STORMWATER MANAGEMENT

Planning for Our Future

&

New Infrastructure Investment
STORMWATER MANAGEMENT APPROACH

- Forward Focused Comprehensive Planning
  - Address water conveyance and water quality issues in our community
- Potential to strengthen our Community Rating System (CRS) Class
- Contribute towards Hazard Mitigation Planning & Grant Opportunities
- Two-Phase Project Development Standard (Plan/Design → Construct)
- Two-Stage Stormwater Utility Rate Study
- Needs-Based Project Implementation
  - Short-Term (0 – 2 years)
  - Mid-Term (3 – 5 years)
  - Long-Term (6 – 10 years)
OUR ROADMAP: WATERSHED-BASED STORMWATER MASTER PLAN

Key Objectives of the Master Plan

- Evaluate the conveyance capacity of our existing drainage infrastructure
- Develop a citywide water quality model
- Identify and prioritize capital projects
- Integrate relevant portions of CRS, NPDES, and EPA 319 programs/protocols into the master plan

Our City has completed a significant amount of infrastructure projects in recent years and is ready to develop a roadmap for future proactive stormwater management, for both water quantity and quality.
OUR ROADMAP: WATERSHED-BASED STORMWATER MASTER PLAN

To optimize the balance between cost and value the approach is to first select a pilot watershed to determine what is needed, what is wanted, and what can be afforded.

Pilot Study Area Approach

- Identify the area
  - Mixture of open/closed drainage systems
  - Varying land use, development patterns, and infrastructure
- Develop standard operating procedures (SOPs) for completing watershed plans
  - Provides consistency throughout the citywide planning process
  - Creates the opportunity for key stakeholders to provide input into the planning process
The successful watershed plan will merge project specific goals and challenges, community input, and regulatory compliance.

**Pilot Study Area Approach**

- Develop a Scalable Public Involvement Plan within the Pilot Study Area
  - Build awareness of the project and educational opportunities for stormwater management
  - Solicit feedback from residents and business owners in areas of flooding, erosion, or pollutant concerns
  - Host a series of public forums, stakeholder, and neighborhood meetings

**Modeling Solutions**

- Flood Hazard Mitigation Alternatives
- Water Quality Retrofit Alternatives
OUR ROADMAP: WATERSHED-BASED STORMWATER MASTER PLAN

Project Implementation Strategic Approach

- Establish a Stormwater Master Plan Project Account
  - Dedicated capital investment account that accrues over time
  - Provides available funds to launch a series of projects once the citywide watershed-based plan is complete
- Establish a Land Acquisition Bank Account
  - Dedicated capital investment account that accrues over time
  - Provides available funds to strategically acquire property in phases to advance projects forward

Preparing for future flood hazard mitigation and water quality retrofit alternative needs within our community.
CAPITAL IMPROVEMENT PROJECTS

TWO-PHASE PROJECT DEVELOPMENT
ARRANGED BASED UPON CONSTRUCTION PHASING
RETROFIT ALTERNATIVES WITHIN WATERSHED-BASED STORMWATER MASTER PLAN
EMERGENCY & MISCELLANEOUS DRAINAGE PROJECTS

Dedicated Annual Funding

- Emergency Repairs
- Proactively Mitigate Utilities in Conflict with Structures
- Case-by-Case Investigative Protocol
- Develop Public/Private Agreements
  - Collaborative Approach
  - Cost-Share Solution
YAUPON DRIVE – 17TH TO 14TH AVENUE SOUTH IMPROVEMENTS

- Short-Term Design Phase
- Phased Flood Hazard Mitigation Retrofit Alternative - Add storage capacity where there is currently none within a 4-block area
  - Enlarge drainage pipelines
  - Stormwater pond(s)
  - Infiltration system(s)
  - Redirect stormwater
- Attempt to mitigate utilities in conflict with structures
25TH AVENUE SOUTH OCEAN OUTFALL - HEADER PIPE

- **Short-Term Design Phase**
- **Retrofit Alternative – Header pipe to connect to existing 25th Avenue South Ocean Outfall**
- **Feasibility of collecting up to 6 beach outfall pipes and redirecting street end drainage**
- **Continues our community’s goal of enhancing water quality and removing stormwater pipes from the beachfront**
BOOKER T. WASHINGTON NEIGHBORHOOD – OAK STREET AREA IMPROVEMENTS

- Short-Term Design Phase
- Flood Hazard Mitigation Retrofit Alternative – Redirect stormwater to 16th Avenue North
- Conveyance through the existing 14th Avenue North Ocean Outfall drainage system
HWY 501 & BALSAM STREET AREA IMPROVEMENTS

- Short-Term Design Phase
- Flood Hazard Mitigation Retrofit Alternative - Add storage capacity where there is currently none to benefit flood loss properties and our Hurricane evacuation corridor (Hwy 501)
  - Enlarge/Add drainage pipelines
  - Stormwater pond(s)
- Hazard Mitigation Grant Program (HMGP) Application
  - Under Review by SCEMD
  - 75 Federal / 25 Applicant Cost Share
  - Collaboration with SCDOT
DOWNTOWN AREA: 6TH TO 10TH AVENUE NORTH – BROADWAY TO KINGS HIGHWAY

- Mid-Term Design Phase
- RIDE III – Realignment of Hwy 501 connection with 7th Avenue N
- Multiple roadway and intersection improvements programmed into the 2040 Metropolitan Transportation Plan (MTP) in the Downtown Area
- Design and Construction in accordance with GSATS schedule
- Proactively programmed funds for any future utility relocation needs
SEABOARD STREET AREA IMPROVEMENTS

- Short-Term Design Phase
- Retrofit Alternative(s) – Investigate the industrialized area that has limited stormwater management
  - Stormwater pond(s)
  - Open channel improvements
  - Redirect stormwater
- Provides a regional plan ahead of future GSATS project to widen Seaboard Street
DOWNTOWN AREA – REGIONAL STORMWATER POND

- Long-Term Design Phase
- Retrofit Alternative(s) – Add storage capacity
  - Stormwater pond(s)
  - Redirect stormwater
- Opportunity for Public/Private Partnership with redevelopment
- Combination of downstream stormwater management improvements with Hwy 501 & Balsam Street project will benefit upstream areas
ROSEHAVEN DRIVE AREA IMPROVEMENTS

- Long-Term Design Phase
- Retrofit Alternative(s) – Add storage capacity and new stormwater infrastructure to mitigate back lot flooding issues
  - Stormwater pond(s)
  - Open/Closed system improvements
24TH AVENUE NORTH - OCEAN OUTFALL & LANDWARD IMPROVEMENTS

- Long-Term Design Phase
- Retrofit Alternative – Landward Improvements and Ocean Outfall
- Feasibility of collecting up to 11 beach outfall pipes and redirecting stormwater from the Myrtle Square Mall pond
- Continues our community’s goal of enhancing water quality and removing stormwater pipes from the beachfront
DRAINAGE CHANNEL IMPROVEMENTS – 48TH AVENUE NORTH TO 17 BYPASS AREA

- Long-Term Design Phase
- Retrofit Alternative(s) – Add storage capacity
  - Stormwater pond(s)
  - Open channel improvements
- Opportunity for Public/Private Partnership with redevelopment
- Downstream stormwater management improvements will benefit upstream areas
CANE PATCH SWASH – OCEAN OUTFALL

- Long-Term Design Phase
- Retrofit Alternative – Landward Improvements and Ocean Outfall
- Feasibility of adding upstream storage capacity
- Existing outfall constricted due to existing development – feasibility of redirecting stormwater outfall location
- Continues our community’s goal of enhancing water quality and removing stormwater pipes from the beachfront
THANK YOU