



TAMPA, FLORIDA

Reinventing Stormwater
Retention Areas as Green,
Equitable Community Assets

**A ULI Virtual Technical
Assistance Panel Report**

April 26–29, 2021

About the Urban Land Institute

THE URBAN LAND INSTITUTE is a global, member-driven organization comprising more than 45,000 real estate and urban development professionals dedicated to advancing the Institute's mission of shaping the future of the built environment for transformative impact in communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and the Asia Pacific region, with members in 80 countries.

More information is available at uli.org. Follow ULI on Twitter, Facebook, LinkedIn, and Instagram.

About the ULI Urban Resilience Program

ULI's Urban Resilience program is focused on how buildings, cities, and communities can be more resilient to the impacts of climate change and other environmental vulnerabilities. The program works with ULI members to provide technical assistance, advance knowledge through research, and catalyze the adoption of transformative practices for real estate and land use policy.

About the Resilient Land Use Cohort

This virtual technical assistance panel is part of a larger series of resilience technical assistance and learning opportunities called the Resilient Land Use Cohort (RLUC). The RLUC is a network of ULI district councils, member experts, and community partners in eight cities working together to identify strategies to be more resilient in the face of climate change and other vulnerabilities, including floods, extreme storms, drought, wildfire, and extreme heat, as well as the related social, environmental, and economic impacts.

RLUC provides on-the-ground technical assistance through ULI's flagship technical assistance models—Advisory Services panels and technical assistance panels. These panels leverage ULI member expertise to advise on complex real estate and land use challenges related to climate resilience, addressing planning, zoning, land use, development strategy, housing, and infrastructure. ULI's Urban Resilience program convenes the cohort regularly to learn from national best practices and discuss peer cities' next steps advancing resilience through land use policies and development strategies. Funding for this engagement and the cohort is provided by the ULI Foundation through support from JPMorgan Chase.

COVER PHOTO: The banks of the Hillsborough River in Tampa.

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The panel extends its thanks and appreciation to the city staff, nonprofit partners, community leaders, and experts who shared their perspectives, experiences, and insights with the panel as stakeholder interviewees.

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Aerial view of downtown Tampa along the Hillsborough River.

Introduction

Water is deeply ingrained in the Tampa lifestyle—the Hillsborough River flows directly through the city’s downtown and into the Hillsborough Bay, making it a linchpin of Tampa’s vibrant center. While the water is one of the city’s strongest assets, like many coastal cities, Tampa’s waterfront location also makes it particularly vulnerable to flooding and other climate hazards.

Over the years, the city of Tampa has responded to several climate-induced flood events that have devastated its residences and businesses in both coastal and inland areas; localized storm surges and heavy rain events occur with increasing frequency as a result of rainy season thunderstorms, tropical storms, and heavier hurricane seasons affecting the region.

Tampa Riverwalk: Connecting the Community to the Hillsborough River

As encouraged by a 2011 ULI Advisory Services panel, Tampa has spent over a decade reorienting the city to the river and investing in the Tampa Riverwalk—a linear park connecting downtown and its cultural amenities to the river and other green spaces. That panel recommended investing in the Riverwalk and weaving it through the downtown to make the Hillsborough River the center of downtown rather than its western edge. Since then, this important path has created an iconic focal point for the region, helped reactivate downtown, and spurred major economic development; a \$30 million extension project connecting to the west side of the river will break ground in 2022.



The Tampa Riverwalk has shaded canopies that are lit with color at night, providing a spectacular visual experience for its 100,000 yearly visitors.¹

More than 240 stormwater retention and detention areas spread across the city are among the frontline infrastructure response interventions to the city's flood prevention strategy and contribute to water quality, which ultimately affects the health of the Hillsborough River and the bay. During severe weather events, these wet and dry green spaces serve as critical infrastructure for Tampa's stormwater runoff management. The ponds vary in condition and are located in communities of differing socioeconomic structures, including a large number in East Tampa—a neighborhood that has experienced historic underinvestment and is environmentally and economically vulnerable.

The city of Tampa acknowledges the opportunity to reimagine these green spaces as multipurpose places and spaces that help support the city's *Resilient Tampa* plan, which offers a road map for improved neighborhood resilience throughout the city.

Resilient Tampa and vTAP Goals

The recently unveiled *Resilient Tampa* plan lays the groundwork for Tampa's pioneering sustainability and resilience goals. There are many synergies between the *Resilient Tampa* road map and the major thematic for the TAP. The following major goals of the road map align with the panel's recommendations:

1. THRIVING NEIGHBORHOODS: The panel recommends that stormwater ponds be used as core neighborhood amenities, providing integral green and open space to nearby residents while acting as critical infrastructure during severe weather events.

2. CLIMATE-READY INFRASTRUCTURE: *Resilient Tampa* goal 3.3 focuses on an investment in world-class green and open spaces that mitigate extreme heat and flooding. Leveraging storm retention ponds for social and environmental benefits falls squarely within this goal. The panel suggests the city work with pond-adjacent residents to fulfill the community's vision for the adaptation of these spaces into vibrant green infrastructure.

3. GROWING AND CONNECTED CITY: The panel recommends a rigorous community engagement process and revised governance structures to make collaboration across the city and with its residents more streamlined. The growing and connected city portion of *Resilient Tampa* includes a plan for expansion of the city's land use decisions for more resilience, more robust incorporation of resilience guidelines into city budgets, and equitable and measurable community engagement processes.

Panel Assignment

The city of Tampa requested that the ULI virtual technical assistance panel (vTAP) develop recommendations for reinventing city-owned and managed stormwater retention and detention areas as green and equitable community assets. Specifically, the ULI panel offered advice in the following areas:

- Creative design and equity-centered solutions for addressing stormwater management and retention while also adding value and appeal through more functional uses to green space in Tampa;
- Successful frameworks for governance, operations, and management of city-owned stormwater areas centered around equitable outcomes; and
- Best practices and inspirational examples and case studies from other places.

Summary of Recommendations

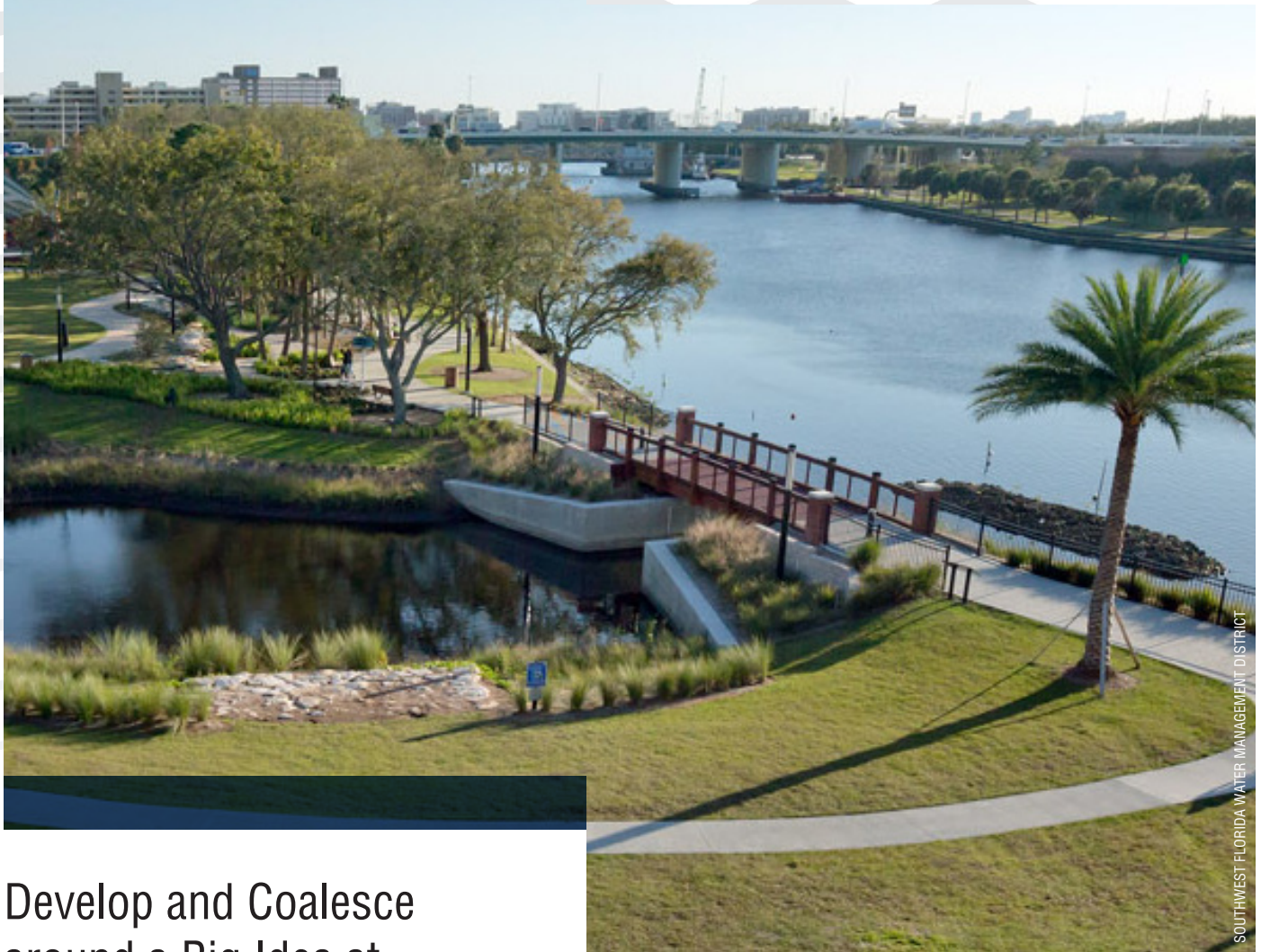
High-level recommendations of the panel are as follows:

- Develop and coalesce around a “big idea” that addresses the city’s need for stormwater infrastructure and recognizes the benefits of green infrastructure for the community at both the neighborhood and watershed scales.
- Design and organize for solutions that provide multiple benefits, such as flood protection, economic development, public gathering spaces, green infrastructure, restored ecological functions, and trail connections.
- Create and internalize a new holistic and scalable approach to ranking and prioritizing projects based on multi-benefit analysis, through the *Transforming Tampa’s Tomorrow/Resilient Tampa* lens, and connected to the big idea.
- Build and institutionalize a scalable and intentional citywide community engagement plan to develop buy-in and inform decision-making on stormwater management projects.

What We Heard from Stakeholders

During the vTAP, the panelists interviewed about 25 stakeholders, including members of the city team and community leaders, to hear their perspectives, expertise, and ideas on how to better leverage Tampa’s stormwater ponds. Salient responses included the following:

- “We want great examples of stormwater pond conversions.”
- “Budgets are constrained.”
- “Improved community engagement is a current city focus.”
- “Cross-departmental projects have been successful but are not the norm.”
- “Many stormwater ponds are located in East Tampa, and there has been historic underinvestment in infrastructure in this area.”
- “New ways of doing things (i.e., green infrastructure and multi-benefit, cross-department approaches) require coordination, training, and resourcing.”



SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Develop and Coalesce around a Big Idea at the Watershed Scale

Tampa's Ulele Springs Restoration is an innovative ecological project with multiple benefits for the watershed and the community.

Cities around the world are reinventing and reimagining their relationships with water and creating transformed urban places that are vibrant, desirable, economic and community generators.

For the city of Tampa, the building of the Riverwalk—a 2.6-mile linear pedestrian and bicycle trail—turned the Hillsborough River into a valuable community space that continues to catalyze growth and development (in excess of \$5 billion of real estate development in the past five years alone) and has truly placed Tampa as a top city and region for real estate investment.

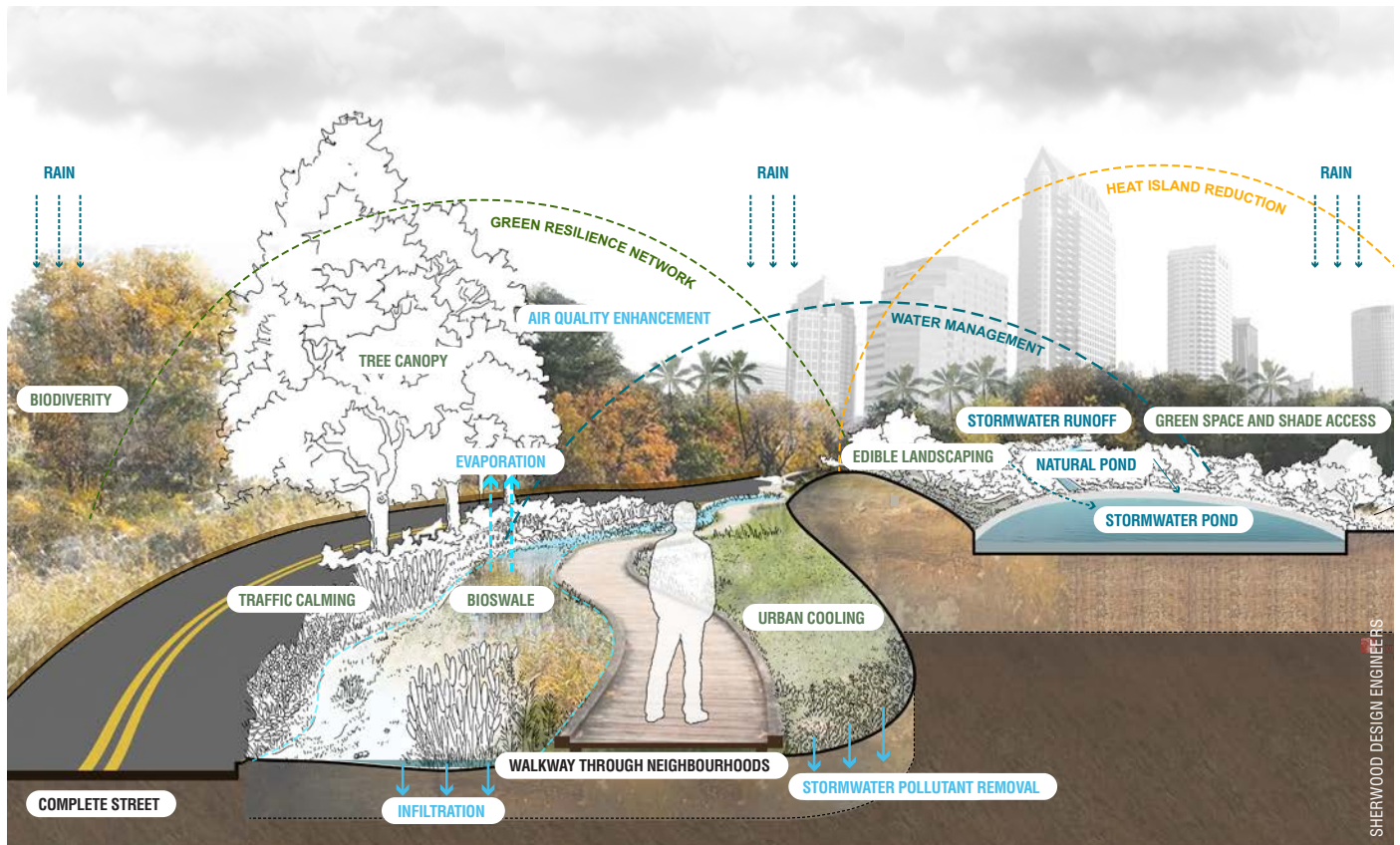
Building off this transformative project, the panel recommends the city develop a bold, overarching vision that moves to a larger watershed-scale approach. This would represent a shift from a focus on each individual pond to a networked system helping deliver the *Resilient Tampa* community vision of enhanced park access, connection to nature, and improved health and wellness. This vision could be encompassed in a first-of-its-kind Hillsborough River watershed master plan that expands on the notion of what a river is for Tampa, moving from the Hillsborough River and coastline to a more holistic watershed approach that uses the system of ponds to strategically connect neighborhoods throughout the city and address stormwater volumes with purpose and beauty.

Investing in park and tactical nature-based infrastructure of varying degrees, this vision can contextualize the benefits of neighborhood-scale swales and ponds to the larger watershed. The panel recommends that this new strategy enhance flood mitigation potential, access to parks and open space, and connectivity to mobility options through the city’s network of green spaces.

This “big idea” should also leverage opportunities to enhance connectivity between neighborhoods and amenities, integrating pedestrian and bike trails to help make a singular visionary connection across many of the *Transforming Tampa’s Tomorrow* and *Resilient Tampa* road map recommendations. Stormwater ponds areas have the potential to provide quick nature retreats for socializing, walking, and playing; to host needed community assets, such as farmers markets and community gardens to combat food deserts; and to

employ green infrastructure tools to make positive ecological contributions, improve water quality, and provide habitat for birds. They can also house innovations in technology like “floatovoltaics”—floating solar panels that produce renewable energy in available permanently wet ponds. A watershed-scale approach moves beyond the banks of the river and offers the opportunity to invite historically underserved communities further removed from the water’s edge to contextually reconnect with Tampa’s greatest asset, the Hillsborough River.

The city could use this big idea to coalesce the good work already underway in the city (the *Resilient Tampa* road map, the ongoing Parks Master Planning effort, the long-planned Green Artery, and Tampa’s Walk-Bike Plan) to deliver resilient, equitable, and community-based solutions at scale.



Recognizing the need to manage stormwater at a watershed scale will help the city develop a “big vision” for how the various elements of a city can accommodate and release stormwater while also adding community benefits: beauty, nature, pedestrian amenities, gathering spaces, bikeways, urban cooling, and flood management, to name a few.

Types of Stormwater Basins and Their Flood Mitigation Benefits

Stormwater basins offer critical infrastructure for slowing and storing water from nearby developments during rain events. Stormwater basins can be either detention or retention areas.

DETENTION AREAS are dry basins with a low-flow orifice that keeps water drained between storms. Detention areas are generally smaller and therefore cost less than retention ponds, but they do not improve water quality and, when left unused, can collect litter.

RETENTION AREAS are wet ponds that permanently retain water. Retention ponds allow both the collection and treatment of contaminated stormwater runoff, thereby controlling water quality. When properly integrated into a neighborhood, retention areas can add aesthetic value to a community.

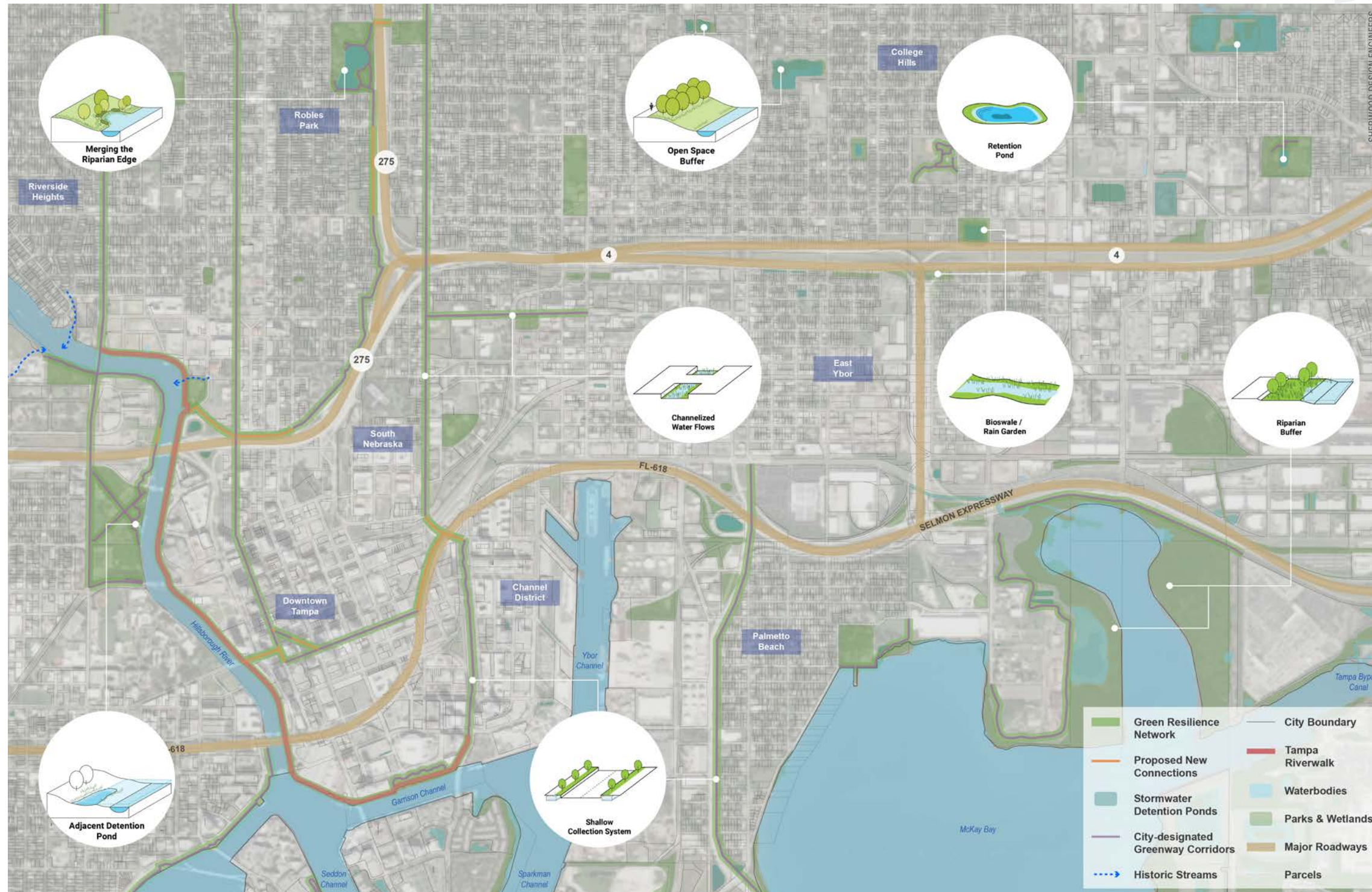
The panel recommends taking a multiscale approach to the city's stormwater management program—from the neighborhood to the watershed level—that connects the Hillsborough River laterally to its historic tributaries, which often are where the current stormwater control areas reside.

The panel recognized the critical need for stormwater volume storage and the role that these retention and detention areas play in preventing localized flooding and improving the city's resiliency; however, the goals of flood prevention can be achieved in tandem with other community needs and desires that can enhance and extend the value of these stormwater assets throughout the year for the city and its residents.

Rather than a pond-by-pond approach, creating a high-level, system-based vision for the way the city addresses its stormwater management, while also addressing other community needs, helps create neighborhood buy-in and creates multiple benefits for the city. Key to this approach is to seek ponds and areas that can be linked through green infrastructure and connect people to the places they want or need to go in an inspiring, nature-based way.

The panel recommends exploring new value-creation models that leverage the existing stormwater retention ponds to both address urban climate and ecological risks and provide other community benefits during dry periods. Site-scale interventions such as the following could be considered throughout:

- **Rain gardens/bioswales:** a small, vegetated area designed to be located where stormwater naturally flows, which captures and infiltrates runoff into the ground. It is a commonly used green infrastructure technique in landscape and streetscape designs.²
- **Stormwater tree trench:** a commonly used green infrastructure technique that collects stormwater runoff, particularly in urbanized areas where space is limited, and diverts stormwater into the sewer system or subsoil of a tree box after some natural filtration.³
- **Stormwater planter:** a small, contained vegetated area that collects and treats stormwater using bioretention.⁴
- **Stormwater bump-out:** a vegetated extension of a curb that absorbs and infiltrates stormwater runoff from streets and sidewalks.⁵



Realizing a thoughtful, robust green infrastructure network allows multi-benefit solutions for mobility, stormwater management, and urban performance. Building on the proposed greenway network provides a structure for development of a resilient and integrated system of connectivity throughout the city. This builds both functional and cultural cohesion within the city over time, as investment yields co-benefit returns for city departments and residents alike.

Flood mitigation infrastructure can also be implemented at neighborhood and regional scales through the following actions:

- Implementing community-wide green infrastructure: invest in large-scale, nature-based restoration as a solution, such as living shorelines or wetland rehabilitation, or in enhanced recreational open space;
- Redirecting future density and land uses: encourage future development at locations that are less susceptible to current and future flood impacts;
- Incentivize sustainable and resilient building design that includes blue-green infrastructure strategies for development within areas susceptible to flooding; and
- Improving large-scale protective gray infrastructure: resist flood impacts with large-scale engineered infrastructure and physical barriers, such as seawalls, levees, and pipe systems.⁶

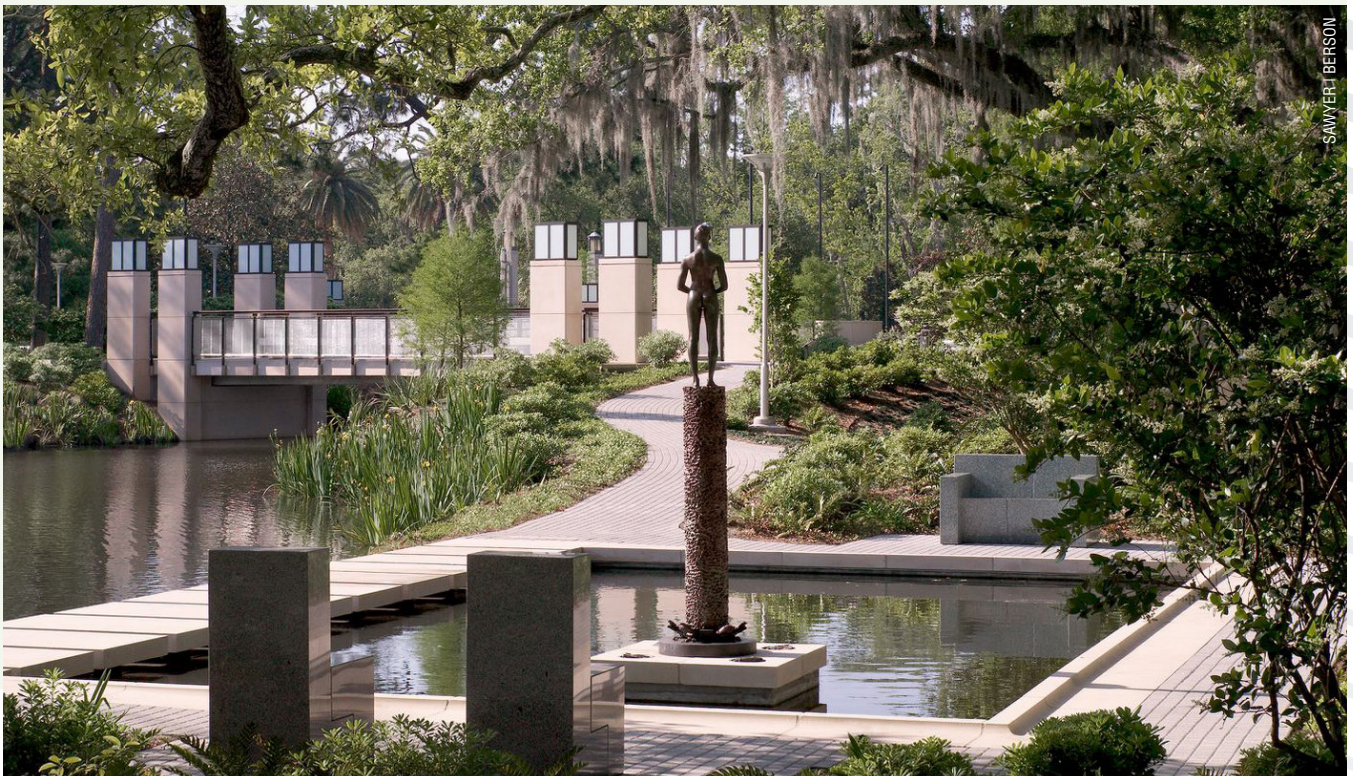
Thinking toward a Multi-Benefit Vision in New Orleans

In response to numerous hurricanes and continued flood events, New Orleans is at the forefront of pioneering resilient, dual-purpose green spaces to both combat these storm events and provide verdant open places where communities can gather.

At full buildout, Lafon Park will be a floodable six-acre park in Central City “Uptown” New Orleans. The park is intended to embody an ethos of reflection toward water and ecology. The Hydrology Hike incorporates an educational component to enhance the community’s understanding of the infrastructure within the space and how it mitigates flooding caused by frequent flood events. In addition to the Hydrology Hike, which will seek to educate visitors on stormwater’s crucial role in flood mitigation, the landscaping will feature intentionally chosen seasonal, native plantings representative of the Gulf Coast prairie and cypress grove habitats.⁷

The Greater New Orleans Urban Water Plan also paves the way for innovative rethinking of stormwater spaces. The plan addresses stormwater, surface water, and groundwater within levees in a regionally specific way, aiming to protect vulnerable wetlands while also contributing to increased investment opportunities and livability. A multifaceted plan, it incorporates resilience principles of urban design, land use planning, and infrastructure planning.⁸

One example of the myriad concepts featured in the plan is the New Orleans Museum of Art sculpture garden, a water garden in design by Sherwood Design Engineers. The firm took a low-impact development approach to use stormwater management best practices—green infrastructure with a floodable site design to enhance the visitor experience. The stormwater infrastructure features rain gardens and wetlands near the waterfront intended to purify the runoff before it is discharged into the surrounding lakes.⁹ The environmentally savvy practices have been paired with art installations to create an all-around sensory experience.



—SAWYER BERSON

The sculpture garden at the New Orleans Museum of Art.



Pursue and Institutionalize a Multi-Benefit Approach to Resilience Innovation

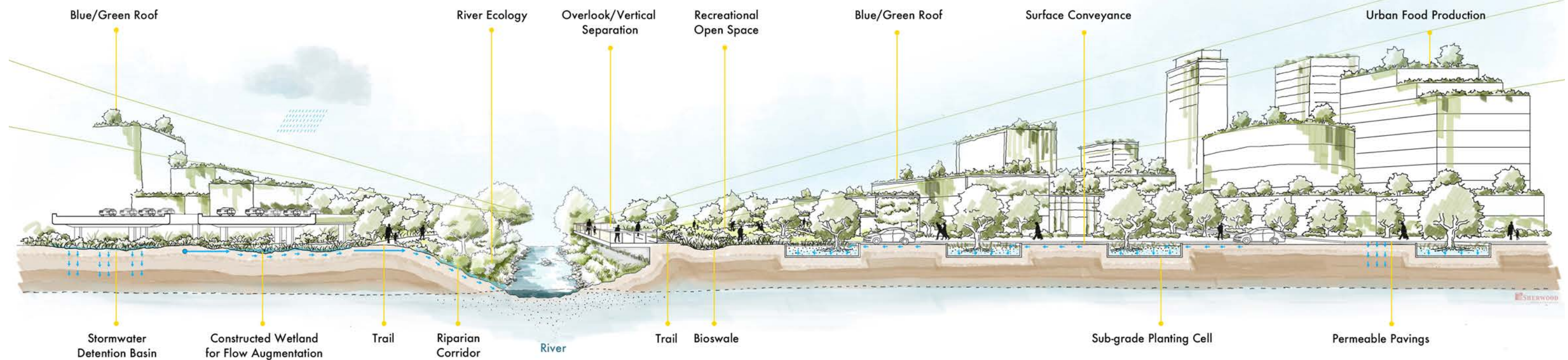
An example in Atlanta of a sustainable design solution that addresses a serious environmental problem and that can also trigger broader high-quality urban transformations within a community.

The panel recommends the city of Tampa adopt an integrated, collaborative, and cross-departmental approach for addressing the stormwater needs of the city. A multi-benefit approach enables the issues to be addressed at scale and takes into account that the city has a large number of stormwater ponds that could address multiple community needs during wet and dry periods. This includes designing and organizing for multi-benefit solutions that layer flood protection with economic development, community amenities, restored ecological functions, access to food, access to nature, public health, and pedestrian-scale connections.

City departments including City Planning, Stormwater and Mobility, and Parks and Recreation should continue to enhance their efforts to collaborate around the stormwater ponds and identify locations for potential investment that provide multiple benefits to the surrounding community and the city at large.

With this new cross-departmental approach, stormwater management becomes an opportunity for the city to address many of the *Resilient Tampa* goals, such as improving air quality and water quality, mitigating heat island effect, increasing biodiversity and habitat restoration, and supporting healthier, thriving neighborhoods. These benefits have huge potential to provide economic and environmental benefits to the city and its residents.

Using blue-green infrastructure also assists in reducing operations and maintenance costs of traditional underground infrastructure. Blue infrastructure refers to water elements such as rivers, canals, ponds, and wetlands. These beautiful, yet functional, green infrastructure interventions are the first line of defense to help remove pollutants and other particles/objects that come with stormwater runoff.



Providing stacked functions for multiple civic needs optimizes land use and creates improved civic amenities while reducing overall cost, providing an attractive return on investment for agencies and the city. Optimization of limited open-space resources to provide resilience and public safety enhances the experience for users and supports the needs of infrastructure managers.

Natural infrastructure appropriately embraces the constraints of Tampa’s flat topography and high water table—a connected network of greenways can provide overland release of flood water, rather than requiring more expensive and limited underground systems when volume expansion may be required. Swales, depressions, small streams, and other strategies

provide the opportunity for water to flow downhill up to three feet higher than more prevalent underground piping because of the required “drop inlet” and large pipe sizes of traditional gray infrastructure, all the while adding bio-diverse beauty to the surrounding community that can be enjoyed every day.

The economic benefits of green infrastructure, beyond operations and maintenance benefits, are also very compelling: people living in neighborhoods with access to nature-based places (or biophilic design) have been shown to be healthier, homes that are located near public greenspace are more desirable, communities are better connected and resilient, and private-sector

investment flocks to communities with pedestrian-scale infrastructure and access to nature (as Tampa’s Riverwalk has shown). Each of these benefits alone are incredibly important metrics for a city—but combined they can deliver an incredible return on investment for the city.

Collaborate across Departments and Break Down Silos

Constraints within governmental budgets, unpredictability of aging infrastructure, and effects of climate change are major challenges facing Tampa.

To achieve multi-benefit solutions connected to a big idea, greater collaboration across departments is necessary along every step of the way from project conception to design to operations and maintenance. This includes departments with responsibility for community resilience, open space, public access, public health, bike/pedestrian access, stormwater, and other infrastructure investments.

The merging of the city of Tampa's Infrastructure and Mobility Department has demonstrated great strides in a collaborative approach. Integrating other departments such as City Planning, Parks, and Sustainability and Resiliency can create significant returns for the city's *Resilient Tampa* goals and deliver innovative, added-value solutions to address the city's needs.

The panel also recommends moving beyond decisions driven by upfront cost and risk, because these investments are long term and aim to positively affect the community for decades to come. Pursuing a holistic life-cycle analysis approach incorporates community-centered values of livability, collective responsibility, placemaking, and natural ecology that can in turn provide financial gains over time as green infrastructure provides return on investment across multiple city priorities, rather than being singularly seen as a stormwater solution.

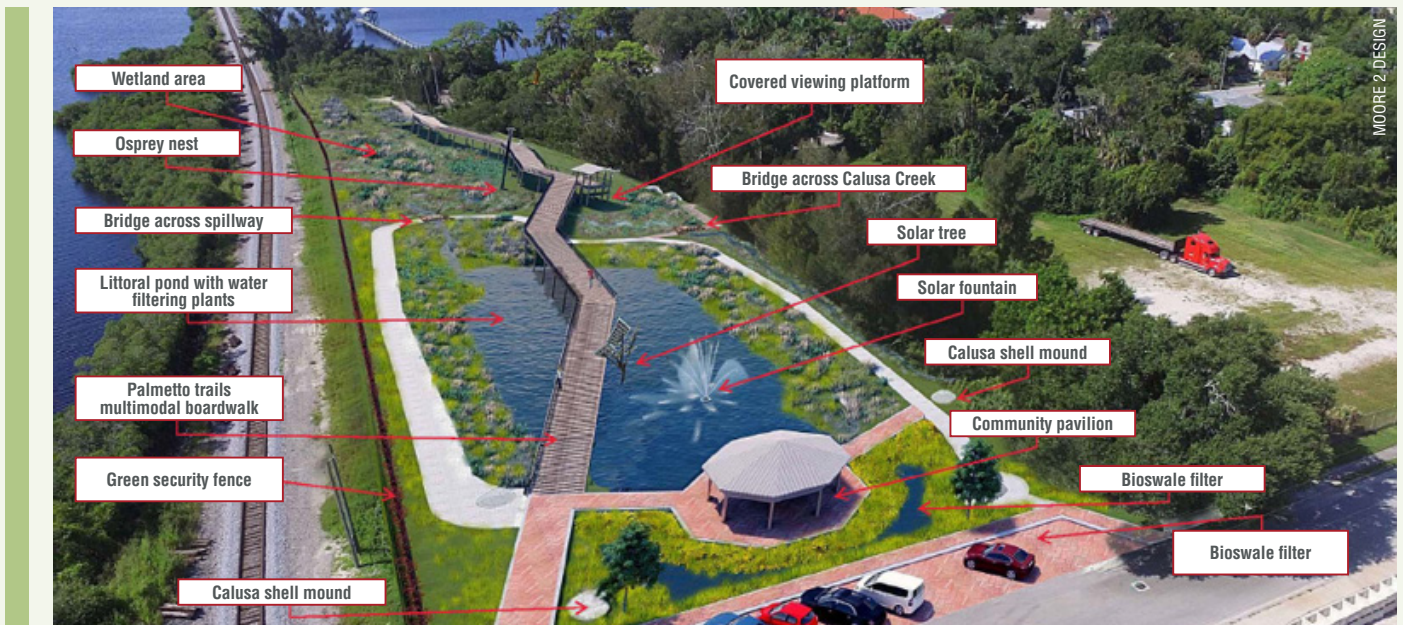


Planning for the River Mile project forged new models of cross-departmental collaboration for Denver. City departments come together to prioritize projects and target capital investment based on layers of analysis to help prioritize, plan, and implement parks and recreation infrastructure projects, programming, and facilities throughout the city.

National Models for Resilient Stormwater Parks

Large-scale stormwater transformation is occurring across the country as cities double down on multi-benefit green infrastructure. The panelists referenced several parks representative of national excellence in stormwater park design including the following:

- Historic Fourth Ward Park.** Located on the Atlanta Beltline in Georgia, Historic Fourth Ward Park consists of five acres of urban recreational green space, artistic water features, and native vegetation.¹⁰ The park serves 5,813 people within a half-mile radius and was built to address flooding and sewer overflow that frequently threatens the surrounding lowland neighborhoods within the 800-acre drainage area.¹¹ Stormwater runoff from nearby neighborhoods pools into a detention pond centered around landscaped walkways, bridges, and an amphitheater. The park is gold rated by the Envision Sustainable Infrastructure rating system. It is also located just off the Atlanta Beltline, a shared-use pedestrian and bicycle trail that has spurred billions of dollars of private development.
- Depot Park.** Located in Gainesville, Florida, Depot Park comprises 32 acres that provide local urban communities access to recreational spaces while supporting local ecosystems and stormwater management. Originally an industrial brownfield, the park now supports stormwater treatment with two trash traps, two large forebays, a braided stream, and two ponds of 1.2 acres and 5.6 acres.¹² The stormwater treatment system connects with existing wetlands to treat runoff from 89 acres of downtown Gainesville neighborhoods.
- Railroad Park.** Located in downtown Birmingham, Alabama, Railroad Park is a 19-acre green space built to assist in flood control and pollutant reduction. Among the many stormwater management features included in the park, a 3,500-square-foot wetland area filters stormwater before it enters the lake and stream circulation system that provides biofiltration for over 1.5 million gallons of water.¹⁴ The stormwater features in place also provide emergency flood storage for the neighborhoods within the surrounding watershed. The park received the ULI Urban Open Space Award in 2012.¹⁵
- In Connor Park.** In this park, Palmetto, Florida, addressed the stormwater detention needs of a 70-acre basin while providing many community benefits. The project included a publicly accessible boardwalk over the detention area, crushed shell walking paths around it, a community pavilion, and innovations like a solar “tree” that powers a fountain, along with other natural interventions that add beauty, such as filtering plants and a wetland restoration, all providing a community benefit.



Connor Park in Palmetto, Florida, addressed the stormwater detention needs of a 70-acre basin while providing many community benefits.

Institutionalize a Prioritization System to Achieve Resilience Innovation at Scale

Cross-department data-sharing systems and decision-making processes should be implemented to facilitate delivering an integrated team and more resilient, economically viable projects. This data-based benchmarking will allow the city to measure current performance and the effects of projects after development.

The panel recommends the city of Tampa's Sustainability and Resilience office lead interagency efforts to create and internalize a new, scalable approach to ranking and prioritizing projects, all connected to the city's big idea for its watershed. Resilience principles and green infrastructure strategies demand these kinds of interdepartmental processes and should be a lens for finding intersections between departmental priorities and community needs.

Some great collaborative examples, like the Clarence Fort Freedom Trail, exist in Tampa, but creating smart systems of prioritization and collaboration, partnered with robust public education and engagement, will unlock the ability to do these projects at scale cost-effectively.

ULI Report: *On Safer Ground*

Flooding is the most expensive and common natural disaster in the United States, and managing flood risk is critical to protecting homes, local and regional economies, and community well-being. *On Safer Ground* explores how floodplain buyouts are progressively relevant to the real estate sector as local governments across the United States are increasingly turning to buyouts as one strategy to reduce flood risk, offer relief to residents, and potentially improve access to open space in urban areas.

A major challenge for local governments is that, post-buyout, they take ownership of the site with little guidance or funds to repurpose the land for long-term community benefits. The report showcases exemplar partnerships and tools that facilitate land banking, leasing, and transfer, for example, which can be used to design, develop, and maintain plots post-buyout. Coalescing around a common goal with local partners, stakeholder groups, and government agencies can help assemble a vision and potential for the site.

The report also cites examples of communities that have successfully implemented floodplain buyouts as part of a larger resilience strategy or open-space plan.

Read the full report here: knowledge.uli.org/floodplainbuyouts.

Prioritization and Implementation: Living with the Bay Project

One example of using plan prioritization among various stakeholders and government agencies is the Living with the Bay project in Nassau County, Long Island, New York, which was part of the U.S. Department of Housing and Urban Development (HUD)/Rockefeller Rebuild by Design Competition. The project, which was awarded \$125 million from HUD for implementation, offers a framework and strategy for prioritization that can be adapted to other places. Living with the Bay had a broad comprehensive goal to enhance coastal resilience. Similar to many other municipalities, its vision included a large number of projects that carried a large price tag that went beyond budget capacity and required prioritization.

Key steps to Living with the Bay prioritization include the following:

- 1. LAY IT ALL OUT.** The project team, administered by the New York Governor’s Office of Storm Recovery, outlined each of the Living with the Bay initiatives, which ultimately included 36 projects that totaled \$892 million.
- 2. USE PROJECT VISION AND GOALS TO ESTABLISH EVALUATION CRITERIA.** The project team cross-checked funder, project, and community goals and grouped similar elements into five overarching goals: increase community resilience, provide educational opportunities, create and improve public waterfront access, preserve quality of life, and restore environmental health.
- 3. WEIGH AND CALIBRATE QUANTIFIABLE DATA TO MAKE DECISIONS.** The synthesized goals were then used as a lens to evaluate each of the identified projects through metrics and category weight, considering the costs, benefits, risk and vulnerability, synergies, and social resilience.
- 4. RANK ALL THE PROJECTS QUANTIFIABLY.** The Living with the Bay team ranked projects using this defensible methodology.

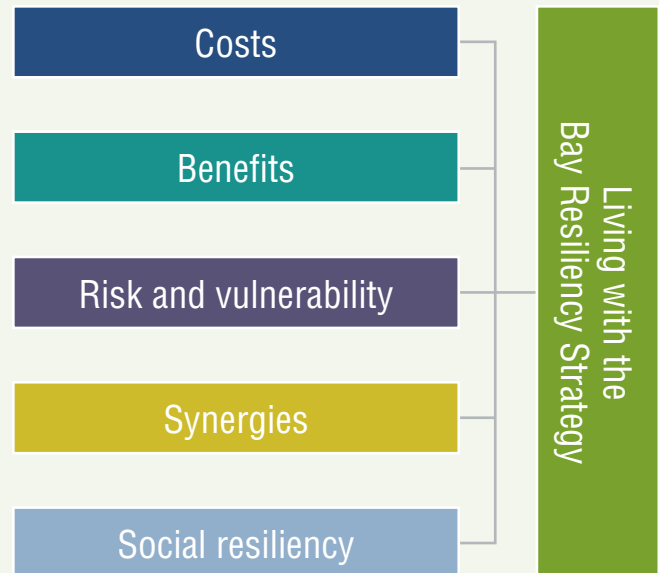
See appendix B: Living with the Bay—Project Prioritization Matrix

5. FINALIZE PRIORITIZATION BY LEVERAGING OTHER COMMUNITY INVESTMENTS AND PRIORITIZING SOCIAL VULNERABILITY.

The Living with the Bay team took this process a step further and worked with a technical advisory committee and community advisory committee during this process to seek opportunities for greater investment leverage and prioritize projects that could provide a greater, more equitable impact on their communities.

6. IMPLEMENT PRIORITIZED PROJECTS. Because of this prioritization and ranking process, the project team moved forward with projects that aligned with the community’s resilience goals and the budget.

PRIORITIZATION MATRIX CATEGORIES



Source: ULI.

Realize Return on Investment with Multi-Benefit Solutions

When planning infrastructure to enhance stormwater management, the panel recommends that the city conduct return on investment (ROI) assessments that account for the many benefits of green infrastructure, not just their ability to manage stormwater. Although green infrastructure may cost more upfront, or require new expertise from the city's consultants, the benefits downstream can far outweigh these initial costs, compared to the benefits of traditional stormwater infrastructure. Furthermore, these multi-benefit solutions unlock the ability to split costs between departments. Although the main function of green infrastructure may be to address stormwater management, it includes components that are within the purview of the parks and recreation department, transportation department, and various public health agencies and organizations.

Florida statute allows cities and counties to fund all capital needs at the ballot box, in some cases with operating funds as well. The panel recommends partnering with local interest and stakeholder groups to help coordinate initiatives for parks, trails, natural land, climate investments, and green schoolyards, sometimes in combination with transportation, stormwater, or other local needs. The private sector can benefit from public projects adjacent to the places they live, work, and play—these willing partners are able to participate in a public/private investment model.

Green bonds are also an increasingly common way to fund these solutions. The green bond market—investment vehicles that are earmarked for projects that have a climate or environmental focus—is expected to surpass \$1 trillion in the next few years. The city of Tampa recently issued a \$36.6 million certified green bond for long-term stormwater and resilience projects. The green bond can provide an important funding resource when pursuing innovative, multi-benefit solutions.

The Value of “Green” over Traditional Bonds

The appetite for environmental, social, and governance (ESG) investing continues to soar, with record inflows amid the pandemic. Real estate firms are now offering more opportunities for those investors to place their capital. “Green bonds” have risen in popularity dramatically over the decade, from what ULI considered an emerging trend a few years ago to a mainstream investment opportunity in 2020.

Green bonds have some additional transaction costs compared with traditional bonds because issuers must track, monitor, and report on use of proceeds. However, many issuers, especially repeat issuers of green bonds, offset this initial cost with a variety of benefits, including that green bonds:

- Highlight their green assets/business;
- Provide a positive marketing story;
- Diversify their investor base because they can now attract ESG specialist investors looking for greater impact;
- Join up internal teams to do an investor roadshow—the environmental team with investor relations and other business lines; and
- Open the potential for buyers to pay a premium for the “green” label on the bond.

Source: Marta Schantz, “A Tipping Point for Green Bonds? Opening Up Global Capital to Sustainable Investing,” *Urban Land* online, December 11, 2020.



Tampa's Herbert D. Carrington Sr. Community Lake is a model example of leveraging a stormwater pond as community asset.

Engage and Partner for People-Centric Solutions

Community engagement is critical to creating and ultimately realizing a vision and plan for landscape changes of all scales. Actively listening and getting a deep understanding of the neighborhood narratives of the places surrounding stormwater ponds can ensure that the future design and use creatively consider and honor the area's history and character. This could involve large-scale tactical design decisions, such as new desired neighborhood amenities, to smaller-scale decisions, such as the plant and tree typologies central to a neighborhood's character.

Effective community engagement is key for the city of Tampa. It

- Improves the design throughout the process;
- Addresses resource constraints, like acquiring land and budget gaps;
- Builds support for the project itself;
- Builds community trust in future projects; and
- Leads to more equitable outcomes in cities.

Since issues of stormwater, multiple benefits, and long-term ROI are challenging to communicate, new innovative approaches are needed to solicit input and advice from the entire community. The panel suggests the city consider using the visual preferences survey tool. The tool is built on the visual preference theory, which provides an image-based framework for allowing neighbors to choose between different investments and better understand the overlaps that provide added value/return for the investment. In Tampa, this approach can be used to communicate how the stormwater pond areas can be leveraged to be more than just a stormwater facility.

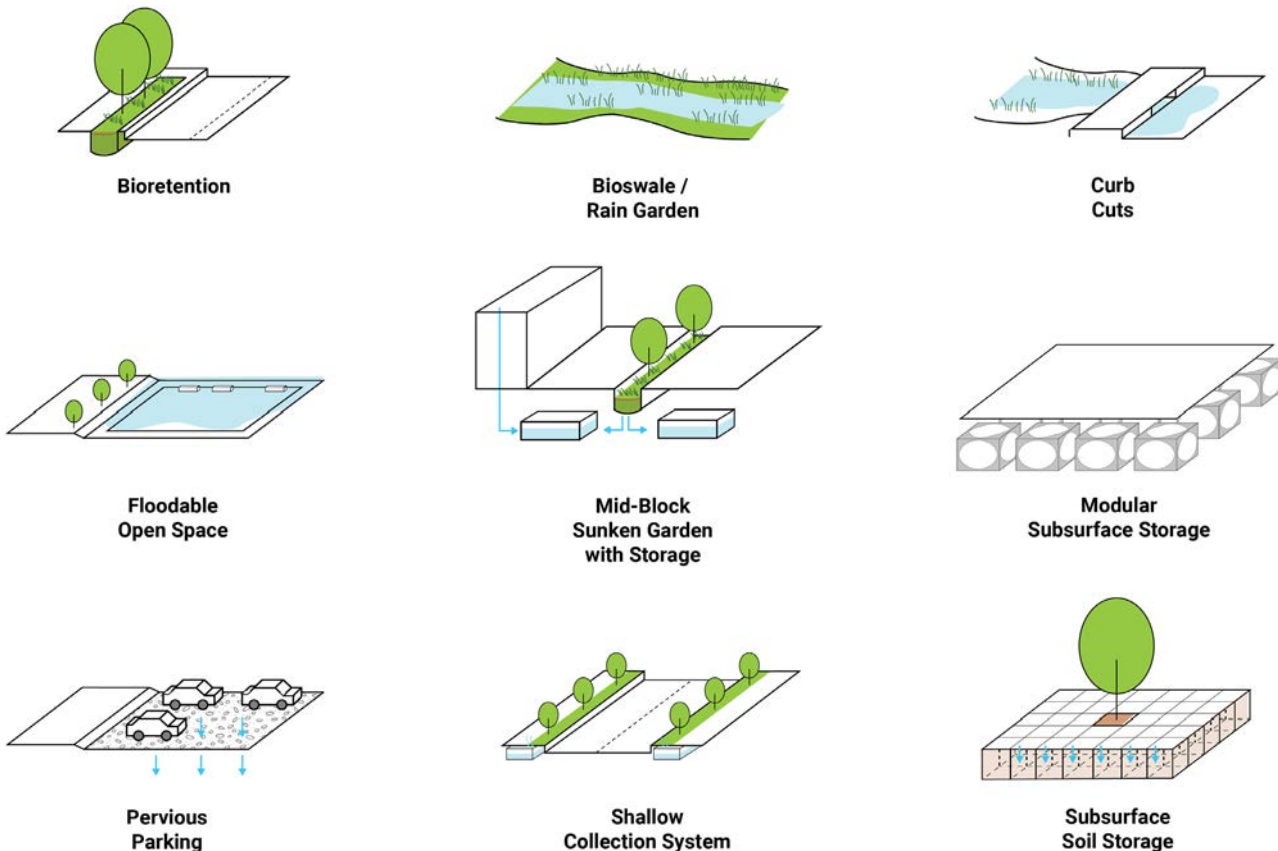
When using this approach, or other community engagement strategies that emphasize multiple benefits for the land, the panel recommends asking questions such as the following:

- How are the stormwater ponds supporting community investment and/or redevelopment? Can this be done better?

- Are they building neighborhood pride and cohesion?
- How are the ponds facilitating better health outcomes?
- How are these areas addressing community needs, such as healthy food, recreation, or shade?

Strategies like the visual preference survey tool are an excellent way to empower residents and stakeholders to use specific language for how they might like to see a small green space become a better asset for the whole community.

Utilizing simple diagrams, or artistic presentations of the strategies being discussed, can help educate the community on more complex engineering solutions to community concerns. Providing visual preference tools breaks down these knowledge barriers and allows the community to quickly understand the opportunities being presented.



SHERWOOD DESIGN ENGINEERS

Visualizing potential solutions can cut through unfamiliar terms and assist community members in better understanding stormwater investments.

Denver's Platte to Park Hill: A Multi-Benefit Stormwater System for Flood Management and Recreation

Denver has paved the way for innovation in collaborative, multi-benefit approaches to stormwater management.

The city created an interdepartmental team that included multiple agency representatives from partners such as the Urban Drainage and Flood Control District, Colorado Department of Transportation, and Regional Transportation District, among others. The city also regularly met with a Stakeholder Working Group made up of more than 20 neighborhood and community representatives to provide input on the project and help distribute information throughout the community.

Platte to Park Hill was a \$298 million, eight-neighborhood, multidepartmental (Parks and Recreation, Public Works, Stormwater Management) effort to protect these precariously located communities at risk of severe flooding

during storms.¹⁶ The program identified the following multi-benefit goals:¹⁷

- Increase neighborhood connectivity;
- Improve water quality;
- Add new park and recreation spaces and enhance existing city-wide recreational assets; and
- Provide critical flood protection.

The project started with a vision at the city, but there was widespread acknowledgment that the plan could not be considered complete without a thorough community engagement plan. Denver designed and hosted more than 250 public and stakeholder meetings over the course of a year and a half for input on the project.



DENVER PARKS AND RECREATION

The Platte to Park Hill project in Denver led to the creation of numerous multi-benefit green spaces in the community that also serve as critical stormwater infrastructure for the city.

Public-Sector Engagement

Local nonprofits, community leaders, faith-based organizations, schools, businesses, and neighborhood citizens all can provide their unique perspectives and ideas, making the future solution something that was designed and implemented by the community in partnership with the city. Engaging the community before design and documenting the process with measurable, shareable feedback creates transparency throughout the design process, ensuring community trust and buy-in.

In recent history, the city has piloted “ponds to parks” projects through cross-departmental innovation and community partnership with great success. The East Tampa Community Redevelopment Area (CRA) launched a pilot project in 2006 to beautify three example ponds. The success of the pilot project has bolstered the citizens’ of East Tampa’s intentions to make the ponds assets to the community by incorporating recreation and pedestrian amenities. The success and lessons learned from the East Tampa Stormwater Bond Beautification Pilot Project provide the city with a road map for institutionalizing this model of cross-departmental collaboration in a way that is scalable citywide.



Herbert D. Carrington Sr. Community Lake, Tampa, Florida.

Over the past decade, the University of South Florida has been a valuable partner throughout the stormwater enhancement pilot project in East Tampa and beyond. The university’s cross-disciplinary expertise and resources can aid the city in comprehending multilayered data markers related to climate resilience, social equity, and project prioritization. The opportunity exists to grow this partnership and build upon the foundational work already underway.

The following pond examples highlight the city of Tampa’s potential to leverage existing stormwater assets to equitably expand neighborhood access to resilient green space and recreational amenities at a citywide scale.

- **Herbert D. Carrington Sr. Community Lake and the Robert L. Cole Sr. Community Lake (East Tampa).** In 2009, the East Tampa CRA as well as parks and stormwater departments collaborated to transform these two existing stormwater ponds into multiuse, functional open space for residents. While still maintaining the functionality of the active stormwater facilities, these sites were enhanced with benches along the walking paths, a large array of mostly native greenery and vegetation, belvedere decks and gazebos, adult fitness stations, and more. In addition, the Robert Cole Lake includes an educational kiosk in partnership with University of South Florida and local schools. Named in honor of local residents of note, these lakes serve as a source of community pride for the neighborhood and promote awareness of environmental issues.
- **Osborne Pond (East Tampa).** This is a 3.8-acre wet pond with an existing connection to the Clarence Fort Freedom Community Trail. The trail, which was funded by a local CRA and is a great example of a collaboration between parks and stormwater departments, features an accessible fitness station for adults and seniors, an adjacent playground for children, water features, and a boardwalk that leverages the stormwater pond as a neighborhood amenity. Stormwater and parks departments worked together on an interdepartmental maintenance strategy for the site.

Private-Sector Partnerships

Around the country, cities are increasingly expecting the private sector to play a role in stormwater management. Real estate developers are choosing to incorporate innovative green infrastructure in projects and the public realm, recognizing the potential cost savings and value-generation opportunities.

The panel recommends the city invite the private real estate sector, including property owners, developers, and stakeholders, to partner on stormwater pond improvements that benefit the public.

Following are examples of some best practices around the country:

- **Canal Park (Washington, D.C.).** Blending community revitalization with efficient stormwater management, Canal Park collects and treats stormwater that meets 95 percent of the park's water needs, which are allocated to the park's irrigation, ice rink, and fountains. The park saves 1.5 million gallons of water annually from its rain garden and two cisterns that hold 8,500 and 80,000 gallons of water, respectively. In addition to water retention, the rain gardens and bioretention tree pits filter stormwater that is further filtrated and disinfected through an ultraviolet system, removing 100 percent of pollutants and suspended solids.
- **Cira Green (Philadelphia, Pennsylvania).** Making use of a 1.25-acre parking garage rooftop, Cira Green is a public park with a unique, elevated component that calls for innovative solutions to stormwater management. Two-inch-deep rainfall-capturing "pancake" cisterns optimize use of space underneath paved walkways to support a gradual release of water that reduces runoff. A veneered landscape allows dynamic, sloped topography that channels water to reduce runoff while protecting plant life from wind exposure. The rooftop vegetation includes lawns, trees, and perennials that promote biodiversity and absorb water that would otherwise be unusable with a traditional, impermeable concrete rooftop.
- **Stonebrook Estates (Harris County, Texas).** The 51.4-acre, single-family residential, low-impact development incorporates traditional storm sewers and natural drainage systems to mitigate flood risk while optimizing green space. The site incorporates aspects of a natural drainage system to direct the flow of stormwater across the landscape into detention basins that naturally release into nearby channels and bayous. Stormwater is filtered through engineered soils that filter runoff pollution at a high rate to prevent surface ponding. Similarly, sloped roadways and false-back inlets direct stormwater into bioswales for improved filtration and water retention.



Developer and property manager WC Smith led the creation of Canal Park as a component of the District of Columbia's Anacostia Waterfront Initiative, which sought to reinvigorate the neighborhood and improve water quality in the Anacostia watershed.

Park Implementation Success: Viola Liuzzo Park in Detroit

After years of implementing stormwater projects with community green spaces in Detroit, the city is beginning to see significant measures of success. Detroit is setting the standard for how partnerships and interdepartmental coordination can work to further the variety of projects that help serve communities and implement sustainable design in green stormwater infrastructure.

Viola Liuzzo Park is just over three acres and cost a total of \$459,000. In 2016, Viola Liuzzo Park brought together the City of Detroit Parks and Recreation Department and the Viola Liuzzo Park Association (VLPA), the Michigan Department of Natural Resources, Detroit General Services Department, and Detroit Water and Sewerage Department (DWSD) in collaboration with design firm Tetra Tech to design and implement stormwater management features that revitalized the park and the surrounding community it served.¹⁸

The park is dedicated to the memory of Viola Liuzzo—a Detroit civil rights activist murdered in Alabama after the march on Selma in 1965. Tetra Tech led collaborative partnerships with nongovernmental organizations, community groups, universities, and other organizations across the public and private sectors to develop a park design that offered multiple benefits to the surrounding community and aligned with its original vision. In addition to adding recreational features, the cross-departmental team recognized the opportunity to integrate innovative green infrastructure features into the park's redesign as a way to beautify the park while improving Detroit's water quality. The park revitalizes previously vacant lots with green, including bioretention areas, or rain gardens. Specifically, the park uses bioretention practices designed to collect stormwater runoff from nearby arterial roads and the park itself.



Each bioretention practice at Viola Liuzzo Park is being designed in a way that could be replicated in any rain garden. The park is currently under development.



A Tampa stormwater pond serves as a valuable habitat for local birds and wildlife.

Employ New Multi-Benefit Approaches in Areas of Opportunity

With over 240 stormwater ponds across Tampa, there is an enormous opportunity to begin using the recommendations outlined in this report to leverage investments in stormwater ponds for social, economic, and environmental benefits. All these areas have the potential to become great community assets and open spaces, and they are ripe for investment in technical nature-based infrastructure. Initial reflections are shared below:

- **SOUTH MANHATTAN AVENUE PONDS (SOUTH TAMPA)** is composed of two ponds, one which is wetland mitigated and the other which is sprayed for algal blooms. Located across the street from each other, these ponds illustrate the opportunity that exists to create better connectivity within the system. The property adjacent to these ponds is being considered for a new multifamily development.

Recommendation: The panel believes that this site could benefit from an active connection to the stormwater ponds (and nature), creating amenities for surrounding residents. Ponds like these exemplify an opportunity for the city to partner with the private sector on a pilot project to activate existing stormwater assets to provide green space—which is scarce in the surrounding highly paved, dense urban landscape.



ULI TAMPA BAY

Powhattan Avenue Pond, East Tampa.

- **POWHATTAN AVENUE POND (EAST TAMPA)** is a three-acre dry pond with a low-grade bank, embedded in the heart of a highly residential area in East Tampa. It is surrounded by raised grassy areas and mature laurel oaks.

Recommendation: The panel believes this site offers the potential to serve as a high-quality neighborhood amenity in an area that is lacking park space that meets the Trust for Public Land’s 10-minute walk standard. Current city-conducted analyses indicate this area is currently unused beyond its flood detention functionality.



Williams Park Center Pond, East Tampa.

- **WILLIAMS PARK CENTER POND (EAST TAMPA)** lies adjacent to a highly amenitized and recently renovated city-owned park and a residential neighborhood. Currently being dredged to maintain water quality, it has a tall chain link fence.

Recommendation: The panel believes there is an opportunity to rethink the pond by providing a lower slope to reduce liability, allowing more programming and amenities around the pond during dry periods.



Concordia Pond, South Tampa.

- **CONCORDIA POND (SOUTH TAMPA)** is a stormwater buyout site in a South Tampa neighborhood. Four parcels were acquired to construct a very low-grade drainage area to provide additional system capacity before discharging to a box culvert in the adjacent CSX rail corridor (a corridor long proposed as a possible regional commuter rail line). This lush green space is surrounded by beautiful trees and remains dry the majority of the year. This site could make a wonderful community pocket park.

Recommendation: Partnerships and tools that facilitate land banking, leasing, and transfer, for example, can be used to design, develop, and maintain plots post-buyout. The panel recommends leveraging local stakeholders and neighborhood groups to coalesce around a common goal to help assemble a vision and potential for the site while connecting it to nearby city efforts such as the Bay to Bay/MacDill neighborhood commercial district planning efforts and the El Prado road diet plan. This site is a prime opportunity for the city to deploy a visual preference survey (referenced earlier in this report) to engage neighbors and help them better contextualize and choose potential recreational upgrades.



Downtown Tampa skyline, facing west.

Conclusion

Water is one of Tampa's most valuable assets, while being one of its greatest risks, and single-use stormwater ponds seem to be the historical city response to such climate risks. As the city of Tampa forges a new strategic direction, following its comprehensive and cohesive *Resilient Tampa* road map, an integrated, cross-department approach will help it address its needs to mitigate flooding and other impacts from water with cost-effective, multi-benefit solutions.

Although the city has been making progress on projects and plans related to resilience, stormwater management, and parks and open spaces, the lack of a big, shared vision across all government departments hinders a cohesive strategic direction and coordination of efforts toward climate and community resilience at scale.

Open spaces and park amenities should offer multiple benefits to the community, in the form of flood protection, economic development, public gathering spaces, improved water quality and restored ecological functions, and trail connections. These multiple benefits should be considered when conducting ROI analyses for stormwater management improvements, as traditional retention and detention ponds may be less expensive upfront but do not offer community benefits or payback year round.

By establishing partnerships with government agencies, the private sector, nonprofits, community groups, and other institutions, the city of Tampa can build and institutionalize a plan that fosters community ownership, which can lead to effective implementation. The panel believes that the city of Tampa can use resilience to continue to amplify Tampa as a world-class city.

Appendix A: Action Matrix

Time frame	Recommendations	Key players
Develop and coalesce around a big idea at the watershed scale		
Short term	Develop a bold, overarching “big idea” at the watershed scale that addresses and connects the goals of <i>Resilient Tampa and Transforming Tampa’s Tomorrow</i> .	City of Tampa, community, and institutional partners
	Rather than a pond-by-pond approach, connect the overarching big idea to the network of ponds. View each pond as a piece of a networked system of parks and open-space amenities.	City of Tampa and community partners
	Explore new value-creation models that leverage the existing stormwater retention ponds to address urban climate and ecological risks while also providing other community benefits during dry periods.	City of Tampa, community partners, and development community
Medium term	Building off the big idea, explore and invest in tactical nature-based interventions and green infrastructure mitigation that are interconnected at different scales from the local to the regional.	City of Tampa, community, and institutional partners
Organize and institutionalize for a multi-benefit approach		
Short term	Adopt an integrated, collaborative, cross-departmental approach when addressing operations and enhancements of stormwater retention ponds to achieve scaled benefits for the city.	City of Tampa agencies and departments
	Develop a system in which necessary city departments and community partners can weigh in on projects related to enhancing the stormwater ponds and ensure interests and benefits are aligned. This can also help break down silos in governance.	City of Tampa and community partners
	Incorporate community-centered values around livability, collective responsibility, placemaking, and natural ecology that can provide financial gains over time as green infrastructure provides return on investment across multiple city priorities, rather than being singularly seen as a stormwater solution.	City of Tampa and community partners
	Empower the Sustainability and Resilience Office to lead interagency efforts and to internalize a new and scalable approach to ranking and prioritizing projects, connected to the big idea for stormwater ponds.	Sustainability and Resilience Office
	Create and internalize a new, scalable approach to ranking and prioritizing projects all connected to the big idea. Steps could include the following: <ol style="list-style-type: none"> 1. Lay out all projects and establish the total cost of projects and budget. 2. Use project vision and goals to establish evaluation criteria. 3. Weigh and calibrate quantifiable data to make decisions. 4. Rank all the projects quantifiably. 5. Finalize prioritization by leveraging other community investments and prioritizing social vulnerability. 6. Implement prioritized projects that align with the community resilience goals and the budget. 	City of Tampa
Medium term	Conduct ROI assessments that account for the many benefits of green infrastructure.	City of Tampa Sustainability and Resilience Office in collaboration with other departments
	Explore public/private investment models for funding and raising capital for projects that have multi-benefit solutions.	City with local stakeholders, community groups, and private sector






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APPENDIX A: ACTION MATRIX (CONT.)

Time frame	Recommendations	Key players
Engage and partner for people-centric solutions		
Short term	Build and institutionalize a citywide community engagement plan centered on equity, with intentional community engagement processes that include actively listening and getting a deep understanding of the neighborhood narratives surrounding stormwater ponds.	City of Tampa, USF, and other public-sector partners
	Consider innovative engagement approaches to solicit advice from the community, like the visual preference survey tool. Use such tools to communicate how stormwater pond areas can be leveraged to be more than just a stormwater facility.	City of Tampa, USF, and other public-sector partners
Medium term	Invite the private real estate sector, including property owners, developers, and stakeholders, to partner on stormwater pond improvements that benefit the public.	City of Tampa, development community

Source: ULI.

Appendix B: Living with the Bay—Project Prioritization Matrix

Category	Metric	Category weight	Maximum score
 Costs	Total costs	100%	25
	Total costs		100%
 Benefits	Flood reduction	45%	15.75
	Water quality	30%	10.5
	Ecosystem/habitat	25%	8.75
	Total benefits		100%
 Risk and vulnerability	Health and safety	40%	6
	Reduced flooding risk	40%	6
	Future adaptability	20%	3
	Total risk and vulnerability		100%
 Synergies	Program synergies	30%	3
	Municipal dependencies	30%	3
	Critical infrastructure	20%	2
	Leveraged funds	20%	2
	Total synergies		100%
 Social resilience	Improved quality of life	33%	5
	Cultural heritage preservation	33%	5
	Educational opportunities	33%	5
	Total social resilience		100%
MAXIMUM PRIORITIZATION SCORE			100

Source: ULI.

APPENDIX B: LIVING WITH THE BAY—PROJECT PRIORITIZATION MATRIX

ID	Project name	Costs	Benefits	Risk and vulnerability	Synergies	Social resilience	Total project rating
V	Coastal Marsh Restoration	0.0	32.4	8.2	3.3	6.6	50.0
B	Horsebrook Drain West Branch Recharge Basin	7.0	25.3	11.4	1.9	0.8	46.4
DD	Hempstead High School Creek Restoration	23.9	7.4	2.2	5.7	5.8	45.0
II	Cooper Square	19.8	14.7	2.3	6.1	0.0	42.9
M	East Rockaway High School/Lister Park	10.3	13.8	6.0	4.9	7.8	42.8
H	Malverne High School	18.0	11.3	2.1	4.8	6.2	42.4
F	Malverne Green Streets	12.1	19.6	3.8	5.3	0.4	41.2
A	Hempstead Lake State Park	0.0	13.6	11.3	5.3	10.7	40.9
L	Smith Pond	12.8	9.1	4.7	5.7	7.4	39.7
C	Hempstead Housing Authority	20.0	8.2	7.2	3.6	0.2	39.2
N	Forest Avenue	22.5	4.9	4.8	6.1	0.4	38.7
P	East Boulevard and West Boulevard	18.8	6.2	6.3	5.4	2.0	38.7
E	Southwest Village of Hempstead Suspended Pavement Green Streets	5.0	22.1	6.1	5.3	0.0	38.5
X	S Centre Avenue Bioretention Green Street	24.5	1.6	2.7	6.1	3.5	38.4
EE	Covert Street	24.5	0.6	5.7	6.8	0.0	37.6
KK	Southern State Parkway Ramp	23.8	3.9	3.4	6.1	0.0	37.2
HH	Nichols Court	24.0	1.3	2.5	6.1	0.0	37.2
J	Lynbrook Recharge Basin	24.7	4.2	3.9	3.6	0.0	37.2
D	Northeast Village of Hempstead	4.1	21.9	6.8	2.5	0.0	35.3

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APPENDIX B: LIVING WITH THE BAY—PROJECT PRIORITIZATION MATRIX (CONT.)

ID	Project name	Costs	Benefits	Risk and vulnerability	Synergies	Social resilience	Total project rating
GG	Hendrickson Avenue	24.0	1.9	3.0	4.8	0.0	33.9
I	Lakeview Avenue	24.0	0.0	2.4	4.9	0.0	32.9
OO	Waldo Avenue	24.8	1.2	3.9	3.0	0.0	32.9
AA	Beverly Road	24.5	1.6	2.9	3.6	0.0	32.6
K	Peninsula Boulevard Greenway	24.3	0.0	2.4	4.3	0.0	32.6
Y	Maple Avenue and Long Beach Road Intersection	24.3	0.1	2.7	5.2	0.0	32.3
LL	Halls Pond Study	24.5	0.0	2.5	4.9	0.0	31.9
Q	Williamson Street	22.5	3.4	4.4	1.3	0.0	31.6
T	Lawson Boulevard	11.8	9.5	7.1	2.4	0.0	30.8
S	East Rockaway Long Island Railroad Station	23.5	1.2	1.7	3.6	0.0	30.4
R	Bay County Park	23.6	1.1	2.5	1.4	0.0	29.6
FF	Mill River Storm Surge Barrier	0.0	15.8	10.2	3.5	0.0	29.5
MM	Greenway	10.2	0.0	2.0	4.3	0.0	27.2
W	East Rockaway Downtown Study	24.5	0.0	0.0	0.0	0.0	24.5
Z	Lakeview Avenue and Hempstead Avenue Intersection	15.0	0.8	2.6	5.4	0.0	23.8
CC	Marina Pointe Marsh Restoration	11.4	4.6	2.1	2.5	0.0	22.4

The prioritization framework is intended to identify a collection of transformative projects that increase the resilience of the Mill River corridor. Numerical scores for each metric category were developed rather than tangible values such as dollars. Each of the categories was formed so that a higher score indicates a positive, preferred element of the project. No negative scores are included in the prioritization framework.

Source: ULI.

About the Panel

Taylor Ralph

Panel Chair

President and Founder, REAL Building Consultants

Ralph, LEED AP BD+C & EcoDistricts AP, is the founder and president of REAL Building Consultants LLC, a firm specializing in providing holistic sustainability planning and energy services to developers, institutional real estate owners, and design/build teams across all product types. His over 15 years of project experience in innovative sustainable real estate practices—both in the design/build/development role and as a consultant to project teams—allows him to provide REAL's clients with valuable guidance in the pursuit of creating high-performance, responsible, efficient, and healthy projects.

He is a thought leader and frequent speaker and writer on issues of sustainable building innovation, community equity, resilience, and innovative real estate development. He dedicates his time to his community as a board member of the Tampa Metropolitan YMCA, advisory board member of Gasparilla Music Foundation, advisory board member of the Tampa Bay Energy Efficiency Alliance, and executive board member of ULI Tampa Bay.

Chris Ahern

Senior Project Manager, GHD

Ahern is an experienced program and project manager on a variety of waterfront projects, including marinas, commercial wharves, and multifamily developments. He leads multidiscipline project teams to evaluate potential environmental impacts, perform feasibility studies, identify sustainable solutions to design challenges, execute permitting strategies, procure the necessary contractors, and ultimately deliver successful development projects. All his project experience is

related to surface water quality, waterfront property, or sites within 100 yards of a shoreline (i.e., beach, bulkhead, or riverbank), and he regularly identifies solutions for development in the coastal high-hazard environment. He recently led the \$21 million redevelopment of Maximo Marina in St. Petersburg, Florida (3701 37th Street South).

As development manager, he was responsible for site assessments, feasibility studies, pro formas, development strategy, procurement of contractors, construction management, commissioning, and handover to IGY Maximo Marina Operation Team. Ahern's other significant waterfront development projects include IGY Development Manager of Marina/Waterfront assets for Nakheel, the master developer for reclaimed islands projects in Dubai, U.A.E. (i.e., Palm Jumeirah, Palm Jebel Ali, and World Islands).

Josiah Cain

Director of Innovation, Sherwood Engineers

Cain serves as Sherwood's director of innovation. His deep sustainable design experience and multidisciplinary approach provide insight and opportunities for optimization of the urban fabric through the integration of ecological systems with site and structure. His informed drive for enhanced site performance and multidisciplinary integration has led to first-of-a-kind permits in many jurisdictions, advancing design, policy, and technical implementation of rain harvesting, gray water, black water reuse, living roofs and walls, native plants, sustainable stormwater management, food systems, and materials.

Pegeen Hanrahan

Parks Initiative Lead, Trust for Public Land

Hanrahan is a registered professional engineer and southeast conservation finance director for the Trust for Public Land (TPL), where she has worked as a consultant or on staff since early 2005. Her responsibilities span Florida, Georgia, and North and South Carolina. She also serves as the Nationwide Parks Initiative Lead for TPL's Strategic Plan Implementation Process. With TPL and its partners, Hanrahan has worked on 23 successful ballot measure campaigns with a 90 percent overall win rate, including as deputy campaign manager for 2014's successful Water and Land Conservation Statewide Constitutional Amendment in Florida, which won with 75 percent of the vote.

A native and lifelong resident, she served Gainesville, Florida, as its mayor from 2004 to 2010, and as a City Commissioner from 1996 to 2002, leaving office both times as a result of term limits. She has nearly 30 years of experience in environmental remediation, public participation, grant writing, private-sector engineering and business consulting, land conservation, and local government finance.

Happy Haynes

Executive Director, Denver Parks and Recreation

Haynes has served since 2015 as the executive director of Denver Parks and Recreation and was also appointed in 2017 and 2019 to serve as the deputy mayor. She was twice elected and served from 2011 to 2019 as an at-large member of the Denver Public Schools Board of Education, following six years as the district's chief community engagement officer. Haynes is a Denver native, attended Denver East High School, and received a BA in political science from Barnard College at Columbia University and an MPA from the University of Colorado at Denver.

During a 40-year career in state and local government, Haynes served 13 years on the Denver City Council from 1990 to 2003 and was president from 1998 to 2000. She serves on several nonprofit boards, including the Colorado Trust for Public Land, the Denver Museum of Nature and Science, and Denver Botanic Gardens, and is a member of the Denver Chapter of Links INC. She was a founding board member of Mile High Youth Corps, Colorado Black Women for Political Action, and the Foundation for Education Excellence.

Jason Hellendrung

Vice President, Director of Planning + Design

Hellendrung, ASLA, is a vice president and director of planning and design at Tetra Tech. In this role he directs landscape architecture, planning, and urban design work on a wide range of urban, public infrastructure projects. He maintains a special interest and practice in the evolution and transformation of cities through infrastructure improvements, including the development and revitalization of urban waterfronts, adapting cities for climate change, building city resilience, and integrating mobility improvements into the city.

His past experience includes work on the Rebuild by Design Living with the Bay project on Long Island; development of Resilient Shelby, Shelby County's winning application to HUD's National Disaster Resilience Competition; assistance with the 100 Resilient Cities program in Boston and Miami; and serving as the local lead for the consultant team on Climate Ready Boston. Hellendrung served as managing principal of the Cedar Rapids River Corridor Redevelopment Plan and implementation of several design projects developed to guide the city's recovery from its historic flood in June 2008. He was also the project manager of the urban design and landscape architecture for the Healthline Bus Rapid Transit Project and transformation of Euclid Avenue in Cleveland.

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