Bringing Green Infrastructure to Tireman Avenue and Artesian Street:

A Community Discussion with Detroit Water and Sewerage Department (DWSD) and Detroit Public Works Department

January 14, 2015

Discussion Summary

Community residents and local leaders met at Don Bosco Hall Community Resource Center on Wednesday, January 14, 2015, to discuss DPW's planned road resurfacing projects on Tireman Avenue and Artesian Street and the opportunity for DWSD to integrate green infrastructure projects into certain areas while undergoing resurfacing.

Green infrastructure is a way to soak up storm water using the natural processes of soils and plants. The proposed project for Tireman Avenue includes bioswales from Chatham to Parkland and Parkland to West Outer Drive. Bioswales are gradually sloping areas that can be planted with turf grass or other plantings that capture and convey storm water slowly. The proposed project for Artesian Street includes pervious pavement. Pervious pavement looks like ordinary pavement but has small openings that allow storm water to pass through and soak into the ground. Bioswales and pervious pavement reduce sewage overflows into the Rouge River during rain storms by reducing the amount of storm water entering the sewer. They also reduce street flooding.

The purpose of the meeting was to provide participants with information about the proposed project and to provide participants with an opportunity to ask questions and share their concerns. This was the first meeting to gauge the community's interest in the proposed projects. There will be a second meeting in February 2015 to give residents who are directly affected by these proposed projects an opportunity to get more technical information and share their thoughts and concerns.

Provided below is a summary of the questions asked by participants at the January 14, 2015 meeting. The answers provided reflect the answers shared during the meeting or further researched after the meeting to adequately answer a specific question.

Q1. Is green infrastructure really cost-effective compared to other storm water management alternatives?

A1. DWSD looks at multiple objectives when evaluating cost-effectiveness of stormwater management. In addition to project cost, DWSD evaluates long-term benefits to the neighborhood and the environment, such as improving street drainage and removing pollutants from storm water. Green infrastructure has the ability to meet multiple objectives making it an attractive stormwater management technique.

Q2. The timing will affect my community. I'm concerned about people having to park around the corner, due to potential theft or vandalism. There might be a need to step up security during construction.

A2. DPW will conduct bioswale or pervious pavement construction on one side of the street at a time. It will be possible for residents to park on the side of the street opposite their home when construction is taking place in front of their residence. There shouldn't be a need to park around the corner.

Q3. Will drainage stored in the bioswales promote mosquitos?

A3. Bioswales are designed to capture and store water temporarily. Beneath the surface are drain pipes and stone to help drain water from the surface faster than the time it takes for mosquitos to breed.

Q4. Will the curbs on Tireman and Artesian be eliminated as a result of the proposed green infrastructure project?

A4. Curbs will remain.

Q5. Who will be responsible for maintaining the bioswales installed on Tireman Avenue?

A5. DWSD is responsible for the maintenance of the underground portion of the bioswales, such as the drain pipe. Above ground, the bioswale will be planted with turf grass requiring typical mowing by the homeowner. Alternatively, a homeowner may request plantings instead of turf grass that they agree to maintain.

Q6. What are the dimensions of the bioswale? Will it be a trench in front of a home?

A6. The bioswale will be about 10 feet wide within the existing grassy area between the curb and sidewalk. It will be about 12 inches deep vertically from the top of the curb and will hold a maximum of 6 inches of water during a rain storm. There will be a gentle slope to the bottom for easy mowing.

Q7. Once a bioswale or pervious pavement is installed, can property owners communicate concerns with DWSD and DPW if they don't like it?

A7. Yes. DWSD wants to hear any concerns property owners might have after installation of bioswales on Tireman Avenue or pervious pavement on Artesian Street. Property owners can contact DWSD via email at public.affairs@dwsd.org or use the emergency hotline number on the DWSD website.

Q8. What maintenance is necessary for pervious pavement to make sure it won't clog?

A8. Pervious pavement requires regular vacuuming to prevent clogging. Discussions with DWSD maintenance crews are ongoing, but this will not be the responsibility of neighborhood residents.

Q9. How well will pervious pavement endure the winters and thaws?

A9. Pervious pavement is designed to drain really well, so water does not have the chance to sit beneath the surface and freeze. This makes it durable during the winter and actually reduces the potential for ice on the surface. The existing sewer system will remain intact, so streets with pervious pavement will also drain the way they currently do in larger rain and thaw events.

Q10. What is the lifespan of the proposed pervious pavement for Artesian Street?

A10. The lifespan of pervious pavement is at least as great as traditional pavement (10-20 years).

Q11. Residents are concerned about spring rains and snowmelt in the area on the north side of Tireman between Parkland and Outer Drive.

A11. The drain pipe and stones installed below ground as part of the bioswale installation will help improve existing drainage.

Q12. Friends of Rouge Park believe Outer Drive through Rouge Park is unnecessarily wide and there is a need for a road diet. How would the bioswale project work with road diet planning?

A12. Outer Drive is a Wayne County road so is not part of the DPW road resurfacing projects, but DWSD would like to be made aware of on-going discussions about a road diet. The concept may fit in with DWSD stormwater management goals. (Note: Some local residents are very concerned about the road diet idea because portions of Outer Dr. are a main route for emergency vehicles.)

Q13. There is a need to have a walkway entrance into the park, so the bioswale shouldn't be too close to the street.

A13. The bioswale shown in the proposed project renderings on Tireman between Parkland and Outer Drive includes a path that would serve as a walkway.

Q14. Homeowners are very concerned about existing basement flooding and drainage problems. Won't the proposed bioswales on Tireman Avenue make this problem worse by promoting infiltration?

A14. Basement flooding is typically caused by combined sewer pipes backing up during rain events. It can also be caused by the accumulation of storm water near a house if the ground does not

slope away from a house or if downspouts discharge near a house. The bioswales will reduce storm water from entering the combined sewer, decreasing the potential for basement flooding. Additionally, the proposed bioswales are located outside of the area influencing basement flooding near the house foundation. Underdrains will also be used in the bioswales to ensure drainage. So, the design of the bioswale and the distance of the bioswales away from homes means that the bioswales won't promote more water in basements.

Q15. DWSD started a tunnel project in Rouge Park and abandoned the project due to concerns about the budget. How will DWSD guarantee that this project won't run out of budget and be abandoned?

A15. These proposed green infrastructure projects for Tireman Avenue and Artesian Street, as well as other locations in Detroit's upper west side, have an adequate budget guaranteed by DWSD and will be completed. It is part of DWSD's existing wastewater permit with the Michigan Department of Environmental Quality that these projects are adequately funded, completed, and evaluated.

Q16. What are the landscaping plans for the bioswales in Rouge Park?

A16. The landscaping alternatives for the bioswales in Rouge Park are being discussed with the Friends of Rouge Park, but they will include low maintenance varieties of plants.

Q17. What is the maintenance plan for the bioswales in Rouge Park? Residents are very concerned about the limitations and inconsistency of volunteer maintenance. Friends of Rouge Park have not committed to volunteer maintenance and feel that maintenance of the bioswales should be part of the Park Department's budget.

A17. Ultimately DWSD will be responsible for bioswale maintenance, but this will likely be in the form of monetary support rather than staffing. The hope is that the project will give neighborhood residents and park volunteers a sense of ownership by participating in maintenance activities related to plant care. Therefore, plant selection in the bioswale would be tailored to fit the maintenance capabilities of neighborhood residents and park volunteers. DWSD will maintain the function of the bioswales – making sure they drain, clearing underdrains and inlets. DWSD would like to further discuss the bioswale maintenance concerns and issues with potential volunteers. The construction contractor hired to install the bioswales will maintain vegetation during the initial seasons to ensure establishment.

Q18. Can the centerline of the bioswale be located closer to the curb to allow for tree planting between the swale and the sidewalk and to promote root growth (question by Greening of Detroit)?

A18. This request can be accommodated.

Q19. Have mature or recently planted trees been taken into consideration when selecting the project sites?

A19. Yes. The project sites were selected to avoid mature trees.

Q20. What are the advantages and disadvantages of pervious concrete and pervious asphalt?

A20. If neighborhood residents have no preference between pervious asphalt and pervious concrete on Artesian with regard to the overall look, DWSD will likely choose pervious asphalt because of its straightforward installation method.

Q21. Would be nice if DWSD and DPW could provide case studies or residential testimony regarding each type of green infrastructure practice.

A21. DWSD will attempt to compile this type of information and provide it to residents.

Q22. Gray infrastructure is still needed in Detroit, in conjunction with green infrastructure.

A22. DWSD agrees that a combination of green and gray infrastructure is needed in Detroit to effectively manage storm water. Gray infrastructure includes catch basins, sewers, and basins.

Q23. Can the resurfacing work on Tireman be extended to Outer Drive?

A23. DPW will look into extending resurfacing to Outer Drive.