



Flood Protection Program City Council Update

Jeffrey Waller, P.E., Flood Prevention Bond Referendum
Oversight Board Chairman

Leisha Pica, P.E., Jacobs Engineering

September 16, 2025

Q3 2025 Board Updates

- Stormwater Modeling Staff Report
- Flood Protection Program Summary
- FPP Communications Update Staff Report
- Maintenance of Existing Storm Infrastructure Staff Report



Public Works Operations removing sediment and debris from a roadside ditch and placing it into a dump truck

The Board meets on the second Tuesday of the month at 2:00 pm at Town Center. Our meetings are open to the public and the public can provide comments. The Board webpage is accessible from the Ripple Effect website, and we can be contacted at the email address posted on our webpage.

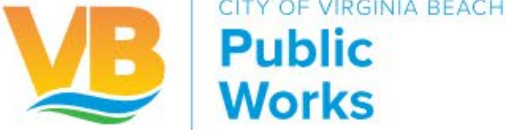
FPP Active Construction Projects

- Windsor Woods Tide Gate near I-264
- Bow Creek Stormwater Park Phase I
- South Plaza Trail/Presidential Boulevard Drainage Improvements
- Seatack Neighborhood Drainage Improvements
- First Colonial Road/Oceana Boulevard Drainage Improvements

FPP Project Milestones During Q3 2025

Planning	1	Design	2	Permitting	3	Procurement	4	Construction	5
<i>Preliminary Engineering Report (PER)</i>		<i>Detailed Design, 30%. 60%, 90%, 100%</i>		<i>Some FPP permits may require 24 months to obtain</i>		<i>Advertise Design-Build or Construction Bidding</i>		<i>Commissioning and Testing Complete</i>	
✓ West Neck Final PER		✓ Church Point / Thoroughgood BMP & Conveyance 1A 30% Design ✓ Poinciana 100% Design ✓ Bow Creek Section 2 100% Design				✓ Windsor Wood, PAP, The Lakes Bundle GMP submittal ✓ Elizabeth River Floodplain Restoration ✓ ESD Bundle Construction Advertisement		✓ Winsor Woods Tide Gate ✓ South Plaza Trail Presidential Blvd Drainage	

The Board is here to serve our Community – we are on the City’s website



Stormwater & Flood Protection

Flood Protection Program

Flood Protection Program FAQ

Flood Prevention Bond Referendum Oversight Board

Central River District

Eastern Shore Drive - Phase 1

Lake Brantley Chubb Lake

Linkhorn Drainage Basin

Southern Watershed


Stormwater Infrastructure

Windsor Plaza & T

+

Master Planning

See Level Wisc



theRippleEffect
VIRGINIA BEACH FLOOD PROTECTION PROGRAM

Board Members

Contact the board members by email at FPP@vbgov.com.

- Usha Eleswarapu
- John L’Heureux
- James F.N. McCune
- Robert R. Radspinner, PE
- Jeffrey S. Waller, PE

- Allison R. Hammer
- Pahan Jayarathna
- Scott C. Miller
- Emily Steinhilber

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Flood Protection Program Update

Q3 2025

Leisha Pica, P.E., Jacobs Program Manager

Preliminary Engineering	30% Design Phase	60% Design Phase	90% Design Phase	100% Design Phase	PS&E & ITB Phase	Design-Build	Construction In-Progress	Construction Complete
West Neck Creek Bridge	Church Point/Thoroughgood BMP & Conveyance	Sandbridge/New Bridge Intersection <i>(On Hold)</i>	Bow Creek Stormwater Park (Section 2)	Back Bay Marsh Restoration	Elizabeth River Floodplain Restoration	Windsor Wood, PAP, The Lakes Bundle <i>(30% design)</i>	Windsor Woods Tide Gate	Club House Road Drainage
Pungo Ferry Road Improvements			Poinciana Pump Station		Eastern Shore Drive (ESD) Drainage Bundle (added Phase 1 G)	Lake Bradford/Chubb Lake Pump Station & Outfall <i>(NTP issued)</i>	South Plaza Trail, Presidential Blvd Drainage	Cape Henry Canal Gravity Sewer Relocation
Central Resort District Drainage Improvements			ESD Phase 1F North Shore Dr Drainage			Bow Creek Stormwater Park (Section 1)	Lake Pleasure House Outfall	
						Seatack Drainage	Lake Bradford Dredging	
						First Colonial Rd Oceana Blvd Drainage	Old Forge Road & Red Lion Drainage (substantially complete)	

FPP Project Status Q2 2025

FPP Project Status Q2 2025

Preliminary Engineering	30% Design Phase	60% Design Phase	90% Design Phase	100% Design Phase	PS&E & ITB Phase	Design-Build	Construction In-Progress	Construction Complete	
West Neck Creek Bridge	Church Point/Thoroughgood BMP & Conveyance 1A	Sandbridge/New Bridge Intersection <i>(On Hold)</i>		Back Bay Marsh Restoration	Elizabeth River Floodplain Restoration	Windsor Wood, PAP, The Lakes Bundle <i>(GMP Submittal)</i>	Windsor Woods Tide Gate	Club House Road Drainage	
Pungo Ferry Road Improvements				Poinciana Pump Station	Eastern Shore Drive (ESD) Drainage Bundle (added Phase 1 G)	Lake Bradford/Chubb Lake Pump Station & Outfall <i>(Design)</i>	South Plaza Trail, Presidential Blvd Drainage	Cape Henry Canal Gravity Sewer Relocation	
Central Resort District Drainage Improvements				Bow Creek Stormwater Park (Section 2)	ESD Phase 1 F North Shore Dr Drainage		Bow Creek Stormwater Park (Section 1)	Lake Pleasure House Outfall	
Church Point/Thoroughgood BMP & Conveyance 1B							Seatack Drainage	Lake Bradford Dredging	
							First Colonial Rd Oceana Blvd Drainage	Old Forge Road & Red Lion Drainage (substantially complete)	

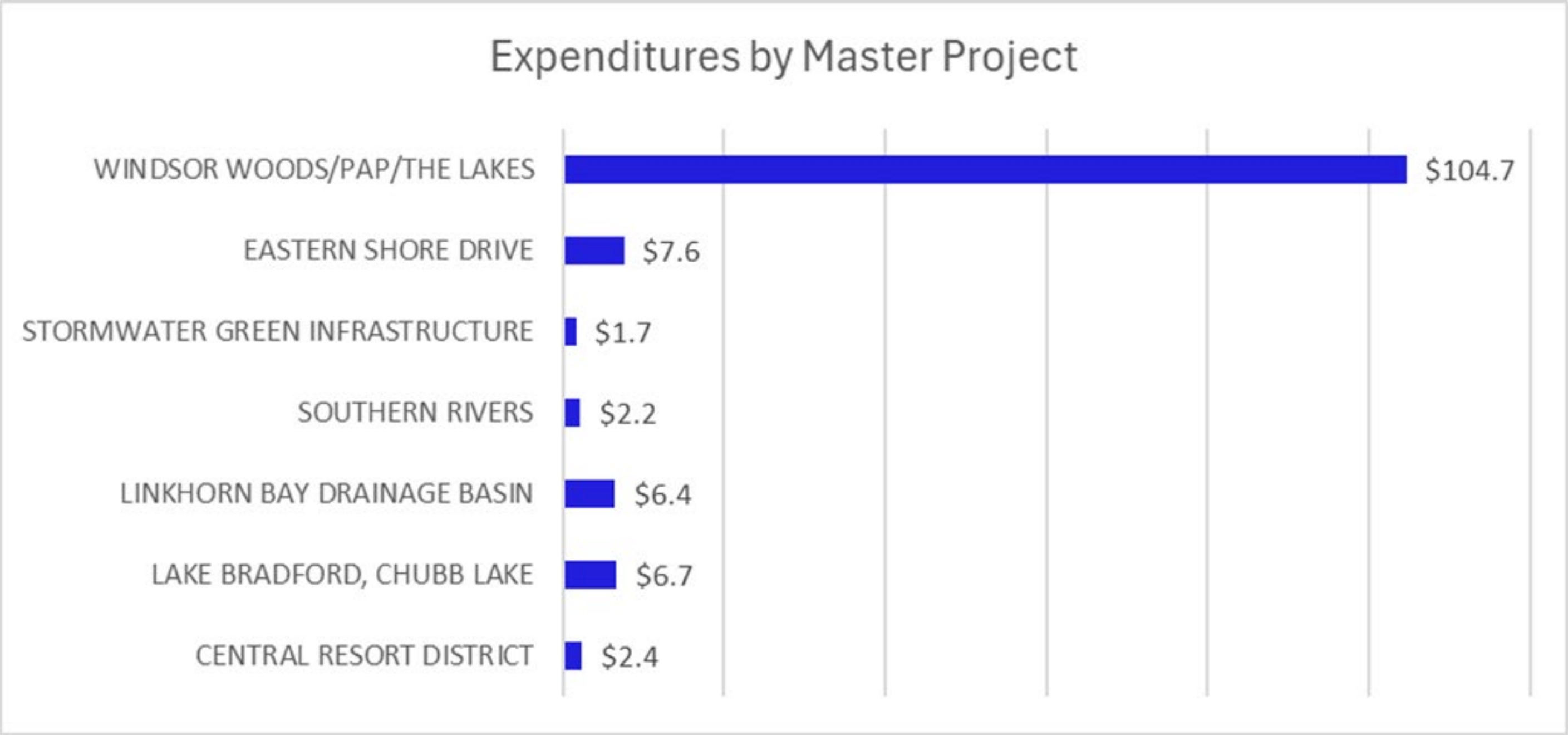
FPP Project Status Q3 2025

FPP Project Status Q3 2025

FPP Project Milestones Three-Month Look Ahead through Q4 2025

Planning	1	Design	2	Permitting	3	Procurement	4	Construction	5
Preliminary Engineering Report (PER)		Detailed Design, 30%. 60%, 90%, 100%		Some FPP permits may require 24 months to obtain		Advertise Design-Build or Construction Bidding		Commissioning and Testing Complete	
		✓ Church Point / Thoroughgood BMP & Conveyance 1A 60% Design				✓ ESD Bundle Construction Bidding		✓ Seatack Drainage	

\$131.7M Program Spending through August 2025



+\$13.9M since last quarter

Phase 1 Flood Protection Program Estimate

MASTER PROJECTS	March Presentation Estimate (\$M)	Current Estimate (\$M)
WINDSOR WOODS/PAP/THE LAKES	\$504	\$803
EASTERN SHORE DRIVE	\$109	\$109
LAKE BRADFORD/CHUBB LAKE	\$158	\$181
CENTRAL RESORT DISTRICT	\$113	\$113
SOUTHERN RIVERS WATERSHED	\$113	\$279
STORMWATER GREEN INFRASTRUCTURE	\$55	\$55
LINKHORN BAY DRAINAGE BASIN	\$15	\$12
TOTAL	\$1,067	\$1,552

Why have Phase 1 FPP Costs Increased?

- **Refined Scope:** Projects went from planning concept to reality with designed scope based on actual field conditions
- **Cost Escalation:** General market cost escalation from initial project estimates (some were developed pre-COVID in 2017) to construction timing
- **Labor Cost Increases:** Construction labor costs continue to increase due to staff shortages in specialized construction fields
- **Market Uncertainty :** Cost uncertainty remains with applicable commodities
- **Supply & Tariffs:** Global supply chain and tariff impacts

Windsor Woods/Princess Anne Plaza/The Lakes Bundle (Design-Build)

The projects were changed from planning status to baselined status. The project costs were updated based on the 30%-complete project cost estimate.

- **Cost Escalation:** Significant cost escalation from 2021 (conceptual estimates provided for the referendum) thru 2031 (construction completed)
- **Environmental Coordination:** North London Bridge Creek Pump Station environmental conditions, Thalia Creek dredging area for bank stabilization, preservation and mitigation of wetland corridors, etc.
- **Roadway Coordination:** Raising of South Boulevard, rerouting Lynnhaven Parkway, access to Lamplight Lane, and other roadway coordination needs

Lake Bradford/Chubb Lake Pump Station and Outfall (Design-Build)

The project costs were updated based on the most recent project planning cost estimate as reflected in the FY26 Capital Improvement Plan.

- **Cost Escalation:** Significant cost escalation from 2021 (conceptual estimates provided for the referendum) thru 2031 (construction completed).
- **Environmental Coordination:** Much of construction occurs within or near tidally affected and weather affected waterways; protective measures for beach/bank/dune erosion at the beach outfall; multiple excavations are required; site is in hurricane affected region.

Southern Rivers Master Project

The project costs were revised to align with the preliminary cost information developed from extended planning efforts.



Pungo Ferry Road Improvements – The project costs were revised to align with the lowest cost option presented at the public meeting on October 23, 2024.

- **Environmental Conditions:** poor, low-lying and saturated soils, proximity to North Landing River, 10 acres of wetland impacts, National Environmental Policy Act (NEPA) study requirements
- **Roadway Coordination:** Blackwater Road and Pungo Ferry Bridge extension

West Neck Bridge (Design-Build) – The project costs were revised to align with the preliminary cost information provided in the Preliminary Engineering Report. **Similar conditions and coordination is required for this project.**

Key Takeaways

- We will spend \$567.5 million of bond funds by 2032.
- Within the 10-Year window, the highest priority projects will be completed.
- All Phase 1 FPP projects are underway though some will extend beyond the initial 10-year window.



The Windsor Woods Tide Gate performed well during recent weather events.

We are getting system improvements constructed!

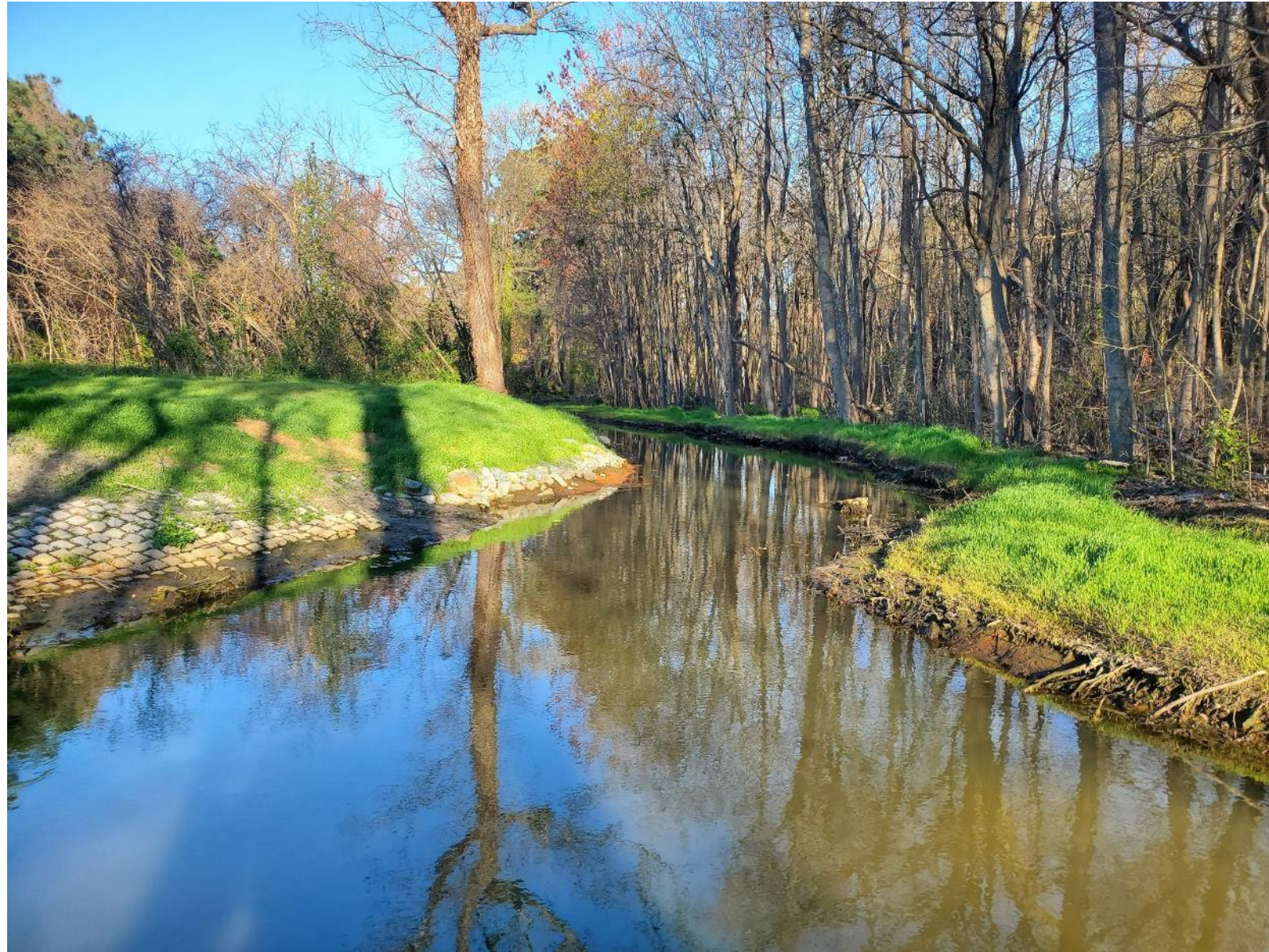


Bow Creek Stormwater Park Phase 1 Project



First Colonial Road/Oceana Boulevard Drainage Improvements Project

We are getting system improvements constructed!



Lake Bradford Dredging Project



Old Forge Road and Red Lion Road Drainage Improvements Project

We are getting system improvements constructed!



Club House Road Drainage Improvements Project



South Plaza Trail/Presidential Blvd Drainage Improvements Project

We are getting system improvements constructed!



Seatack Neighborhood Drainage Improvements Project



Cape Henry Canal Sewer Relocation Project



FPP Communications Update

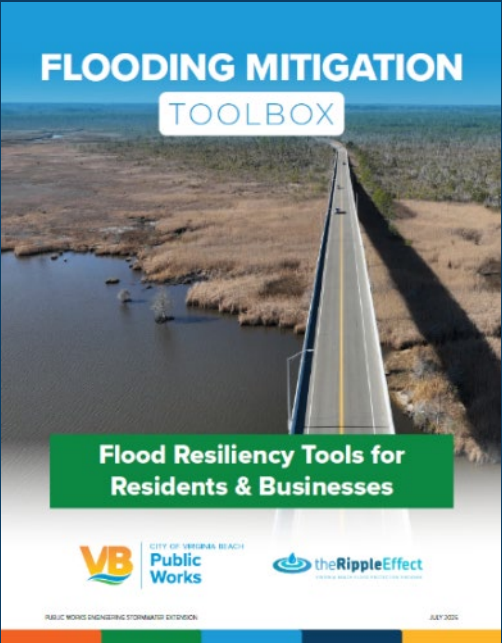


CITY OF
**VIRGINIA
BEACH**

From Concept to Content



- Campaigns
- Blog posts & articles
- Webpage creation & updates
- Script-writing
- Video production & editing
- Graphic design
- Photography



The Ripple Effect: A Phased Approach to Flood Relief for the Central Resort District

Learn details and benefits of Phase I of this Flood Protection Program project at the Oceanfront.



On May 27, City Council received an update on the **Central Resort District project** from Stormwater Engineering Center Administrator Mike Tippin, P.E., with the **Department of Public Works**. The major multi-phase effort is part of the **Flood Protection Program** and includes construction of stormwater upgrades that will increase capacity, reduce tidal flooding and improve drainage throughout the Oceanfront and surrounding neighborhoods. While construction isn't expected to begin until late 2027, planning is underway for the first phase.

Phase 1A: Tidal Flooding Solution at Laskin Road

The first sub-phase of the project, Phase 1A, focuses on areas frequently impacted by tidal flooding, including Beach Garden Park, Kilbourne Court, Holly Road and the 28th Street area. These low-lying neighborhoods can experience water backups during high tides, even on days without rain.

LESSON PLAN 5:

REVIEW AND REFLECTION



OBJECTIVE:
By the end of this lesson, students will be able to consolidate their knowledge on floods, their impacts, and safety measures, and reflect on their responsibility towards flood prevention and mitigation.

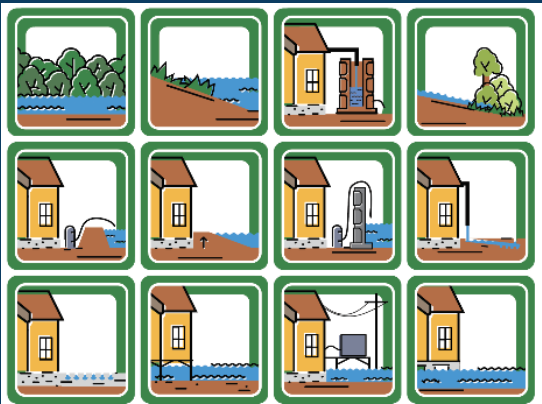


MATERIALS NEEDED:

- Student's Notes
- Previous worksheets
- Projector
- Computer
- Flip chart for Notetaking



HOW IT WORKS: TIDE GATES		
Chapter	Script	Onscreen
Name of the segment file	The text that should be recorded	What appears onscreen during the segment
HOOK	Have you ever wondered how a tide gate provides flood protection while not causing flooding downstream?	On the ground footage of the WW Tide Gate, preferably in motion.
OPENING /INTRO	Hi, I'm Tomi Utterback, City Engineer for Virginia Beach. I'm here today to talk about tide gates, and their crucial role in protecting our City during future storm events. Tide gates operate on a very simple principle: they prevent tides and storm surges from flowing upstream and causing flooding. By doing this, they also help maintain storage for stormwater runoff in upstream lakes and channels. In addition, when the tide gate is closed, pumps can move water from the upstream side of the tide gate to the downstream waterway, allowing an increase in the amount of available storage before a storm. It's important to note that when the tide gate is closed, water levels downstream can still rise because of runoff tides, and storm surges. However, the amount of runoff pumped from upstream to the downstream waterway will be equal to or less than what would typically flow in those waterways at the peak of a storm.	Tomi at Windsor Woods Tide Gate – wide shot with drone? Stock footage of rough waters and flooding streets, then stock footage of ditches/canals/lakes Drone video of pumps out at Windsor Woods, transition to drone video of Lake Windsor VMF4 (0:23-0:32) Stock footage of waves lapping at the beach, <u>Drone footage of flood plains/marshes/wetlands</u> DUI_20240522104533_0016_VMP4 (0:48-0:58)



The Ripple Effect: Where Federal Funds Are Improving Flood Protection in Virginia Beach

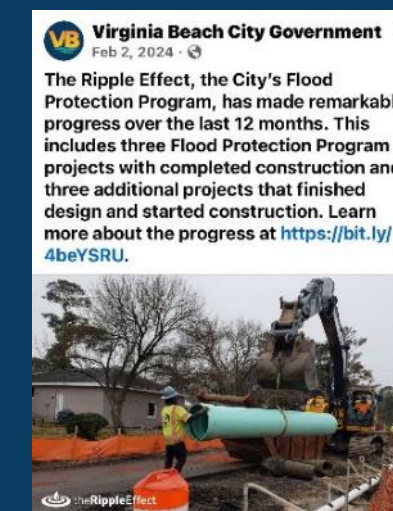
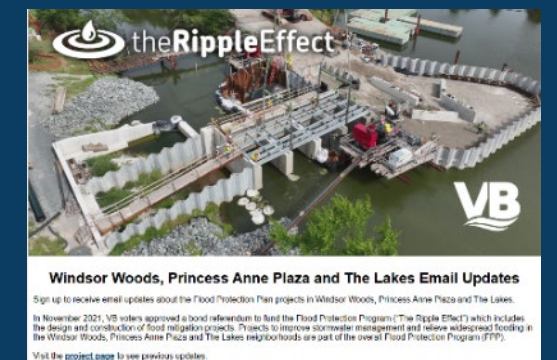
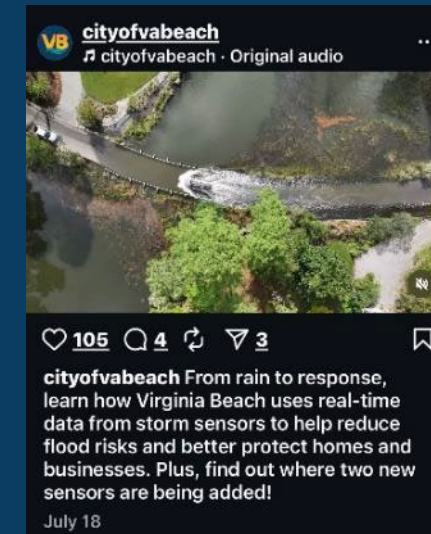
Track the progress of drainage improvements and dredging dollars at work.



From Content to Community



- Email newsletters
- News releases & media advisories
- Digital and printed materials
- Social media posts (Facebook, Instagram, X and Nextdoor)
- YouTube “The Ripple Effect” playlist videos
 - “How It Works” series
 - City Council presentations
- Media pitches, interviews and stories



Blog Posts



43

Blogs Published



26,457

Total Blog Views



615

Avg. Views per Blog

Most Viewed Blog Posts

Debunking PHP Myths

December 23, 2024

The Real Deal: Debunking Myths about the Pleasure House Point Wetlands Restoration Project

Gain a stronger understanding of this important flood protection initiative before Council votes Jan. 7.



3,619 Views

Five Things To Know

February 22, 2024

The Ripple Effect: Five Things Residents Should Know About Coastal Flood Vulnerability

Part of coastal living is understanding factors that make our community vulnerable to flooding.



1,801 Views

Three Flood Types

November 7, 2024

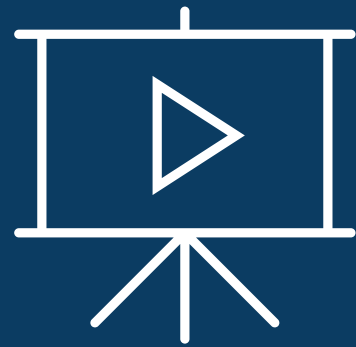
The Ripple Effect: Virginia Beach's Three Most Common Flood Types

Knowing the differences in each type aids the City in developing solutions to reduce the impacts of flooding.



1,296 Views

“How it Works” Videos



18

“How it Works” Videos
Produced



122,773

Video Views



61%

Of Video Views
Occurred on
Instagram

Most Viewed “How it Works” Videos

Windsor Woods Tide Gate



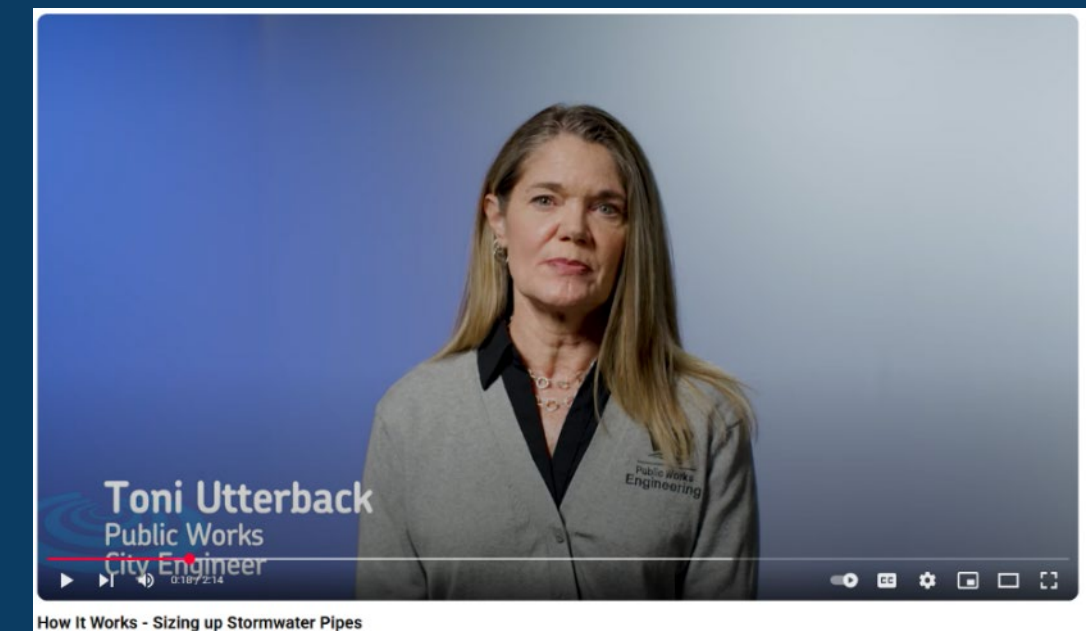
14,783 Views

Bow Creek Stormwater Park



13,132 Views

Sizing Up Stormwater Pipes



10,560 Views

Social Media



155

Social Posts Published



872,422

Impressions

Note: This includes the ad run in Oct. 2024, which accounts for 96,499 impressions.

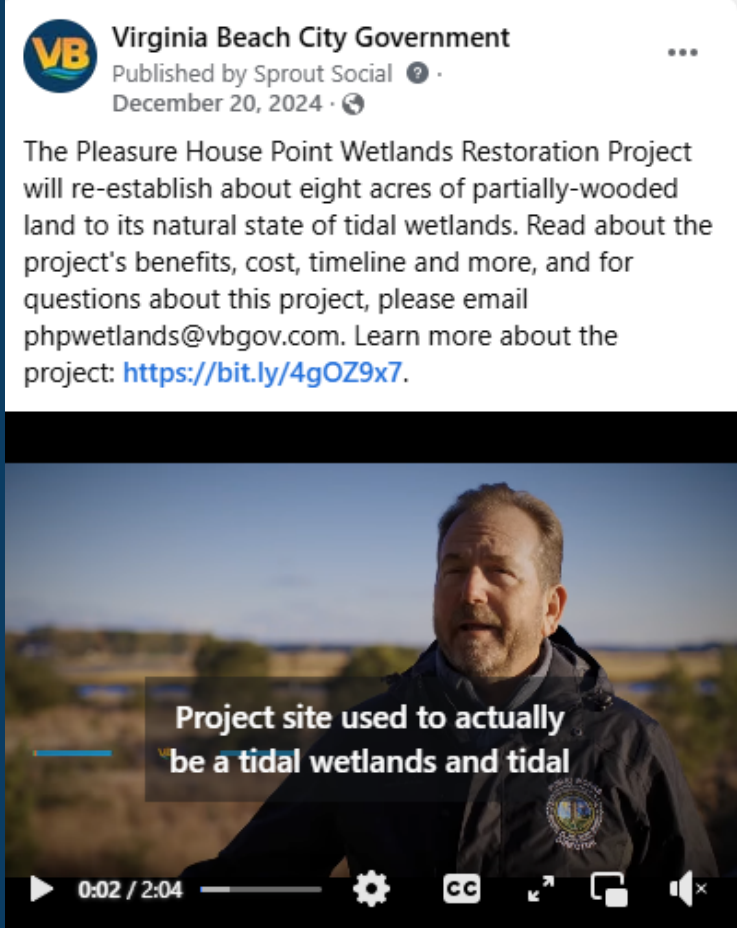
Most Engaging Social Posts

Facebook: Debunking PHP Myths



23.6% Eng. Rate

Facebook: PHP Video



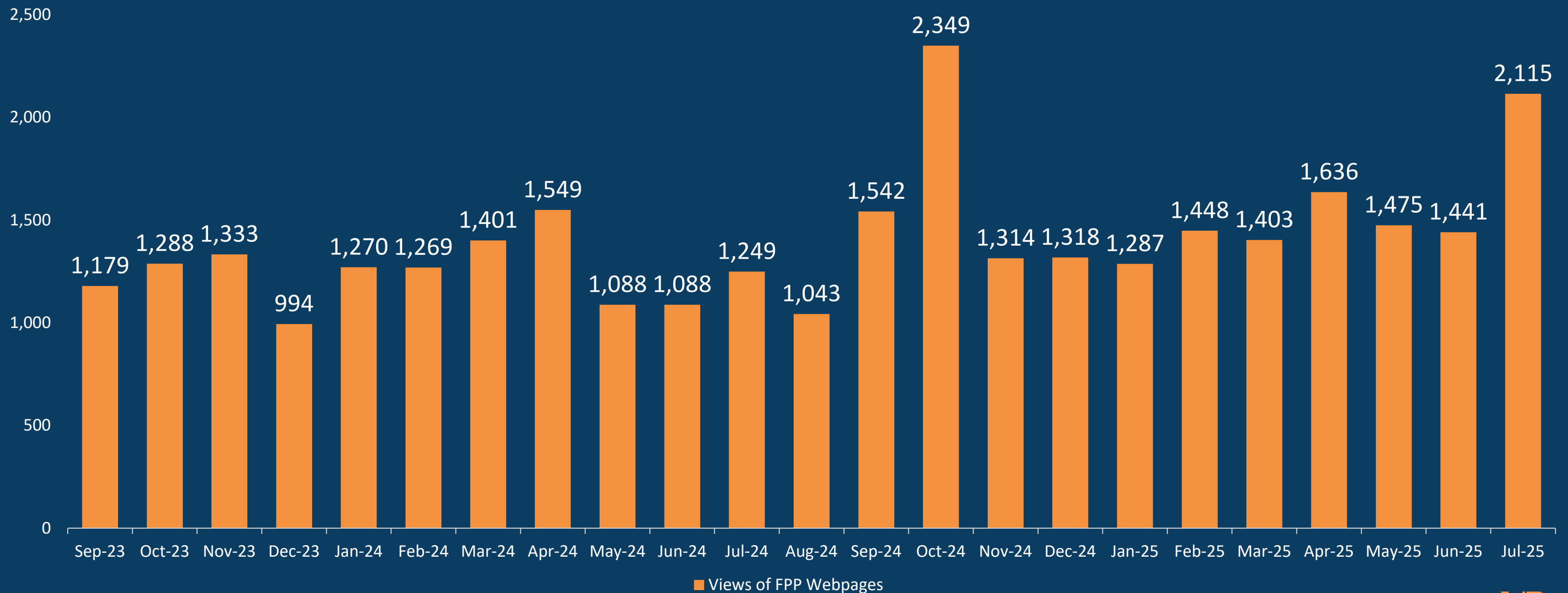
21.1% Eng. Rate

Facebook: Federal Funding



15.9% Eng. Rate

FPP Webpage Views



Thank you

Leisha.pica@jacobs.com



Construction progress for the Pleasure House Point project



Challenging today.
Reinventing tomorrow.

