



Stormwater Utility and Flood Mitigation Advisory Committee

Nov 20, 2024 | 7:00 p.m. | Hybrid (Virtual and In-Person) Meeting

Minutes

Advisory Group Members Present:

A	John Chapman	A	Howard “Skip” Maginniss
P	Dino Drudi	A	Brian Sands
P	John Hill (Chair)	P	Janette Shew
P	Cheryl Leonard	P	Christine Thuot
P	Chris Ferrara	A	Katherine Waynick (Vice-Chair)

Staff Present:

P	Brian Rahal, T&ES Civil Engineer IV	P	Jesse Maines, T&ES Division Chief, Stormwater Management
P	Dan Medina, DPI Stormwater Program Manager	A	Jessica Lassetter, T&ES Civil Engineer III
P	Emma Wheeler, T&ES Communications Office	P	Jonathan Whiteleather, DPI Technical Project Manager
A	Erin Bevis-Carver, Sanitary Infrastructure Division Chief	V	Lisa Jaatinen, T&ES Civil Engineer IV
V	Felicia Montoney, T&ES Management Analyst I	P	Mitch Dillon, DPI Technical Project Manager
P	Alex Haptemariam, DPI Senior Technical Project Manager	V	Ehsanullah Hayat, Civil Engineer III
P	Wael Eltayeb, DPI Technical Project Manager	V	Camille Liebnitzky, Environmental Engineer IV
V	Haweni Gobena, Civil Engineer III	V	Mujeeb Atefi, Civil Engineer III

P = Present A = Absent V = Virtual (on call)

Other Attendees Present:

V	John Craig	V	Rose Esber
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1. Welcome remarks

2. Review of Minutes

3. Program Update from City Staff

3a. Commonwealth, Ashby, Glebe (Whiteleather)



Flood Action Progress Report: Commonwealth, Ashby, Glebe

- Optimized foundation design to reduce costs
 - Realigned culvert to the ballfield
 - 60% alignment used specialized design (Micro-piles)
 - Updated to lower cost foundation design (Rigid inclusion)
 - Avoid overhead utility conflicts
 - Larger work area
 - Changed a section of the foundation to a stone mat
 - Applicable in areas where poor soils are close to surface
 - Excavate poor soils and replace with stone below culvert
 - Minimal settlement tolerable (outside of road)

The city’s main focus since 60% design has been optimizing the foundation design to reduce costs. The foundations (major cost drivers) are needed due to poor soils located near the outfall of the culvert, which are prone to settlement. Culvert foundation underneath Commonwealth Ave overhead powerlines require micropile design due to overhead clearance issues. After 60% design, design team realigned a portion of the culvert at the north end of Commonwealth (shifted 400 feet into the ballfield), providing a larger work area and allowing for a rigid inclusion ground improvement (within the city right-of-way), which is less expensive.

The city also changed a section of the foundation design to add a stone mat (Number 57 stone) below the culvert to replace poor soils close to the surface (via over-excavation). This will result in tolerable settlement outside of the roadway.

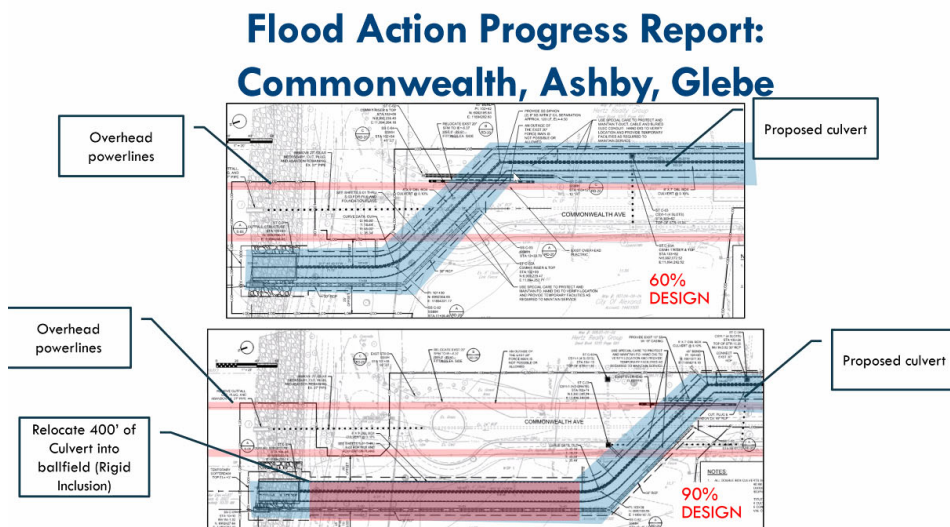
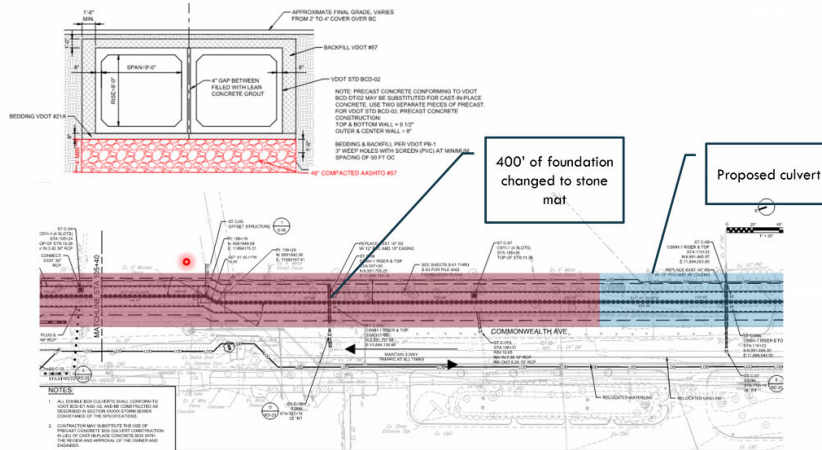


Image above: North is left.





Flood Action Progress Report: Commonwealth, Ashby, Glebe



Flood Action Progress Report: Commonwealth, Ashby, Glebe

- Challenges and delays
 - Realignment is a major change after 60%
 - Update foundation design
 - Coordinate future development of ballfield
 - New utility crossing coordination
 - No change in construction schedule currently
- Future Communications:
 - Schedule community updates at major milestones
 - Continue to share online materials from 60% meeting in Summer
 - 90% anticipated early next year
- Schedule:
 - Design completion Summer 2025
 - Construction complete Summer 2029

The realignment represented a significant change to the foundation design and required coordination with future ball development but was justified due to cost savings (~\$20 million). The city coordinated with the Alexandria Aces (will not be impacted) and RPCA (have factored project into future planning)

Anticipated completion of 90% design was pushed from Fall 2024 to early 2025 due to significant design changes. No anticipated change in construction schedule.

Next Steps: Coordinating development of ballfield (future ballfield updates)

Public Events:

- Summer Open House materials (construction impacts) still relevant
- Next public meeting event scheduled for Q1 2025 (coincide with 90% design completion)





Timeline:

- 100% Design: Anticipated summer 2025
- Procurement (summer): Establishing prequalification firms
- Construction to start in 2026.

Concerns:

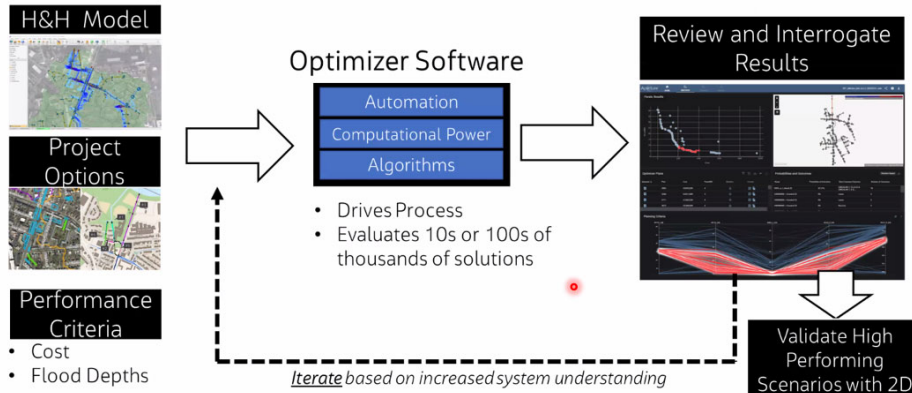
- Drudi: Delay is more costly. Must consider that increase in construction costs (year to year) may defeat cost savings.
 - o Clarification (Maines): Cost savings (~\$20 million) offset potential escalation incurred due to construction delay. No additional funding will, therefore, be required. Scheduled funding is earmarked in the 10-Year CIP
- Leonard: Why was the redesign not done before?
 - o This was initially avoided due to impacts to the ballfield. However, after reviewing 60% cost estimates, City chose to accept these impacts. Same amount of utility conflict. Ex: Must redesign around sanitary line (near the bottom of the culvert).

3b. Hoofs Run Culvert Bypass (Haptemariam)

Flood Action Progress Report: Hooffs Run Culvert Bypass Project

- Project objectives
 - Convey the 10-year future rainfall event without worsening flooding elsewhere in the drainage system.
 - Where control of the 10-year future storm is not practicable, reduce flooding as much as possible.
- Modeling
 - A hydraulic optimization model, Optimizer, was used to screen thousands of possible solutions.
 - Each solution was a combination of the following elements:
 - o Gravity storm sewers,
 - o Pump stations and force mains
 - o Large storage (both gravity drained and with dewatering pumps), and
 - o Modular storage (gravity drained).
 - Optimizer combines design elements over a range of sizes and examines their combined performance
 - Optimizer “learns” from each simulation.





The city is modeling flood action solutions (e.g., gravity pump stations, large and small storage) in Optimizer to assess their performance. Models (Optimizer and FEMA) show existing culvert (cleaned) will flood during 10-year storm.

Flood Action Progress Report: Hooffs Run Culvert Bypass Project

- A desktop analysis is being performed on the high-performing alternatives.
- The analysis is an initial assessment to evaluate the feasibility of the alternatives
- The analysis includes:
 - Engineering feasibility
 - Cost
 - Constructability
 - Disruption of City functions
 - Potential negative impacts on the community





Flood Action Progress Report: Hooffs Run Culvert Bypass Project

- Challenges
 - Climate change: More intense storms require larger infrastructure
 - Relocation of underground utilities: Utility lines (water, gas, power, communications) must be moved to make way for construction, which is challenging given the limited space and complexity of planning and execution.
 - Complex infrastructure systems: The new drainage system must coordinate with major infrastructure elements, including the King Street Metro station and Metrorail lines. This coordination involves multiple agencies and must avoid service disruptions.
 - Space constraints: The ultra urban setting limits available construction space, presenting further logistical challenges.
 - High cost: All the above challenges increase project's cost.

Model includes challenges/external factors (e.g., infrastructure, environmental).

Flood Action Progress Report: Hooffs Run Culvert Bypass Project

- Next steps
 - Refine evaluation criteria
 - Continue evaluation of alternatives
 - Define a course of action
 - Start the design phase

Using software to assess which solutions are viable, their impact, whether buyouts/flood proofing is necessary, and to inform policy decisions. Funding is fixed, will have better sense of design options/solutions in 2025.

Question (Drudi): Potential impacts of reconstruction of King Street Bridge and the Commonwealth Avenue Bridge (part of VA high-speed rail fourth track addition) on culvert.

- Response: Should not impact culvert at Commonwealth. Not widening existing culvert due to adjacent abutments.
- Red Zone Robotic CCTV showed culverts connect into open vault (Timber Branch).

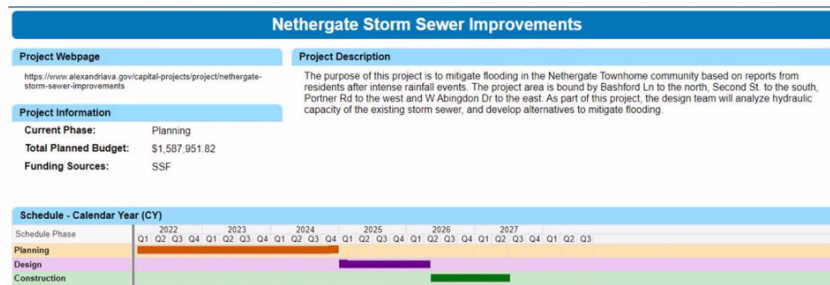


3c. CSS (Whiteleather)

Flood Action Progress Report: CSS



- Pitt & Gibbon (\$20-25M) CSO surcharge mitigation. Project team reviewing alternatives to mitigate flooding for the 10-year storm. Schedule pending.
- Nethergate (\$5M) CSO Surcharge mitigation. City is finalizing review of alternatives assessment and field data before formally moving to design stage.



Pitt & Gibbon: Same stage as previous meeting. Schedule pending. Update digital schedule quarterly.

Questions:

- Does the city have planning milestones that can be shared with the public?
 - o Recommendation: Add context and explanation for changes when providing quarterly updates online. Be transparent with the public. “Pending” feels unsatisfactory.
 - o Seconded by Hill.
 - o Response (Whiteleather): Will share report once complete alternatives assessment. Main challenge: feasibility.
- Lyles Crouch: Planning study had storage, but due to insufficient drop in pipe elevation, storage would be insufficient and would require a deeper storage alternative which would be pumped out (costly and challenging for sanitary storage in school). School parking lot drains towards school, must be seriously considered.
 - o Stormwater and sewage separation: considering. Would require multiple outfalls for stormwater. The city’s consultant is considering at Pitt & Gibbon.
- Drudi: Recommend 5% increases in the stormwater fee every year (not 2%, then 7%, then 3%) because projects could last longer than anticipated and be more expensive than advertised. There needs to be an expectation of 5% annual increases ad infinitum or next 5 years.
- Pitt & Gibbon: Impacts 3-4 blocks of sewer water. AlexRenew maintains interceptors but cannot accommodate 10-year-storm event.

Communications (Hill): Committee must communicate project uncertainty to public.

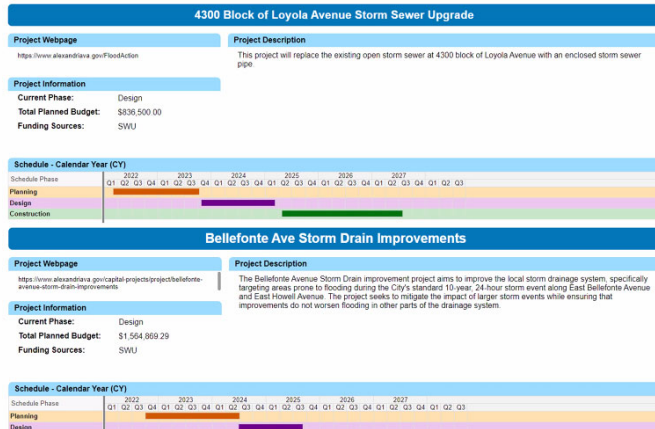
- Drudi: Must inform City Council.

Nethergate: Public outreach meeting early next year once formally move to design.



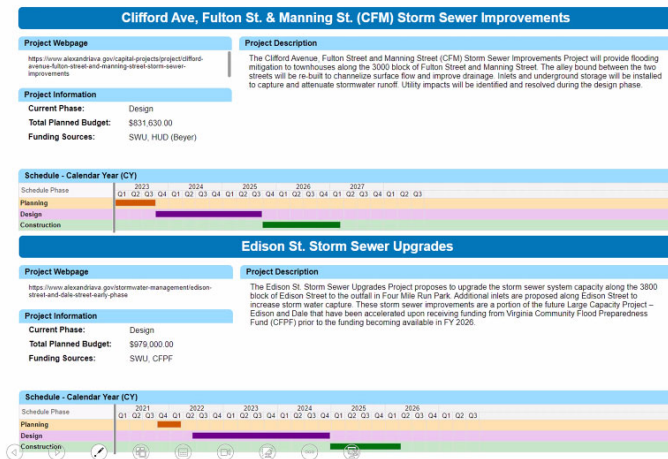
3d. Spot Project Programs (Dillon):

Flood Action Progress Report: Updates to Stormwater Program Schedule



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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Received 90% Comments Reviewing 90% design package | <ul style="list-style-type: none"> Advancing to 100% Design |
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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Received fee proposal Continued negotiations | <ul style="list-style-type: none"> Advancing to design kickoff |

Flood Action Progress Report: Updates to Stormwater Program Schedule



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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Completed data collection Completed preliminary design | <ul style="list-style-type: none"> Advancing to 30% Design |
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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Received final design Continuing Utility coordination | <ul style="list-style-type: none"> Planning Pre-construction community meeting Advancing to Construction Procurement |

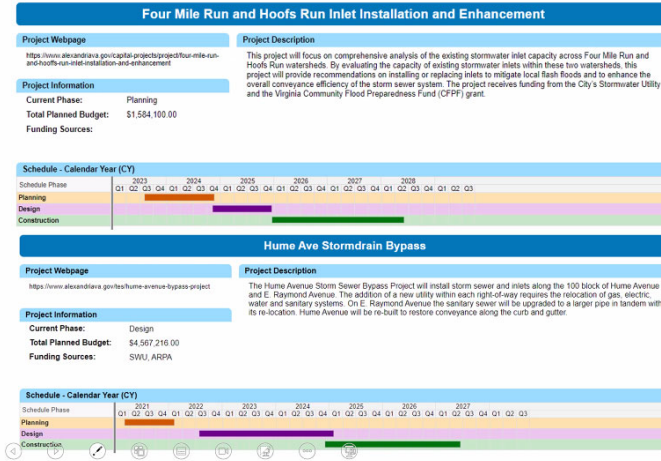
Clifford Ave: Announced at advisory meeting. Completed preliminary data collection (test pits to assess soil), tree identification (critical root zones), parcel boundaries, property improvements, and ensure can fit within allotted space. The city has preliminary section – considered turning movements, existing uses, etc. Advancing to 30% design. Once complete, will share with public.

Edison St: Developing invitation to bid. Advancing to construction procurement.





Flood Action Progress Report: Updates to Stormwater Program Schedule



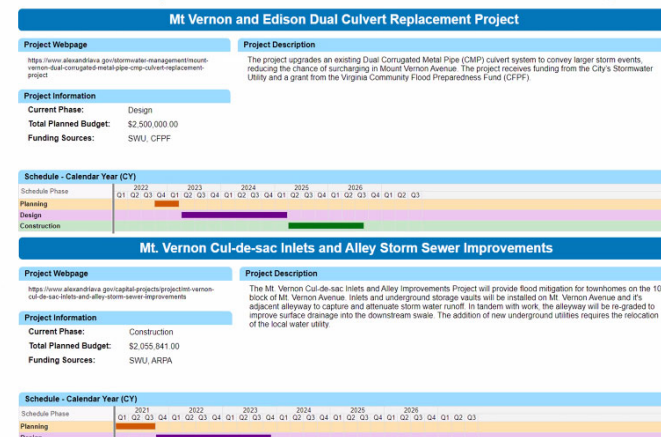
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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Completed field investigation Continuing inlet sizing analysis | <ul style="list-style-type: none"> Receive & review final report |
| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Continuing Utility coordination Continuing temporary easement negotiations | <ul style="list-style-type: none"> Resolve utility conflicts Receive final design |

Four Mile Run: Expect to receive final report soon.

Hume: Working with utility providers to address utility conflicts.



Flood Action Progress Report: Updates to Stormwater Program Schedule



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| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Continued 60% design Reviewing feasibility of pipe lining | <ul style="list-style-type: none"> Advancing to 90% Design |
| ON-GOING | FORECASTED |
| <ul style="list-style-type: none"> Reviewing community concerns and planning responses and adjustments | <ul style="list-style-type: none"> Additional community outreach |

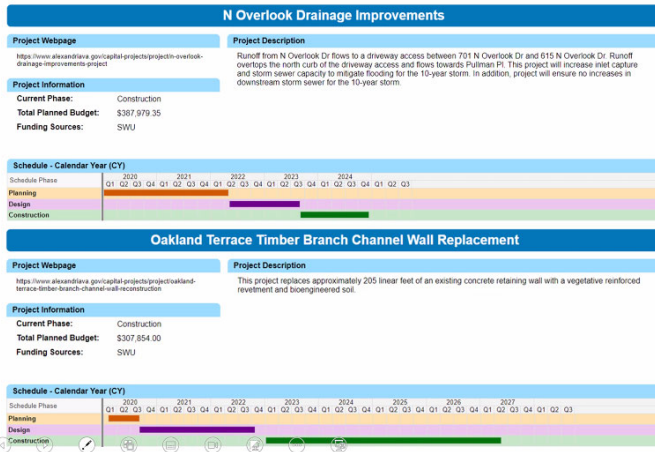
Mt. Vernon: Previously discussed placement of cured pipe within metal safety pipes. Advancing to 90%.

Mt. Vernon Cul-de-sac: Processing feedback obtained during October community meeting. Need for additional outreach. Concerns: Parking, residential construction, community impact.





Flood Action Progress Report: Updates to Stormwater Program Schedule



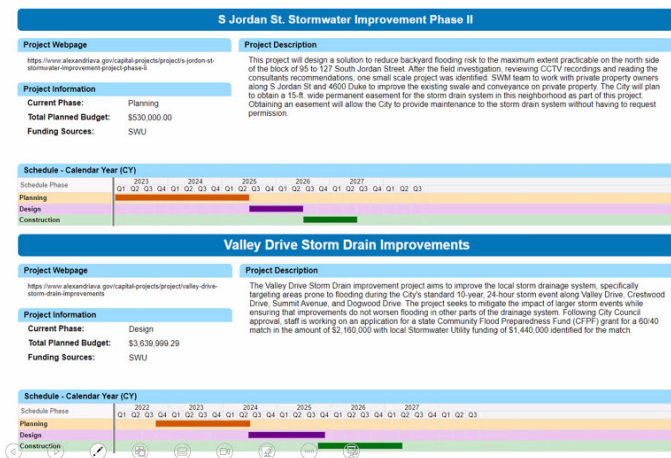
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| <p>ON-GOING</p> <ul style="list-style-type: none"> Achieved substantial completion! Continuing park irrigation repairs | <p>FORECASTED</p> <ul style="list-style-type: none"> Project Closeout & final documents |
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| <p>ON-GOING</p> <ul style="list-style-type: none"> Installing channel bank reinforcement & stabilization | <p>FORECASTED</p> <ul style="list-style-type: none"> Continue Construction |
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N Overlook: Achieved substantial completion. Minor repairs needed before final completion.
 Oakland Terrace: Wall stabilization is 80% complete. Must add live stakes and vegetation.



Flood Action Progress Report: Updates to Stormwater Program Schedule



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| <p>ON-GOING</p> <ul style="list-style-type: none"> Finalized scope of design Received design fee proposal | <p>FORECASTED</p> <ul style="list-style-type: none"> Continue design fee negotiations |
|--|---|

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| <p>ON-GOING</p> <ul style="list-style-type: none"> Continuing design procurement Preparing grant application | <p>FORECASTED</p> <ul style="list-style-type: none"> Design phase kickoff |
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S Jordan: Negotiating design fee.
 Valley Dr: Applying for grant funding. Total project cost approximately \$3 million.



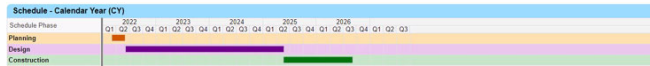


Flood Action Progress Report: Updates to Stormwater Program Schedule

W. Reed Ave & Dale St Storm Sewer Improvements

Project Website	Project Description
https://www.alexandriava.gov/stormwater-management/edison-street-and-dale-street-early-phase	W. Reed Ave & Dale St. Storm Sewer Improvements. Project proposes new inlets and storm sewer along the 100 block of W. Reed Ave and capacity improvements along the downstream system to the outfall in Four Mile Run Park. These storm sewer improvements are a portion of the future Large Capacity Project - Edison and Dale that have been accelerated with Virginia Community Flood Preparedness Fund (CFPF) prior to the funding becoming available in FY 2025.
Project Information	
Current Phase: Design Total Planned Budget: \$2,230,000.00 Funding Sources: SWU	

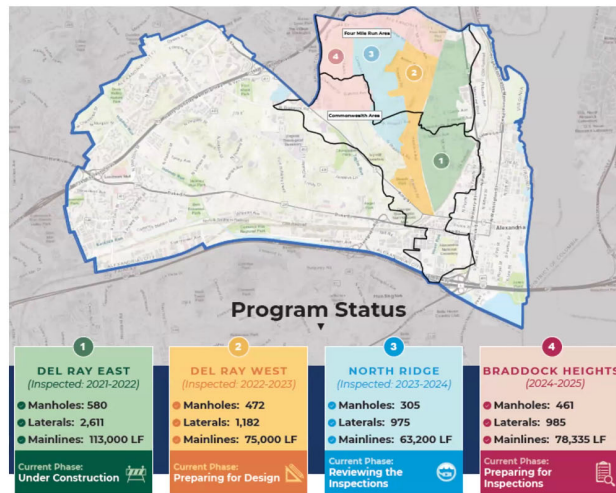
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| <p>ON-GOING</p> <ul style="list-style-type: none"> • Resolving utility conflicts with proposed layout | <p>FORECASTED</p> <ul style="list-style-type: none"> • Continue 90% Design |
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W Reed Ave: Found sanitary sewer crossing through test pits. Able to protect pipe and maintain performance. Extending Community Flood Preparedness Fund (CFPF) grant agreement with the Dept. of Conservation and Recreation (DCR).

Sanitary Sewer Asset Renewal Program

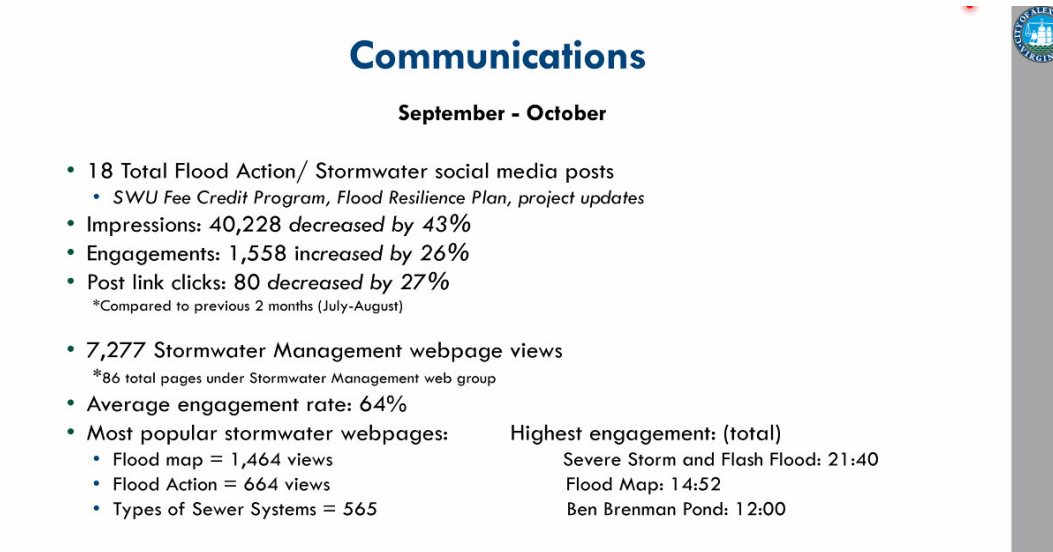
- **Del Ray East Sewer Rehabilitation:**
 - Contractor issued Notice to Proceed Oct 16, 2023
 - Contract period = 1 year
 - To be extended until mid-January 2025
 - Construction progress:
 - 90% pipes lined
 - 100% manholes rehabilitated
 - Lateral sewers under separate contract



(Bevis-Carver: Absent)



3e. Communications (Wheeler)



Priorities: Preparing social media campaigns (e.g., SWU credit program to start in December) and developing communications plans for the Commonwealth, Ashby, Glebe project and the flood mitigation grant.

Website: Total time spent on top pages listed on slide. High engagement with Ben Brenman Pond page may be due to school district outreach activity in October.



Search Engine Optimization (SEO): Score cards for two pages on slide. Ongoing project to improve (management 86 pages total). Discussed tracking website users – Google Analytics not built for tracking individual IP addresses. The city is not subscribed and may not be worth.

Suggestion: Adding hyperlinks on city PDFs, webpages, and presentations.



- Ex: Capital Improvement Projects Schedule – webpage hyperlinks are not linked, would be valuable to add.
- Response: Have created project pages and are working to make them more accessible by adding to the SPA Project website.

3f. Maintenance Activities (Jaatinen)

Maintenance Activities



- **Hooffs Run Culvert Maintenance and Cleaning from Linden Street to Duke Street**
 - Maintenance work is tentatively scheduled to start in December 2024 and expected to continue until April 2025.
 - Work hours: Monday-Friday: 7am-6pm; No weekends or holidays
 - All work is below ground
 - Staging areas will be located in Linden Street Alley, Mount Vernon Avenue cul-de-sac and Hooff's Run Park
 - No Parking areas will be signed
 - City staff will be on-site to oversee the project

Hooffs Run Culvert (4-5 months): Hired contractor. Will be cleaning culvert and repairing concrete. Staging areas will begin to appear in December 2024. Staging areas include Linden Street Alley will include a temporary generator for power in tunnel and safety fencing. Mt. Vernon Cul-de-sac will have safety fence and dumpsters and use access hatches – removing 4-5 parking spaces. Construction inspector and city construction manager will supervise.

- Majority of debris is located at Duke St outfall. Have coordinated with AlexRenew but they are still working. The city must therefore start at top of culvert.
- Request (Hill): Please provide picture of clean culvert at end of project to share with neighbors.

Next phase: Cleaning and repairing culvert north of Linden St. Currently in design phase. Will be phased construction due to work on top slabs of culverts between streets to change top of culvert, phase could take longer

Public Point of Contact for project: Jaatinen (will share contact information via letters by 11/22)



3g. Flood Mitigation Program (Montoney)

Flood Mitigation Grant Program



- We have reimbursed a total of \$1,075,979.98 since the start of the program in July 2021.
- So far in FY2025, we have 63 applications in various stages with a total of \$85,132.75 reimbursed.
- In FY2024, we had 101 approved applications for a total of \$235,145.16 reimbursed.
- In FY2023, we had 73 approved applications for a total of \$167,538.49 reimbursed.
- In FY2022, we had 148 approved applications for a total of \$588,163.58 reimbursed.

FY2025: Increased from 16 applications (at last meeting) to 63 applications to date, with 9-10 applications under review. Observed increase in applications in recent weeks and will be doing additional outreach.

Questions:

- Thout: Is there sufficient funding to see if applicants who spend over threshold can be reimbursed?
 - o Maines: Unsure, want to increase program reach before change threshold.
- Drudi: Condo Applications (requested noted in minutes)
 - o Montoney: Received applications from (in total):
 - 3 businesses
 - 2 churches
 - 5 HOAs (previous capped at \$5,000, then was increased to \$25,000. One HOA applied prior to threshold increase)



3h. SWU Credit Application Window (Liebnitzky)

Annual SWU Credit Application Window

- Annual credit window is open from December 1 to February 15
- Approved eligible credits are good for 2 years
- Floodproofing practices added to eligibility list
- Residents who applied in the 22/23 cycle will receive an email to reapply



Application Window: 12/01/24-02/15/25 (third year). First year applicants will need to reapply because credits last for 2 years.

- 300 applicants from 22/23 cycle will need to reapply (will receive email blast on 12/02)
- Dry flood proofing practices on list: flood gates, green roofs, mature and new tree credits (must include ruler in image)
 - o New Tree Credit: 1-inch caliper, measure 6 inches off the ground
 - o Mature: 12 inches wide 4 feet off the ground

Contact: stormwater@alexandriava.gov

Request (Hill): Can the city provide committee members with 1-pagers on the SWU Credit and Flood Mitigation grant programs that members can distribute to residents? Please include links/QR codes.

4. Bylaws

4. Review and approval of Committee charter & bylaws

AGENDA ITEM #4

Assembled by Leonard and circulated (via email) by Hill. Decision to put on agenda for next meeting.

- Drudi: Draft of bylaws should be included in meeting announcement and be linkable from the agenda, so the public has notice.



5. Outreach

5. Discussion of outreach events

AGENDA ITEM #5

6. Discussion Open to the Public

6. Other topics

AGENDA ITEM #6

Rose Esber: I live near the King Street, Metro. The entire area has been flooded 4 times since 2019 and once in 2016, with massive structural and personal property damage to homes, hotels, and businesses. Many residents believe the flooding in Upper King Street was mainly due to the city's lack of foresight and negligence, and not cleaning out the (Hooffs Branch?) culvert despite knowing that culvert was a serious problem since 2016. Since (the city?) finally removed 280 tons of debris from the culvert, Upper King Street has not flooded into our building. The city's small flood mitigation grant was insignificant in financing our condos \$300,000 in flood mitigation or the repeated cleanup costs. The city staff made an arbitrary decision to exclude us from applying for individual grants by designating our personal property as common area despite our condominium documents. We have not been able to do preventative maintenance since 2016. Our reserves are at \$30,000 when they should be at \$100,000. 4 of our 8 owners are senior citizens on fixed income... So, the city has continually raised our real estate taxes and the stormwater fees but the city has not helped condominiums sufficiently or fairly to recover from multiple floods. I don't know when or if our condo will ever recover financially from the flooding that should have been prevented by the city's routine stormwater maintenance. We are asking the city to provide condominiums with more financial help to recover from the past flooding. Thank you very much for everything you're doing. I appreciate your efforts.

(The above is from the Zoom recording. Ms. Esper indicated that she would email her comments for official inclusion.)

Discussion:

- Maines: The city responded to Ms. Esber in writing a couple times.
- Drudi: City Hall decided condos get as much money as five houses even if a condo has 100 units. That condo (Ms. Esper's) has ~8 units, which seems unfair to condo owners. Suggestion: Calibrate support to the number of units in the condo. \$25,000 is proportionately less than what homeowners get.



- Maines: Ex: Park Fairfax – If the individual condo will do the work, then they can get \$5,000. If the association does the work, they could also get \$25,000. Depends on bylaws. Understanding that individual condos are not getting flooded but common area is.
- Drudi: Each unit has a storage unit and parking space, and those are being flooded in the basement. The storage unit and parking space are not viewed as common area. Gate keeps flooding out of parking garage.
- Hill: Drudi and Hill to visit Ms. Esper. Damages that occurred in the past due to perceived lack of maintenance due to Hooffs Run.

Motion to adjourn. Seconded. All in favor. Aye.

End: 9PM