

# UPSTATE ROUNDTABLE PLAN

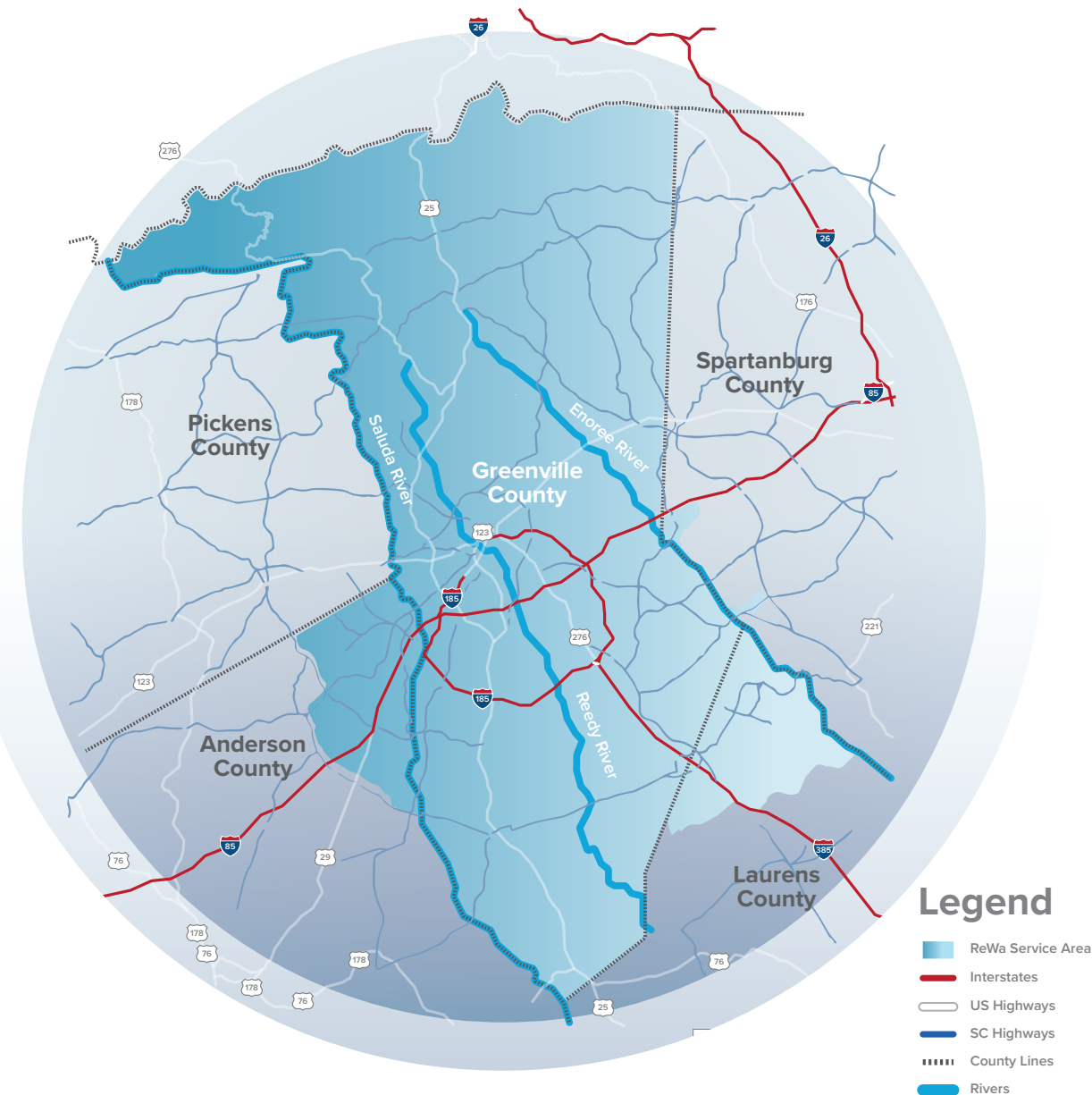


UpstateRoundtable

Anderson • Greenville • Laurens  
Pickens • Spartanburg

That's Purely  
**ReWa**  
renewable water resources





ReWa Stakeholders,

Enclosed is the 2019 report from the Upstate Roundtable. Like the work of the two previous Roundtables (1994 and 2008), the report lays out challenges, opportunities and a series of recommendations that will help guide ReWa over the next ten years. Unlike previous plans, this plan has been created in cooperation with the state mandated Greenville County Comprehensive Plan.

Since planning cycles for ReWa are longer and typically require large amounts of capital, closely coordinating the plan with Greenville and the surrounding counties will enable ReWa to better accommodate growth and economic development into their plans. The plan also addresses various regulatory, financial and technical issues that are anticipated in the next 20 years.

The process has required over one year to complete. Challenges were addressed that involved concerns beyond providing sewer service. However, as co-chairs of the Executive Committee, we are pleased with the final product and would like to personally thank over 100 stakeholders that participated in the committee process. We would also like to thank a number of individuals and groups.

#### Plan Development Support Team

- Black & Veatch (Robert Osborne and William Escoe)
- MKSK (Tee Coker)
- Greenville County (Paula Gucker, Sarah Holt, Tyler Stone)

#### Committee Chairs and Co-Chairs

- Finance (John Crawford, Kathy McKinney)
- Growth (JD Martin, Paula Gucker)
- Policy and Community Issues (Emily DeRoberts, Joel Jones)
- Regulatory and Legislative Issues (Tim Brett, Senator Ross Turner)
- Technical (Danny Holliday, Tom Gallo)

#### ReWa Staff

- Graham W. Rich, Becca Steifle, Jolene Devaney, Cindy Jones, Kayla Quick and Senior Staff

Finally, we want to thank the ReWa Board for being willing to accept this magnitude of input from stakeholders. We hope the plan implementation will be as successful as the process that created it.

Sincerely,

*George W. Fletcher*

George W. Fletcher  
Upstate Roundtable Chair

*Ray C. Overstreet*

Ray Overstreet  
Upstate Roundtable Co-Chair



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We’re more than a sewer provider. We’re a steward of the environment.

# OVERALL VISION OF THE UPSTATE ROUNDTABLE

Wastewater infrastructure impacts everyone – in every community. Therefore, ReWa has committed significant time and resources to form a comprehensive strategy and implement solutions that will assist our region to move efficiently into the future. Within this document, the Upstate Roundtable presents a 20-year strategic vision inspired by community leaders and stakeholders to best serve the community and environment.

ReWa's technical capabilities vary across its service area. It's therefore an Upstate Roundtable goal to account for the experiences and perspectives of regional leaders and stakeholders, as well as those of ReWa staff and consultants. For the 2019 Upstate Roundtable effort, more than 100 such regional leaders and stakeholders participated, volunteering their time and providing input on topics from improving treatment processes to obtaining financial assistance.

One challenge identified about the prior planning process was a perceived lack of coordination between ReWa and Greenville County. For this plan, with a majority of ReWa’s service area in the county, several meetings were held to strategically align the Upstate Roundtable and the county’s own comprehensive plan. Over the next 10 years, an objective is to promote coordination between ReWa and Greenville County to deliver the highest-quality wastewater service to the region while complementing the county’s land-use plans.

Improved coordination with Greenville County plus other goals have been clearly established in the 2019 Upstate Roundtable. ReWa wishes to thank the planning committees, volunteers, staff and consultants for their collaboration and hard work delivering the plan.

ReWa wishes to thank the committees, volunteers, staff and consultants for their collaboration and hard work with developing the plan.

# HISTORY OF THE UPSTATE ROUNDTABLE

Setting environmental goals is and always has been the hallmark of the Upstate Roundtable. The Upstate Roundtable was established in 1994 to engage stakeholders in a planning process that accounted for growth, prioritized resource allocation, and focused on gaining operational efficiencies in the area’s sewer and wastewater treatment infrastructure.

Called at the time the Western Carolina Regional Sewer Authority (WCRSA), ReWa faced a wide range of capacity and repair challenges. Its wastewater treatment plants frequently received violations and operated at close to design capacity the majority of the time. WCRSA’s trunk sanitary sewer lines were aging out and the odor from wastewater treatment processes at the Mauldin Road Water Resource Recovery Facility (WRRF) was considered a public nuisance. Projections showed that twice the flow would need to be accommodated by 2020 while lower natural stream flows were requiring higher levels of treatment. Moreover, federal funding for wastewater projects had dried up.

Tasked with addressing these many challenges, WCRSA established the Upstate Roundtable with the Appalachian Council of Governments (ACOG) and 54 community leaders and stakeholders from Greenville and surrounding counties.

## Committed to Community Advancement

The 1994 Upstate Roundtable produced 41 recommendations that were presented to ReWa staff and the Board and gained approval from 33 different agencies and organizations around Greenville and four surrounding counties. Addressing treatment capacity projections, the 1994 plan envisioned using larger treatment plants along the Saluda, Reedy, and Enoree Rivers and designating a manager for each of the three river basins. Approval of the plan gave ReWa the public support it needed to move forward.

Between 1995 and 2009, ReWa spent \$573 million implementing the plan. ReWa:

- Eliminated more than 30 package plants,
- Built four new treatment facilities and upgraded seven others,
- Added tertiary filtration, phosphorus removal to almost all facilities,
- Replaced chlorine disinfection with ultraviolet technology,
- Began preliminary design on the first facility in South Carolina incorporating ultrafiltration technology,
- Reduced violations from 300 per year in 2000 to less than 5 per year in 2009,
- Incorporated, working with the Greenville Chamber, new fees to recover unused industrial capacity.

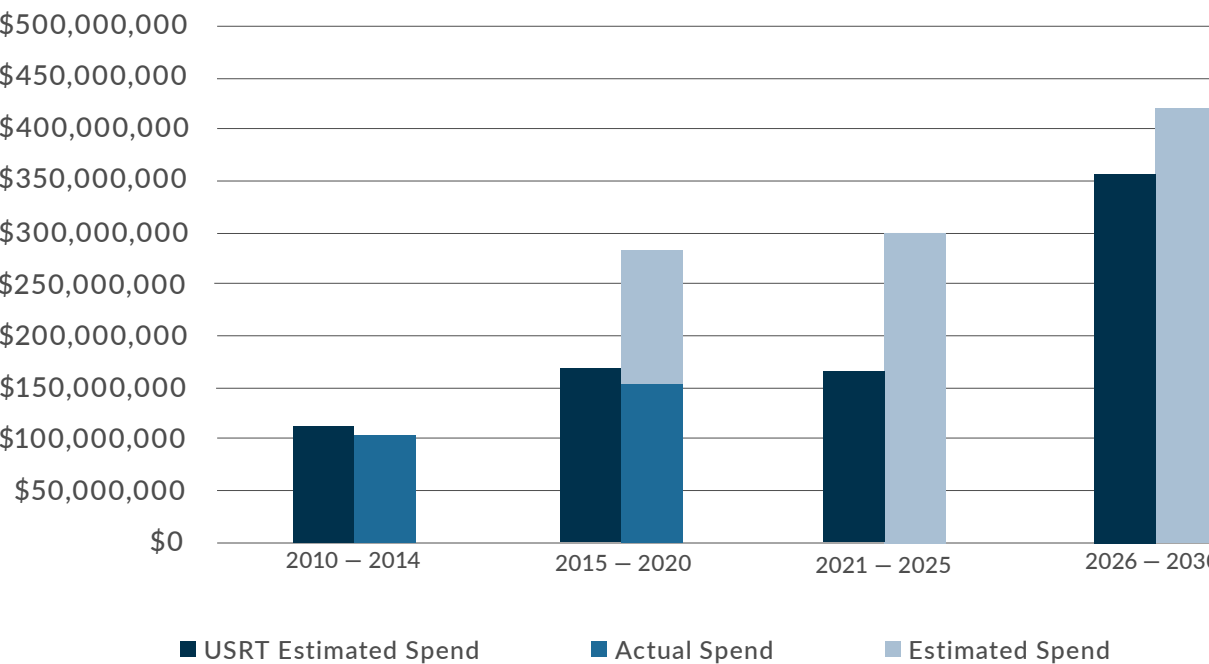
Jane Mattson led the 1994 Upstate Roundtable. It was comprised of four committees – **Technical, Policy & Issues, Finance, and Communications**, which were led by John Kincaid, David Vaughn, Porter Rose, and Bill Wheless, respectively.

**Vice Chairs:** Jimmy Forbes, George Fletcher, Porter Rose, Don White

The plan’s success has led to ReWa winning more than 100 national awards. Similar collaborative approaches by the Greenville County School District (schools) and the City of Greenville (parks and downtown) brought considerable recognition to all of Greenville County.

ReWa reconvened the Upstate Roundtable in 2008, accelerating its review timetable to align with strategic plans that South Carolina had mandated for all counties in 2009. Using the process adopted in 1994, ReWa split the planning effort among committees dedicated to different components of wastewater planning. The 2008 plan had a more regional focus than the prior plan, and included representation from Spartanburg, Laurens, Anderson and Pickens counties. Growth projections from each county helped ReWa determine where to allocate resources. Issues such as infill and sustainability were addressed. The final 2008 Upstate Roundtable plan resulted in 14 policy recommendations along with supporting committee recommendations that identified ReWa’s infrastructure needs for the next 20 years at a total investment of approximately \$800 million. Below is a summary of the estimated investment and the status of these estimates today.

The 2008 Upstate Roundtable was comprised of 70 community leaders and stakeholders who were organized into five committees: **Policy & Community Issues, Regulatory & Legislative, Technical, Finance, and Communications**. The committees were led by JD Martin, Butch Merritt, John Boyette, Gary Gilliam, and Debbie Nelson, respectively. Co-Chairs of the committees were Brad Wyche, Jim Gossett, Dwight Loftis, Kathy McKinney and John Owings. George Fletcher was Roundtable Chair.



The 2019 Upstate Roundtable was developed to address changes that have occurred since the 2008 plan was approved and to reflect ReWa’s future needs and opportunities.



# DEVELOPING THE PLAN

Using the process adapted from the earlier Upstate Roundtables, ReWa split the planning effort among five committees: Growth, Policy & Community Issues, Technical, Regulatory & Legislative, and Finance. An Executive Committee comprised of the chairs and co-chairs of the planning committees was formed to coordinate and administer the committees' efforts. Outside of the Upstate Roundtable committee structure, several alignment meetings were held between Greenville County and ReWa to promote synchronization between the two regional development plans.



The purpose of the Executive Committee was to direct and coordinate efforts among sub-committees. Led by Chairman George Fletcher and Co-chairman Ray Overstreet, the Executive Committee held its first meeting in February 2019 and met six times over the course of the year. The committee provided input on two of the recommendations as well as facilitated the sub-committees. During these meetings, the overall vision of the Upstate Roundtable was shared, chairs and co-chairs were introduced, proposed committee lists were reviewed, and preparations for the first round of committee meetings were made, including providing preliminary input of ReWa's challenges and opportunities. Following the meeting, the members and plans for each committee were finalized.



The Growth Committee reviewed and recommended policy changes related to probable development patterns and associated impacts to wastewater planning. The committee was led by Chairman JD Martin and Co-chairwoman Paula Gucker. It was comprised of community leaders and stakeholders representing Anderson County, Greenville County, Greenville Water, Laurens County, Spartanburg County, Upstate Forever, and various cities. Its primary focus was to evaluate growth projects and provide input on where wastewater service should be a priority for ReWa. The Growth Committee met five times and contributed to Greenville County's comprehensive plan.



The purpose of the Policy & Community Issues Committee was to identify key community issues to be considered during the region's water resource recovery planning efforts. Additionally, the committee made recommendations to develop, revise, and influence local and regional policies and align community issues with ReWa's Upstate Roundtable. The committee was led by Chairwoman Emily DeRoberts and Co-chairman Joel Jones. It consisted of community leaders and stakeholders representing Anderson County, Conestee Lake Foundation, Greenville County, Laurens County, Ten at the Top, Upstate Forever, and utilities that provide service within ReWa's service area. The committee met three times.



The technical components of wastewater planning were the focus of the Technical Committee. Sub-committees were formed to focus on specific challenges and opportunities: Alternative Treatment, Biosolids, Collections, Lake Greenwood Monitoring, Source Control, Stormwater, and Water Quality Trends. Led by Chairman Danny Holliday and Co-chairman Tom Gallo, the committee reviewed and recommended policy changes. Community leaders and stakeholders representing the Appalachian Council of Governments, Friends of the Reedy, Greenville County, local engineering consultants, and utilities that provide service within ReWa's service area comprised the committee.





**REGULATORY & LEGISLATIVE COMMITTEE**

Chairman Tim Brett and Senator Ross Turner led the Regulatory & Legislative Committee, which offered insights and recommended policy changes related to the regulatory and legislative aspects of wastewater planning. Members of the committee included community leaders, political leaders, and stakeholders representing the Appalachian Council of Governments, Greenville Chamber of Commerce, Greenville County, South Carolina Department of Health and Environmental Control, Spartanburg County, Upstate Forever, home builder associations, consultants, and cities within ReWa’s service area. The committee met four times.



**FINANCE COMMITTEE**

The Finance Committee, led by Chairman John Crawford and Co-chairwoman Kathy McKinney, reviewed and recommended policy changes related to financial aspects of wastewater planning. Its members included community leaders and stakeholders representing the Appalachian Council of Governments, Greenville County Redevelopment Authority, Greenville Water, South Carolina Department of Health and Environmental Control, and financial consultants. The committee met three times.

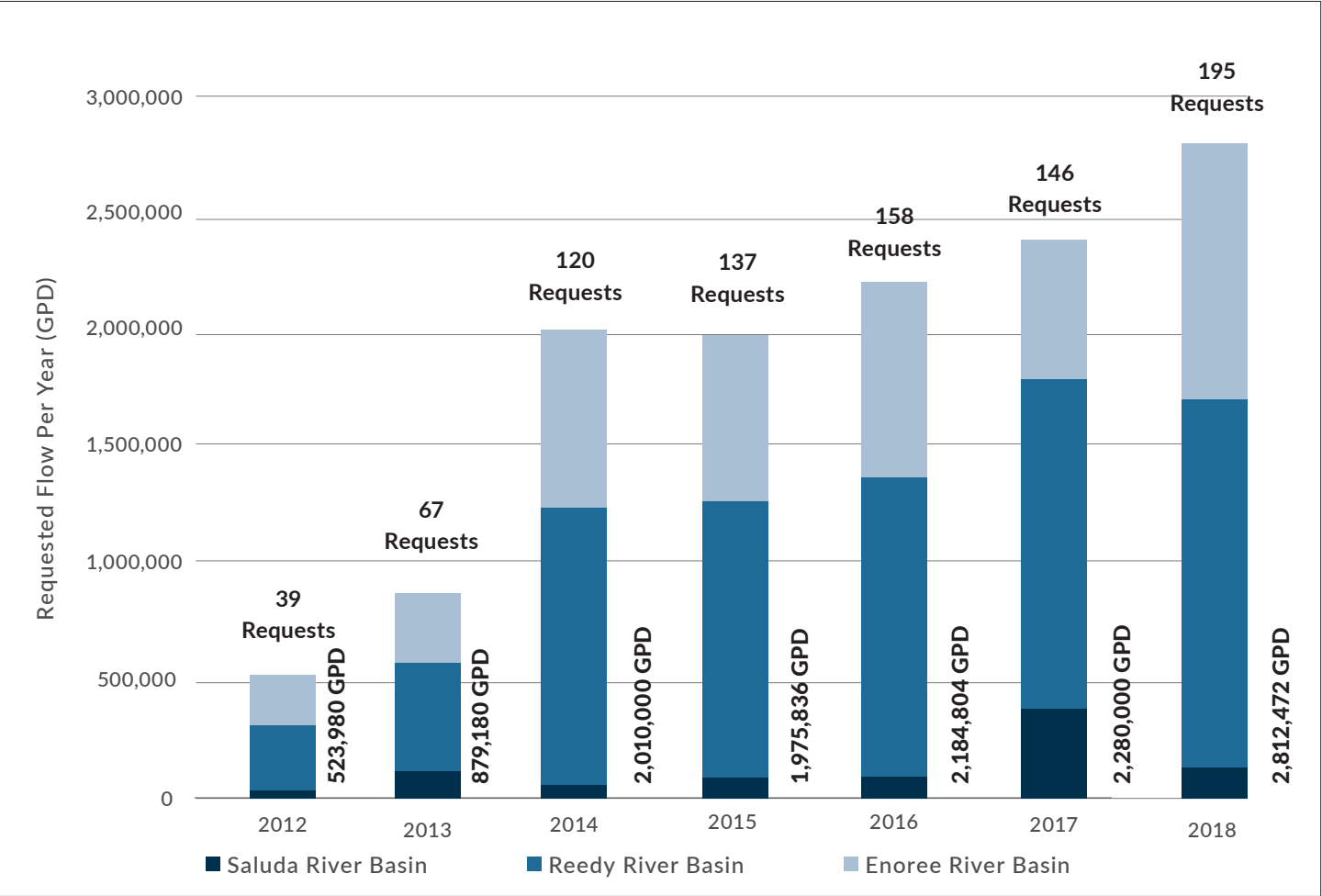
**WASTEWATER PLANNING CHALLENGES & OPPORTUNITIES**

**Growth**

The Growth within ReWa’s service area has recently continued to increase over the last decade, and it shows no signs of slowing. The City of Greenville itself has been recognized as the fourth fastest growing city in the country according to the U.S. Census Bureau. In ReWa’s case, the regional growth over the last decade has resulted in existing sanitary sewer infrastructure nearing its capacity and required ReWa to plan for smart and sustainable system expansion.

We measure system growth in terms of flow – the amount of wastewater (in gallons per day) that will be added to the current system. Requests for additional flow have grown exponentially over the past few years. In fact, the requested flow per month has increased more than five times from 2012 to 2018. For example, we permitted the addition of 2.28 Million Gallons Per Day (MGD), or the equivalent of 7,934 new homes, in 2017 and an additional 2.81 MGD, the equivalent of 9,377 new homes, in 2018.

A breakdown of new yearly flow request data by basin can be seen below.





Ninety-eight percent of this new permitted flow is located within the current sewer system, where “infill” sewer expansion is more expensive than expansion in so-called “greenfield” or unsewered areas, due to the need to work around existing infrastructure.

This exponential increase in flow requests not only tests system capacity and requires more resources for treatment and maintenance, but also requires careful and coordinated planning between the multiple entities that determine new developments within ReWa’s service area. This level of focused collaboration is often not possible within the current structure, despite the best efforts of all entities.

**Inflow & Infiltration (I&I)**

Inflow and Infiltration (I&I) is a challenge faced by many wastewater utilities around the country. As shown in the graphic, infiltration occurs when groundwater seeps into leaky sewer pipes (most common during heavy rain events when soil becomes saturated) and infiltrates through defects within the sewer system. Tree root intrusion, deteriorated manholes, and cracked pipes are examples of infiltration defects. Inflow, or direct connections to rainfall collection sources such as downspouts or street inlets, also are significant sources of I&I that rob sewers of needed capacity for wastewater service.

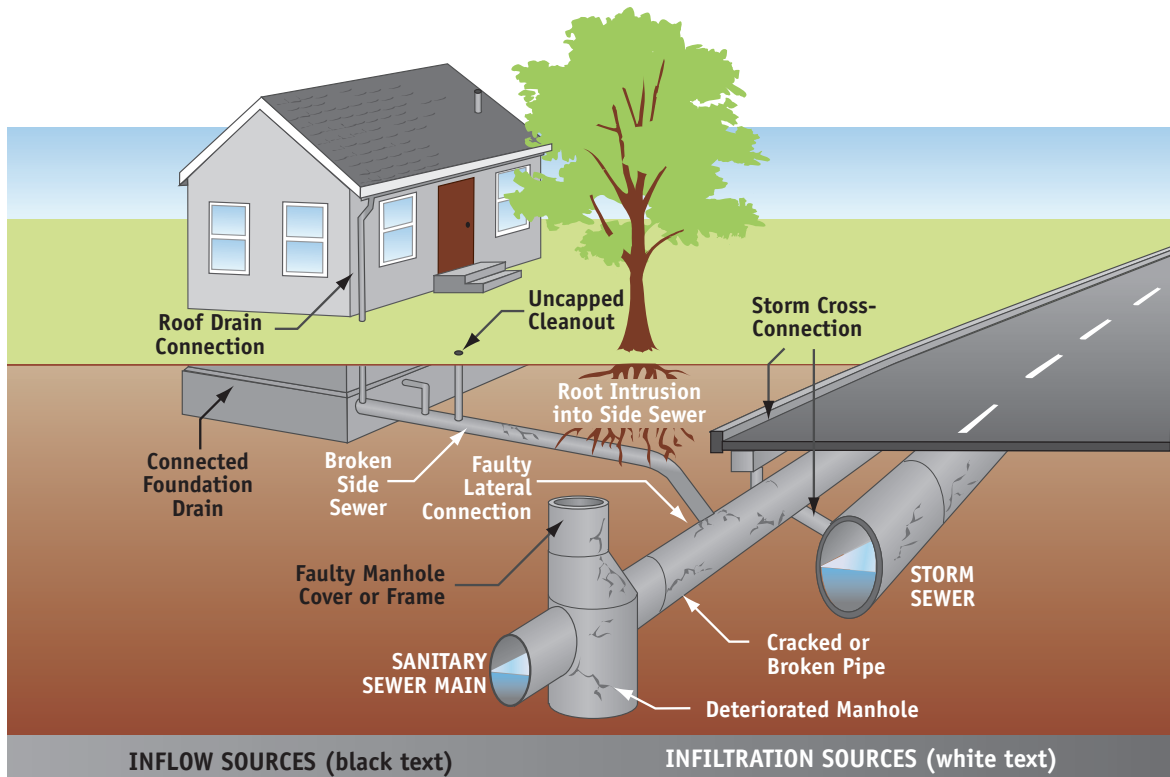


Illustration provided by King County

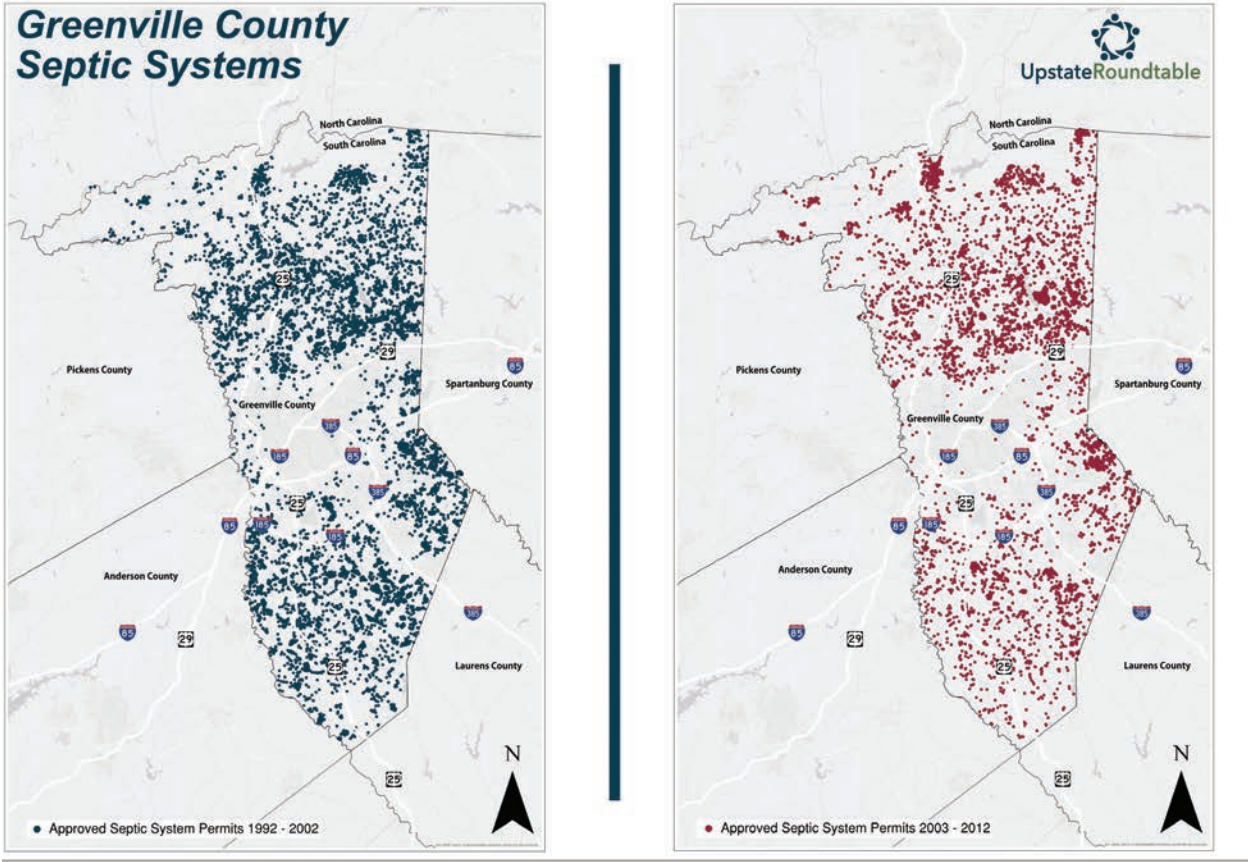
Aging sewer systems also contribute to I&I since older pipes, especially ones made from brittle material such as clay, are more prone to environmental damage. While ReWa works diligently to service and maintain our trunk lines to insure against I&I, many of the collection lines that feed into ReWa’s trunk sewers experience I&I due to insufficient upkeep and maintenance by the local sewer providers responsible for them. In fact, ReWa’s trunk lines comprise only 10 percent of the total sewer lines in Greenville County. Roughly 90 percent of sewer lines are collection lines, which are owned and maintained by local sewer providers within ReWa’s territory, rather than ReWa itself. However, I&I anywhere in the system is a threat to the effectiveness and efficiency of the entire system.

Regardless of the source of I&I, ReWa must treat all wastewater that seeps into the system, straining systems in significant weather events. For example, in a typical December, ReWa treats approximately 43 MGD, but in December 2018 during heavy rainfall, flow increased almost 50 percent to 64 MGD due to I&I, emphasizing possible collection line vulnerabilities and the need for repair.

In fact, it is estimated that a significant portion of approximately 2,000 miles of the sewers and pipes not directly maintained by ReWa will need to be repaired to reduce I&I. To address these needs, ReWa is working with all area sewer providers to develop a comprehensive new Wet Weather program that will address I&I challenges for the foreseeable future.

**Septic Systems**

The use and approval of septic systems within ReWa’s service area has been a challenge in recent decades, especially as the population within ReWa’s service area increases. In order to reduce upfront costs, expedite permitting, or simplify new construction projects, many new developments, including entire subdivisions, have chosen to use septic systems to handle their wastewater needs, even if the development is in a sewerred area. Below is a graphic of septic installations over the past several decades.



Septic failures pose a significant and realistic threat and have the potential to negatively impact our area’s water quality and increase treatment costs. ReWa believes it is critical to work together with developers and government entities to discourage the use of septic systems and to encourage development in areas where the terrain is well-suited to the use of gravity-fed sewers, which are far more efficient than extensive wastewater pumping. To avoid the need to move or retrench lines, we also believe it’s important to work collaboratively to establish right-of-way corridors for the construction of future sewer systems far in advance of development.

Obviously, effectively managing this issue will require not only careful planning and partnership, but access to the capital needed for the county and local sewer providers to extend service into these areas to feed into ReWa’s trunk lines. This will be a significant effort considering everyone’s budgets are often already strained.

Community onsite wastewater systems could become an alternative to traditional individual septic systems for new developments located a significant distance away from public sewer infrastructure. Discharge options for such systems could include subsurface soil absorption, surface spray discharge, and treated effluent discharge to nearby streams. These systems can support alternative planning and growth methodologies, such as Conservation Subdivision Design to minimize the development impact to rural areas.

**Plant Capacities & Treatment**

While increasing pipe and sewer line capacity is a challenge, thanks to advance planning and direct control of assets, ReWa’s treatment facilities have adequate capacity. At the beginning of 2019, none of ReWa’s nine Water Resource Recovery Facilities (WRRFs) utilized more than 57 percent of available capacity, with only about 42.5 MGD out of ReWa’s aggregate plant capacity of 89 MGD being used.

However, greater flow and the ever-stricter regulatory requirements will create additional water treatment challenges in the coming years for our three main rivers: the Saluda, Reedy, and Enoree. We estimate that approximately \$100 million of investment must be allocated to meet impending nutrient limit requirements in the Reedy River. Concerns regarding rising nutrient levels in the Saluda River, which can lead to rapid algae growth, will need to be addressed by our treatment facilities in the future. Growth and geographic expansion will likely require the construction of a new treatment facility in the southern service area.

ReWa is currently evaluating these needs in line with the future land-use planning from Greenville County’s Comprehensive Plan to determine the best strategies for addressing future treatment options.

**Sewer Rates & Affordability**

ReWa views itself first and foremost as a steward – of our environment, of our water supply, of our customers’ money and of our future, so ensuring affordability for those we serve is one of our highest priorities. We take extreme measures to be efficient, effective, and fiscally responsible to keep rates and expenditures in check through careful advance planning and sound cost management strategies.

Unlike many other utilities, ReWa does not receive funds from local or state taxes; all expenditures are funded through a combination of user fees, state revolving loans, and revenue debt issues. It’s also important to note that ReWa is a non-profit entity, returning a significant portion of our earnings to continued investment, as well as to additional conservation and research and development efforts.

In order to maintain affordability, ReWa evaluates rates every three years. We have also developed a financial assistance program to help customers in need of billing assistance. This assistance program will coincide with affordable housing efforts occurring in Greenville and surrounding counties.

**Regional Challenges**

**Decentralization**

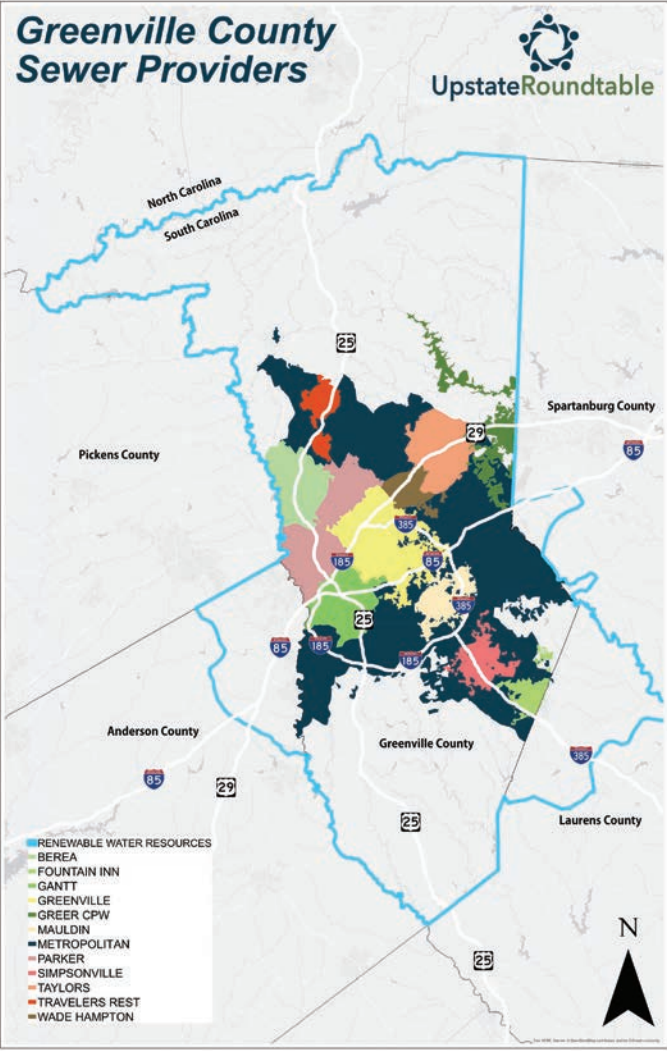
We recognize that our area’s decentralized financial and billing structure may present unique cost challenges. While many areas across the country have adopted a centralized approach to wastewater management, treatment and billing, our subdistrict-based system allows different entities (including ReWa, which manages the trunk lines and treats wastewater, and the 18 subdistricts, which maintain the collection and conveyance lines) to each bill for their services. In some cases, cities, counties, or fire and water districts also collect money in the form of taxes to pay for these collection lines. Wastewater utility service unified under one entity responsible for management, service, and billing could drive greater efficiency and effectiveness, while providing significant economies of scale that would benefit all rate payers.

**Communication and Coordination**

The fractured nature of the system can also lead to communication and coordination issues between ReWa and other subdistricts, utilities, planning departments, municipalities, and developers, resulting in inefficiencies. This graphic shows all the subdistricts that provide sewer collection service within ReWa’s service area. These subdistricts have their own standards and policies for development and capacities, which despite the best intentions of these entities, create inconsistencies across ReWa’s service area.

**ROI and Economies of Scale**

Installing and maintaining infrastructure is a costly and time-consuming task, especially in an area where year-over-year change is the norm. While ReWa works to invest wisely and prudently manage the capital it has contributed to fulfill its current and future obligations, the lack of coordination among multiple entities has caused problems that, in some cases, have led to a failure to provide a positive return on this investment. In some instances, septic is allowed in an area needed or available for gravity fed sewers.





In other areas, government entities have denied development in an area where ReWa has previously invested new sewer lines due to other circumstances. The fact is that each group depends on the other and should work in lock-step on joint planning and land-use efforts. While ultimately, it's the responsibility of the County and local municipalities to decide where growth occurs, ReWa must be confident when allocating resources and investments to provide service in growing areas. This is not only good for business and growth, but it allows us to be good stewards of rate payer dollars.

Water Quality

Many waterways in Greenville County, such as the Reedy River, have traditionally been impacted by various sources, including the once prominent mills that contributed to the local economy. Although there have been tremendous efforts and major gains in cleaning local bodies of water, water quality continues to be a challenge in the Upstate. The Reedy River alone is still considered to be an impaired waterbody as a result of the pollutants that still exist in the river. The Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) have established a new process referred to as “5(r)” that takes a “bottom-up” approach to clean rivers and lakes. This process encourages local involvement and citizen action to reduce pollutants in water. In Greenville, the Reedy River Water Quality Group has been established as part of the 5(r) process and is focusing its efforts to improve the Reedy River by monitoring water quality, model the river system, and increase public awareness. This has proven to be beneficial and effective for the community.



Unification

In short, with so many involved parties and despite everyone’s good intentions, this lack of direct control and clear accountability has resulted in occasional loss on investments, failure to capitalize on needed areas of growth within ReWa’s service area, a need to investigate who is responsible for needed repairs, and confusion for the customers in terms of who to contact in the event of an emergency or if a question arises.

In light of these issues, having wastewater utility service unified for management, planning, investment, repair/service and billing should seriously be considered. Such would very likely drive major gains in efficiency and effectiveness, while providing significant economies of scale that would benefit the rate base for our entire service area.

RECOMMENDATIONS

This section includes the recommendations that were developed by the Upstate Roundtable committees. ReWa, local governments, local sewer providers, regulatory agencies, environmental groups and developers all played important roles in establishing the recommendations described in this section. Each of the recommendations may include the following elements:

- Intent: Describes the purpose of the recommendation.
- Recommendation: Provides the specific recommendation to be taken and implemented or a broad overview (when combined with supporting recommendations) of the recommendation. If there are no supporting recommendations, then the activities listed in the Recommendation are the basis for ReWa’s Implementation Plan.
- Supporting Recommendation (where appropriate): Lists the activities to be performed for a recommendation. These specific activities listed in the supporting recommendations are the basis for ReWa’s Implementation Plan.
- In Coordination With: Lists with whom implementation of the recommendations and supporting recommendations should be coordinated.
- Description: Discusses the rationale for the recommendation and the reason for its development.
- Additional References: Lists the information sources to support implementation and to gain supplemental knowledge on the subject, including hyperlinks, where available.
- Source: The committee of origin from which this recommendation was discussed and developed.





# ALTERNATIVE COLLECTION & TREATMENT

INTENT	RECOMMENDATION	PARTNERS
To support development and protect the environment through sustainable wastewater alternative systems.	ReWa should evaluate and develop optimum alternative sewer collection and treatment systems for unsewered areas.	<ul style="list-style-type: none"><li>• SCDHEC</li><li>• Counties</li><li>• Cities</li><li>• Subdistricts</li><li>• Developers</li></ul>

## Supporting Recommendations

- ReWa should consider developing standards for planning, design, and operation of optimum alternative collection and treatment technologies.
- ReWa should consider piloting alternative collection and treatment technologies.

## Description

Expanding sewer collection service is not always a feasible solution for new developments that are located outside of ReWa’s current service area. There are wastewater collection and treatment alternatives available that can be used in unsewered areas. Such systems may include low pressure grinder pumping, community septic tank effluent pumping, and package membrane treatment technology. Committee members recommended ReWa evaluate which systems to further consider when determining a solution for both existing and new unsewered communities in an effort to provide adequate wastewater service.

## Additional References

WEFTEC Brochures

## Source

Technical Committee

# ALTERNATIVE FUNDING

INTENT	RECOMMENDATION	PARTNERS
To seek alternative funding sources for future wastewater capital improvement projects.	ReWa should continue to seek the lowest capital funding sources, including SRF funding and government grants that are offered to water/wastewater projects, when feasible.	<ul style="list-style-type: none"><li>• State Agencies</li><li>• Counties</li><li>• SCDHEC</li></ul>

## Supporting Recommendations

- County officials should work with State and Federal Agencies to provide financially viable utilities access to grant opportunities and financial incentives for wastewater infrastructure projects.

## Description

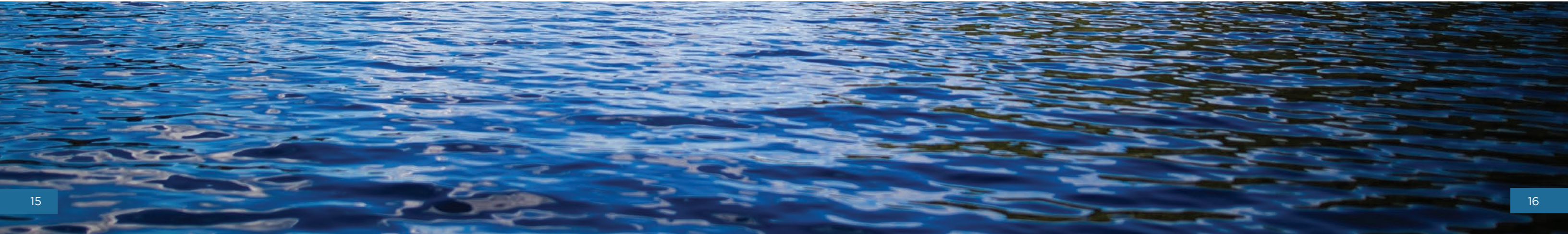
A large wastewater utility, such as ReWa, has the ability and advantage of increased borrowing potential which allows it to adequately maintain its wastewater management system. ReWa has primarily utilized the State Revolving Fund (SRF) through SCDHEC to fund its large-scale projects. SRF is a low interest loan offered to water and wastewater utilities in South Carolina to upgrade or repair existing infrastructure. Committee members discussed that ReWa should continue to utilize this funding source when applicable. In addition, County and State officials should partner with ReWa to seek other low capital funding sources and government grants for which upcoming projects could be eligible.

## Additional References

RIA.SC.gov

## Source

Finance Committee





# BIOSOLIDS SOLUTIONS: LANDFILL OPERATIONS

INTENT	RECOMMENDATION	PARTNERS
To ensure that landfills remain a long-term, viable alternative for solids disposal.	ReWa should become an active participant in the ongoing development of new landfill operating policies and procedures in support of alternatives for solids and leachate disposal.	<ul style="list-style-type: none"><li>• Local Landfills</li><li>• Counties</li><li>• SCDHEC</li><li>• WANA</li></ul>

### Description

Wastewater utilities, such as ReWa, depend on local landfills as an alternative for solids disposal. There have been recent impacts to the management and operation of local landfills involving slope failures and elevated landfill temperatures. These impacts have, in part, been attributed to solids disposal and integration within the landfills. Elevated landfill temperatures in some instances have damaged leachate collection infrastructure and have raised concerns for the future needs and regulations of local landfills. Wet solids disposed by wastewater utilities are believed to be a contributor to the increase of landfill temperature which is, consequently, steering landfills to limit the volume of biosolids that will be accepted at landfills. Additionally, the disposal of biosolids with the presence of PFAS may be limited due to growing concerns about potential PFAS contaminations from landfills. Committee members discussed that ReWa should partner with other utilities to engage local landfills to gain an understanding of landfill challenges and participate in the development of potential solutions.

### Additional References

<https://lakeconesteenaturepark.com/dam-could-spell-disaster-for-the-reedy-river/>

### Source

Policy & Community Issues Committee

# BIOSOLIDS SOLUTIONS: REGIONALIZATION

INTENT	RECOMMENDATION	PARTNERS
To evaluate and coordinate the regionalization of biosolids management for enhanced nutrient management and resource recovery.	ReWa should explore regional solutions for biosolids management within Greenville, Anderson, Laurens, and Spartanburg Counties that are focused on nutrient management, resource recovery, and energy optimization.	<ul style="list-style-type: none"><li>• Regional Wastewater Utilities</li><li>• SCDHEC</li><li>• NCDEQ</li></ul>

### Description

Wastewater utilities such as ReWa depend on local landfills and land application as alternatives for biosolids management. Some wastewater utilities solely depend on landfills for their biosolids management. Solids disposal costs at local landfills have recently more than doubled and there is growing concern that landfills will eventually reject all solids from regional wastewater utilities. Committee members discussed that wastewater utilities should consider working together to develop a plan for providing a regional solution to biosolids disposal.

### Additional References

ReWa Biosolids Master Plan (in development)

### Source

Technical Committee





# COMMUNITY ONSITE WASTEWATER SYSTEMS

INTENT	RECOMMENDATION	PARTNERS
To support development and protect the environment through sustainable management of community onsite wastewater systems.	ReWa should evaluate becoming the owner and operator of community onsite wastewater systems.	<ul style="list-style-type: none"><li>• Counties</li><li>• Cities</li><li>• SCDHEC</li><li>• ACOG</li></ul>

### Supporting Recommendations

- ReWa should perform a feasibility study for owning and operating community onsite wastewater systems.
- ReWa should consider developing standards for the planning and operation of community onsite wastewater systems.
- ReWa should consider piloting the design and operation of community onsite wastewater systems.

### Description

Expanding sewer collection service is not always an initially feasible solution for new developments that are located outside of where sewer service currently exists. Although septic systems are often used as an alternative to sewer collection, there are potential long-term negative impacts to the environment, community, and wastewater service providers when these systems are not managed properly. ReWa has recognized the benefits of implementing and managing the use of community onsite wastewater systems in such areas as a temporary solution until public sewer collection service is eventually expanded to these developments. Community onsite wastewater system disposal options could include subsurface soil absorption, surface spray irrigation, urban/suburban water reuse, or direct discharge. Implementing the use of such wastewater management methods could result in a cost-effective solution that would allow a more integrated planning approach with responsible jurisdictions and developers alike.

### Additional References

SCDHEC Regulation 61-65

### Source

Regulatory & Legislative Committee  
Growth Committee  
Technical Committee

# CONESTEE DAM

INTENT	RECOMMENDATION	PARTNERS
To help support entities in the Conestee Dam cleanup and repair efforts so as to minimize environmental risks from a potential dam failure.	ReWa should be an active stakeholder in efforts regarding a sustainable solution for stabilization of the Conestee Dam.	<ul style="list-style-type: none"><li>• Stakeholders</li></ul>

### Supporting Recommendation

- ReWa should advocate and consider providing assistance to involved entities in a plan for the protection of downstream watersheds from adverse impacts to the environment, future economic development, and increased regulation resulting from contaminants released from an upstream dam failure event.

### Description

The Conestee Dam, located in the Lake Conestee Nature Park, has structural stability issues that have been identified by the Conestee Foundation. The 125-year-old dam holds an estimated 2.8 million tons of toxic sediment from industrial waste and poses significant environmental and economic threats to Greenville County as well as downstream communities. If a failure were to occur, ReWa could be impacted with more stringent effluent discharge permit requirements on its water resource recovery facilities. The Conestee Foundation has investigated potential solutions, but funds have not been secured. During the Upstate Roundtable, committee members discussed that ReWa should actively be involved in any discussions regarding the potential solutions for Conestee Dam, as a dam failure could have significant adverse rate impacts to ReWa’s customers.

### Additional References

<https://lakeconesteenaturepark.com/dam-could-spell-disaster-for-the-reedy-river/>

### Source

Policy & Community Issues Committee





# CONTAMINANTS OF EMERGING CONCERN

INTENT	RECOMMENDATION	PARTNERS
To ensure that future regulations associated with Contaminants of Emerging Concern (e.g., PFAS) are developed with defensible science and policy.	ReWa should advocate for the application of sound science and health/environmental risk assessments to support the development of future regulations associated with Contaminants of Emerging Concern (e.g., PFAS).	<ul style="list-style-type: none"><li>Counties</li><li>Cities</li><li>Regional Economic Development Entities</li><li>Sewer Service Providers</li></ul>

## Supporting Recommendations

- ReWa should monitor WRRFs and their products for the presence of contaminants of emerging concern.

## Description

Contaminants of Emerging Concern are pollutants that have been detected in waterways and do not have any associated limits under current environmental regulations. These contaminants have the potential to impact the effluent water and biosolids produced at water resource recovery facilities. There are currently no limits or sound science to support any regulated limits associated with these contaminants, such as Per- and Polyfluororoalkyl Substances (PFAS). Committee members discussed that ReWa should continue to be a leader in supporting and advocating for sound science and risk assessments regarding Contaminants of Emerging Concern in an effort to continue providing quality treatment services to its community.

## Additional References

ReWa PFAS Monitoring Study

## Source

Technical Committee

# ECONOMIC DEVELOPMENT

INTENT	RECOMMENDATION	PARTNERS
To be an active participant in economic development efforts being pursued by planning agencies.	ReWa should participate and investigate opportunities to assist in the coordinated planning and implementation of regional economic development efforts.	<ul style="list-style-type: none"><li>Counties</li><li>Cities</li><li>Regional Economic Development Entities</li><li>Sewer Service Providers</li></ul>

## Supporting Recommendations

- ReWa should investigate regional economic development strategies and initiatives to prioritize investments.

## Description

As a part of the various planning efforts from the counties within ReWa’s service territory, locations for potential economic development opportunities are sought and identified. In order to attract and secure future industry opportunities, plans for adequate sewer service must be provided to locations where potential economic developments are being investigated. Potential industrial properties are often not located near existing sewer systems or sewer systems with adequate capacity. Financial partnerships are needed to make sewer service economically viable for all entities. In Greenville County alone, the Greenville Area Development Corporation (GADC) has recently identified several locations for potential future development:

- Milacron Drive (Near the intersection of I-385 and 418 - Fountain Inn)
- Hughes Properties (vicinity of Prisma’s Main Campus/ between Grove Rd & I-185)
- South Greenville Enterprise Park East (Hwy 25 – South of Drive Automotive)
- South Greenville Enterprise Park West (Hwy 25 – Greenville Memorial Gardens/Pine Rd)
- Connector 1 (SW Corner of I-85/I-185 Junction)
- Tellus (vicinity Old Stage Rd and I-385)
- Plaxco (South of Southchase Industrial Park along Wilson Bridge Road)

Committee members discussed that ReWa should continue being an active partner with all entities regarding the economic development initiatives of the counties and cities within its service territory. Where possible, plans should be developed by sewer utilities and easements secured early in such areas to foster economic development possibilities.

## Additional References

[www.greenvilleeconomicdevelopment.com](http://www.greenvilleeconomicdevelopment.com)

## Source

Executive Committee





# EFFLUENT REUSE

INTENT	RECOMMENDATION	PARTNERS
To remove barriers and encourage utilization of effluent reuse initiatives throughout the state as a water conservation method and source for groundwater recharge.	ReWa should work with SCDHEC to both revise current regulations and provide incentives to fund and implement effluent reuse systems into future wastewater planning initiatives.	<ul style="list-style-type: none"><li>• SCDHEC</li><li>• State Legislature</li><li>• SCWQA</li><li>• Water</li></ul>

## Supporting Recommendations

- ReWa should create a technical committee through the SCWQA to work directly with SCDHEC to develop reasonable approaches to and support of such discharges.

### Description

With national recognition of the importance of conserving water, committee members discussed how ReWa can be a part of the cause by implementing sustainable water solutions. Reusing effluent water discharged from ReWa’s WRRFs was discussed as a potentially viable solution. Potential reuse applications could include such things as irrigation, cooling water, car wash applications, and possibly scalping plants for localized supplies. Opportunities to reuse effluent water could reduce water consumption; however, there are currently regulatory barriers that hinder effluent water to be reused. Additionally, there are hurdles for the reuse of effluent water due to the abundance and low cost of drinking water in the region. Committee members discussed that ReWa should work with SCWQA, SCDHEC, and others to refine regulations that encourage reusing effluent water.

### Additional References

<https://watereuse.org/>

### Source

Regulatory & Legislative Committee  
Technical Committee

# EMINENT DOMAIN

INTENT	RECOMMENDATION	PARTNERS
To encourage entities that are capable of utilizing eminent domain to use this tool when necessary in planning efforts to ensure efficiency and environmental water quality protection.	The use of eminent domain is encouraged for use by all sewer service providers to assist in sewer planning and construction to bolster environmental water quality protection efforts and better serve the community.	<ul style="list-style-type: none"><li>• State Legislature</li><li>• Counties</li><li>• Sewer Service</li></ul>

## Supporting Recommendations

- Counties/State Legislature should work to keep current law and regulations from becoming more restrictive in the use of eminent domain.
- ReWa should develop a standard agreement for use by developers and sewer service providers to acquire and cost-share necessary sewer rights-of-way.

### Description

Eminent domain is an effective tool that is used in wastewater planning and implementation to ensure the efficient management of the public’s environmental and financial resources. Although it is not the preferred solution until all alternatives have been explored, wastewater utilities can utilize eminent domain to establish ideal sewer alignments that ensure efficient land usage. Eminent domain is often avoided by wastewater utilities which results in negative consequences for the community and wastewater utilities alike. Committee members discussed that ReWa and Counties should actively encourage sewer service providers to utilize eminent domain to promote efficiency and seamless regional wastewater planning for the future.

### Additional References

1989 Act No. 139, Section 3

### Source

Growth Committee





# EXISTING SEPTIC SYSTEMS

INTENT	RECOMMENDATION	PARTNERS
To protect downstream water quality from adverse impacts due to continued operation of failed septic systems.	ReWa should work with stakeholders to encourage and support efforts to identify failed septic system operations.	<ul style="list-style-type: none"><li>• SCDHEC</li><li>• Local Governments</li></ul>

## Supporting Recommendations

- Local governments and SCDHEC should create and enforce regulations that require septic system inspection when a property on septic is transferred to a new owner.
- ReWa should partner with Greenville County and other counties to pilot an evaluation of a suspected failed septic development.
- ReWa and Counties should work with SCDHEC to require routine septic system maintenance, such as pumping septic systems every five years.

## Description

Failing septic systems pollute local waterbodies which expose the public to unnecessary health risks and can adversely affect the permitting standards ReWa is required to follow. When local waterbodies are polluted and permitting standards are adjusted accordingly, ReWa is responsible for upgrading its treatment processes to account for the presence of these additional pollutants, which requires significant investment. In the best interest of ReWa, the community, and the environment, committee members discussed that ReWa should be an active partner with these responsible jurisdictions to promote the development and enforcement of regulations for existing septic systems.

## Additional References

Woolpert Septic Tank Study Preliminary Results Memorandum for Greenville County (March 11, 2019)

## Source

Regulatory & Legislative Committee  
Growth Committee  
Technical Committee

# FUTURE SEPTIC SYSTEM PLANNING

INTENT	RECOMMENDATION	PARTNERS
To better plan and control proposed locations of septic developments and establish requirements for future sanitary sewer connections and easement corridors.	New septic developments should provide for future sanitary sewer service that may be required in the area.	<ul style="list-style-type: none"><li>• Counties</li><li>• Citities</li><li>• SCDEC</li><li>• ACOG</li></ul>

## Supporting Recommendations

- Local governments should coordinate and plan approved locations of future sewer and sewer rights-of-way within approved septic developments.

## Description

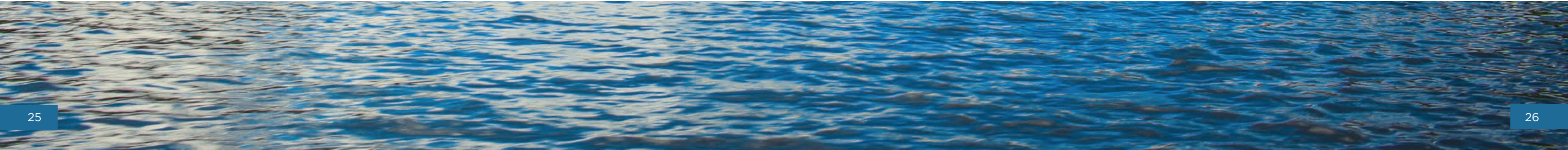
While ReWa has a limited role and authority in the approval process for proposed developments within its service territory, ReWa is responsible to oversee the provision of wastewater collection services to developments and areas when septic systems are no longer viable wastewater solutions. However, existing septic developments create challenges in the future. These septic systems are often located in areas where the topography would not feasibly support the option of gravity sewer or would require significant investment from sewer utilities to provide alternative sewer collection service. Additionally, ideal locations of future sewer alignments within proposed septic developments are not designated and protected when developments are approved. Committee members discussed minimizing the negative environmental and financial consequences of septic system usage within ReWa's service territory. Committee members recommended that approved septic developments should include a designated plan that allows for potential sewer connections in the future when a public sewer system is expanded into the area.

## Additional References

ReWa's Capital Improvements Plan

## Source

Regulatory & Legislative Committee  
Growth Committee  
Technical Committee





# FUTURE UPSTATE ROUNDTABLE PLANNING

INTENT	RECOMMENDATION	PARTNERS
To review the implementation status of the Upstate Roundtable to ensure progress is being made on ReWa's strategic plan.	ReWa should provide an implementation status update of the Upstate Roundtable every five years and formalize an Upstate Roundtable schedule and process.	<ul style="list-style-type: none"><li>Surrounding counties</li></ul>

### Supporting Recommendations

- ReWa should continue a 10-year update of the Upstate Roundtable with a 20-year vision in conjunction with Greenville County's future land-use and comprehensive planning updates.
- ReWa should develop a 20-year community investment plan for each Upstate Roundtable update.
- ReWa should continue annual five-year Capital forecasts of their Capital Improvements Plan (CIP).
- ReWa should continue Rate Structure Reviews on a three-year interval based upon the latest CIP forecasts.

### Description

The Upstate Roundtable serves as ReWa's strategic vision, identifying challenges and opportunities for ReWa to consider and explore. Additionally, the Upstate Roundtable serves as an overarching structure for other planning efforts including a Community Investment Plan, Capital Improvements Plan, and Rate Structure Review. Committee members noted that many of the recommendations from the last Upstate Roundtable were outdated and no longer relevant, which led committee members to recommend incorporating a smaller, internal update report to the Upstate Roundtable at the five-year mark between the comprehensive Upstate Roundtable reports. This update would entail evaluating the implementation status of all recommendations and updating the recommendations as necessary to align with changing regional wastewater demands and industry trends.

### Additional References

N/A

### Source

Executive Committee



# GROUNDWATER REPLENISHMENT

INTENT	RECOMMENDATION	PARTNERS
To replenish groundwater to sustain stream flows that maintain reasonable and affordable NPDES permit limits.	ReWa should work with stakeholders to encourage and support the use of groundwater replenishment facilities for stormwater runoff control.	<ul style="list-style-type: none"><li>SCDHEC</li><li>Local Governments</li></ul>

### Supporting Recommendations

- ReWa should look to develop groundwater recharge systems for stormwater runoff at plant and pump station facilities, where applicable.
- ReWa should encourage and support urban green space concepts to reduce peak runoffs and increase recharge.

### Description

During periods of dry weather with little rainfall, the water flowing in Upstate rivers is from groundwater seeping into stream and river channels. The United States Geological Survey has determined that in the last 40 years, the amount of water in the Reedy River and Saluda River during dry periods has dropped by approximately 32%. This reduction can be attributed in part to impervious development features, such as parking lots, that prevent rainwater from soaking into the ground where it can then seep into rivers during dry periods. ReWa's National Pollutant Discharge Elimination System (NPDES) permits include water quality based effluent limits. Water quality based effluent limits for nutrients and other parameters are calculated to protect water quality under low flow conditions. With less water in the rivers, there is less dilution of ReWa discharge; as a result, water quality based effluent limits become more restrictive and treatment costs increase. Increasing the dry weather period water levels in the Upstate waterways also enhances aquatic and recreational opportunities.

### Additional References

Feaster, T.D., and Guimaraes, W.B., 2012, Low-flow frequency and flow duration of selected South Carolina streams in the Saluda, Congaree, and Edisto River basins through March 2009: U.S. Geological Survey Open-File Report 2012-1253, 53 p., available only at <http://pubs.usgs.gov/of/2012/1253>.

Zalants, M.G., 1991a, Low-flow characteristics of natural streams in the Blue Ridge, Piedmont, and upper Coastal Plain Physiographic Provinces of South Carolina: U.S. Geological Survey Water-Resources Investigations Report 90-4188, 92 p.Zalants, M.G., 1991b, Low-flow frequency and flow duration of selected South Carolina streams through 1987: U.S. Geological Survey Water-Resources Investigations Report 91-4170, 87 p.

Zalants, M.G., 1991b, Low-flow frequency and flow duration of selected South Carolina streams through 1987: U.S. Geological Survey Water-Resources Investigations Report 91-4170, 87 p.

### Source

Technical Committee



# NEW SEPTIC SYSTEM PLANNING

INTENT	RECOMMENDATION	PARTNERS
To require developers, property owners, and engineers to contact ReWa first when considering the use of septic systems.	Local governments should require new septic developments to be reviewed by ReWa and aligned with ReWa's master planning to minimize negative impacts of future septic developments.	<ul style="list-style-type: none"><li>• SCDHEC</li><li>• Local Governments</li><li>• ACOG</li></ul>

## Supporting Recommendations

- Local governments should require SCDHEC approval of septic system locations prior to subdivision development approval.
- New septic systems should be minimized in areas of planned sewer service in support of local government comprehensive plans and sewer master plans.

## Description

Currently, ReWa has a limited role and authority in the approval process for proposed developments within its service territory. In many circumstances, proposed developments that are opting for septic systems as their wastewater collection management tool are being approved in locations that have already been identified for sewer expansion in ReWa's Capital Improvements Plan. In order to minimize the long-term negative impacts of septic system usage within ReWa's service territory and to minimize the negative financial consequences to ReWa, committee members discussed that ReWa should play a bigger and earlier role in the local government approval process of septic developments to ensure alignment with the master planning of ReWa and other responsible jurisdictions.

## Additional References

ReWa's Capital Improvements Plan  
City and County Comprehensive Master Plans

## Source

Regulatory & Legislative Committee  
Growth Committee  
Technical Committee



# NUTRIENT PLANNING

INTENT	RECOMMENDATION	PARTNERS
To protect, preserve, and improve water quality in ReWa's service area watersheds.	ReWa should continue to partner in the development of efficient, equitable, and effective Watershed Based Plans.	<ul style="list-style-type: none"><li>• 26 local, state, and regional stakeholders involved in the Reedy River Water Quality Group</li><li>• SCWQA</li><li>• NACWA</li><li>• WEF</li><li>• AWWA</li><li>• EPA</li></ul>

## Supporting Recommendations

- ReWa should pursue site specific nutrient standards development through the 5(r) process.
- ReWa should ensure that basin water quality trading policies and practices are maintained and enhanced as technology advances.
- ReWa should advocate for state and federal water quality trading policies and practices that support enhanced water quality, resource recovery, and sustainable financial investments in water infrastructure.
- ReWa should ensure that monitoring data exists to form the foundation of watershed management plans and emerging water quality standards (e.g. Lake Greenwood monitoring).

## Description

The nutrients nitrogen and phosphorus are necessary ingredients for plant growth, both on land and in water. These nutrients are present in stormwater and wastewater, and when excessively discharged to rivers and lakes, nitrogen and phosphorus can feed harmful algal blooms to drinking water supplies. Therefore, EPA and SCDHEC regulate these nutrient limitations where possible. Nutrient removal requires significant capital and O&M investments at WRRFs. Over the last 20 years, ReWa has upgraded their WRRFs to improve nutrient removal while working with regulators to ensure that regulations and permit limits are based on sound science. In the Saluda River basin, ReWa shares a "bubble" permit with Easley, Ware Shoals, Williamston, Belton Ducworth, and United Utilities. This bubble permit limits the total amount of nutrients that can be discharged collectively by the group and provides the dischargers more treatment flexibility than if they all had individual permits. Beginning in 2015, ReWa partnered with the City of Greenville, Greenville County, and 24 other community and business organizations to form the Reedy River Water Quality Group. The Reedy River Water Quality Group is developing a scientific-based watershed based plan for nutrients in the Reedy River that when complete, will identify both the WRRF and stormwater nutrient controls needed to prevent harmful algal bloom in downstream lakes.

## Additional References

<http://cleanreedy.org/>

## Source

Technical Committee



# NUTRIENT SOURCE CONTROL

INTENT	RECOMMENDATION	PARTNERS
To reduce WRRF influent nutrient loads.	ReWa should quantify and benchmark nutrient loading to identify reduction opportunities, inform pretreatment program controls, and rate policy.	<ul style="list-style-type: none"><li>• Regional Water Utilities</li><li>• Industrial &amp; Institutional Customers</li><li>• Hauled Waste Customers</li></ul>

## Supporting Recommendations

- ReWa should continue to work with regional water utilities to quantify loading to WRRFs from potable water corrosion inhibitors.
- ReWa should benchmark nutrient loading from industrial discharge sources and work to identify and incentivize nutrient load reduction.
- ReWa should benchmark nutrient loads from hauled waste sources, such as leachate.
- ReWa should use data collected to determine the development of local nutrient limits and industrial surcharges.

## Description

Committee members discussed that ReWa should benchmark nutrient loading to ensure adequate treatment for both current and anticipated nutrient effluent limitations and work with stakeholders to reduce nutrient loadings where necessary and feasible. For example, Greenville Water System has recently optimized their corrosion control methods which should reduce the amount of phosphorus contained within their potable water supplied to their customers.

## Additional References

WEF Nutrient Roadmap for Utilities

## Source

Technical Committee

# NUTRIENT TREATMENT OPTIMIZATION

INTENT	RECOMMENDATION	PARTNERS
To ensure that ReWa's water resource recovery facilities are optimized for nutrient treatment and recovery in advance of future nutrient regulations.	ReWa should continue WRRF optimization studies so that capabilities and costs are known when future regulations and watershed management plans emerge.	<ul style="list-style-type: none"><li>• Clemson University</li><li>• Water Environment Research Foundation</li><li>• Engineering Consultants</li><li>• Industry</li></ul>

## Supporting Recommendations

- ReWa should develop process models for all significant WRRFs to assist in nutrient optimization studies.
- ReWa should develop a financially sustainable Nutrient Management Roadmap that considers nutrient recovery and resource reuse for the WRRFs.
- ReWa should review and pilot, where cost-effective, sustainable solutions for side-stream treatment, such as potentially harvesting struvite as fertilizer pellets.

## Description

Optimizing nutrient treatment and management at ReWa's WRRFs is critical to comply with existing regulatory requirements and plan for future requirements. Sidestream nitrogen and phosphorus removal processes improve the efficiency of biological nutrient removal at WRRFs by reducing internal nutrient recycling of process water from biosolids treatment. Targeted recovery of phosphorus from biosolids or filtrate/centrate systems also has the potential to improve dewaterability and mitigate struvite formation in digesters and dewatering equipment, while providing marketable fertilizer products. Committee members recommended that ReWa continue benchmarking WRRF operational performance against design levels to provide baseline data needed to maintain current, and achieve future nutrient limits.

## Additional References

N/A

## Source

Technical Committee





# PUBLIC AWARENESS

INTENT	RECOMMENDATION	PARTNERS
To continue raising public awareness about providing wastewater services and ReWa's role in the community.	ReWa should continue to increase public awareness about the importance of wastewater planning, community development, and sustainability initiatives.	<ul style="list-style-type: none"><li>• Utility Providers</li><li>• The Conestee Foundation</li><li>• Environmental Advocacy Organizations</li><li>• National Water/Wastewater Associations</li></ul>

## Supporting Recommendations

- ReWa should continue with redeveloping the Mauldin Road Campus for increased public awareness.
- ReWa should continue to review current and new programs and refine/enhance such for increased public awareness.

## Description

One of ReWa's primary goals is to inform the public of the importance of wastewater planning and operations as a means to be an active steward and participant in its community. Wastewater infrastructure is often overlooked despite the important role it has in community development and environmental protection. ReWa has worked to increase public awareness since the last Upstate Roundtable. Committee members recommended that ReWa should continue to incorporate education in their community outreach initiatives, such as the redevelopment of ReWa's Mauldin Road Campus.

## Additional References

FOG Program  
Project RX  
Poop Etiquette Program  
5(r) Program

## Source

Policy & Community Issues Committee

# RIGHT-OF-WAY PUBLIC USAGE

INTENT	RECOMMENDATION	PARTNERS
To help minimize land disturbance by coordinating with local entities and incorporating multiple uses of ReWa's rights-of-way.	ReWa should continue to seek ways to facilitate multiple uses of their sewer rights-of-way.	<ul style="list-style-type: none"><li>• Counties</li><li>• Cities</li><li>• Utility Providers</li><li>• Environmental Advocacy Organizations</li></ul>

## Supporting Recommendations

- ReWa should coordinate with other entities on future ReWa projects for multiple uses in the project area.
- ReWa should continue to evaluate and facilitate, where practical, multiple uses within their rights-of-way, such as other utility infrastructure, public trails and public parks.

## Description

Utilities, such as sewer, water, and power, each require their own rights-of-way when providing service to a community. In high density areas where open space is becoming less available, multiple uses of rights-of-way have become a helpful alternative to conserving land. In addition to utilities sharing rights-of-way, coordination with local parks and trails to align utilities with public spaces can be a beneficial solution. Committee members discussed that ReWa should continue to seek multiple uses of their sewer rights-of-way to promote sustainable land use and coordination with other utilities.

## Additional References

County Comprehensive Plans

## Source

Policy & Community Issues Committee





# SEWER AFFORDABILITY

INTENT	RECOMMENDATION	PARTNERS
To create and implement a program to ReWa's customers who are in need of financial assistance.	ReWa should seek and work to partner with entities that can assist in implementing a financial assistance program to ReWa's customers who are in financial need.	<ul style="list-style-type: none"><li>• Counties</li><li>• Cities</li><li>• Non-profit Agencies</li></ul>

## Supporting Recommendations

- ReWa should seek input from County and City officials to develop a financial assistance program and seek opportunities where this program would be best implemented within each County of ReWa's service territory.

## Description

During the Upstate Roundtable, the idea of providing assistance with obtaining and maintaining sewer service to those in financial need was discussed. ReWa is piloting a program with the Greenville County Redevelopment Authority and the Community Development Division of the City of Greenville to provide assistance with new account fees to qualifying affordable housing, and piloting a program with The Salvation Army of Greenville to provide assistance with monthly sewer bills to those in need. Further, ReWa has engaged Raftelis Consulting to evaluate their long-term needs, perform an affordability analysis, and recommend an appropriate rate structure that provides rate equity while protecting system infrastructure and the environment.

## Additional References

Affordable Housing New Account Fee Program grant funds in the FY20 Budget total \$125,000  
Public Assistance Payment Program funding in the FY20 Budget totals \$50,000

## Source

Finance Committee

# STATEWIDE WATERSHED PLANNING

INTENT	RECOMMENDATION	PARTNERS
To be an active participant in the regional river basin councils and other regional watershed planning efforts.	ReWa should participate and provide input to appropriate regulatory agencies and other stakeholders involving regional watershed planning efforts.	<ul style="list-style-type: none"><li>• All Applicable Regulatory Organizations</li><li>• Regional Stakeholders</li><li>• Environmental Advocacy Organizations</li></ul>

## Description

There has been a recent initiative stemming from the South Carolina Department of Natural Resources (SCDNR) for a statewide water plan involving stakeholders and industry leaders from across the state. Since March of 2018, the Planning Process Advisory Committee (PPAC) has met to assist in the revamping and expansion of the planning process for the State Water Plan. As envisioned, a River Basin plan will be developed for each of the eight major planning basins in the state: Broad, Catawba, Edisto, Pee Dee, Salkehatchie, Saluda, Santee, and Savannah. This planning process will allow local stakeholders, such as ReWa, to address basin-specific issues and concerns. During the Upstate Roundtable process, it was discussed that ReWa should be an active participant in river basin councils since ReWa has a substantial role in this initiative for the region.

## Additional References

<http://hydrology.dnr.sc.gov/state-and-river-basin-planning.html>  
[https://www.clemson.edu/public/water-assessment/State\\_Water\\_Planning\\_Process\\_Advisory\\_Committee.html](https://www.clemson.edu/public/water-assessment/State_Water_Planning_Process_Advisory_Committee.html)

## Source

Policy & Community Issues Committee





# STREAMBANK STABILIZATION

INTENT	RECOMMENDATION	PARTNERS
To protect downstream water quality from nutrients contained within eroded streambank sediment.	ReWa should support the use of sustainable vegetative stream bank stabilization measures to protect downstream water quality.	<ul style="list-style-type: none"><li>• SCDHEC</li><li>• Counties</li><li>• Cities</li><li>• Specialty Contractors</li><li>• Subdistricts</li></ul>

## Supporting Recommendations

- ReWa should develop a streambank and stream crossing condition assessment and remediation program for all applicable ReWa facilities near water bodies.
- ReWa should demonstrate use of vegetative buffers at their facilities as a means to control overland flows, enhance vegetative nutrient uptake and prevent streambank erosion.
- ReWa should partner with other stakeholders where streambank remediation is mutually beneficial.
- ReWa should advocate for stormwater management agencies to prioritize streambank stabilization.

## Description

Eroding streambanks present two types of risks to ReWa. The first and most acute risk is to ReWa’s conveyance pipes. Many conveyance pipes are buried along streams and rivers to take advantage of gravity flow. When a stream erodes, streambank conveyance pipes can be exposed and weakened to the point of failure. The second risk is from the release of nutrients bound within streambank sediments that erode into rivers and streams. When deposited in water bodies, these additional nutrients can impair water quality and result in more restrictive permit limits and increased treatment costs for ReWa WRRFs. The release of nutrients from the streambank sediments is a concern ReWa shares with the City of Greenville, Greenville County, and other communities regulated by stormwater permits. Through the Reedy River Water Quality Group, ReWa has partnered with the City of Greenville and Greenville County on a stream bank stabilization pilot project to implement different stabilization technologies on Brushy Creek. The intent is for this pilot and similar future efforts to develop a road map that will help the community implement the most effective streambank stabilization practices.

## Additional References

Newcomer Johnson, T., Kaushal, S., Mayer, P., Smith, R., & Svirich, G. (2016). Nutrient retention in restored streams and rivers: A global review and synthesis. *Water*, 8(4), 116.

Berg, J., Burch, J., Cappuccitti, D., Filoso, S., Fraley-McNeal, L., Goerman, D., ... & Kerr, B. (2013). Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects FINAL DRAFT.

Jones (2016) WERF-1T13 “Stream Restoration as a BMP,” <https://www.waterrf.org/research/projects/stream-restoration-bmp-crediting-guidance>

## Source

Technical Committee

# UNIFICATION

INTENT	RECOMMENDATION	PARTNERS
To be an active participant in the regional river basin councils and other regional watershed planning efforts.	ReWa should participate and provide input to appropriate regulatory agencies and other stakeholders involving regional watershed planning efforts.	<ul style="list-style-type: none"><li>• All Applicable Regulatory Organizations</li><li>• Regional Stakeholders</li><li>• Environmental Advocacy Organizations</li></ul>

## Supporting Recommendations

- ReWa should explore opportunities to study unifying sewer collection services with willing entities to provide more efficient services to customers.
- ReWa should explore and utilize financial feasibility analysis tools to help guide all entities involved in potential regional unification efforts of sewer services.

## Description

There are 18 sanitary sewer subdistricts located in ReWa’s service territory. With the existence of this many sewer subdistricts in a single region, coordination between the subdistricts, ReWa, and the customer has continued to be a challenge over the years. Additionally, sewer customers in Greenville County experience layered operation and management costs with multiple duplication of services and equipment. Some of the existing challenges facing all wastewater utilities include the elimination of excessive inflow and infiltration to prevent sanitary sewer overflows, existing sewer infrastructure approaching or exceeding their useful life, and limited sewer line capacities for new growth. A unified sewer service structure should be capable of providing a more cost-effective approach to addressing the current wastewater challenges and meeting future growth needs of the Upstate.

## Additional References

1978 Statute

ALCOSAN Sewer Consolidation White Paper

## Source

Growth Committee

Regulatory & Legislative Committee

Policy & Community Issues Committee

Finance Committee





## NEXT STEPS

Following the outcomes and recommendations from the Upstate Roundtable, ReWa will now move forward to begin its Community Investment Plan, which outlines a 20-year implementation strategy for the Upstate Roundtable recommendations, infrastructure needs for each treatment plant basin and watershed basin, and related financial implications.

ReWa is committed to serving the community and enhancing regional quality of life by employing excellent wastewater management services through cutting-edge technologies and a passionate workforce. To continue providing this level of service, it's essential to develop a proactive approach accompanied by implementation strategies that identify goals and community needs. ReWa will continue collaborating with community leaders to address these needs and establish a collective plan for our region's future growth. That's purely ReWa.





[rewaonline.org](http://rewaonline.org)

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