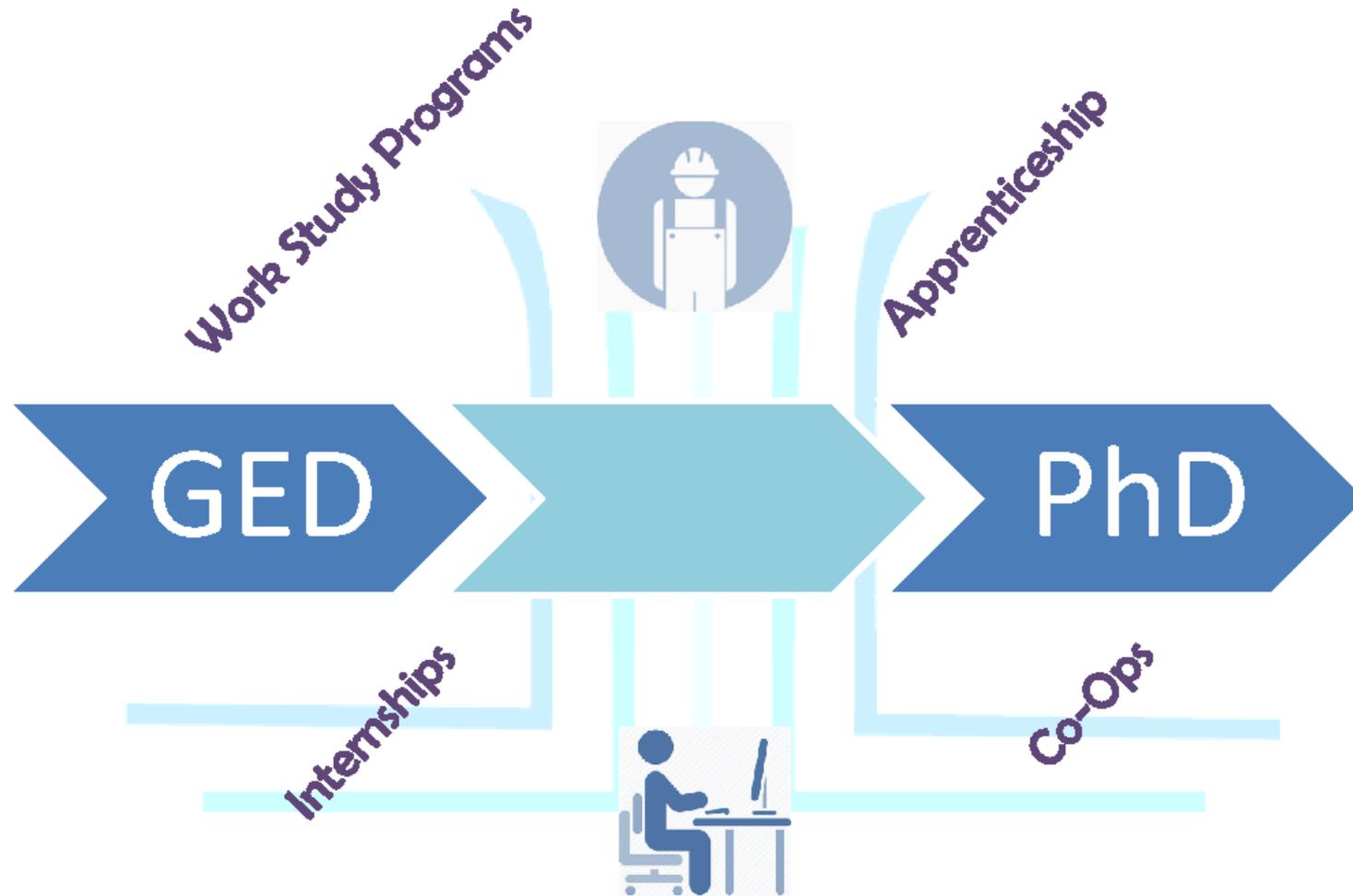
FUTURE SUGARLOAF PARKWAY R.O.W.



KEY LEGEND

- A** PAVILION
- B** ADMIN BUILDING
- C** ANGLED PARKING
- D** MOCK UP RESIDENTIAL AREA- 12 UNITS
- E** COMMERCIAL DRIVERS LICENSE DRIVING AREA
- F** HEAVY EQUIPMENT YARD
- G** LAWN/ OPEN EVENT SPACE
- H** OVERLOOK TOWER
- I** GATED ENTRANCE/EXIT
- J** FILL UP STATION
- K** STORAGE
- L** DETENTION

Workforce Pipeline



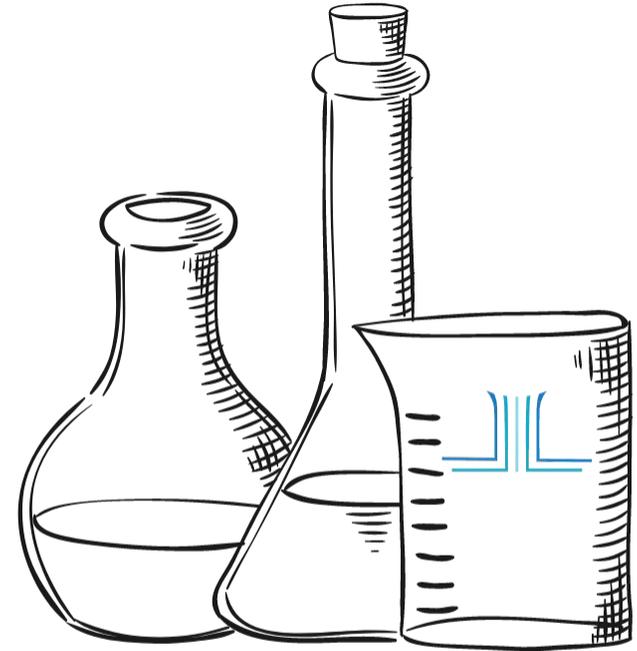
APPLIED RESEARCH

- world-class facilities
- real-world application and test conditions
- strategic and collaborative partnerships



Host site for Research

- Georgia State – on going research on FWH campus
- VT NSF grant – on-the-ground workforce development
- Private corporation R&D
 - Connections to universities – PhD projects, staffing, etc.
 - Specialized laboratory equipment – PFAS/PFOA

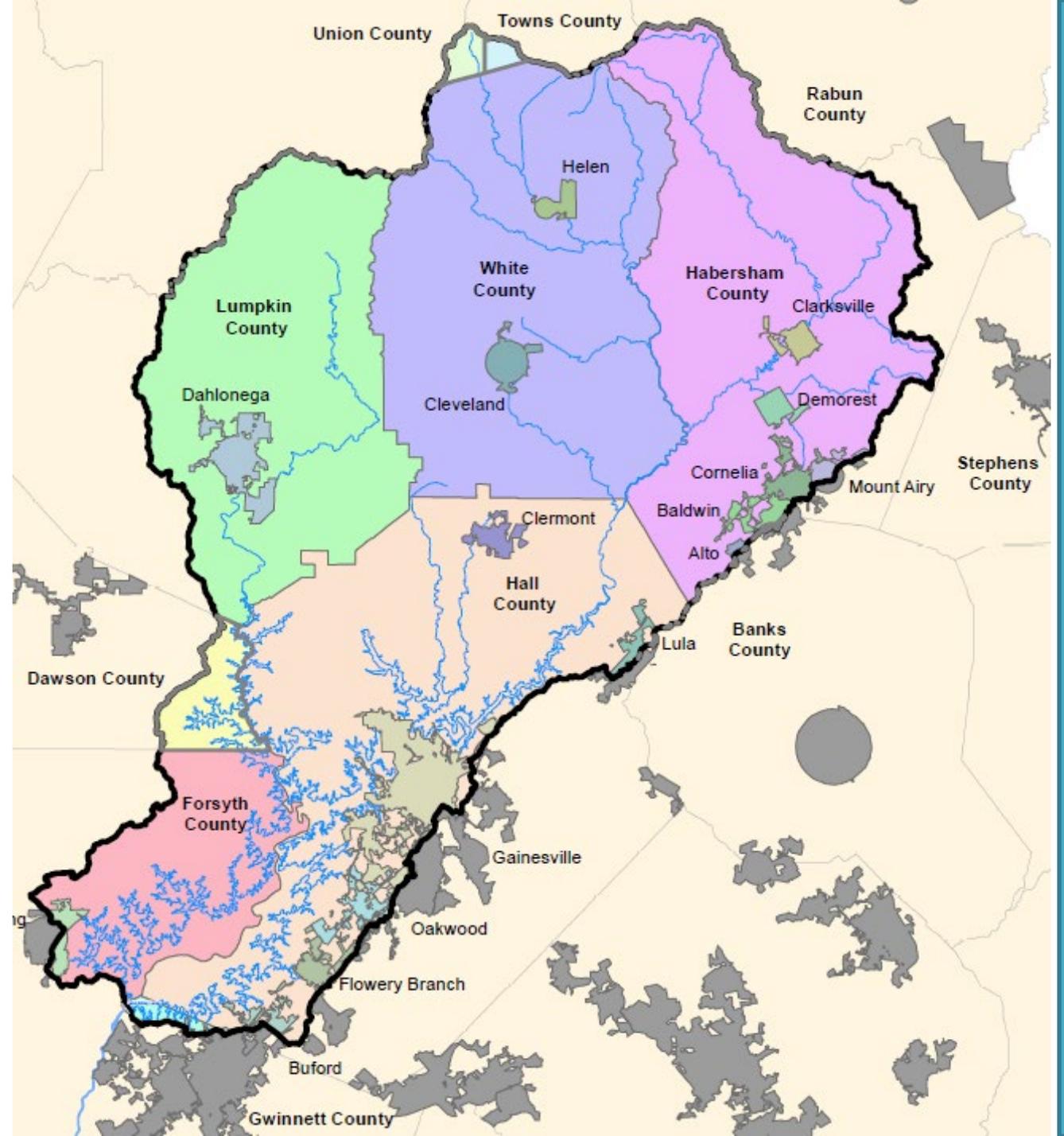
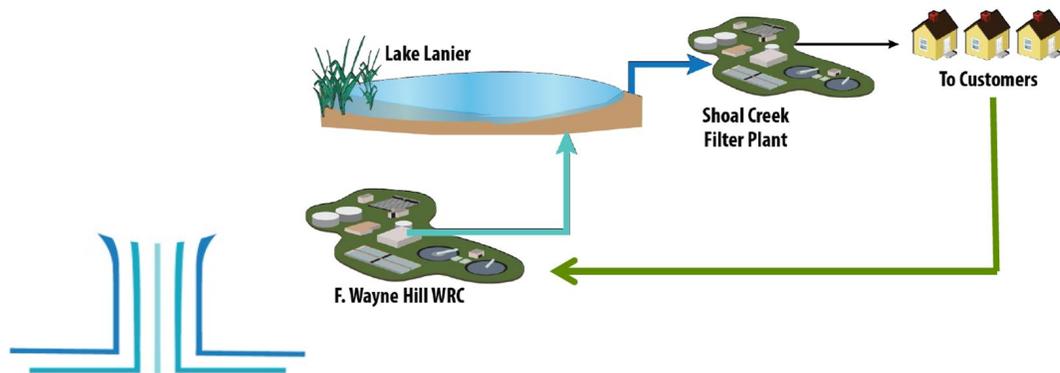


Applied Research
AT THE WATER TOWER



Northern Georgia's Urban Water Cycle

- Lake Lanier
- Communities surrounding the Lake rely on it for both discharge of treated effluent and source water for drinking purposes
 - Potable Reuse through Reservoir Augmentation
- Drives careful planning, monitoring, and protection of Lake Lanier and its watershed



Outcome of the Research Plan

32 Applied Research Project Concepts on timely, stakeholder-driven topics

Non-Point Sources
(8)

Water Quality and
Monitoring (7)

Nutrients (7)

Stormwater (4)

Other (6) including
Land Use, Policy,
Outreach, and
Water Reuse



Research Plan: Next Steps

- Funding for projects will be crowdsourced
 - Q2-Q4 2021
 - Stakeholders
 - Nonprofit, Public, and Private Grants
 - VC interested in Environmental Ventures
- Projects will be competitively bid, overseen by a third-party advisory committee, and managed by TWT
 - Starting Q3 2021
 - RAC Recommendations for 2021 Projects
- Available for download on TWT Website:
<https://theh2otower.org/five-year-research-plan>



COMMUNITY ENGAGEMENT

- peers
- partners
- public



Engage the Community

- Be a beacon of community engagement, serving as a forum for the public to connect and learn about the **value of water**
- Priorities for 2021
 - Virtual Book Club, Virtual Networking, Educational Water Videos, Workshop at GCPS Science Fair, Water Innovation Leadership Summit, Virtual scavenger hunt (Science4Georgia), Science Tales & Trails, GC Spring and Fall Fest, TWT Job Shadowing (HS teachers & college students)



Action
Items:

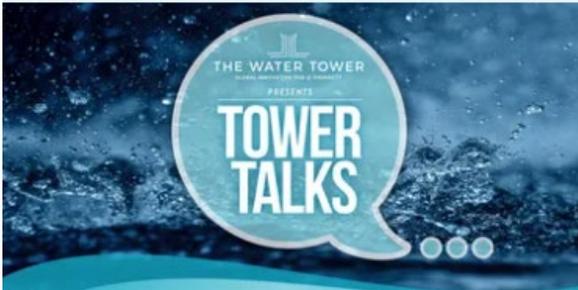
- Establish a Community Engagement Committee
- Conduct Outreach Events throughout Georgia
- Secure Funding for Outreach Priorities
- Build the Brand



Community Engagement Activities

Digital Learning Materials

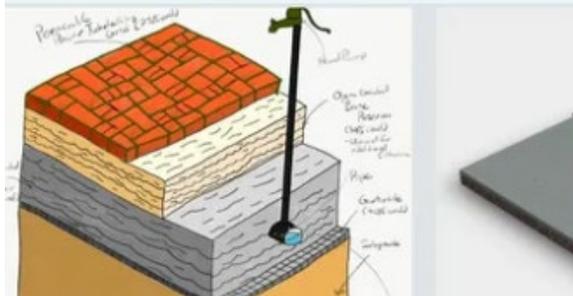
21 Videos



Job Shadowing and Career Fairs



Student Design Competition



Tour F. Wayne Hill Water Resources Center



Virtual Book Club



W3 Networking



1588 Followers



1230 Followers



288 Followers



94 Likes and Followers



2849 Video Views



~1000 website views/month



Water Innovation & Leadership Summit

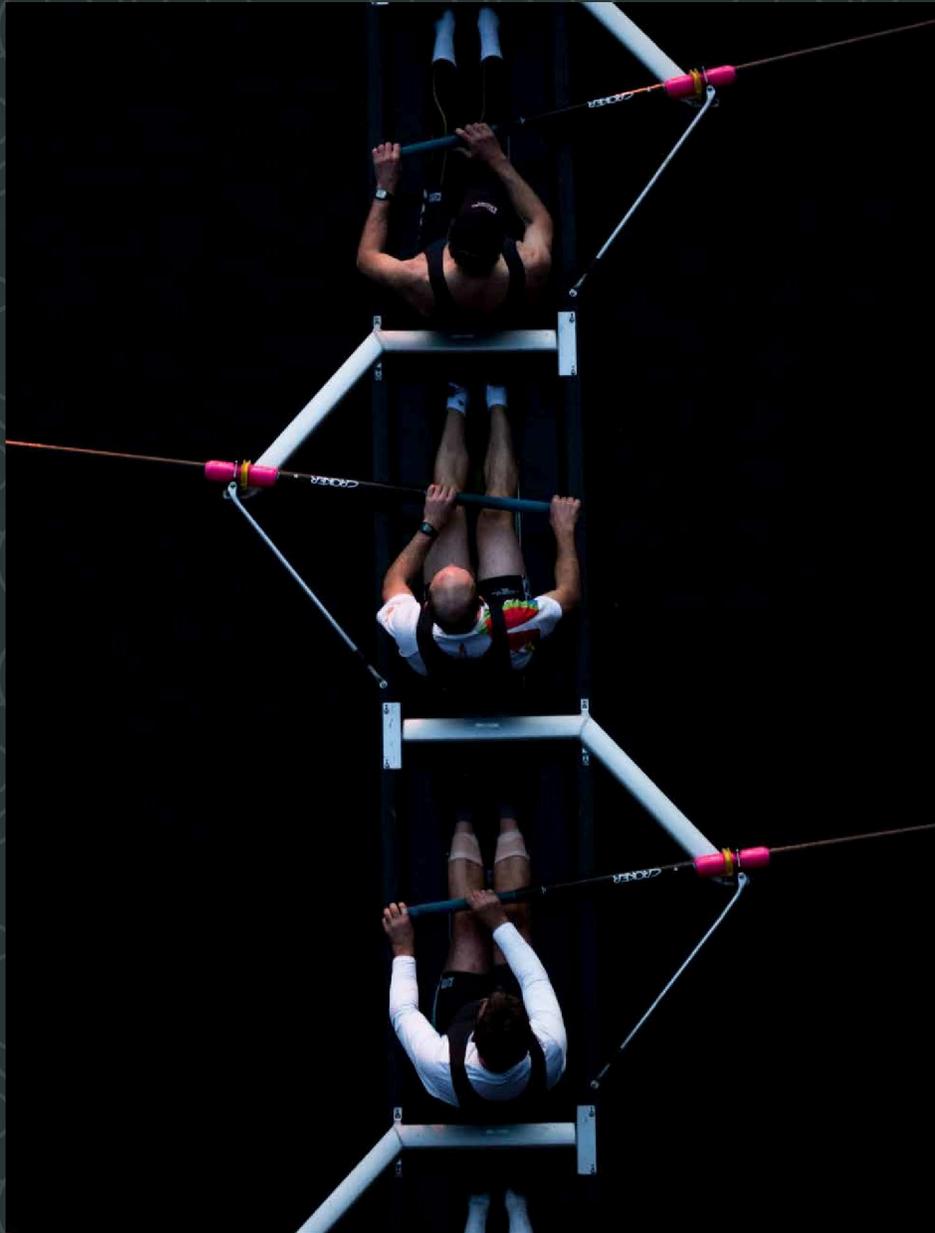
- 1 Day Event geared toward high school students
- Student-driven event (students involved in marketing, video production, STEAM)
- National speakers on water related careers
- Hands-On Career Fair – sampling, operations, lab
- Leadership and team building activities
- Resume workshop
- Seeking Grant funding/Sponsors for transportation



Tentative Date: Spring 2022
TWT Campus



**THE FUTURE OF
WATER DOESN'T
HAPPEN WITHOUT
COLLABORATION**



The Water Tower Campus



- A campus district focusing on training, education, and research to attract water-oriented companies.
- Support workforce development and public engagement.
- Phase One - office, lab and meeting space. (B.1)
- Field Training Center (F)
- Ph. 2 Office Building/Parking (B.2)
- Out-parcels (A,C,E)



BUILD-TO-SUIT SITES - AVAILABLE

A 8.5 acres

B 9 acres

C 8 acres

- Available for water-related businesses
- Land to be structured as a long-term ground lease with Gwinnett Department of Water Resources
- Businesses will have access to lab space and lab services provided by The Water Tower organization
- Access to and involvement in the active workforce pipeline on the campus, including interns, fellowships, and workforce training programs.



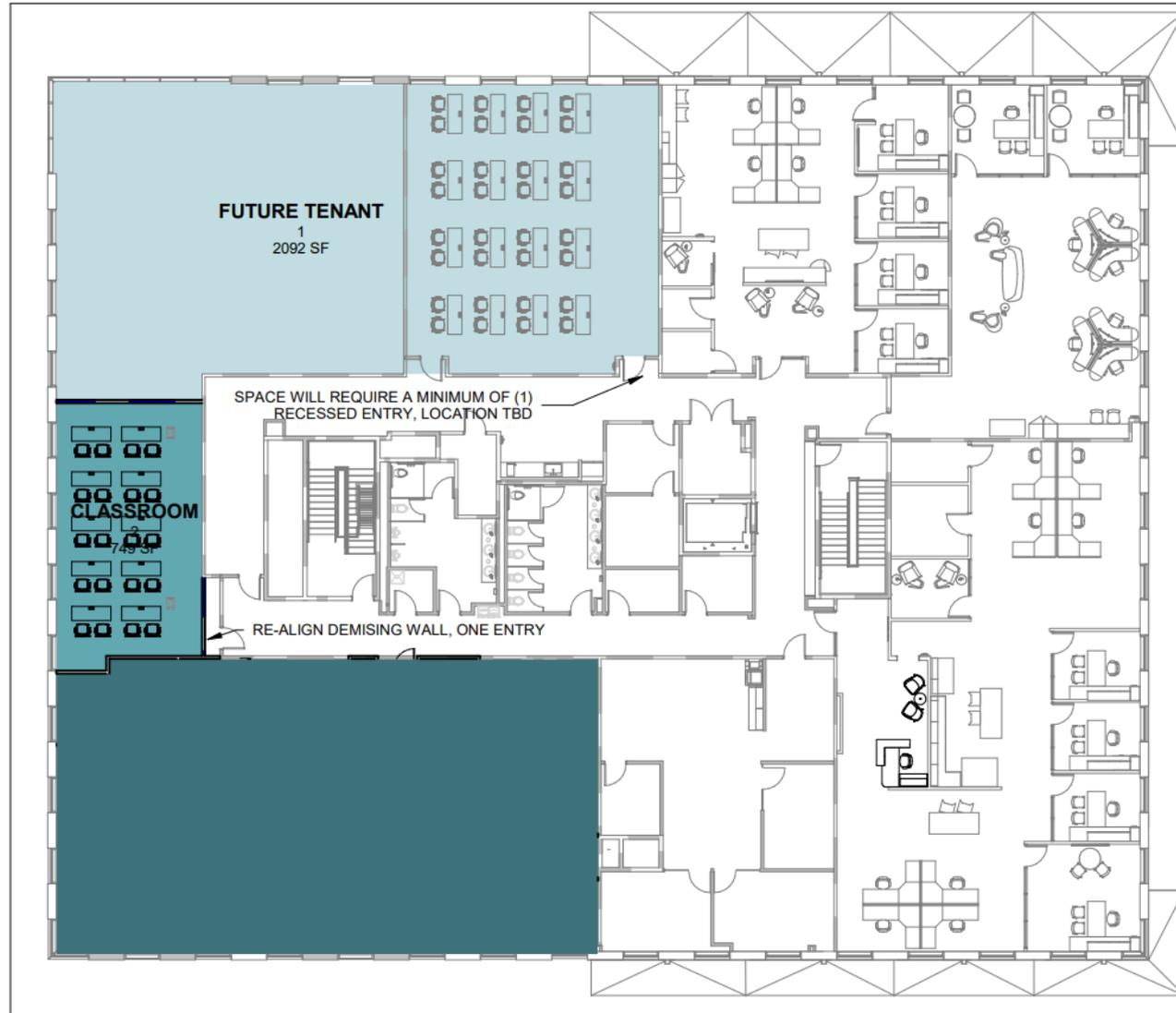


KEY LEGEND

- A** PHASE 1 BUILDING
75,000 SQFT
OFFICE, LAB, AND FLEX
MEETING SPACE
- B** PHASE 2 BUILDING
75,000 SQFT
OFFICE, LAB, AND FLEX
MEETING SPACE
- C** DEMO BUILDINGS
- D** EVENT SPACE WITH
STORMWATER
BIO-RETENTION



3rd Floor Tenant Space



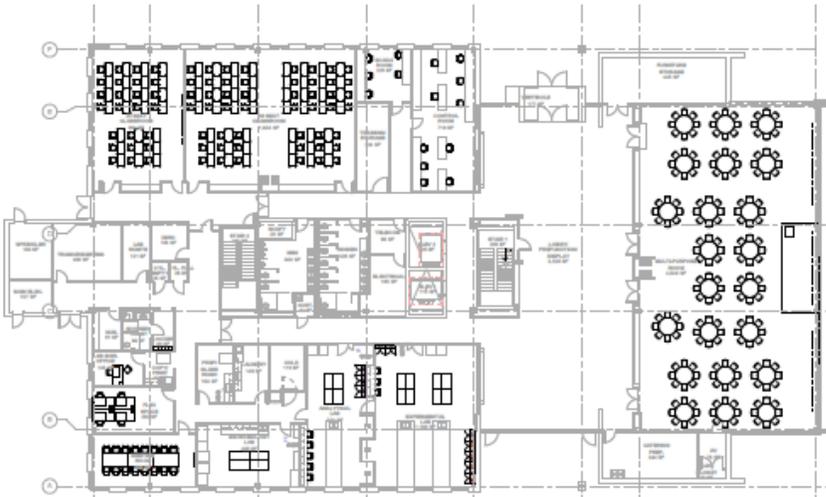
- Carollo Engineers – first office in Georgia
- Wade Trim Engineering – first office in Gwinnett



Co-working, Lab Space, Event Space - Available

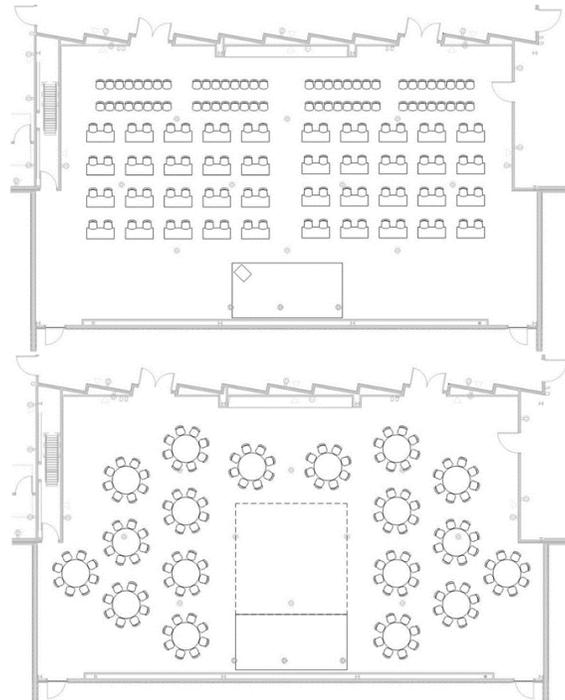
FIRST FLOOR

Lab & Classroom Space



- 3 classrooms seat 25 – 50 people
- 4,500 SF Multipurpose room – 250 people
- Lab space available for rent, membership

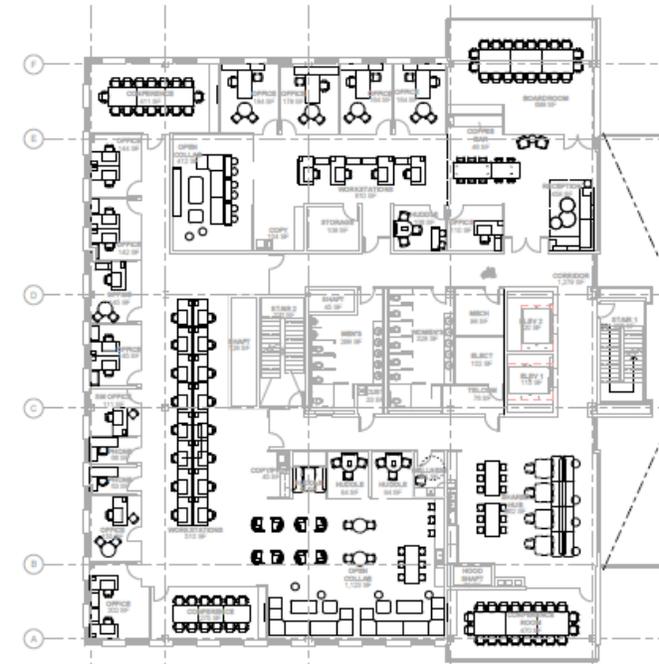
Event Space



- 125 – 250 depending on layout
- Multiple breakout rooms
- Outdoor festival areas
- Small conferences/workshops, Board/Commission retreats, Events

SECOND FLOOR

Co-Working Space



- Monthly floating memberships/desks available
- Multiple conference rooms for use/rent
- Private offices available for rent
- Use of lab, classroom space on first floor available

Sustainable Design Criteria

Site

- * Stormwater treatment/detention and reclaimed water for landscaped amenities and water features
- * Bioswales
- * (some) pervious pavers

Interior

- * Low VOC, recycled or biobased finish materials
- * Carpet is Green Label plus recycled content and Red List Free

Exterior Material

- * White roof to reflect light, reduce heat gain
- * Low E/tinted windows
- * High R values/continuous insulations in wall and roof
- * Recycled metal panels
- * Roof drainage to detention

Electrical

- * LED lighting fixtures
- * Lighting Occupancy Sensors

Plumbing

- * Purple pipes
- * High Efficiency, low consumption toilets
- * Ultra High Efficiency, Low consumption urinals
- * Sensored plumbing fixtures

Mechanical

- * Low Pressure Drop Design (larger ductwork, smaller motors)
- * VAV Controls provided
- * High Performance Units – energy efficient methodology for conditioning air
- * Occupancy Sensors in Lab









Experimental Lab

Millions of people depend on Lake Lanier and the Chattahoochee River to provide the water they use every day. Gwinnett County alone is projected to have a population of 1.5 million by 2040.





THE WATER TOWER













TWT Collaborators

Founding Partners



Innovation Partners



Product Donors



**HOW WILL YOU
IMPACT THE
FUTURE OF
CLEAN WATER?**



theh2otower.org

Sustainable Sites, Trees, Greenspace and Land Use



Sustainable Sites

What is the Challenge?	Environmental Sustainability Issue	Trend Desired
Trees/Greenspace	Tree Shade Natural Green Spaces Restoring Green Spaces	Increase Tree Shade Canopy Increase Green Space Development Green Focused Redevelopment
Natural Conservation	Native Plant Landscaping Xeriscaping Wildlife Habitation	Improve Natural Sustainability Reduce Water Irrigation Increase Wildlife Habitats
Climate Effect	Natural Air Quality Reduce Heat Sink	Reduce VOC – Species of Trees Improve Shade Landscaping
Land Use	Stewardship of Natural Resources Development vs. Preservation	Preserving Natural Conservation Areas Public & Private Partnership
Livability	Reduce Waste Community Health	Reduce Pollution and Waste Access to Natural Environment Improve Walkable Communities

Gwinnet Land Area

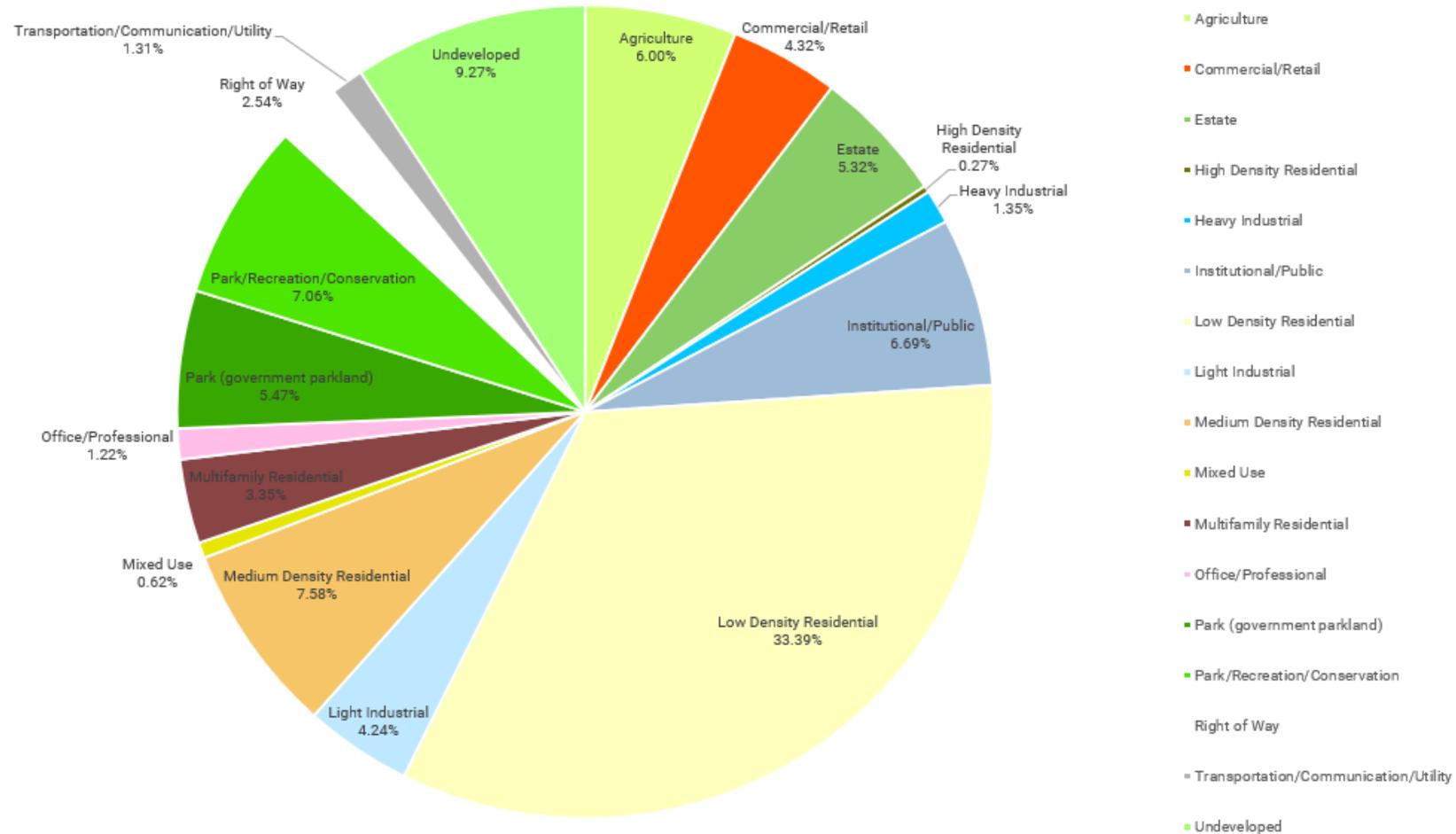
- Total County Size 280,326 acres
- Total Unincorporated County Size 206,538 acres
- Total County Owned Property 18,672 acres

Land Use

Residential	49.64%
Parks, Recreation, Conservation, Agriculture	18.53%
Commercial, Industrial	22.56%
Undeveloped	9.27%



Existing Land Use



Policies and Ordinances

- **2040 Unified Plan**
- **Unified Development Ordinance**
- **Park Master Plan**
- **Water Supply and Water Conservation Plan**

Since the adoption of the 2003 Water Supply and Water Conservation Management Plan, total water use in the district has dropped by more than 10 percent with a 1.3 million increase in population.

In comparison, Metro Atlanta's regional per capita water use is lower than in Tallahassee, Tampa, Birmingham and Montgomery.

Trees Greenspace Conservation



Landscape Regulations (UDO 620)

- A Landscape Strip at least 10 feet in width adjacent to any street right-of-way abutting the property and running the length of the entire property frontage.
- Trees are required for parking lots with five off-street parking spaces or more.
- Every parking space shall be within 60 feet of the trunk of a tree.

Water Efficient Design

- UDO 630-100.2 Principles and Techniques of Water-Efficient Landscaping (Xeriscaping).
- Metropolitan North Georgia Water Planning District WSWC-10, Outdoor Water Requirements for Landscapes.
- The Georgia Department of Natural Resources (DNR) Rules for Drought Management, Ga. Comp. R & Regs. Ch.391-3-30

Conservation Policies (UDO 210)

- Open Space Conservation District.
- Guidelines to encourage the development of residential communities to preserve and protect natural and environmental resources while providing safe, walkable neighborhoods.

Stream Protection (UDO 500)

- The County regulates stream banks imposing a 75 feet no impervious and 50 feet undisturbed buffers specifically to protect stream water quality.

Stormwater Management (UDO 800)

- Stormwater runoff quality, & stream channel protection, and floodplain management.

Tree Preservation (UDO 630)

- Regulations for tree thinning & timber harvesting.
- A Tree Preservation and/or Replacement Plan shall be submitted along with the Tree Canopy Calculation.
- Property shall attain or exceed a Tree Density Standard of 16 Tree Density Units per acre, or 20 Tree Density Units per acre as specified in the Overlay Districts.
- Regulations to protect Critical Root Zone.

Tree Density Units

*Conversion from tree diameter in inches to tree density units for trees remaining on site**

DIA.	UNITS	DIA.	UNITS	DIA.	UNITS	DIA.	UNITS
3	.75	15	3.6	27	12.0	39	24.9
4	.90	16	4.2	28	12.9	40	26.1
5	1.05	17	4.8	29	13.8	41	27.6
6	1.35	18	5.4	30	14.7	42	28.8
7	1.50	19	6.0	31	15.6	43	30.3
8	1.65	20	6.6	32	16.8	44	31.8
9	1.8	21	7.2	33	17.7	45	33.0
10	1.95	22	7.8	34	18.9	46	34.5
11	2.1	23	8.7	35	20.1	47	36.0
12	2.4	24	9.3	36	21.3	48	37.8
13	2.7	25	10.2	37	22.5	49	39.3
14	3.3	26	11.1	38	23.7	50	40.8

Tree Bank

- The Tree Bank is an alternative option and may be used only in the event the site tree density or recompense tree requirement cannot be met on-site due to hardship.

Example:

36 inch diameter oak tree = \$23,750 Tree Bank Value

Livability



Livability Strategies

Primary purpose:

- Promote pedestrian-oriented **mixed-use** developments.
- Facilitate a more efficient use of land and infrastructure and preserve open space.
- Allow varying densities, intensities and flexibility in zoning and development requirements. In all three districts, mixed-uses are permitted both vertically (in one structure) and horizontally (in multiple structures).

Goals and Outcome:

- Reduce Vehicle Travel
- Improve Walkable Connections
- Improve Resident Access to Greenspaces and Services

Mixed Use Example

Village at Hog Mountain

Traditional Neighborhood District (TND)



CIVIC BY DESIGN

BJM
PROPERTIES LLC ©AUGUST 3, 2016

ILLUSTRATIVE MASTER PLAN

RZR2016-0022
Received: August 4, 2016
Planning & Development

THE VILLAGE OF
HOG MOUNTAIN
DACULA, GEORGIA