



City of Harrisonburg Stormwater Advisory Committee

Meeting Summary

February 2, 2023, 5:00-7:00 p.m.

Lucy Simmons Continuing Education Center, 620 Simms Avenue

Members in attendance: Daniel Michael, Dale Chestnut, Dany Fleming

Staff in attendance: Tom Hartman, Keith Thomas, Shayna Carter, Brittany Clem-Hott, Wes Runion

Others in attendance: None

Review and Adopt Minutes

Daniel Michael motioned to approve the August 11, 2022, meeting minutes. Dany Fleming seconded and the motion passed unanimously.

Public Comment

There were no public comments.

Drainage Improvement Program Update

Charles to Madison St- Keith Thomas reminded the committee that last meeting was a public hearing for the Charles Street to Madison Street neighborhood to learn about the findings from the Drainage Improvement Study. Keith explained that the next steps in the program are to create budget requests to complete the engineer's designs.

Woodland Drive- Keith gave an overview of the project and application. He mentioned that VDOT is finalizing an agreement for an upstream BMP on city property. Keith also mentioned that letters were mailed to residents of the neighborhood with an update on the project.

Tom Hartman then gave a background on the Woodland Drive Drainage Improvement Program application. He noted that Timmons Group conducted an engineering feasibility study where they first looked at the current existing conditions, then evaluated several different alternatives. He explained that the feasibility reports' findings indicate that the best, most realistic approach was the addition of an upstream BMP. Tom then explained that as part of VDOT's I-81s improvements VDOT is willing to fund the project to meet their water quality goals, while the City is able to receive a prorated amount of water quantity benefits in addition, we get water quantity benefits. Tom noted that the City will be responsible for the maintenance of the BMP. Tom estimated the timeline for construction to begin around 2025 but noted it would be dependent on when VDOT starts.

Dany Fleming noted that the first email he received after being appointed to SWAC was from the Woodland Drive neighborhood. Dany then mentioned that he went out to the neighborhood and walked around with the residents and discussed their concerns with them. He mentioned that the residents in the neighborhood are anxious for the project to begin. He noted that he understands why partnering with VDOT is beneficial. Dany mentioned that residents of Woodland Drive believed that the Drainage Improvement Program would be beneficial to them.

Tom noted that Woodland Drive is part of the Drainage Improvement Program and that the program funded the study to determine if a BMP upstream would provide benefits to the neighborhood. Tom then mentioned that if the neighborhood had not brought the issue to the Drainage Improvement Program, then staff would not have done the study and would have missed the opportunity to partner with VDOT when they were inquiring about potential locations for BMPs. Tom then went on to say that what the neighborhood has done so far is how the program is intended to work but, in this instance, staff was able to find a partner that is willing to do the majority of the heavy lift. Tom mentioned that staff can communicate to the residents that the project is happening but won't start until 2025. Tom mentioned that if VDOT did not bring this offer to the City, the project would have needed to go through the City budget process which would be ranked amongst all the other projects that need to happen in the City and that could take a much longer time before the project would be funded.

Dany asked if there is any mitigation that can be done until the BMP is built in 2025.

Tom noted that there has been a flood sensor installed that will monitor any potential flooding in the area but there is not much else that can be done for mitigation. Tom mentioned that the biggest concern seemed to be the 2018 summer rain.

Keith then mentioned that all other Drainage Improvement Program applications are still on hold until staff can work through the other two.

MS4 Program Updates

Keith gave an update on the new MS4 permit that will begin this October for the 2023-2028 cycle. He noted that the TMDL requirements started in 2013. He noted that this requires clean up of the Bay 100% from the 2009 model. DEQ gave 3 permit cycles to get it done and the City is currently in our second cycle. By this summer the City will need to achieve 40% reductions and for the next five years staff will be working to get the rest of the 100% required by DEQ. Keith then mentioned that as part of doing that, staff requested funding to update the City's Stormwater Improvement Plan, which identifies potential locations of BMPs the City can implement to reach the permit's water quality requirements. He noted that the update to the plan will be able to show how we can reach our 2028 requirement as well as the local TMDL requirements. Keith mentioned that the new permit will include requirements to develop a TMDL Action Plan for Cooks Creek and Blacks Run which had a waste load allocation (WLA) added a few years ago. He noted that staff are currently working on a new scope for that.

Dan Michael then asked if it was possible to double dip the TMDLS to meet these goals. Keith noted that it can be done however for the Cooks Creek TMDL the City does not have a lot of practices up there so it will be important to figure out how staff want to reach that goal.

Dany asked if staff is on target to meet the 40% target for this year. Keith then mentioned that the City currently has projects underway that will meet and exceed the 40% target. He noted that the City has a couple stream restoration projects that are finishing up and the work that they are doing there will be dependent on meeting that 40%. Keith explained that staff will be looking at the nitrogen, phosphorus, and sediment loads. Tom then added that upon completion of the ongoing stream restoration projects that it will complete the phosphorus and sediment reduction requirements and for the next five years staff will just have to finish the nitrogen reduction requirement.

Shayna Carter updated the group on the Stormwater Pollution Prevention Plan (SWPPP) and City Owned BMP inspections. Shayna stated that the SWPPP inspections were completed in December and the City

owned BMP inspections were finished in January. She mentioned that staff will be working to complete Outfall Inspections this month and will move on to Stormwater Utility BMP inspections in March.

Keith then clarified that the SWPPP or the Stormwater Pollution Prevention Plan is for public facilities. They are categorized as high priority facility with high potential to pollute, a high priority facility, or low priority facility. Those with a high potential to pollute need inspections every year. He noted that staff inspect these facilities every fall and spring to look for potential sources of pollution to see if there are any areas that need more attention. Keith then noted that BMP inspections that are city owned require inspections to make sure they are still working properly. He then explained the Stormwater Utility Credit are BMP's that residents have on their property such as trees and downspouts that are disconnected to pervious areas can receive credits on their stormwater utility fee. He mentions that staff do inspections annually to ensure that the BMPs receiving credits are still there.

Dany asked what is the percentage of high or low facilities. Keith mentioned that what makes the facility high with a high potential to pollute is the activity that occurs at the site such as storing materials, stockpiles, gas pumps, and any storage of chemicals such as fertilizers and pesticides. Keith mentions that DEQ recently put out guidance to include fire stations due to the washing of fire trucks at the facility. There is a clause that firefighting activities are exempt, but DEQ is narrowing that definition to just active firefighting. He mentioned that training and washing vehicles is not included in that. Keith noted that with the addition of the fire stations there are 11 high priority with high potential to pollute sites. He then mentions that the rest are high or low and that a lot of the low ones are schools.

Dale Chestnut asked how many City owned BMPs there are to inspect. Wes Runion noted that there are around 60 City owned BMPs that staff inspect. Keith mentioned that staff are only required to do 50 outfall inspections a year. Dany then asked if there are highly yielding sections of pollution. Keith then mentioned that the high priority with high potential to pollute sites are inspected twice a year, it is only required to be done once and the high priority are done every year to make sure that they haven't bumped up. He mentioned that they are far less strenuous and mostly require driving through the facility to make sure the activities are the same.

Dale then asked if the majority of the city owned BMPs were detention basins. Wes noted that the majority are detention or retention basins. Wes then mentioned that stream restorations will also require a BMP inspection moving forward.

Wes Runion then gave an update on Blacks Run Clean Up Day. He noted that staff have begun planning the event and held their first planning meeting and settled on the location. Blacks Run Clean Up Day will be held at the Grassy Lot beside the Harrisonburg Farmers Market downtown. It will be held on April 15th; the Green Scene registration is now open and the volunteer registration will open in March. Wes then gave a background on Blacks Run Clean Up Day where he mentioned staff plan for around 500 volunteers from the community who on average collect around 2 tons of trash from the stream corridors and the streets. He mentioned that the Green Scene has educational vendors and environmental organizations that set up to promote the work that they are doing. Wes mentioned that this is used as a public participation event to meet the MS4 MCM 2 requirement.

Dany then mentioned that Blacks Run Clean Up Day has become important to the City's culture and that people come to expect the event every year. Tom then mentioned that we also tie this event to Arbor Day and there are groups of people that plant trees in the City on Blacks Run Clean Up day as well. Keith then mentioned that there are people in November that ask for the date and location for Clean Up day. Wes mentioned that this year will be the 25th Blacks Run Clean Up Day.

Shayna then mentioned there will be a Rain Barrel Workshop held on April 19th at the Recycling Center. She noted that this workshop is in partnership with the Shenandoah Valley Soil and Water Conservation District. Tom then noted that there is an associated cost for attending these workshops.

HCAP Updates

Shayna mentioned that there is an increased interest in Tree practices in HCAP. She mentioned that since the last SWAC meeting there has been one finished tree planting, two tree plantings that still need to be paid out, and three that still need site visits to be completed. She then went on to mention that staff hung doorhangers in several neighborhoods in the City to gain interest in the tree planting practice and believe that there has been a good response.

VMRC Project Update

Wes updated the committee about the VMRC project noting that staff is waiting to see if the project is approved for DEQ SLAF grant. He added that staff expect to find out sometime this month.

Tom noted that SLAF is the Stormwater Local Assistance Fund which is a 50/50 matching grant from DEQ for stormwater eligible projects. Dany asked if this grant is readily available when the City needs it. Tom mentioned that it is a competitive grant that the City has been successful with. He noted that Northend Greenway, Mountain View Drive and the Blacks Run South stream restorations were all funded with the SLAF grant. He mentioned that the state is continuously putting money towards this grant, and we are expected to hear back about the VMRC project this month. If we are successful, we will enter agreements and get the project back on track.

Mountain View Drive Stream Restoration Update

Wes gave an update that the project has been completed but upon final inspection staff noticed some issues that will require the contractor to come back to fix. He noted that most of the work that the contractors will have to fix is in-stream work and that they should be back on site sometime this month.

Dany asked the length of the project and Wes noted that the stream length stretches from Reservoir Street to MLK Jr Way. He mentioned that it stops at the train tracks and that the stream corridor does a 90 degree turn and then flows into a JMU stream restoration. Tom then mentioned that is where it enters Siebert's Creek and that our project didn't include Siebert's Creek. Wes mentioned that it was a heavily eroded section of stream with several different utility lines that run parallel to the stream. Tom then noted that this stream restoration was built to help protect the utilities by reenforcing the stream banks. Wes then mentioned that the property owners were losing land along the stream because of the erosion along the banks. Tom then mentioned that Mountain View Drive was essentially the first Drainage Improvement Program project. He then explained that the homeowners association came to city council around 2015 to ask what options there were since there wasn't a city easement and they asked for Public Works to do a study. Tom noted the study found that doing a stream restoration would have quantity reduction that would help with the erosion issue and in turn, it would provide water quality benefits to help meet the City's pollution reduction requirements. Because of the water quality benefits staff decided to move forward with the project and with the home owners association, apply for the SLAF grant as long as the property owners would dedicate all the easements needed.

Dale then asked if this was a project that was easy to show to other people. Tom mentioned that access might be difficult because it would require walking through peoples backyard unless they entered from the Eastover Drive portion of the stream. Dale then asked if this was something that staff could put

together a PowerPoint on. Tom noted that it could be done and there are pictures taken before and after including storm event footage.

Northend Greenway Stream Restoration Update

Wes updated the group that the FEMA submission is almost complete. He then noted that there are several areas that trees need to be replanted and staff is working with the contractor on getting that fixed.

Tom mentioned that the Northend Greenway was the first stream restoration and that it came about because staff already planned to add a shared use path along the stream. Tom noted that the contractor submitted bids that included construction of the shared use path as well as the stream restoration. He then mentioned that funding came from the SLAF grant as well as a grant from VDOT. He also noted that the project is almost complete, but the floodplain was altered during the stream restoration construction and that FEMA needed to update the maps to reflect that change.

Wes then noted that he recently walked through the project with DEQ staff to confirm that the project was completed.

Blacks Run South Stream Restoration Update

Wes gave an update that the Blacks Run South Stream Restoration was about 25% complete. Wes mentioned that it is a slower project because it is an active channel, and the other two projects were dry channels. He noted that the contractors are hoping to be 50% complete by October to fulfill the City's MS4 requirements. He mentioned that the stream is located behind the Public Works office and goes all the way to the Police training grounds at Greendale and stops at the railroad tracks because after that it is private property. He noted that it is the biggest stream restoration we will have completed and it's a mile long stream restoration. He mentioned that this section of Blacks Run has been denuded for years.

Dany then mentioned that the Purcell Park stream restoration has been great to watch over the years. Wes noted that Caanan Valley did that stream restoration and the City couldn't take the credits for that project as it was completed before our baseline year.

Tom noted that the City did not have the TMDL requirements at that time. He then mentioned that the Purcell Park project was finished prior to July 2009 and the project was already in the model.

Dale asked if Blacks Run will finish out the nitrogen requirements. Tom mentioned that the Blacks Run South stream restoration will complete our sediment and phosphorus requirements.

Dany then asked if our MS4 program works with the County's plans as well. Tom mentions that from a construction stormwater management perspective that the county looks at projects the same way that the City does but they are not categorized as a MS4 so they do not follow the same rules. Keith then noted that City projects have been primarily focused on locations that are within City control.

Other Topics

Wes mentioned that Virginia Department of Forestry will be hosting their Trees Virginia Board Retreat in Harrisonburg this year on March 7th-8th. He noted that the Board will be taking a field trip around the city and will look at different aspects of the Urban Wood Program and will be checking out the stream restorations. Wes noted that the Urban Forestry program and stormwater go hand in hand and that

stormwater staff work closely with the Urban Forestry staff. Dany mentioned that this should be promoted to the public because they are often unaware of these things that are happening and the quality of work that is happening in the City.

Tom then mentioned that Jeremy and the City were recognized in the National Recreation and Park Association Pollinator Guide as a best practice case study for how to do a pollinator program. He also mentioned that the Urban Wood and Urban Forestry Program has been recognized nationally several times for their programs. He then mentioned that Jeremy received a Gold Medal Governors Award as well as Wes for the bioreactor project.

Wes gave an update that the City received Tree City USA designation again. He mentioned that the Urban Forestry program goes above and beyond the requirements for tree plantings for Tree City USA. Dany mentioned that these tree plantings are important for the Heat Island effect and that it's important for the public to recognize that this isn't about just planting trees that it affects the hot spots and quality of life. Tom then mentioned that Jeremy often doubles his budget with grants for tree plantings.

Dany mentioned an area by Ott Street and Campbell Street there is an area that would make a good pollinator spot. Wes noted that Mike Hott, who puts in the pollinator areas in the City is always looking for City owned areas for pollinator plantings. Wes mentioned that he would pass the information along to Mike.

Wes then mentioned that the Arbor Day celebration will be scheduled in conjunction with Blacks Run Clean Up Day. It will be held at the Heritage Forest which is the back entrance into the golf course by Thomas Harrison Middle School. He noted that the tree planting will be along the stream so it will be a buffer planting.

Wes then updated the group that the East Campus Riparian Buffer Expansion Project will have its second planting on March 23rd. Wes noted that the planting will consist of 150 trees and that both parts of the project were funded through the Virginia Trees for Clean Water Grant. Wes mentioned that the City typically receives this grant every year for tree plantings.

Shayna gave an update that staff will be hosting a composting workshop on May 11th at the Transfer Station at Public Works. She mentioned that it will be a similar format to the rain barrel workshop consisting of a presentation then participants will be able to make their own worm composting bin. She noted that this workshop will be free to the public.

Wes gave a background on the Bioreactor Project. He noted that the City partnered with Ridge to Reefs, a non-profit organization that secured the funding from the National Wildlife and Fisheries grant. He mentioned that a bioreactor is essentially a big pit that is filled with woodchips and is capped with the material and overseeded soils is put back on top. He mentioned that you can't see the actual project other than a small rise in the landscape. He noted that the water is diverted through it in pipes from Siebert's Creek that's attached to the pond intake at Purcell Park. He noted the outfall goes into Blacks Run. Wes noted that it was estimated that the bioreactor was supposed to reduce 1,300 lbs of nitrogen per year but since then the numbers have gone down a little but it is still performing well. He explained that the water with nitrogen in it comes from Siebert's Creek, goes into the chamber and as it sits there the microbes from the woodchips breaks down the nitrogen into nitrogen gas and it escapes the system and goes into the atmosphere. Wes noted that it's an extremely effective and passive system and it requires a small amount of maintenance. He also mentioned that it is not intrusive in the landscape at all, unlike a detention pond. Dany asked if there is process in replacing the wood chips inside the bioreactor. Wes mentioned that bioreactors have been around since 2004 and that they are commonly used in the

agricultural sector. But in these cases, they did not have an ever-flowing system and would allow oxygen to get in the system. Because the bioreactor at Purcell will have constant water flow, it decreases the chance for oxygen to get into the system. Wes noted that in the absence of oxygen, wood does not decompose. He mentioned that this project is still very new for stormwater. He noted that DEQ wanted to do a pilot program for monitoring to get the project into their BMP Clearinghouse. Wes then noted that staff just need to monitor the outflow and if the nitrogen reductions start to decrease then that might mean the wood chips need replacing. He also mentioned that there is a visual rise in the landscape where the bioreactor is located and if the ground ever starts to sink in at that location that could also indicate the wood chips need replacing. Wes noted that in the agricultural sector they replace their wood chips every 15 years, but he foresees the City not needing to replace the wood chips for even longer since it is a completely enclosed system.

Wes then gave an update on working to get the Bioreactor projected credited with DEQ. He mentioned that he reached out to DEQ staff, and they have restarted the review process to see if the project can receive credits.

Next Meeting Dates

2023 Dates

- May 10, 2023
- August 9, 2023
- November 1, 2023