

FY 2021-2022 Virginia Beach Budget Response to Council Questions

Question Number: 89

Question: What have we gotten for what we've spent/will spend on flood control and operations?

Date Requested: 4/20/21

Requested By: Councilmember Moss

Department: Public Works

Response: The following is a list of flood control projects that are included in the FY 2021-22 Capital Improvement Program:

Definitions:

- 10-year Design Storm – 5.6 Inches precipitation in 24 hours (10% chance of occurring in any given year)
- 10-year Design Storm – 9.5 Inches precipitation in 24 hours (1% chance of occurring in any given year)
- 100-year coastal storm – Rise in sea water generated by hurricanes, nor'easters, and tropical storms that is higher than the predicted normal high tide that includes the stillwater elevation and influence of wave action (1% chance of occurring in any given year)
- Street Flooding – areas with greater than 3-inches of water over the road crown
- Structure flooding – The point when flood water elevation reaches the finished floor elevation of a structure (commercial or residential) or rises above the outdoor HVAC units

Aragona Drainage Improvements:

- 10-Year Design Storm Water Surface Elevation Contained below gutter flowline
- New 72-inch trunk line down Aragona Blvd and Overman Avenue, doubling capacity of storm drain system
- New curb drop inlets at 5 intersections to reduce spread of water in the roadway

Ashville Park Drainage Improvements Phase I

- Street Flooding Duration decreased in Wilshire and Ranier Villages by an average of 4 hours during the 10-year design storm
- Street Flooding Duration decreased in Wilshire and Ranier Villages by an average of 12 hours during the 100-year storm
- Sandbridge Road/New Bridge Road intersection raised above the 100-year floodplain

Question Number: 89 (cont.)

- Developer's Project
 - 3 new Stormwater Ponds
 - Existing Pond Expansion
 - Channels Connecting Ponds
 - Regrade and Stabilize Existing Ditches
- City's Project
 - Stormwater Pump Station
 - Drainage and Roadway Improvements (included Sandbridge Road/New Bridge Road intersection)
 - Princess Anne Farm Ditch

Central Resort District – Redirect Stormwater to 16th Street Pump Station

- Street flooding reduced for the 10-year design storm
- Structures protected from flooding for the 100-year design storm event

Eastern Shore Drive Phase I

- 551 homes, 62 businesses and 1 public property protected from flooding for the 100-year coastal storm
- Cape Henry Canal Phase II
- Elevate Lynnhaven Drive
- Lynnhaven Colony Park Pump Station
- Lynnhaven Drive Pump Station

Lake Bradford/Lake Chubb Area

- Vital corridors remain accessible for evacuation
- 2 miles of street flooding reduced for the 10-year storm event
- 47 Structures protected from flooding for the 100-year storm event

Stormwater Green Infrastructure – Marsh Terrace Project

- Reduce impacts of wind-tide flooding to surrounding communities
- Restore marsh island habitat
- Restore aquatic vegetation habitat
- Recruit Back Bay signature fish and wildlife species

Windsor Woods, Princess Anne Plaza & The Lakes - Phase I Improvements

- 7.6 miles Street flooding reduced for the 10-year design storm
- 853 Structures protected from flooding for the 100-year design storm event
- Windsor Woods – Phase I
 - Pump Station
 - Tide Gate & Barrier
 - Thalia Creek/Lake Trashmore Improvements
 - Storm Drain Improvements on Club House Road, South Plaza Trail, Presidential Blvd, Old Forge Road and Red Lion Road

Question Number: 89 (cont.)

- Princess Anne Plaza – Phase I
 - Bow Creek Stormwater Park (Golf Course Conversion)
 - North London Bridge Pump Station, Tide Gate and Barriers

- The Lakes – Phase I
 - Holland Road Gate
 - South London Bridge Channels and Tide Gate