



Stormwater Department Five- Year Strategic Plan

FISCAL YEAR 2023 – FISCAL YEAR 2027

***Vision:** Create vibrant, sustainable communities by reducing flood risk and protecting water quality*



Executive Summary

San Diego is defined by water.

Our city is home to miles of streams, rivers, bays, lagoons, and, of course, the Pacific Ocean. What is lesser known is that below the streets of San Diego there are over 1,000 miles of pipes that connect to hundreds of channels functioning as a network of arteries that are critical to our city's health and safety. This infrastructure is managed by the City of San Diego Stormwater Department (SWD). Whether preventing flooding, reducing pollution in runoff, designing and implementing "green infrastructure," or catching rain so it can be used as part of our water supply, the SWD manages a massive, largely hidden infrastructure system that needs to function seamlessly.



Executive Summary (Cont'd)

This Five-Year Strategic Plan (FY2023 through FY2027) (Plan) is organized around six Key Priority Areas. For each, the Plan outlines desired outcomes, details strategies, and provides five-year activity highlights. The Plan also explains the challenges created by chronic underfunding and describes how lack of resources is resulting in the inability to pursue some key initiatives, as well as the profound consequences of deferred action.

A history of stormwater management in San Diego is included that demonstrates how stormwater infrastructure is woven throughout every neighborhood and is essential for the safety and quality of life of all San Diegans.

The strategies identified in this plan highlight that addressing stormwater issues requires a nimble and adaptive approach, and that there is much more left to be done. The diverse neighborhoods, environment, wildlife, and world-class recreation areas that make San Diego a desirable place to live, work, and play rely on clean water. This Strategic Plan establishes a blueprint for helping make that vision a reality.

To learn more about how stormwater supports a vibrant and sustainable San Diego, visit [Think Blue San Diego](#).

Stormwater Key Priority Areas



Protect clean water



Ensure flood-safe communities



Provide clean & green streets



Enhance our communities & protect our habitats



Capture stormwater for use



Prioritize education, outreach & engagement

The Strategic Plan presents an action-forward plan for managing stormwater and demonstrates how local conditions and challenges have evolved.



Introduction & Purpose

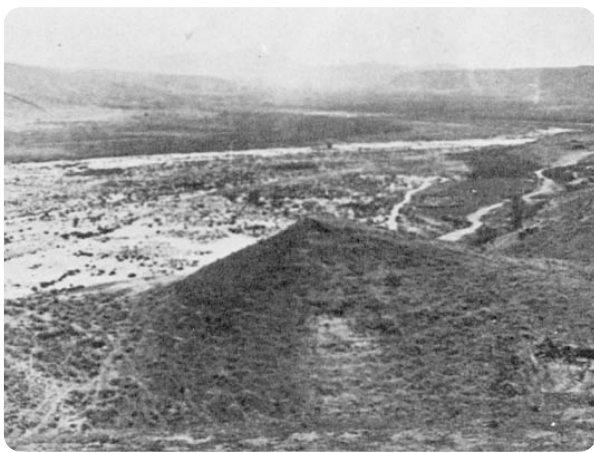
San Diego is shaped by water – the city’s many distinct neighborhoods and communities have been formed around rivers, bays, lakes, streams, canyons, and the Pacific Ocean. In an undeveloped natural environment, when it rains, stormwater soaks into the ground to support plant life, infiltrates into groundwater aquifers, or flows into streams and rivers to the ocean. However, in a developed city like San Diego that is covered with asphalt and concrete, stormwater collects pollution and trash as it quickly runs off surfaces, through our streets, into storm drains, and eventually into local water bodies and the ocean.

The impacts of climate change and extreme weather, more people and more pavement stressing an aging and undersized stormwater system, and significant, ongoing funding shortfalls are making it more and more difficult to meet the City’s needs. This Five-Year Strategic Plan (FY2023 through FY2027) provides transparency and describes what is planned for the next five years to deliver the services and achieve the flood, water quality, water supply, and community and environmental protection objectives that San Diegans need and deserve.

Mission: *Build, maintain and modernize efficient stormwater infrastructure for safe, sustainable, and thriving San Diego communities*

History of Stormwater Management in San Diego

The rapid urbanization of San Diego has played a significant role in how management of stormwater has changed over time. Prior to the 1900s, stormwater largely flowed by gravity through natural canyons, rivers, and streams. This was possible due to the geography of the region, the climate, and low population density. The first record of engineered stormwater infrastructure within the city was in 1905, with smaller systems built at the neighborhood scale, as those neighborhoods evolved, until the 1940s. The city experienced exponential and rapid growth between the 1940s and 1980s due largely to World War II, including the construction of new streets and housing, and vast changes to its landscape to accommodate U.S. military-related facilities. Those activities greatly increased the amount of impervious surface citywide, changed stormwater flow



Mission Valley in 1874. sandiegohistory.org



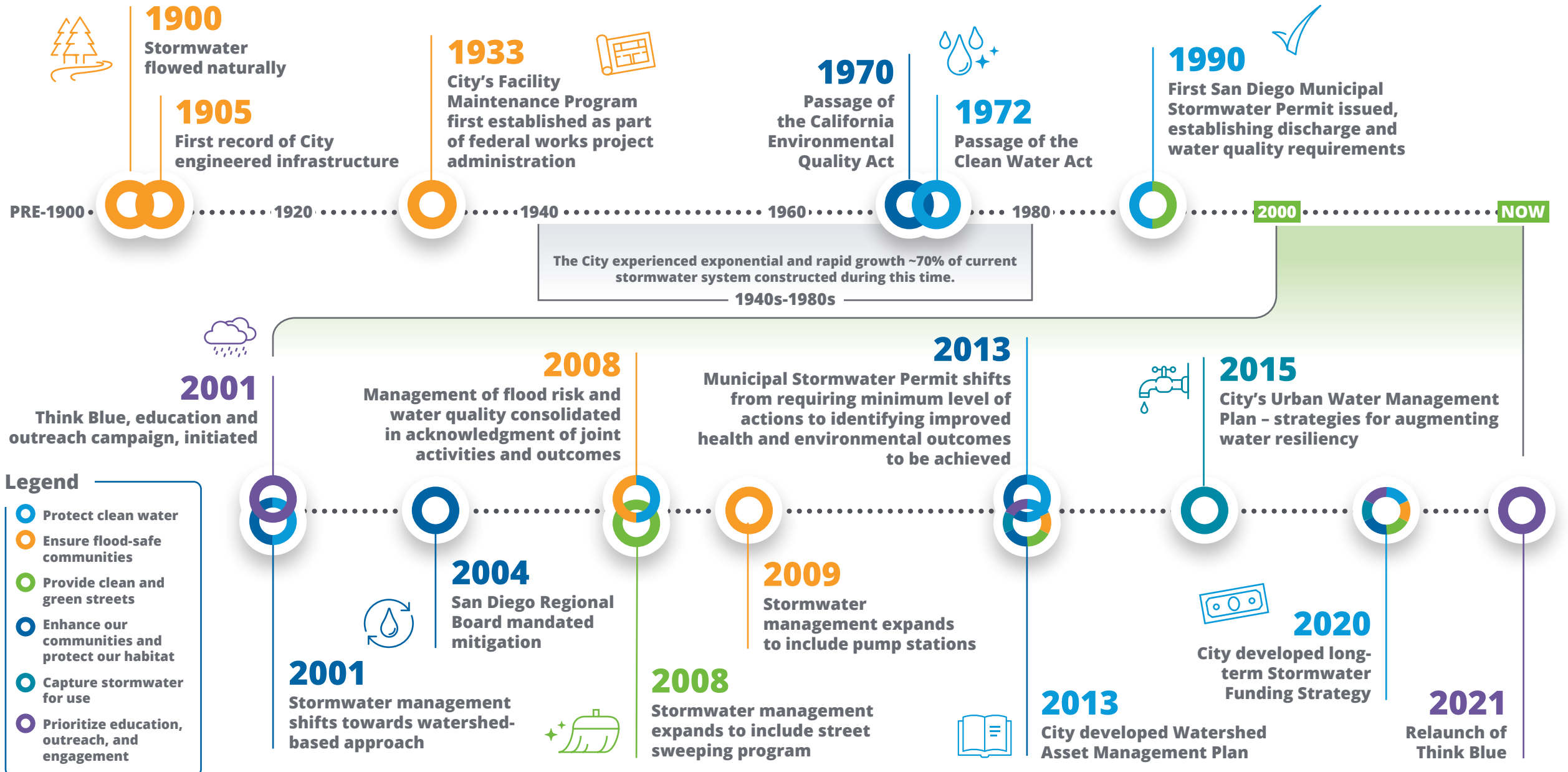
Mission Valley in 1961. sandiegohistory.org

patterns, and altered the natural balance between runoff and natural absorption into the earth, requiring a more sophisticated approach to managing stormwater.

Originally, the stormwater system – which includes inlets, pipes, channels, pumps, and other infrastructure – was built to safely and quickly convey rain and flood waters away from homes and businesses. Over time, management of stormwater has evolved to include not only managing flood waters, but also protecting and improving water quality and the environment. The federal Clean Water Act provides a framework for regulating water pollution, with increasingly stringent regulations emerging year over year.

Stormwater management has had to adapt to extreme climate variability with more frequent, longer, and drier droughts; sea level rise and storm surges; and fewer, more intense rain events projected. Adapting to these new precipitation patterns requires innovation and modernization of the existing stormwater management system. Climate variability and prolonged periods of drought have also magnified the issue of water scarcity and San Diego's heavy reliance on imported water. Capturing stormwater for use is one strategy, along with the [Pure Water Program](#) and [Climate Action Plan](#) initiatives, that the city is exploring to augment local water supplies.

Timeline of San Diego Stormwater Management



Stormwater-related activities were managed by a variety of entities over time; however, select notable milestones for the City's Stormwater Department are included here.



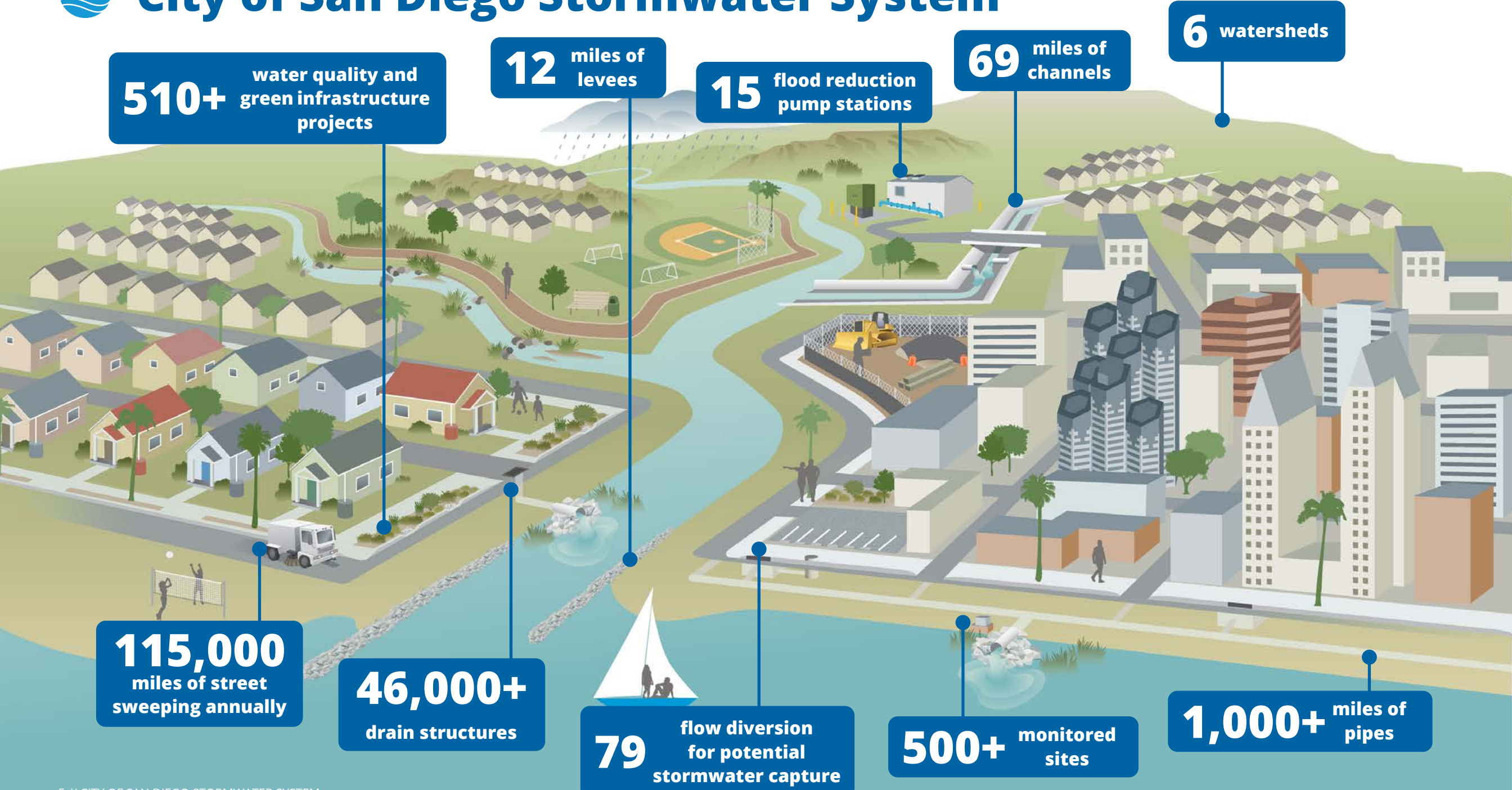
Today's Stormwater Team

The Stormwater Department has grown to currently include 295 staff members and the scope of work has expanded over time from only managing stormwater for flood risk to investing heavily in improving water quality, keeping streets clean of trash and pollution, expanding local water supply, restoring the environment, and educating community members and businesses about stormwater. Funding for stormwater, as discussed in below

sections, has not increased at the same rate and has resulted in an average funding deficit of \$274 million dollars per year. Even with these increased challenges and funding constraints, the stormwater team continues to prioritize exceptional service for San Diegans and deliver on the highest priority needs year over year.



City of San Diego Stormwater System



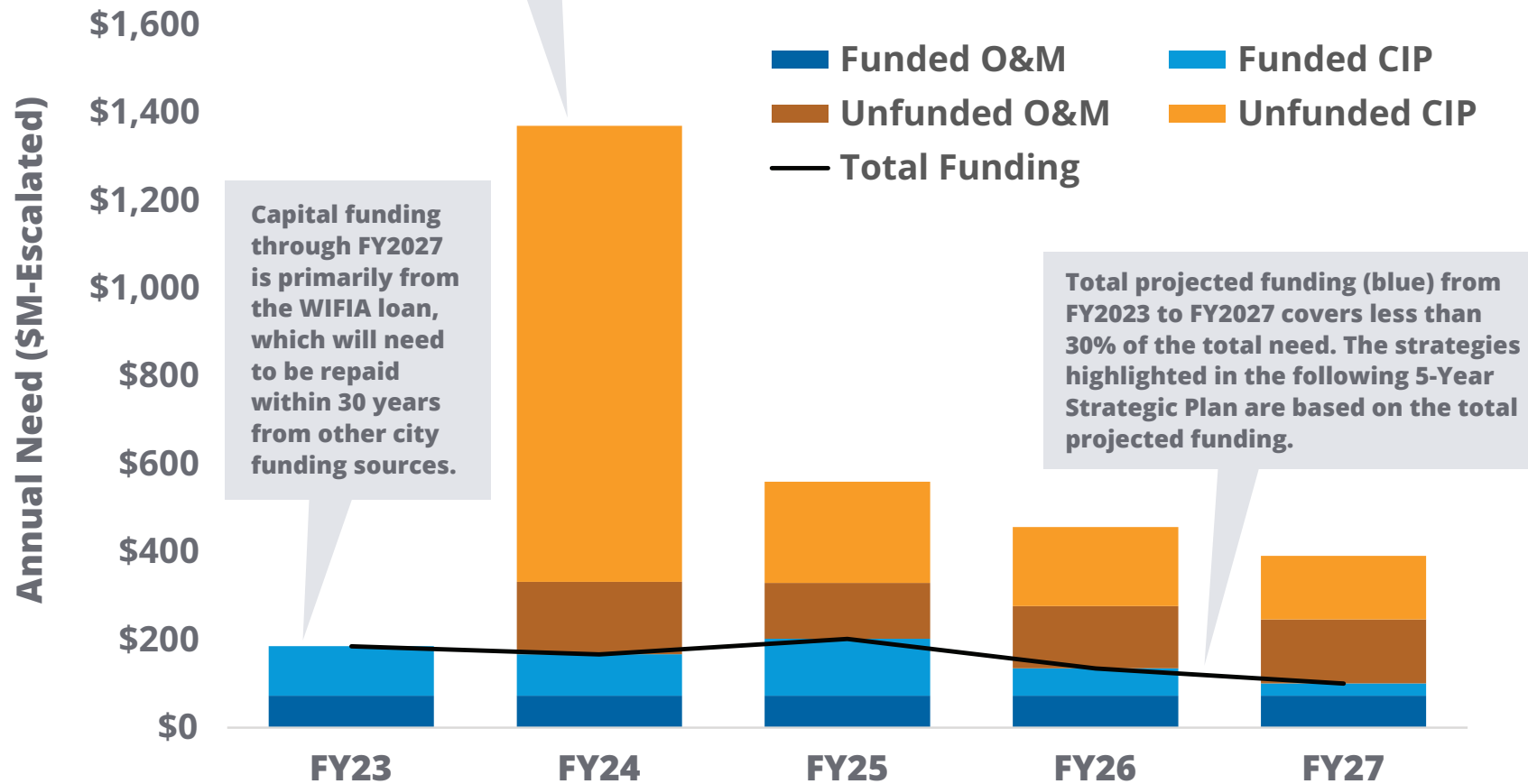


Five-Year Funding Estimates & Funding Gap

Unfunded and under funded projects and priorities continue to be pushed off year after year, resulting in increased potential for failures and liabilities. These include:

- Implementation of green infrastructure to meet Clean Water Act requirements
- All maintenance of green infrastructure
- Capital improvements program (CIP) planning and management
- Installation of trash capture devices
- Additional in-house repair and maintenance teams for pipes, pumps, and channels
- Entire levee program
- Sidewalk repairs
- Business and BMP inspection program
- Street sweeping optimization
- Mitigation program
- Stormwater capture design and construction
- Engagement to all demographics

Funding is the most significant impediment to achieving our vision for stormwater. The funding challenge is due to a variety of factors including reliance on the city’s General Fund and that stormwater does not have a dedicated revenue source, like water and sewer have, to fund the cost of providing services. Funding for stormwater has also been slow to be recognized as a priority at the local, state, and federal levels. Nevertheless, our team has made significant progress in recent years to position stormwater projects for funding, as evidenced through the recent award of a federal Water Infrastructure Finance and Innovation Act (WIFIA) loan for \$733 million dollars to fund capital projects (replacement of failed pipes, pump station upgrades, green infrastructure, among others), and efforts to pursue cost recovery for activities like inspections and street sweeping in FY2024. The chart above demonstrates the five-year funding need, estimated funding for capital projects and operations and maintenance efforts, and the projected funding gap.



*Funding projections beyond FY2023 are subject to the annual budgeting process.



Five-Year Strategic Plan

The Stormwater Department’s activities are organized around six Key Priority Areas:

- Protect Clean Water
- Ensure Flood-Safe Communities
- Provide Clean and Green Streets
- Enhance our Communities and Protect our Habitats
- Capture Stormwater for Use
- Prioritize Education, Outreach, and Engagement

This Plan describes the opportunities and challenges associated with each of these priority areas, along with strategies to support progress over the next 5 years. Alignment with Citywide Strategic Plan Priority Areas and Operating Principles, below, are integrated throughout (see <https://performance.sandiego.gov/> for more information about the City Strategic Plan).



Customer Service

We value our residents, customers, and employees by designing solutions and services that put people first.



Empowerment & Engagement

We value a “culture of Yes” where we empower employees to creatively solve problems and offer solutions.



Equity & Inclusion

We value equity and inclusion by taking intentional action to create equal access to opportunity and resources.



Trust & Transparency

We value transparency by using data to make better-informed decisions, answer questions, and build trust with the public.



Due to the multi-purpose nature of what we do, many of the highlighted activities support more than one priority area but may be highlighted in only one area. An example of this is street sweeping, which removes pollution from the environment (Provide Clean Water), prevents clogging of drains during rainstorms (Ensure Flood-Safe Communities), and keeps streets clean from trash and debris (Provide Clean and Green Streets).



Protect Clean Water

Every San Diegan deserves access to clean water and clean beaches.

Stormwater runoff enters storm drains untreated, collecting pollution from streets and properties and carries it into local waterways. The Stormwater Department helps protect our local waterways from that pollution through actions like street sweeping, inspections, eliminating pollution at the source, and water-quality monitoring, as well as building and maintaining green infrastructure projects that capture, filter and clean up pollution. The standard by which clean water is measured is established by the Clean Water Act, state, and local regulations, which are often changing to adapt to new pollutants and varying environmental and climate-related conditions. The City is responsible for meeting these standards for our communities.

To protect clean water for San Diego, we envision:

- Local waters that meet and exceed Clean Water Act requirements through reduction and removal of pollution and trash
- San Diegans using, playing, and recreating in and around waters safely throughout the year because beach closures, impacts to fishing and swimming, and harm to marine life and our delicate ecosystems are minimized
- Protection of communities and individuals vulnerable to the impacts of pollution is prioritized

Protect Clean Water: Five-Year Strategies (FY2023 to FY2027)

- **Utilize innovative science** like assessments, monitoring, and modeling to identify and address pollution sources to protect public health and the environment
- **Optimize activities** like street sweeping and drain cleaning that remove pollution throughout the city
- **Identify high-impact opportunities** through scientific studies and deployment of improved technology to address hard to manage pollution
- **Construct sustainable infrastructure** that includes multi-benefit green infrastructure
- **Collaboration with regulators, legislators, and elected officials** to ensure that the most effective and efficient means for addressing pollution are required, including those that regulate controlling pollution at its source (e.g., eliminating copper in brake pads)
- **Engage and work with business and industry** to ensure their on-site stormwater controls are installed and operate effectively to prevent pollution from entering waters



Inspections support identification and elimination of pollution.

Highlight: Eliminate Pollution Sources

Pollution has been identified as an issue in almost all local waters when it rains, causing adverse impacts to our communities, habitats, ecosystems, marine life, and recreational uses like fishing and swimming. Our pollution prevention teams use state-of-the-art approaches to pinpoint where pollution sources are originating from and develop innovative strategies to remove them. Our goal is to complete over 10,000 investigations into illicit discharges contributing harmful pollution sources over the next five years. We are also targeting to eliminate pollution from 25 of the more complex investigations that often require multi-phase remedial efforts.



Partnering with private facility operations to meet pollution standards.

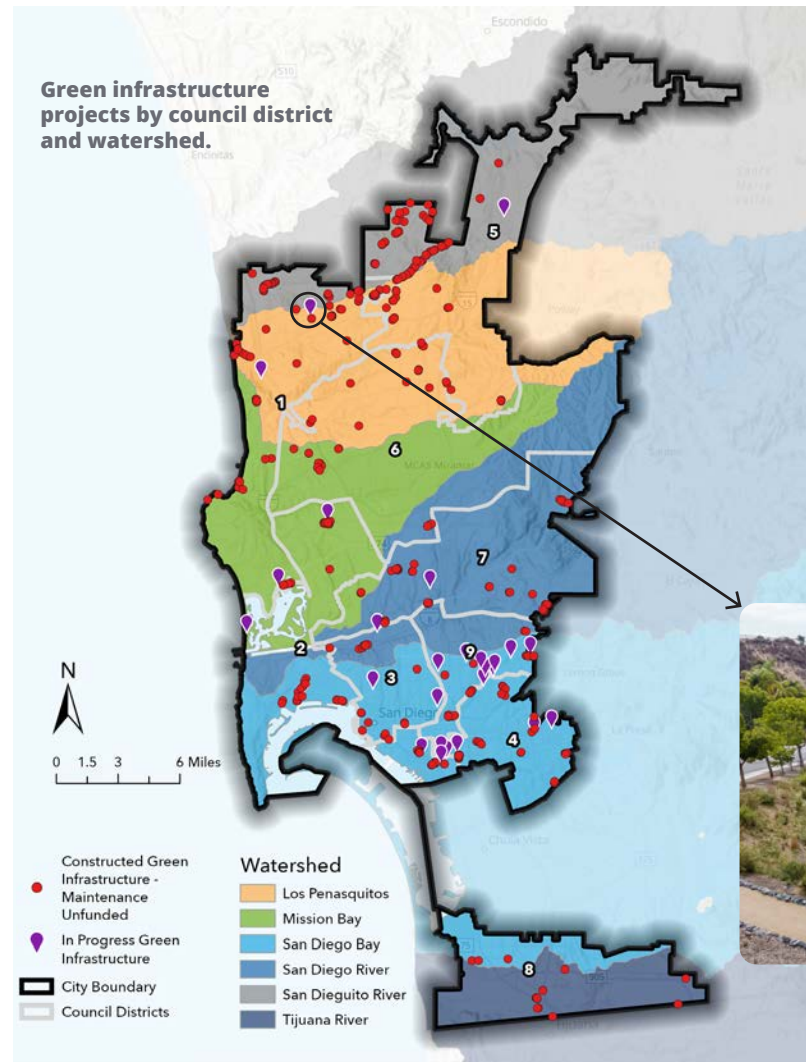
Highlight: Prevent Pollution at Private Facilities

Our teams work daily with private properties to help them implement best management practices (BMPs) to do their part to prevent pollution from entering the City's waterways. As of January 2023, there are 4,755 of these BMPs and 9,850 industrial and commercial sites located throughout the City where our teams work hand-in-hand with operators to educate them about proper use of BMPs and conduct inspections to ensure pollution isn't being released into our communities.

Protect Clean Water Highlight: Equitable Investments in Green Infrastructure

Green infrastructure is an approach to stormwater management that seeks to protect and restore the natural water cycle by filtering, absorbing, and storing water when it rains using vegetated elements like trees and plants. Pollution and trash being carried by water is removed by green infrastructure, which can be designed at many different scales throughout the City making it very versatile.

Our team has committed to constructing at least ten green infrastructure projects by FY2027, with a focus in under-served communities. The WIFIA loan will fund approximately \$36 million of green infrastructure projects during this time, with additional funding coming from other capital funding sources.



Ashley Falls Green Infrastructure project treats stormwater, adds vegetation and a walking trail in District 1.

Protect Clean Water: Unfunded and Underfunded Needs

The largest unfunded need for stormwater over the next five years is for the projects and enhanced programs needed to meet Clean Water Act requirements. While our teams are using innovative approaches to maximize benefits, there simply aren't enough funds available to meet upcoming Clean Water Act requirements and compliance deadlines for the 99.6% of the city that drains to a water body that has been identified as polluted or "impaired", including:

- **Unfunded Green Infrastructure Operations and Maintenance:** This entire program is currently unfunded and unstaffed, including over 500 locations that have already been constructed (see map to the left) and those that are in design and construction. Not maintaining green infrastructure will result in reduced effectiveness over time.
- **Unfunded Trash Capture Devices:** The City has identified 1,500 priority locations for installing trash capture devices or inserts into the existing stormwater system to remove pollution closer to its source. Minimal progress on installation has been accomplished due to limited funding.

We will continue to prioritize and maximize investments to protect and provide clean water, including efforts to remove pollution at its source and identify opportunities that provide multiple benefits like flood protection and water quality to maximize investments. Additional detailed information related to our clean water approach can be found in the [Environmental Water Quality Fact Sheet](#).



Ensure Flood-Safe Communities

San Diego is home to nearly 1.4 million people, who rely on a stormwater system that was originally designed – in some places over 100 years ago – to meet vastly different needs for a less dense and less urbanized city.

The aging of the infrastructure and added demands on the system has led to portions of the system no longer being able to function as needed. Pipes, channels, and levees that were built decades ago to address only a fraction of current needs are often too small or have deteriorated over time so that they cannot protect against flooding. More intense storms due to climate change is causing overloading of the system. Our team works tirelessly to identify, inspect, track and maintain and, where necessary, repair the system so that every San Diegan can be protected from flooding and not have to worry about broken or failing infrastructure under streets or near homes that can cause sinkholes and mudslides.

To ensure flood-safe communities, we envision:

- San Diegans in all communities benefit from a stormwater system that safely conveys rainwater away from their homes, businesses, and streets to prevent flooding during storms
- A stormwater system that is proactively upgraded to manage the more intense storms that occur due to climate change and increased runoff from urbanized areas
- A stormwater system that is maintained and repaired to address aging and damaged components that pose a risk to public health and safety
- Protecting historically under-served communities that experience frequent flooding
- A highly skilled team of emergency responders focused on public health and safety immediately serving community members, homes, and businesses during rain events with potential flooding



Ensure Flood-Safe Communities: Five-Year Strategies (FY2023 to FY2027)

- **Prioritize the most urgent repairs** to existing infrastructure like pipes and channels to prevent failures
- **Work with vulnerable communities**, including those that are experiencing homelessness and reside along channels, of potential flooding before it happens
- **Maintain the current channel system** by removing accumulated trash, debris, and invasive plants and fixing eroded areas to ensure channels function as designed
- **Expand maintenance repair teams** to address critical infrastructure concerns proactively and rapidly
- **Proactively conduct condition assessments** to identify potentially clogged or damaged areas that lead to emergencies during rainfall
- **Identify undersized stormwater system locations** to assess potential options for retrofits



Stormwater crews respond during storms where flooding issues are reported.

Highlight: Prepare System for Storms

The extremely rainy period in December 2022 and January 2023 saw nearly 2.5 inches of rain throughout San Diego. Before that rain period and every day during it, the full stormwater field team checked critical infrastructure to minimize flooding where possible. Those activities included ensuring all 15 pump stations were performing at 100% capacity to remove water from low-lying or poorly drained areas and clearing storm drains that were known to back up during storms. Our teams also proactively inspect over 35,000 storm drain inlets each year and 15 pump stations each year and use CCTV data to support prioritization of maintenance and repair efforts.



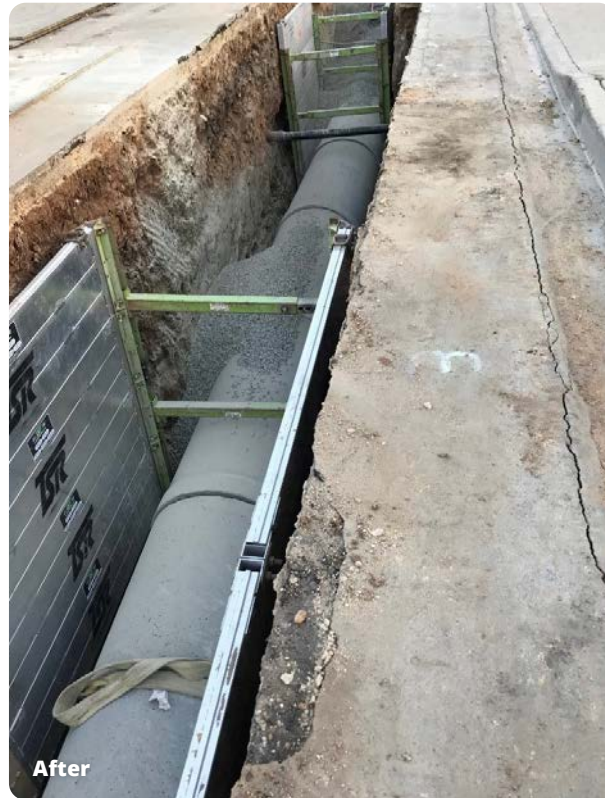
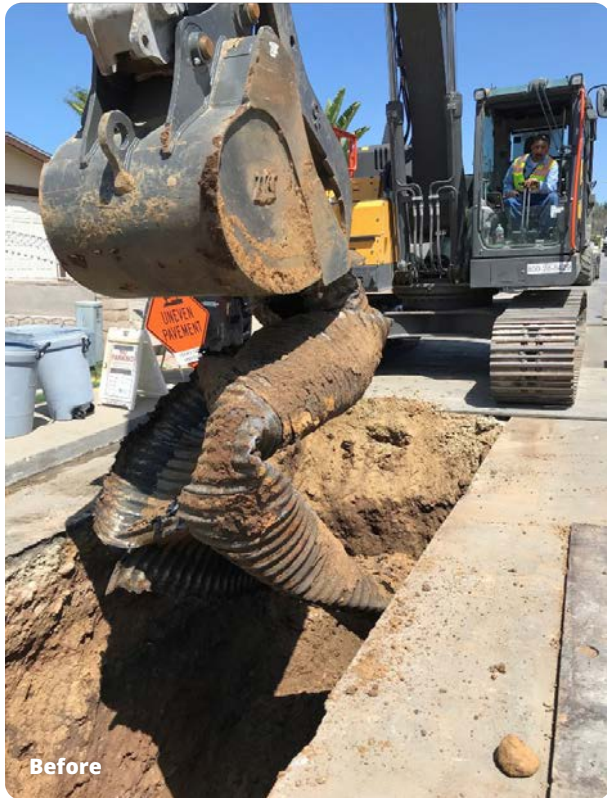
Channel Maintenance at Ocean View Channel to remove overgrown vegetation and debris to prevent flooding.

Highlight: Clean and Maintain Channels

When our channels are full and flowing during storm events, they are saving lives and property by conveying large amounts of fast-moving water away from our communities. It is essential that channels remain clear of blockages and maintained to fix any erosion or damages in a timely manner. Our team plans to maintain 20 channel segments that require permitting/heavy machinery between FY2023 through FY2027 (minor maintenance is completed year-round on an as needed basis), with focus on protecting our city's most vulnerable populations, including those that are experiencing homelessness and reside along channels.

Ensure Flood-Safe Communities Highlight: Replace Failing Pipes

Using high-resolution inspection and condition data, our team plans to replace five miles of high-priority pipes using in-house teams plus over ten miles via lining and traditional capital improvement projects between FY2023 and FY2027. In addition, we are going to make critical repairs to at least five pump stations in the next five years needed to protect approximately 600 acres from potential flooding. Estimated total WIFIA funding for failing pipes is \$552 million with pump station and other infrastructure upgrades pegged at \$54.5 million.



Aquapark Storm Drain Replacement

Ensure Flood-Safe Communities: Unfunded and Underfunded Needs

Our teams have developed processes and protocols to proactively identify potential deficiencies and areas of vulnerability within the stormwater system. However, there simply aren't enough resources (personnel and funding) to keep up with needs, including:

- **Unfunded Replacement and Maintenance:** There are approximately 25 miles of pipes and 60 channel segments that are currently known to pose a high risk for flooding due to replacement or maintenance needs over the next five years that we are unable to address. The Department would need to add two new pipe replacement teams (double current staffing) to address the backlog of pipe replacements needed over the next five years. Often these flooded areas displace or adversely impact San Diego's unhoused populations, indicating that resources for a heavily coordinated approach to managing flooding and vulnerable San Diegans is needed.
- **Unfunded Levee Program:** The entire levee program is currently on hold due to a lack of funding even though there are 90 known levee deficiencies and 120 unaddressed locations where there are obstructions that compromise the levees' ability to provide the intended level of flood protection. The impact of not funding the levee program is significant to community members and businesses as there are flood insurance implications in addition to flooding concerns.

The [2021 Community Flood Risk Assessment](#) provides detail about known infrastructure needs, noting that emergencies and continued wear and tear may impact priorities.



Provide Clean & Green Streets

Streets are an essential component of the stormwater system, conveying water along curbs and into gutters throughout every neighborhood.

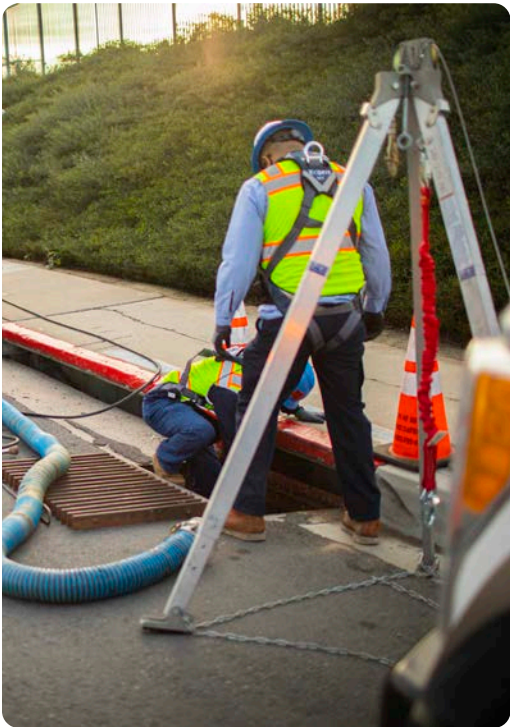
Ensuring that water can safely drain from the streets, keeping them clear of floodwaters, trash and pollution, is critical to driving, walking, and biking. Our teams work year-round to keep streets, gutters, and drainage inlets clear of trash through street sweeping and storm drain cleanings. We also work together with other City departments to ensure that when their projects are designed along streets (e.g., sewer improvements, paving, etc.) stormwater components and/or green infrastructure are appropriately integrated to support improved water quality and drainage.

To provide clean and green streets, we envision:

- Clean streets and clean gutters year-round to allow water to drain efficiently during storms
- Swiftly removing trash and debris from our streets so that pollution doesn't make its way into storm drains, pipes and channels that lead to local waterways and the ocean
- Street improvements that include right-sized and green stormwater components to ensure mobility and transportation are minimally impacted during storms
- Public education and outreach that helps San Diegans understand the importance of street sweeping so they work with City crews to remove cars and obstructions during street sweeping activities

Provide Clean and Green Streets: Five-Year Strategies (FY2023 to FY2027)

- **Coordinate street sweeping and drain cleaning efforts** to maximize efficiencies in debris and pollution buildup removal along city streets
- **Protect vulnerable communities from polluted streets** through data-driven optimization of street sweeping program
- **Identify opportunities for integrating stormwater components** and green infrastructure as part of other Department-led street projects
- **Collaborate with street curb grinding and repair teams** to ensure capacity for stormwater to flow in streets without flooding
- **Engage and educate San Diegans** about the important role of moving cars and obstructions during street cleanings and not dumping trash and debris in streets or down storm drains



Cleaning of storm drains removes pollution and prevents flood risk from clogging.

Highlight: Inspect and Clean Storm Drains

Our stormwater teams will inspect each of the 35,000 storm drain inlets and cleanouts each year to determine whether trash and debris can be removed manually or whether advanced equipment is needed. These inspections and long-term trends in data allow for prioritization of “enhanced cleaning locations” in high pollution and trash-generating areas. These locations will be cleaned multiple times a year to prevent build up and potential for flooding due to clogging.



Storm drain stenciling informs San Diegan's that all stormwater goes to the ocean untreated.

Highlight: Clean Streets Education and Outreach

Our stormwater team has prioritized education and outreach related to clean streets, including:

- Informative stenciling of all storm drain inlets by FY2027
- The importance of street sweeping and moving vehicles during designated sweeping times so that trash and pollution can be effectively removed
- Education surrounding not dumping into storm drains and properly disposing of trash and yard waste, especially before it rains ([We All Think Blue](#))

Our street sweeping optimization study identified areas where frequency can be modified to account for pollution and trash loading

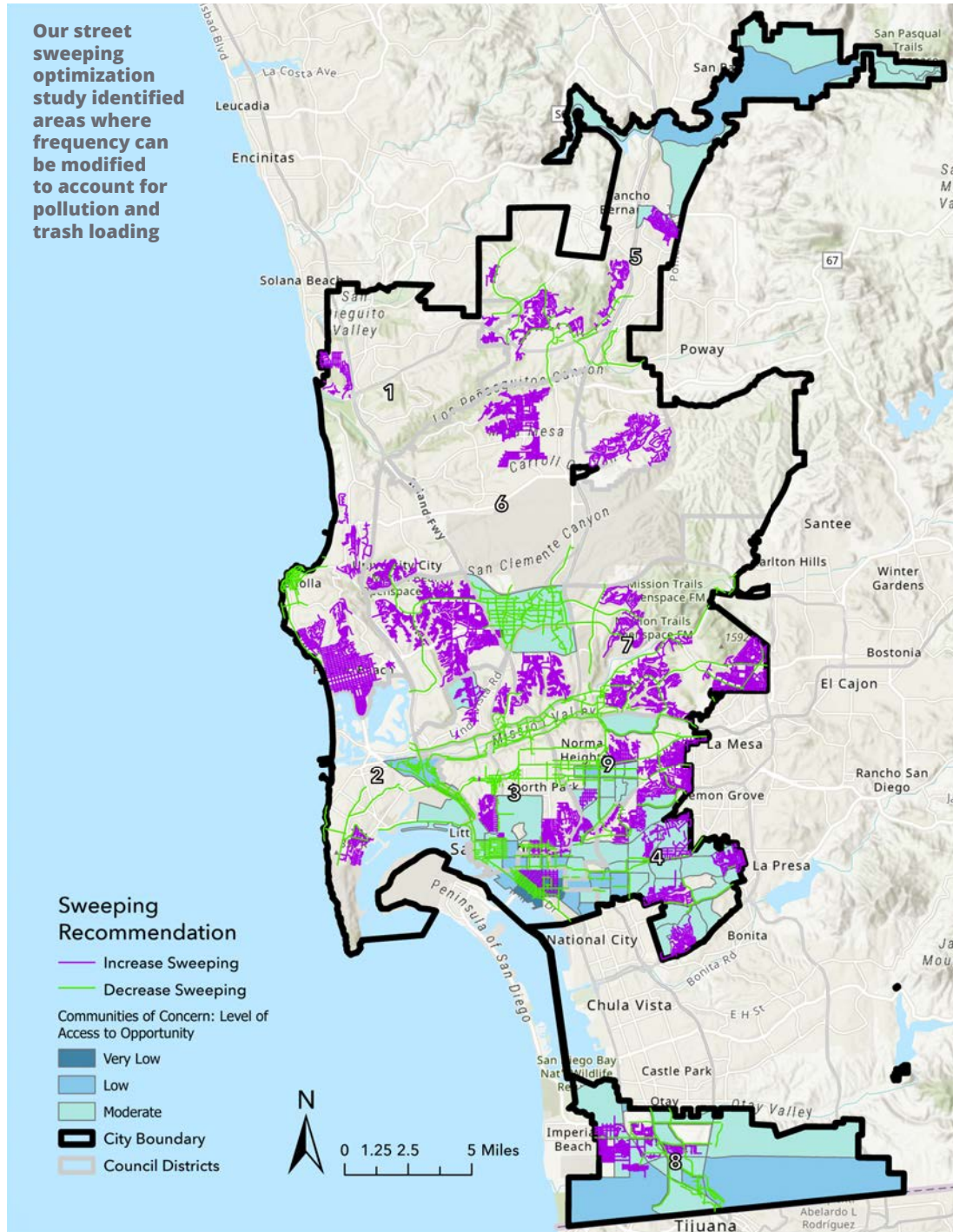
Provide Clean and Green Streets Highlight: Optimize Street Sweeping

Based on robust data analysis of our street sweeping activities, our team identified optimization priorities to efficiently increase the impact of these activities to remove trash and debris from our streets. Over the next five years we plan to adjust the frequency of sweeping for at least 40 routes based on the optimization results. Visit the [street sweeping interactive map](#) for additional information on the street sweeping in your neighborhood.

Provide Clean and Green Streets: Unfunded and Underfunded Needs

Our team has completed sophisticated monitoring and modeling of strategies to provide clean and green streets if additional funding becomes available, including:

- **Unfunded Street Sweeping and Drain Cleanings:** There are currently over 80 street sweeping routes and over 12,000 storm drain inlet locations that have been identified with high pollution and trash levels that require additional attention.
- **Unfunded Sidewalk Repairs:** The Department is now responsible for over 1,500 sidewalk repairs adjacent to stormwater infrastructure with no funding to support.
- **Unfunded Maintenance of Pollution Removal Devices:** The city also has over 500 locations, like trash capture inserts and pollution filtration devices, that require regular cleaning, but the entire program is currently unfunded. As these locations fill up with unmanaged trash and debris, they pose a water quality risk as well as a flood risk from clogging.





Enhance Our Communities & Protect Our Habitats

San Diego is a unique and incredible place to live, and every San Diegan should have access to thriving local environmental resources and habitats, and community areas that improve their quality of life.

Rivers, streams, creeks, lakes, reservoirs, and the Pacific Ocean run through or touch every neighborhood and the Stormwater Department works hard to protect and restore these areas from pollution and impacts of urbanization. The strategies described in other sections of this plan all help address community needs and benefits. This section focuses on strategies that achieve some of the direct and most tangible benefits provided by the effective management of stormwater.

To make community enhancement and habitat restoration a priority, we envision:

- Every San Diegan benefiting from healthy waterways and the natural environment
- Waterways and their surrounding areas clear of trash and harmful pollution so those water bodies can be used for swimming, fishing, boating, and other uses
- Waterways that anchor community life, foster interaction and promote well-being
- Thriving flora and fauna in and around our local waterways and sensitive natural resources protected for future generations
- Stormwater projects improving neighborhoods by including components like educational signage, trees and vegetated elements, and mobility features like bike trails



Enhance Our Communities and Protect Our Habitats: Five-Year Strategies (FY2023 to FY2027)

- **Work with community partners**, with a focus on under-served areas, to understand community needs related to stormwater and incorporate feedback into future planning
- **Identify and implement resilient stream restoration projects** that address flooding and erosion concerns, restore natural systems, and include native habitat
- **Incorporate community enhancement elements** like educational signage, walkways, overlooks, and native plants in stormwater projects when possible
- **Assess potential environmental mitigation restoration projects** that can be counted toward the City's environmental mitigation requirements, which are required to do work in areas with sensitive habitat or ecological resources



Highlight: Restore our habitats and streams and include community enhancement elements

Our teams plan to identify locations for restoration near current channels, canyons, preserves, and other habitat areas. Over the next five years, the goal is to complete six restoration projects along stream areas that may include widening the stream or channel to allow for more meandering flows and support additional habitat and vegetated areas.

The restoration of Chollas Creek allowed for more natural flows compared to a concrete-lined channel and added amenities like signage and walking trails.

Enhance Our Communities and Protect Our Habitats

Highlight: Support Maintenance Work in Sensitive Areas

Our stormwater channels and other infrastructure are located along previously natural waterways and ecological corridors and are in areas that are deemed sensitive by resource and permitting agencies. To support flood management and healthy habitats, these areas need to be periodically maintained to remove sediment and trash buildup as well as remove invasive species. Compensatory mitigation refers to creation, restoration and/or enhancement of native/upland habitats to “make up for” potential impacts during maintenance. Over the next five years our teams will complete five habitat restoration projects that will restore over 15 acres and initiate another five habitat restoration projects that will restore over 26 acres for local ecosystems.



Restoration and mitigation credits at El Cuervo supported critical maintenance needs in other sensitive habitat areas of the City.



Enhance Our Communities and Protect Our Habitats: Unfunded and Underfunded Needs

Where possible, restoration of hardened and constrained channels to more natural and vegetated conditions is desired to provide water quality benefits, increase capacity for floodwaters, and increase areas for vegetation and native habitat. Additional efforts towards this goal are currently unfunded, including:

- **Unfunded Stream Restoration Projects:** In addition to the six stream restoration projects that are to be completed by FY2027, there are 130 other channel and stream locations that have been identified that could benefit from modifications to widen or restore to a more natural condition.
- **Unfunded Mitigation Credits for Ongoing Maintenance:** Continued identification of restoration areas for mitigation credits will be needed in perpetuity to allow for ongoing maintenance and upkeep of infrastructure and natural conveyances with sensitive habitats.



Capture Stormwater for Use

A reliable and sustainable water supply is vital for every San Diegan, especially in the face of growing water scarcity and prolonged periods of drought.

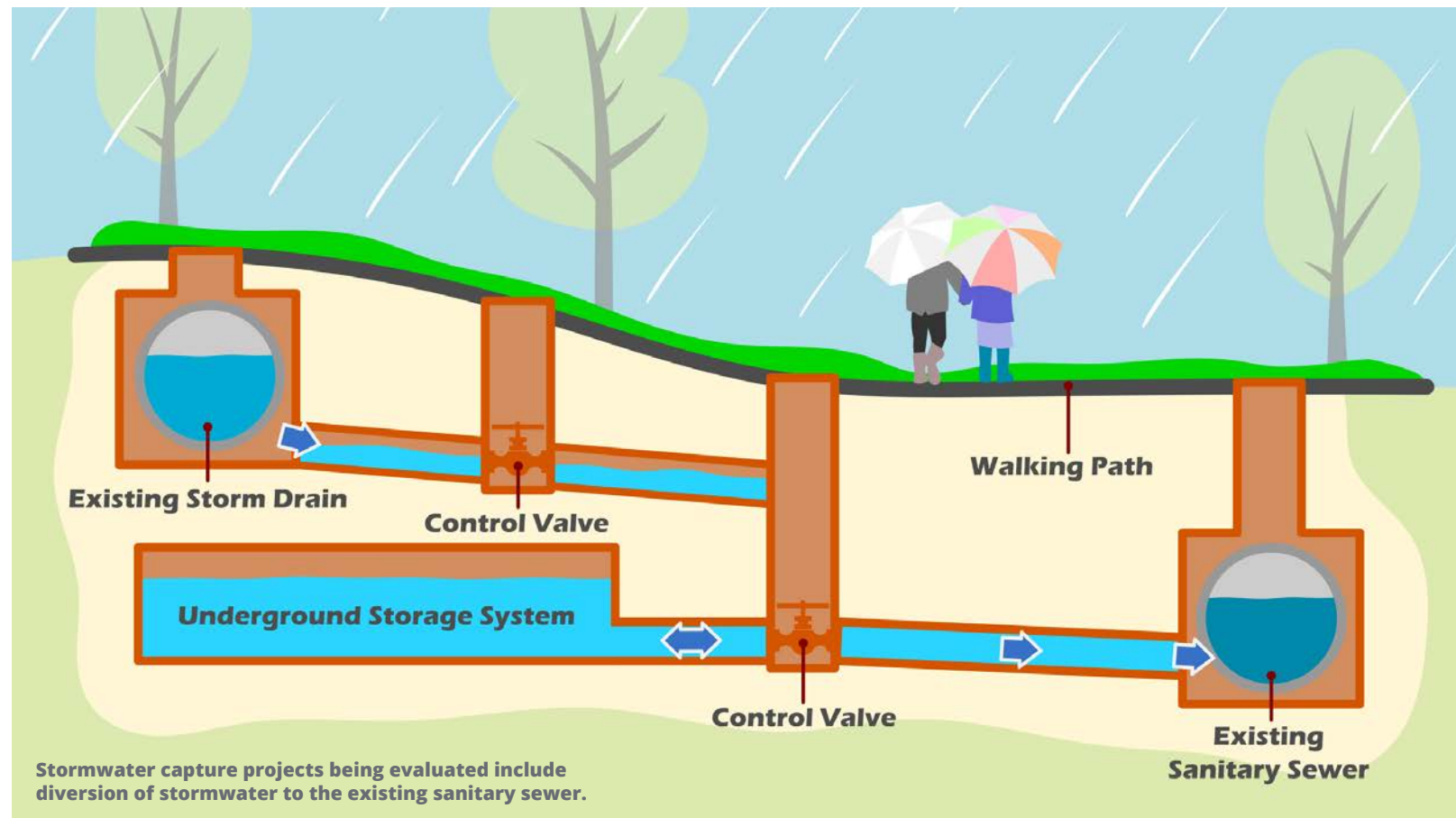
Historically, water needs have far outpaced local supply. On average, the City purchases between 85% and 90% of its water from Northern California and the Colorado River. Capturing stormwater for use, also known as stormwater harvesting, is a growing practice to help address rising water demands and help bolster local water supply. Each year, on average, the City has the potential to capture for reuse a portion of the more than 130 billion gallons of rain that falls in its six major watersheds. While local conditions, like extremely limited groundwater aquifers, prevent San Diego from capturing stormwater at the same scale as other California communities, our teams are working to identify the feasibility of alternative options to support and bolster local supply. To do so, however, the City must assess the viability of constructing a large and complex system to capture the water and send it, oftentimes uphill, to be treated and distributed to users. These large-scale stormwater capture assessment efforts are in their early stages in close coordination with the Public Utilities Department (PUD) and the [Pure Water Program](#). On smaller scales, our team works to support citywide water conservation efforts and a rebate program that includes residential rain barrels, downspout disconnections to allow for water to naturally filter, and turf replacement to reduce water usage.

To support stormwater capture and use, we envision:

- San Diego continuing to increase its local water supply through stormwater capture, reducing reliance on imported water
- San Diego as a leader in sustainability and resilient stormwater capture practices, especially in areas of the city that have been historically under-served
- A city where every community member is aware of water conservation and rebate opportunities – like rain barrels, downspout disconnections and turf replacement – to offset potable water usage

Capture Stormwater for Use: Five-Year Strategies (FY2023 to FY2027)

- **Advance stormwater harvesting projects** through technical assessments and coordination with involved parties
- **Work with legislators, regulators, and elected officials** to position San Diego as a candidate for large harvesting efforts as they are deemed feasible (e.g., funding)
- **Expand rebate accessibility and outreach** to all City of San Diego community members
- **Increase public awareness of capturing stormwater** for supply and participation in stormwater rebate programs



Highlight: Advance Stormwater Capture Projects

Our teams have been working to assess potential locations for capture of stormwater for local supply, which includes answering complex questions like: “Where can water be safely captured and stored?”, “Where can it be transported to for treatment?”, “Is there a treatment system that currently exists and has the capacity to receive stormwater?”, among others. So far, our teams have identified nine potential locations for stormwater capture and are currently building out conceptual designs. The total estimated potential stormwater diversion volume across these potential locations is 3.0 million gallons per day (MGD) in dry weather to capture ephemeral flows and 4.8 MGD in wet weather when it rains – noting that this number may change as studies progress.

Capture Stormwater for Use Highlight: Expand Rebate Program

Our team partners with PUD on the City’s existing water conservation program, which offers rebates for (1) rain barrels, which capture stormwater runoff and prevent pollution from reaching the stormwater system and providing water to be used for on-site irrigation, (2) downspout disconnections, which are devices that redirect rainwater from rain gutters to a pervious landscaped area that naturally filters pollution from runoff, and (3) sustainable landscaping and turf conversions that reduce the need for irrigation and outdoor watering. Our team has a goal to increase rebate program participation by 15 percent over the next five years by increasing citywide outreach and education efforts. To learn more about the program, visit: <https://www.sandiego.gov/public-utilities/sustainability/water-conservation>.



Downspout Disconnections



Rain Barrels



Rain Gutter Replacements

Capture Stormwater for Use: Unfunded and Underfunded Needs

As water reliability and scarcity continue to be an issue in San Diego and across the state, our team will need to continually assess opportunities for stormwater capture and use. The pursuit of these opportunities may be limited and costly due to the capture system needing to be “fit in” to the existing built environment and San Diego’s extremely limited ability, due to its geology, to infiltrate water into the ground for storage. However, our teams will continue to work with PUD, legislators, and funding agencies to further assess the possibility of funding and building stormwater capture projects to support a stable and resilient water supply for San Diego.



Prioritize Education, Outreach & Engagement

Stormwater impacts everyone in San Diego and every San Diegan has an important role to play with managing stormwater and keeping pollution out of streams, rivers, lagoons, beaches and the ocean.

Sustained and ongoing education, outreach, and engagement supports the creation of community partners to help manage stormwater issues and facilitates trust that the Stormwater Department has a plan to provide San Diegans with clean water and clean beaches.

To prioritize and further education, outreach and engagement, we envision:

- Every San Diegan, including our youth, being aware of the role of clean water and flood-safe communities to the quality of life in San Diego
- San Diegans actively engaging in preventing pollution and trash from entering the storm drain system and local waters in their communities
- San Diegans in every community participating in community events like cleanups



Prioritize Education, Outreach, and Engagement: Five-Year Strategies (FY2023 to FY2027)

- **Prioritize transparency** by developing educational and outreach strategies to answer questions about stormwater issues, and build trust with the public
- **Produce and distribute educational resources to every community** about stormwater issues and the importance of stormwater for keeping San Diego a great city
- **Engage with every community** to understand needs and concerns related to stormwater issues and foster sustained collaboration to address issues
- **Provide resources for the public and business/industry** related to increased awareness of every community member's instrumental role in managing stormwater and stopping pollution from entering the environment (Visit thinkblue.org and the Tips & Resources page for everyday activities to reduce your pollutant footprint, such as not over watering and cleaning up your pet waste.)
- **Coordinate with local nonprofit entities and non-governmental organizations** to educate a broad cross section of San Diegans on stormwater issues and encourage their participation in pollution prevention



Our Think Blue team prioritizes in person engagement about stormwater issues.

Highlight: Make Think Blue San Diego and Piensa Azul San Diego a Household Name

The Think Blue, or Piensa Azul, program aims to continue expanding education and public awareness related to stormwater issues. Our team is taking a three-pronged approach to public engagement and outreach efforts focused on paid media, earned media, and internal City communications – each with a different audience and different set of tailored messaging. These efforts include raising awareness of the Think Blue brand through messages that educate the public about the importance of stormwater to San Diego's way of life; the nexus between clean stormwater, clean water, and clean beaches; and how community partners can assist with the stormwater challenges facing the city.



Think Blue held a naming contest via social media for the City's first 100% electric mini street sweeper. The winner - SWEEP-E - seen here at December Nights.

Highlight: Partner and Sponsor Cleanups

Each year our teams work with local community groups, like I Love a Clean San Diego, to sponsor local beach and community cleanups. These events provide an opportunity for our experts to engage with community members and raise awareness about the importance of protecting our beaches and watersheds from pollution and how Think Blue plays an important role in those efforts. Funding for these cleanups vary year over year as a General Fund budget item; however, our team has a goal to reach more than 50,000 people through these events over the next five years.



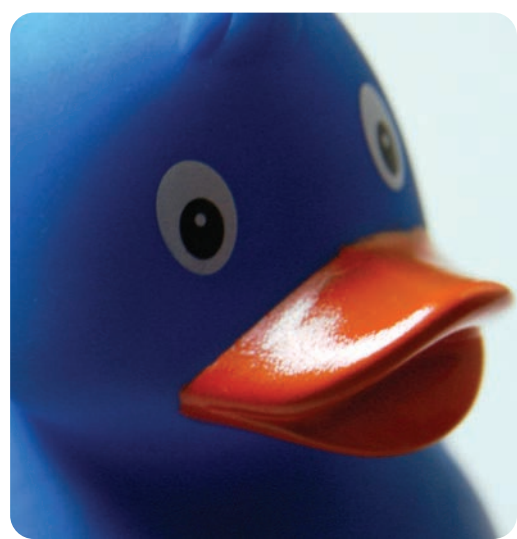
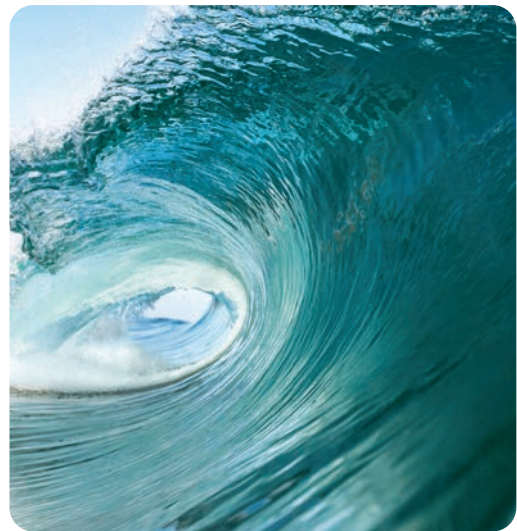
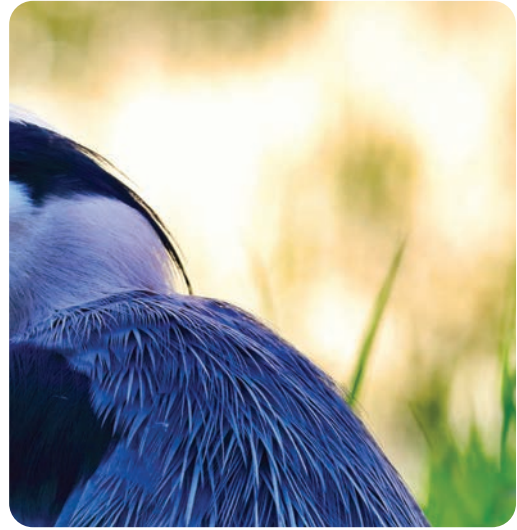
Hundreds of volunteers joined Think Blue at the September 2022 California Coastal Cleanup Day, removing 37,000 pounds of trash/debris from the local environment.

Prioritize Education, Outreach, and Engagement Highlight: Build Trust Within Our Communities

Our teams are in San Diego communities daily – whether repairing broken storm drains under streets and sidewalks or cleaning trash and pollution from channels and streets – and we are engaged in each neighborhood through our daily work. We are actively working to increase accessibility and transparency around what our teams are doing throughout the city through informational mailers, public service announcements, improved educational signage at project sites and on our vehicles, and at community meetings. Our goal is for San Diegans to understand what our teams are doing when they are in the community and to provide clear and quick responses to questions that community members and businesses may have.

Prioritize Education, Outreach, and Engagement: Unfunded and Underfunded Needs

San Diegans deserve to understand the role of stormwater in their communities and the impact that it has on their quality of life each day. In 2021, our team conducted a survey that demonstrated that three quarters of San Diego community members do not know that stormwater goes untreated, carrying pollution and trash, into our local waterways. This demonstrates that fundamental education is needed so community members understand and appreciate the importance of stormwater to their quality of life. Every community member and business has a role to play in managing stormwater for a safe and healthy San Diego and our team is committed to continue to prioritize education, outreach, and engagement citywide now and in the years to come.





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