

Four Mile Run

Stormwater Improvement Project



Design Update Public Meeting

Monday 09 December 2019 6:00pm-8:00pm at Greenfield Elementary School

Project Team Attendees:

- Alex Sciulli, PE Pittsburgh Water and Sewer Authority (PWSA)
- Rebecca Zito Pittsburgh Water and Sewer Authority (PWSA)
- Jake Pawlak Pittsburgh Water and Sewer Authority (PWSA)
- Elaine Hinrichs Pittsburgh Water and Sewer Authority (PWSA)
- Jim Turner, PE Pittsburgh Water and Sewer Authority (PWSA)
- Beth Dutton Pittsburgh Water and Sewer Authority (PWSA)
- Tim Nuttle, PhD Civil and Environmental Consultants (CEC) – PWSA Design Lead
- Brad Hazelwood, RLA Civil and Environmental Consultants (CEC) – PWSA Design Lead
- Patrick Sullivan, PE Civil and Environmental Consultants (CEC) – PWSA Design Lead
- Elijah Hughes evolve environment::architecture – Subconsultant to CEC
- Damon Weiss, PE Ethos Collaborative – Subconsultant to CEC
- Tom Batrone, PE Mott MacDonald – PWSA Stormwater Consultant
- Gavin White Pittsburgh Parks Conservancy – PWSA Project Partner
- Heather Sage Pittsburgh Parks Conservancy – PWSA Project Partner
- Michael Panzitta City – Department of Mobility and Infrastructure (DOMI)
- City of Pittsburgh Park Ranger
- City of Pittsburgh Public Safety (3 representatives)

These notes prepared by Elijah Hughes.

1: Meeting Overview

- 1) Date: Monday 09 December 2019
- 2) Time: Doors open at 6:00pm, Presentation at 6:30pm
- 3) Venue: Greenfield Elementary School auditorium
- 4) Pizza and beverages were provided
- 5) The public was invited by email, blog post, and Facebook. Meeting attendees were asked to RSVP via a page on Eventbrite. Name tags were printed for those who RSVP'd.

2: Meeting Agenda:

- 1) 6:00 – 6:30: Food was provided and attendees were invited to look at the six project boards at the front of the room.
- 2) 6:30 – 8:00: Alex Sciulli, PE, Chief of Program Management delivered the presentation with support from Project team members. Mr. Sciulli invited attendees to ask questions throughout the presentation so that all issues could be addressed.
 - i) Welcome and Introductions
 - ii) Agenda
 - (1) Agenda Items
 - (2) The latest Four Mile Run project design is shown on the six project boards around the room.
 - (3) A copy of the Preliminary Design Memorandum is available online at www.4MR.org
 - iii) 1: PWSA's Mission and this Project's Goals
 - (1) PWSA's Mission

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- (i) Original Mission:
 - i. PWSA's mission was originally limited to providing drinking water to Pittsburgh's homes and businesses, and to providing conveyance of wastewater through the sewer system to ALCOSAN's treatment facilities.
- (ii) Today:
 - i. Successful stormwater management requires participation from government, residents, businesses, and non-profits.
 - ii. As the problem has grown in scale and in intensity, PWSA identified a need and has taken the initiative to address the impacts of stormwater.
 - iii. PWSA's 2016 Green First Plan identified projects and programs, including the Four Mile Run project, that can have a positive impact.
- (2) Creating healthy, flood-prepared neighborhoods
 - (i) Project goals and benefits
 - i. Reduce Combined Sewer Overflows
 - ii. Reduce Flood Risk and Basement Backups
 - iii. Manage Sediment
 - iv. Leverage Resources for Regional Benefit
- iv) 2: Progress Being made
 - (1) Projects are planned and in motion throughout the Four Mile Run watershed (a.k.a. M-29 sewershed)
 - (2) Wightman Park Improvement Project
 - (i) Under Construction Now to Summer 2020
 - (ii) Project led by the Department of Public Works
 - (iii) PWSA is a partner in the project which includes stormwater management facilities.
 - (iv) This is the first public project of its kind in the Four Mile Run watershed.
 - (v) Future streetscape stormwater improvements are under design.
 - (3) Four Mile Run Early Action Projects
 - (i) Under Construction December 2019 to Early 2020
 - (ii) Project led by PWSA
 - (iii) Contractor Selected
 - (iv) Approvals in Place
 - (v) Construction began on 04 December 2019
 - (vi) Two early action projects will offer stormwater management benefits in the near term before the main construction phase.
 - i. Overlook Drive
 - ii. Manages 1.1 acres (mostly roadway surfaces)
 - iii. Capacity of about 72,500 gallons
 - iv. Bridle Trail
 - v. Manages 9.4 acres (mostly forest)
 - vi. Capacity of about 71,000 gallons
 - (4) M-29 Outfall Rehabilitation
 - (i) Construction Planned for Early 2020
 - (ii) This project is led by PWSA.

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- (iii) The overflow pipe to the river will be rehabilitated to address structural deficiencies.
 - (5) Small Diameter Sewers Rehabilitation
 - (i) Engineering to commence in 2020
 - (ii) Total of *3.8 miles* of sewer proposed for rehabilitation.
 - (iii) This will decrease the amount of groundwater that enters the sewer system.
 - (iv) Portions of several streets in Greenfield and Squirrel Hill:
 - i. Monteiro Street
 - ii. McCaslin Street
 - iii. Graphic Street
 - iv. Greenfield Avenue
 - v. Loretta Street
 - vi. Montclair Street
 - vii. Hazelwood Avenue
 - viii. Murray Avenue
 - ix. Burchfield Avenue
 - x. Shady Avenue
 - xi. Morrowfield Avenue
 - v) 3: Updated Project Timeline
 - (1) Public Meetings
 - (i) September 2018
 - (ii) November 2018
 - (iii) June 2019
 - (iv) September 2019 (Early Action projects walking tour)
 - (v) December 2019
 - (vi) Q1/Q2 2020 (Planned)
 - (vii) Periodic updates through construction
 - (2) Engineering
 - (i) May 2018 Project Kickoff by PWSA
 - (ii) March 2019 30% Design Complete: Preliminary Design Memorandum
 - (iii) March-May 2019 Design Peer Review and performance modeling
 - (iv) June 2020 60% Design anticipated
 - (v) Q2 2020 100% Design completion anticipated
 - (3) Permitting
 - (i) Permits Submitted November 2019
 - (ii) Permits may delay construction
 - (4) Construction
 - (i) Construction anticipated to begin in Q3-2020
 - (ii) Construction to begin after permits are approved.
 - vi) 4: Four Mile Run Design Update
 - (1) Design Overview
 - (2) Panther Hollow Lake
 - (a) Dam Permit Requirement
 - (i) The State DEP is now requiring a “dam” permit for this lake.
 - (ii) Upgrades will be made to the lake to ensure dam safety regulations are met.
 - (iii) This new permit will take time to be approved.
 - (b) Panther Hollow Lake will include a forebay to manage sediment.

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- (c) Panther Hollow Lake will be dredged as part of this project.
- (d) DEP regulations require the dam to retain the 100-year storm.
- (3) Junction Hollow
 - (a) Stream Components will mimic natural stream features to control grade, provide habitat, and support ecosystem processes.
 - (i) Boulder cross vane
 - (ii) Toe wood with live brush layer
 - (iii) Log constructed riffle
 - (iv) Log vane, rock J-hook, and root
 - (v) Rock constructed riffle
 - (b) Construction Phasing will allow continuous access:
 - (i) Phase 1: A temporary gravel trail will allow for grading of eastern portion of site.
 - (ii) Phase 2: The trail will be moved to eastern portion of site, allowing grading to occur throughout.
 - (iii) Phase 3: Re-route pedestrians and bicyclists back to the western side of the site, allowing for final stream construction and planting.
- (4) Connection to the River
 - (a) PWSA is evaluating option to convey water to the river:
 - (b) 1: DEEP TUNNEL
 - (i) A tunnel under South Oakland was deemed to be far more expensive and allowed the least amount of flexibility.
 - (c) 2: DEEP, GRAVITY PIPE
 - (i) The deep gravity alternative follows Saline Street and is the option that was submitted with permit applications.
 - (d) 3: SHALLOW, PUMPED PIPE
 - (i) A shallower pipe along Saline Street is possible but would require a pump station.
 - (e) 4: EXISTING SEWER RECONFIGURATION
 - (i) It may be possible to reconfigure and optimize existing pipes to achieve the same level of performance with reduced construction impacts.
- vii) 5: Facilitated Q&A
 - (1) Frequently asked questions:
 - (a) PUBLIC SAFETY VEHICLE ACCESS to THE RUN:
 - (i) Construction of Saline Street or any other part of the project will not block, restrict, or impede for emergency vehicles to The Run community or any other Pittsburgh neighborhood.
 - (ii) The construction contractor will follow all applicable procedures to ensure access for public safety vehicles as well as residents and all other normal traffic.
 - (b) RELATIONSHIP WITH THE MOBILITY PROJECT:
 - (i) PWSA's stormwater project will move forward regardless of DOMI's plans for mobility through this area.
 - (ii) PWSA's stormwater project is not being slowed down by DOMI.
 - (c) BICYCLE ACCESS DURING CONSTRUCTION:
 - (i) Per the requirement of DOMI, PWSA's construction team will provide a temporary trail during construction so that cyclists and pedestrians can continue traveling through the Junction Hollow valley.
 - (d) PWSA'S RUN RESIDENT SURVEY

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- (i) In late summer and early fall PWSA hired Campos to conduct a survey, both online and by phone, about flooding experience in The Run community.
 - (ii) This survey included specific questions that were carefully chosen for PWSA to verify and calibrate a digital hydraulic model of flooding in this area.
 - (iii) PWSA did not hire canvassers who went door-to-door in the community.
 - (iv) PWSA's survey was not just for homeowners: non-owner residents (renters) were also encouraged to participate.
 - (v) It is not too late to take the survey: a paper version is available to fill out.
 - (2) Facilitated Q&A:
 - (a) Please keep questions and comments to *two minutes per person*.
 - (b) Questions, comments, and responses will be *written down and shared* with this presentation.
 - (c) You may also submit questions and comments via *paper feedback form or online*.
- 3) 8:00-8:05: Mr. Sciulli answered additional questions.
- 4) 8:05-8:25: Project team members answered questions one-on-one with meeting attendees while looking at the project boards. The meeting ended at 8:25 as PWSA had reserved the meeting room at Greenfield School until 8:00.

3: Meeting Discussion:

- 1) At the beginning of the meeting, Mr. Sciulli asked audience members to raise their hands.
 - a) How many people attended the June 2019 public meeting?
 - i) Majority of attendees raised their hands.
 - b) How many people attended the September 2019 early action projects walking tour?
 - i) About half a dozen people raised their hands.
- 2) Early Actions
 - a) What will surface be? Gravel? Can I fall in?
 - i) Pat Sullivan: Will be about $\frac{3}{4}$ " gravel.
 - ii) Pat Sullivan: Able to be walked on.
 - b) Will the Bridle Trail be made narrower? How narrow?
 - i) Brad Hazelwood: 10 feet wide will be the minimum.
- 3) M-29 Outfall Construction:
 - a) Where is this?
 - i) Under RR near the Monongahela River in Hazelwood Green
 - b) Are those barges in the photograph near to the outfall?
 - i) Yes those are barges.
- 4) Pipe under railroad from Panther Hollow Lake to the Junction Hollow valley.
 - a) Will this be combined with pedestrian tunnel?
 - i) This has been separated and PWSA is leaving room for the pedestrian tunnel.
 - b) We were told by DOMI at the most recent DOMI-hosted public meeting that the pedestrian tunnel would be implemented in "Phase 2". Why is this not being constructed at the same time as the stormwater improvements.
 - i) Jake Pawlak: PWSA wanted to ensure that getting approvals for the pedestrian tunnel would not slow or delay the stormwater project. This is being developed separately and by the City, not PWSA.
- 5) Panther Hollow Lake:
 - a) Mr. Sciulli discussed the Opti system at that site.
 - i) Opti is a brand name for a device that allows for electronic control of the valve that controls the level of the lake. By proactively lowering the lake level before a storm this allows the lake

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- to have a greater capacity to store water, reducing the likelihood of a combined-sewer overflow during the rain storm.
- ii) Where does water go when you draw down the lake?
 - (1) The water goes to combined sewer system before the storm takes place so it does not cause an overflow. It is then treated at ALCOSAN's sewage treatment plant.
 - iii) What does that do to the fish?
 - (1) Tim Nuttle: The lake level will only drop by around 1' from 10' for a minimum depth of about 9' at the deepest point, which is deep enough for fish to be undisturbed.
 - b) What does berm do to natural edge?
 - i) Tim Nuttle: The berm is between the lake and the railroad, not at the lake edge. The lake will have natural edge with stone jetties where people can approach the lake's edge.
 - c) What is maintenance schedule for sediment?
 - i) Damon Weiss: The forebay would be cleaned every year or possibly more frequently. It would be monitored to ensure that it is well-maintained. The lake would need to be dredged approximately every 20 years.
 - d) What is a "100-year" storm?
 - i) Based on historical meteorological data, this means that there is a 1% chance that a storm of this intensity will occur within a given year, thus a high likelihood that it will occur once in 100 years. Due to climate change, the Pittsburgh region has experienced higher-intensity storms with greater frequency than the historical meteorological data.
 - ii) The definition that PWSA uses approximates a "100-year" as being about 4.5" of rainfall over a 24-hour period.
- 6) Junction hollow
- a) Are the trees shown in the cross-section representative of what the valley will become?
 - i) This is an artist's representation and the specific trees and canopy height are illustrative and not exact.
 - ii) PWSA is minimizing disturbance and will work with DPW Forestry to develop a tree impact and remediation plan.
 - iii) Tim Nuttle: The western slopes of the valley are covered with invasive species such as Japanese Knotweed. The invasive species populations inhibit forest succession for native species. Comprehensive invasive species remediation throughout the valley slopes is not a part of the stormwater project.
 - b) West of the Three Rivers Heritage Trail, will there be any impact on that greenspace?
 - i) PWSA's project impact will be east of the Trail around the stream area.
 - ii) Tim Nuttle: Over the past century, slag and urban fill were added to the Junction Hollow Valley. Because of this there will need to be more substantial grading in northern part of stream construction area to ensure water makes it downhill.
 - iii) There are some notable trees along the railroad bank, most of which will not be impacted.
 - iv) Portions of wooded areas along the trail would be removed. PWSA will observe the City's no-net-loss tree canopy policy and will replace mature trees with multiple saplings.
 - c) What species of trees will be planted in the project area?
 - i) Tim Nuttle: The project team is targeting a Silver Maple and Sycamore floodplain forest. Only native species that are appropriate to this environment will be planted.
 - d) Is tree replacement in PWSA's budget?
 - i) Yes.
 - e) How wide will stream be?
 - i) 8-10 feet wide.
 - f) If slag is removed from some areas on site, where will it go?
 - i) Replaced on elsewhere site.
 - ii) Could soil and slag removed from some parts be used as fill for DOMI's mobility trail?

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- (1) This is not known and depends on the quality of the soil.
- iii) If the road doesn't get built, can PWSA still build the stormwater project?
 - (1) Yes.
- g) Temporary Three Rivers Heritage Trail during construction:
 - (1) What does "gravel" mean, will it be a bikeable surface? This is a commuter trail for cyclists with road-going bikes that are not made for rough gravel.
 - (2) The temporary trail will be gravel, could add in limestone.
 - (3) A well-packed crushed limestone would be ideal for cyclists.
- h) Which colored areas on the site plan are flood zones, which areas have trees, and which areas have grass?
 - i) Tim Nuttle: The entire width of the stream area will flood every 1-2 years during a large enough storm event, just as a natural stream would.
 - ii) Tim Nuttle: The planting plan includes seeded plants and tree saplings.
 - (1) Planting on the east side of the stream will be denser.
 - (2) Planting on the west side of the stream, near the Three Rivers Heritage Trail, will be more open so that park users can see and hear the stream.
 - (3) Seeded plants will be native species and include pollinator-friendly wildflowers.
- 7) Connection to the River:
 - a) The board mentions that the "Deep Gravity Pipe" option was submitted with permits. Which permit does that refer to?
 - i) A joint permit with DEP and Army Corps which was submitted in November 2019.
- 8) Relationship to mobility project:
 - a) A right-to-know request showed that Mr. Sciulli had mentioned in a meeting that he thought residents had unrealistic expectations about performance. Could this project be more effective if there was no new road adding new impervious surfaces?
 - i) Jake Pawlak: The concerns about public expectations that Mr. Sciulli had raised were made before major design changes were made to increase cost effectiveness and overall performance. Design development since the June 2019 public meeting has led to a more effective project. Since becoming involved earlier in 2019, Mr. Sciulli prioritized implementation of the early action projects at Overlook Drive and the Bridle Trail to address chronic stormwater runoff concerns quickly.
 - ii) Stormwater modeling has not been performed to compare performance with and without DOMI's mobility trail.
 - (1) PWSA's project team and stormwater team developed a highly detailed Stormwater Management Model (SWMM) of the M-29 sewershed, which was shown in the June 2019 presentation. The stormwater runoff volumes within this sewershed come from impervious surfaces throughout the shed, many of which are rooftops and parking lots that have no flow-attenuation features.
 - (2) The scale of the DOMI's mobility trail is minimal and is not significant enough to show a meaningful difference in the SWMM. Furthermore, DOMI's mobility trail would be surrounded by landscaping and runoff would be managed to meet modern stormwater expectations.
 - iii) PWSA is currently focused on implementing the core project which includes Panther Hollow Lake, the new Junction Hollow stream, and a connection to the river. PWSA is also looking throughout the M-29 sewershed for additional opportunities to manage stormwater, with an eye toward identifying the most effective projects. Improving stormwater conditions in M-29 requires a comprehensive shed-wide approach that is greater than just the core project.
 - iv) Other M-29 stormwater projects currently under construction or in development include:
 - (1) Wightman Park
 - (2) Early Action Projects: Overlook Drive and the Bridle Trail

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- (3) Small Sewers Rehabilitation: Squirrel Hill South and Greenfield.
- b) Would the stormwater project and mobility trail project use the same construction crew?
 - i) Alex Sciulli: Ideally this would be the case, as it would save on costs for both PWSA's ratepayers and the City's taxpayers. Utilizing the same construction crew would also expedite construction. Constructing the projects at the same time would protect the stormwater project from being potentially disturbed by future construction.
 - ii) Jake Pawlak: PWSA will be able to implement the stormwater project with or without DOMI's mobility trail. If the mobility trail is to be built then PWSA will take advantage of the opportunity for cost sharing.
 - 9) Survey in the Run community:
 - a) At DOMI's November 2019 meeting about the mobility project, Jake Pawlak heard a question about "survey-ers" in the Run community and some confusion about why they were there and what they were working on. Mr. Pawlak at the time interpreted this question as being related to the flood experience survey that PWSA created with its consultant Campos. The question was actually about "surveyors" who were in the community with yellow vests and tripods, performing a physical survey of portions of the Run community.
 - b) PWSA confirmed that they surveyors were working for PWSA for work related to stormwater improvements.
 - 10) Acquisition of properties:
 - a) Property acquisition was mentioned in documents acquired through a right-to-know request. Is PWSA going to acquire properties in the Run community?
 - i) Property acquisition is discussed in relation to almost any stormwater project. There are some areas where homeowners really want to get bought out. PWSA is not planning to acquire anything in the Run.
 - ii) PWSA and the City are working in the Saw Mill Run area to create an acquisition process that would be applicable there and possibly in other places in the City where there is a high flood risk.
 - 11) Latest design:
 - a) A right-to-know order said PWSA had to provide "latest" drawings and instead PWSA delivered "months old" drawings.
 - i) The 60% design will not be done until January.
 - ii) PWSA will provide engineering drawings on the project website: www.4MR.org.