CITY OF MERCER ISLAND UTILITY BOARD VIDEO MEETING

Tuesday, April 13, 2021 at 5:00 PM

BOARD MEMBERS: LOCATION & CONTACT

Chair Tim O'Connell, Vice Chair Tom DeBoer Board Members: Stephen Majewski George Marshall, Stephen Milton, William Pokorny, and Brian Thomas Mercer Island City Hall – Zoom Meeting 9611 SE 36th Street | Mercer Island, WA 98040 Phone: 206.275.7706 | www.mercerisland.gov

In compliance with the Americans with Disabilities Act, those requiring accommodation for meetings should notify the Staff Liaison at least 24 hours prior to the meeting at 206.275.7706.

Virtual Meeting Notice

The virtual meeting will be broadcast live on Zoom and recorded and saved on the City Council's YouTube Channel

Registering to Speak: Individuals wishing to speak live during Appearances will need to register their request with the City Clerk at 206.275.7793 or email the City Clerk and leave a message before 4 PM on the day of the Utility Board meeting. Each speaker will be allowed three (3) minutes to speak.

Join by Telephone at 5:00 PM: To listen to the meeting via telephone, please call **253.215.8782** and enter Webinar ID **841 1074 5031** and Password **194955** when prompted.

Join by Internet at 5:00 PM: To watch the meeting over the internet via your computer, follow these steps:

- 1) Click this link
- 2) If the Zoom app is not installed on your computer, you will be prompted to download it.
- 3) If prompted for Webinar ID, enter 841 1074 5031; Enter Password 194955

CALL TO ORDER & ROLL CALL, 5:00 PM

PUBLIC APPEARANCES

REGULAR BUSINESS

- 1. Approve Minutes:
 - a. December 8, 2020 Special Video Meeting
 - b. February 9, 2021 Regular Video Meeting
- 2. Sustainability Work Plan Update

Recommended Action: Receive presentation (to be provided).

3. National Pollutant Discharge Elimination System (NPDES) Annual Report Recommended Action: Receive presentation (to be provided).

OTHER BUSINESS

- 4. Public Works Department Update
- 5. Board Member Reports

ADJOURNMENT



UTILITY BOARD MINUTES SPECIAL VIDEO MEETING DECEMBER 8, 2020

CALL TO ORDER & ROLL CALL

Chair O'Connell called the meeting to order at 5:02 pm from a remote location.

Vice Chair DeBoer and Board Members Stephen Majewski, George Marshall, Stephen Milton, and Brian Thomas participated remotely using a video teleconferencing platform by Zoom.

Board Member William Pokorny was absent.

Council Liaison Lisa Anderl was present.

Public Works Director Jason Kintner and several staff members participated remotely.

REGULAR BUSINESS

Review and consider approving the November 10, 2020 Minutes

It was moved by Thomas; seconded by Milton to:

Approve the minutes as presented.

A roll call vote was conducted, and the results were as follows:

Passed 6-0

FOR: 6 (DeBoer, Majewski, Marshall, Milton, O'Connell, and Thomas)

Booster Station & Water Vulnerability/Risk Assessment Project Updates

Director Kintner discussed both projects and provided an overview of the following:

Booster Chlorination Station Project:

In response to the 2014 Water Advisory Event, which detected E. coli and Coliform bacteria and impacted various locations in the City's water distribution system, a long-term Action Plan to reduce the risk of future contamination was required by the Department of Health. Subsequently, the City consulted with HDR Engineering in 2016 to design a new Booster Chlorination Station design, which was completed at the end of 2018. HDR's model did not provide adequate chlorine levels to the entire City and in 2019, the City partnered with Carollo Engineers to review and analyze the design and operations of HDR's proposed system. The project's updated timeline was outlined as follows:

- Project included in 2021-2022 CIP Budget
- Finished 50% design
- Final design: March 2021
- Bid project: Spring 2021
- Construction begins: Summer 2021

Risk & Resiliency Assessment & Emergency Response Plan Project

In October 2018, Congress signed the America's Water Infrastructure Act (AWIA), which builds on the 2002 Safe Drink Water Act, and required that cities conduct a Risk and Resilience Assessment (RRA) on community water systems and prepare an Emergency Response Plan (ERP) accordingly. Additionally, the Risk and Resilience Assessment must be updated every five years. To address the new requirements, the City solicited an RFQ in the summer of 2020 requiring the following:

- Risk & Resiliency Assessment:
 - Assess City's water system infrastructure and overall system operations, including hazards
 - o Characterize assets and threats

- Analyze consequences, vulnerability, threats, and risk/resilience
- Manage risk and resilience
- o Deadline for RRA: June 30, 2021
- Emergency Response Plan:
 - Develop strategies, recommendations, and other actions the City can implement to improve water system resiliency, reduce risks, and mitigate impacts from hazards
 - Deadline for ERP: December 31, 2021

Review 2021 Utility Board Workplan

Director Kintner discussed the 2021 Utility Board Work Plan and previewed items scheduled for next year:

- Water Meter Replacement Contract & Project Update
- SCADA Project Update
- NPDES Annual Report & Sustainability Work Plan
- Risk & Resiliency & ERP Report
- Board Elections
- Booster CL2 Project Update & Authorization
- 2021 CIP Updates
- Stormwater & EMS Rate Discussion
- Recology Solid Waste Annual Report
- Sewer & Water Rate Discussion

OTHER BUSINESS

Director Kintner will coordinate with the City Clerk and confirm the Utility Board's next meeting date, which will be January 12.

Board Member Thomas suggested that the Board have a conversation about which items were pushed out because of the Pandemic.

ADJOURNMENT

There being no additional business, the meeting adjourned at 5:46 pm.	
Attest:	Tim O'Connell, Chair
Deborah A. Estrada, City Clerk	



CALL TO ORDER & ROLL CALL

Chair O'Connell called the meeting to order at 5:02 pm from a remote location.

Vice Chair DeBoer and Board Members Stephen Majewski, George Marshall, Stephen Milton, William Pokorny and Brian Thomas participated remotely using a video teleconferencing platform by Zoom.

Council Liaison Lisa Anderl joined the meeting at 6:30 PM due to Special City Council meeting.

Public Works Director Jason Kintner and several staff members participated remotely.

REGULAR BUSINESS

Code of Ethics Discussion

City Clerk Estrada provided an abbreviated training on the City's Code of Ethics, noting that it was originally adopted in 2018 and later amended in 2019. Estrada continued, explaining that in January 2021, City Council directed staff to update the Code of Ethics and communicate with Board and Commission Members the option to seek an informal opinion from the City Attorney on the applicability of the Code of Ethics. Board members were also advised that the City is working with outside counsel to development a revised Code of Ethics and that training on the revised Code of Ethics is anticipated to being in April.

Approve the minutes of the December 8, 2020 Special Video Meeting

Approval of the December 2020 minutes was postponed to the April meeting.

Meter Replacement Project Update

Public Works Director Kintner and Allen Hunter outlined the Meter Replacement Project, summarizing its background, the project evolution, and its status accordingly:

Overview of Water:

- Water supplied by SPU
- Two, 4-million-gallon reservoirs
- Two booster pump stations
- 115 miles of watermains
- 85 pressure reducing valves (PRV) stations
- 7,866 water meters in service

Drivers for Replacing Meters:

- Aging meters 64% of meter are 15 years or older
- Improve accuracy 82% of meters read manually
- Better manage water loss
- Reduce sources of lead
- Create standard for replacing meters

Three options for meters and HDR Engineering's evaluation for each were reviewed with the Board:

- Manual/Touch Read
- Automated Metter Reading (AMR)
- Advanced Metering Infrastructure (AMI)

A comparison of the three models concluded that while AMI's cost was higher, there were significant benefits over the other two options.

The next steps include contraction negotiations Ferguson/Sensus in June 2021 and a Propagation Study to evaluate placement for transmitter units. Construction is anticipated to start in Q3 of 2021.

Utility Board Work Plan

Director Kintner reviewed the 2021 Utility Board Work Plan and previewed items scheduled:

- Joint Utility Board & City Council Meeting March
 - o SCADA Project Update
 - o Risk & Resiliency
 - Meter Replacement
- NPDES Annual Report & Sustainability Work Plan April
- Risk & Resiliency & ERP Report May
- Board Elections & Booster CL2 Project Update & Authorization June
- Public Works Facilities Tour & 2021 CIP Updates July
- Stormwater & EMS Rate Discussion September
- Sewer & Water Rate Discussion/Recommendation October
- Recology Solid Waste Annual Report November

OTHER BUSINESS

Public Works Department Update

Public Works Director Kintner updated the board on staffing and organizational changes with the Utility Board.

Board Member Reports

City Clerk Estrada reminded board members that the Annual Recruitment process to fill vacant and/or expiring terms was due to start in March. Board members with expiring terms were asked to email Estrada if they wished to be considered for reappointment.

ADJOURNMENT

There being no additional business, the meeting adjourned at 6:41 pm.	
Attest:	Tim O'Connell, Chair
	, ,
Deborah A. Estrada, City Clerk	



Memorandum

CITY OF MERCER ISLAND, PUBLIC WORKS DEPARTMENT

9611 S.E. 36th St. • Mercer Island, WA 98040-3732 (206) 275-7608 • FAX: (206) 275-7814 www.mercergisland.gov

Date: April 5, 2021

To: Utility Board

From: Jason Kintner, Chief of Operations/Public Works Director

Re: April 13 Utility Board Meeting

In preparation for our meeting, here is some background information for our discussions:

SUSTAINABILITY WORK PLAN UPDATE

On March 2, 2021, the City Council approved the 2021-2022 Sustainability Work Plan (see <u>AB5822</u>). The City's sustainability program will build on past community-wide program successes and bring a renewed focus on areas for sustainability improvement within the City's own operations. Major functions of the program include:

- Efficiency
- Waste & Toxics
- Energy
- GHG Emissions
- Transportation
- CIP & Operations
- Outreach & Education

The sustainability program will expand existing internal initiatives (such as additional LED lighting retrofits, continued green fleet purchases), but also take a more visionary and holistic approach, such as applying an energy efficiency lens to CIP projects, revising the City's procurement policies, adding sustainability considerations to building maintenance, and focusing on the collective stormwater impacts to Lake Washington across all City operations. In addition, the work plan includes catching up on the past few years of GHG tracking and performance data and preparing a recommendation on a climate action plan.

On Tuesday night, staff will provide an update on the Sustainability Work Plan with an emphasis on opportunities within the City's utilities.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) ANNUAL REPORT

The National Pollutant Discharge Elimination System (NPDES) program was established under the Federal Clean Water Act to regulate sources of pollution into waters of the United States. The Clean Water Act was amended in 1987 to address stormwater dischargers, creating a new requirement for the Environmental Protection Agency (EPA) to issue Municipal Separate Storm Sewer System (MS4) permits. This authority in the State of Washington has been delegated to the Washington State Department of Ecology (DOE).

The City's current NPDES MS4 permit is valid August 1, 2019 Through July 31, 2024. The permit is administered by DOE and status reports are due annually by March 31st.

The NPDES permit is composed of eight components:

- 1. Stormwater Planning
- 2. Public Education & Outreach
- 3. Public Involvement & Participation
- 4. Mapping & Documentation
- 5. Illicit Discharge Detection & Elimination
- 6. Controlling Runoff from Development
- 7. Municipal Operations and Maintenance
- 8. Source Control Program for Existing Development

Public Works staff will present information about the components of the permit. The permit requirements impact the City's stormwater operations/maintenance, capital improvement projects, and private development permitting. Staff will also provide the Utility Board with information regarding the recent NPDES Annual Report submittal and a lookahead to future requirements.



Sustainability Overview MI Utility Board

Ross Freeman April 13, 2021

Overview

- Brief history of sustainability on MI
- Sustainability Program functions
- Interaction with Utility-related programs
- Selected Examples
- Discussion





www.mercergov.org

Tuesday, April 13, 2021

CMI Sustainability Background

- 2006 Comp Plan language added regarding conservation/sustainability
- 2007 Council Resolution 1389 (Reduce GHG's 80% by 2050)
- 2011 City joins King County-Cities Climate Collaboration (K4C)
- 2012 Sustainability Task Force convened
- 2013 City launches first Sustainability position (0.5 FTE)
- 2019 Additional Comp Plan language on Climate Action/GHG's
- 2021 Budget: 100% sustainability position approved within Public Works



Sustainability Program Functions



Integrated across all City operations:

- Efficiency
- Waste & Toxics
- Energy
- GHG Emissions
- Transportation
- CIP & Operations
- Outreach & Education



SUSTAINABILITY PROGRAM FUNCTIONS



Sustainability in the Utilities

Stormwater

- > LID techniques
- > Road runoff & fish toxicity
- ➤ Spills and NPDES
- > Stream channel restoration
- > Shoreline erosion

Sewer

- ➤ Energy usage of 24/7 pumps
- > Equipment & truck selection

SPU Potable Water

- ➤ Saving Water Partnership
- > Efficient water usage
- ➤ Remote reading technology
- > VFD Pumps
- Recycling, Compost, Garbage
 - > Diversion rates & outreach
 - ➤ Alt-Fuel trucks
- PSE Electricity and Gas
 - > Franchise contract renewal
 - > Green power purchases
 - ➤ Large solar installations





Adding a Sustainability Lens

- Is there a more energy efficient alternative?
- What is the total cost of ownership?
- Is there a cleaner fuel/machine/process available?
- Can projects be scheduled to share resources or equipment?
- Have we searched for a local supply (vs off-island)?
- Does the project improve quality of life, equity?
- What are the waste, toxics, emissions impacts?
- How are we tracking impacts/gains?
- Can the project incorporate recycled materials?
- How will construction and demolition debris be handled?
- How does the project help the City's Carbon Footprint?
- Can the public get involved and how are we telling our story?



Selected Examples

Stormwater Example: Oyster Shell Catchbasin Pilot

Sewer Example: Pump replacements & backup generators

SPU Water Example: Remote meter reading pilot

Recology Example: Clean Fuel vehicles; special services

PSE Example: 20-year Windpower contract



Discussion



www.mercerisland.gov/Sustainability



Extra: Selected Sustainability Milestones

- 2013: EPA recognition as "Green Power Partner of the Year" for the City's clean energy programs.
- 2014: Begin multi-year energy-saving retrofits of City facilities and streetlights.
- **2014**: Implement local single-use plastic bag ban.
- 2015: Launch popular Metro Route 630 Commuter Shuttle direct to downtown Seattle.
- 2016: Update code to require LEED Gold or Built Green 4-Star in all Town Center construction.
- 2017: Expand electric vehicles in City fleet to four vehicles and add more public charging stations.
- 2018: Pilot several progressive first/last-mile initiatives with Lyft, Uber, Lime, Jump.
- 2018: Completion of second Solarize installation campaign leads to almost 90 new solar arrays in sum.
- 2018: Receive "SolSmart Gold" status from the Department of Energy for solar achievements.
- 2019: Renew City's GHG pledges with K4C (the nationally-recognized King County-Cities Climate Collaboration that Mercer Island helped found in 2011).
- 2020: Switch 100% of the City's energy needs to renewable windpower from a new PSE wind farm.





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Utility Board NPDES Annual Report

April 13, 2021

National Pollutant Discharge Elimination System (NPDES)

- Staff introductions
- Outline:
 - o What is NPDES?
 - o What does NPDES require of us?
 - o What does it look like from an O&M perspective?
 - o Are there CIP projects related to NPDES?
 - How do we mitigate impacts from private development?
 - o Wrap up
- Questions/Discussion



What is NPDES?

Brian Hartvigson, Right of Way and Stormwater Manager

- National Pollutant Discharge Elimination System
- Western WA Phase II Municipal Stormwater Permit







Where Does the Pollution Come From?

- Point vs. Non-Point Source Pollution
- Sources:
 - o Residential
 - Commercial
 - Construction







What Does it Require of Us?

Hannah Van Pelt, Stormwater Technician





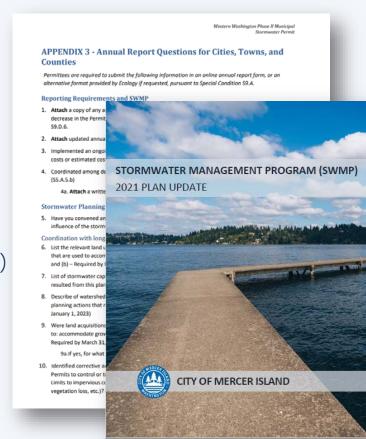
Permit Components:

- 1. Stormwater Planning
- 2. Public Education and Outreach
- 3. Public Involvement and Participation
- 4. MS4 Mapping and Documentation
- 5. Illicit Discharge Detection and Elimination
- Controlling Runoff from New Development, Redevelopment, and Construction Sites
- 7. Municipal Operations and Maintenance
- 8. Source Control Program for Exiting Development



What Does it Require of Us?

- Annual Report
- Stormwater Management Program (SWMP) Plan Update
- On the horizon:
 - Watershed Inventory (2022)
 Stormwater Management Action Plan (2023)
 - o Behavior Change Campaign (2021-2024)
 - Source Control Program City (2023)
 - Update facility Stormwater Pollution Prevention Plans (2022)







What Are We Working With?





- >5,400 catch basins
 - 2 year inspection cycle
- Approx. 300,000 ft storm drain lines
 - o 6 year jet & CCTV goal
- 339 lake outfalls
 - o 12% minimum inspected per year



Stormwater facilities

- 4 heavy equipment maintenance/ storage yards
- 25+ stormwater treatment or flow-control facilities/BMPs

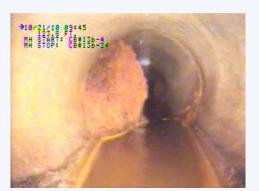
Operations & Maintenance Perspective

Chris Kelley, Stormwater Lead

- Repair/Replace
 - o 6 month window to complete
- Vactor, Jet, CCTV
 - 30% reduction in vactor costs using targeted approach with inspection data
- Vegetation Control
 - o Open ditch conveyance
- Street cleaning/sweeping

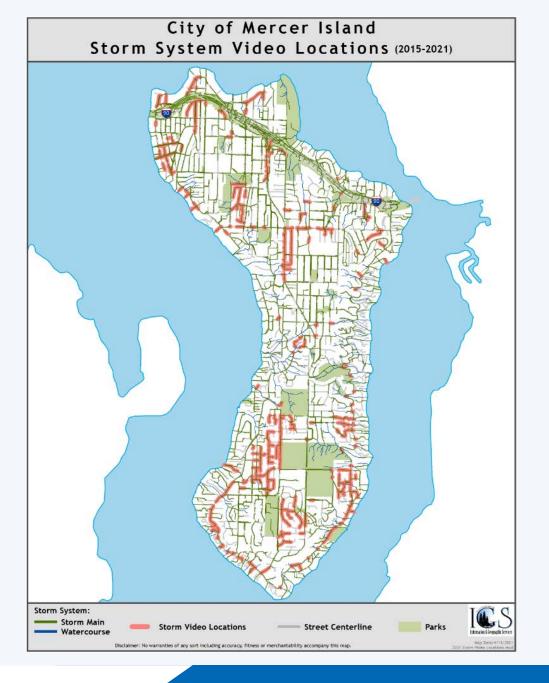
- Storm event response
- Steep slope stabilization and erosion control
- Illicit Discharge Detection & Elimination
 - Responded to 19 reports in 2020













Operations & Maintenance Staffing

- Field Staff
 - Stormwater Lead
 - Right-of-Way Staff (assist when available)
 - o Supplemental contract services & equipment
- Permit Compliance & Reporting
 - o Stormwater Technician (part-time)









Item 3.

Related CIP Projects

Fred Gu, Capital Project Manager

Runoff from urban drainage system discharges into natural watercourses

High flow event

High water energy

Cuts into streambeds & banks

Increases sediment erosion



- Sediment as pollution
 - o suffocates fish eggs and buries gravel nests
 - o particles absorb heat from the sun and increase water temperature & lower oxygen levels
- Watercourse stabilization projects reduce erosion-based sediment deposition from watercourses into Lake Washington



CIP Project Example 18



Not your typical PW projects

- Watercourses are protected critical areas hence the use of natural materials (stream boulders and logs).
- Invasive removal and replanting native plants within project limits.
- Difficult access, long permitting time.
- Fewer experienced contractors.
- Added benefits of these projects: protect other infrastructures like roadways and underground utilities.

BEFORE



www.mercerisland.gov

Mitigating Impacts From Private Development

Ruji Ding, Senior Development Engineer

- The NPDES permit establishes requirements to mitigate stormwater from private development
- Adopted into City Code (MICC 15.09)
- New impervious surfaces (driveways, roofs, etc) create stormwater runoff and requires mitigation.



Mitigation - Detention

Stormwater Detention:

- Typically a large pipe (36"-60" diameter)
- Temporarily stores water from rainfall
- Allows water to drain out slowly over time
- Reduces high flows and erosion potential in streams
- Over 60% of Mercer Island new/major remodel homes have detention systems





Mitigation - LID

Low Impact Development (LID):

- Keeps stormwater on site
- Uses natural processes (infiltration, evaporation, rain garden)
- Only works in sandy soils (not clay)
- 90% of Mercer Island lots do not have suitable soils







Mitigation - Soil

Post-Construction Soil Management:

- Provides deep and healthy soil for planting and lawn areas
- Reduces need for irrigation, fertilizers, and pesticides
- Keeps rainfall on site
- Improves plant health
- Aesthetically pleasing
- Required for all new homes and major remodels







Customer Resources

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT

9611 SE 36TH STREET | MERCER ISLAND, WA 98040 PHONE: 206.275.7605 | www.mercergov.org



TIP SHEET: SMALL PROJECT STORMWATER REQUIREMENTS

Small projects that only trigger Minimum Requirements #1-5, include projects that:

- 1. Result in ≥ 2,000, but < 5,000 square feet of new plus replaced hard surface area
- Have a land disturbing activity of ≥ 7.000 square feet, but < ¾ acres of vegetation converted to lawn or landscaped areas or < 2.5 acres of native vegetation converted to pasture, or
- Result in a net increase of impervious surface of ≥ 500 square feet, but < 5,000 square feet of new plus replaced hard surface area.

Minimum Requirements #1-5 (and associated sections of the City's submittal package) include:

MR#1 Stormwater Site Plans (Section A)

MR#2 Construction Stormwater Pollution

Prevention (Section R) MR#3 Source Control (Section A)

MR#4 Preservation of Natural Drainage Systems and

Outfalls (Section A)

MR#5 On-site Stormwater Management (Sections A,



What are the benefits of (LID)?

Single-family residential rain garden

What is on-site stormwater management?

Low Impact Development (LID) provides many On-site stormwater management is a stormwater and benefits to communities on a large and small- land use management strategy that mimics how water scale. Not only can it make your neighborhood a at a site would naturally react prior to development, and greener and more aesthetically pleasing place to uses design techniques for infiltration, filtration, storage, be, it simultaneously reduces flooding, improves evaporation and transpiration. Instead of conveying and water quality, and improves groundwater detaining stormwater in large facilities located at the recharge. LID can enhance the local environment, | bottom of drainage areas, LID addresses stormwater protect public health, and improve community | through small, distributed features located at the lot



Permeable pavement driveway

- City website provides tip sheets, handouts, requirements
- Customizable maps on website
 - Utilities
 - Topography
 - Aerial images
 - Many more features





Questions & Discussion





www.mercergov.org Tuesday, April 13, 2021