



SEATTLE CITY COUNCIL

Governance and Utilities Committee

Agenda

Thursday, May 14, 2026

9:30 AM

Council Chamber, City Hall
600 4th Avenue
Seattle, WA 98104

Joy Hollingsworth, Chair
Debora Juarez, Vice-Chair
Robert Kettle, Member
Maritza Rivera, Member
Dan Strauss, Member

Chair Info: 206-684-8803; Joy.Hollingsworth@seattle.gov

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SEATTLE CITY COUNCIL
Governance and Utilities Committee
Agenda
May 14, 2026 - 9:30 AM

Meeting Location:

Council Chamber, City Hall, 600 4th Avenue, Seattle, WA 98104

Committee Website:

<https://seattle.gov/council/governance-and-utilities>

This meeting also constitutes a meeting of the City Council, provided that the meeting shall be conducted as a committee meeting under the Council Rules and Procedures, and Council action shall be limited to committee business.

Members of the public may register for remote or in-person Public Comment to address the Council. Please register in advance in order to be recognized by the Chair. Details on how to register for Public Comment are listed below:

Remote Public Comment - Register online to speak during the Public Comment period at the meeting at <https://www.seattle.gov/council/committees/public-comment>. Online registration to speak will begin one hour before the meeting start time, and registration will end at the conclusion of the Public Comment period during the meeting.

In-Person Public Comment - Register to speak on the public comment sign-up sheet located inside Council Chambers at least 15 minutes prior to the meeting start time. Registration will end at the conclusion of the Public Comment period during the meeting.

Please submit written comments no later than four business hours prior to the start of the meeting to ensure that they are distributed to Councilmembers prior to the meeting. Comments may be submitted at Council@seattle.gov or at Seattle City Hall, Attn: Council Public Comment, 600 4th Ave., Floor 2, Seattle, WA 98104. Business hours are considered 8 a.m. - 5 p.m. Comments received after that time will be distributed after the meeting to Councilmembers and included as part of the public record.

Please Note: Times listed are estimated

A. Call To Order

B. Approval of the Agenda

C. Public Comment

Members of the public may address items on the agenda and matters within the purview of the committee. Please register in advance to be recognized by the Chair.

D. Items of Business

1. [Appt 03495](#) **Appointment of Stan Diddams as member, Seattle Public Utilities Customer Review Panel, for a term to July 31, 2028.**

Attachments: [Appointment Packet](#)

Briefing, Discussion, and Possible Vote (5 minutes)

Presenters: Andrew Lee, General Manager and CEO, and Justin Chan, Seattle Public Utilities

2. [Appt 03496](#) **Appointment of Gabriel Navarro as member, Seattle Public Utilities Customer Review Panel, for a term to July 31, 2028.**

Attachments: [Appointment Packet](#)

Briefing, Discussion, and Possible Vote (5 minutes)

Presenters: Andrew Lee, General Manager and CEO, and Justin Chan, Seattle Public Utilities

3. [Appt 03494](#) **Reappointment of Andrew Lee as General Manager and Chief Executive Officer of Seattle Public Utilities, for a term to December 31, 2029.**

Attachments: [Appointment Packet](#)
[Written Questions and Responses](#)

Briefing, Discussion, and Possible Vote (25 minutes)

Presenter: Andrew Lee, General Manager and CEO, Seattle Public Utilities

4. [CB 121202](#) **An ordinance relating to Seattle Public Utilities; authorizing the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, to execute an amendment to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; authorizing the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, to execute additional amendments to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; and ratifying and confirming certain prior acts.**

Attachments: [Att 1 - First Amendment to Interlocal Agreement for the South Park Interim Flooding Preparedness and Response Program](#)

Supporting Documents: [Summary and Fiscal Note](#)
[Presentation](#)

Briefing, Discussion, and Possible Vote (10 minutes)

Presenters: Andrew Lee, General Manager and CEO, and Chris Hilton, Seattle Public Utilities

5. [CB 121190](#) **An ordinance relating to the 2026 Stormwater Code Update; updating stormwater control requirements for development, roadways, utilities, and maintenance activities; strengthening stormwater treatment and infiltration standards; clarifying vesting and review thresholds; ensuring the City’s compliance with requirements of the City’s 2024-2029 Phase 1 Municipal Stormwater Permit issued by the State Department of Ecology; and amending Chapters 22.800, 22.801, 22.802, 22.803, 22.805, and 22.807 of the Seattle Municipal Code.**

Supporting

Documents:

[Summary and Fiscal Note v2](#)

[Summary Ex A - Legislative Summary](#)

[Summary Ex B - Ecology Conditional Approval Letter](#)

[Summary Ex C - Environmentally Critical Areas](#)

[Central Staff Memo](#)

[Presentation](#)

[Presentation \(5/14/26\)](#)

[Amendment 1](#)

[Amendment 2](#)

Briefing, Discussion, and Possible Vote (30 minutes)

Presenters: Andrew Lee, General Manager and CEO, and Kevin Burrell, Seattle Public Utilities; Brian Goodnight, Council Central Staff

6. **Response to Statement of Legislative Intent (SLI) ITD-010S-A-2:
Artificial Intelligence Investment and Usage Reports**

Supporting
Documents:

[SLI ITD-010S-A-2](#)

[SLI Response](#)

[Presentation](#)

Briefing and Discussion (25 minutes)

Presenters: Tracye Cantrell, Interim Chief Technology Officer, Lisa Qian, and Will Smith, Seattle Information Technology Department

E. Adjournment



Legislation Text

File #: Appt 03495, **Version:** 1

Appointment of Stan Diddams as member, Seattle Public Utilities Customer Review Panel, for a term to July 31, 2028.

The Appointment Packet is provided as an attachment.



City of Seattle Boards & Commissions Notice of Appointment

| | | |
|---|---|---|
| Appointee Name: Stan Diddams | | |
| Board/Commission Name: Seattle Public Utilities Customer Review Panel | | Position Title: <i>Member</i> |
| X Appointment OR Reappointment | City Council Confirmation required? X Yes No | |
| Appointing Authority: City Council X Mayor Other: <i>Fill in appointing authority</i> | Term of Position: * 8/1/2025 to 7/31/2028 <input checked="" type="checkbox"/> <i>Serving remaining term of a vacant position</i> | |
| Residential Neighborhood: Green Lake | Zip Code: 98103 | Contact Phone No.: [REDACTED] |
| Background: Stan Diddams (District 6 / Green Lake) Stan is a retired banker with decades of financial experience at Bank of America/Seafirst, where he managed corporate accounts, including utilities. A longtime Seattle resident, he brings deep financial insight to rate and affordability discussions. Stan currently serves as treasurer for refugee and immigrant support organizations and sits on the Seattle Colleges Foundation board. His background offers valuable perspective on balancing fiscal responsibility with equitable service delivery in public utilities. | | |
| Authorizing Signature (original signature): <i>Katie B. Wilson</i> | Appointing Signatory: Katie B. Wilson Mayor of Seattle | |
| Date Signed (appointed): 03/27/2026 | | |

*Term begin and end date is fixed and tied to the position and not the appointment date.

Personal Information for Application

Please complete the information below for your volunteer application

1. First and Last Name *

Stan Diddams

2. Pronouns *

He

3. Email Address *

[Redacted]

Please enter an email

4. Phone number *

[Redacted]

5. Address *

6. Neighborhood *

7. Employer & Occupation *

8. Would you be participating as a representative of your employer, organization, or community group? *

Yes

No

Maybe

9. Are you currently employed or contracted with the City of Seattle? *

Yes

No

Community Experiences & Memberships

Help SPU learn about your experiences, connections, and memberships in community.

10. Describe one topic you would like SPU's Customer Review Panel to address.

Efficiently delivering utility services with a goal of keeping rates low.

11.

Seattle Public Utilities actively seeks candidates who represent diverse community perspectives. Please describe your experience with SPU's services and programs and the unique perspectives you might be able to contribute in this role.

I have a financial background, I am a homeowner and SPU customer in Seattle. I have experience serving on public sector and nonprofit boards.

12. Describe the connections you have in your community. Include any community advocacy, civic engagement, or organizational affiliations

Advisory board for World Relief, refugee resettlement organization. Past board member for Seattle Colleges Foundation and N. Seattle College Fdn. Past member Shoreline Parks Board. Many business relationships and connections.

13. Is there anything else you would like us to know?

Demographics

Please complete the demographic questions below.

14. Age Range

18-34

35-49

50-64

65+

15. Race/Ethnicity (please select all that apply)

- Caucasian / White
- African American / Black
- American Indian or Alaska Native
- Chinese
- Japanese
- Korean
- Vietnamese
- Hispanic / Latino
- Native Hawaiian
- Filipino
- Samoan
- Asian Indian
- Chamorro
- Other Asian (e.g., Pakistani, Cambodian, Hmong, etc.)

Other Pacific Islander (e.g., Tongan, Fijian, Marshallese, etc.)

Other

16. Gender (enter below)

M

17. How did you hear about this opportunity?

Council member Dan Strauss newsletter

18.

I certify that the above application information is accurate and complete to the best of my knowledge. I understand that the information provided is subject to public records request unless it is specifically exempt from the Washington State Public Records Act. *

Yes

No

Seattle Public Utilities Customer Review Panel

13 Members: Pursuant to Resolution 31825, all members subject to City Council confirmation, 3-year terms:

- 6 City Council-appointed
- 7 Mayor-appointed
- 0 Other Appointing Authority-appointed (specify):

Roster: April 2026

| *D | **G | RD | Position No. | Position Title | Name | Term Begin Date | Term End Date | Term # | Appointed By |
|----|-----|-----|--------------|----------------------|--------------------|-----------------|---------------|--------|--------------|
| | F | 2 | 1. | Member | Nafiso Samatar | 8/1/2024 | 7/31/2027 | 1 | Mayor |
| | F | 1 | 2. | Member | Robin Schwartz | 8/1/2025 | 7/31/2028 | 2 | Council |
| | F | 2 | 3. | Member | Miki Sodos | 8/1/2021 | 7/31/2027 | 2 | Mayor |
| | M | n/a | 4. | Member | Manav Goel | 8/1/2024 | 7/31/2027 | 1 | Council |
| | F | 6 | 5. | Member | Allison Mettler | 8/1/2024 | 7/31/2027 | 1 | Mayor |
| | F | 6 | 6. | Member | Gretchen Glaub | 8/1/2021 | 7/31/2027 | 2 | Council |
| | M | 5 | 7. | Member | Jeremy Febus | 8/1/2025 | 7/31/2028 | 1 | Mayor |
| | F | 4 | 8. | Member | Rita Howard | 8/1/2025 | 7/31/2028 | 1 | Council |
| | F | 1 | 9. | Member | Amanda Richer | 8/1/2025 | 7/31/2028 | 2 | Mayor |
| | F | 2 | 10. | Member | Ebony Rose Frazier | 8/1/2025 | 7/31/2028 | 2 | Council |
| | M | 6 | 11. | Member | Stan Diddams | 8/1/2025 | 7/31/2028 | 1 | Mayor |
| | | | 12. | Member (Young Adult) | *Vacant* | 8/1/2025 | 7/31/2028 | | Council |
| | M | 3 | 13. | Member (Young Adult) | Gabriel Navarro | 8/1/2025 | 7/31/2028 | 1 | Mayor |

SELF-IDENTIFIED DIVERSITY CHART

| | (1) | | (2) | | (3) | | (4) | | (5) | | (6) | | (7) | | (8) | | (9) | |
|---------|------|--------|-------------|----------|-------|-------------------------|------------------|--------------------------------|-------|-------------------------|------------------|----------------|-------------|--|-----|--|-----|--|
| | Male | Female | Transgender | NB/ O/ U | Asian | Black/ African American | Hispanic/ Latino | American Indian/ Alaska Native | Other | Caucasian/ Non-Hispanic | Pacific Islander | Middle Eastern | Multiracial | | | | | |
| Mayor | | | | | | | | | | | | | | | | | | |
| Council | | | | | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | | | | | | |

Key:

*D List the corresponding Diversity Chart number (1 through 9)

**G List gender, M= Male, F= Female, T= Transgender, NB= Non-Binary O= Other U= Unknown

RD Residential Council District number 1 through 7 or N/A

Diversity information is self-identified and is voluntary.



Legislation Text

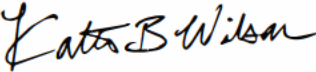
File #: Appt 03496, **Version:** 1

Appointment of Gabriel Navarro as member, Seattle Public Utilities Customer Review Panel, for a term to July 31, 2028.

The Appointment Packet is provided as an attachment.



City of Seattle Boards & Commissions Notice of Appointment

| | | |
|---|--|---|
| Appointee Name: Gabriel Navarro | | |
| Board/Commission Name: Seattle Public Utilities Customer Review Panel | | Position Title: <i>Member</i> |
| X Appointment OR Reappointment | City Council Confirmation required? X Yes No | |
| Appointing Authority: City Council X Mayor Other: <i>Fill in appointing authority</i> | Term of Position: * 8/1/2025 to 7/31/2028 <input type="checkbox"/> <i>Serving remaining term of a vacant position</i> | |
| Residential Neighborhood: Capitol Hill | Zip Code: 98102 | Contact Phone No.: [REDACTED] |
| Background: Gabriel Navarro (District 3 / Capitol Hill) is a first-generation Latino graduate student pursuing a Master's in Infrastructure Planning and Management. He brings infrastructure-focused expertise and lived experience navigating affordability challenges. Gabriel offers insight on system resilience, flooding, and long-term planning, along with a strong commitment to proactive customer engagement and building trust with historically underrepresented communities. | | |
| Authorizing Signature (original signature):  Date Signed (appointed): 03/24/2026 | Appointing Signatory: Katie B. Wilson Mayor of Seattle | |

*Term begin and end date is fixed and tied to the position and not the appointment date.

Personal Information for Application

Please complete the information below for your volunteer application

1. First and Last Name *

Gabriel Navarro

2. Pronouns *

He/Him/His

3. Email Address *

[REDACTED]

Please enter an email

4. Phone number *

[REDACTED]

5. Address *

[REDACTED]

6. Neighborhood *

Capitol Hill

7. Education

Current Masters of Infrastructure, Planning, Management Graduate Student

8. Employer & Occupation

Gioevess - Community Based Organization

9. Would you be participating as a representative of your employer, organization, or community group? *

Yes

No

Maybe

10. Are you currently employed or contracted with the City of Seattle? *

Yes

No

Community Experiences & Memberships

Help SPU learn about your experiences, connections, and memberships in community.

11. Describe one topic you would like SPU's Customer Review Panel to address.

Decentralized Energy Resource Programs for People to Participate In.

12. Seattle Public Utilities actively seeks candidates who represent diverse community perspectives. Please describe your experience with SPU's services and programs and the unique perspectives you might be able to contribute in this role.

As a first-generation person of color I have lived in Seattle for the past 5 years as a college student and now full time worker and graduate student. I have moved to many different places in the city and experienced energy bills in both apartment managed utilities and self managed utility bills. I want to help people get more engaged with their energy and utilities and be more sustainable and good stewards of our resources.

13. Describe the connections you have in your community. Include any community advocacy, civic engagement, or organizational affiliations

I have interned for the city before and currently working on a thesis for my masters in self sufficiency of resources and utilities through the built environment.

14. Is there anything else you would like us to know?

I want to help contribute towards a future where people are more involved and aware of their energy and utilities and be empowered to be sustainable.

Demographics

Please complete the demographic questions below.

15. Age (enter below) *

24

16. Race/Ethnicity (please select all that apply)

- Caucasian / White
- African American / Black
- American Indian or Alaska Native
- Chinese
- Japanese
- Korean
- Vietnamese
- Hispanic / Latino
- Native Hawaiian
- Filipino
- Samoan
- Asian Indian
- Chamorro
- Other Asian (e.g., Pakistani, Cambodian, Hmong, etc.)

Other Pacific Islander (e.g., Tongan, Fijian, Marshallese, etc.)

Other

17. Gender (enter below)

Male

18. How did you hear about this opportunity?

LinkedIn

19. I certify that the above application information is accurate and complete to the best of my knowledge. I understand that the information provided is subject to public records request unless it is specifically exempt from the Washington State Public Records Act. *

Yes

No

Seattle Public Utilities Customer Review Panel

13 Members: Pursuant to Resolution 31825, all members subject to City Council confirmation, 3-year terms:

- 6 City Council-appointed
- 7 Mayor-appointed
- 0 Other Appointing Authority-appointed (specify):

Roster: April 2026

| *D | **G | RD | Position No. | Position Title | Name | Term Begin Date | Term End Date | Term # | Appointed By |
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| | F | 2 | 1. | Member | Nafiso Samatar | 8/1/2024 | 7/31/2027 | 1 | Mayor |
| | F | 1 | 2. | Member | Robin Schwartz | 8/1/2025 | 7/31/2028 | 2 | Council |
| | F | 2 | 3. | Member | Miki Sodos | 8/1/2021 | 7/31/2027 | 2 | Mayor |
| | M | n/a | 4. | Member | Manav Goel | 8/1/2024 | 7/31/2027 | 1 | Council |
| | F | 6 | 5. | Member | Allison Mettler | 8/1/2024 | 7/31/2027 | 1 | Mayor |
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| | F | 1 | 9. | Member | Amanda Richer | 8/1/2025 | 7/31/2028 | 2 | Mayor |
| | F | 2 | 10. | Member | Ebony Rose Frazier | 8/1/2025 | 7/31/2028 | 2 | Council |
| | M | 6 | 11. | Member | Stan Diddams | 8/1/2025 | 7/31/2028 | 1 | Mayor |
| | | | 12. | Member (Young Adult) | *Vacant* | 8/1/2025 | 7/31/2028 | | Council |
| | M | 3 | 13. | Member (Young Adult) | Gabriel Navarro | 8/1/2025 | 7/31/2028 | 1 | Mayor |

SELF-IDENTIFIED DIVERSITY CHART (1) (2) (3) (4) (5) (6) (7) (8) (9)

| | Male | Female | Transgender | NB/ O/ U | (1) Asian | (2) Black/ African American | (3) Hispanic/ Latino | (4) American Indian/ Alaska Native | (5) Other | (6) Caucasian/ Non-Hispanic | (7) Pacific Islander | (8) Middle Eastern | (9) Multiracial |
|---------|------|--------|-------------|----------|-----------|-----------------------------|----------------------|------------------------------------|-----------|-----------------------------|----------------------|--------------------|-----------------|
| Mayor | | | | | | | | | | | | | |
| Council | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | |
| Total | | | | | | | | | | | | | |

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RD Residential Council District number 1 through 7 or N/A

Diversity information is self-identified and is voluntary.



Legislation Text

File #: Appt 03494, **Version:** 1

Reappointment of Andrew Lee as General Manager and Chief Executive Officer of Seattle Public Utilities, for a term to December 31, 2029.

The Appointment Packet is provided is an attachment.

City of Seattle



General Manager & Chief Executive Officer

Reconfirmation Packet
March 25, 2026

Andrew Lee



March 25, 2026

The Honorable Joy Hollingsworth
President, Seattle City Council
Seattle City Hall, 2nd Floor
Seattle, WA 98104

Dear Council President Hollingsworth:

It is my pleasure to transmit to the City Council the following confirmation packet for my renomination of Andrew Lee as General Manager/CEO of Seattle Public Utilities (SPU). This packet contains his notice of appointment form, resume, and oath of office form.

Andrew Lee has served as General Manager/CEO of SPU since late 2021, and after review of his well-regarded performance I recommend him for you and your colleagues' consideration for reappointment today. He has the right combination of compassionate managerial skills, inspirational leadership ability, strong personal integrity, and technical knowhow to run our publicly-owned utility with distinction.

Andrew has over fifteen years of experience at Seattle Public Utilities, working his way up the ranks as a Program Manager, Deputy Director, and now as Interim General Manager/CEO. In his last 4 years as General Manager/CEO, Andrew led the development of SPU's 2024 Strategic Business Plan, oversaw the negotiation of the Lower Duwamish Superfund Cleanup Consent Decree and modifications to the Sewage Overflow Consent Decree, and worked to finalize 20-year extensions to SPU's wholesale water contracts.

To help overcome barriers to new housing in Seattle, Andrew oversaw the development and launch of water/sewer/storm mainline cost sharing agreements. And in support of our customers who need the most help, Andrew is leading SPU's efforts to expand eligibility for both the Utility Discount Program and the Emergency Assistance Program.

Andrew has maintained a dedicated focus in implementing the SPU's Strategic Business Plan and consistently stays attuned to costs, maintaining the utility's stellar bond rating, and providing a positive customer experience. He is quick to absorb and understand highly complex issues, prioritizes diversity, equity, and inclusion efforts, strives for a healthy organizational culture, seeks continuous improvement, and consults with his team to develop practical strategies to address new challenges.

Andrew is engaged at a national level advocating for rate affordability, environmental justice, and innovation through his engagement on the Board of Directors for both the National Association of Clean Water Agencies and the Water Research Foundation. He has spent his entire 27-year career working on water, wastewater, and stormwater issues, including as Deputy Director of the City of Bellevue's Utilities Department.

I trust that after reviewing Andrew's application materials, meeting with him, and following the thoughtful review of your Governance and Utilities Committee process, you will find that Mr. Lee is the right person to continue to serve as GM/CEO of Seattle Public Utilities.

If you have any questions about the attached materials or need additional information, Chief of Staff Kate Brunette Kreuzer would welcome hearing from you. I appreciate your consideration.


Sincerely,

A handwritten signature in black ink that reads "Katie B. Wilson". The signature is written in a cursive, flowing style.

Katie B. Wilson
Mayor of Seattle



City of Seattle Department Head Notice of Appointment

| | |
|---|---|
| Appointee Name: <i>Andrew Lee</i> | |
| City Department Name: <i>Seattle Public Utilities</i> | Position Title: <i>General Manager/CEO</i> |
| <input type="checkbox"/> Appointment OR <input checked="" type="checkbox"/> Reappointment | City Council Confirmation required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Appointing Authority: <input type="checkbox"/> City Council <input checked="" type="checkbox"/> Mayor <input type="checkbox"/> Other: <i>Fill in appointing authority</i> | Term of Position: * Council Confirmation to <i>12/31/2029</i> <input type="checkbox"/> <i>Serving remaining term of a vacant position</i> |
| Background: Andrew Lee has served as General Manager/CEO of SPU since late 2021, and after review of his well-regarded performance I recommend him for you and your colleagues' consideration for reappointment today. He has the right combination of compassionate managerial skills, inspirational leadership ability, strong personal integrity, and technical knowhow to run our publicly-owned utility with distinction. Andrew has over fifteen years of experience at Seattle Public Utilities, working his way up the ranks as a Program Manager, Deputy Director, and now as Interim General Manager/CEO. In his last 4 years as General Manager/CEO, Andrew led the development of SPU's 2024 Strategic Business Plan, oversaw the negotiation of the Lower Duwamish Superfund Cleanup Consent Decree and modifications to the Sewage Overflow Consent Decree, and worked to finalize 20-year extensions to SPU's wholesale water contracts. | |
| Authorizing Signature:  Date Signed: March 25, 2026 | Appointing Signatory: <i>Katie B. Wilson</i> <i>Mayor of Seattle</i> |

*Term begin and end date is fixed and tied to the position and not the appointment date.

Andrew Lee, PE, PMP, PgMP

SUMMARY

Andrew Lee has worked for Seattle Public Utilities (SPU) for over 15 years and is currently the SPU General Manager / Chief Executive Officer (GM/CEO). Andrew has spent his entire 27-year career working on water, wastewater, and stormwater issues, with 21 of those years in local government for Seattle, San Francisco, and Bellevue. Andrew is regionally and nationally recognized for his expertise in water/wastewater regulations, smart water technology, and asset management. He is committed to delivering high quality utility services, maintaining affordable rates, and partnering with and serving the community with a focus on environmental justice. He is also passionate about developing high performance organizations through an emphasis on shared leadership, employee engagement, continuous improvement and diversity/equity/inclusion.

EXPERIENCE

2021 - Present

General Manager / Chief Executive Officer, Seattle Public Utilities, Seattle, WA

Oversees more than 1,500 employees who provide drinking water, drainage and wastewater, solid waste, and clean city services for the City of Seattle and the broader King County region. Highlights include:

- Negotiated contract extensions for regional wholesale water supply with retail water agencies across King County.
- Providing executive oversight on the City's Superfund sediment clean-up efforts in the Lower Duwamish and East Waterways, in coordination with the Port of Seattle, King County, Boeing, and the U.S. EPA.
- Providing executive oversight on SPU's \$2.1B 6-year Capital Improvement Program, including the \$710M Ship Canal Water Quality Project.
- Leading multiple equity-related initiatives department-wide including employee hiring improvements and environmental and health improvement efforts in South Park and Georgetown.
- Serving on the Boards for the National Association of Clean Water Agencies (NACWA) and the Water Research Foundation (WRF).

2019 - 2021

Deputy Director, Drainage & Wastewater, Seattle Public Utilities, Seattle, WA

Oversee more than 300 employees who provide planning, program management, operations and maintenance, asset management, emergency management, regulatory compliance, logistics, pollution prevention, and

EDUCATION

- B.S. Civil and Environmental Engineering, Stanford University, 1998
- M.S. Environmental Engineering & Sciences, Stanford University, 1999

PROFESSIONAL REGISTRATIONS

- Civil Engineer, State of Washington
- Civil Engineer, State of California
- Project Management Professional (PMP)®
- Program Management Professional (PgMP)®

ADDITIONAL TRAINING/EDUCATION

- Lean Process Improvement, State of Washington, 2015
- Leading, Educating, and Developing Program, University of Virginia, Darden School of Business, 2014
- Leadership Acceleration Program (LEAP), Performance Dimensions Group, Seattle, WA, 2013-2014
- Project Management Certificate Program, University of Washington, 2009

MEMBERSHIPS/AFFILIATIONS

- Project Management Institute
- National Association of Clean Water Agencies
- Water Research Federation
- Water Agency Leaders Alliance

sediment clean-up for the drainage and wastewater utilities. Highlights include:

- Worked on a modification to Seattle’s sewage overflow consent decree with the Environmental Protection Agency (EPA), Department of Ecology, and the Department of Justice (DOJ) to provide communities with more innovative solutions, rate-payers with more affordable bills, and the environment with equal or greater environmental benefit.
- Served as SPU’s incident commander during the COVID-19 pandemic, overseeing all aspects of safety, human resources management, logistics, communications, and operations.
- Provided executive oversight on the \$570 million Ship Canal Water Quality Project, in compliance with the wastewater Consent Decree.
- Provided executive oversight on the expansion of Green Stormwater Infrastructure city-wide.
- Served as executive sponsor over the Workspace Reimagined and Return to Office initiatives.
- Launched a pilot program to pump-out RV wastewater, significantly reducing costly and damaging sewage spills to waterways.
- Led multiple equity-related initiatives department wide including environmental and health improvement efforts in South Park and Georgetown, employee hiring improvements, and equity “tailgates” to improve conditions for front-line workers.

2014 - 2018

Deputy Director, Bellevue Utilities, Bellevue, WA

Oversaw 130 employees who provide planning, engineering, operations and maintenance, development services, asset management, emergency management, and smart technology implementation for the drinking water, wastewater, and stormwater utilities. Highlights included:

- Provided executive oversight of the Utility’s budget and rate-making process, including cost of service analyses and evaluation of programs for low-income rate assistance.
- Co-authored Bellevue’s Smart City Plan, a strategic plan to embed smart technology into delivery of water, transportation, public safety, building, and energy services.
- Led Bellevue’s Smart Water Meter Program.
- Led implementation of department-wide diversity, equity, and inclusion (DEI) plans, including changes to hiring/recruitment, policies, budget, communications, community empowerment, and employee training.

2006 - 2014

Drainage & Wastewater Capital Portfolio Manager and Combined Sewer Overflow (CSO) Program Manager, Seattle Public Utilities, Seattle, WA

Served as the capital portfolio manager for Seattle’s Drainage & Wastewater (DWW) Capital Improvement Program (CIP). Highlights included:

- Negotiated the 2013 Sewage Overflow Consent Decree with EPA, Ecology, and DOJ.
- Led the transition to a projectized capital program management office for the CSO Program, including a CIP portfolio ramp-up from \$5 million per year to over \$100 million per year.
- Worked in partnership with community to implement green infrastructure projects and site wastewater and stormwater infrastructure to prevent sewage overflows into Lake Washington.
- Oversaw the development of a sewage overflow Long-Term Control Plan (LTCP) that was approved by EPA and Ecology.

1999 to 2006

Project Manager, Brown and Caldwell, Seattle, WA

Utility Specialist, San Francisco Public Utilities Commission (SFPUC), San Francisco, CA

Staff Engineer, Olivia Chen Consultants (now AECOM Water), San Francisco, CA

REFERENCES

Mami Hara

Marco Lowe,

Nav Ota,



CITY OF SEATTLE ▪ STATE OF WASHINGTON
OATH OF OFFICE

State of Washington

County of King

I, Andrew Lee, swear or affirm that I possess all of the qualifications prescribed in the Seattle City Charter and the Seattle Municipal Code for the position of General Manager & Chief Executive Officer of Seattle Public Utilities; that I will support the Constitution of the United States, the Constitution of the State of Washington, and the Charter and Ordinances of The City of Seattle; and that I will faithfully conduct myself as General Manager & Chief Executive Officer of Seattle Public Utilities.

Andrew Lee

Subscribed and sworn to before me

this ____ day of _____, 2026.

[Seal]

Scheereen Dedman, City Clerk

Responses to Questions for Andrew Lee's Reconfirmation as GM/CEO Of Seattle Public Utilities

Background and Vision

1. *You have been General Manager and CEO of Seattle Public Utilities since June 2022- what are your primary goals for SPU? How have they changed since your initial appointment?*

Most of my primary goals for SPU remain the same as they were back in 2022. We are steadfast in our goals of reliably and affordably delivering the highest drinking water quality to the City of Seattle and region, reducing pollution from wastewater and stormwater discharges to the environment, and advancing our zero-waste mission for our solid waste utility. Over the past four years, I have gained a deeper appreciation of the challenges we face to affordably and reliably deliver our services for the next 50-60 years.

SPU has had significant success in the past four years maintaining predictable rate increases for our drinking water and solid waste utilities. Our greatest challenge over the next decade will be in managing rate increases for our wastewater utility, where projected increases in King County's treatment rates are expected to be 12.75% per year for the next four years. It is imperative that SPU and the region are fully engaged in King County's management of the regional wastewater system to ensure that there is responsible management of their capital improvement program and expenditures are kept to what is necessary. SPU should consider all options related to future regional wastewater treatment services, including significant governance changes that would transfer more responsibility for regional wastewater treatment to the City of Seattle.

In addition to affordability, I have a greater awareness of how SPU's policies around growth and development can either positively or negatively impact housing supply in the city. I am committed to policies that will remove barriers to increasing housing supply in the city, such as the mainline extension cost sharing program that the City Council passed in 2025 and was implemented in 2026.

Lastly, I have a far deeper appreciation of the powerful role that SPU plays in advancing the city's goals in creating positive transformation in neighborhoods throughout the city. SPU has a pivotal role in neighborhoods like South Park, Aurora, Delridge, and Lake City – where investments in stormwater infrastructure, creek floodplain reconnection, sea level rise mitigation, natural drainage systems, water and sewer main rehabilitation, and solid waste management can work hand in hand with transportation, parks, and public safety investments to bring positive change to neighborhoods.

I am incredibly excited to continue leading the utility in advancing positive change in the city while maintaining our strong position as a world class utility.

2. What do you think are the biggest opportunities and challenges for SPU? What are the top one or two things you would like to accomplish in your second term as General Manager and CEO?

Opportunities

- i) Stormwater Treatment in the Duwamish: One of the biggest opportunities for SPU will be partnering with King County on opportunistic stormwater treatment at the Duwamish combined sewer overflow (CSO) wet weather treatment plant. The County is in the design phase for a once-in-a-generation, \$3.3 billion wet weather treatment plant in South Downtown that will operate approximately 30 times per year. With some additional investment in stormwater infrastructure, SPU could convey its largest stormwater discharge from the Diagonal Outfall into the Duwamish to the County's wet weather treatment plant with the potential to treat approximately 1.5 billion gallons of stormwater each year. This would significantly reduce stormwater pollution to the Duwamish, reduce the risk of sediment recontamination after the Lower Duwamish Waterway Superfund cleanup, and simultaneously address decades of environmental justice issues in the Duwamish. During my second term as General Manager and CEO, I hope to enter into an agreement with King County to partner on this historic project. I also hope to obtain agreement from Ecology and EPA on the project and negotiate a modification for both the City and County's consent decrees that improves rate affordability for the next 15 years for the region.
- ii) Water Conservation: In the last four years, we have experienced historically low snowpack in the region and drier and hotter spring and summer seasons. The effects of climate change are here and now, and it is imperative that the region begin preparing for a future where water supply is not as plentiful. Although the City is in a healthy water supply position in the state, there is an opportunity to strengthen our position even more by implementing aggressive water conservation programs to prepare the City and the region for the next 30-50 years of climate change. I hope to work with our regional water purveyors in the next 2-3 years to fund water conservation programs that will aggressively reduce water demand forecasts for the next 60 years.
- iii) Sea Level Rise Adaptation in the Duwamish: The lasting effects of the December 27, 2022, Duwamish river overtopping event in South Park still weigh heavily on the community and SPU. Over the next four years, I believe there is an

opportunity to leverage funding from the King County Flood Control District and other potential sources (e.g., Federal earmark funding) to construct structures on publicly owned land along the Duwamish waterfront to protect South Park from future sea level rise and King tide events. I hope to get funding from the King County Flood Control District to implement a set of projects in South Park by 2030 that will provide sea level rise protection for the community for the next 100 years.

Challenge

The single biggest challenge for SPU will be managing rates in the face of King County's planned 12.75% per year regional wastewater treatment rate increases for the next 5 years. The County's biggest driver for its double-digit rate increases is tied to its federal consent decree requirements. Over the next four years, I intend to work with the County and our state and federal regulators to gain agreement on a pathway to reduce the County's future rate pressure, while providing greater benefit to the environment.

3. *During your first term as General Manager/CEO, you have had the opportunity to work with other departments to find ways to deliver services more effectively and efficiently. Can you describe any successes you are particularly proud of and how you will build on that collaboration in the coming years?*

I am incredibly proud of the ways that SPU has partnered with other City departments over the past four years to efficiently and effectively deliver services to our customers. Listed below are some highlights of our partnerships:

- i. Evaluation of Customer Affordability Programs with Seattle City Light (SCL) and Human Services Division (HSD): In 2024, SPU, SCL and HSD completed a comprehensive evaluation of our utility assistance programs with the goal of identifying actions to increase enrollment in the programs. Many of the recommendations from that evaluation are currently being implemented.
- ii. Community engagement partnership with Department of Neighborhoods (DON): Over the past four years, SPU partnered with DON on neighborhood outreach and engagement on SPU's 2024 Strategic Business Plan, the Bitter Lake Reservoir project, and environmental education programs to historically marginalized communities in the Cedar River Watershed. We have leveraged DON's community liaison program to reach out to marginalized communities throughout the city in support of our outreach efforts.
- iii. Tribal Engagement with Office of Intergovernmental Relations (OIR): SPU has worked together with OIR's Tribal Relations Director to engage with the Muckleshoot

Indian Tribe on activities to restore sockeye salmon runs on the Cedar River. SPU also attended the Tribal Nations Summit together with OIR and other City departments.

- iv. Workforce Development Planning with Office of Economic Development (OED): SPU worked alongside OED and other City departments in 2024-25 to develop a Workforce Development Plan for the region.
- v. Seattle Municipal Tower (SMT) Restack with Finance and Administrative Services (FAS): SPU is working with FAS to renovate 6 SMT floors with modern floorspace designs, with the goal of reducing our SMT footprint from 10 floors to 6 floors.
- vi. Snow Plowing and Joint Infrastructure Project Partnering with SDOT: SPU has a number of partnerships with SDOT, including joint projects to replace aged underground infrastructure or add green stormwater infrastructure while repaving streets. SPU completed South Park Phase 1 roadway and drainage improvements in 2022, and is working on the planning for South Park Phase 2 roadway and drainage improvements to be completed by 2030. SPU also has a seasonal partnership to support SDOT's snowplowing efforts during major snowstorm events.

In the coming years, I am excited to continue strengthening and leveraging our relationships with other departments to provide added value at lower costs to our customers. We plan to partner with DON on the community engagement for the future site planning at the former Talaris site in NE Seattle. We will continue partnering with SCL to expand access to our utility affordability programs and reduce the cost and time to administer the program. We also plan to work in partnership with SDOT to address permitting and construction issues on utility projects in the right-of-way, and create time savings for customers working on mainline extensions.

4. How is SPU preparing for the hundreds of thousands of fans coming to Seattle for the FIFA World Cup? Do you have a long-term strategy for building on the gains made during the games in terms of waste reduction and keeping needles and other waste from city streets?

During the World Cup, SPU is aiming to prevent waste, reduce litter, and strengthen Seattle's reputation as a global sustainability leader. These efforts build on existing work and will continue long after the World Cup ends.

We are working actively with venues, businesses, and event organizers to limit single-use items, prevent food waste, and make recycling and composting easy and accessible for residents and visitors. Examples of our efforts include: driving the adoption of reusable cups and dishware at fan celebrations and watch parties, running

a zero-waste events training for businesses, partnering with downtown hotels on food waste prevention, collaborating with the Port of Seattle on a multi-agency waste reduction communications campaign, and upgrading seven water refill stations to promote Seattle’s pure drinking water and reduce single use plastic bottles in the downtown core.

SPU’s Clean City Division is preparing for an influx of more than 750,000 visitors by scaling up proven strategies that prevent waste, reduce litter, and protect public health. These efforts expand on our year-round Clean City Division services and successful approaches used during major events like the MLB All-Star game, Club World Cup 2025, and past large-scale city activations such as the recent Super Bowl parade. During the World Cup, we will increase trash collection, sanitation services and targeted cleaning operations in high-traffic areas to ensure the city remains clean, healthy and accessible. In 2025, SPU and partners removed over 5.3 million pounds of waste and more than 661,000 sharps from the public right-of-way, demonstrating both scale and capability across our programs. Our work is not just about the World Cup. These investments and operational improvements will continue to benefit Seattle long after the event. Our goal is simple: ensure Seattle looks and feels clean every day for residents and during major events.

Major events like the World Cup are an opportunity for SPU to test new approaches (like reuse and food donation at events) at scale. We are being intentional about these insights, and what we learn here will directly inform future large events and day-to-day operations across the city. These efforts are also strengthening long-term partnerships with businesses and community partners across the city.

Rate Impact to Customers

- 5. SPU typically proposes rate increases each year to keep up with inflation and to pursue needed capital projects. The City is also impacted by decisions made by other jurisdictions – in particular wastewater treatment charges from King County. How will you ensure that SPU services are delivered at the lowest possible cost to its customers? How do you envision managing rate impacts from external entities?***

SPU recognizes the importance of rate affordability, and we prioritize delivering our high quality utility services at the lowest possible cost. Towards that end, SPU’s Executive Team is actively engaged throughout the year in reviewing rate proposals for our three lines of business, scrutinizing biennial budgets for savings, and developing and updating our Strategic Business Plan every three years to guide our 6- year rate path. Within each of these processes, we strive to live within our means, focusing on essential service delivery, regulatory requirements, and sound asset management. We

always strive to live within the rate path that is adopted by the City Council in the Strategic Business Plan (SBP), and for the last 13 years, SPU has kept its rates at or below the Strategic Business Plan 6-year rate path.

Rate impacts from external entities are the number one challenge we face in meeting our 6-year rate commitment. Specifically, rate increases from King County are projected at 12.75% per year for the next four years. Two years ago, the County projected those rates at between 5-9%. The lack of reliability in the County's rate forecasting creates huge challenges for SPU and other regional utilities to plan our rates and manage increases for our customers.

We must consider all options for addressing the County's proposed rate increases. Currently, the City has very little governance authority over the County's rate increases. All of the governance lies with the County Executive and the County Council, even though the City pays for approximately 40% of the budget for the County's Wastewater Treatment Division. The City should continue supporting adoption of a multi-year regional wastewater treatment rate, as opposed to the County's current practice of approving a new rate each year. In addition, the City should advocate for greater governance authority over the Wastewater Treatment Division's budget, rates, and capital improvement program, potentially through a change in the County charter. Lastly, the City should look at other options for regional wastewater treatment, including a long-term agreement to transfer the West Point Treatment Plant System from the County to the City.

6. *For Seattle to continue to thrive it must be a place that families, including our most vulnerable residents, can afford. Can you tell us how utility services fit into the overall affordability of the city and what actions SPU is taking to keep its revenue requirement and rates as low as possible?*

Utility rates are a non-negotiable, essential cost for households, together with housing, food, electricity, and other basic living costs. While utility costs alone do not drive affordability in the city, they are a critical component of the entire affordability picture for every household trying to make ends meet in an increasingly expensive city. SPU strives to keep its revenue requirements and rates as low as possible through the following actions:

- i) Sound Infrastructure Asset Management: SPU has robust programs to maintain, repair, and replace aged assets, so that we are not saddled with catastrophic failures and costly emergencies in the future because of deferred maintenance or insufficient asset replacement.

- ii) Long-Term Financial Planning: Rate affordability requires deliberate financial planning based on long-term investment needs, with the goal of sustainably increasing rates at a uniform level, rather than adopting volatile rate increases every year.
- iii) State and Federal Advocacy: Maintaining affordability requires that SPU advocate for strong federal and state investment in water/wastewater/stormwater infrastructure and adoption of state and federal policies and laws that consider affordability as new regulatory requirements are passed.
- iv) Continuous Improvement Culture: SPU has embraced a continuous improvement culture that embraces a mentality of reducing waste in our department.
- v) Technology Adoption: Throughout our department, we consistently evaluate technology as a means to deliver greater value to our customers at lower costs.
- vi) Affordability Programs: Affordability also involves having robust affordability programs. SPU has two programs that are models for the country: our Utility Discount Program (UDP) and our Emergency Assistance Program (EAP). These programs are critical in keeping our rates affordable for our most vulnerable households, and SPU is committed to funding these programs and removing barriers to accessing them.
- vii) Flexible Payment Arrangements: Lastly, affordability involves providing flexibility for our customers, who will experience emergencies and other unplanned circumstances that require programs to address their specific needs. This includes flexible payment plans, donation programs, and systems that reinforce responsible payment of utility bills. SPU began partnering with Promise Pay in 2025, an online solution which customizes payment plans for customers based on their unique circumstances. It also provides timely notifications to help customers to consistently pay their bills and exit the cycle of repeated delinquencies.

7. Last year, City Council approved a Statement of Legislative Intent requesting SPU work with City Light and HSD to expand eligibility for the two utilities' ratepayer assistance programs. What, in your view, are the biggest obstacles to increasing enrollment in the UDP and EAP and what actions should the council consider to eliminate those barriers?

In 2024, SPU engaged a consultant to evaluate our Utility Assistance Programs. The study found multiple obstacles to increasing enrollment in the Utility Discount Program

(UDP) and the Emergency Assistance Program (EAP), including burdensome income verification and recertification procedures, issues with digital literacy for some households, lack of program awareness, barriers of government trust especially for communities of color, and language access issues for immigrant populations.

As a result of the study, SPU and SCL have centered their efforts on improving enrollment in UDP and EAP on the following core actions:

- i. Reduce barriers to enrollment: Simplify program application and reduce required documentation.
- ii. Increase customer retention: Implement an effortless approach for customer retention to ensure income eligible customers maintain continuous access to benefits.
- iii. Expand enrollment pathways: Pre-qualify customers who have been income verified by other government programs, auto-enrolling when possible, and expand community partnerships to support to customer enrollment.
- iv. Expand income eligibility: Recommend legislative changes to offer a spectrum of utility assistance to households with incomes up to 80% of Area Median Income (AMI) while balancing access to assistance with the overall impact of expansion on the affordability of utility rates.

SPU and SCL are committed to addressing these barriers and are focusing on the following activities in 2026 to achieve the goal of increasing UDP enrollment and EAP utilization:

- Shifting from handing out flyers to events where staff work directly with customers to get them enrolled.
- Creating new partnerships with affordable housing providers and Seattle-King County Public Health to leverage their income verification processes to streamline enrollment through data sharing and/or onsite enrollment events
- Working with the Seattle Department of Neighborhoods and HSD's cohort of Community Connectors to provide education and improved processes to support community organizations who help customers enroll
- Training a cohort of Community Liaisons to support utility assistance staff with in-language engagement at enrollment events
- Testing program changes and updated communication materials directly with community to inform better outcomes

- Developing and testing a redesigned paper application to ensure technology is not a barrier to enrollment
- Redesigning our processes and program requirement to reduce burdens on customers when they apply or renew their eligibility.
- Assessing options for technology improvements to streamline enrollment.

We look forward to engaging with the City Council to discuss changes to eligibility thresholds for both the UDP and EAP in June 2026.

8. *As we work on the Comprehensive Plan and plan for increased density, what utility infrastructure needs do you believe are needed to accommodate this growth. How much more capacity do we need now, and in the coming years?*

Densification through redevelopment will create utility infrastructure needs throughout the city. The greatest utility infrastructure needs to accommodate densification will be new drinking water, wastewater, and stormwater pipes in approximately 25% of the roads in Seattle that currently do not have them. In some cases, development will trigger replacement of an existing main or upsizing of a pump station where the existing infrastructure does not have sufficient capacity to serve more households. Existing system capacity is highly dependent on the location, size and condition of pipes on each block of the city. Currently, only 10% of new developments in the city require a mainline extension or replacement of an existing pipe.

With respect to overall system capacity, SPU is in the very favorable position of having sufficient water supply to accommodate new growth for the next 40-50 years. This is largely due to conservation efforts over the past 30 years. On the wastewater side, King County also has sufficient capacity at the West Point Treatment Plant to serve the majority of the city's growth.

9. *Additionally, what are the options for providing these infrastructure needs? Do you have ideas for creative solutions to meet these needs?*

In 2025, the City Council passed legislation that increased system development charges (SDCs) for drinking water and created new SDCs for wastewater and stormwater. Simultaneously, the City Council passed legislation allowing SPU to use the revenue generated from SDCs to fund mainline cost sharing agreements with developers.

SPU began collecting revenue from the new SDCs at the beginning of 2026 and also began entering into agreements with developers for mainline extension cost sharing. In

the first four months of the 2026, SPU has invoiced approximately \$4M in revenue from the program and entered into 19 mainline cost-sharing agreements. The program will be funding approximately one mile of new water, sewer, and storm mains in the city to promote growth and redevelopment. In a very short time, the program has been incredibly successful and is achieving its goal of promoting growth and development in the city.

Based on feedback from developers, SPU has heard that the Street Improvement Permit (SIP) process is still a significant barrier to taking advantage of the program. Developers try to avoid properties that will require a SIP, because the process can take years. In the next several years, I hope to work together with SDOT to remove this barrier, so that developers can take full advantage of the program.

Executive and Staff Management

10. SPU has around 1,600 employees implementing a Council-approved budget of almost \$1.8 billion. What are the three most important things that you will focus on during your next term to ensure that SPU continues to provide efficient and equitable delivery of drinking water and processing of solid waste to its customers?

The three most important things I will focus on during my next term to ensure that SPU provides efficient and equitable delivery of drinking water, drainage and wastewater, and solid waste services to our customers are as follows:

- (i) Implement a Comprehensive Infrastructure Asset Management Program: Efficient and equitable delivery of drinking water, drainage and wastewater, and solid waste services begins with responsible management of our infrastructure. This includes maintaining, repairing, and replacing aged assets, so that we are not saddled with catastrophic failures and costly emergencies in the future because of deferred maintenance or insufficient asset replacement. Over the next four years, I will continue to focus on implementing our core Asset Management Programs across our three lines of business to ensure that we are being responsible stewards of our infrastructure.
- (ii) Promote a Continuous Improvement Culture: SPU has embraced a continuous improvement culture that instills a mentality of reducing waste in our department. “Lean” practices are being adopted throughout the department, promoting continuous improvements in areas such as customer service, infrastructure design and project management, front-line crew response times

to high priority emergencies, solid waste collection, and customer engagement. Over the next four years, I will focus on utility-wide adoption of continuous improvement practices.

- (iii) Embrace Technology Adoption: Throughout our department, we consistently evaluate technology as a means to deliver greater value to our customers at lower costs. In recent years, we have improved our customer portal, providing more information to our ratepayers as well as greater ease of accessing our services. We have also implemented solutions like Genesys in our contact center, which provides customer service representatives with enhanced tools to swiftly serve our customers while on calls. We are also currently evaluating Advanced Metering Infrastructure (AMI), which will provide customers with near real-time water consumption data, including automated detection of leaks, while reducing our reliance on meter readers. Over the next four years, I will focus on creating a thriving innovation culture when it comes to technology adoption.

11. You've had the opportunity to work with the City Council over the last few years – what have you learned? Has your general philosophy for working and communicating effectively with the City Council changed? How do you plan to ensure that Councilmembers and their staff receive timely and actionable information from your department to make policy and financial decisions? How will you be responsive to Council requests, specifically regarding priorities that may differ from those of the Executive Branch?

I have a deep appreciation for each city councilmember and their priorities, as well as the unique set of constituent needs that they bring to their positions. Over the past four years, I've learned the importance of engaging Councilmembers early on to seek their input on legislation. I've also learned the importance of being responsive to constituent needs, inquiries, and issues that are raised to Council offices. I understand that engaging with constituents early and proactively and allowing stakeholders to influence proposed legislation before it comes to the Council can help move legislation forward. I've learned that the timing of legislation is important, and we should consider what other pieces of legislation are moving forward at the same time by other departments. I strive to listen intently to what Councilmembers are saying, both in our direct conversations and in other venues, with the understanding that there is oftentimes cross-over between SPU's issues and the broader issues facing the City. Lastly, I appreciate the importance of keeping Councilmembers well informed on important

issues affecting SPU and minimizing or avoiding surprises, especially those that involve the news media.

My general philosophy for working and communicating with the City Council has not changed. It is my role, working together with our Council liaison, to ensure that Councilmembers are well informed, engaged, and provided with every opportunity to influence important issues and legislation affecting SPU. I am ultimately responsible for addressing the utility-related needs of each Councilmembers' constituents, to the extent feasible. Lastly, it is my role to look for opportunities to advance Councilmembers' interests.

With respect to ensuring timely and actionable information to make policy and financial decisions, SPU works to create a calendar of legislation that provides adequate time to delve into important policy and financial decisions with the Council. We strategically plan our legislative calendar to space apart potentially contentious legislation, with the goal of providing adequate time for dialogue both during and outside of Council committee meetings. We also strive to consider the timing of non-SPU legislation (e.g., Seattle City Light rates, other levies, etc.) in scheduling our proposed legislative calendar.

With respect to being responsive to Councilmember requests where they may differ from the priorities of the Executive – I believe it is my role to seek common ground between the interests of the Council and the Mayor, with the goal of advancing work that provides a win-win opportunity for both branches of government. While this may not always be possible, I have found that oftentimes there is enough overlap in the interests of both the Executive and Council to provide an opportunity to work collaboratively to advance legislation that addresses the priorities of both offices.

Race and Social Justice

12. Please discuss how you will further incorporate the City's Race and Social Justice Initiative into SPU's governing procedures and organizational culture, and into your leadership of SPU. How will you improve racial equity through your management of the Department?

In 2025, SPU began the process of co-creating an Equity Strategic Framework (ESF) for the department with input from equity leaders across the organization. The ESF centers on a Race and Social Justice vision, a set of guiding principles, and five focus areas for our RSJ efforts for the next 4 years:

- i) Embed internally: Ingrain racial equity and social justice practices and a culture of belonging into the work of individuals, teams, processes, programs, outcomes, and community engagement, so all employees can contribute to and benefit from the Utility’s RSJ efforts.
- ii) Align and advise: Align equity efforts across SPU and with other City departments, and advise and provide leadership for RSJ with public utilities nationwide.
- iii) Center community: Ensure that all Seattle communities and regional customers access the waste and water utility services they need and have meaningful voice and power in shaping SPU’s services and decisions.
- iv) Deliver EJ solutions: Deliver investments, projects, programs and policies that acknowledge the interconnectedness of people and planet through addressing past harms, prioritizing current environmental and human health, and planning for a resilient future.
- v) Reshape economy: Create equitable economic systems by investing in community-led solutions, entrepreneurship, and pathways that build a more inclusive and less wasteful economy, increase local wealth, and improve affordability.

SPU will be using this framework to strategically guide our RSJ work across the department and in community over the next 4 years. Following the framework, we will be moving forward with a broad set of RSJ actions, such as advancing internal training on appreciative inquiry and belonging, strengthening relationships with local tribal governments, advancing community-centered climate adaptations and solutions, and directing targeted investments to minority and women-owned business and towards historically underserved and underrepresented communities.

13. City leaders are responsible for ensuring that all residents, including those with limited English proficiency, immigrants and refugees, or those who might not be fully documented, have access to City services. How will you manage SPU to ensure all these demographics are well served?

Whenever SPU is developing a policy or strategic plan, planning for a capital improvement project, or updating technology, we proactively apply a Racial Equity Toolkit (RET) lens to ensure that all of our customers, especially those who are most marginalized, are adequately represented and considered in our decisions.

Through our RET process, we develop innovative solutions to meet the varying needs of our customers. We learn and iterate and show up in ways that are meaningful to our community. We utilize language access translations and plain language in our

communications. We consider the safety concerns and fears within our community – particularly among some immigrants and refugees – as we plan our outreach and prepare our frontline staff.

In the past four years, through our partnership with the Department of Neighborhoods (DON), SPU has collaborated with Community Liaisons (CLs) on nearly 15 programs and projects, which have helped shape our decisions with a community-centered lens, meet customers where they are, and grow cohorts of resident-volunteers and advocates. The CLs reflect various ethnic, racial, and linguistic communities, as well as disabled, low-income, and unhoused residents. The DON partnership has also successfully embedded engagement advisors within projects across the utility, helping us conduct in-language research and technical surveys, lead and participate in large resident-led collaborations (e.g., Longfellow Starts Here), develop and grow community engagement programs (e.g., Watershed Equity Tours), and meet our regulatory and compliance obligations (e.g., Seattle Overflow Action Plan) – all with the diversity of community needs and perspectives at the center.

SPU recently reviewed our data collection to ensure that we have the necessary data to serve customers. We collect name, billing information and resident address to serve our customers. Information beyond core billing information is voluntary and SPU is a local agency, meaning all immigration enforcement actions are not held by our agency; that is a federal action. Our charge is clean water, drainage, and solid waste collection. SPU customer data is safe and limited to what we need to deliver our services.

We work closely with known organizations and leaders in the Duwamish Valley and South Park, in Lake City, in South Seattle, in the Chinatown International District, along Delridge, in Bitter Lake, and more to become trusted partners. These help grow our programs, implement capital improvement projects, and build a green workforce, all within diverse communities that have historically been underserved and underrepresented by government.

With up to one quarter of the general population having some form of disability, SPU is committed to providing equitable access to all those who use our services. SPU has invested significant resources toward making our website and other digital media accessible to assistive technologies, and in Plain Language to be more easily understood and translated. SPU will continue to work towards utilizing best practices in digital accessibility and maintaining ADA Title II compliance by developing a SPU Digital Accessibility Program with regular oversight, staff training, and governance policy.

14. I know you are committed to addressing institutionalized racism and race-based inequities in SPU's programs and services. Can you look over the horizon a bit and tell us what you think the future challenges and opportunities will be as the leader of an organization that exists to meet the basic needs of its customers? How will you ensure SPU's workforce is prepared for these challenges?

The single greatest challenge SPU faces in the future is the long-term sustainability of the cost of our services. Even with the best rate-planning, the cost of SPU's services will continue to increase faster than inflation. This is primarily driven by two factors: (1) aging assets will require future replacement at high costs; and (2) regulations will demand a higher level of service when it comes to environmental and health outcomes. Advances in technology could conceivably mitigate future cost increases, but we have yet to see significant decreases in costs from technological advancements in the last 50 years.

We estimate that up to 30% of households in Seattle currently qualify for our utility assistance programs. This number is expected to grow as we expand eligibility for accessing these programs, and as the wealth gap between the rich and the working class continues to increase in our city. Adding faster-than-inflation rate increases will only accelerate the increase in households that cannot afford utility services. Twenty or thirty years down the road, we may face a situation where up to 50% of Seattle households qualify for rate assistance programs. That raises the question of whether we have a sustainable model for paying for utility services.

Solutions to this issue of long-term rate affordability will be a national topic of discussion over the next two decades. As utility rates continue to increase, it is possible that alternative financing models for managing wastewater, stormwater and solid waste will materialize. Already in the solid waste arena, extended producer responsibility (EPR) bills are being passed in a number of states including Washington state, requiring producers of paper and packing materials to pay for the costs of recycling those materials. By 2030, SPU will start to receive funding from paper and packing producers to manage our recycling costs which will translate to savings on our customers' solid waste bills. Although a similar model does not yet exist in the drainage and wastewater utility, there may be an opportunity to pass on costs for stormwater treatment to oil or tire companies, who are the sources of many pollutants in our waste streams. Alternative decentralized technologies for treating and reclaiming wastewater at a household level may also become more cost effective, leading to less reliance on costly centralized infrastructure.

SPU is actively engaged in research on future industry-transformative trends that will help address the affordability issues of our day. I sit on the board of the Water Research Foundation (WRF), which is the leading professional organization for water and wastewater research in the United States. Our participation on research projects and our advocacy efforts at the state and federal level on affordability issues will ensure that SPU is well prepared to tackle the affordability challenges of the next several decades.

Environment and Sustainability

15. What is SPU's role and responsibility with respect to environmental issues, particularly environmental education, and sustainability?

Restoring and protecting the environment and promoting environmental education and sustainability is core to SPU's mission, vision, and values. As the drinking water provider, we strive to conserve our precious water resources, steward and protect our drinking water watersheds, promote adequate stream flows for fish in both the Cedar River and South Fork Tolt River, increase sockeye salmon runs in the Cedar River, and educate the public on their role in protecting our water supply for future generations. As the drainage and wastewater utility, we are committed to reducing pollution to the environment by reducing combined sewer overflows, promoting source control of pollutants to prevent them from entering our wastewater or stormwater, cleaning up contaminated sediment in waterways such as the Duwamish, removing harmful stormwater pollutants from stormwater discharges, and slowing the flow of stormwater through creeks by implementing codes and projects. Finally, as the solid waste utility, our mission is to eventually become a city that produces zero waste, through comprehensive cradle-to-grave management of materials, including reduction of waste at the source, recycling and reuse of materials, diverting food waste from the landfill, and promoting producer responsibility and circular economies which eliminate waste from the life-cycle of materials.

All of our environmental sustainability efforts rely heavily on environmental education. We cannot achieve our water conservation, pollution-reduction, or zero waste goals without engaging the public in our efforts. Towards that end, we implement a number of different pathways to engage the public in our environmental goals. Those pathways include school-based programs in partnership with Seattle Public Schools, that involve early education of students on the importance of composting and recycling or the life-cycle of salmon in our creeks. We also bring both students and families to our Cedar River Watershed Education Center for educational programs on their drinking water

source, the impact of climate change on our water supply, and how they can conserve water. We are constantly engaged in education of commercial businesses on waste diversion, recycling of construction and demolition debris, and programs to reduce stormwater pollution to the environment. Recently, we provided a workshop to businesses in the University District our solid waste services and how to properly disposal of cooking oil. Lastly, we are engaged in the Saving Water Partnership, a regional consortium that promotes drinking water conservation in the greater King County region through education and rebates.

Together, these programs are enabling SPU to make tremendous strides in conserving water, reducing pollution, and reducing waste. We use less water today than we did in the 1990s, even with considerable growth in our population. Our per capita waste generation rates are the lowest in the country. And, we've seen the return of salmon to our creeks. Our partnership with community is our pathway to realizing our environmental sustainability goals.

16. What experience do you have developing resilient, forward-thinking policies around climate change (including climate resiliency/adaptation) and what role does SPU play in implementing those policies?

Seattle Public Utilities has been working to characterize and address climate change and environmental stewardship issues since its establishment in 1997. SPU has incorporated climate science into water supply and stormwater planning since 2002 and advancing policies to reduce our operational greenhouse gas emissions since 2013.

SPU's climate action is embedded in our daily operations and planning. Our climate work is comprised of a portfolio of activity that, in addition to addressing climate impacts, includes greenhouse gas emissions reduction, carbon sequestration, water and waste circularity, green stormwater infrastructure, continuity of service during weather emergencies, ecosystem and species stewardship, green and blue workforce development, affordability, an intergenerational perspective, and environmental justice.

SPU is investing in flexible, innovative, cost-effective, and equitable climate solutions. This includes efforts like:

- i. Citywide emissions reductions through waste prevention and diversion
- ii. Nature-based solutions that foster healthy and resilient ecosystems in urban creeks and shorelines
- iii. Adaptive management for water supply planning
- iv. Climate-resilient capital projects to ensure that projects build today will continue to serve communities for decades into the future

v. Wildfire risk reduction strategies for our drinking water supply watersheds

SPU is prioritizing neighborhoods that are most at risk from climate impacts. In our climate work, SPU has a chance to invest in, partner with, and support communities so that they will not disproportionately bear the brunt of climate impacts. SPU is leading with racial justice, honoring communities' priorities to build resilience, and equitably serving Seattle neighborhoods.

SPU is seeking balance in our relationship with the planet and with people. It is a re-remembering that everything is connected, and we must work together within our means. Partnerships – with sister departments, with Seattle communities and non-profits, with peer utilities, and with climate scientists – are some of our most powerful levers for change.

17. How is SPU preparing for extreme weather events and risks exacerbated by climate change and ensuring we have enough water for our growing city and region?

In the last five years Seattle and our region have experienced a wide array of climate impacts which reinforce the fact that the effects of climate change are here and now. These include the shrinking snowpack in the Cascades; the catastrophic river flooding in 2025 in King, Snohomish, and Skagit Counties; the 2022 Loch Katrine and Bolt Creek Fires, which were mere miles away from SPU's South Fork Tolt Watershed; the devastating December 2022 King Tide flooding in South Park; and 2021 Pacific Northwest Heat Dome, as well as the global context of environmental and public health inequities. . SPU is engaged in the following actions to manage the risks that changing climate pose to our drinking water and drainage and wastewater utilities:

- i. Long-Term Planning for Changing Weather: We have incorporated the effects of climate change on precipitation patterns and snowpack projections into our long-range planning for both for our drinking water utility and for our drainage and wastewater utility.
- ii. Operational Changes to Water Supply Management: SPU has implemented adaptive reservoir refill and drawdown strategies in light of lower seasonal snowpack and in preparation for drier springs and summers. That has enabled SPU to avoid water curtailments even in the face of historically low snowpack the last four years.
- iii. Designing and Constructing Infrastructure to Handle Larger Storms: We have revised our design criteria for stormwater and wastewater facilities (e.g., pipes, storage facilities, pump stations) to account for more frequent, intense storm events.

- iv. Implementing Adaptive Solutions: We are constructing more green stormwater infrastructure to manage stormwater, because of its climate mitigation properties and the ability to scale up such facilities more easily than traditional “grey” infrastructure.
- v. Promoting Conservation: We continue to proactively implement a strong regional water conservation program, which reduces water system demands per capita, especially with regional growth projections.
- vi. Plan for Future Water Supply Options: While our long-range forecasts suggest that we have sufficient water for the next 40-50 years, SPU is still engaged in strategic planning for future water supply options.
- vii. Preparing for Wildfire Risk: We are working to manage wildfire risk in our watersheds by creating defensible spaces, implementing forest thinning practices, and maintaining a trained and well-prepared wildland fire fighting crew.
- viii. Planning for Sea Level Rise: Together with community and industry, we are developing and implementing a sea level rise adaptation strategy for the lower Duwamish, primarily for the South Park and Georgetown neighborhoods. This includes our annual work of creating a flood barrier during king tide events each winter. It also includes plans for creating permanent flood barriers on public lands in South Park, including roadways, street-ends, and city-owned parcels (e.g. parks, Port of Seattle property, SPU pump station and water quality facility properties).



Legislation Text

File #: CB 121202, **Version:** 1

Screen Reader Users: Make sure settings include reading strikethrough and underline font attributes.

The City of Seattle

Ordinance

Council Bill

An ordinance relating to Seattle Public Utilities; authorizing the General Manager and Chief

Executive Officer of Seattle Public Utilities, or designee, to execute an amendment to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; authorizing the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, to execute additional amendments to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; and ratifying and confirming certain prior acts.

Recitals:

The Duwamish River flooded the South Park neighborhood in December 2022 due to a combination of factors including higher-than-average tides, rain runoff, and melting snow, damaging local homes and businesses.

The South Park neighborhood, which is home to low-income, immigrant, refugee, and unsheltered people and is 74 percent people of color, has experienced previous flooding, as well as environmental and health damage due to historical inequities and industrial contamination.

The South Park neighborhood provides the bulk of the 6,400 jobs that are part of Seattle's Duwamish

manufacturing/industrial center.

The King County Flood Control Zone District is a quasi-municipal corporation of the State of Washington, authorized to provide funding and support for flood risk reduction projects within King County.

Pursuant to Seattle Ordinance 127057, the City Council authorized the General Manager and Chief Executive Officer of Seattle Public Utilities (SPU), or designee, to enter into an interlocal agreement funding flood preparedness and emergency response in South Park and, accordingly, the King County Flood Control Zone District and The City of Seattle entered into an interlocal agreement entitled Interlocal Agreement for the South Park Interim Flooding Preparedness and Response Program between the King County Flood Control Zone District and The City of Seattle (Interlocal Agreement).

The King County Flood Control Zone District and SPU desire to amend the Interlocal Agreement to incorporate additional funding allocation from the King County Flood Control Zone District to SPU for SPU's costs and expenses for the flood preparedness and emergency response in South Park. Therefore,

Be it ordained by The City of Seattle as follows:

Section 1. The General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, is authorized to execute, for and on behalf of The City of Seattle, the amendment to the Interlocal Agreement between Seattle Public Utilities and the King County Flood Control Zone District entitled First Amendment to Interlocal Agreement for the South Park Interim Flooding Preparedness and Response Program, attached to this ordinance as Attachment 1.

Section 2. Additionally, the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, is further authorized to execute, for and on behalf of The City of Seattle, amendments to the Interlocal Agreement that increase the amount of funding that the King County Flood Control Zone District may provide to Seattle Public Utilities for the costs and expenses for the flood preparedness and emergency response in South Park, provided that such grant of authority is subject to the existence of appropriation authority, in the applicable Seattle Public Utilities budget control level

or levels of the Adopted City Budget (including supplements to such budget) for the year or years in which Seattle Public Utilities enters into such amendment with the King County Flood Control Zone District.

Section 3. Any act pursuant to the authority of this ordinance taken prior to its effective date is ratified and confirmed.

Attachments:

Attachment 1 - First Amendment to Interlocal Agreement for the South Park Interim Flooding Preparedness and Response Program

This ordinance shall take effect as provided by Seattle Municipal Code Sections 1.04.020 and 1.04.070.

Passed by the City Council and signed in open session in authentication of its passage on .

President of the City Council
on .

Katie B. Wilson, Mayor

Attested on .

Scheereen Dedman, City Clerk

Seal

**FIRST AMENDMENT TO INTERLOCAL AGREEMENT FOR THE
SOUTH PARK INTERIM FLOODING PREPAREDNESS AND RESPONSE PROGRAM**

THIS AMENDMENT NO. 1 to the Agreement Regarding the South Park Interim Flooding Preparedness and Response Program (“Amendment No. 1”) is entered into on the last date signed below, by and between the CITY OF SEATTLE, a Washington municipal corporation (“City”), and KING COUNTY FLOOD CONTROL ZONE DISTRICT, a quasi-municipal corporation of the State of Washington (“District”) (collectively, the "Parties").

RECITALS

A. Pursuant to FCD Resolution FCD2024-03 and City of Seattle Ordinance No. 127057, the Parties entered into an Interlocal Agreement for the SOUTH PARK INTERIM FLOODING PREPAREDNESS AND RESPONSE PROGRAM (“Agreement”) effective September 23, 2024.

B. The Agreement concerned the South Park Interim Flooding Preparedness and Response Program (the “Project”) and authorized the City to:

- a. Acquire six pumps;
- b. Acquire an operations staging trailer;
- c. Oversee and implement the interim flood preparedness and response program, including the purchase of flood barrier materials, equipment and supplies; project management and oversight; storing, staging, and mobilizing, demobilizing, and maintaining the temporary equipment and supplies for the temporary and semi-permanent flood barriers; deploying, operating, and maintaining the pumps; deploying community sandbags; and obtaining required permits and approvals; and
- d. Support community preparedness, including the development of South Park-specific communication materials to increase an understanding of the flood risks in the South Park neighborhood, development of culturally appropriate public education and outreach of the flood risk in the South Park neighborhood, and engaging residents to provide input into near- and long-term flood risk reduction strategies.

C. The Project is located in the South Park neighborhood of Seattle, adjacent to the Duwamish River.

D. As set out in the Agreement, the District agreed to reimburse the City for its actual costs incurred in completing the tasks described in the Agreement up to a maximum allowable reimbursement amount of \$2,041,000. Since the Agreement’s execution, the City identified increased costs necessary to perform the scope of work for the Project set out in the Agreement. The City has determined that the maximum allowable reimbursement amount authorized by the Agreement will be insufficient to reimburse the City for its estimated actual costs incurred to effectuate the Project.

E. The District adopted its 2025 Budget via FCD Resolution FCD2024-12 on November 19, 2024, authorizing a continued partnership with the City for the Project, and increasing funding for the Project by \$1,320,615 for a new total Project budget of \$3,361,615 (including all monies paid prior to the adoption of FCD Resolution FCD2024-12).

F. The District adopted its 2026 Budget via FCD Resolution FCD2025-12 on November 12, 2025, authorizing a continued partnership with the City for the Project, and increasing funding for the Project by \$1,300,000 for a new total Project budget of \$4,661,615 (including all monies paid prior to the adoption of FCD Resolution FCD2024-12).

G. The parties desire to amend the Agreement to incorporate the additional funding allocation and associated terms. The additional funding allocation is intended to compensate the City for those reasonable City costs and expenses for the Project described in the Agreement, as amended. This new total maximum reimbursement amount applies to all costs and expenses paid to the City prior to this Amendment, as well as work subsequent thereto.

AMENDMENT

NOW THEREFORE, in consideration of the mutual interest, desire, and promises of the parties and other good and valuable consideration, the Parties agree as follows:

1. **Recitals Incorporated.** All recitals above are hereby incorporated in and ratified as part of this Amendment No. 1.
 2. **Amendment.** The Agreement is hereby amended as follows:
 - a. In Section 2 of the Agreement, the maximum reimbursement for City costs and expenses is increased from two million and forty-one thousand dollars and no cents (\$2,041,000) to four million six hundred sixty-one thousand six hundred fifteen dollars and no cents (\$4,661,615); and
 - b. In Section 2.1 of the Agreement, the amount of \$1,786,000 is replaced with \$4,406,615; and
 - c. In Section 2.1.3 of the Agreement, the amount of \$1,130,000 is replaced with \$3,750,615.
 - d. In Section 3.3 of the Agreement, a new third sentence is added, as follows, in between "\$2,041,000.00." and "To": "Additional Funds of \$1,320,615.00 were appropriated in the District's 2025 Budget, bringing the total up to \$3,361.615.00, and additional funds of \$1,300,000.00 were appropriated in the District's 2026 Budget, bringing the total up to \$4,661,615."
-

IN WITNESS WHEREOF the Parties have executed this Amendment No. 1, which shall become effective on the last date signed below.

KING COUNTY FLOOD CONTROL ZONE DISTRICT CITY OF SEATTLE, SEATTLE PUBLIC UTILITIES

By: _____
Reagan Dunn, Chair
Date: _____

By: _____
Andrew Lee, CEO/General Manager
Date: _____

APPROVED AS TO FORM:

By: _____
Charlotte Archer, District Legal Counsel
Date: _____

Summary and Fiscal Note

1. Legislation Summary

Department: Seattle Public Utilities

Title: AN ORDINANCE relating to Seattle Public Utilities; authorizing the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, to execute an amendment to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; authorizing the General Manager and Chief Executive Officer of Seattle Public Utilities, or designee, to execute additional amendments to the interlocal agreement between Seattle Public Utilities and the King County Flood Control Zone District for the South Park Interim Flooding Preparedness and Response Program; and ratifying and confirming certain prior acts.

Background: Due to repetitive flooding incidents in the South Park neighborhood, including the December 2022 Duwamish River King Tide flooding event, Seattle Public Utilities developed a South Park Emergency Response Plan to prepare for the increased flooding risk in the neighborhood. The South Park Response Plan includes annual construction of a temporary flood barrier during the wet weather season, an emergency preparedness and response staffing plan, and outreach and engagement in South Park to build community understanding of flooding risk. The Interlocal Agreement with King County Flood Control Zone District, approved by Seattle Ordinance 127057 made available \$2,041,000 from the King County Flood Control Zone District for these expenses. The amendment that is the subject of this ordinance would add an additional \$2,620,615.

Summary Attachments: None

2. Capital Improvement Program (CIP)

Does this legislation create, fund, or amend a CIP Project?

Yes

No

3. Summary of Financial Implications

Does this legislation have financial impacts to the City?

Yes

No

a. Expenditure Change to General Fund

b. Expenditure Change to Other Funds

c. Revenue Change to General Fund

d. Revenue Change to Other Funds

| 2026 | 2027 est. | 2028 est. | 2029 est. | 2030 est. |
|-----------|-----------|-----------|-----------|-----------|
| 2,620,615 | | | | |

e. Number of Positions

f. Total Full-Time Employee (FTE) Change

3a. Appropriations

This legislation adds, changes, or deletes appropriations.

3b. Revenues/Reimbursements

This legislation adds, changes, or deletes revenues or reimbursements.

Anticipated Revenue/Reimbursement Resulting from This Legislation:

| Fund Name and Number | Dept. | Revenue Source | 2026 Revenue | 2027 Estimated Revenue |
|------------------------------------|-------|-----------------|--------------|------------------------|
| Drainage & Wastewater Fund - 44010 | SPU | King County FCD | 2,620,615 | |

| TOTAL 2026 Revenue | TOTAL 2027 Estimated Revenue |
|--------------------|------------------------------|
| 2,620,615 | |

Revenue/Reimbursement Notes:

3c. Positions

This legislation adds, changes, or deletes positions.

Total Regular Positions Created, Modified, or Abrogated through This Legislation, Including FTE Impact:

If there is one or more sunseting position or other notes, please explain:

3d. Other Financial Impacts

a. Does this legislation create any other financial impacts for The City of Seattle, such as direct or indirect costs, one-time or ongoing, that aren't mentioned above? If yes, please explain these impacts.

No

b. If the legislation has costs that can be covered within the current budget, explain how. Does the department have extra resources in its budget to handle these costs? Or does the department need to shift resources away from other work to handle these costs?

NA

c. What financial costs or other impacts might happen if this legislation is not implemented?

Not implementing this legislation would result in the loss of \$2,620,615 in revenue to the Drainage & Wastewater Fund.

d. How might this legislation affect other City departments besides the one that proposed it?

NA

4. Other Impacts

a. Does this legislation require a public hearing?

Yes

No

b. Does this legislation require a notice to be published in The Daily Journal of Commerce and/or The Seattle Times?

Yes

No

c. Does this legislation affect a piece of property?

No

d. Race and Social Justice Initiative impacts:

1. How does this legislation affect vulnerable or historically disadvantaged communities? How did you come to this conclusion? Please consider both impacts within City government (like employees and internal programs) and in the broader community.

The legislation will reduce flood risk and improve safety within the South Park neighborhood, a historically disadvantaged community where 74 percent of residents are people of color.

2. Please attach any Racial Equity Toolkits or other racial equity analyses used to develop or assess this legislation.

This Agreement provides funding to benefit a historically vulnerable community; a Racial Equity Toolkit has not been completed.

3. What is the Language Access Plan for communicating with the public about this legislation?

SPU has partnered with community-based organizations in South Park, including Duwamish River Community Coalition, Villa Comunitaria, and Khmer Community of Seattle King County, who are providing translation and interpretation services in Spanish and Khmer as needed. SPU staff have also partnered with Community Liaisons from the Department of Neighborhoods to provide additional language support as needed.

e. Climate change impacts:

1. Emissions: Will this legislation significantly increase or decrease carbon emissions? Attach any studies or materials that inform your answer.

No

2. Resiliency: Will this legislation make Seattle more or less able to adapt to climate change? If it reduces resiliency, explain what can be done to lessen the impact.

The proposed actions will improve community resilience to climate change by supporting safety and preparedness to the increased risk of flooding and extreme weather events.

f. If this legislation creates a new program or expands an existing one, what are the long-term, measurable goals? How will this legislation help achieve those goals? What methods will be used to track progress?

NA

g. Does this legislation create a non-utility CIP that involves shared funding with a non-City partner or organization?

No

First Amendment to Interlocal Agreement with King County Flood Control District

South Park Interim Flood Preparedness and Response Program
Chris Hilton, Utility Resilience Advisor

May 14, 2026

Legislation Purpose

- To authorize SPU to Amend an Interlocal Agreement (ILA) with King County Flood Control District (FCD)

December 27, 2022 Flood



- December 27 - Storm surge, very low pressure, wind, extreme King Tide
- Duwamish River spilled over banks
- 49 homes and businesses were flooded



City Emergency Response to 2022 Flood

- Infrastructure assessment, sandbags
- Emergency housing for 20 families
- Significant coordination with City department and community partners
- Portable toilets, sinks, shower, laundry
- Clean City ROW solid waste/debris collection/sharps collection kits
- In-home clean-up

Key Provisions of ILA

- Flood Control District provided \$2 million to SPU for flood preparedness in 2023 and 2024
- Amendment adds \$2.6 million for 2025 and 2026

Flood Control District Funds

- Temporary flood wall
- Pump and bypass system

Sandbag Elevation:
about 15'

Flood Elevation:
about 12'11"

Ground Elevation:
about 12'10"



Questions?

South Park Emergency Response Plan:

Flooding Preparedness and Response Approach

Operational Period: November 1, 2023, to March 1, 2024





Legislation Text

File #: CB 121190, **Version:** 1

Screen Reader Users: Make sure settings include reading (1) strikethrough and underline font attributes, and (2) superscripts and subscripts.

The City of Seattle

Ordinance

Council Bill

An ordinance relating to the 2026 Stormwater Code Update; updating stormwater control

requirements for development, roadways, utilities, and maintenance activities; strengthening stormwater treatment and infiltration standards; clarifying vesting and review thresholds; ensuring the City's compliance with requirements of the City's 2024-2029 Phase 1 Municipal Stormwater Permit issued by the State Department of Ecology; and amending Chapters 22.800, 22.801, 22.802, 22.803, 22.805, and 22.807 of the Seattle Municipal Code.

Recitals:

Recital 1. The City of Seattle is committed to protecting local creeks and lakes, the Duwamish River, and Puget Sound.

Recital 2. The City fosters a healthy people, environment, and economy by partnering with the community to equitably manage water and waste resources for today and for future generations, including but not limited to the reduction of pollutants and contaminants of emerging concern from stormwater runoff that can harm local water bodies.

Recital 3. The City is aware that emerging contaminants from stormwater runoff, such as 6PPD-q, a chemical in tire dust, adversely affect local salmon populations, and supports greater water quality treatment where possible.

Recital 4. The City is working to address urgent housing needs and must balance protecting people, property, and the environment with increased development.

Recital 5. The City uses stormwater regulations to protect people, property, and the environment from damage related to stormwater runoff, for the purposes stated in Section 22.800.020 of the Seattle Municipal Code.

Recital 6. The City has committed to achieve thirty percent tree canopy coverage by 2037, and the amendments to the Stormwater Code adopted by this ordinance reflect that commitment by expanding opportunities for tree planting.

Recital 7. The City is subject to the 2024-2029 Phase I Municipal Stormwater Permit (National Pollutant Discharge Elimination System and State Waste Discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewer Systems) issued July 1, 2024 (the “MS4 Permit”), by the State of Washington Department of Ecology (“Ecology”) in compliance with the federal Clean Water Act and state law, as effective August 1, 2024.

Recital 8. The MS4 Permit requires the City’s Stormwater Code and associated technical manual include minimum requirements, thresholds, definitions, and other specified requirements, limitations and criteria that are equivalent to Appendix 1 (Minimum Technical Requirements for New Development and Redevelopment) of the MS4 Permit and Ecology’s Stormwater Management Manual for Western Washington, 2024 edition.

Recital 9. This ordinance, to be known as the 2026 Stormwater Code Update, contains amendments to comply with the MS4 Permit and other amendments not required to comply with the MS4 Permit, to further the purposes of the Stormwater Code.

Recital 10. Ecology has reviewed the proposed revisions to the Stormwater Code contained in this ordinance and found them, together with concurrently proposed Seattle Stormwater Manual

revisions, to comply with the requirements of the MS4 Permit.

Recital 11. In developing this ordinance and other stormwater regulations that protect the functions and values of critical areas, including those in the Shoreline District, the City has included the best available science. Therefore,

Be it ordained by The City Of Seattle as follows:

Section 1. Chapter 22.800 of the Seattle Municipal Code, last amended by Ordinance 126336, is amended as follows:

Chapter 22.800 Title, Purpose, Scope, And Authority

* * *

22.800.040 Exemptions, adjustments, and exceptions

A. Exemptions

1. The following land uses are exempt from the provisions of this subtitle:

- a. Commercial agriculture, including only those activities conducted on lands defined in RCW 84.34.020(2), and production of crops or livestock for wholesale trade; and
- b. Forest practices regulated under Title 222 Washington Administrative Code, except for Class IV general forest practices, as defined in WAC 222-16-050, that are conversions from timber land to other uses.

2. The following land disturbing activities are ~~((not required to comply with))~~ exempt from the following specific minimum requirements ~~((listed below.))~~ :

- a. Maintenance, repair, upgrade, or installation of underground or overhead utility facilities, such as, but not limited to, pipes, conduits and vaults, ~~((and))~~ that ~~((includes replacing))~~ replaces the ground surface with in-kind material or materials with similar runoff characteristics ~~((are not required to comply with))~~ is exempt from Section 22.805.070 (Minimum requirements for on-site stormwater management), Section 22.805.080 (Minimum requirements for flow control), ~~((or))~~ and Section 22.805.090 (Minimum requirements for treatment), except ~~((as modified as follows: 1) Installation))~~ installation of underground or overhead utility facilities that are integral with and contiguous to a trail or sidewalk project, parcel-based project, or a road-related project ~~((shall))~~ must comply with Section 22.805.040 (Minimum requirements for trail and sidewalk projects), Section 22.805.050 (Minimum requirements for parcel-based projects), or Section 22.805.060 (Minimum requirements for roadway projects), respectively.

b. Pavement maintenance practices, as defined in Section 22.801.170, ((limited to the following activities)) are ((not required to comply with Section 22.805.060 (Minimum requirements for roadway projects),)) exempt from Section 22.805.070 (Minimum requirements for on-site stormwater management), Section 22.805.080 (Minimum requirements for flow control), ((or)) and Section 22.805.090 (Minimum requirements for treatment), except ((:)) pavement maintenance practices that are integral with and contiguous to a parcel-based project or a road-related project must comply with Section 22.805.050 (Minimum requirements for parcel-based projects) or Section 22.805.060 (Minimum requirements for roadway projects), respectively.

~~((1) Pothole and square cut patching;~~

~~2) Overlaying existing asphalt or concrete or brick pavement with asphalt or concrete without expanding the area of coverage;~~

~~3) Shoulder grading;~~

~~4) Reshaping or regrading drainage ditches;~~

~~5) Crack sealing; and~~

~~6) Vegetation maintenance.))~~

c. Land disturbing activity that includes replacing the ground surface with in-kind material or with materials having equivalent runoff characteristics and is associated solely with soil remediation or tank removal for the purpose of removing contaminants and pollutants and not associated with other development is not required to comply with subsections 22.805.050.A and 22.805.060.A (Soil amendment), Section 22.805.070 (Minimum requirements for on-site stormwater management), or Section 22.805.080 (Minimum requirements for flow control). Projects that include any development in addition to soil remediation or tank removal ((replaced with in-kind material or with materials having equivalent runoff characteristics)) are not exempt.

d. Drainage control facilities that are part of a public retrofit project installed to meet Appendix 12 to the City's municipal stormwater NPDES permit or for combined sewer control, or other voluntary retrofit project, are not required to comply with Section 22.805.070 (Minimum requirements for on-site stormwater management), Section 22.805.080 (Minimum requirements for flow control), or Section 22.805.090 (Minimum requirements for treatment). This exemption does not include land disturbing activities or hard surfaces that are not integral ((to)) with or are in addition to the drainage control facilities described above, or installation of drainage control facilities that are otherwise required to meet this subtitle.

e. Additional work associated with an activity exempted by this subsection 22.800.040.A.2 that is necessary to comply with the federal Americans with Disabilities Act is included in the exemption granted.

3. Sites that produce no runoff as determined by a licensed civil engineer using a continuous runoff model approved by the Director are not required to comply with Section 22.805.080 (Minimum requirements for flow control).

4. When a portion of the site being developed discharges only to the public combined sewer, and that portion is not required to implement source controls pursuant to Section 22.803.040 for specified activities, the Director has the authority, to the extent allowed by law, to issue an order under Chapter 22.808 requiring the responsible party to undertake source controls, if the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of City right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.

5. Residential activities are not required to comply with the provision of subsection 22.805.020.I (Install source control BMPs) unless the Director determines that these activities pose a hazard to public health, safety or welfare; endanger any property; adversely affect the safety and operation of City right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.

6. With respect to all state highway right-of-way under Washington State Department of Transportation (WSDOT) control within the jurisdiction of The City of Seattle, WSDOT shall use the current, approved Highway Runoff Manual (HRM) for its existing and new facilities and rights-of-way, as addressed in WAC 173-270-030(1) and (2). Exceptions to this exemption, where more stringent stormwater management requirements apply, are addressed in WAC 173-270-030(3)(b) and (c).

a. When a state highway is located in the jurisdiction of a local government that is required by Ecology to use more stringent standards to protect the quality of receiving waters, WSDOT shall comply with the same standards to promote uniform stormwater management.

b. WSDOT shall comply with standards identified in watershed action plans for WSDOT rights-of-way, to the extent required by state law.

c. Other instances where more stringent local stormwater standards apply are projects subject to tribal government standards or to the stormwater management-related permit conditions imposed under Chapter 25.09 to protect environmentally critical areas and their buffers (under the Growth Management Act), an NPDES permit, or

shoreline master programs (under the Shoreline Management Act). In addition, WSDOT shall comply with local jurisdiction stormwater standards when WSDOT elects, and is granted permission, to discharge stormwater runoff into a municipality's drainage system or combined sewer system.

* * *

22.800.070 Minimum requirements for City agency projects

A. Compliance. A City (~~(agencies)~~) agency shall comply with all the requirements of this subtitle except as specified below:

1. City agencies are not required to obtain permits and approvals under this subtitle for work performed within a public right-of-way or for the operation and maintenance of city park lands, ((other than)) except for inspections as set out in subsection 22.800.070.B and review and approval when applying roadway project infeasibility as provided in subsection 22.805.060.E((, for work performed within a public right-of-way or for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation. Where the work occurs in a public right-of-way, it shall also comply with Title 15, Street and Sidewalk Use, including the applicable requirements to obtain permits or approvals)).

2. A City agency project(~~(, as defined in Section 22.801.170,))~~) that is not required to obtain permit(s) and approval(s) pursuant to subsection 22.800.070.A.1 and meets all of the conditions set forth below, is not required to comply with amendments to ~~((Sections 22.800.020 through 22.808.140))~~ this subtitle that take effect on ~~((July 1, 2021))~~ July 1, 2026, except the amendments to this subsection 22.800.070.A.2 ~~((,))~~ , provided that:

a. The project begins land disturbing activities ~~((within five years of the effective date of this subtitle))~~ before July 1, 2031; and

b. The project complies with the Stormwater Code that was made effective ~~((January 1, 2016))~~ July 1, 2021, by Ordinance ~~((124872))~~ 126336, ~~((which requires compliance))~~ and with Directors' Rules SDCl ~~((17-2017))~~ 10-2021/SPU DWW 200 effective ~~((January 1, 2016))~~ July 1, 2021; and

c. The project ~~((meets one or more of the following criteria))~~ is financed in whole or in part by funds:

1) ~~((Project funding was appropriated as identified in Ordinance 126237 titled, "An ordinance adopting a budget, including a capital improvement program and position modifications, for The City of Seattle for 2021"))~~ Appropriated by ordinance as part of the City's 2026 budget; or

2) ~~((Project received or will receive voter approval of financing))~~ Approved by voters
before ~~((January 1, 2021))~~ July 1, 2026; or

3) ~~((Project received or will receive funds based on))~~ Received as a result of a state or
federal grant ~~((application(s)))~~ application submitted before ~~((January 1, 2021))~~ July 1, 2026.

* * *

22.800.100 ~~((Transition to revised))~~ Stormwater Code vesting

A. ~~((Any building or grading permit issued prior to June 30, 2020, (1) which was not considered, either in the initial application process or in a renewal process, under the version of the Stormwater Code in effect on or after January 1, 2016, and (2) pursuant to which construction has not started by June 30, 2020, shall expire on June 30, 2020.~~

B. ~~Any building or grading permit (1) which was considered under a version of the Stormwater Code in effect on or after January 1, 2016, but before July 1, 2021, and (2) pursuant to which construction has not started by July 1, 2026, shall expire on July 1, 2026.~~

C. ~~Any master use permit issued prior to June 30, 2020, for a project not requiring a building permit (1) which was not considered, either in the initial application process or in a renewal process, under the version of the Stormwater Code in effect on or after January 1, 2016, and (2) pursuant to which construction has not started by June 30, 2020, shall expire on June 30, 2020.~~

D. ~~Any master use permit for a project not requiring a building permit (1) which was considered under a version of the Stormwater Code in effect on or after January 1, 2016, but before July 1, 2021, and (2) pursuant to which construction has not started by July 1, 2026, shall expire on July 1, 2026.~~

E. ~~Neither Section 23.22.028, Section 23.22.064, Section 23.24.050, RCW 58.17.033, nor RCW 58.17.170 shall require any permit application submitted on or after January 1, 2016, to be considered under a version of the Stormwater Code in effect prior to January 1, 2016, or require any permit application submitted on or after July 1, 2021 to be considered under a version of the Stormwater Code in effect prior to July 1, 2021. For purposes of this subsection 22.800.100.E, "permit application" means an application for any permit required for construction within a plat or short plat or for construction of facilities and improvements for a plat or short plat, including, but not limited to, master use, building and grading permits.~~

F. ~~Neither Section 23.22.028 nor Section 23.22.064 shall authorize starting construction, after June 30, 2020, of facilities or improvements for any plat without compliance with the version of the Stormwater Code in effect on or after~~

~~January 1, 2016, or authorize starting construction, after July 1, 2026, of facilities or improvements for any plat without compliance with the version of the Stormwater Code in effect on or after July 1, 2021.~~

~~G. For purposes of this section, "starting construction" or "started construction" means the site work associated with and directly related to the approved project has begun. For example: grading the project site to final grade or utility installation such as water, sewer, drainage, gas, or electrical infrastructure installed to serve the project and associated with the application. Simply clearing the project site or installing conduit does not constitute the start of construction.)~~

Applicability. Except as provided in Section 22.800.070, all project applications must comply with the Stormwater Code in effect as follows:

1. Applications submitted on or after July 1, 2026, must comply with the Stormwater Code in effect on or after July 1, 2026.
2. Applications submitted before July 1, 2016, must be revised to comply with the Stormwater Code in effect on or after July 1, 2026, if construction has not started by July 1, 2021.
3. Applications submitted on or after July 1, 2016, but before July 1, 2021, must be revised to comply with the Stormwater Code in effect on or after July 1, 2026, if construction has not started by July 1, 2026.
4. Applications submitted on or after July 1, 2021, but before July 1, 2026, must be revised to comply with the Stormwater Code in effect on or after July 1, 2026, if construction has not started by July 1, 2031.

B. Expiration of permits or approvals when construction has not started. For any project that has not met the applicable deadline to start construction set forth in subsection 22.800.100.A, the associated permit or approval shall expire on that applicable deadline unless the project application is revised to comply with the Stormwater Code in effect on or after July 1, 2026, and approved by the Director.

C. Definition of "project application," "start," and "started." For purposes of this Section 22.800.100:

1. "Project application" means a complete application, as determined by the Director, for a permit or approval required for development, including construction within a plat or short plat or for construction of facilities and improvements for a plat or short plat, including, but not limited to, master use, building, street use, and grading permits.

2. "Start" or "started" with respect to construction means, at a minimum, that site work associated with and directly related to the approved project has begun. For example: grading the project site to final grade or utility installation such as water, sewer, drainage, or electrical infrastructure installed to serve the entire project and associated with the application. Simply clearing the project site or installing conduit does not constitute the start of construction.

Additional requirements for determining the start of construction may be established by rules promulgated by the Director.

D. Permit vesting and construction authorization relative to Stormwater Code. Section 23.22.028, Section 23.22.074, Section 23.24.050, Section 23.76.029, RCW 58.17.033, and RCW 58.17.170 shall not be construed to:

1. Determine the Stormwater Code applicable to a project; or
2. Authorize starting construction after the deadlines identified in subsection 22.800.100.A without

compliance with the version of the Stormwater Code in effect under subsection 22.800.100.A.

Section 2. Chapter 22.801 of the Seattle Municipal Code, last amended by Ordinance 127376, is amended as follows:

Chapter 22.801 Definitions

* * *

22.801.020 "A"

* * *

"Aquatic life use, fresh water" means "aquatic life uses" as defined in WAC 173-201A-200 (Fresh Water Designated Uses and Criteria). For the purposes of this subtitle, at minimum the following water bodies are designated for fresh water aquatic life use: small lakes, ((reeks,)) streams, wetlands, and fresh water designated receiving waters.

"Aquatic life use, marine water" means "aquatic life uses" as defined in WAC 173-201A-210 (Marine Water Designated Uses and Criteria) and includes marine surface waters of the state of Washington.

* * *

22.801.040 "C"

* * *

"City agency" means "City agency" as defined in Section 25.09.520.

"Closely related projects" means two or more projects that are concurrently under review, under issued permits not yet approved for final construction, or both, and share any of the following physical or functional interdependencies:

1. A feature physically spans the property lines between lots or the project sites, such as shared structures, shared driveways, shared pedestrian access (including easements to rights-of-way), shared drainage and utility designs, foundation footings, or retaining walls. For purposes of this subsection, abutting driveways or pedestrian accesses are not considered to span the property lines if the required driveway or pedestrian access width for each project independently meets development standards;

2. A shared driveway is proposed to access a parking area for more than one project, regardless of whether the parking is required;

3. Parking, including maneuvering, aisle requirements, or other parking related easements, regardless of whether the parking is required, is proposed to be provided (or partially provided) on the site of another project, even if the project sites do not abut each other;

4. Proposed structures are joined or share a common wall;

5. Proposed projects share required open space, amenity area, or both;

6. The design of two or more project sites are dependent on grading, construction of retaining walls or foundations, or both across the lot lines or project sites;

7. One site is required to permanently access, construct, and maintain the structures or development features on an abutting or adjacent site; or

8. Other features that create physical or functional interdependence between the projects.

"Combined sewer." See "public combined sewer."

"Combined sewer basin" or "public combined sewer basin" means the area tributary to a public combined sewer feature, including, but not limited to, a combined sewer overflow outfall, trunk line connection, pump station, or regulator.

"Common plan of development or sale" means a site where multiple separate and distinct construction activities may be taking place at different times on different schedules and/or by different contractors, but still under a single plan.

Examples of "common plan of development or sale" include:

1. Phased projects and projects with multiple filings/lots, even if the separate phases or filings/lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders);

2. A development plan that may be phased over multiple years, but is still under a consistent plan for long-term development;

3. Projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility; and

4. Linear projects such as roads, pipelines, or utilities.

* * *

"Construction (~~(Stormwater Control Plan))~~ stormwater control plan" means a document that explains and

illustrates the measures to be taken on the construction site to prevent erosion and discharge of sediment and other pollutants on a construction project.

* * *

"Creek" means ~~((a Type S, F, Np or Ns water as defined in WAC 222-16-031, or as defined in WAC 222-16-030 after state water type maps are adopted, and is used synonymously with "stream."))~~ "stream" as defined by Section 22.801.200 and is used synonymously.

22.801.050 "D"

* * *

"Development" means the following activities:

1. Class IV-general forest practices that are conversions from timberland to other uses;
2. Land disturbing activity;
3. The addition or replacement of hard surfaces;
4. Expansion of a building footprint or addition or replacement of a structure;
5. Structural development, including construction, installation, or expansion of a building or other structure;
6. Seeking approval of a building permit, other construction permit, grading permit, street improvement permit, or master use permit that involves any of the foregoing activities; and
7. Seeking approval of subdivision, short plat, unit lot subdivision, or binding site plans, as defined and applied in chapter 58.17 RCW, or other master use permit.

Development is a type of project.

* * *

"Drainage water" means stormwater and all other discharges that are permissible pursuant to ~~((subsection))~~ subsections 22.802.030.A and 22.802.030.B.

22.801.060 "E"

* * *

~~(("Enhanced treatment facility" means a drainage control facility designed to reduce concentrations of dissolved metals in drainage water.))~~

* * *

22.801.080 "G"

* * *

"Groundwater" means "groundwater" as defined in chapter 173-200 WAC (Water Quality Standards for Groundwaters of the State of Washington) and includes water, perched or otherwise, in a saturated zone or stratum beneath the surface of land or below a surface water body. ((Refer to Ground Water Quality Standards, Chapter 173-200 WAC.))

22.801.090 "H"

"Hard surface" means an impervious surface, a permeable pavement, or a vegetated roof.

"High-use sites" means sites that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil or other petroleum products. High-use sites include:

1. An area of a commercial or industrial site subject to: an expected average daily traffic (ADT) count equal to or greater than 100 vehicles per 1,000 square feet of gross building area; 300 or more total trip ends per day; or both;
2. An area of a commercial or industrial site subject to petroleum storage and transfer in excess of 1,500 gallons per year, not including routinely delivered heating oil;
3. An area of a commercial or industrial site subject to parking, storage or maintenance of 25 or more vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.);
4. A road intersection with a measured ADT count of 25,000 vehicles or more on the main roadway and 15,000 vehicles or more on any intersecting roadway, excluding projects proposing primarily pedestrian or bicycle use improvements.

22.801.100 "I"

* * *

"Impervious surface" means any surface exposed to rainwater from which most water runs off. Impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, formal planters, parking lots or storage areas, concrete or asphalt paving, areas with underdrains designed to remove stormwater from subgrade (e.g. playfields, athletic fields, rail yards), gravel surfaces ~~((subjected))~~ subject to vehicular ~~((traffic))~~ use, compact gravel, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for the purposes of determining

whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of stormwater modeling.

* * *

"Infiltration facility" or "infiltration BMP" means a drainage control facility that temporarily stores, and then percolates, drainage water into the underlying soil.

* * *

22.801.130 "L"

* * *

"Large project" means a project including:

1. (~~Five thousand~~) 5,000 square feet or more of new plus replaced hard surface; or
2. (~~One acre~~) 10,000 square feet or more of land disturbing activity; (~~;~~
3. ~~Conversion of 3/4 acres or more of vegetation to lawn or landscaped area; or~~
4. ~~Conversion of 2.5 acres or more of native vegetation to pasture.~~)

* * *

22.801.140 "M"

"Master use permit" means a "master use permit" as defined in (~~subsection~~) Section 23.84A.025.

"Maximum extent feasible" means the requirement is to be fully implemented, constrained only by the physical limitations of the site, practical considerations of engineering design, and reasonable considerations of financial costs.

"Metals treatment facility" means a drainage control facility designed to reduce concentrations of dissolved metals in drainage water.

"Municipal separate storm sewer system" (MS4) means "municipal separate storm sewer system" as defined in the municipal stormwater NPDES permit.

"Municipal stormwater NPDES permit" means the permit issued to the City under the federal Clean Water Act for public drainage systems (~~within the City limits~~).

22.801.150 "N"

"Native vegetation" means "native vegetation" as defined in Section 25.09.520.

"New hard surface" means (~~(a) the creation of a hard surface (that is: changed from a pervious surface to a hard surface)~~) or the conversion, modification, or upgrade of an existing hard surface to another hard surface. Examples

of a new hard surface include, but are not limited to, ((e.g.,)) converting, modifying, or upgrading:

1. Vegetation, lawn, dirt, or other earthen material to a hard surface (e.g., compact gravel, packed earthen material, permeable pavement, ((resurfacing by upgrading from dirt to gravel,)) a bituminous surface treatment ("chip seal"), asphalt, concrete, or a ((hard surface)) structure); ((or upgraded from gravel))
2. Gravel to permeable pavement, chip seal, asphalt, concrete, or a ((hard surface)) structure; ((or from a))
3. A hard surface to a modified hard surface (e.g., grading an existing parking area and repaving);
4. A hard surface to a ((hard surface)) structure; or
5. A structure to another hard surface or another structure not otherwise meeting the definition of replaced hard surface}.

~~((Note that if))~~ If asphalt or concrete has been overlaid by a chip seal, the existing condition ((should be)) is considered ((as)) asphalt or concrete.

If, for a structure, the existing foundation is removed or, for any other hard surface, the subgrade or base course grade elevation is modified beyond what is required to repair the existing hard surface or base course, then the structure or other hard surface is a new hard surface.

~~(("New impervious surface" means a surface that is: changed from a pervious surface to an impervious surface (e.g., resurfacing by upgrading from dirt to gravel, a bituminous surface treatment ("chip seal"), asphalt, concrete or an impervious structure); or upgraded from gravel to chip seal, asphalt, concrete, or an impervious structure; or from a impervious surface to an impervious structure. Note that if asphalt or concrete has been overlaid by a chip seal, the existing condition should be considered as asphalt or concrete.))~~

* * *

22.801.170 "P"

"Parcel-based project" means any project that is not a roadway project, ~~((single-family residential project,))~~ sidewalk project, or trail project. The boundary of the public right-of-way shall form the boundary between the parcel and roadway portions of a project.

"Pavement maintenance practices" means repair and maintenance of an existing surface including sidewalks, limited to:

1. Targeted pothole and square cut patching;

2. Overlaying existing asphalt, concrete, or brick pavement with asphalt or concrete, so long as the base course is not exposed;

3. Shoulder grading;

4. Reshaping or regrading drainage systems, including adding curb, gutter, or wedge curbs;

5. Crack sealing; and

6. Vegetation maintenance.

“Pavement maintenance practices” does not include work that: increases the vehicle capacity of a roadway or parking area; adds new hard surface or results in replaced hard surface (except for pothole or square cut patching); or materially alters a roadway’s characteristics.

* * *

~~“Pollution-generating hard surface” means those hard surfaces considered to be a significant source of pollutants in drainage water. ((See definition of pollution-generating impervious surface in this Section 22.801.170 for surfaces that are considered significant sources of pollutants in drainage water. In addition, permeable pavement subject to vehicular use or other pollutants as described in the definition for pollution-generating impervious surfaces is a pollution-generating hard surface.)) Such surfaces include those that are subject to any of the following: vehicular use; industrial activities; and storage of erodible or leachable materials, wastes, or chemicals, that receive direct rainfall or the run-on or blow-in of rainfall. Such surfaces also include roofs subject to venting of significant sources of pollutants and metal roofs unless coated with an inert, non-leachable material (e.g., baked-on enamel coating).~~

~~((“Pollution-generating impervious surface” means those impervious surfaces considered to be a significant source of pollutants in drainage water. Such surfaces include those that are subject to any of the following: vehicular use; industrial activities; storage of erodible or leachable materials, wastes, or chemicals, and that receive direct rainfall or the run-on or blow-in of rainfall. Such surfaces also include roofs subject to venting of significant sources of pollutants and metal roofs unless coated with an inert, non-leachable material (e.g., baked-on enamel coating).~~

~~A surface, whether paved or not, shall be considered subject to vehicular use if it is regularly used by motor vehicles. The following are considered regularly used surfaces: roads; unvegetated road shoulders; bike lanes within the traveled lane of a roadway; driveways; parking lots; unfenced fire lanes; vehicular equipment storage yards; rail lines and railways; and airport runways.~~

~~The following are not considered regularly used by motor vehicles: sidewalks and trails not subject to drainage~~

~~from roads for motor vehicles; paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles; fenced fire lanes; and infrequently used maintenance access roads with recurring routine vehicle use of no more than once per day.))~~

"Pollution-generating pervious surface" means any pervious surface subject to any of the following: vehicular use; industrial activities; storage of erodible or leachable materials, wastes, or chemicals, and that receive direct rainfall or run-on or blow-in of rainfall; use of pesticides and fertilizers; or loss of soil. Typical pollution-generating pervious surfaces include lawns~~((,))~~ and landscaped areas, such as golf courses, parks, cemeteries, and sports fields (natural and artificial turf).

"Pre-developed condition" means the vegetation and soil conditions that are used to determine the allowable post-development discharge peak flow rates and flow durations, such as pasture or forest.

"Private drainage system" means a drainage system that is not a public drainage system.

"Project" means any proposed action to alter or develop a site, including development. ~~((Development is a type of project.))~~

* * *

22.801.190 "R"

* * *

"Replaced hard surface" or "replacement of hard surface" means~~((, for))~~ :

1. For structures, the removal of the structure down to (i.e., exposing the top of) the foundation without removing the foundation and replacement of the structure; and~~((, for))~~

2. For other hard surfaces, the removal of the surface down to the existing base course or exposing the top of the subgrade ~~((or base course))~~ and replacement, including repair of the base course layer.

If, for a structure, the existing foundation is removed or, for any other hard surface, the subgrade or base course grade elevation is modified beyond what is required to repair the existing hard surface or base course, then the structure or other hard surface is a new hard surface.

~~(("Replaced impervious surface" or "replacement of impervious surface" means, for structures, the removal down to the foundation and replacement and, for other impervious surfaces, the removal down to existing subgrade or base course and replacement.))~~

* * *

22.801.200 "S"

* * *

~~("Single-family residential project" means a project that constructs one Single-family Dwelling Unit as defined in subsection 23.84A.032 and any associated accessory dwelling unit located in land classified as being Neighborhood Residential 1 (NR1), Neighborhood Residential 2 (NR2), or Neighborhood Residential 3 (NR3) pursuant to Section 23.30.010, and the total new plus replaced hard surface is less than 5,000 square feet.)~~

"Site" means the area defined by the legal boundaries of a parcel or parcels of land subject to development. For roadway projects, the length of the project site and the right-of-way boundaries define the site. A site may include multiple parcels and/or sections of right of-way, if multiple parcels and/or sections of right-of-way are subject to development.

"Slope" means an inclined ground surface.

"Small lakes" means Bitter Lake, Green Lake and Haller Lake.

"Small project" means a project with:

1. Less than 5,000 square feet of new and replaced hard surface; and
2. Less than ~~((one acre))~~ 10,000 square feet of land disturbing activities.

* * *

~~"Stream" means a ((Type S, F, Np or Ns water as defined in WAC 222-16-031, or as defined in WAC 222-16-030 after state water type maps are adopted, and is used synonymously with "creek."))~~ watercourse through which naturally occurring surface waters flow sufficiently, whether on a perennial or intermittent basis, to carve a defined channel or bed evidencing the passage of water, including but not limited to bedrock channels, gravel beds, alluvial mineral beds, defined -channel swales, and beds containing hydraulically sorted sediments. "Stream" does not include watercourses created entirely by artificial means, such as irrigation or roadside ditches, stormwater runoff devices, or canals, unless the watercourse conveys a stream that flowed naturally prior to the creation of the watercourse. "Stream" is used synonymously with "creek".

"Surface waters" means "surface waters of the state" as defined in chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington) and includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands and all other surface waters and watercourses within the jurisdiction of the state of Washington.

* * *

22.801.220 "U"

"Uncontaminated" means ~~((surface water or groundwater))~~ not containing sediment or other pollutants or contaminants above natural background levels and not containing pollutants or contaminants in levels greater than City-supplied drinking water when referring to potable water.

22.801.230 "V"

"Vegetation" means "vegetation" as defined in Section 25.09.520.

"Vehicular use" means regular use of a hard or pervious surface by motor vehicles. The following surfaces, whether paved or not, are considered subject to regular vehicular use: roads; unvegetated road shoulders; bike lanes within the traveled lane of a roadway; driveways; parking lots; unfenced fire lanes; vehicular equipment storage yards; rail lines and railways, including light rail elevated and non-elevated guideways and tracks; and airport runways and other surfaces intended for movement or storage of aircraft.

The following are not considered regularly used by motor vehicles: sidewalks and trails not subject to drainage from roads for motor vehicles; paved bicycle pathways separated from and not subject to drainage from roads for motor vehicles; fenced fire lanes; and infrequently used maintenance access roads with recurring routine vehicle use of no more than once per day.

22.801.240 "W"

"Wastewater" means "wastewater" as defined in Section 21.16.030.

"Water Quality Standards" means Surface Water Quality Standards, ~~((Chapter))~~ chapter 173-201A WAC, ~~((Ground Water))~~ Groundwater Quality Standards, ~~((Chapter))~~ chapter 173-200 WAC, and Sediment Management Standards, ~~((Chapter))~~ chapter 173-204 WAC.

* * *

Section 3. Chapter 22.802 of the Seattle Municipal Code, last amended by Ordinance 124872, is amended as follows:

Chapter 22.802 Prohibited And Permissible Discharges

* * *

22.802.020 Prohibited discharges

A. Prohibited ~~((Discharges))~~ discharges. The following common substances are prohibited to enter, either directly or indirectly, a public drainage system, a private drainage system, or a receiving water within or contiguous to Seattle city limits, including but not limited to when entering via a service drain, overland flow, or as a result of a spill or deliberate

dumping:

1. ((acids;)) Acids;
2. ((alkalis)) Alkalis including cement wash water;
3. ((ammonia;)) Ammonia;
4. ((animal)) Animal carcasses;
5. ((antifreeze)) Antifreeze, oil, gasoline, grease, and all other automotive and petroleum products;
6. ((chemicals)) Chemicals not normally found in uncontaminated water;
7. ((chlorinated)) Chlorinated/brominated swimming pool or hot tub water;
8. ((chlorine)) Chlorine/bromine;
9. ((commercial)) Commercial and household cleaning materials;
10. ((detergent;)) Detergent;
11. ((dirt;)) Dirt;
12. ((domestic)) Domestic or sanitary sewage;
13. ((drain)) Drain cleaners;
14. ((fertilizers;)) Fertilizers;
15. ((filter)) Filter backwash wastewater;
16. ((flammable)) Flammable or explosive materials;
17. ((food)) Food and food waste;
18. ((gravel;)) Gravel;
19. ((herbicides;)) Herbicides;
20. ((human)) Human and animal waste;
21. ((ink;)) Ink;
22. ((laundry)) Laundry waste;
23. ((metals)) Metals in excess of naturally occurring amounts, whether in liquid or solid form;
24. ((painting)) Painting products;
25. ((pesticides;)) Pesticides;
26. ((process)) Process wastewater;
27. ((sand;)) Sand;

- 28. ~~((soap;))~~ Soap;
- 29. ~~((solid))~~ Solid waste;
- 30. ~~((solvents))~~ Solvents and degreasers;
- 31. ~~((steam-cleaning))~~ Steam-cleaning waste; and
- 32. ~~((yard))~~ Yard waste.

* * *

22.802.030 Permissible discharges

A. Conditionally ~~((Permissible Discharges to Drainage Systems and Receiving Waters))~~ permissible discharges to drainage systems and receiving waters. Discharges from the sources listed below are permissible discharges only if the stated conditions are met and unless the Director of SPU determines that the type of discharge, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, whether singly or in combination with others, is causing or contributing to a violation of the City's NPDES stormwater permit or is causing or contributing to a water quality problem:

1. Discharges from potable water sources, including, but not limited to, flushing of potable water lines, hyperchlorinated water line flushing, fire hydrant system flushing, pipeline hydrostatic test water, and washing of potable water storage reservoirs. Planned discharges shall be de-chlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the drainage system. No chemicals may be added, and settleable solids must be removed prior to discharge;

2. Discharges from swimming pools, spas, hot tubs, fountains, or similar aquatic recreation facilities and constructed water features, provided the discharges have been de-chlorinated/de-brominated to a total residual ~~((chlorine))~~ concentration of 0.1 ppm or less, free from sodium chloride, pH-adjusted and reoxygenated if necessary, volumetrically and velocity controlled to prevent resuspension of sediments in the drainage system, and thermally controlled to prevent an increase of temperature in the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged;

3. Discharges of street and sidewalk washwater when the surfaces are swept prior to washing, detergents are not used, and water use is minimized;

4. Discharges ~~((of water))~~ from routine external building washdown when detergents are not used and water use is minimized at (i) buildings built or renovated before 1950 and after 1980, (ii) single detached dwelling units

and associated accessory structures (e.g., garage), and (iii) structures built or renovated between 1950 and 1980 (inclusive) and determined to be without PCB containing materials on their exterior;

5. Discharges of water used to control dust when water use is minimized; ~~((and))~~

6. Discharges from lawn watering and other irrigation runoff, including from reclaimed water sources, when water use is minimized; and

7. Other non-stormwater discharges, provided that these discharges are in compliance with the requirements of a pollution prevention plan that addresses control of such discharges and is approved by the Director.

B. Permissible ~~((Discharges))~~ discharges. Discharges from the sources listed below are permissible discharges unless the Director of SPU determines that the type of discharge, directly or indirectly to a public drainage system, private drainage system, or a receiving water within or contiguous to Seattle city limits, whether singly or in combination with others, is causing or contributing to a violation of the City's NPDES stormwater permit or is causing or contributing to a water quality problem:

1. Discharges from surface waters, including diverted stream flows;

2. Discharges of uncontaminated groundwater, including uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped groundwater, and rising groundwaters;

3. Discharges of air conditioning condensation;

4. Discharges from springs;

5. Discharges of uncontaminated water from crawl space pumps;

6. ~~((Discharges from lawn watering; 7.))~~ Discharges from ~~((irrigation runoff, including))~~ irrigation water from agricultural sources that is commingled with stormwater and that does not contain prohibited substances;

~~((8.))~~ 7. Discharges from riparian habitats and wetlands;

~~((9.))~~ 8. Discharges from approved footing drains and other subsurface drains or, where approval is not required, installed in compliance with this subtitle and rules promulgated pursuant to this subtitle;

~~((10.))~~ 9. Discharges from foundation drains;

~~((11.))~~ 10. Non-stormwater discharges authorized by another NPDES permit or State Waste Discharge permit;

~~((12.))~~ 11. Discharges that are from emergency fire fighting activities; and

~~((13.))~~ 12. Discharges of non-toxic tracing dye used to establish or verify a drainage or sewer connection.

* * *

Section 4. Chapter 22.803 of the Seattle Municipal Code, last amended by Ordinance 126336, is amended as follows:

Chapter 22.803 Minimum Requirements For All Discharges And All Real Property

* * *

22.803.020 Minimum requirements for all discharges and real property

* * *

C. Requirements to maintain facilities. All treatment facilities, flow control facilities, drainage control facilities, and drainage systems shall be maintained as specified in rules promulgated by the Director in order for these facilities and systems to be kept in continuous working order. Facility components must be kept accessible for inspection and maintenance purposes, including for inspections conducted by the City.

* * *

22.803.030 Minimum requirements for source controls for all real property

For all discharges, responsible parties shall implement and maintain source controls to prevent or minimize pollutants from leaving a site or property, as specified in the joint SPU/SDCI Directors' Rule titled "Seattle Stormwater Manual" at "Volume 4-Source Control." Source controls that are required for all real property include, but are not limited to, the following, as further described in rules promulgated by the Director:

* * *

H. ~~((Rooftop))~~ Constructed dog runs. Dog runs located on private property, whether located at or above grade (e.g., on rooftops, podiums, or ((above-grade)) plazas), must prevent stormwater from the dog run from discharging directly or indirectly to a public drainage system, private drainage system, or receiving water body.

22.803.040 Minimum ~~((requirements for))~~ source controls for ~~((businesses and public entities for))~~ specific activities

A. In addition to the source controls required by Section 22.803.030 for all real properties, businesses and public entities must implement source controls, to the extent allowed by law, for specific pollution-generating activities as specified in the joint SPU/SDCI Directors' Rule titled "Seattle Stormwater Manual" at "Volume 4-Source Control," as necessary to prevent discharges prohibited by Section 22.802.020 or Chapter 21.16, as applicable. Source controls include, but are not limited to: segregating or isolating wastes to prevent contact with drainage water; enclosing, covering,

or containing the activity to prevent contact with drainage water; developing and implementing inspection and maintenance programs; sweeping; and taking management actions such as training employees on pollution prevention.

B. For all discharges, source controls shall be implemented, to the extent allowed by law, by businesses and public entities for the following specific pollution-generating activities as specified in the joint SPU/SDCI Directors' Rule titled "Seattle Stormwater Manual" at "Volume 4-Source Control," ~~((to the extent))~~ as necessary to prevent prohibited discharges as described in ~~((subsection 22.802.020.A through subsection 22.802.020.D))~~ Section 22.802.020, and to prevent contaminants from coming in contact with drainage water or being discharged to the drainage system, public combined sewer, or directly into receiving waters:

1. Fueling at dedicated stations, for new or substantially altered fueling stations.
2. Mobile fueling of vehicles and heavy equipment.
3. In-water and over-water fueling.
4. Maintenance and repair of vehicles and equipment.
5. Concrete and asphalt mixing and production.
6. Concrete pouring, concrete/asphalt cutting, and asphalt application.
7. Recycling, wrecking yard, and scrap yard operations.
8. Storage of liquids in aboveground tanks.

Source controls include, but are not limited to, segregating or isolating wastes to prevent contact with drainage water; enclosing, covering, or containing the activity to prevent contact with drainage water; developing and implementing inspection and maintenance programs; sweeping; and taking management actions such as training employees on pollution prevention.

~~((B. For all discharges except those that drain only to the public combined sewer, source controls shall be implemented, to the extent allowed by law, by businesses and public entities for specific pollution-generating activities as specified in the joint SPU/SDCI Directors' Rule titled "Seattle Stormwater Manual" at "Volume 4-Source Control," to the extent necessary to prevent prohibited discharges as described in subsection 22.802.020.A through subsection 22.802.020.C, and to prevent contaminants from coming in contact with drainage water or being discharged to the drainage system or directly into receiving waters. Source controls include, but are not limited to, segregating or isolating wastes to prevent contact with drainage water; enclosing, covering, or containing the activity to prevent contact with drainage water; developing and implementing inspection and maintenance programs; sweeping; and taking management~~

~~actions such as training employees on pollution prevention.))~~

Section 5. Chapter 22.805 of the Seattle Municipal Code, last amended by Ordinance 127375, is amended as follows:

Chapter 22.805 Minimum Requirements For All Projects

22.805.010 General

* * *

B. ~~Closely related projects, projects under a common plan of development or sale, subdivisions, and short plats ((shall be))~~ are considered as one project for purposes of applying the Stormwater Code, including but not limited to determining whether the thresholds for applicability of particular Stormwater Code minimum requirements are met. ~~((The Director shall determine whether two or more projects are closely related as specified in the joint SPU/SDCI Directors' Rule titled "Seattle Stormwater Manual" at "Volume 1-Project Minimum Requirements."))~~

* * *

D. In the case of a subdivision under Chapter 23.22 and short plat under Chapter 23.24, unless an adjustment pursuant to subsection 22.800.040.B is approved by the Director, for the purposes of applying the thresholds in this Chapter 22.805~~((;))~~ :

1. A subdivision of property does not affect or reduce the requirements of this subtitle, Chapter 21.16, and associated rules promulgated by the Director. The proposed parcels within a subdivision or short plat shall meet the standards required by the higher area threshold of the entire property being subdivided, rather than the standards required for each of the proposed parcels individually.

2. In neighborhood residential (NR) zones, the hard surface coverage is the maximum lot coverage allowed per Subtitle III of Title 23, ((Land Use Code,)) plus required and proposed pedestrian and vehicular access and amenities, including roadways, driveways, walkways, plazas, and patios identified on the preliminary drainage control plan and associated preliminary site plan, unless otherwise approved by the Director. In all other zones, the hard surface coverage shall be based on an approved site plan showing the maximum allowed build-out including all phases of the subdivision or short plat.

E. Construction of drainage control facilities and drainage systems for plats

1. In the case of a subdivision under Chapter 23.22, drainage control facilities or drainage systems that are identified on the associated preliminary drainage control plan or the approved preliminary plat and will serve multiple

proposed lots, parcels, tracts, or rights-of-way shall be constructed prior to approval of the final plat unless a bond is provided according to subsection 23.22.070.C. If a bond is provided in lieu of construction prior to approval of the final plat, the construction permit for the facilities or systems must be issued prior to issuance of any building permit for any other construction within the subdivision and construction of the facilities or systems shall be completed and final inspection approved prior to final inspection approval of any building permit for any other construction within the subdivision and prior to occupancy of any buildings, but in no event later than two years after final plat approval.

2. In the case of a short plat under Chapter 23.24 with shared drainage control facilities or drainage systems that are identified on the preliminary drainage control plan and will serve multiple proposed lots, parcels, tracts, or rights-of-way(~~(, the following shall occur)~~) :

a. The construction permit (~~(for)~~) that includes the shared facilities or systems shall be issued prior to issuance of any other building permit for any other construction within the lots, parcels, tracts, or rights-of-way served by the shared facilities or systems; and

b. Construction of the shared facilities or systems shall be completed and final inspection approved prior to final inspection approval of any building permit for any other construction within the lots, parcels, tracts, or rights-of-way served by the shared facilities, and prior to occupancy of any buildings on these lots, parcels, or tracts.

* * *

22.805.020 Minimum requirements for all projects

* * *

C. Minimum requirements for flood-prone areas. On sites within flood-prone areas, responsible parties are required to employ procedures to minimize the potential for flooding on the site and to minimize the potential for the project to increase the risk of floods on adjacent or nearby properties. Flood control measures shall include those set forth in other titles of the Seattle Municipal Code and rules promulgated thereunder, including, but not limited to, Chapter ~~((23.60 (Shoreline District)))~~ 23.60A (Seattle Shoreline Master Program Regulations), Chapter 25.06 (Floodplain Development), and Chapter 25.09 (Regulations for Environmentally Critical Areas).

D. Minimum requirements for construction stormwater pollution prevention plan. Temporary and permanent construction controls shall be used to accomplish the following minimum requirements. All projects are required to meet each of the elements below or document why an element is not applicable. Additional controls may be required by the Director when minimum controls are not sufficient to prevent erosion or transport of sediment or other pollutants from the

site.

1. Mark clearing limits and environmentally critical areas. Within the boundaries of the project site and prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits, easements, setbacks, all environmentally critical areas and their buffers, and all trees and drainage courses that are to be preserved within the construction area.

2. Retain top layer. Within the boundaries of the project site, the duff layer, topsoil, and native vegetation, if there is any, shall be retained in an undisturbed state to the maximum extent feasible. If it is not feasible to retain the top layer in place, it should be stockpiled on-site, covered to prevent erosion, and replaced immediately upon completion of the land disturbing activities to the maximum extent feasible.

3. Establish construction access. Limit construction vehicle access, whenever possible, to one route. Stabilize access points and minimize tracking sediment onto public roads. Promptly remove any sediment tracked off site.

4. Protect downstream properties and receiving waters. Protect properties and receiving waters downstream from the development sites from erosion or flooding due to increases in the volume, velocity, duration, and peak flow rate of drainage water from the project site. If it is necessary to construct flow control facilities to meet this requirement, these facilities shall be functioning prior to implementation of other land disturbing activity. If permanent infiltration facilities are used to control flows during construction, these facilities shall be protected from siltation during the construction phase of the project.

5. Prevent erosion and sediment transport from the site. Pass all drainage water from disturbed areas through a sediment trap, sediment pond, or other appropriate sediment removal BMP before the water leaves the site or prior to discharge to an infiltration facility. Sediment controls intended to trap sediment on site shall be constructed as one of the first steps in grading and shall be functional before other land disturbing activities take place. BMPs intended to trap sedimentation shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration where feasible.

6. Prevent erosion and sediment transport from the site by vehicles. Whenever construction vehicle access routes intersect paved roads, the transport of sediment onto the paved road shall be minimized. If sediment is transported onto a paved road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed from paved roads by shoveling or sweeping and shall be transported to a controlled sediment disposal area. If

sediment is tracked off site, roads shall be cleaned thoroughly at the end of each day, or at least twice daily during wet weather. Street washing is allowed only after sediment is removed, and street wash wastewater shall be prevented from entering the drainage system and receiving waters.

7. Stabilize soils. Prevent on-site erosion by stabilizing all exposed and unworked soils, including stock piles and earthen structures such as dams, dikes, and diversions. From October 1 to April 30, no soils shall remain exposed and unworked for more than two days. From May 1 to September 30, no soils shall remain exposed for more than seven days. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Soil stockpiles shall be stabilized from erosion, protected with sediment trapping measures, and be located away from storm drain inlets, waterways, and drainage channels. Before the completion of the project, permanently stabilize all exposed soils that have been disturbed during construction.

8. Protect slopes. Erosion from slopes shall be minimized. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Off-site stormwater run-on or groundwater shall be diverted away from slopes and undisturbed areas with interceptor dikes, pipes, and/or swales. Pipe slope drains or protected channels shall be constructed at the top of slopes to collect drainage and prevent erosion. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations. Check dams shall be placed at regular intervals within constructed channels that are cut down a slope.

9. Protect storm drains. Prevent sediment from entering all storm drains, including ditches that receive drainage water from the project. Storm drain inlet protection devices shall be cleaned or removed and replaced as recommended by the product manufacturer, or more frequently if required to prevent failure of the device or flooding. Storm drain inlets made operable during construction shall be protected so that drainage water does not enter the drainage system without first being filtered or treated to remove sediments. Storm drain inlet protection devices shall be removed at the conclusion of the project. When manufactured storm drain inlet protection devices are not feasible, inlets and catch basins must be cleaned as necessary to prevent sediment from entering the drainage control system.

10. Stabilize channels and outlets. All temporary on-site drainage systems shall be designed, constructed, and stabilized to prevent erosion. Stabilization shall be provided at the outlets of all drainage systems that is adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches.

11. Control pollutants. Measures shall be taken to control potential pollutants and shall include, but not be limited to, the following measures:

a. All pollutants, including sediment, waste materials, and demolition debris, that occur on site shall be handled and disposed of in a manner that does not cause contamination of drainage water and pursuant to all applicable disposal laws.

b. Containment, cover, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.

c. On-site fueling tanks shall include secondary containment.

d. Maintenance, fueling, and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into drainage water runoff shall be conducted using spill prevention and control measures.

e. Contaminated soils shall be removed and surfaces shall be cleaned immediately following any discharge or spill incident.

f. Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system that prevents discharge to surface water, or to the sanitary sewer or combined sewer system with approval of the Director of SPU. Temporary discharges or connections to the public sanitary and combined sewers shall be made in accordance with Chapter 21.16 (Side Sewer Code).

g. Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to drainage water. Manufacturers' label requirements for application rates and procedures shall be followed.

h. BMPs shall be used to prevent or treat contamination of drainage water by pH-modifying sources. These sources include, but are not limited to, recycled concrete stockpiles, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Construction site operators may be required to adjust the pH of drainage water if necessary to prevent a violation of water quality standards.

i. Construction site operators must obtain written approval from Ecology prior to using chemical treatment other than carbon dioxide (CO₂) dry ice, or food grade vinegar, to adjust pH.

j. Uncontaminated water from water-only based shaft drilling for construction of building, road,

and bridge foundations may be infiltrated provided the wastewater is managed in a way that prevents discharge to surface waters. Prior to infiltration, water from water-only based shaft drilling that comes into contact with curing concrete must be neutralized until pH is in the range of 6.5 to 8.5 (su).

k. Train all employees on proper BMPs for preventing illicit discharges, including spills.

12. Control dewatering. When dewatering devices discharge on site, to a public drainage system, or to the public combined sewer, dewatering devices shall discharge into a sediment trap, sediment pond, gently sloping vegetated area of sufficient length to remove sediment contamination, or other sediment removal BMP. Foundation, vault, and trench dewatering waters must be discharged into a controlled drainage system prior to discharge to a sediment trap or sediment pond. Clean, non-turbid dewatering water, such as unpolluted well-point groundwater, that is discharged to systems tributary to ~~((state))~~ surface waters must not cause erosion or flooding. Highly turbid or contaminated dewatering water shall be handled separately from drainage water. For ~~((any project))~~ all projects with an excavation depth of 12 feet or more below the existing grade, all projects with an excavation depth of less than 12 feet located in an area expected to have shallow groundwater depths, and ~~((for))~~ all ~~((large))~~ projects with 5,000 square feet or more of new plus replaced hard surface or one acre or more of land disturbing activity, a dewatering ~~((flows))~~ analysis must be ~~((determined))~~ performed to determine dewatering flows and ~~((it must be verified))~~ to verify that there is sufficient capacity in the downstream system (e.g., public drainage system ((and)) or public combined sewer] ~~((prior to discharging))~~ for review and approval or disapproval by the Director.

13. Maintain BMPs. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. All temporary erosion and sediment controls shall be removed within five days after final site stabilization is achieved or after the temporary controls are no longer needed, whichever is later. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

14. Inspect BMPs. BMPs shall be periodically inspected. For projects with 5,000 square feet or more of new plus replaced hard surface or 7,000 square feet or more of land disturbing activity, site inspections shall be conducted by a Certified Erosion and Sediment Control Lead who shall be identified prior to construction and shall be present on-site or on-call at all times.

15. Execute ~~((Construction Stormwater Control Plan))~~ construction stormwater control plan. Construction site operators shall maintain, update, and implement their ~~((Construction Stormwater Control Plan))~~ construction

stormwater control plan. Construction site operators shall modify their ~~((Construction Stormwater Control Plan))~~ construction stormwater control plan to maintain compliance whenever there is a change in design, construction, operation, or maintenance at the site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

16. Minimize open trenches. In the construction of underground utility lines, where feasible, no more than 150 feet of trench shall be opened at one time, unless soil is replaced within the same working day, and where consistent with safety and space considerations, excavated material shall be placed on the uphill side of trenches. Trench dewatering devices shall discharge into a sediment trap or sediment pond.

17. Phase the project. Development projects shall be phased to the maximum extent feasible in order to minimize the amount of land disturbing activity occurring at the same time and shall take into account seasonal work limitations.

18. Install flow control and water quality facilities. Development projects required to comply with Section 22.805.080 (Minimum requirements for flow control) or Section 22.805.090 (Minimum requirements for treatment) shall install permanent flow control and water quality facilities to prevent erosion or transport of sediment or other pollutants from the site during construction.

19. Protect stormwater BMPs

a. Protect all stormwater BMPs from sedimentation through installation and maintenance of erosion and sediment control BMPs. Restore the BMPs to their fully functioning condition if they accumulate sediment during construction. Restoring the stormwater BMP must include removal of sediment and any sediment-laden stormwater BMP soils, and replacing the removed soils with soils meeting the design specification.

b. Prevent compacting ~~((on-site))~~ infiltration BMPs by excluding construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

c. Control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements or base materials.

d. Permeable pavements fouled with sediments or no longer passing an initial infiltration test must be cleaned until infiltrating per design or replaced.

e. Keep all heavy equipment off existing soils under ~~((on-site))~~ infiltration BMPs, especially those

that have been excavated to final grade, to retain the infiltration rate of the soils.

* * *

G. Protect shorelines. All projects discharging directly or indirectly through a drainage system into the shoreline district as defined in Chapter ~~((23.60))~~ 23.60A (Seattle Shoreline Master Program Regulations) shall prevent impacts to water quality and stormwater quantity that would result in a net loss of shoreline ecological functions as defined in WAC 173-26-020(13).

H. Ensure sufficient capacity. All ~~((large))~~ projects with 5,000 square feet or more of new plus replaced hard surface or one acre of land disturbing activity, all projects with an excavation depth of 12 feet or more below the existing grade, ~~((and))~~ all projects with an excavation depth of less than 12 feet located in an area expected to have shallow groundwater depths, and all projects that alter the drainage pattern from 5,000 square feet or more of an existing, new, or replaced hard surface or 3/4 of an acre or more of a pervious surface from a site to a downstream system not previously connected via discrete conveyance shall ensure that sufficient capacity exists in the ~~((public))~~ drainage system and public combined sewer to carry existing and anticipated loads, including any flows from dewatering activities. Capacity analysis shall extend to at least 1/4-mile from the discharge point of the site. Sites at which there is insufficient capacity may be required to install a flow control facility or improve the drainage system or public combined sewer to accommodate flow from the site. Unless approved otherwise by the Director as necessary to meet the purposes of this subtitle:

1. Capacity analysis for discharges to the ~~((public))~~ drainage system shall be based on peak flows with a 4 percent annual probability (25-year recurrence interval); and
2. Capacity analysis for discharges to the public combined sewer shall be based on peak flows with a 20 percent annual probability (5-year recurrence interval).

* * *

K. Comply with Side Sewer Code

1. All privately owned and operated drainage control facilities or systems, whether or not they discharge to a public drainage system or public combined sewer, shall be considered side sewers and subject to Chapter 21.16 (Side Sewer Code), SPU Director's Rules promulgated under Title 21, and the design and installation specifications and permit requirements of SPU ~~((and SDCI))~~ for side sewer and drainage systems.

2. Side sewer permits and inspections shall be required for constructing, capping, altering, or repairing privately owned and operated drainage systems as provided for in Chapter 21.16. When the work is ready for inspection,

the permittee shall notify the Director of ~~((SDCI))~~ SPU. If the work is not constructed according to the plans approved under this Subtitle VIII, Chapter 21.16, the SPU Director's Rules promulgated under Title 21, and SPU ~~((and SDCI))~~ design and installation specifications, then the Director may issue a stop work order under Chapter 22.808 and require modifications as provided for in this Subtitle VIII and Chapter 21.16.

* * *

O. Minimum requirements for treatment. All projects that connect flows from 5,000 square feet or more of an existing, new, or replaced pollution-generating hard surface from the site not previously connected via discrete conveyance to a drainage system that discharges to a receiving water or a receiving water, and all projects that convert an existing hard surface of 5,000 square feet or more to a pollution-generating hard surface (e.g., an existing slab not previously subject to vehicular use) and direct flows from the site not previously connected via discrete conveyance to a drainage system that discharges to a receiving water or a receiving water, shall comply with the minimum requirements for treatment contained in Section 22.805.090 to treat flows from those pollution-generating hard surfaces. When stormwater flows from other areas, including non-pollution generating surfaces (e.g., roofs), dewatering activities, and off-site areas, cannot be separated or bypassed, treatment BMPs shall be designed for the entire area draining to the treatment facility.

~~((22.805.030 Minimum requirements for single-family residential projects~~

~~A. Soil amendment. Retain and protect undisturbed soil in areas not being developed, and prior to completion of the project, amend all new, replaced, and disturbed topsoil (including construction lay-down areas) with organic matter to the extent required by and in compliance with the rules promulgated by the Director.~~

~~B. On-site stormwater management. Single-family residential projects shall meet the minimum requirements for on-site stormwater management contained in Section 22.805.070, to the extent allowed by law, if:~~

~~1. For a project on a lot most recently created, adjusted, altered, or otherwise amended by a plat or other lawful document recorded with the King County Recorder on or after January 1, 2016, and where that document either created the lot or altered the size of the lot, either the total new plus replaced hard surface is 750 square feet or more or land disturbing activity is 7,000 square feet or more; or~~

~~2. For any other project, either the total new plus replaced hard surface is 1,500 square feet or the land disturbing activity is 7,000 square feet or more.))~~

22.805.040 Minimum requirements for trail and sidewalk projects

* * *

B. On-site stormwater management. All trail and sidewalk projects with 2,000 square feet or more of new plus replaced hard surface or 7,000 square feet or more of land disturbing activity shall meet the minimum requirements for on-site stormwater management contained in Section 22.805.070, to the extent allowed by law.

22.805.050 Minimum requirements for parcel-based projects

* * *

C. Flow control. Parcel-based projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below.

1. Discharges to wetlands. Parcel-based projects discharging into a wetland, or to the drainage basin of a wetland, shall:

a. Comply with Section 22.805.020 (Minimum requirements for all projects), including, but not limited to subsection 22.805.020.E (Protect wetlands).

b. Comply with the minimum requirements for wetland protection contained in subsection ((22.805.080.B.1)) 22.805.080.C (Wetland protection standards) if:

1) The total new plus replaced hard surface is 5,000 square feet or more; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture and from the project there is a surface discharge into a natural or constructed conveyance system from the site.

2. Discharges to listed creek basins. Parcel-based projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek, or to the drainage basin of such creek, shall:

a. Comply with subsection ((~~22.805.080.B.2~~)) 22.805.080.D (Pre-developed forested standard) if the existing hard surface coverage is less than 35 percent and one or more of the following apply:

1) The project adds 5,000 square feet or more of new hard surface and the total new plus replaced hard surface is 10,000 square feet or more; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and

from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

4) The project adds 5,000 square feet or more of new hard surface and, through a combination of effective hard surfaces and converted pervious surfaces, causes a 0.15 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection ((22.805.080.B.3)) 22.805.080.E (Pre-developed pasture standard) if the criteria in subsection 22.805.050.C.2.a do not apply and one or more apply:

1) The total new plus replaced hard surface is 5,000 square feet or more; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site.

3. Discharges to non-listed creek basins. Parcel-based projects discharging into a creek not listed in subsection 22.805.050.C.2, or to the drainage basin of such creek, shall:

a. Comply with subsection ((22.805.080.B.2)) 22.805.080.D (Pre-developed forested standard) if the existing land cover is forested and one or more of the following apply:

1) The project adds 5,000 square feet or more of new hard surface and the total new plus replaced hard surface is 10,000 square feet or more; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

4) The project adds 5,000 square feet or more of new hard surface and, through a combination of effective hard surfaces and converted pervious surfaces, causes a 0.15 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection ((22.805.080.B.3)) 22.805.080.E (Pre-developed pasture standard) if the criteria in subsection 22.805.050.C.3.a do not apply and one or more of the following apply:

- 1) The total new plus replaced hard surface is 5,000 square feet or more; or
- 2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or
- 3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site.

4. Discharges to small lake basins. Parcel-based projects discharging into Bitter Lake, Green Lake, or Haller Lake, or to the drainage basin of such lake, shall comply with subsection ((~~22.805.080.B.5~~)) 22.805.080.G (Peak control standard) if the total new plus replaced hard surface is ((~~2,000~~)) 5,000 square feet or more.

5. Discharges to public combined sewer. Unless the Director of SPU has determined that the public combined sewer has sufficient capacity to carry existing and anticipated loads, parcel-based projects discharging into the public combined sewer or its basin shall comply with subsection ((~~22.805.080.B.5~~)) 22.805.080.G (Peak control standard) if the total new plus replaced hard surface is 5,000 square feet or more.

6. Discharges to a capacity-constrained system. In addition to applicable minimum requirements for flow control in subsection 22.805.050.C.1 through subsection 22.805.050.C.5, parcel-based projects discharging into a capacity-constrained system or its basin shall also comply with subsection ((~~22.805.080.B.5~~)) 22.805.080.G (Peak control standard) if the total new plus replaced hard surface is ((~~2,000~~)) 5,000 square feet or more unless the downstream system only includes ditches or culverts and the system has been determined to have sufficient capacity as specified in subsection 22.805.020.H (Ensure sufficient capacity).

7. Discharges from groundwater. In addition to applicable minimum requirements for flow control in subsection 22.805.050.C.1 through subsection 22.805.050.C.6, parcel-based projects that will permanently discharge groundwater to a public drainage system or to a public combined sewer shall also comply with subsection ((~~22.805.080.B.5~~)) 22.805.080.G (Peak control standard) if the total new plus replaced hard surface is 2,000 square feet or more.

D. Treatment. Parcel-based projects not discharging to the public combined sewer shall comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating hard surface and the new plus replaced pollution-generating pervious surface, to the extent allowed by law, if:

1. The total new plus replaced pollution-generating hard surface is 5,000 square feet or more; or
2. The total new plus replaced pollution-generating pervious surfaces is 3/4 acres or more, and from ((the

project)) which there is a surface discharge in a natural or constructed conveyance system from the site.

22.805.060 Minimum requirements for roadway projects

* * *

B. ((~~On-Site~~)) On-site stormwater management. All roadway projects with 2,000 square feet or more of new plus replaced hard surface or 7,000 square feet or more of land disturbing activity shall meet the requirements for on-site stormwater management contained in Section 22.805.070, to the extent allowed by law, except as provided in subsection 22.805.060.E.

C. Flow control. Roadway projects shall meet the minimum requirements for flow control contained in Section 22.805.080, to the extent allowed by law, as prescribed below, except as provided in subsection 22.805.060.E.

1. Discharges to wetlands. Roadway projects discharging into a wetland or to the drainage basin of a wetland, shall:

a. Comply with Section 22.805.020 (Minimum requirements for all projects), including, but not limited to subsection 22.805.020.E (Protect wetlands).

b. Comply with the minimum requirements for wetland protection contained in subsection ((~~22.805.080.B.4~~)) 22.805.080.C (Wetland protection standards) if the existing hard surface coverage is less than 35 percent and one or more of the following apply:

1) The total new plus replaced hard surface is 5,000 square feet or more; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture and from the project there is a surface discharge into a natural or constructed conveyance system from the site.

c. Comply with the minimum requirements for wetland protection contained in subsection ((~~22.805.080.B.4~~)) 22.805.080.C (Wetland protection standards) if the existing hard surface coverage is greater than or equal to 35 percent and one or more of the following apply:

1) The total new plus replaced hard surface is 10,000 square feet or more. If the new plus replaced hard surfaces total 50 percent or more of the existing hard surfaces within the project limits, comply with subsection 22.805.080.C for the flows from the total new plus replaced hard surfaces; if the new plus replaced hard surfaces total less than 50 percent, comply with subsection 22.805.080.C for the flows from the total new hard surfaces.

The project limits are defined by the length of the project and the width of the right-of-way; or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture and from the project there is a surface discharge into a natural or constructed conveyance system from the site.

2. Discharges to listed creek basins. Roadway projects discharging into Blue Ridge Creek, Broadview Creek, Discovery Park Creek, Durham Creek, Frink Creek, Golden Gardens Creek, Kiwanis Ravine/Wolfe Creek, Licton Springs Creek, Madrona Park Creek, Mee-Kwa-Mooks Creek, Mount Baker Park Creek, Puget Creek, Riverview Creek, Schmitz Creek, Taylor Creek, or Washington Park Creek, or to the drainage basin of such creek, shall:

a. Comply with subsection ~~((22.805.080.B.2))~~ 22.805.080.D (Pre-developed forested standard) if the existing hard surface coverage is less than 35 percent and one or more of the following apply:

1) The project adds ~~((5,000))~~ 10,000 square feet or more of new plus replaced hard surface ~~((and the total new plus replaced hard surface is 10,000 square feet or more));~~ or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

4) The project adds 5,000 square feet or more of new hard surface and, through a combination of effective hard surfaces and converted pervious surfaces, causes a 0.15 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) if the criteria in subsection 22.805.060.C.2.a do not apply and the total new plus replaced hard surface is 10,000 square feet or more, and:

1) If the new plus replaced hard ~~((surface adds))~~ surfaces total 50 percent or more ~~((to))~~ of the existing hard surfaces within the project limits, comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) for the flows from the total new plus replaced hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way; or

2) If the new plus replaced hard ~~((surface adds))~~ surfaces total less than 50 percent ~~((to))~~

of the existing hard surfaces within the project limits, comply with subsection ((22.805.080.B.4)) 22.805.080.F (Existing condition standard) for the flows from the total new hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way.

3. Discharges to non-listed creek basins. Roadway projects discharging into a creek not listed in subsection 22.805.060.C.2, or to the drainage basin of such creek, shall:

a. Comply with subsection ((22.805.080.B.2)) 22.805.080.D (Pre-developed forested standard) if the existing land cover is forested and one or more of the following apply:

1) The project adds ((5,000)) 10,000 square feet or more of new plus replaced hard surface ((and the total new plus replaced hard surface is 10,000 square feet or more)); or

2) The project converts 3/4 acres or more of vegetation to lawn or landscaped areas, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

3) The project converts 2.5 acres or more of native vegetation to pasture, and from the project there is a surface discharge into a natural or constructed conveyance system from the site; or

4) The project adds 5,000 square feet or more of new hard surface and, through a combination of effective hard surfaces and converted pervious surfaces, causes a 0.15 cubic feet per second increase in the 100-year recurrence interval flow frequency as estimated using a continuous model approved by the Director.

b. Comply with subsection ((22.805.080.B.4)) 22.805.080.F (Existing condition standard) if the criteria in subsection 22.805.060.C.3.a do not apply and the total new plus replaced hard surface is 10,000 square feet or more, and:

1) If the new plus replaced hard ((surface adds)) surfaces total 50 percent or more ((to)) of the existing hard surfaces within the project limits, comply with subsection ((22.805.080.B.4)) 22.805.080.F (Existing condition standard) for the flows from the total new plus replaced hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way; or

2) If the new plus replaced hard ((surface adds)) surfaces total less than 50 percent ((to)) of the existing hard surfaces within the project limits, comply with subsection ((22.805.080.B.4)) 22.805.080.F (Existing condition standard) for the flows from the total new hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way.

4. Discharges to small lake basins. Roadway projects discharging into Bitter Lake, Green Lake, or Haller

Lake, or to the drainage basin of such lake, shall comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) if the total new plus replaced hard surface is 10,000 square feet or more, and:

a. If the new plus replaced hard ~~((surface adds))~~ surfaces total 50 percent or more ~~((to))~~ of the existing hard surfaces within the project limits, comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) for the flows from the total new plus replaced hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way; or

b. If the new plus replaced hard ~~((surface adds))~~ surfaces total less than 50 percent ~~((to))~~ of the existing hard surfaces within the project limits, comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) for the flows from the total new hard surfaces. The project limits are defined by the length of the project and the width of the right-of-way.

5. Discharges to a capacity-constrained system. In addition to applicable minimum requirements for flow control in subsection 22.805.060.C.1 through subsection 22.805.060.C.4, roadway projects discharging into a capacity-constrained system or its basin shall also comply with subsection ~~((22.805.080.B.4))~~ 22.805.080.F (Existing condition standard) if the total new hard surface is 10,000 square feet or more unless the downstream system only includes ditches or culverts and has been determined to have sufficient capacity as specified in 22.805.020.H (Ensure sufficient capacity).

D. Treatment. Roadway projects not discharging to the public combined sewer shall, to the extent allowed by law, except as provided in subsection 22.805.060.E:

1. If the site has less than 35 percent existing hard surface coverage, and the project's total new plus replaced pollution-generating hard surface is 5,000 square feet or more, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating hard surface and new plus replaced pollution-generating pervious surface; and

2. If the site has greater than or equal to 35 percent existing hard surface coverage and the project's total new plus replaced pollution-generating hard surface is 5,000 square feet or more, and

a. If the new plus replaced pollution-generating hard ~~((surface adds))~~ surfaces total 50 percent or more ~~((to))~~ of the existing hard surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating hard surface and new plus replaced pollution-generating pervious surface. The project limits are defined by the length of the project and the width of the right-of-way; or

b. If the new plus replaced pollution-generating hard ~~((surface adds))~~ surfaces total less than 50 percent ~~((to))~~ of the existing hard surfaces within the project limits, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new pollution-generating hard surface and new pollution-generating pervious surface. The project limits are defined by the length of the project and the width of the right-of-way; and

3. If the total new plus replaced pollution-generating pervious surfaces is 3/4 acres or more, and from ~~((the project))~~ which there is a surface discharge in a natural or constructed conveyance system from the site, comply with the minimum requirements for treatment contained in Section 22.805.090 for flows from the total new plus replaced pollution-generating pervious surface and the new plus replaced pollution-generating hard surface.

E. For a roadway project that adds less than 50 percent to the existing hard surface within the project limits on a site having greater than 35 percent existing hard surface coverage, the requirements of subsections 22.805.060.B, 22.805.060.C, and 22.805.060.D to install drainage control facilities are modified based on infeasibility to the degree that (1) complete installation would require that an existing major publicly or privately owned infrastructure or utility element be relocated, or (2) the drainage control facility cannot be built and operated to discharge stormwater from the site under gravity flow conditions while meeting the applicable engineering standards. Compliance with subsections 22.805.060.B, 22.805.060.C, and 22.805.060.D is required to the degree that the project can avoid the infeasibility described in this subsection 22.805.060.E. Standard drainage review and approval shall be required whenever this subsection is used, whether or not Section 22.800.070 applies. ~~((+))~~ The following are considered existing major infrastructure or utility elements:

~~((a-))~~ 1. Gravity flow pipe greater than or equal to 24 inches in diameter or gravity flow pipe which cannot be relocated to discharge under gravity flow conditions;

~~((b-))~~ 2. High-pressure gas pipe;

~~((c-))~~ 3. Pressure gas pipe greater than 8 inches in diameter;

~~((d-))~~ 4. Any other pressure pipe greater than 12 inches in diameter (e.g., water or steam);

~~((e-))~~ 5. Duct banks, vaults, or handholes, for underground electrical, fiber optic, or telecommunication services;

~~((f-))~~ 6. Bridge, building, or tunnel structural foundations; and

~~((g-))~~ 7. Foundations for walls greater than 6 feet in height or 15 feet in length.

22.805.070 Minimum requirements for on-site stormwater management

A. Applicability. The requirements of this Section 22.805.070 apply as required in Section ~~((22.805.030))~~ 22.805.040 to Section 22.805.060.

B. Requirements. On-site stormwater management shall be installed to the extent allowed by law and maintained in compliance with the rules promulgated by the Director to receive flows from that portion of the site being developed and shall:

1. Comply with either:

- a. Subsection 22.805.070.C (On-site performance standard); or
- b. Subsection 22.805.070.D (On-site lists).

C. On-site performance standard:

- 1. If the existing hard surface coverage is less than 35 percent and the project discharges to a listed creek, or to the drainage basin of such creek:
 - a. The post-development discharge durations shall match the discharge durations of a pre-developed forested condition for the range of pre-developed discharge rates from 8 percent of the 2-year peak flow to 50 percent of the 2-year peak flow.
- 2. For all other projects:
 - a. The post-development discharge durations shall match the discharge durations of a pre-developed pasture condition for the range of pre-developed discharge rates between the 1 percent and 10 percent exceedance values.

D. On-site lists

1. For each project surface, follow the appropriate project table in this subsection 22.805.070.D~~((2 to subsection 22.805.070.D.5))~~ to evaluate on-site BMPs shown for that type of surface, by category. The project tables apply to roofs and other hard (non-roof) surfaces. All on-site BMPs used must comply with the rules promulgated by the Director. For each surface, consider all ~~((of))~~ the applicable on-site BMPs in the first category. Use any that is considered feasible. If none is feasible for that surface, move on to each successive category and repeat the selection process as necessary. Once one on-site BMP is used for a surface, no other on-site BMP is necessary for that surface. If no BMP in the appropriate categories is feasible, then no further evaluation is required for that surface under this subsection 22.805.070.D.1. Feasibility shall be determined by evaluation against:

a. Design criteria, minimum size, limitations, and infeasibility criteria identified for each BMP in this subsection 22.805.070.D and the rules promulgated by the Director; and

b. Competing needs. ~~((Subsection))~~ This subsection 22.805.070.D ~~((On-site lists) can))~~ may be superseded or reduced by the Director if the installation of the BMPs is in conflict with:

1) Any of the following federal or state laws, rules, and standards, as may be amended or superseded: Historic Preservation and Archaeology Laws identified in subsection 22.805.070.E (Historic preservation and archaeology laws), Federal Superfund or Washington State Model Toxics Control Act, Federal Aviation Administration requirements for airports, the Americans with Disabilities Act, and related rules and standards; or

2) Special zoning district design criteria adopted and being implemented pursuant to a community planning process. Special zoning districts include, for example, historic and preservation districts, pedestrian zone overlays, station area overlays, special review districts, multifamily residential zones, urban centers and urban villages, and master planned communities. Specific criteria in these areas include, but are not limited to, minimum Floor Area Ratio standards; zero lot line development; usable open space requirements; minimum sidewalk width and required bicycle facilities; alley, loading, and access requirements; pitched roof standards; and street-level development standards for modulation and projections; or

3) Public health and safety standards; or

4) Transportation regulations to maintain the option for future expansion or multi-modal use of public rights-of-way; or

5) Chapter 15.43 (Tree and Vegetation Management in Public Places); Chapter 25.09 (Regulations for Environmentally Critical Areas); Chapter 25.11 (Tree Protection); and Chapter 23.60A (Standards for Vegetation in the Shoreline Master Plan).

~~((2. For single-family residential projects, Table A for 22.805.070 applies.~~

Table A for 22.805.070 On-site List for Single-family Residential Projects

| Category | BMPs | All-Discharge Locations |
|----------|---------------------------|-------------------------|
| 4 | Full-Dispersion | R, S |
| 4 | Infiltration Trenches | R, S ^d |
| 4 | Drywells | R, S ^d |
| 2 | Rain Gardens ^a | R, S |
| 2 | Infiltrating Bioretention | R, S |

| | | |
|---|---|----------------|
| 2 | Rainwater Harvesting-Category 2 Sizing | X ^b |
| 2 | Permeable Pavement Facilities | R, S |
| 2 | Permeable Pavement Surfaces | S |
| 2 | Sidewalk/Trail Compost-Amended Strip ^a | S |
| 3 | Sheet Flow Dispersion | R, S |
| 3 | Concentrated Flow Dispersion | S |
| 3 | Splashblock Downspout Dispersion | R |
| 3 | Trench Downspout Dispersion | R |
| 4 | Non-infiltrating Bioretention | R, S |
| 4 | Rainwater Harvesting-Category 4 Sizing | X ^c |
| 4 | Vegetated Roofs | X |
| 5 | Single-family Residential Cisterns | R |
| 5 | Perforated Stub-out Connections | R |
| 5 | Trees | S |

Note that subsection 22.805.070.D.1 requires consideration of all on-site BMPs in a category for feasibility before moving on to each successive category as necessary. Within a category, BMPs may be considered in any order.

Key to Table A for 22.805.070

R = Evaluation is required for all roof runoff from Single-family residential projects.

S = Evaluation is required for all other hard (non-roof) surfaces of Single-family residential projects, unless otherwise noted below.

X = Evaluation is not required but is allowed.

^a Installation is only allowed for projects with less than 5,000 square feet of hard surface infiltrating on the project site.

^b Category 2 rainwater harvesting shall be sized to meet the on-site performance standard, subsection 22.805.070.C.

^c Category 4 rainwater harvesting shall be sized to reduce the runoff volume by 25 percent or more on an annual average basis.

^d Evaluation of other hard (non-roof) surfaces is not required but is allowed.))

3. For trail and sidewalk projects, Table B for 22.805.070 applies.

Table B for 22.805.070 On-site List for Trail and Sidewalk Projects

((Table B for 22.805.070 On-site List for Trail and Sidewalk Projects))

| Category | BMPs | Projects Discharging to a Receiving Water Not Designated by Section 22.801.050, or its Basin | Projects Discharging to a Public Combined Sewer or Capacity-constrained System, ^c or its Basin | Projects Discharging to a Designated Receiving Water, or its Basin |
|----------|---|--|---|--|
| 1 | Full Dispersion | S | S | S |
| 2 | Rain Gardens <u>With or Without Tree</u> | S | S | X |
| 2 | <u>Infiltrating Soil Cell Bioretention With Tree</u> ^d | X | X | X |
| 2 | Permeable Pavement Facilities | X | X ^a | X ^{a, b} |
| 2 | Permeable Pavement Surfaces ^e | S | S ^a | X ^{a, b} |
| 2 | Sidewalk/Trail Compost-Amended Strip ^e | S | S | X |
| 3 | Sheet Flow Dispersion | S | S | S |
| 3 | Concentrated Flow Dispersion | S | S | S |
| 4 | Trees | S | S | S |

Note that subsection 22.805.070.D.1 requires consideration of all on-site BMPs in a category for feasibility before moving on to each successive category as necessary. Within a category, BMPs may be considered in any order.

Key to Table B for 22.805.070

S = Evaluation is required for all surfaces of trail or sidewalk projects.

X = Evaluation is not required for trail or sidewalk projects.

^a Minimum permeable pavement area allowed in right-of-way is 2,000 square feet of pavement within the project site.

^b Installation is not allowed in the right-of-way if new plus replaced pollution-generating hard surface area is less than 2,000 square feet of pavement within the project site.

^c Does not include any project discharging to a receiving water not designated by Section 22.801.050, or its basin, even if the project discharges to a capacity-constrained system or its basin.

^d Tree is required unless considered infeasible per rules promulgated by the Director.

^e Infiltration testing is not required to use for the on-site list approach, it is only necessary to prove infeasibility.

((4.)) 2. For parcel-based projects, Table ((G)) A for 22.805.070 applies.

Table A for 22.805.070 On-site List for Parcel-based Projects

((Table C for 22.805.070 On-site List for Parcel-based Projects))

| Category | BMPs | Projects Discharging to a Receiving Water Not Designated by Section 22.801.050, Public Combined Sewer, or Capacity-constrained System, or its Basin | Projects Discharging to a Designated Receiving Water or its Basin |
|----------|--|---|---|
| 1 | Full Dispersion | R, S | R, S |
| 1 | Infiltration Trenches | R, S ^g | R, S ^g |
| 1 | Drywells | R, S ^g | R, S ^g |
| 1 | Rainwater Harvesting-Category 1 Sizing | X ^e | X ^e |
| 2 | Rain Gardens <u>With or Without Tree</u> | R ^a , S ^a | R ^a , S ^a |
| 2 | Infiltrating Bioretention <u>With or Without Tree</u> | R, S | R, S |
| 2 | Infiltrating Soil Cell Bioretention With Tree | X | X |
| ((2)) | ((Rainwater Harvesting-Category 2 Sizing)) | ((X ^e)) | ((X ^e)) |
| 2 | Permeable Pavement Facilities <u>or approved equivalent</u> | R, S | R, S |
| 2 | Permeable Pavement Surfaces <u>or approved equivalent</u> ^h | S | S |
| 2 | Sidewalk/Trail Compost-Amended Strip ^h | S | S |
| 3 | Infiltrating Soil Cell Bioretention Without Tree | X | X |
| 3 | Sheet Flow Dispersion | R, S | R, S |
| 3 | Concentrated Flow Dispersion | S | S |
| 3 | Splashblock Downspout Dispersion | R | R |
| 3 | Trench Downspout Dispersion | R | R |
| 4 | Non-infiltrating Bioretention | R ^d , S ^d | R ^d , S ^d |
| 4 | Non-Infiltrating Soil Cell Bioretention With Tree | X | X |
| 4 | Rainwater Harvesting-Category 4 Sizing | R ^{b, f} | X ^f |
| 4 | Vegetated Roofs | R ^c | ((X)) R ^c |
| 4 | Residential Cistern | X | X |
| 5 | Perforated Stub-out Connections | R | R |
| 5 | Trees ⁱ | S | S |

Note that subsection 22.805.070.D.1 requires consideration of all on-site BMPs in a category for feasibility before moving on to each successive category as necessary. Within a category, BMPs may be considered in any order.

Key to Table ((C)) A for 22.805.070

R = Evaluation is required for all roof runoff from parcel-based projects.

S = Evaluation is required for all other hard (non-roof) surfaces of parcel-based projects, unless otherwise noted below.

X = Evaluation is not required but is allowed.

^a Rain gardens cannot be used to meet Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) or for projects with areas of 5,000 square feet or more hard surface infiltrating on the project site.

^b Evaluation is not required for projects with less than 20,000 square feet of new plus replaced rooftop surface.

^c Evaluation is not required for projects with less than 5,000 square feet of new plus replaced rooftop surface.

^d Water quality treatment BMPs sized to meet Section 22.805.090 (Minimum Requirements for Treatment) may be installed in lieu of non-infiltrating bioretention unless the project discharges to a public combined sewer basin.

^e Category ((2)) 1 rainwater harvesting shall be sized to meet the on-site performance standard, subsection 22.805.070.C.

^f Category 4 rainwater harvesting shall be sized to reduce the runoff volume by 25 percent or more on an annual average basis.

^g Evaluation of other hard (non-roof) surfaces is not required but is allowed.

^h Infiltration testing is not required to use for the on-site list approach; it is only necessary to prove infeasibility.

((5-)) 4. For roadway projects, Table ((D)) C for 22.805.070 applies.

Table C for 22.805.070 On-site List for Roadway Projects

((Table D for 22.805.070 On-site List for Roadway Projects))

| Category | BMPs | Projects Discharging to a Receiving Water Not Designated by Section 22.801.050, or its Basin | Projects Discharging to a Public Combined Sewer or Capacity-constrained System, ^g or its Basin | Projects Discharging to a Designated Receiving Water or its Basin |
|----------|---|--|---|---|
| 1 | Full Dispersion | S | S | S |
| 2 | Rain Gardens <u>With Tree</u> ^h | S ^a | S ^a | S ^a |
| 2 | Infiltrating Bioretention <u>With Tree</u> ^h | S | S ^b | S ^{b, c} |
| <u>2</u> | Infiltrating Soil Cell Bioretention <u>With Tree</u> ^h | X | X | X |
| 2 | Permeable Pavement Facilities | X ^d | X ^{e, f} | X ^{c, e, f} |

| | | | | |
|---|--|----------------|-------------------|----------------------|
| 2 | Permeable Pavement Surfaces ⁱ | S ^d | S ^{e, f} | X ^{c, e, f} |
| 2 | Sidewalk/Trail Compost-Amended Strip ⁱ | S ^e | S ^e | S ^e |
| 3 | Sheet Flow Dispersion | S | S | S |
| 3 | Concentrated Flow Dispersion | S | S | S |
| 4 | Trees | S | S | S |
| 4 | Non-Infiltrating Soil Cell Bioretention With Tree ^h | X | X | X |

Note that subsection 22.805.070.D.1 requires consideration of all on-site BMPs in a category for feasibility before moving on to each successive category as necessary. Within a category, BMPs may be considered in any order.

Key to Table ((D)) C for 22.805.070

S = Evaluation is required for all surfaces of Roadway Projects.

X = Evaluation is not required for Roadway Projects, but is allowed.

^a Rain gardens cannot be used to meet Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) or for projects with areas of 5,000 square feet or more hard surface infiltrating on the project site.

^b Minimum bioretention cell size top area in right-of-way is 500 square feet (including pre-settling area). Evaluation is only required and installation only allowed when contributing area is sufficient to warrant minimum bioretention cell size in right-of-way.

^c Evaluation is not required, and installation is not allowed, if new plus replaced pollution-generating hard surface is less than 2,000 square feet.

^d Evaluation of roadway surfaces is not required, and installation is not allowed, if roadway is an arterial street/collector.

^e Evaluation of roadway surfaces, including alleys, is not required and installation is not allowed.

^f Minimum permeable pavement area allowed in right-of-way is 2,000 square feet of pavement within the project site.

^g Does not include any project discharging to a receiving water not designated by Section 22.801.050, or its basin, even if the project discharges to a capacity-constrained system or its basin.

^h Tree is required unless considered infeasible per rules promulgated by the Director.

ⁱ Infiltration testing is not required to use for the on-site list approach; it is only necessary to prove infeasibility.

* * *

22.805.080 Minimum requirements for flow control

* * *

B. Requirements. Flow control facilities shall be installed to the extent allowed by law and maintained pursuant to rules promulgated by the Director to receive flows from that portion of the site being developed. Post-development discharge determination must include flows from dewatering activities. All projects shall use on-site BMPs identified in subsection 22.805.070.D or other infiltration BMPs authorized by rule to the maximum extent feasible to meet the minimum requirements. Flow control facilities that receive flows from less than that portion of the site being developed may be installed if the total new plus replaced impervious surface is less than 10,000 square feet, the project site uses only on-site BMPs to meet the requirement, and the on-site BMPs provide substantially equivalent environmental protection as facilities not using on-site BMPs that receive flows from all of the portion of the site being developed.

~~((1.))~~ C. Wetland protection standards~~((:-))~~

1. Protect the functions and values of wetlands and their buffers from all projects discharging stormwater directly or indirectly to them. The hydrologic conditions, vegetative community, and substrate characteristics of the wetlands shall be protected, and impacts caused by changes in water flows and pollutants shall be prevented. The introduction of sediment, heat, and other pollutants and contaminants into wetlands shall be minimized through the selection, design, installation, and maintenance of temporary and permanent controls.

2. Before authorizing new discharges to a wetland, alternative discharge locations shall be evaluated and infiltration options outside the wetland shall be maximized unless doing so will adversely impact the functions and values of the affected wetlands.

3. If the wetland protection standard cannot be met due to Sections 22.805.070 or 22.805.090, the wetland protection standard shall be met to the maximum extent feasible while fully meeting the on-site stormwater management and water quality treatment requirements, unless an analysis by a wetland professional per rules promulgated under subsection 25.09.330.C (Technical Reports) is conducted that demonstrates that the functions and values of the affected wetland are not protected.

4. If one or more of the flow control requirements contained in subsections ~~((22.805.080.B.2 through 22.805.080.B.4))~~ 22.805.080.D through 22.805.080.F also applies to the project, the wetland standard must be met ~~((an analysis shall be conducted))~~ to ensure that the functions and values of the affected wetland are protected before implementing these flow control requirements to the full extent.

5. Notwithstanding any provision in this subtitle, no net loss of wetland functions or values shall result from actions regulated by this subtitle.

6. Refer to the Washington State Wetland Rating System for Western Washington: 2014 Update, Version 2.0 (Hruby, ((2014)) 2023) to determine the category, characteristics, and habitat score of the wetland. Wetland classification shall be determined by a wetland professional per rules promulgated under subsection 25.09.330.C (Technical reports).

7. Projects triggering Method 1 or Method 2 in this subsection 22.805.080.C shall refer to I-C.4, Wetland Hydroperiod Protection and I-C-5, Wetland Hydroperiod Data Collection, Evaluation Procedures, and Strategies presented in Appendix I-C of Ecology's Stormwater Management Manual for Western Washington (Ecology 2024) for additional guidance.

((a-)) 8. Comply with subsection ((22.805.080.B.1.e)) 22.805.080.C.10 (Wetland Protection Standard-Method 1: Monitoring and Wetland Stage Modeling) if the following applies:

((1)) a. The project discharges to a Category I or II depressional or riverine impounding wetland;
and

((2)) b. The project owner has legal access to the entire wetland for purposes of conducting monitoring in the wetland.

((b-)) 9. Comply with subsection ((22.805.080.B.1.d)) 22.805.080.C.11 (Wetland Protection Standard-Method 2: Site Discharge Modeling) if the criteria in subsection ((22.805.080.B.1.a)) 22.805.080.C.8 do not apply and one or more of the following applies (or applicability is unknown):

((1)) a. The wetland is Class I or II and does not meet the requirements of subsection ((~~22.805.080.B.1.a~~)) 22.805.080.C.8.

((2)) b. The wetland is Class III or IV and:

((a)) 1) Has a habitat score greater than 5;

((b)) 2) Is interdunal and has special characteristics;

((c)) 3) Provides habitat for rare, threatened, endangered, or sensitive species; or

((d)) 4) Contains breeding population of any native amphibian. Per Ecology's guidance, wetlands with permanent or seasonal ponding or inundation are assumed to have breeding population of native amphibian.

((e-)) 10. Wetland Protection Standard-Method 1: Monitoring and Wetland Stage Modeling. Comply with I-C.4, Wetland Hydroperiod Protection, presented in Appendix I-C of Ecology's Stormwater Management Manual for

Western Washington (Ecology ((2019)) 2024).

~~((Projects triggering Method 1 shall refer to I-C-5, Wetland Hydroperiod Data Collection and Evaluation Procedures, presented in Appendix I-C of Ecology's Stormwater Management Manual for Western Washington (Ecology 2019) for additional guidance.))~~

~~((d.))~~ 11. Wetland Protection Standard-Method 2: Site Discharge Modeling. The total volume of stormwater discharging from the project site into a wetland shall not be more than:

~~((1))~~ a. On a daily basis, 20 percent higher or lower than the pre-project volume, and

~~((2))~~ b. On a monthly basis,

1) 20 percent higher or lower than the pre-project volumes for the months of October, November, and December, and

2) 15 percent higher or lower than the pre-project ((volume)) volumes for all other months (January through September).

~~((Projects triggering Method 2 shall refer to I-C-5, Wetland Hydroperiod Data Collection and Evaluation Procedures, presented in Appendix I-C of Ecology's Stormwater Management Manual for Western Washington (Ecology 2019) for additional guidance.))~~

~~((2.))~~ D. Pre-developed forested standard. The post-development discharge durations from the project site shall match the discharge durations of a pre-developed forested condition for the range of pre-developed discharge rates from 50 percent of the 2-year peak flow to the 50-year peak flow.

~~((3.))~~ E. Pre-developed pasture standard. The post-development discharge durations from the project site shall match the discharge durations of a pre-developed pasture condition for the range of pre-developed discharge rates from 50 percent of the 2-year peak flow to the 2-year peak flow.

~~((4.))~~ F. Existing condition standard. ~~((a.))~~ The post-development discharge durations from the project site shall be limited as follows:

~~((1))~~ 1. Match the discharge durations of the existing land cover condition for the range of discharge rates from 50 percent of the 2-year peak flow to the 25-year peak flow; and

~~((2))~~ 2. For discharges to a creek or a creek drainage basin or to a small lake or a small lake basin, also match the discharge durations of the existing land cover condition for the range of discharge rates from 50 percent of the 2-year peak flow to the 50-year peak flow.

~~((5-))~~ G. Peak control standard. ~~((a-))~~ The post-development release rates from the project site shall be limited as follows:

~~((1))~~ 1. The peak flow with a 50 percent annual probability (2-year recurrence flow) shall not exceed 0.07 cubic feet per second per acre;

~~((2))~~ 2. The peak flow with a 20 percent annual probability (5-year recurrence flow) shall not exceed 0.10 cubic feet per second per acre; and

~~((3))~~ 3. The peak flow with a 4 percent annual probability (25-year recurrence flow) shall not exceed 0.40 cubic feet per second per acre.

~~((G-))~~ H. Inspection and maintenance schedule. Temporary and permanent flow control facilities shall be inspected and maintained according to rules promulgated by the Director to keep these facilities in continuous working order.

22.805.090 Minimum requirements for treatment

* * *

B. Requirements. Water quality treatment facilities shall be installed to the extent allowed by law and maintained pursuant to rules promulgated by the Director to treat flows from the pollution-generating pervious and hard surfaces on the site being developed. When stormwater flows from other areas, including non-pollution generating surfaces (e.g., roofs), dewatering activities, and off-site areas, cannot be separated or bypassed, treatment BMPs shall be designed for the entire area draining to the treatment facility. All projects shall use on-site BMPs identified in subsection 22.805.070.D₁ or other infiltration BMPs authorized by rule, to the maximum extent feasible to meet the minimum requirements. For pollution-generating pervious surfaces other than artificial turf, a landscape management plan developed according to rules promulgated by the Director may be utilized in lieu of installing water quality treatment facilities.

1. Runoff volume. Stormwater treatment facilities shall be designed based on the stormwater runoff volume from the contributing area or a peak flow rate as follows:

a. The daily runoff volume at or below which 91 percent of the total runoff volume for the simulation period occurs, as determined using an approved continuous model. It is calculated as follows:

- 1) Rank the daily runoff volumes from highest to lowest.
- 2) Sum all the daily volumes and multiply by 0.09.
- 3) Sequentially sum daily runoff volumes, starting with the highest value, until the total

equals 9 percent of the total runoff volume. The last daily value added to the sum is defined as the water quality design volume.

b. Different design flow rates are required depending on whether a treatment facility will be located upstream or downstream of a detention facility:

1) For facilities located upstream of detention or when detention is not required, the design flow rate is the flow rate at or below which 91 percent of the total runoff volume for the simulation period is treated, as determined using an approved continuous runoff model.

2) For facilities located downstream of detention, the design flow rate shall be the full 2-year release rate, as determined using an approved continuous runoff model.

c. Infiltration facilities designed for water quality treatment must infiltrate 91 percent of the total runoff volume as determined using an approved continuous runoff model. To prevent the onset of anaerobic conditions, an infiltration facility designed for water quality treatment purposes must be designed to drain the water quality design treatment volume (the 91st percentile, 24-hour volume) within 48 hours.

2. Basic treatment. A basic treatment facility (~~shall be~~) is required for all projects. The requirements of subsection 22.805.090.B.3 (Oil control treatment), subsection 22.805.090.B.4 (Phosphorus treatment), and subsection 22.805.090.B.5 (~~Enhanced~~) Metals treatment) are in addition to this basic treatment requirement.

3. Oil control treatment. An oil control treatment facility (~~shall be~~) is required for high-use sites, as defined in this subtitle.

4. Phosphorus treatment. A phosphorus treatment facility (~~shall be~~) is required for projects discharging into nutrient-critical receiving waters.

5. (~~Enhanced~~) Metals treatment. (~~Unless a project discharges~~) Except for landscaped areas (unless containing crumb rubber) and projects that discharge to a basic treatment receiving water ((Section 22.804.030 "B")), (~~an enhanced~~) a metals treatment facility for reducing concentrations of dissolved metals (~~shall be~~) is required for projects that discharge, directly or through conveyance systems, to fresh waters designated for aquatic life use or having an existing aquatic life use, or that use infiltration strictly for flow control (not treatment) and discharge within (~~one-quarter~~) 1/4 mile of fresh waters designated for aquatic life use or having an existing aquatic life use, if the project meets one of the following criteria:

a. For a parcel-based project, the project is industrial, is commercial, or proposes four or more

dwelling units, or the site is subject to industrial activities.

b. For a roadway project, the site ((is either)) includes a road:

1) ((A fully controlled or a partially controlled limited access highway with Annual Average Daily Traffic counts of 15,000 or more; or 2) Any other road with)) With an expected Annual Average Daily Traffic count of 7,500 or greater; or

2) That provides on-street parking for commercial or industrial areas.

6. Discharges to groundwater. Direct discharge of untreated drainage water from pollution-generating hard surfaces to groundwater is prohibited.

* * *

Section 6. Chapter 22.807 of the Seattle Municipal Code, last amended by Ordinance 126336, is amended as follows:

Chapter 22.807 Drainage Control Review And Application Requirements

* * *

22.807.020 Drainage control review and application requirements

A. Thresholds for drainage control review. Drainage control review and approval as described in subsection 22.807.020.B is required for any of the following:

1. Preliminary drainage review and approval is required for applications for the following approvals:

a. Subdivisions (Chapter 23.22);

b. Short plats (Chapter 23.24);

c. Unit lot subdivisions (Sections 23.22.062 and 23.24.045);

d. Lot boundary adjustments (Chapter 23.28); or

e. Master use permits that would allow development that includes 750 square feet or more of new plus replaced hard surface or 5,000 square feet of land disturbing activity where the Director has determined that a preliminary drainage review is required considering, but not limited, to the following attributes of the site:

1) Location within an environmentally critical area or buffer;

2) Proximity and tributary to an environmentally critical area or buffer; and

3) Proximity and tributary to an area with adequacy, erosion, water quality, or flooding

problems.

2. Standard drainage review and approval is required for the following:

- a. Applications other than those listed in subsection 22.807.020.A.1 that include any land disturbing activity encompassing an area of 5,000 square feet or more, including demolition permits;
- b. Applications for a building permit or other construction permit that authorizes the construction or installation of 750 square feet or more of new plus replaced hard surface;
- c. Applications for which a grading permit or approval is required pursuant to Chapter 22.170;
- d. Applications for street use permits for the cumulative addition of 750 square feet or more of new plus replaced hard surface and land disturbing activity;
- e. City public works projects or construction contracts, including contracts for day labor and other public works purchasing agreements, for the cumulative addition of 750 square feet or more of new plus replaced hard surface and/or land disturbing activity to the site, ~~((except for projects in a City-owned right-of-way and))~~ except for work performed for the operation and maintenance of park lands under the control or jurisdiction of the Department of Parks and Recreation;
- f. Applications for approvals and contracts that include any new or replaced hard surface or any land disturbing activity on a site deemed a potentially hazardous location, as specified in Section 22.800.050 (Potentially Hazardous Locations);
- g. Applications for approvals that include any new hard surface in a Category I peat settlement-prone area delineated pursuant to Section 25.09.012;
- h. Whenever an exception to a requirement set forth in this Subtitle VIII or in a rule promulgated under this Subtitle VIII is desired, whether or not review and approval would otherwise be required, including, but not limited to, alteration of natural drainage patterns or the obstruction of watercourses;
- i. Whenever roadway project infeasibility pursuant to subsection 22.805.060.E is applied, whether or not review and approval would otherwise be required; or
- j. Applications for approvals for activities or projects for:
 - ~~((1.))~~ 1) Fueling at dedicated stations, for new or substantially altered fueling stations.
 - ~~((2.))~~ 2) In-water and over-water fueling.
 - ~~((3.))~~ 3) Maintenance and repair of vehicles and equipment.
 - ~~((4.))~~ 4) Concrete and asphalt mixing and production.

~~((5-))~~ 5) Recycling, wrecking yard, and scrap yard operations.

~~((6-))~~ 6) Storage of liquids in aboveground tanks.

~~((7-))~~ 7) Other projects that the Director determines pose a hazard to public health, safety, or welfare; endanger any property; adversely affect the safety and operation of City right-of-way, utilities, or other property owned or maintained by the City; or adversely affect the functions and values of an environmentally critical area or buffer.

3. Comprehensive drainage review and approval is required for applications other than those listed in subsection 22.807.020.A.1 that include:

a. ~~((Five thousand))~~ 5,000 square feet or more of new plus replaced hard surface;

b. ~~((One acre))~~ 10,000 square feet or more of land disturbing activity;

c. ~~((Conversion of 3/4 acres or more of vegetation to lawn or landscaped area))~~ A project that has no available off-site point of discharge for stormwater as determined by the Director; ~~((or))~~

d. ~~((Conversion of 2.5 acres or more of native vegetation to pasture;))~~ An infiltration facility that is designed to fully infiltrate all stormwater runoff directed to it;

e. An installation of a new outfall to a receiving water; or

f. Demolition of a building with a roof area of 5,000 square feet or greater, even if the existing building slab remains.

B. For purposes of applying the thresholds in subsection 22.807.020.A, all closely related projects, projects under a common plan of development or sale, subdivisions, and short plats as determined according to subsection 22.805.010.B shall be counted towards the threshold.

* * *

D. Submittal requirements for drainage control review and approval

1. Information required for preliminary drainage review. The following information shall be submitted to the Director for all projects for which preliminary drainage review is required:

a. Preliminary site plan. A site plan as set forth in rules promulgated by the Director.

b. Preliminary drainage control plan. A drainage control plan that identifies all new and replaced hard surfaces, new and replaced pollution-generating hard surfaces, drainage control facilities, and best management practices for each lot, parcel, and tract of land within the project.

1) The preliminary drainage control plan shall include all drainage control facilities required to meet the minimum requirements for flow control (Section 22.805.080), water quality treatment (Section 22.805.090), and on-site stormwater management (Section 22.805.070), as well as all other best management practices to ensure drainage adequacy.

2) The preliminary drainage control plan shall be prepared by a licensed civil engineer in accordance with standards adopted by the Director, for projects that meet the thresholds for comprehensive drainage control review per subsection 22.807.020.A.3. ~~((include any one or more of the following:~~

- ~~a. Five thousand square feet or more of new plus replaced hard surface;~~
- ~~b. One acre or more of land disturbing activity;~~
- ~~c. Conversion of 3/4 acres or more of vegetation to lawn or landscaped area;~~
- ~~d. Conversion of 2.5 acres or more of native vegetation to pasture; or~~
- ~~e. No accessible off-site discharge point.~~

~~c. Submittals identified by rule. Additional information shall be submitted to the Director to comply with the requirements of this subtitle and rules promulgated hereunder and to accomplish the purposes of this subtitle.))~~

2. Information required for standard drainage review. The following information shall be submitted to the Director for all projects for which standard drainage review is required.

a. Site plan. A site plan shall be submitted to the Director.

b. Standard drainage control plan. A drainage control plan shall be submitted to the Director. Standard designs for drainage control facilities as set forth in rules promulgated by the Director may be used. ~~((For a project with no accessible off-site discharge point or that includes development conducted in or near a receiving water requiring a Hydraulic Project Approval (chapter 220-660 WAC), the drainage control plan shall be prepared by a licensed civil engineer in accordance with standards adopted by the Director.))~~

c. Construction stormwater control plan. A construction stormwater control plan demonstrating controls sufficient to determine compliance with subsection 22.805.020.D shall be submitted. The Director may approve a checklist in place of a plan, pursuant to rules promulgated by the Director.

d. Memorandum of drainage control. The owner(s) of the site shall sign a "memorandum of drainage control" that has been prepared by the Director of SPU. Completion of the memorandum shall be a condition precedent to issuance of any permit or approval for which a drainage control plan is required. The applicant shall file the

memorandum of drainage control with the King County Recorder's Office so as to become part of the King County real property records. The applicant shall give the Director of SPU proof of filing of the memorandum. The memorandum shall not be required when the drainage control facility will be owned and operated by the City. A memorandum of drainage control shall include:

- 1) The legal description of the site;
- 2) A summary of the terms of the drainage control plan, including any known limitations of the drainage control facilities, and an agreement by the owners to implement those terms;
- 3) An agreement that the owner(s) shall inform future purchasers and other successors and assignees of the existence of the drainage control facilities and other elements of the drainage control plan, the limitations of the drainage control facilities, and of the requirements for continued inspection and maintenance of the drainage control facilities;
- 4) The side sewer permit number and the date and name of the permit or approval for which the drainage control plan is required;
- 5) Permission for the City to enter the property for inspection, monitoring, correction, and abatement purposes;
- 6) An acknowledgment by the owner(s) that the City is not responsible for the adequacy or performance of the drainage control plan, and a waiver of any and all claims against the City for any harm, loss, or damage related to the plan, or to drainage or erosion on the property, except for claims arising from the City's sole negligence; and
- 7) The owner(s)' signatures acknowledged by a notary public.

e. Submittals identified by rule. Additional information shall be submitted to the Director to comply with the requirements of this subtitle and rules promulgated hereunder and to accomplish the purposes of this subtitle.

3. Information required for comprehensive drainage review. In addition to the submittal requirements for standard drainage review, the following information is required to be submitted to the Director for projects for which comprehensive drainage review is required:

a. Comprehensive drainage control plan. A comprehensive drainage control plan, in lieu of a standard drainage control plan, to comply with the requirements of this subtitle and rules promulgated hereunder and to accomplish the purposes of this subtitle shall be submitted with the permit application. It shall be prepared by a licensed

civil engineer in accordance with standards adopted by the Director unless otherwise not required per rules promulgated by the Director.

b. Inspection and ~~((Maintenance))~~ maintenance schedule. A schedule shall be submitted that provides for inspection of temporary and permanent flow control facilities, treatment facilities, and source ~~((controls))~~ control facilities to comply with Section 22.803.040 (Minimum source controls for specific activities), Section 22.805.070 (Minimum requirements for on-site stormwater management), Section 22.805.080 (Minimum requirements for flow control), and Section 22.805.090 (Minimum requirements for treatment).

c. Construction stormwater control plan. A construction stormwater control plan prepared in accordance with subsection 22.805.020.D shall be submitted.

4. Applications for drainage control review and approval shall be prepared and submitted in accordance with provisions of this subsection, with Chapter 21.16 (Side Sewer Code), and with associated rules and regulations adopted ~~((jointly))~~ by the Directors of SDCI and SPU.

5. The Director may require additional information necessary to adequately evaluate applications for compliance with the requirements and purposes of this subtitle and other laws and regulations, including, but not limited to, Chapter 25.09 (Regulations for Environmentally Critical Areas) and Chapter 23.60A (Seattle Shoreline Master Program Regulations). The Director may also require appropriate information about adjoining properties that may be related to, or affected by, the drainage control proposal in order to evaluate effects on the adjacent property. This additional information may be required as a precondition for permit application review and approval.

* * *

Section 7. The Code Reviser is requested to reorder material in subsections and tables of Seattle Municipal Code subsection 22.805.070.D as appropriate, after the amendments made by this ordinance.

Section 8. This ordinance shall take effect on July 1, 2026.

Passed by the City Council and signed in open session in authentication of its passage on .

President of the City Council
on .

Katie B. Wilson, Mayor

Attested on .

Scheereen Dedman, City Clerk

Seal

Summary and Fiscal Note

1. Legislation Summary

Department:

Seattle Public Utilities

Title:

AN ORDINANCE relating to the 2026 Stormwater Code Update; updating stormwater control requirements for development, roadways, utilities, and maintenance activities; strengthening stormwater treatment and infiltration standards; clarifying vesting and review thresholds; ensuring the City's compliance with requirements of the State Department of Ecology; and amending Chapters 22.800, 22.801, 22.802, 22.803, 22.805, and 22.807 of the Seattle Municipal Code.

Background:

This legislation would update the City's Stormwater Code. The purpose of the Stormwater Code is to protect life, property, public health, and the environment from the adverse impacts of urban stormwater runoff. Adverse impacts can include flooding, water pollution, landslides, and erosion. This Stormwater Code revision includes various additions and revisions to the Stormwater Code and associated Director's Rule (Stormwater Manual¹). In addition, a new Director's Rule is proposed in association with

¹ See Stormwater Code and Manual Update 2026 [Project Documents page](#) to access January 2026 second public review draft of Stormwater Manual (Volumes 1-5, Appendices A-J) and summary of changes document.

this legislation related to public mainline extensions and drainage requirements in the public right-of-way.

The Stormwater Code and associated joint Seattle Public Utilities/Seattle Department of Construction and Inspections (SPU/SDCI) Directors' Rules (Stormwater Manual) are being revised to comply with the City's 2024-Phase I Municipal Stormwater Permit (MS4 Permit) which was effective on August 1, 2024. The MS4 Permit requires that the Stormwater Code and associated Stormwater Manual include minimum requirements, thresholds, definitions, and other specified requirements, limitations and criteria be equivalent to the MS4 Permit for new development, redevelopment and construction. In addition, maintenance provisions must be at least as protective of facility function as, and source control provisions must be functionally equivalent to, Ecology's Stormwater Management Manual for Western Washington.

SPU, SDCI, and other City departments with input from external stakeholders are updating the Stormwater Code to: 1) incorporate new Ecology requirements; 2) incorporate policy changes; and 3) improve usability. All updates to the Stormwater Code must occur at one time with an effective date of July 1, 2026.

Summary Attachments:

Summary Exhibit A – Legislative Summary

Summary Exhibit B – Ecology Conditional Approval Letter

Summary Exhibit C – Environmentally Critical Areas: Best Available Science Review

2. Capital Improvement Program (CIP)

Does this legislation create, fund, or amend a CIP Project?

Yes

No

3. Summary of Financial Implications

Does this legislation have financial impacts to the City?

Yes

No

Capital and operations and maintenance costs to City departments are discussed in section 3.d.

3d. Other Financial Impacts

a. Does this legislation create any other financial impacts for The City of Seattle, such as direct or indirect costs, one-time or ongoing, that aren't mentioned above? If yes, please explain these impacts.

Yes, details on specific cost impacts by department are outlined below.

b. If the legislation has costs that can be covered within the current budget, explain how. Does the department have extra resources in its budget to handle these costs? Or does the department need to shift resources away from other work to handle these costs?

This legislation does not make appropriations. However, the 2026 Stormwater Code Update will impact costs and work requirements in several departments. Additional training for SPU, SDCI, SDOT, SPR, SCL, and FAS staff will be required in 2026 to prepare for the implementation of the 2026 Stormwater Code Update. It is unlikely these departments will need additional appropriations in 2026. However, if additional appropriations are needed to prepare for the change in code, the affected department will bring forward a supplemental budget request prior to the end of 2026.

The following department-specific notes are provided for illustrative purposes. Any budget or staffing adjustments will be addressed through the budget process by each department as needed.

SPU

1. SPU Future Capital.

There may be a relatively small increase in SPU capital costs for some projects due to the water quality threshold changes for Roadway Projects. At this time, sufficient information to accurately project long-term cost increases does not exist. However, those increases are anticipated to be relatively small compared to overall project costs or may not increase depending on a project's scope.

2. SPU Future Operation & Maintenance

SPU typically takes ownership and assumes all operation and maintenance responsibilities for subsurface drainage structures installed in the public right-of-way, including flow control and water quality facilities. As a result of the 2026 Stormwater Code Update, more water quality facilities are expected to be installed in the right-of-way due to Ecology's required threshold changes to account for "replaced" pollution-generating hard surface in addition to such "new" surface to address contaminants of emerging concern such as 6PPD found in a tire preservative that is harmful to juvenile salmon. Sufficient information to accurately project long-term impacts does not currently exist but a minimal net increase in future O&M costs is anticipated overtime.

SDCI

1. SDCI Future Operation & Maintenance

Other than potential training costs noted above, SDCI does not anticipate fiscal impacts due to this legislation.

SDOT

Based on the current draft of the 2026 City of Seattle Stormwater Code (SWC) and associated Directors' Rule (DR), Seattle Department of Transportation (SDOT) has analyzed the impact on the planned Capital Improvement Program (CIP) as well as maintenance and operations functions for the next five years (July 2026 – July 2031).

An analysis of five years was chosen as it corresponds to the timeframe for the current draft of the SWC.

The analysis below indicates that SDOT costs may increase between 2026 to 2031 due to the proposed changes.

1. SDOT Capital Project Construction Cost Analysis

2026 SWC – Flow Control Treatment (FC) Water Quality Treatment (WQ) and On-Site Stormwater Management (OSM) Changes

The currently proposed SWC will make the following changes:

- 1) Update definitions for new and replaced hard surfaces to be consistent with 2024 Municipal Storm Sewer System (MS4) Permit:
 - Revise “new hard surface” to clarify it is the creation of a hard surface or upgrade from existing hard surface.
 - Revise “replaced hard surface” to clarify existing foundation or subgrade/base course must remain.
- 2) Add “new plus replaced” hard surface to flow control and water quality treatment thresholds for Roadway Projects to be consistent with 2024 MS4 Permit.
- 3) Update on-site lists to facilitate increase in tree canopy and stormwater management, improve feasibility of bioretention in space-limited urban areas, provide additional BMP options, address temperature increases and atmospheric deposition, and reduce feasibility barriers for certain BMPs.
 - Add that “Infiltrating Soil Cell Bioretention with Tree” can be used as an OSM BMP in Category 2
- 4) Revise terminology from “enhanced” to “metals” treatment and update Metals Treatment thresholds to be consistent with 2024 MS4 Permit.
 - For Metals Treatment, lowered the annual average daily traffic (AADT) threshold for roadways, and will include roadways that provide on-street parking for commercial and industrial areas and sites that are subject to “industrial activities.”
- 5) Remove 5,000 square feet “new” hard surface threshold for flow control and treatment thresholds for Roadway Projects based on Ecology’s equivalency comments.
- 6) Add a treatment requirement that all projects that newly convey runoff from 5,000 square feet or more of pollution-generating hard surface to a receiving water must provide stormwater treatment for that area where that area previously dispersed or infiltrated.

SDOT anticipates increases in construction costs for Arterial Asphalt and Concrete (AAC) Program projects resulting from the City’s adoption of the 2026 SWC to meet equivalency with the 2024 MS4 permit; SDOT does not anticipate increased construction costs for projects in Multi-Modal Corridor

(MMC), Pedestrian Master Plan (PMP), and Sidewalks Programs projects (see Table 1).

Updates primarily affect Large Projects that trigger OSM, FC, and WQ treatment requirements including metals treatment. Table 1 below presents estimated net cost increases for SDOT Program projects during each year. Original budgets assumed 2021 SWC; amounts reflect difference between 2021 SWC and 2026 SWC.

Per 2026 SWC transition provisions (see Code section 22.800.070, Minimum Requirements for City Agency Projects):

- City projects may vest under the 2021 SWC if funded by 7/1/2021 and before 7/1/2026 if construction starts by 7/1/2031 (avoids new requirements if deadline is met).
- Projects not starting construction before 7/1/2031 must revise plans to comply with 2026 SWC.

Therefore, FC, WQ treatment, and related cost increases primarily apply to:

- Projects that will not vest under 2021 SWC, or
- Projects that trigger stricter 2026 SWC requirements regardless.

Table-1 Overall Flow Control Treatment & OSM Cost Changes Resulting from 2026 SWC by Year

| Year | Programs | Funding Source | FC Treatment Cost | WQ Treatment Cost | OSM Cost | Overall Cost Change |
|-------|--------------------------|------------------|-------------------|-------------------|----------|---------------------|
| 2026 | AAC, MMC, PMP, Sidewalks | STL ¹ | \$0 | \$0 | \$0 | \$0 |
| 2027 | AAC, MMC, PMP, Sidewalks | STL | \$0 | \$0 | \$0 | \$0 |
| 2028 | AAC, MMC, PMP, Sidewalks | STL | \$0 | \$0 | \$0 | \$0 |
| 2029 | AAC, MMC, PMP | STL | \$0 | \$0 | \$0 | \$0 |
| 2030 | AAC, MMC, PMP | STL | \$0 | \$0 | \$0 | \$0 |
| 2031 | AAC | STL | \$0 | \$1,800,000 | \$0 | \$1,800,000 |
| Total | | | | | | \$1,800,000 |

• ¹STL – Seattle Transportation Levy

The adoption of the 2026 SWC is anticipated to increase total costs for SDOT CIP projects by \$1.8 million. The net cost increase is minimized because many projects funded through the Seattle Transportation Levy are scheduled

for construction between 2026 and 2030 and can vest under the 2021 SWC, thereby not requiring the more stringent 2026 SWC requirements.

2. SDOT Operations & Maintenance Cost Analysis

Training for SDOT staff will be required in 2026 to prepare for the implementation of the 2026 SWC Update. These trainings would be required for up to 198 staff across five SDOT Divisions, including Capital Projects, Street Use, Project Development, Urban Design, Pavement Engineering/ROW Crew Construction, and ROW Maintenance/Urban Forestry. Funding may be needed to ensure that SDOT staff have an adequate understanding of the stormwater code requirements.

3. Legal and Consent Decree Obligations

The City of Seattle has an obligation under a consent decree implemented in the terms of *Reynoldson v. City of Seattle* to deliver Citizen Requested Curb Ramps (CSR). There is an established number of ramps that SDOT is committed to building each year, and there is currently a finite budget to accomplish this work.

Due to uncertainty regarding locations, extent of work, and existing drainage infrastructure, the impact of this legislation to the CSR program is not possible to determine. However, should project sites require additional substantial costs to meet the SWC requirements, additional funding will be needed.

SPR

1. SPR Future Capital

As a result of the 2026 Stormwater Code Update, SPR may see cost increases on a wide variety of project types including: accessibility projects, play area renovations, construction of new facilities, pathways and sidewalks, athletic fields, park irrigation and drainage, dog off-leash areas, and beaches and shoreline structures (piers, floats, etc.).

These projects may be affected by a revision of the types of projects that qualify as exempt in the 2026 Stormwater Code, specifically the removal of exemptions for utility work and pavement maintenance for parcel-based projects. Project costs for SPR may also increase due to the change in definition of a “Large project” from one acre to 10,000 sf of land disturbing activities, requiring more projects to include a “Large Project” Construction Stormwater Control plan sheet.

SPR will evaluate associated cost impacts on a project-by-project basis and endeavor to manage higher costs within existing capital appropriation to the

extent possible. However, the amount per project is dependent on the type of capital improvement and actual costs will not be known until projects go into design. Depending on how the code updates ultimately impact capital projects, SPR may submit a funding request as part of a future budget process.

2. SPR Future Operation & Maintenance

As a result of the 2026 Stormwater Code Update, additional staff time may be needed to address new requirements in the code referencing Volume 4 on source control. At this time, there is not sufficient information to accurately project long-term costs. SPR is currently evaluating how to best meet any future staffing need and will, if deemed necessary, submit a funding request as part of the future budget process. Examples of source control changes that may have ongoing budget impact include the following:

Due to the need to collect washwater at buildings suspected of containing PCBs, SPR will likely need to use contractor services and equipment rental in order to maintain a number of buildings, or purchase new equipment to maintain these buildings and properly dispose of washwater. Ongoing costs are unknown and depend on the level and frequency of maintenance and the wastewater treatment necessary.

The requirement to collect and dispose of any washwater generated from hosing down, pressure washing, scrubbing or otherwise cleaning graffiti-impacted areas into the sanitary sewer may also require the rental or purchase and deployment of new equipment to conduct this work in locations where there is not ready access to the sanitary sewer system. Ongoing costs are unknown and depend on the level and frequency of maintenance and the wastewater treatment necessary.

SCL

1. SCL Future Operation & Maintenance

Building cleaning/maintenance: Due to the need to collect washwater at buildings suspected of containing PCBs, SCL will likely need to use contractor services and equipment rental in order to maintain a handful of buildings. Ongoing costs are unknown and depend on the level and frequency of maintenance and the wastewater treatment necessary.

FAS

1. FAS Future Operation & Maintenance

Building cleaning/maintenance: Due to the need to collect washwater at buildings suspected of containing PCBs, FAS will likely need to use contractor services and equipment rental in order to maintain a handful of buildings. Ongoing costs are unknown and depend on the level and frequency of maintenance and the wastewater treatment necessary.

c. What financial costs or other impacts might happen if this legislation is not implemented?

The possible cost implication of not implementing are primarily the risk of non-compliance with the City's MS4 Permit, based on the Federal Clean Water Act and state law (Washington State Water Pollution Control Act, RCW 90.48). Any person who violates the federal Clean Water Act is subject to maximum criminal penalties of \$25,000 per day, one year imprisonment, or both, for negligent violations and maximum criminal penalties of \$50,000 per day, or three years imprisonment, or both for knowing violations – with fines increased for repeat violations. Willful violations of the State Water Pollution Control Act are also subject to maximum criminal penalties of \$10,000 per day, one year imprisonment, or both. Additionally, violating the City's MS4 Permit presents a risk of up to \$68,445, the current inflation-adjusted civil penalty per day, recoverable through a third-party (citizen) lawsuit.

d. How might this legislation affect other City departments besides the one that proposed it?

The primary departments other than SPU that will be impacted by this legislation include SDCI, SDOT, SPR, SCL, and FAS. This legislation applies city-wide and includes revisions to minimum requirements related to on-site stormwater management, flow control, water quality treatment, and development projects. The effect of this legislation on other departments will vary to the degree departments engage in ongoing activities

to which source control measures apply, or to the degree that each department is involved in capital projects.

4. Other Impacts

a. Does this legislation require a public hearing?

Yes

No

Environmental review under the State Environmental Policy Act (SEPA) is required for this legislation, and publication of notice of the environmental determination was made in *The Daily Journal of Commerce* and in the City’s Land Use Information Bulletin on January 12, 2026. No appeals were received. The SEPA Determination of Non-Significance was closed out on February 9th, 2026.

In addition, below is a summary of the previous public engagement activities conducted in developing this Stormwater Code Update.

Public Engagement on Stormwater Code Update Process

| Date | Meetings, Announcements, Newsletters, Updates |
|-------------------|---|
| 12/11/2024 | Listening Session with Developers, Builders, Design/Engineering Community |
| 12/15/2024 | Listening Session with Port of Seattle |
| 5/8/2025 | SDCI Building Connections Newsletter Announcement – General information and What’s Coming Up |
| 5/8/2025 | SDCI Listserv Announcement - General Information and What’s Coming Up |
| 5/29/2025 | DSO Listserv Newsletter Announcement – Save the Date for First Public Review Draft and Meeting |
| 5/29/2025 | SDCI Listserv Announcement - Save the Date for First Public Review Draft and Meeting |
| 7/1/2025 | SDCI Listserv Announcement – Public Meeting Details and Registration Info |
| 7/7/2025 | SDCI Listserv Announcement – Documents Available and Repeat of Public Meeting Details and Registration Info |
| 7/14/2025 | SDCI Listserv Announcement – Public Meeting Reminder |
| 7/15/2025 | 1st Public Meeting |

| Date | Meetings, Announcements, Newsletters, Updates |
|-------------------|---|
| 7/22/2025 | SDCI Listserv Announcement – Public Meeting Recording Available Online |
| 8/11/2025 | SDCI Listserv Announcement – Reminder to Provide Comments |
| 8/22/2025 | Mayor's Office Briefing - SW Code Update |
| 9/3/2025 | SDCI Listserv Announcement – Fall Listening Session Registration |
| 9/3/2025 | DSO Listserv Newsletter Announcement – Fall Listening Session Registration |
| 9/15/2025 | DWW LOB E-Team WQ BMP ROW Briefing |
| 9/22/2025 | SDCI Listserv Announcement – Fall Listening Session Reminder and Response to Comments Available Online |
| 9/23/2025 | DSO Listserv Newsletter Announcement- Fall Listening Session Reminder and Response to Comments Available Online |
| 9/25/2025 | Fall Listening Session – General Public |
| 9/18/2025 | Mayor's Office Weekly |
| 10/15/2025 | Listening Session with Port of Seattle |
| 10/20/2025 | Listening Session with WDFW |
| 11/25/2025 | SDCI Listserv Announcement – Second Public Meeting Details and Registration |
| 11/26/2025 | DSO Listserv Newsletter Announcement - Second Public Meeting Details and Registration |
| 12/1/2025 | SDCI Building Connections Newsletter Announcement - Second Public Meeting Details and Registration |
| 12/16/2025 | Reminder SDCI Listserv Announcement - Second Public Meeting Details and Registration |
| 1/7/2026 | SDCI Listserv Announcement – Public Meeting Reminder and Documents Available Online |
| 1/7/2026 | DSO Listserv Newsletter Announcement - Public Meeting Reminder and Documents Available Online |
| 1/14/2026 | Second Public Meeting |
| 1/22/2026 | SDCI Listserv Announcement – Public Meeting Materials Available Online, Public Comment Reminder, and Clarifications |
| 1/22/2026 | DSO Listserv Newsletter Announcement - Public Meeting Materials Available Online, Public Comment Reminder, and Clarifications |

b. Does this legislation require a notice to be published in The Daily Journal of Commerce and/or The Seattle Times?

Yes

No

Environmental review under the State Environmental Policy Act (SEPA) is required for this legislation, and publication of notice of the environmental determination was made in *The Daily Journal of Commerce* and in the City's Land Use Information Bulletin on January 12, 2026.

c. Does this legislation affect a piece of property?

No. The proposal is a non-project legislative action with no specific site. As Stormwater Code requirements are city-wide, specific projects affected by the proposal may occur anywhere within Seattle's city limits.

d. Race and Social Justice Initiative impacts:

1. How does this legislation affect vulnerable or historically disadvantaged communities? How did you come to this conclusion? Please consider both impacts within City government (like employees and internal programs) and in the broader community.

There is no perceived implication for the principles of the Race and Social Justice Initiative. This legislation does not impact vulnerable or historically disadvantaged communities as the requirements are applied throughout the city.

2. Please attach any Racial Equity Toolkits or other racial equity analyses used to develop or assess this legislation.

None.

3. What is the Language Access Plan for communicating with the public about this legislation?

A plain language summary of the ordinance was distributed to potential permit applicants, developers, architects and the general public via SDCI Stormwater Code Listserv, SPU Development Services Office (DSO) Subscribers Listserv, and SDCI's Building Connection Newsletter.

e. Climate change impacts:

1. Emissions: Will this legislation significantly increase or decrease carbon emissions? Attach any studies or materials that inform your answer.

With more options to include trees along with other stormwater requirements such as soil cell bioretention, it's more likely that trees will be utilized in addition to, and as part of, stormwater management. This will have the potential to increase carbon sequestration and reduce ground level and building temperatures, due to the shading effect of trees, which may lower energy consumption.

2. Resiliency: Will this legislation make Seattle more or less able to adapt to climate change? If it reduces resiliency, explain what can be done to lessen the impact.

The proposed legislation and Stormwater Manual updates are expected to increase Seattle's climate resiliency by expanding the use of integrated green infrastructure. Clarified alignment between bioretention and tree requirements, along with a new soil cell bioretention option, increases opportunities for urban tree canopy and distributed stormwater management. Revisions to flow control thresholds and facility sizing reduce reliance on pumped systems in shallow drainage areas, lowering vulnerability during power outages while maintaining capacity to manage larger storm events. Together, these changes support more reliable, passive, and climate-adaptive stormwater infrastructure.

f. If this legislation creates a new program or expands an existing one, what are the long-term, measurable goals? How will this legislation help achieve those goals? What methods will be used to track progress?

This legislation does not include a new initiative or a major programmatic expansion.

g. Does this legislation create a non-utility CIP that involves shared funding with a non-City partner or organization?

This legislation does not create a non-utility CIP project that involves a shared financial commitment with a non-City partner agency or organization.

Legislative Summary 2026 Stormwater Code Update March 6, 2026

Overview

The primary purpose of this legislation and update of associated SPU/SDCI Directors' Rule (Stormwater Manual) is to comply with the 2024–2029 Phase I Municipal Separate Storm Sewer System (MS4) Permit (Permit) issued by the Washington State Department of Ecology (Ecology) under federal and state water quality laws.

In addition to maintaining Seattle's compliance with state and federal water quality permits, there are independent City policy and usability improvements developed using best available science including:

- Aligning requirements with recent land use code updates
- Modernizing technical standards to reflect current science and Ecology guidance
- Supporting City priorities related to urban greening, resilience, and water quality
- Improving clarity and predictability for applicants and reviewers

To meet the Permit requirements, all code and rule updates must be adopted and take effect no later than **July 1, 2026**.

Background

The Permit was issued by the Ecology under both the National Pollutant Discharge Elimination System (NPDES) program established by the federal Clean Water Act and the State of Washington Water Pollution Control Law. The Permit was issued on July 1, 2024, and became effective on August 1, 2024.

The Permit requires that the City's Stormwater Code and associated Stormwater Manual include minimum requirements, thresholds, definitions, and other specified requirements, limitations and criteria, determined by Ecology to be equivalent to Appendix 1 of the Permit for new development, redevelopment, and construction. In addition, stormwater facilities and maintenance provisions must be at least as protective of facility function as, and source control provisions must be functionally equivalent to, Ecology's Stormwater Management Manual for Western Washington (SWMMWW, Ecology 2024).

The purpose of the City of Seattle's Stormwater Code (Chapters 22.800 – 22.808 SMC) is to protect life, property, public health, and the environment from the adverse impacts of urban stormwater runoff. Adverse impacts can include flooding, water pollution, landslides, and erosion. The Stormwater Code was substantially updated in 2009 and revised in 2015, 2016, and 2021.

The Code applies broadly to:

- Land disturbing activity
- Drainage and erosion control
- Discharges to public drainage, combined sewer systems, or receiving waters
- New and existing development and land uses

The Code is implemented through the Seattle Stormwater Manual, issued jointly by SPU and SDCI, and consists of the following sections:

- Volume 1 – Project Minimum Requirements (pursuant to the Stormwater Code Minimum Requirements)
- Volume 2 – Construction Stormwater Control
- Volume 3 – Project Stormwater Control
- Volume 4 – Source Control
- Volume 5 – Enforcement
- Appendices

Summary of Legislation

The proposed updates and modifications to the Stormwater Code and Manual will affect administration, source control, development, and construction site stormwater pollution prevention control. A Table of Key Changes on SDCI's Stormwater Code and Manual Update 2026 website provides detailed lists of key changes to the code and manual¹.

Summary of Key Changes

These changes are necessary to maintain the City's permit coverage:

- Updated definitions, thresholds, and requirements to match the Permit and SWMMWW including adding "Common Plan of Development or Sale".
- Revised utility work and pavement maintenance exemptions.
- Clarified vesting dates, thresholds, and "closely related projects" provisions.
- Updated drainage control review and application thresholds to ensure adequate erosion and construction stormwater review in dense urban settings.
- Modified roadway project thresholds, including removal of the 5,000 sq. ft. "new hard surface" trigger and use of combined "new plus replaced" surfaces.
- Updated metals treatment standards (terminology and thresholds).
- Revised wetland protection method for winter volume matching flexibility.

The following key updates were not equivalency related but made for consistency with current City policy including supporting housing development, increasing tree canopy, and improving water quality outcomes:

- Alignment with current Land Use Code updates, including removal of outdated single-family terminology.
- Expanded and refined on-site stormwater management BMP options to:
- Strengthened requirements for use of infiltration best management practices (BMPs) to the maximum extent feasible to support stream interflow.
- Revised ensure sufficient capacity threshold to address changing drainage patterns during construction.
- Added provisions to address water quality from pollution-generating surfaces not previously discharging to receiving waters.

¹ See Stormwater Code and Manual Update 2026 [Project Documents page](#) to access January 2026 second public review draft of Stormwater Manual (Volumes 1-5, Appendices A-J) and summary of changes document.

- Softening flow control thresholds for some parcel-based projects draining to small lakes or capacity-constrained systems (2,000 → 5,000 square feet.).
- Added direction for projects where wetland protection standards conflict with other requirements.
- Added exception regarding landscape areas (including artificial turf sports fields) requiring metals treatment.
- Clarified and streamlined drainage review processes.

Public Participation

Public outreach began in October 2024 and included a series of virtual public meetings to inform stakeholders about proposed Stormwater Code updates and to gather feedback. Participants included representatives from:

- Development and building industries
- Environmental advocacy organizations
- Regional and state agencies
- Engineering and consulting firms

Outreach included:

- 2024 industry listening session
- Public meetings in 2025 and January 2026
- Two public comment periods, the last ending February 9, 2026

Additional outreach methods included:

- Stormwater code update website
- Announcements distributed through the SDCI Stormwater Code Listserv and SPU Development Services Office (DSO) Subscribers Listserv
- Articles published in SDCI’s Building Connection Newsletter
- Information shared at Master Builders Association meetings

These efforts supported early awareness, technical input, and broader stakeholder engagement in advance of the legislative process. The dates and content of the virtual public meetings (**bold**), list serv announcements, the Building Connection newsletter, and meetings are shown below.

| Date | Meetings, Announcements, Newsletters, Updates |
|-------------------|--|
| 12/11/2024 | Listening Session with Developers, Builders, Design/Engineering Community |
| 12/15/2024 | Listening Session with Port of Seattle |
| 5/8/2025 | SDCI Building Connections Newsletter Announcement – General information and What’s Coming Up |
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| 9/23/2025 | DSO Listserv Newsletter Announcement- Fall Listening Session Reminder and Response to Comments Available Online |
| 9/25/2025 | Fall Listening Session with General Public |
| 9/18/2025 | Mayor's Office Weekly |
| 10/15/2025 | Listening Session with Port of Seattle |
| 10/20/2025 | Listening Session with Washington Department of Fish & Wildlife |
| 11/25/2025 | SDCI Listserv Announcement – 2nd Public Meeting Details and Registration |
| 11/26/2025 | DSO Listserv Newsletter Announcement - 2nd Public Meeting Details and Registration |
| 12/1/2025 | SDCI Building Connections Newsletter Announcement - 2nd Public Meeting Details and Registration |
| 12/16/2025 | SDCI Listserv Announcement – Reminder: Second Public Meeting Details and Registration |
| 12/17/2025 | DSO Listserv Newsletter Announcement – Reminder: 2nd Public Meeting Details and Registration |
| 1/5/2026 | SDCI Building Connections Newsletter Announcement - 2nd Public Meeting Details and Registration |
| 1/7/2026 | SDCI Listserv Announcement – Public Meeting Reminder and Documents Available Online |
| 1/7/2026 | DSO Listserv Newsletter Announcement - Public Meeting Reminder and Documents Available Online |
| 1/12/2026 | SDCI Listserv Announcement – Public Meeting Reminder |
| 1/13/2026 | DSO Listserv Announcement – Public Meeting Reminder |
| 1/14/2026 | 2nd Public Meeting |
| 1/22/2026 | SDCI Listserv Announcement – Public Meeting Materials Available Online, Public Comment Reminder, and Clarifications |
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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

December 22, 2025

Andrew Lee
General Manager & CEO
Seattle Public Utilities
Sent by email only: andrew.lee@seattle.gov
WAR044503

RE: Preliminary Approval of City of Seattle Stormwater Manual and Municipal Code

Dear Andrew Lee:

The Department of Ecology (Ecology) has completed our review of the changes to the *Seattle Municipal Code* and the *Seattle Stormwater Manual*, as effective July 1, 2021, for the purpose of determining equivalency to the required portions of Ecology's *2024 Stormwater Management Manual for Western Washington (SWMMWW)*, as outlined in Special Condition S5.C.5.b of the 2019-2024 Phase I Municipal Stormwater Permit (Permit). Ecology limited its review, based on the previous approval of your local program as functionally equivalent to the SWMMWW as amended in 2021, to changes submitted in the format outlined in Appendix 10 of the Permit, and communication that followed. This letter serves as our response as required by S5.C.5.b.iii. Our preliminary determination is that the items reviewed are equivalent, except for the items specified below that will require further communication before they can be deemed equivalent to the *2024 SWMMWW*:

- Table 10.1 - SMC 22.801.040 "C"; SMC 22.805.010 General; SMC 22.807.020 Drainage control review and application requirements – Addition of unabridged definition for Common Plan of Development or Sale.
- Table 10.2 – Volume 1 – 2.1.2 – Common Plan of Development – Addition of unabridged definition for Common Plan of Development or Sale.
- Table 10.2 – Volume 1 – 2.1.3 – Closely Related Projects – List of project aspects which may not be considered when evaluating if multiple projects are closely related.
- Table 10.2 – Volume 3 – 5.4.10 – Infiltrating Structural Soil Cell BMP – Tables 5.30, 5.31, and 5.32 still require completion of missing calculations.
- Table 10.2 – Volume 3 – 5.8.12 – Non-Infiltrating Structural Soil Cell BMP – Incomplete Table 5.52.

Your revised program is required to be adopted and made effective by July 1, 2026. If changes are made to the items listed above during your legislative or administrative adoption processes, those changes will need further Ecology review. Ecology's determination will not become final

Andrew Lee
City of Seattle
Page 2 of 2

until after Ecology conducts a public review process associated with a future modification of Appendix 10 of the Phase I Permit.

I appreciate the hard work and dedication of your team to develop revised stormwater management regulations and rules.

Please contact me at ccro461@ecy.wa.gov or 425-429-4571 if you have any questions.
Sincerely,



Colleen Griffith
Municipal Stormwater Permit Planner, NWRO
Water Quality Program

ecc: Jessica Huybregts, Seattle Public Utilities
Sherell Ehlers, Seattle Public Utilities
Abbey Stockwell, Washington Department of Ecology
Douglas Howie, Washington Department of Ecology



Environmentally Critical Areas:
Best Available Science Review
February 2026

INTRODUCTION

Purpose of Report

The purpose of this report is to provide a compilation and review of selected literature that is representative of the best available science regarding urban stormwater management. It has been prepared for the proposed revisions to the City of Seattle (City) Stormwater Code (Seattle Municipal Code [SMC] 22.800 – 22.808). It is intended to support the provisions of Revised Code of Washington (RCW) 36.70A.172, which requires that cities and counties “include the best available science in developing policies and development regulations to protect the functions and values of critical areas” and the Washington Administrative Code (WAC) 365-195-900 through WAC 365-195-925, which contain rules designed to assist cities and counties in identifying and including the best available science in adopted policies and regulations.

Scope of Report

The Stormwater Code and associated joint Seattle Public Utilities/Department of Planning and Development (SPU/DPD) Directors’ Rules are being revised in order to comply with the requirements of the City’s coverage under the 2024-2029 Phase I Municipal Stormwater Permit (MS4 Permit, Ecology 2024a), and to incorporate related City policy changes and to improve usability. The MS4 Permit was issued by the Washington State Department of Ecology (Ecology) under both the National Pollutant Discharge Elimination System (NPDES) program established by the federal Clean Water Act and the State of Washington Water Pollution Control Law. The MS4 Permit was issued on July 1, 2024 and became effective on August 1, 2024. The MS4 Permit requires that the City’s Stormwater Code and associated Stormwater Manual (to be contained in the Directors’ Rule) include minimum requirements, thresholds, definitions, and other specified requirements, limitations, and criteria, determined by Ecology to be equivalent to Appendix 1 of the MS4 Permit for new development, redevelopment, and construction. In addition, maintenance provisions must be at least as protective of facility function as, and source control provisions must be functionally equivalent to, Ecology’s Stormwater Management Manual for Western Washington (SWMMWW, Ecology 2024b).

The MS4 Permit requirements (and the proposed 2026 Stormwater Code Updates) follow a set of previous MS4 Permit requirements that became effective in January 2015 (Ecology 2014a). The technical basis for the 2016 Stormwater Code update was well established, and the associated best available science documentation was thorough. Most is still applicable. As such, a substantial portion of this document repeats and incorporates information presented in the 2015 Best Available Science Review (Supplemental Report) (Seattle 2015) and the 2021 Best Available Science Review (Supplemental Report) (Seattle 2021a). This February 2026 update to the 2021 Best Available Science Review (Supplemental Report) refers to additional literature on the

general impacts of stormwater management, as well as selected information related to particularly notable 2026 Stormwater Code Update elements.

This document also supplements the City’s Environmentally Critical Areas: Best Available Science Reviews (Seattle 2005, Seattle 2007, Seattle 2013a), which present detailed reviews of the best available science regarding wetlands, fish and wildlife conservation areas, geologic hazard areas, flood-prone areas, abandoned landfills, and critical aquifer recharge areas.

Overview of Report

This report provides a summary of the impacts of urban stormwater runoff on receiving waters relating to changes in flow rates and volumes, and water quality. It then presents a review of selected scientific literature related to urban stormwater management, focusing on BMPs related to stormwater runoff flow control and water quality treatment. It includes literature regarding wetland protection, flow control in creek basins, low impact development, stormwater quality treatment facilities, and construction site stormwater pollution prevention.

This report is not intended to present an exhaustive review of the scientific literature on the subject of urban stormwater runoff management. Creating such an all-inclusive compilation would result in a multi-volume document that would duplicate existing resources. Readers interested in more comprehensive compilations regarding the science of managing urban stormwater runoff should consider: Ecology (2024), Minton (2002), Sheldon (2005), Washington State University/Puget Sound Partnership (WSU and PSP 2012), Shaver et al. (2007), National Research Council (2009), and Puget Sound Partnership (2010), among many others.

EFFECTS OF URBAN STORMWATER

Impacts of Urban Stormwater Runoff on Flow

Prior to Euro-American settlement, the landscape tree canopy, other vegetative cover, and forest duff layer limited damaging high stormwater runoff flows through interception, evapotranspiration, and absorption of rainfall. As the human population increased and commerce grew in Seattle, the overall nature of the landscape was changed. Trees were logged, land was cleared, buildings and roadways were built, and the soil was compacted. The overall impact of these changes resulted in:

- Increased flow rates of stormwater runoff
- Increased volumes of stormwater runoff
- Decreased time for stormwater runoff to reach a downstream receiving water
- Greater in-stream flow velocities.
- Reduced groundwater recharge
- Increased frequency and duration of high stream flows and wetland inundation during and after wet weather
- Reduced stream flows and wetland water levels during the dry season.

Schueler (1987) provides an illustrative graph showing the relationship between pre-developed stream flow rates and post-development stream flow rates, which is provided below in Figure 1.

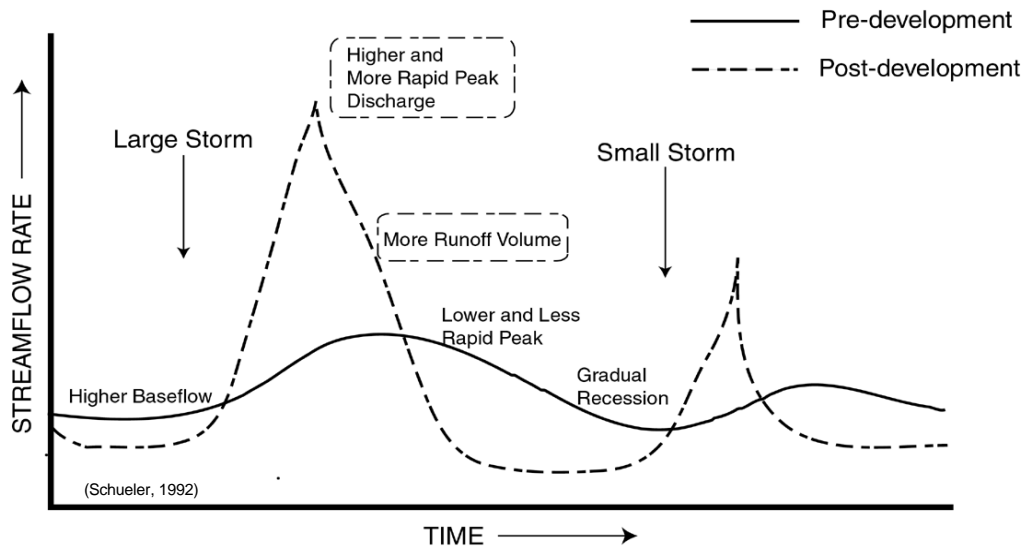


Figure 1. Changes in Hydrology after Development (Schueler 1987)

The relationship between changes in effective imperviousness and the quality of streams is well documented (see, for example, Dunn and Leopold 1978, Booth and Jackson 1997, Arnold and Gibbons 1996, McMahon and Cuffney 2000, USGS 2009). High stream flows, caused by increases in imperviousness in a catchment, can result in channel erosion and stream bank instability. Booth and Jackson (1997) showed that increased flows can occur even when the catchment has undergone relatively small changes in the percent of effective imperviousness. For example, Figure 2 illustrates how runoff from a 2-year storm in an urban catchment with approximately 10 percent impervious surface is equal to the runoff from a 10-year storm in a forested catchment (ibid).

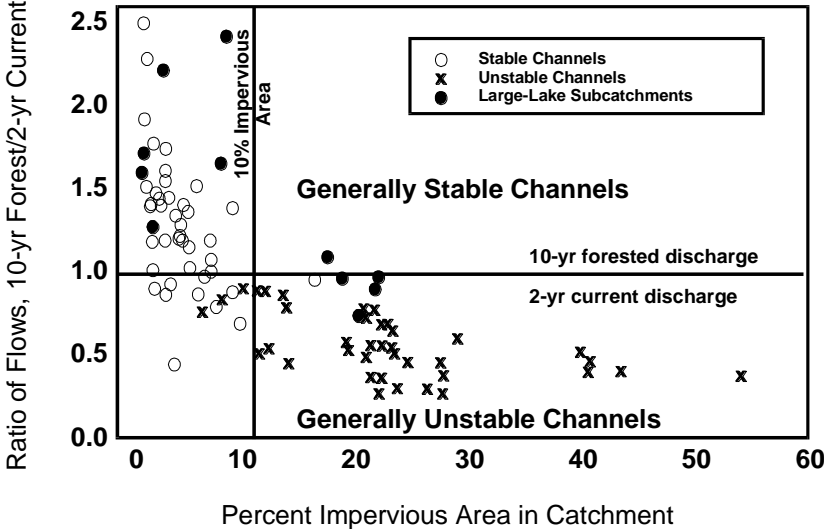


Figure 2. Channel Stability and Land Use: Hylebos, East Lake Sammamish, and Issaquah Basins (Booth and Jackson 1997)

The changes in hydrologic regime associated with urban stormwater runoff can also significantly impact aquatic life. When a stream changes its physical configuration and substrate due to increased flows, habitats are altered. Significant and detectable changes in the biological community of Puget Sound lowland streams have been observed early in the urbanization process. This is due to a combination of changes in flow conditions, as well as water quality conditions (discussed further in the next section). May (1996) and May et al. (1997) reported observable biological changes in the 5-10 percent total impervious area range of a watershed (Figure 3). Using the Benthic Index of Biotic Integrity (B-IBI) developed by Karr (1991) and Kleindl (1995), May et al. (1997) evaluated the relationship between B-IBI and the extent of watershed urbanization as estimated by the percentage of total impervious area (Figure 3). Also shown in Figure 3 is the correlation between the abundance ratio of juvenile Coho salmon to cutthroat trout (Lucchetti and Fuerstenberg 1993) and the extent of urbanization.

The biological communities in wetlands are also severely impacted and altered by the hydrological changes. Relatively small changes in the natural water elevation fluctuations can cause significant shifts in vegetative and animal species composition (Reinelt and Taylor 2000, Azous and Horner 2001).

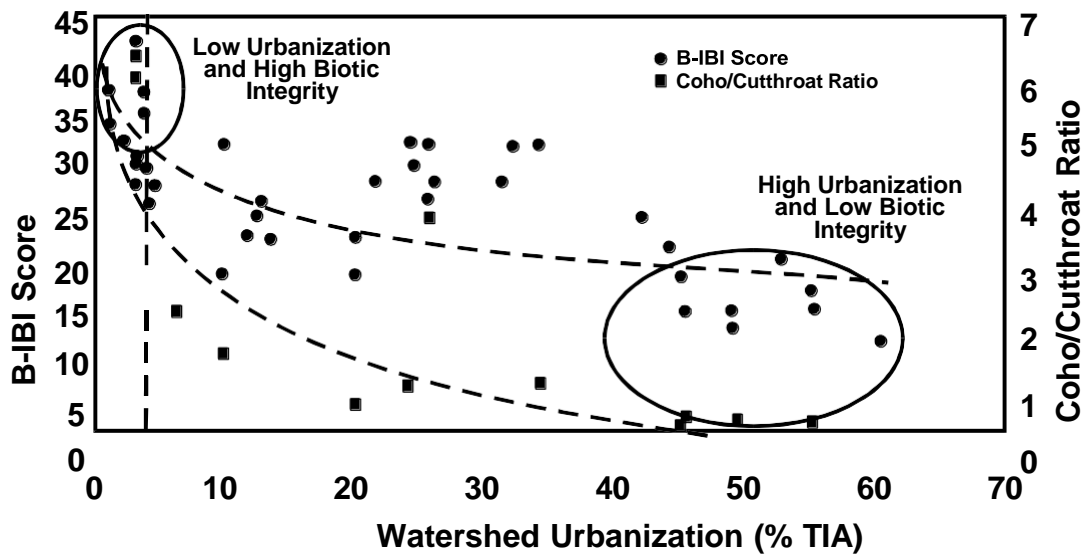


Figure 3. Relationship between Basin Development and Biologic Integrity in Puget Sound Lowland Streams (May et al., 1997)

Impacts of Urban Stormwater Runoff on Water Quality

Stormwater may become contaminated by activities as a result of contact with materials stored outside, spills and leaks from equipment or materials used onsite, contact with materials during loading, unloading or transfer from one location to another, and from airborne contaminants. Stormwater runoff and associated contaminants from developed areas have been identified as one of the leading threats to aquatic life supported by the Puget Sound ecosystem. Reducing surface water

runoff pollutant loading and runoff from the built environment is a key priority action for the restoration of Puget Sound (Puget Sound Partnership 2010). Stormwater runoff from developed areas can contain pollutants that can contaminate surface, marine, and groundwaters (Ecology 2011a).

In 2015, Ecology synthesized the stormwater monitoring data collected by Western Washington Phase I stormwater permittees under the 2007 NPDES permit. Ecology evaluated pollutant detection rates, concentrations, and discharge patterns with land use and season. This local dataset plus early national efforts represent forty years of progressive understanding about pollutants that can be transported by runoff (Ecology 2015). Land use is an important determinant of runoff quality (EPA 1983, Strecker et al. 1997, Maestre et al. 2005, Pitt 2011). The type of pollutant depends on the nature of activities in those areas as follows:

- **Roads:** Runoff from roads is typically contaminated with pollutants from vehicles. Oil, grease, polynuclear aromatic hydrocarbons (PAHs), lead, zinc, copper, cadmium, sediments (soil particles), associated nutrients, and road salts are all typical pollutants present in road runoff (Zawlocki et al. 1981, Mar et al. 1982, Davis et al. 2001). Vehicles are the primary source of most of these pollutants. Most oil and grease come from vehicle leakage, while PAH's are primarily from vehicle exhaust. Lead is most commonly associated with wear of metallic parts, wheel balance weights (wearing and falling from wheels), and battery leakage due to car accidents. The primary source of zinc is wear from tires, and copper primarily comes from brake pad wear. A highly toxic chemical (6PPD) associated with rubber tire residue is also associated with roadway runoff and may be linked to the acute mortality of adult migrating salmon (Tian et al 2020).
- **Commercial/Industrial areas:** Runoff from commercial and industrial areas typically can contain heavy metals, sediments, and a broad range of man-made organic pollutants including phthalates, PAHs, and other petroleum-based hydrocarbons (National Research Council 2009). Vehicles and pavement sealants are two common sources of pollutants from these areas. Other sources depend on the types of operations that are present on the property.

Commercial and industrialized land uses generally have higher concentrations of fecal indicator bacteria, metals (arsenic, copper, lead, magnesium, and zinc), polycyclic aromatic hydrocarbons (PAH's), and solids compared to the residential areas (Ecology 2015). Commercial and industrial areas where traffic congestion and vehicle use is routine are priority areas for intercepting key stormwater pollutants such as sediment, PAHs, and toxic metals (cadmium, chromium, copper, lead, manganese, zinc). Heavy metals and PAHs from industrial, commercial and mixed residential land uses pose the highest risks for environmental impact (Lundy et al. 2012, Ma et al. 2017, Müller et al. 2020).

- **Residential areas:** Runoff from residential areas can include the same road-based pollutants outlined above, as well as herbicides, pesticides,

surfactants, nutrients (from fertilizers), bacteria and viruses (from animal waste, Engstrom 2004), as well as sediment from dirt and gravel driveways. These contaminants can be entrained in stormwater runoff directly, or can reach downstream surface water bodies and marine environments via shallow groundwater flows. In addition, curtain and foundation drains often discharge to municipal systems and can contribute pollutants to surface water bodies. Zinc strips and other zinc based products are commonly used in residential areas to prevent and treat moss, and can add additional zinc to runoff from residential areas. Bleach and detergents are also commonly used for moss treatment. Most detergents contain phosphorus, which can contribute to eutrophication of surface water bodies (because productivity in fresh water bodies is typically phosphorus limited). Other pollutants from residential areas include insecticides, copper from copper roofs, zinc from composite roofs, and deicers.

- **Construction sites:** Runoff from construction sites can include sediments and other suspended material, which can increase turbidity or cloudiness in downstream receiving waters and can be deposited over the natural sediments of the receiving water and affect streams and wetlands (Barrett et al. 1995, Ecology 2014b, Horner et al. 2002a). The City has also given attention to concerns associated with construction demolition activities and the potential for heavy metals contamination and dust fall. Jacobs et al. (2013) found that “lead dust suppression is feasible and important in single-family housing demolition where distances between houses are smaller and community exposures are higher.” Though they also indicate that additional research is needed to determine the likelihood of potential for stormwater contamination. Several agencies and groups provide guidance on control of pollution from demolition activities, including East Baltimore Development’s 2006 *Operations Protocol for Salvage, Deconstruction, Demolition and Site Preparation Activities* (EBDI 2006).

Stormwater pollutants resulting from development can be dissolved in the water column or can be attached to particulates that settle in streambeds, lakes, wetlands, or marine estuaries. The toxic pollutants in the water column can have both immediate and long-term lethal impacts (Baldwin et al. 2003; Hansen et al. 2002). In addition, development can increase water temperatures by heating stormwater runoff as it passes over exposed surfaces, before being discharged to receiving waters (Foulquier et al. 2009). A rise in water temperature can have direct lethal effects on aquatic organisms by reducing the available dissolved oxygen and potentially causing algae blooms that further reduce water clarity and the amount of dissolved oxygen in the water (McCullough et al. 2001).

STORMWATER FLOW CONTROL AND WATER QUALITY TREATMENT

Overview

Stormwater runoff is widely recognized in scientific literature as an agent for physical, chemical, and biological degradation (Booth et al. 2006), and stormwater research is an ongoing, evolving field of study. Consider, for example, how the best available science regarding flow control performance standards for stormwater discharges into creeks in western Washington has changed over the past three decades. Early flow control requirements were based solely on limiting the post-development *peak flow rates* to below a set value – a value independent of the pre-developed condition (King County 1979). Booth (1990) advocated a different post-development peak flow rate standard that was linked to a percentage of the pre-development peak flow rate. Soon thereafter, and as a result of research indicating that peak flow control alone was insufficient to mitigate stormwater impacts to creeks, a post-development flow control standard based on a pre-development *flow-duration standard* was proposed (Booth 1991). Less than 10 years later, additional research indicated that this proposed flow-duration standard was not achieving all the objectives for protecting creeks from channel incision and sediment transport, owing to overall disruption of the natural hydrologic regime (Booth and Jackson 1997). More recently, low impact development (LID) techniques have been promoted as the preferred means for managing urban stormwater runoff and mimicking pre-development flow regimes (Booth 2007, Horner 2007, Holz 2007, NRDC 2006, Ecology 2014b), with an emphasis on mitigating the impacts of small and less-frequent storm events. Thus, in the space of roughly 30 years of research and assessment, four different types of flow control requirements have been presented in the scientific and professional literature as representative of the best available science for urban runoff management for flow control for creek basins in western Washington alone.

The sections that follow provide a review of selected citations that address two critical aspects of urban stormwater runoff management: flow control and water quality treatment. Flow control is important to mitigate the impacts of urban development on changes in hydrologic regime in wetlands and creek basins. Water quality treatment focuses on 1) permanent/constructed stormwater treatment facilities designed to remove chemical contaminants from runoff, and 2) operational BMPs to reduce stormwater contamination and minimize the transport of sediment to receiving waters from construction sites and grading activities. Note that although specific constructed facilities described below are included under one of the two categories of flow control or water quality treatment, many facilities (such as those involving infiltration) often serve a dual role, providing both flow control and water quality treatment, depending on how these facilities are designed (Ecology 2014b, Ecology 2019b).

Flow Control

The following sections build on the information presented previously to elaborate on the aspects of stormwater runoff impacts and mitigation measures related to flow control. Information is discussed relating to wetland and creek protection, followed by an expanded discussion on low impact development (LID) and LID BMPs related to flow control.

Wetland Protection

The following information is derived from a report prepared by Sheldon et al. (2005), which provides a comprehensive summary and synthesis of the literature relevant to the science and management of wetlands in the state of Washington.

Urbanization is recognized as both increasing and decreasing the flows that reach down-gradient aquatic systems such as wetlands. Greater volumes of water are generated more quickly while smaller, long-duration flows that would occur under less developed conditions are reduced or perhaps eliminated. Research has shown that collecting stormwater through modern storm drains, culverts, and catchments results in the rapid transport of large volumes of stormwater runoff into rivers, lakes, and wetlands at much faster rates and higher volumes than under predevelopment conditions (Dunn and Leopold 1978, Booth 1991, May 1996). Although some of the research has focused on the effects of urbanization on streams, the findings on changes in flow volumes, rates, and frequency apply equally to wetlands that receive storm drainage. Streams and wetlands are “intimately interconnected in the watersheds of western Washington” (Booth 1991).

Changes to hydrologic conditions can negatively impact the ecology of a wetland. Reinelt and Taylor (2000) used water level fluctuations as a primary factor in evaluating wetland hydroperiod. “Water level fluctuation is perhaps the best single indicator of wetland hydrology, because it integrates nearly all hydrologic factors.” Increases in impervious surface coverage reduce infiltration, thereby reducing interflow (shallow, subsurface flow) and base flow, which may influence the hydroperiod of down-gradient wetlands if they are fed by that shallow subsurface flow. Similarly, reductions in watershed infiltration correspond to increases in surface water runoff, which also impact the hydroperiod of downstream wetlands. These increased water level fluctuations have been associated with declines in the biotic diversity of wetlands (Ecology 1997, Reinelt et al. 1998, Azous and Horner 2001). Likewise, although many hydric soils (i.e., wetland soils) may be anaerobic, changing the length of time the soils are inundated results in changes in wetland soil chemistry, which in turn can influence the survival of vegetation and microbes in the soil that were adapted to shorter periods of inundation (Thom et al. 2001). The wetland protection standards outlined in the MS4 Permit and SWMMWW aim to minimize these fluctuations in hydroperiod through control of the changes in the volume of stormwater runoff delivered to a wetland pre- and post-project development.

The *Washington State Wetland Rating System for Western Washington* (Hruby 2014) provided an updated wetland rating system to provide a more accurate rating of functions and values.

Flow Control in Creek Basins

As noted previously, a growing body of research confirms that urbanization alters the hydrologic regime (Dunne and Leopold 1978, Schueler 1987, Booth and Jackson 1997, Ecology 2014b). These alterations result in higher volumes of stormwater

runoff, delivered at higher flow rates for longer durations than under pre-development conditions (Booth 1991, May 1996). Research by Konrad and Booth (2002) in the Puget Sound lowlands showed statistically significant correlations between urbanization in a watershed and altered creek hydrologic regimes. Even small changes in watershed imperviousness can have measurable influences on flows in a creek system (Azous and Horner 2001). Booth (1991) concluded that urbanization could cause peak flow rates to increase by up to five-fold for a given storm event. These altered hydrologic regimes adversely impact creek systems through channel erosion and incision (May 1996, May et al. 1997). These effects are spread across a wide range of storm event sizes, with smaller and more frequent events often having the greatest cumulative effect on creek morphology.

Stormwater flow control BMPs are designed to reduce the volume, flow rate, and timing of stormwater flows released from developed sites. Some facilities function by storing stormwater and controlling the release rates so that post-development hydrology more closely resembles pre-development hydrology. Other facilities use infiltration, evapotranspiration, and stormwater reuse in an attempt to better mimic natural hydrologic regimes.

Flow Control Performance Standards to Protect Creeks

The term *flow control performance standard* is used to represent the combination of flow rates, volumes, and durations that are allowed to be discharged from a site. Per the MS4 Permit, these standards must be met for projects that exceed certain regulatory thresholds, most generally based on the amount of new and replaced impervious surfaces, but which can also be dependent on the type of project, size of project, area disturbed, and the drainage basin in which the project is located. Flow control performance standards are intended to reduce the impacts of changes in hydrologic regime on creek systems caused by changes in land cover, impacts that can include: erosion, sedimentation, instability, flooding, and other damage to the streambank and riparian corridor.

The Stormwater Management Manual for the Puget Sound Basin (Ecology 1992) required the use of a single-rainfall-event hydrologic model to calculate pre-development and post-development runoff, and associated flow control performance standards. The following post-development peak flow rate conditions, based on selected storm statistics, were required if stormwater infiltration was not feasible on site:

- 100-year/24-hour storm – post-development peak flow rate could not exceed the pre-development peak flow rate
- 10-year/24-hour storm – post-development peak flow rate could not exceed the pre-development peak flow rate
- 2-year/24-hour storm – post-development peak flow rate could not exceed the 50 percent of pre-development peak flow rate.

The intent of the “50 percent of the pre-development peak flow rate” component of the standard was to prevent stream channel destabilization by controlling sediment

transport, based on research by Sidle (1988) and Booth (1990). (The other two standards were focused more on flooding and property protection.) While this flow control approach provided more environmental protection than having no standards, it is now widely acknowledged to have some fundamental flaws in achieving its intent, among them:

- It assumed that flow statistics correlated to rainfall statistics. That is, the X-year peak flow was assumed to correlate to the X-year, 24-hour peak rainfall depth. The results of continuous simulation models, which use many years of rainfall data rather than individual 24-hour events, show that this assumption is not always valid.
- It assumed that controlling the peak flow from a storm (i.e., preventing the peak flow from exceeding some standard), would prevent channel instability. This is not true, since the peak flow standards do not address the increase in total runoff volume that occurs with urbanization, which translates into an increase in total time that elevated storm flow rates will work on the channel to transport sediment.
- It did not address alteration of the pre-development hydrologic regime related to total rainfall infiltration, evapotranspiration, and inter-storm runoff.

Booth (1991) discussed the shortcomings of single-event model and a peak flow detention standards, and proposed using a “flow duration control” standard. Rather than limiting only the peak flow rate, a flow duration control standard limits the total amount of time over a relatively long period (e.g., months) during which the flow rate could exceed selected flow rates of concern. Designing a project site to meet a flow duration control standard requires a continuous simulation hydrologic model.

Six years later, Booth and Jackson (1997) discussed the shortcomings of flow duration control standards. Among these is the premise that for all streams there is a flow rate below which no sediment transport occurs, and that a flow rate below this index rate would not cause channel incision regardless of the flow duration. Booth and Jackson (1997) state that “For gravel-bed stream channels, this threshold discharge is real and can be determined on a site-specific or generic basis. In sand-bedded channel, however, the threshold of sediment motion occurs at impracticably low discharges, and so increases in the net transport of bed material virtually unavoidable in such systems.”

In 1998, King County promulgated a stormwater technical manual and associated regulations that used flow duration control standards to mitigate impacts from stormwater flow, specifically intended to reduce impacts related to transport of sediment and stream channel erosion (Booth 1991, King County 1998). To implement this performance standard, King County developed a continuous modeling tool, the King County Runoff Time Series (KCRTS) program, which was based on the Hydrological Simulation Program-Fortran (HSPF) model developed by the US Geological Survey (USGS). Ecology followed suit in 2001, incorporating a flow duration control standard into the minimum requirements flow control contained in the Stormwater Management Manual (Ecology 2001) and the subsequent iterations of the SWMMWW (Ecology 2005, Ecology 2014b). Based in part on

results of in-depth investigations performed by King County on the Juanita Creek watershed (O'Brien 2014), the 2014 version of the SWMMWW has reinforced the emphasis on both flow duration and small/frequent storm events by including an added *Low Impact Development Performance Standard* requiring that stormwater discharges match developed discharge durations to pre-developed durations for the range of pre-developed discharge rates from 8 percent of the 2-year peak flow to 50 percent of the 2-year peak flow. This captures an expanded range of storm events, including storms below (i.e., smaller and more frequent than) those targeted by the flow control duration standard in the previous (2005) SWMMWW.

The recommended parameters were updated due to the smaller project sites typical within the City of Seattle. The parameters are within the range of possible values cited in *EPA Basins Technical Note 6 Estimating Hydrology and Hydraulic Parameter for HSPF* (EPA 2000).

Reports also consulted includes *Characterization and Simulation of Rainfall-Runoff Relations for Headwater Basins in Western King and Snohomish Counties, Washington* (Dinicola 1990) and *Validation of a Numerical Modeling method for Simulating Rainfall-Runoff Relations for Headwater Basins in Western King and Snohomish Counties, Washington* (Dinicola 2001).

Low Impact Development, Green Stormwater Infrastructure, and Flow Control

The term *low impact development* (LID) refers to a range stormwater management measures that are intended to limit impacts of development on hydrologic regime. Ecology (2014a) defines LID as follows:

A stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

Green stormwater infrastructure (GSI) is the term Seattle generally uses to describe LID approaches in the city. Complicating things somewhat, Ecology uses the term *On-site Stormwater Management* as a “synonym” for LID in the MS4 Permit (Ecology 2014a) when referring to required LID management practices on development sites. As such, Seattle has decided to use the term on-site stormwater management in the 2016 Stormwater Code Update and 2021 Stormwater Code Update in reference to the suite of BMPs required to meet the applicable elements of the MS4 Permit. For clarity, general discussions in this document about LID/GSI approaches and benefits use the term LID or GSI. The term on-site stormwater management will only be used to refer to discussions specific to the MS4 Permit requirements and associated 2016 Stormwater Code Update.

As with LID, one of the key components of GSI in the City of Seattle is trying to replicate as much as feasible the natural hydrologic function by slowing and/or reducing the volume and rate of stormwater runoff through small, distributed runoff management controls and other best practices close to where precipitation lands. By meeting this objective, GSI reduces the capacity, flow, and volumetric demand on

the City's stormwater and sanitary systems. GSI also helps provide resiliency and climate adaptation, as a long-term solution to managing the impacts of precipitation and stormwater runoff. According to the US EPA, as communities develop and climate patterns shift, existing stormwater conveyance and treatment infrastructure needs are expected to grow (US EPA 2014). While grey stormwater infrastructure is largely designed to move urban stormwater away from the built environment, GSI reduces (and often treats) stormwater runoff at or near its source (often while providing other environmental, social, and economic benefits).

Over roughly the past decade, an increasing body of literature has promoted LID as a preferred means for addressing urban stormwater runoff in the Puget Sound region (Booth 2007, Horner 2006, Horner 2007, and Holz 2007). Moreover, as part of the municipal appeals of the 2007 MS4 Permits, the Washington State Pollution Control Board (PCHB) concluded in the Phase I MS4 Permit decision that "...based on the great weight of testimony, reference documents, and technical manuals, that low impact development represents AKART [all known, available and reasonable methods of prevention, control and treatment] and is necessary to reduce pollutants in our state's waters to the maximum extent practicable, the federal standard..." (PCHB 2008). The Low Impact Development Technical Guidance Manual for Puget Sound (WSU and PSP 2012) – first published in 2005 and substantially updated in 2012 – contains extensive LID-specific information on site assessment; site planning and layout; vegetation and soil protection; reforestation; site preparation, construction, and inspection; and integrated management practices tailored to the Puget Sound region. It also contains information on hydrologic modeling for LID flow control measures. Much of this information is also contained in the updated version of Ecology's SWMMWW (Ecology 2019b). Ecology has also developed a guidance document focused on the unique operation and maintenance requirements of LID facilities (Ecology 2013a). Likewise, Seattle has been and remains at the forefront of GSI studies and implementation, and plays an integral role in defining and evaluating the best available science as it relates to LID and GSI in the region. In particular, the City has funded several recent studies focused on evaluating and monitoring bioretention facilities, as well as green roofs (Seattle 2014, WSU 2014, Seattle 2012a). Pertinent outcomes from these studies are discussed further in subsequent sections.

Nationwide, the emphasis on LID has been equally persistent and growing. Similar to the term LID and GSI, *green infrastructure* is the term used by US EPA to refer to the use of "vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water" (US EPA 2015). (The definitions of LID, GSI, and green infrastructure are essentially the same, and used by various agencies and groups nationwide interchangeably.) The amount of literature, technical documentation, guidance manuals, design tools, monitoring information, and educational material focused on LID and green infrastructure is substantial. As such, it is beyond the scope of this document to catalog the full extent of LID resources that are available and the current state of the science for this rapidly evolving technology. Rather, the following sections summarize elements most pertinent to the

2016 Stormwater Code Update and 2021 Stormwater Code Update. Extensive additional information and resources on LID can be found at the US EPA’s green infrastructure website: water.epa.gov/infrastructure/greeninfrastructure and Seattle’s GSI website: www.seattle.gov/util/EnvironmentConservation/Projects/GreenStormwaterInfrastructure/index.htm. The Low Impact Development Technical Guidance Manual for Puget Sound (WSU and PSP 2012) is also one of the most current and comprehensive sources of additional detailed information and references related to LID in the Puget Sound region.

Applications of Green Stormwater Infrastructure

Green stormwater infrastructure can be an important component of stormwater management strategies, as they may be effective at reducing stormwater discharge volumes and rates of flow through infiltration, evapotranspiration, and capture and reuse. The following sections describe the common applications of GSI.

Creek systems. Proper implementation of GSI measures in creek systems has provided stream erosion protection and preservation, water quality treatment, and watershed habitat improvements (NRDC 2006, ASCE *In Press*). National data is supported locally. University of Washington monitoring of creek watershed projects showed significant reductions of stormwater volumes, rates, and pollutant loads due in part to the use of GSI (Horner and Chapman 2007). In case studies in the City of Seattle, the 110th Street Cascade and SEA Street projects recorded a runoff volume reduction of 50-98 percent and a peak flow reduction of at least 60 percent. The 110th Street Cascade was monitored for 235 precipitation events, and 79 percent of these events produced no discharge from the bioretention facility (Horner and Chapman, 2007). Monitoring of a typical block of bioretention with underdrain at the High Point redevelopment (till soils) within the Longfellow Creek watershed (December 29, 2006 through September 30, 2007) concluded that the test bioretention cell “treated all runoff from storm events with precipitation totals below the 6-month, 24-hour and 2 year, 24-hour design storms for water quality treatment and flow control, respectively” (Herrera 2009a). The City continues to collect and monitor GSI performance.

CSO reduction. The flow control benefits that are observed in creek systems are also critical in combined sewer systems – with an emphasis on providing volume reduction in wet weather flow conditions to reduce combined sewer overflows (CSOs). In some situations, GSI can be used instead of, or in conjunction with, grey infrastructure depending on the costs and level of control required within a CSO basin. By preventing the rainfall runoff that is generated from impervious sites from quickly entering the piped conveyance system, GSI has been shown to reduce the volume of flow that is conveyed to the treatment plants, thereby reducing both CSOs and general treatment loads during storm events (Dearmont et al. 1998, NRDC 2006, US EPA 2012, ASCE *In Press*).

Local monitoring (September 2012 through April 2013) of a CSO reduction project in the Ballard neighborhood showed significant stormwater runoff volume reduction and delay. Bioretention cells without an underdrain functioned as well as or better

than they were designed for by capturing and infiltrating events in excess of a 1-year recurrence interval (over 95 percent of the volume that would otherwise enter the combined system). Even a bioretention cell retrofitted with an underdrain also exceeded design expectations and was found to provide significant volume reduction (approximately 50 percent in 2012-2013, and up to 89 percent average annual volume loss in 2013-2014) during most storms with variability occurring depending on the season, storm patterns, and antecedent moisture conditions (Hutchinson and Atchison 2014).

National studies conducted in North Carolina and Maryland found that six different bioretention cells with underdrains each reduced runoff volume by 20-50 percent, in addition to delaying and reducing peak flows (Li et al. 2009). A modeling effort by the San Francisco Public Utilities Commission found that their 30-year plan for GSI implementation – including green roofs, street trees, bioretention, and permeable pavement – could reduce annual CSO amounts by 200-400 million gallons, equating to a 14-27 percent volume reduction in CSO events (US EPA 2014).

Pipe capacity/flooding. Benefits to other piped conveyance systems can also be realized through GSI implementation. Depending on the causes of piped capacity limitations for a particular system, GSI approaches may be used in conjunction with traditional grey infrastructure improvements and capacity management strategies to help reduce the rate of runoff delivered to piped conveyance systems. Locally, modeling of GSI within the Pipers Creek conveyance network found GSI facilities sized to achieve the City's peak flow control goal (reducing the 2- year event to pre-developed pasture conditions) reduced the 10-year peak stormwater runoff rate by 36 percent and the 50-year peak rate by 15 percent (Scheller 2014). Nationally, the Milwaukee Metropolitan Sewerage District reported in their 2020 Facilities Plan that GSI could reduce the 100-year storm peak runoff rates by 22 percent, and the peak for smaller storms could be reduced even further (Sands and Chapman 2011).

Some municipalities have also observed a reduction in flood risk with the implementation of GSI (CNT 2013, US EPA 2014). A study in the southeastern United States found that although GSI does not have a large impact on flooding during very large events (e.g., a 100-year event), smaller events such as the 5-year event can be noticeably mitigated through the use of GSI (Medina et al. 2011). The study also found that targeting a GSI capture volume of 1.2 inches of rainfall, the cost of damage from a 5-year event was reduced from \$13 million to \$8 million average annualized losses.

Types of On-Site Stormwater Management Practices

The following on-site stormwater management BMPs are included in various requirements of the 2016 Stormwater Code Update and 2021 Stormwater Code Update. Note that all of the below facilities are already included in the existing Stormwater Code and are required as part of the City's MS4 Permit obligations (Ecology 2019a).

As mentioned previously (and referenced in this report), there is ongoing research and resultant technical information dedicated to the design, performance, and monitoring of LID facilities in order to ensure that the best available science is

incorporated into local guidance and requirements. There have been dozens of ongoing LID monitoring and assessment projects in the Puget Sound region alone (notable results, where available, are discussed herein). Moreover, the PCHB decision referenced previously (PCHB 2008) clearly established LID as constituting AKART. Notably, soon after that decision, Ecology acted on the LID-based portions of the PCHB's decision by forming committees of LID experts from across the region to assist in developing LID portions of the next round of MS4 Permit requirements. Among other items, Ecology (with the assistance of these LID Committees) evaluated various site conditions and LID BMPs with the goal of establishing a system that derived the most benefit from a LID BMP. Focusing on the site and subdivision level, Ecology prepared a list of LID BMPs and sought input from the LID Committees on the question of which of the listed BMPs were AKART (O'Brien 2014). These discussions ultimately led to the on-site stormwater management requirements of the 2016 Stormwater Code and 2021 Stormwater Code Update.

As such, the intent of this section is not to document the absolute state of the science of on-site stormwater management BMP design and performance but to briefly highlight some of the region's history and science associated with those BMPs included in the 2016 Stormwater Code Update and 2021 Stormwater Code Update. For additional detailed information on any of the following BMPs, the Low Impact Development Technical Guidance Manual for Puget Sound (WSU and PSP 2012) is an excellent resource.

Last, in addition to flow control benefits, several of these BMPs also provide significant water quality treatment benefits. Therefore, information pertaining to both flow control and water quality treatment may be presented below, rather than repeating information about a given BMP in both the flow control and water quality treatment sections of this report.

Bioretention

The term *bioretention* is used to describe various designs using soil and plant complexes to manage stormwater runoff. The healthy soil structure and vegetation associated with bioretention facilities promote infiltration, storage, slow release, and treatment of stormwater runoff to more closely mimic natural conditions. In practice, bioretention facilities are also commonly referred to as "rain gardens." (In the 2016 Stormwater Code Update and 2021 Stormwater Code, the terms bioretention and rain gardens have distinct differences that carry associated design and regulatory requirements for new and redevelopment projects specifically.) Bioretention can provide flow control via detention, attenuation, and losses due to infiltration, interception, and evapotranspiration. Treatment can be provided through sedimentation, filtration, adsorption, and phytoremediation. Early hydrologic performance of a bioinfiltration system in Maryland is discussed by Davis et al. (1998). Early design information was provided by Prince George's County (1999 and 2002), with a multitude of agencies and groups (including Seattle) developing their own variations on bioretention design since that time.

In the late 1990s, the City constructed its first bioretention facility in a street right-of-way. The system consisted of a roadside swale filled with organically amended soil, in which a perforated drain was installed above the trench bottom so that some

water would be retained before the drain was engaged. Water could also be held in the amended soil. The underlying soil was mostly glacial till but there was some sand as well. Approximately 2.3 acres of road and residential development drained to the swale. During the period between January 2000 and January 2001, the system retained all of the dry-season runoff and 98 percent of the wet-season runoff, and was capable of fully attenuating approximately 0.75 inches of rainfall on the catchment area (Horner et al. 2002b). Since that time, dozens of rain gardens and bioretention facilities have been installed on City and private property. Of the on-site stormwater management BMPs presented in the 2016 Stormwater Code Update, bioretention facilities probably receive the most attention in the Puget Sound region with regards to design variations and performance monitoring. The City has performed monitoring on several of these installations, most notably on two facilities from the Ballard Roadside Raingardens project (Seattle 2014). Monitoring of both facilities included continuous flow monitoring for one year, and controlled flow tests in the fall and spring. Monitoring of the bioretention facility on 30th Avenue NW showed that it more than met the design goal of removing the contributing area runoff for up to approximately a 1-year storm event, and that it captured all of the runoff for up to the 15-year storm event. It was also determined that the infiltration rates of the native soil at the 30th Avenue NW facility were higher than assumed during the facility design. The second bioretention facility monitored as part of the study was installed as part of one of the retrofitted blocks along 28th Avenue NW. After the original installation, the facility did not drain as designed and had to be retrofitted with an underdrain to meet the drawdown requirements. Monitoring was performed to determine what change in performance occurred due to the installation of the underdrain. The monitoring results demonstrated that significant flow control and volume reduction benefits were still provided by this system, even though it had an underdrain. The facility reduced peak flow rates by an average of 80 to 90 percent of approximately a 1-year storm event, and delayed discharge to the combined sewer system for 54 percent of the inflow volume. The facility also infiltrated the remaining 46 percent of the inflow volume, more than was originally expected for the retrofitted facility. The City is also tracking or involved in several regional bioretention studies. For example, Kitsap County et al. (2014) has been leading efforts to evaluate the performance of various compositions of bioretention soil media. Among other results, the studies have found that some (but not all) soil mixes may be leaching dissolved copper (Kitsap County et al. 2014). The studies are ongoing and are investigating which soil mixes are best for use in Washington State. As part of a closely related effort, the City is working with the Washington State University (WSU) LID research facility to evaluate the water quality treatment performance of the City of Seattle bioretention soil media (BSM). The study (WSU 2014) consists of monitoring of four individual bioretention “mesocosms” (to provide replicate samples) built with the City of Seattle BSM. The study routed natural stormwater and synthetic stormwater (i.e., dosed influent) through the mesocosms and collecting samples of the effluent to evaluate water quality. The results were consistent with other studies around the region, showing higher percentages of pollutant removal with higher influent pollutant concentrations (typical of commercial, industrial areas), but evidence of export of some pollutants (e.g., TSS, dissolved

copper, and phosphorus) with lower influent pollutant concentrations (more typical of residential areas). The export of TSS and dissolved copper appeared to decrease over time, but phosphorus release remained mostly steady during the course of the study. McIntyre et al. (In Press) also found bioretention facilities to be very effective at treating polluted runoff from roadway areas, with significant reductions in roadway runoff toxicity when the runoff is filtered through a bioretention facility.

The City of Seattle initiated an investigation (Herrera, 2016) into the use of polishing layers with compost-based bioretention media to examine its use under Seattle's compost-based media as a means to filter and capture N, P and Cu. The City of Seattle has adopted a bioretention mix (70 percent sand and 30 percent compost) in their stormwater guidelines so this was the bioretention mix used in this study. Several combinations of volcanic sand, coarse and fine activated alumina, iron aggregate and high-carbon wood ash were tested. Ninety% volcanic sand, 5% iron aggregate and 5% fine activated aluminum performed the best with respect to TP, ortho-P, dissolved copper removal as well as performing very well for dissolved Zn capture and TSS capture. It showed a hydraulic conductivity of 12.94 inches per hour. This combination was recommended for use as a polishing layer.

The City of Seattle also initiated an evaluation of presettling facilities prior to bioretention (Herrera, 2023) in response to questions that emerged about best practices. Sediment in bioretention reduces the BMPs capacity to mitigate stormwater and can be difficult to remove. Better guidance as to when, where and how presettling should be used prior to bioretention was explored. The evaluation consisted of review of existing guidance, review of built GSI project, development of stormwater TSS loading and sediment capture design bases, and review of available presettling BMPs. A target particle size of 80 microns was selected for sizing and evaluating presettling practices including normalizing the sizing of proprietary manufactured treatment devices that are on the TAPE Pretreatment GULD list. The recommendations for where presettling is required and the recommended BMP are shown in the following table.

| Table 7. Proposed Presettling Requirements for Bioretention Facilities on Capital Improvement Projects. | |
|--|--|
| Contributing Basin Size and Slope | Presettling Requirement for Bioretention Facilities |
| Total Basin Size ^a <1.5 acre OR Total Basin Size ^a 1.5–3 acres and <50% EIA OR Total Basin Size ^a 3–6 acres and <50% EIA and average basin slope ^b <5 percent | No presettling required. |
| Total Basin Size ^a 1.5–3 acres and >50% EIA OR Total Basin Size ^a 3–6 acres and average basin slope ^b >5 percent (and either <=50% EIA or >50% EIA) | Extended Sump required. |
| Total Basin Size ^a >6 acres | MTD, Extended Sump, or “fat pipe” required. |

^a Total basin size: the total area (pervious and impervious) contributing runoff to a single cell or series of connected cells from both piped inflow and sheet flow from adjacent surfaces. The size of the basin producing the runoff is considered irrespective of any flow splitters that may be in use.

^b Basin slope: overall slope estimated across an entire city block.

Permeable pavement

Permeable pavement is a paving system which allows rainfall to percolate into an underlying aggregate storage reservoir, where stormwater is stored and infiltrated to the underlying subgrade or removed by a supplemental outlet/overflow system. The primary factors controlling the use of permeable pavement as an infiltration system are the long-term hydraulic capacity of the paving material, and the infiltration capacity of the underlying soil. Permeable pavement has been used for stormwater management worldwide for decades, though the technology has only gradually taken hold regionally. Booth and Leavitt (1999) documented the pollution removal capability and hydraulic performance of four types of permeable pavement in comparison to standard asphalt pavement at a municipal building parking lot in Renton, Washington. The test site was constructed in 1996 and data were gathered in the year following. The native soil at the site was deep and very permeable sand, such that overall infiltration capacity of the pavement/soil system was limited by the pavement. Booth and Leavitt observed no surface runoff from the permeable pavement. Brattebo and Booth (2003) reevaluated the hydraulic performance at the same pavement system during fifteen storms in the winter of 2001-2002. Virtually all water infiltrated for every observed storm; the most significant surface runoff event occurred during a 4.75- inch/72-hour storm, in which only 0.16 inches of surface runoff was generated from one type of pavement.

In the years since these early installations, permeable pavement (like bioretention) has become the focus of many additional design and performance studies. While the state of the science continues to evolve, some of the most significant findings can be found in the Low Impact Development Technical Guidance Manual for Puget Sound (WSU and PSP 2012).

Acceptable run-on ratios from several other jurisdictions' stormwater guidance manuals were reviewed, including from the City of San Francisco, CA; City of San Antonio, TX; City of Vancouver, BC; City of Portland, OR; City of Gresham, OR; City of Omaha, NE, City of Denver, CO and City of Tacoma, WA as well as *Permeable Pavement* (ASCE 2015).

Rainwater Harvesting

Rainwater harvesting is the capture and storage of rainwater for subsequent use. Runoff from non-pollution generating surfaces may be routed to cisterns for storage and beneficial non-potable uses, such as irrigation, toilet flushing, and cold water laundry. Like other flow control BMPs, rainwater harvesting can be used to achieve reductions in peak flows, flow durations, and runoff volumes, and can be a particularly effective practice for projects where infiltration is not permitted or desired. The flow control performance of rainwater harvesting is a function of contributing area, storage volume, and rainwater use rate. While the City accepts rainwater harvesting systems with indoor water use for compliance with the flow control standards of the 2021 Stormwater Code, the indoor use of harvested water is regulated by WAC 51-56-1628.4.

Rainwater harvesting has been around for centuries, and (unlike bioretention and permeable pavement for example) is not subject to as frequent or numerous research studies. Depending on whether the design is for potable or non-potable uses, additional information can be obtained from various engineering or Department of Health documentation. For information most pertinent to the Puget Sound region, consult the Low Impact Development Technical Guidance Manual for Puget Sound (WSU and PSP 2012).

A technical memorandum (Herrera 2020) was prepared to evaluate allowing Rainwater Harvesting for Single-Family Residential and Parcel-based projects under Category 2 and 4 of the On-site list. Rainwater Harvesting is allowed under Category 2 if it is sized to meet the On-site performance criteria, similar to other Category 2 BMPs. The memorandum discusses the performance criteria that were evaluated for it to be used as a Category 4 BMP before settling on the criteria that Rainwater Harvesting must reduce the rooftop runoff volume by 25 percent on an average annual basis and that the volume reduction must exceed that for a Vegetated Roof.

Vegetated Roofs

Vegetated roofs are areas of living vegetation installed on top of buildings, or other above grade impervious surfaces. Vegetated roofs are also known as ecoroofs, green roofs, and roof gardens. Used in Europe for decades, vegetated roofs have received significant attention in the US in the past decade or so as the focus on LID approaches (and green building in general) has increased.

As such, similar to bioretention and permeable pavement, extensive research has been dedicated to the design and performance of vegetated roof systems regionally, and nationwide, particularly over the past decade. For example, in one of the preliminary studies in Philadelphia, runoff monitoring was conducted for a nine-month period at a pilot-scale vegetated roof with a thickness of less than three

inches (US EPA 2000). In this period there were 44 inches of rain and less than 16 inches of runoff. Similarly, in Portland, Oregon, monitoring of four storms (two in March 2001, and two in August 2001) at a full-scale commercial building vegetated roof showed between a three-fold and nine-fold reduction in per-storm runoff volume (Portland 2001). More recently, the City of Seattle has performed in-depth vegetated roof monitoring through a dedicated Green Roof Performance Study (Seattle 2012a). The study evaluated a range of vegetated roofing designs over five different site locations. Results indicated a reduction peak flow rates (relative to conventional roofs) ranging from 53 percent to 15 percent. The percentage reductions in rainfall volume ranged from near zero during the wetter seasons, but as high as 70 percent or greater during the dryer seasons.

Trees

Trees provide stormwater flow control via interception, transpiration, and increased infiltration. Additional environmental benefits include improved air quality, reduced heat island effect, pollutant removal, and habitat preservation or formation, although benefits can vary with seasonality (Xiao et al. 1998). Trees are a landscape amenity with flow control benefits that can be applied in most settings. The 2016 Stormwater Code Update and 2021 Stormwater Code Update includes flow control credits for retaining or planting trees on a development site, with higher credit applied when trees are proximate to impervious surfaces. The degree of flow control provided by a tree depends on the tree type (i.e., evergreen or deciduous), canopy area, and proximity to impervious surfaces. A report summarizing the results of a literature review on the effects of trees on stormwater runoff and recommendations regarding flow control credits is provided in Herrera (2008).

Ecology studied the stormwater mitigation potential of individual local trees in Western Washington. Phase II of this study focused on the stormwater mitigation value of young and isolated conifer and deciduous trees in streetside and parking lot locations when compared to mature native trees, which were evaluated in Phase I. The study found that street trees reduced runoff by 42 – 66% during the study period (2023 – 2024), and that conifers had greater rates of transpiration during winter months than deciduous trees. When comparing data collected during Phase I and Phase II, larger trees were found to have greater transpiration and interception rates. Therefore, larger trees and retained trees are more valuable to stormwater uptake than planting a new tree. (Ecology 2025).

Dispersion

Downspout dispersion BMPs are splash blocks or gravel-filled trenches that serve to spread roof runoff over vegetated pervious areas. Dispersion attenuates peak flows by slowing entry of the runoff into the conveyance system, allows for some infiltration, and provides some water quality benefits. Although downspout dispersion in general has been used in Seattle for decades, to meet the specific design requirements of the MS4 Permit, downspout dispersion BMPs generally require large areas of vegetated ground cover and may not be feasible in most urban settings. Likewise, little performance monitoring data have been generated specific to downspout dispersion BMP performance, particularly in urban settings.

Nonetheless, downspout dispersion is included as one of Ecology’s required on-site stormwater management BMPs, so it is included in this discussion.

Infiltration

Infiltration, where appropriate, is the City’s preferred method for stormwater management because it most directly attempts to restore the pre-development flow regime. Many on-site stormwater management BMPs discussed previously use infiltration as a primary or secondary mode of stormwater control. In addition, several types of non-vegetated systems are designed primarily for stormwater infiltration including infiltration trenches, vaults, basins, or drain fields. Given the significant role of infiltration processes in LID, on-site stormwater management, and stormwater flow control in general, this subsection presents a brief overview of infiltration considerations.

Massman (2003) performed full-scale “flood tests” conducted at four infiltration facilities in western Washington. Lateral flow along the sides of the ponds could be significant. Saturated hydraulic conductivity values estimated from measuring air conductivity and from regression equations derived from grain size parameters were compared to full-scale infiltration rates for 15 sites in western Washington. The estimated values for saturated hydraulic conductivity were up to two orders-of-magnitude larger than the full-scale infiltration rates for some sites and were two orders-of-magnitude smaller at others. These results show that long-term infiltration rates cannot be reliably estimated on the basis of soil properties alone; information related to the hydraulic gradient is also important.

Aside from the reduced area available for infiltration due to the construction of impervious surfaces, development typically results in the compaction or removal of the upper soil layers, which reduces the overall infiltration capacity of the remaining soil (Booth et al. 2002, Chollak and Rosenfeld 1997, Kosti et al. 1995). This effect also significantly reduces the ability of the soil to remove dissolved metals (Minton 2005). Other factors that may limit the long-term performance of these systems are clogging due to sediment input, or biological fouling, as described by Warner et al. (1994).

Given the significant role of infiltration in stormwater management, and the relative complexity of soil and general geologic conditions in Washington, Ecology has dedicated extensive time and energy to understanding and safeguarding infiltration facility designs. The 2014 SWMMWW (Ecology 2014b) includes extensive detail on the requirements for evaluating project area soil conditions and infiltration potential prior to designing and installing infiltration facilities. Seattle has generally followed these requirements, with modification as needed to accommodate local conditions and challenges. Due to the geologic and topographic conditions in Seattle, not all sites are suitable for stormwater infiltration. The City may limit the use of infiltration practices in some areas due to topography and potential landslide hazards. In addition, many locations in Seattle have soils that are underlain by hydraulically-restrictive materials. These relatively impervious layers may limit or preclude infiltration causing perched groundwater conditions during the wet season. A memorandum *Recommendations for Infiltration Acceptance Testing During*

Construction for Select Infiltration BMPs (Gibson and Martin 2018) provided information that informed the development of the infiltration acceptance testing guidelines. Studies related to modeling for hydraulic conductivity near saturation were reviewed (van Genuchten 1980, Schaap and van Genuchten 2005).

Soil Amendment

Naturally occurring (i.e., undisturbed) soil and vegetation provide important stormwater management functions, including: water infiltration; nutrient, sediment, and pollutant adsorption; sediment and pollutant biofiltration; water interflow storage and transmission; and pollutant decomposition. These soils can also provide indirect benefit by providing a suitable growing medium for healthy plants and microbes, which themselves also provide important stormwater benefits. All of these functions are largely lost when development removes native soil and vegetation and replaces it with imported soil and sod with minimal depth. Not only are important stormwater management functions lost, but such altered landscapes themselves can easily become pollution-generating pervious surfaces. Pollutants can include pesticides, fertilizers, and other landscaping and household/industrial chemicals; pet wastes; and roadside litter.

Studies by Chollak and Rosenfeld (1997) developed guidelines for amending soils with compost in landscaping practices. Kosti et al. (1995) measured surface runoff and subsurface runoff from seven test plots of glacial till soil containing differing amounts of compost. During storm events from December 1994 to June 1995, two plots containing compost generated only 53 percent and 70 percent of the total runoff volume generated by a control plot with no compost. In addition to flow control benefits, amended soils in urban lawns can also have the benefits of reduced fertilizer requirements and reduced dry-season irrigation requirements (US EPA 1997). The MS4 Permit includes requirements for using soil amendment for disturbed areas, and the 2014 SWMMWW and a supplemental document produced by Soils for Salmon (Guidelines and Resources for Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington, Soils for Salmon 2012) include the latest guidelines for soil amendment in western Washington.

Sidewalk/Trail Compost-Amended Strips

Sidewalk/Trail Compost-Amended Strip is a new BMP focused on managing sheet flow from sidewalk and trail surfaces (Seattle Public Utilities 2020).

Water Quality Treatment

Urban stormwater runoff collects and conveys pollutants to receiving waters. Between 1978 and 1983, the Nationwide Urban Runoff Program gathered runoff pollution data from 2,300 storms from 28 project sites across the nation (US EPA 1983). The results from this large-scale study helped to initially quantify the nature and extent of stormwater pollution and influenced subsequent regulations requiring treatment of stormwater runoff from sites with pollution generating surfaces. Ongoing monitoring, analysis, and assessments have provided additional information

regarding the nature of pollutants in stormwater. Chandler (1995, 1999) conducted an analysis of urban stormwater runoff event mean concentrations from 70 sites collected by eleven municipalities located in inland urban areas of western Washington and Oregon. Maestre and Pitt (2005) developed a database containing approximately 3,765 events from 360 sites in 65 communities throughout the US. Clark et al. (2007) provide a comprehensive literature review of urban wet weather flow literature for the eleven years from 1996 through 2006 that includes stormwater discharge water quality characterization.

Recent assessments of toxic contaminants in Washington State determined that the bulk of toxic chemicals that enter Puget Sound marine waters have done so through runoff from land surfaces (Ecology 2007b, Ecology 2011a, Ecology 2014c, Ecology 2015). Of particular note, during 2010, Ecology conducted a study to identify the primary sources of toxic chemicals in the Puget Sound basin and estimate annual releases of those chemicals (Ecology 2011a). Fourteen chemicals and chemical groups of concern were addressed, and the quantities of chemicals released annually from numerous sources were estimated. The study identified petroleum and zinc as two of the most significant chemicals of concern, with both chemicals released at a rate greater than 1,000 metric tons (t) per year. Lead, polycyclic aromatic hydrocarbons (PAHs), copper, and triclopyr were identified as additional chemicals of concern, released at rates greater than 100 t/year (ibid). Similarly, as part of the previous MS4 Permit requirements, stormwater and storm sediment discharge data were collected by Phase I MS4 permittees between 2007 and 2013 (Ecology 2015). The permittees collected storm-event data under a prescribed monitoring program that represented multiple land uses, storm characteristics, and seasons. Working from the combined analysis of 44,800 data records representing 597 storm events, up to 85 parameters were analyzed in the stormwater samples. Results indicated that metals, hydrocarbons, phthalates, total nitrogen and phosphorus, pentachlorophenol, and PCBs were detected more frequently and at higher concentrations from commercial and industrial areas than from residential areas. Residential areas exported stormwater with the highest dissolved nutrient concentrations (Ecology 2015).

Ecology also recently determined that artificial turf fields are to be considered a pollution generating pervious surface in western Washington (Ecology 2014a). Ecology indicated that their decision to list artificial turf fields as pollution generating was based primarily on two studies identified by King County (personal communication Rachel McCrea, July 2013). Those studies (Connecticut DEP 2010, Moretto 2007) suggest that dissolved metals and organics could

leach from the underflow from these types of artificial turf fields. However, further review of those studies and supplemental analyses of turf fields (Herrera 2010) raises questions about the pollutant generating potential of those surfaces. An additional study (Herrera 2019) found that drainage from crumb rubber infill playfields yields high water quality that does not need treatment prior to discharging into a surface water body, regardless of whether it is a new crumb rubber field or an old crumb rubber field. However, the study did not evaluate the recently discovered toxicant found in tires, 6PPD-quinone (Tian et al 2020). Additionally, as part of the study (Herrera 2019), it was determined that poor water quality of drainage from the tested cork infill playfield was likely due to contamination. Additional testing of drainage exclusively from a cork playfield with new base materials would be needed to accurately characterize pollutant concentrations and determine treatment requirements.

King County also conducted laboratory testing on TPE Pro-Max 37 (TPE) and crumb rubber (two types of synthetic turf infill) in 2017-2019. The study concluded that metals treatment was not necessary for synthetic turf fields using new or used TPE infill, but zinc and copper levels from new and used crumb rubber could harm aquatic life. This study also did not evaluate 6PPD-quinone.

The Toxic Use Reduction Institute (TURI) published a fact sheet in 2020 documenting the pollutants of concern from artificial turf and suggested organically managed natural grass as a safer alternative. TURI reports that using organically managed natural grass may reduce environmental concerns but also may reduce life-cycle costs.

Additional information on BMPs designed to reduce water quality pollution from permanent and temporary (construction) sites is discussed below.

Types of Stormwater Quality Treatment Best Management Practices

Pollutants in stormwater can be reduced through source control activities, regulations prohibiting certain types of discharges, programmatic actions aimed at eliminating illegal dumping and illicit connections, and permanent water quality treatment BMPs designed to remove pollutants contained in stormwater runoff (Ecology 2014b, Ecology 2006, Ecology 2014a). This section focuses on permanent (constructed) water quality treatment BMPs, with a brief discussion at the end of this section on developments in pollutant source control related to street sweeping activities.

Common pollutants of concern targeted by water quality treatment BMPs include sand, silt, and other suspended solids; metals such as copper, lead, and zinc; nutrients (e.g., nitrogen and phosphorous); certain bacteria and viruses; and organics such as petroleum hydrocarbons and pesticides. Methods of pollutant removal include sedimentation/settling, filtration, plant uptake, ion exchange, adsorption, and bacterial decomposition. Floatable pollutants such as oil, debris, and scum can be removed with separator structures. Minton (2002, 2005) provides a thorough discussion of treatment mechanisms and their application in stormwater treatment. The American Society of Civil Engineers (ASCE) and the United States

Environmental Protection Agency jointly prepared (and continue to manage) an extensive “International Stormwater BMP Database” of stormwater treatment system performance data (ASCE/US EPA 1996). The International Stormwater BMP Database is a primary resource for further information on the water quality treatment BMPs discussed below (<www.bmpdatabase.org>).

Infiltration and Bioinfiltration

Infiltration not only provides the flow control benefits discussed previously, but also can be a very effective pollutant removal mechanism. Infiltration and bio-infiltration systems remove pollutants primarily via physical filtration as stormwater passes through the underlying soil, but also via chemical adsorption and precipitation reactions. Biological uptake by plants may also occur in bioinfiltration. In addition, some pollutants such as nutrients may also be utilized by microbes present in the soil. A wide range of vegetated and non-vegetated BMPs utilize infiltration as a portion of their treatment designs. Following is a brief summary of a subset of the extensive infiltration performance studies available. The International Stormwater BMP Database contains extensive additional information for individual BMP types (ASCE/US EPA 1996).

A study of several stormwater infiltration system designs in Pierce County, Washington, showed that infiltration of stormwater through a biofiltration swale underlain by six inches of imported topsoil reduced total copper concentrations by 47 percent, total lead concentrations by 79 percent, and total zinc concentration by 50 percent (Tacoma-Pierce County Health Department/Pierce County Public Works Department 1995). Nineteen storm events were monitored over four years in the study. In contrast to these results, the study also found elevated concentrations of these metals in groundwater under infiltration systems that discharged directly to the gravelly native soils without any other treatment. These results together demonstrate the importance of properly absorptive soil or treatment medium, but also the efficacy of a relatively shallow layer of such soil in removing metals. Hathhorn and Yonge (1996) investigated the potential for groundwater pollution from stormwater infiltration systems using bench-scale systems containing soils found in Washington State and organic soil amendments. They found that copper and zinc tended to be removed by association with organic material, while adsorption onto soil minerals due to cation exchange was the dominant removal mechanism for cadmium and lead. Extensive reviews of the potential for and confirmation of groundwater contamination are provided in Minton (2002) and Pitt (1996).

As referenced previously regarding permeable pavement flow control performance, Booth and Leavitt (1999) also documented the pollution removal capability of infiltration below four types of commercially available permeable pavement systems in comparison to standard asphalt pavement at a municipal building parking lot in Renton, Washington. Total copper and total zinc concentrations in the sampled infiltrate were significantly lower than corresponding concentrations in runoff from the asphalt. Motor oil was detected in 89 percent of the samples from the asphalt runoff, but not in any water sample infiltrated through the permeable pavement. Brattebo and Booth (2003) reevaluated pollution removal at the same pavement

system during nine storms in the winter of 2001-2002. Again, infiltration had a dramatic effect on water quality. Toxic concentrations of copper and zinc were present in 97 percent of the asphalt runoff samples, and in 14 percent of the infiltrate samples. A comparison of the data from the two studies showed that zinc concentrations increased with statistical significance in the later study for both permeable pavement and asphalt, whereas copper concentrations in infiltrate from two kinds of permeable pavement were significantly decreased in the later study (Brattebo and Booth 2003). While Ecology does not currently give water quality treatment credit for stormwater passing through a standard permeable pavement design (i.e., additional treatment design elements must be incorporated into the subgrade material), this and other research has shown that permeable pavement has considerable pollutant removal capabilities for common roadway pollutants such as metals and petroleum (Dierkes et al. 2001, Pratt et al. 1999, Clauson and Gilbert 2003).

Though infiltration can be a very reliable water quality treatment approach, the design and construction must also be carefully scrutinized to ensure appropriate water quality treatment is achieved and maintained. Studies of conventional infiltration trenches in Maryland indicate that up to half of newly constructed (5-years old or less) facilities failed to operate as designed do to clogging or inflow problems (Galli 1992). The study found that lifespan can be increased by proper design of pretreatment systems, use of a sand layer rather than filter fabric at the bottom of the trench, and rototilling the trench bottom to preserve infiltration rates. Other studies in the mid-Atlantic region indicate that infiltration basins also have high failure rates within five years of construction due to clogging (Maryland Department of Environment 1991, Maryland Department of Environment 1986). Facility performance can be increased by constructing facilities with adequate pretreatment, shallow water depths, bypass systems for large storms, careful geotechnical investigations, sand surfacing for the trench bottom, and installation of underdrains (Schueler 1994).

As was noted previously, of the on-site stormwater management BMPs presented in the 2016 Stormwater Code Update, bioretention facilities probably receive the most attention with regards to design variations and performance monitoring. Bioretention BMPs have been demonstrated to provide considerable reduction in stormwater pollutants through infiltration and bioinfiltration, though there have been concerns with the impacts of various imported bioretention soil mixes and the effect they have on pollutant removal and or release from these BMPs, particularly dissolved metals (Ecology 2013b, Kitsap County et al. 2014, WSU 2014). Several recent and ongoing studies have been designed to evaluate and optimize the pollutant removal effectiveness of bioretention facilities, and the City is actively involved in those studies and/or tracking the outcomes as they become available.

Sand Filtration

Sand filtration is a water treatment technology that has been applied to stormwater for decades. A typical sand filtration facility consists of a pretreatment system, flow spreaders, a sand bed, and underdrain piping (Ecology 2014b). A sand filter vault is

similar to an open sand filter except that the sand layer and underdrains are installed below-grade in a vault that consists of presettling and sand filtration cells. A linear sand filter is a long, shallow, two-celled and rectangular vault, with the first cell designed for settling coarse particles and the second cell containing the sand bed (Ecology 2014b). Useful references regarding sand filtration include: Austin (1990), Horner and Horner (1995), Bell et al. (1995), California Department of Transportation (2004), and Minton (2005). These studies show that sand filters can be designed to remove total suspended solids (TSS), metals, biochemical oxygen demand (BOD), petroleum, total nitrogen, and phosphorous.

Minton (2002) cites various studies showing the pollution removal effectiveness of sand coated with iron oxide and sand mixed with iron wool or calcitic lime. Wanielista and Cassagnol (1981) demonstrated that various amended sand media reduced BOD and TSS concentrations in detention pond effluent, and that some nitrogen removal took place in the filters as well. Stormwater filtration using peat mixed with sand is effective at removing metals (Clark et al. 1998). Severe clogging in a sapric peat/sand filter in Minnesota demonstrated the importance of using hemic or fibric peat (Tomasek et al. 1987). These hydraulic problems can be avoided by using commercially available peat pellets.

Basic sand filters are expected to achieve average pollutant removals of 80 percent TSS at influent Event Mean Concentrations of 300 mg/L (King County 1998, Chang 2000). Basic sand filters are also expected to reduce oil and grease to below 10 mg/L daily average and 15 mg/L at any time, with no ongoing or recurring visible sheen in the discharge (Ecology 2014b). Large sand filters are expected to remove at least 50 percent of the total phosphorous compounds (as total phosphorus) by collecting and treating 95 percent of the runoff volume (ASCE and WEF 1998). Pretreatment is necessary to reduce velocities to the sand filter and remove debris, floatables, large particulate matter, and oils. An underground filter should be considered in areas subject to freezing conditions (Urbonas 1999).

Wetpool Facilities – Wet ponds, Wet vaults, Combined Detention and Wetpool Facilities

Water quality facilities built as wetpool facilities – facilities that contain a permanent pool of water – include wet ponds, wet vaults, and combined detention and wetpool facilities. The primary design factor that determines a wetpool's treatment efficiency is the volume of the wetpool. The larger the wetpool volume, the greater the potential for pollutant removal (Ecology 2014b). These facilities provide runoff treatment by allowing settling of particulates during quiescent conditions (sedimentation) and, for above-ground facilities, by biological uptake and vegetative filtration. A wet pond is a constructed stormwater pond that retains a permanent pool of water at least during the wet season. A wet vault is an underground structure similar in appearance to a detention vault, except that a wet vault has a permanent pool of water that dissipates energy and improves the settling of particulate pollutants. A combined detention and wetpool facility has the appearance and design features of a detention facility, but contains a permanent pool of water to also perform water quality treatment functions. Because the wet vault is underground, it

lacks any biological pollutant removal mechanisms, such as algae uptake, that would be present in surface wet ponds.

Studies of pollution removal in wetpool facilities in the Puget Sound region include King County (1995), Comings (1998), and Kulzer (1989). Other useful studies include Driscoll (1986), Gain (1996), Kantrowitz and Woodham (1995), Lawrence et al. (1996), Stanley (1996), Walker (1987), Whipple (1979), and Wu et al. (1996). These studies show that wetpool facilities can remove total suspended solids, total nitrogen, metals, and phosphorous. However, some of the studies showed a net release of some of these pollutants. Wetpools can also remove dissolved pollutants, although their long-term performance in this respect is problematic particularly with respect to dissolved phosphorus (Minton 2004, 2005). Minton (2002) discusses the difficulties in designing appropriate sampling strategies to comparing data from different treatment system evaluation studies. Wetpool facilities can pose a particular problem since they often have a storage volume greater than the influent volume from many storms, so samples of influent and effluent from a single storm do not represent batch treatment of a single test volume of water. A detailed discussion of performance and design elements on wetpool facilities is provided by Minton (2005).

A Florida study of the migration of soluble metals through sediments accumulated in the bottom of highway-runoff wet ponds showed that most of the metals are retained in the top 15-25 centimeters, and that removal of accumulated bottom sediments approximately every 25 years would be sufficient to minimize the potential of groundwater contamination (Yousef and Yu 1992). However, this study did not indicate the native soil type or sediment size distribution, which would affect the results. Most modern wet ponds are designed with an impermeable base layer to prevent any infiltration of stormwater through the bottom sediments.

Stormwater Treatment Wetlands

Water quality treatment in wetlands is achieved through sedimentation, filtration, soil adsorption, chemical precipitation, biological uptake by plants, and microbial transformation of nutrients. Wetland hydroperiod is the primary driver of these processes because hydrology is the most important factor for sustaining wetland processes and plant communities (Mitsch and Gosselink 1986). Hydroperiod of a wetland includes the water depth, flow, and duration and frequency of flooding. The hydroperiod affects species composition and richness, primary productivity, organic accumulation, and nutrient cycling. Wetlands constructed for water quality treatment generally provide high quality treatment similar to the effectiveness of bioretention and infiltration, however with a lower risks of impact to groundwater quality. Although stormwater treatment wetlands typically require large amounts of surface area and are not common in urban areas. Constructed stormwater treatment wetland designs that incorporate long residence times and low velocities are typically the most effective at treating stormwater. Kadlec and Knight (1996) give the following expected pollutant removal performance (listed with constituent concentration) for parking lot runoff treated by constructed stormwater treatment wetlands:

- TSS: 88 – 98 percent (2-10 mg/L)
- Fecal coliform: 60-90 percent (20-500 colonies/100 mL)

- Total zinc: 25 to 95 percent
- Total phosphorus: 89-95 percent (0.02-0.05 mg/L).

The processes that occur in wetlands make them particularly capable of significant metals removal (Kadlec and Knight 1996). These metals removal processes include:

- Binding to soils, sediment, particulates, and soluble organics
- Precipitation as insoluble salts, principally sulfides and oxyhydroxides
- Uptake by plants, including algae and bacteria.

Wetland studies indicate that stormwater treatment wetlands are effective at removing between 21 percent and 95 percent of copper (by mass), with a median of 73 percent for all studies (Feijtel et al. 1989, Hendry et al. 1979, Schiffer 1989, Harper et al. 1986, Sinicrope et al. 1992, Noller et al. 1994, Gladden et al. 2002, Walker and Hurl 2002). Similarly, these studies also show wetlands can be very effective at removal of zinc, with documented removal rates of 33 percent to 96 percent (by mass), with a median of 79 percent for all studies.

Hydrocarbons in wetlands are removed through volatilization, photochemical oxidation, sedimentation, sorption, and biological (microbial) degradation (Kadlec and Knight 1996). Most studies on hydrocarbon removal focused on biological and chemical oxygen demand for municipal waste, but studies do indicate that wetlands are also effective for hydrocarbon removal (Litchfield and Schatz 1989, Litchfield 1993, Tang and Lu 1993, Knight et al. 1994, Fountalakis et al. 2009, Terzakis et al. 2008). Nonetheless, specific values are not presented in this report because of limited applicability to stormwater runoff.

Media Filtration

Media filtration systems typically consist of a vault or catch basin housing a material through which stormwater passed. The performance of a media filtration facility depends on many factors, including the type of media (e.g., diatomaceous earth, leaf compost, perlite, sand, Zeolite, etc.) and the physical properties of the granular media, including size, size distribution, sphericity, porosity, density, and hardness (Minton 2005). Leif (1999) and CSF Treatment Systems (1994) demonstrated that filtration using mature processed leaf compost effectively removed TSS and total metals. Phosphorous concentrations were higher in the effluent than in the influent in the tests by Leif (1999), probably due to degradation of vegetative material washed onto the filter and bird manure deposited on the filter bed. Since compost serves as a cation exchange medium, one would expect metals removal by adsorption, but not removal of phosphorous or nitrate, which are anions. Minton (2002) cited various studies showing the effectiveness of zeolite minerals as a filtration medium to remove metals by cation exchange and phosphorous by anion exchange in cases where the zeolites were amended to improve anion exchange capability. Minton (*ibid.*) also cited the studies on the use of activated alumina, cationic and anionic polymers, synthetic resins, and other media.

There are several proprietary cartridge-based media filters that have been approved for various levels of treatment in Washington by Ecology (see also the Proprietary

and Emerging Technologies section below). These systems typically utilize a proprietary media to achieve targeted water quality treatment results. The list of available and approved technologies changes regularly, so designers are encouraged to visit Ecology’s emerging technologies website for current information: <www.ecy.wa.gov/programs/wq/stormwater/newtech/technologies.html>.

Ecology’s SWMMWW (2014b) also provides guidance for design and construction of media filter drains (previously known as ecology embankments). The media filter drain consists of a roadside embankment constructed with a wedge of media (aggregate, perlite, dolomite, and gypsum) that dispersed runoff must pass through before entering an underdrain system. Studies conducted by the Washington State Department of Transportation (WSDOT) indicated that media filter drains can remove greater than 80 percent of influent TSS, greater than 50 percent of total phosphorus, and approximately 50 percent of dissolved copper and zinc (Herrera 2006, Herrera 2009b).

Biofiltration Swales

Basic biofiltration swales typically have a trapezoidal or parabolic shaped cross-section and are commonly designed to be an in-line treatment facility. These facilities are designed to remove low concentrations of pollutants such as TSS, heavy metals, nutrients, and petroleum hydrocarbons (Ecology 2014b). A wet biofiltration swale is a variation of a basic biofiltration swale and used where the longitudinal slope is slight, water tables are high, or continuous low base flow is likely to result in saturated soil conditions. Vegetation specifically adapted to saturated soil conditions is needed, which in turn requires modification of several of the design parameters for the basic biofiltration swale (Ecology 2014b). A continuous inflow biofiltration swale is used in situations where water enters a biofiltration swale continuously along the side slope rather than discretely at the head. This type of facility requires an increased swale length to achieve an equivalent average residence time (*ibid.*).

The performance of biofiltration swales is highly variable (Ecology 2014b, Minton 2005). Local biofiltration studies include Goldberg et al. (1993), King County (1995), and Horner (1988).

These studies generally showed that TSS and total metals are removed in biofiltration swales, with phosphorous removal possible to a more variable degree. Field inspection of thirty-nine biofiltration swales in King County found only nine to be in “good” condition; that is, having relatively complete and uniform vegetation cover (King County 1995). While unvegetated systems that contain standing water may remove pollutants through settling under low flow conditions, sediment would likely be resuspended in these systems during higher flows (*ibid.*). Flow-through grass swales function as treatment devices if vegetation remains sufficiently erect to reduce the shear stresses in the channel, thereby reducing its capacity to carry sediment (Carollo et al. 2002).

Non-Infiltrating Bioretention

Typical minimum non-infiltration bioretention planter box widths were reviewed from

other jurisdictions in the Pacific Northwest (Clean Water Services 2016, Gresham 2007).

Filter Strips

Filter strips are vegetated treatment systems (typically grass) which are designed to remove low concentrations and quantities of total suspended solids (TSS), heavy metals, petroleum hydrocarbons, and/or nutrients from stormwater by means of sedimentation, filtration, soil sorption, and/or plant uptake. They are typically configured as linear strips that receive dispersed sheet flow from roads or other surfaces. Contaminated stormwater is distributed as sheet flow across the inlet width (Ecology 2014b).

Newberry and Yonge (1996) found that a vegetated strip removed significant amounts of TSS and metals from simulated stormwater. WSDOT developed a compost amended vegetated filter strip (CAVFS) and found that the system infiltrated more water than a standard roadside embankment. However, the effluent concentrations were not lower in the CAVFS system compared with the unimproved control (Herrera 2009c). In a separate study, WSDOT monitored the performance of unimproved filter strips along Interstate 5 (Herrera 2009d). They found that even 42-year old embankments that were not designed for stormwater treatment removed 94, 83, and 71 percent of influent TSS, total zinc, and total copper, respectively.

Oil Control Facilities

Oil control facilities are designed to remove oil and other water-insoluble hydrocarbons and settleable solids from stormwater runoff. These facilities typically consist of three bays: forebay; separator section; and the after bay. The American Petroleum Institute (API) separator, also called a baffle type separator, contains two baffles. The sludge retaining baffle rises from the floor of the oil/water separator chamber and settled solids are trapped behind this baffle. The oil retaining baffle descends from the top of the chamber and extends at least 50 percent below the depth of the oil/water volume. The floating oil and other hydrocarbons are trapped behind this baffle as the relatively cleaner water flows under and exits the facility (American Petroleum Institute 1990, Ecology 2014b). The coalescing plate separator consists of a series of parallel and inclined plates that provide quiescent conditions for settling and a depth separation to trap oils at the surface (Ecology 2014b).

Proprietary and Emerging Technologies

Proprietary stormwater treatment technologies increasingly are being used to treat stormwater, especially in highly urbanized areas where there is limited space for traditional facilities. The performance of these facilities depends on many factors including but not limited to: sizing, maintenance frequency, installation location, treatment mechanism, treatment media, inlet pollutant concentrations, rainfall intensity, and seasonality. Ecology, in concert with stormwater professionals from the Puget Sound region, developed a protocol for evaluating emerging treatment systems – Technology Assessment Protocol Ecology (TAPE, Ecology 2011b) – and publishes an extensive list of approved technologies (and their technical evaluation study results) on the Ecology website at:

<www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html>. Through this process, Ecology approves BMPs and technologies that can be used for several types of water quality treatment, including pretreatment, oil treatment, basic treatment, enhanced treatment, phosphorus treatment, and treatment at construction sites.

The evaluation process requires rigorous field testing of the new stormwater treatment technologies, after which the vendor submits a technology evaluation report (TER) to Ecology for review and approval. Under the technology assessment process, Ecology assigns “Use Level Designations” to emerging technologies based on the results of the evaluation. These designations are described below (Ecology 2014b).

- **GULD – General Use Level Designation.** A General Use Level Designation (GULD) assigned to technologies for which the performance monitoring demonstrates with a sufficient degree of confidence, that the technology is expected to achieve Ecology’s performance goals. Use is subject to conditions documented in a use level designation letter prepared by Ecology.
- **CULD – Conditional Use Level Designation.** A Conditional Use Level Designation (CULD) is assigned to technologies that have considerable performance data not collected per the TAPE protocol. Ecology will allow the use of technologies that receive a CULD for a specified time, during which performance monitoring must be conducted and a TER submitted to Ecology. Units that are in place do not have to be removed after the specified time period. Use is subject to conditions documented in a use level designation letter prepared by Ecology.
- **PULD – Pilot Use Level Designation.** A Pilot Use Level Designation (PULD) is assigned to new technologies that have limited performance monitoring data or that only have laboratory performance data. The PULD allows limited use of the technology to allow performance monitoring to be conducted. PULD technologies may be installed provided that the vendor and/or developer agree to conduct performance monitoring per the TAPE protocol at all installations. Use is subject to conditions documented in a use level designation letter prepared by Ecology.

In addition, Seattle recently evaluated several catch basin storm filters and found good performance when not clogged; however clogging was a concern at many of the installations in the city (Seattle 2012b, 2013b). National studies and evaluations of the performance of stormwater treatment technologies are also found on the International Stormwater BMP Database (<www.bmpdatabase.org>).

Street Sweeping and Water Quality

Street sweeping with high-efficiency or regenerative air sweepers can be an effective means of removing pollutants from roadways before they become entrained in stormwater runoff. The effectiveness of street sweeping depends on many factors including but not limited to: type of sweeper, sweeping frequency, pavement condition, pollutant build-up, parking restrictions, and season. Studies of street

sweeping effectiveness in the Puget Sound region include Seattle Public Utilities (SPU) and Herrera (2009), Seattle (2012c), and Kurahashi & Associates (1997). Other useful studies include Bannerman (2008), Depree (2008), Eisenberg et al (2007), Florida Department of Environmental Protection (2004), Kalinosky et al. (2012), Law et al. (2008), Nevada Tahoe Conservation District (2011), Pitt (1979, 1985, 2013), Sansalone (2011), Selbig et al. (2007), URS (2010, 2011), Weston Solutions (2010), and Zarriello et al. (2002).

Types of Construction and Grading Site Best Management Practices

Soil erosion from construction sites and grading activities has long been identified as a significant source of sediment and other suspended solids in runoff in many parts of the United States (Ellis 1936, Hagman et al. 1980, Yorke and Herb 1976, Becker et al. 1974) and the primary stormwater pollutant at a construction site remains sediment (US EPA 2007). Sediment from construction and grading sites with poor stormwater control can harm aquatic environments, adjacent properties, public and private roadways, and drainage systems. Numerous studies at large sites (greater than five acres) have shown that the amount of sediment transported by stormwater runoff is significantly greater from sites with no erosion control practices than from sites with erosion controls (US EPA 1999; Owens et al. 2000). Similarly, results of a USGS/Dane County Land Conservation study (Owens et al. 2000) indicate that small sites can also be significant sources of sediment. Sediment loads in stormwater runoff from two monitored construction sites were 10 times greater than that which is typical from rural and urban land uses in Wisconsin. Total and suspended solids concentration data indicate the active construction phase produced concentrations that were orders of magnitude higher than pre- and post-construction periods.

The best way to minimize erosion during land-disturbing and other construction activities is to employ BMPs that keep the soil in place through existing vegetation, erosion control blankets, or other methods. These BMPs help prevent the soil from becoming dislodged during rain events (Ecology 2014b). Erosion and sediment control BMPs can be grouped according to three broad categories:

1. **Cover practices** – temporary or permanent cover that are designed to stabilize disturbed areas
2. **Erosion control practices** – physical measures that are designed and constructed to prevent erosion at the project site
3. **Sediment control practices** – temporary measures designed to prevent eroded soils from leaving the project site by trapping them in a depression, filter, or other barrier.

Ecology has developed a training program to design and inspect erosion and sediment control BMPs to assure they are reducing erosion and sedimentation from construction sites, including all sites subject to NPDES requirements (sites generally over one acre in size). BMPs must be inspected by a Certified Erosion and Sediment Control Lead (CESCL).

In addition to sediment, construction sites can also be sources of other pollutants, such as phosphorus, petroleum products, and products that can affect pH. Source

control practices designed for construction sites can reduce the use of these potential pollutants and/or prevent them from contaminating stormwater (Ecology 2010). Pollutants other than sediment are primarily controlled using good housekeeping practices (such as maintaining vehicles and checking them regularly for leaks, keeping a spill kit on site, controlling concrete washout onsite) and other operational methods to reduce both the risks of pollutants contacting stormwater and the risks and impacts of accidental spills. For example, work can be phased to minimize the amount of soil that is exposed and subject to erosion at any given time. In Washington State it is practical to follow different procedures in the wet season when rain is frequent than in the dry season. West of the Cascade Mountains, Ecology defines the wet season as October 1 to April 30 and the dry season as May 1 to September 30. Extensive information on stormwater BMPs for construction sites can be found in the SWMMWW (Ecology 2014b).

Several documents were reviewed to update mass loading ratios for proprietary water quality treatment technologies. These include *Stormwater Management StormFilter (StormFilter) with Perlite Media* (Contech Engineered Solutions LLC, 2016), *Oldcastle PerkFilter System with SPC Media* (Oldcastle Infrastructure, 2017), *Filterra Bioretention System* (Contech Engineered Solutions, 2020), *BayFilter Enhanced Media Cartridge* (BaySaver Technologies, LLC), *BioPod Biofilter with StormMix Media* (Oldcastle Infrastructure, 2018), *Kraken Membrane Filtration System* (Bio Clean Environmental Services, Inc., 2016).

Types of Industrial Discharge Best Management Practices

Industrial wastewater includes wastewater produced from industrial processes, contaminated groundwater, and stormwater removed from construction sites. An industrial facility in King County discharging wastewater to the county sewer system may be subject to federal and local restrictions, or discharge limits. The King County Industrial Waste Program (KCIW) regulates discharges of industrial wastewater for four types of customers: categorical, high-strength wastewater or “surcharge”, construction, or other non-categorical customers, such as landfills, transfer stations, and groundwater remediation sites. Categorical dischargers include industries such as metal finishing, electronic component manufacturing, and centralized waste treatment. High-strength wastewater, which contains wastes above domestic-strength levels, comes from facilities such as dairies, meat and fish processing operations, and breweries. Construction customers must apply to send contaminated dewatering water from groundwater or stormwater sources to the sanitary sewer system.

The KCIW regulates PCB discharges by two methods: a screening limit and a site-specific limit. Method selection depends on the concentration total PCBs detected in biosolids collected at the site. For sites with total PCB concentrations less than 1 mg/kg, a screening limit of 0.10 µg/L per PCB Aroclor applies. BMPs such as sweeping, catch basin inserts, etc. can be implemented to achieve PCB concentrations less than the screening limit. For sites with total PCB concentrations greater than 1 mg/kg, the site-specific limit applies. Site operators need to incorporate wastewater treatment with granular activated carbon (GAC) as the final polishing step to meet site-specific limits calculated using a spreadsheet (King

County 2023).

Sea Level Rise and Climate Change

Projected sea level rise was assessed using Projected Sea Level Rise for Washington State- a 2018 Assessment (Miller et al 2018 and Mayhew 2020). The *Colorado-New Mexico Regional Extreme Precipitation Study Summary Report Volume VI Considering Climate Change in the Estimation of Extreme Precipitation for Dam Safety* (Colorado Division of Water Resources, 2018) and *Assessment of 2-Hour, 6-Hour and 48-Hour precipitation Time Series for Non- Stationarity and Implications of Assessing Spillway Adequacy for Dams in Washington State* (Schaefer, 2019) were reviewed to assess the potential for changes in precipitation-frequency due to climate change.

SPU has investigated the potential impacts of climate change on precipitation. In 2017, Jacobs (*Combined Sewer Overflow Sizing Approach Implementation: Perturbing Precipitation Time Series to Future Climate Conditions*, Jacobs (formerly CH2M Hill), 2017) prepared a technical memorandum documenting the perturbation of Seattle’s precipitation time series to reflect the possible impacts of climate change. The times series were adjusted to represent possible future climate conditions in 2035 and 2100. The climate-perturbed method used results from multiple peer-reviewed and -approved general circulation models (GCMs) available from the World Climate Research Program’s Couple Model Intercomparisons Project Phase 5 (CMIP5). The precipitation was perturbed using two approaches – a monthly scaling factor for lower-intensity precipitation, and a scaling factor derived from intensity-duration-frequency (IDF) curves for high intensity events.

In 2022, MGS Engineering Consultants, Inc. used the climate-perturbed method developed by Jacobs to perturb the extended time series used for code compliance. The extended precipitation time series was developed by combining and scaling records from distant precipitation stations (Salem, OR; Seattle, WA and Vancouver, BC) to yield a time series with a record length of 158 years. The extended time series allows evaluation of responses to various combinations of storm magnitudes, temporal patterns and sequence of storms. In addition, it allows the estimation of extreme events via interpolation rather than extrapolation as is required with a short time series. The perturbation of the extended time series is documented in *Development of Climate Adjusted Extended Precipitation Time Series for Hydrologic Design Technical Memorandum* (MGS Engineering, February 8, 2022). The extended time series were extended to 2035, 2075 and 2100. The 2075 scaling factors were derived from a linear interpolation of the factors for 2035 and 2100.

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ABBREVIATIONS

| | |
|--------------|--|
| AKART | All known, available and reasonable methods of prevention, control and treatment |
| API..... | American Petroleum Institute |
| ASCE..... | American Society of Civil Engineers |
| B-IBI | Benthic-Index of Biotic Integrity |
| BMPs..... | Best Management Practices |
| BOD..... | Biochemical Oxygen Demand |
| City | City of Seattle |
| ECA..... | Environmentally Critical Areas |
| Ecology..... | Washington State Department of Ecology |
| GAC..... | Granular activated carbon |
| GSI | Green Stormwater Infrastructure |
| HCI | Habitat Comparison Index |
| HSPF..... | Hydrological Simulation Program-Fortran |
| KCIW | King County Industrial Waste Program |
| KCRTS | King County Runoff Time Series |
| LID..... | Low Impact Development |
| mg/L | Milligrams per liter |
| MS4..... | Municipal Separate Storm Sewer System |
| NPDES..... | National Pollutant Discharge Elimination Program |
| PAHs | Polynuclear Aromatic Hydrocarbons |
| PCBs | Polychlorinated Biphenyls |
| RCW..... | Revised Code of Washington |
| RSMP | Regional Stormwater Monitoring Program |
| SMC | Seattle Municipal Code |
| TSS | Total Suspended Solids/Sediment |
| USGS | United States Geological Survey |
| WAC..... | Washington Administrative Code |
| WSDOT..... | Washington State Department of Transportation |
| WWHM..... | Western Washington Hydrologic Model |

May 7, 2026

MEMORANDUM

To: Governance and Utilities Committee
From: Brian Goodnight, Analyst
Subject: CB 121190: 2026 Stormwater Code Update

On May 14, 2026, the Governance and Utilities Committee (Committee) will continue its consideration of, and possibly vote on, [Council Bill \(CB\) 121190](#) that would amend the City's Stormwater Code to maintain compliance with state and federal water quality permits, align with recent land use code updates, and improve clarity. Seattle Public Utilities (SPU) briefed the Committee on the proposed bill at the Committee's April 9 meeting.

This memorandum provides background information, a summary of proposed major changes, and the anticipated financial impacts of the proposed changes on City departments.

Background

The City uses its Stormwater Code ([Chapters 22.800 – 22.808 of the Seattle Municipal Code](#)) to protect people, property, and the environment from the adverse impacts of urban stormwater runoff, such as flooding, landslides, erosion, and pollution. The Stormwater Code is also necessary to comply with state and federal regulations. In 2024, the Washington State Department of Ecology (Ecology) issued a new stormwater permit to the City, known as the 2024–2029 Phase 1 Municipal Stormwater Permit (MS4 Permit).

The MS4 Permit requires that the City's Stormwater Code and its associated technical manual create an effective local program to prevent and control the impacts of stormwater runoff from new development, redevelopment, and construction activity so that it does not pollute downstream waters. The technical manual is known as the Seattle Stormwater Manual and is promulgated via a joint Directors' Rule by the Directors of Seattle Public Utilities (SPU) and the Seattle Department of Construction and Inspections (SDCI). A draft version of the updated Stormwater Manual is available on [SPU's Project Documents](#) webpage.

The Council last amended the Stormwater Code in May 2021, via [ORD 126336](#), in response to Ecology's issuance of the 2019–2024 Phase 1 MS4 Permit. SPU and SDCI began the public process for the 2026 Stormwater Code Update, as proposed in CB 121190, in December 2024. The departments have informed stakeholders and solicited input on proposed updates through public meetings, email announcements, newsletter articles, and briefings at stakeholder meetings. A complete list of public engagement activities is included in the [Summary and Fiscal Note](#).

Summary of Proposed Major Changes

The 2026 Stormwater Code Update contains a variety of changes in response to the issuance of the 2024 MS4 Permit and direction from Ecology, alignment with the City’s updated Land Use Code and City policies around housing development and improving water quality outcomes, and an attempt to provide clarity and predictability for applicants and reviewers.

Two of the more significant changes in the 2026 Update are:

1. Related Projects – In response to direction from Ecology, the proposed legislation would revise the definition for “closely related projects,” move the definition from the Stormwater Manual to the Seattle Municipal Code, and would create a new definition for “common plan of development or sale” that is equivalent to the 2024 MS4 Permit. The intent of these changes is to ensure that the impacts of projects that have physical or functional interdependencies (e.g., shared structures, shared driveways, shared drainage or utility designs, etc.) or are under a “single plan” (e.g., common ownership or control together with coordinated timing for elements such as design, permitting, etc.) are considered together, rather than as distinct and unrelated projects.
2. Flow Control Requirements for Small Sites – The proposed legislation would soften the detention requirements for small projects located within small lake basins and capacity-constrained systems. The existing code requires projects that equal or exceed 2,000 square feet of new plus replaced hard surface to comply with certain limits on peak stormwater release rates. The proposed update would raise this threshold to only apply to projects that equal or exceed 5,000 square feet of new plus replaced hard surface.

The higher threshold would align with changes made in the 2021 Stormwater Code Update to set flow control thresholds for other areas of the city at 5,000 square feet, and it would remain more restrictive than Ecology’s threshold of 10,000 square feet.

A related change addresses how projects perform on-site stormwater management. All projects citywide that equal or exceed 1,500 square feet of new plus replaced hard surface are required to provide on-site stormwater best management practices. The 2026 Update proposes to increase the applicable sizes of one of the commonly used methods, non-infiltrating bioretention facilities, that provide both flow control and stormwater treatment. Overall, SPU believes that the updated sizing requirements and use of other on-site stormwater management practices (e.g., permeable pavements) provide comparable environmental benefits to the existing requirements for small projects.

In addition to the larger changes described above, some of the other proposed updates include:

- Increasing water quality treatment requirements for roadway projects by revising the threshold to include new and replaced hard surface, rather than just new hard surface, to meet Ecology’s new permit requirements.

- Expanding the on-site stormwater management options available for projects, such as the addition of “soil cell bioretention,” which is akin to a rain garden-like area that includes an engineered structure underneath to create suitable soil conditions for trees and stormwater treatment.
- Removing references to outdated single-family terminology.

Ecology has reviewed the City’s proposed revisions that require Ecology approval and has made a preliminary determination that the revisions meet the regulatory requirements of the MS4 Permit. Ecology requires that the City’s updates have an effective date of July 1, 2026, and, after the updates are formally adopted, it is anticipated that Ecology will modify the City’s MS4 Permit to include Ecology’s determination that the City’s updated local program meets the state’s requirements.

Financial Impact for City Departments

Although the proposed legislation does not appropriate funds or amend the 2026 Adopted Budget, certain City departments will be impacted by the changing Ecology requirements and the updated Stormwater Code. The impacted departments include SPU, SDCI, Seattle Department of Transportation (SDOT), Seattle Parks and Recreation (SPR), Seattle City Light (SCL), and Finance and Administrative Services (FAS).

Each of these six departments has staff that will need training in preparation for administering the updated stormwater requirements. At this time, the departments are not expecting to require additional appropriation authority in 2026 for the training, but any future resource requests would come via supplemental budget legislation.

Some of the departments have also identified areas where they are likely to experience increased costs as a result of the updated stormwater requirements, although most departments have not quantified the estimated cost increases. The expected impacts include:

- SPU – Anticipates a small increase in capital costs due to water quality threshold changes for roadway projects, and an increase in operation and maintenance costs resulting from an increasing number of water quality facilities being installed in the public right-of-way.
- SDOT – Expects increased construction costs in the Arterial Asphalt and Concrete Program (\$1.8 million in 2031), and possible increased costs related to the curb ramp program.
- SPR – Anticipates increased costs for its capital program depending on the types of projects pursued, as well as potentially for operations and maintenance related to building cleaning and enhanced Ecology rules around the collection of wash water.
- SCL & FAS – Expect cost increases for operations and maintenance related to the Ecology rules for the collection of wash water.

Next Steps

The Committee is scheduled to discuss and possibly vote on CB 121190 at its meeting on May 14. If the Committee votes to recommend passage of the bill at that time, the City Council could consider the legislation at its meeting on May 19, at the earliest.

cc: Lish Whitson, Director
Calvin Chow, Deputy Director

2026 Stormwater Code Update

Governance & Utilities Committee

April 9, 2026

Agenda

- **Background**
 - Purpose of Stormwater Code
 - Who does it apply to?
 - Why are we updating now?
- **Schedule**
- **Code Updates Summary**
- **Outreach & Feedback**
- **Next Steps**





Background - Why and What?

Why do we have a Stormwater Code?

- Protects people, property, and the environment from damage caused by stormwater runoff
- Meets the City's obligation to comply with Department of Ecology's Stormwater Permit

What is in the Stormwater Code?

- Source control for ongoing practices
- Construction site pollution prevention
- Onsite stormwater management, flow control and water quality treatment requirements for development

Background - Who?

Who does the Code apply to?

- Private development and City projects
- Businesses
- Residents

Who administers?

- SDCI (private property development)
- SPU (right-of-way development & other provisions)
- SDOT (construction erosion control enforcement for right-of-way)



Background - Why Now?

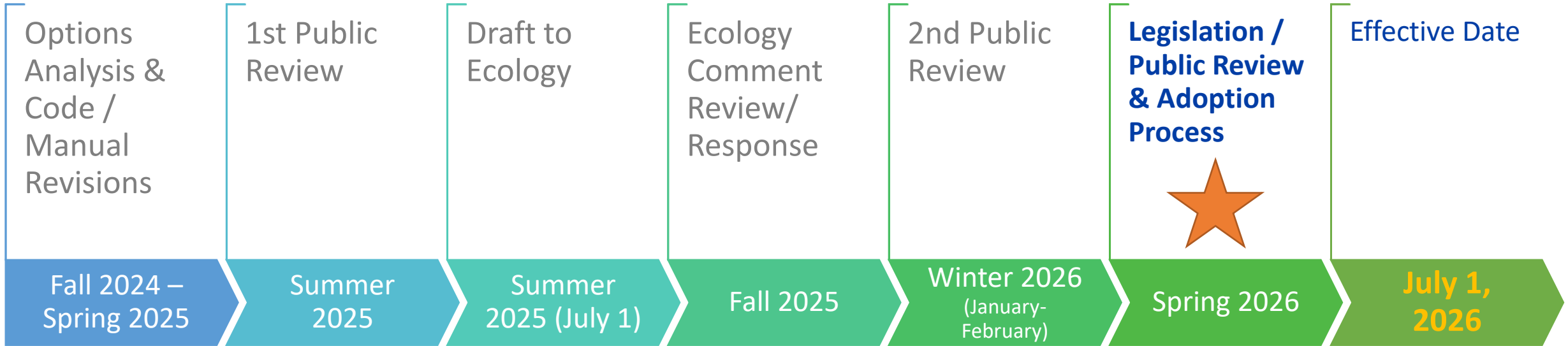
Regulatory Requirement Effective Date -
July 1, 2026

Key Objectives:

- Regulatory compliance with Ecology's Municipal Stormwater Permit
- Policy alignment with current City priorities
- Improved clarity and usability

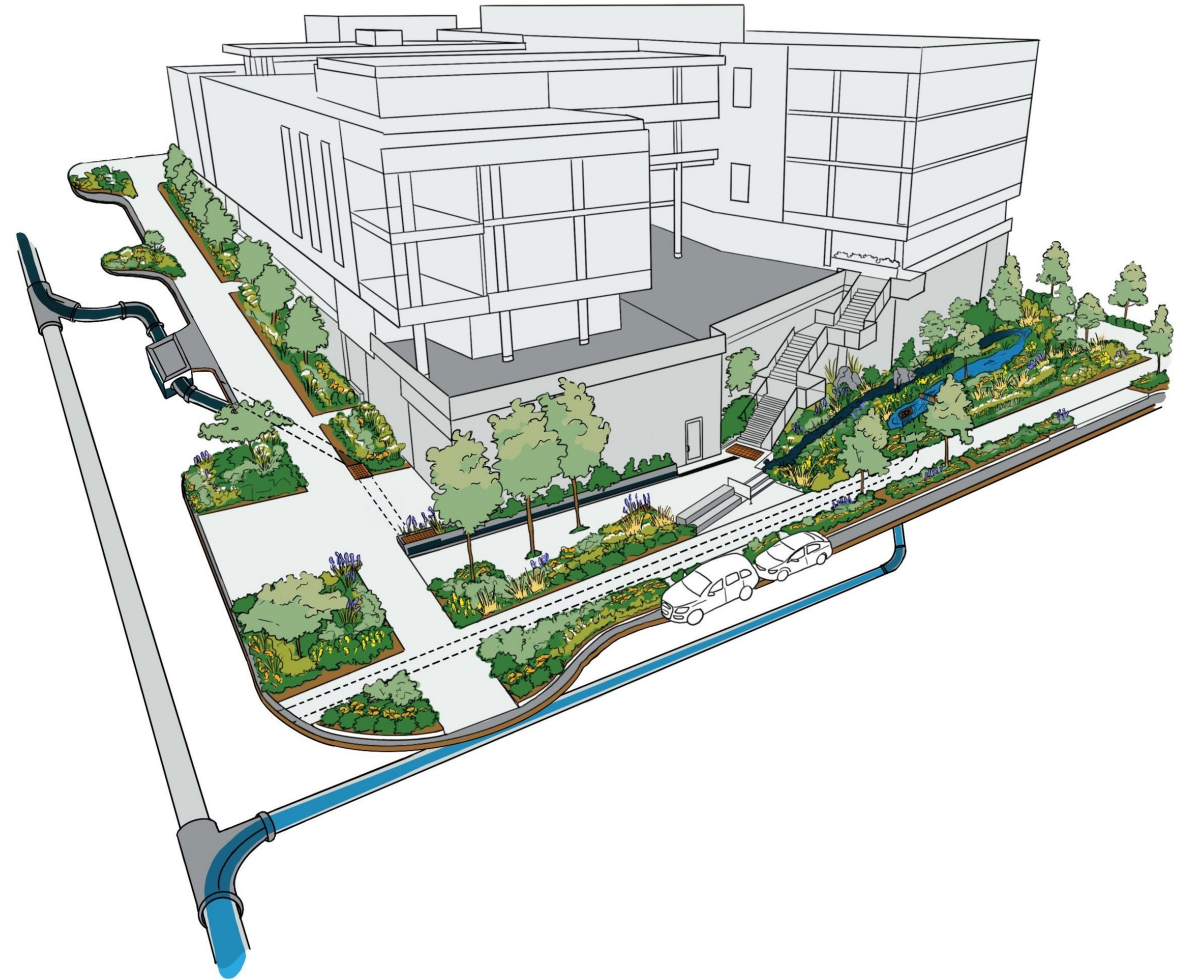


Schedule



Stormwater Code Update - Summary

- Very few new requirements, mostly required by Ecology
- Many technical updates for users of the manual
- Minimal fiscal impacts to the City and capital projects, mostly required by Ecology



Outreach & Feedback

Extensive Public Notification (since October 2024)

- SDCI and SPU listservs announcements
- SDCI Building Connections Newsletters
- 2 public meetings and comment periods
- 4 listening sessions attended by key partners, and development, environmental, and consulting communities
- 1 additional listening session for general public

Over 550 Public Comments Received

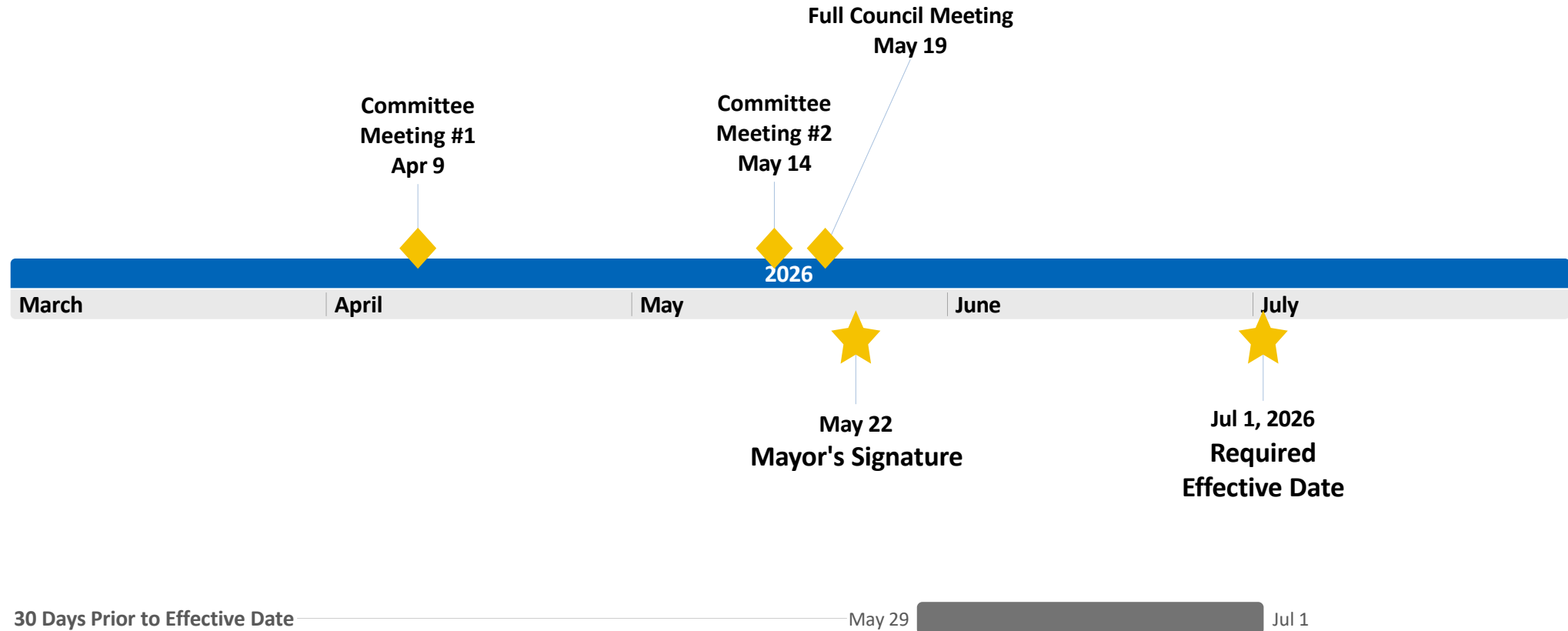
- Many incorporated, the remaining resulted in no changes due to Ecology requirements or policy decisions.
- No significant outstanding concerns.

Comment Takeaways

- Majority are technical in nature
- Strong support for tree preservation, environmental protection, and water quality
- Developer concerns for Ecology's requirements for "like" projects
 - Hosted two meetings with development community to discuss concerns



Legislation Schedule - May Adoption



Questions & Discussion



Seattle City Council

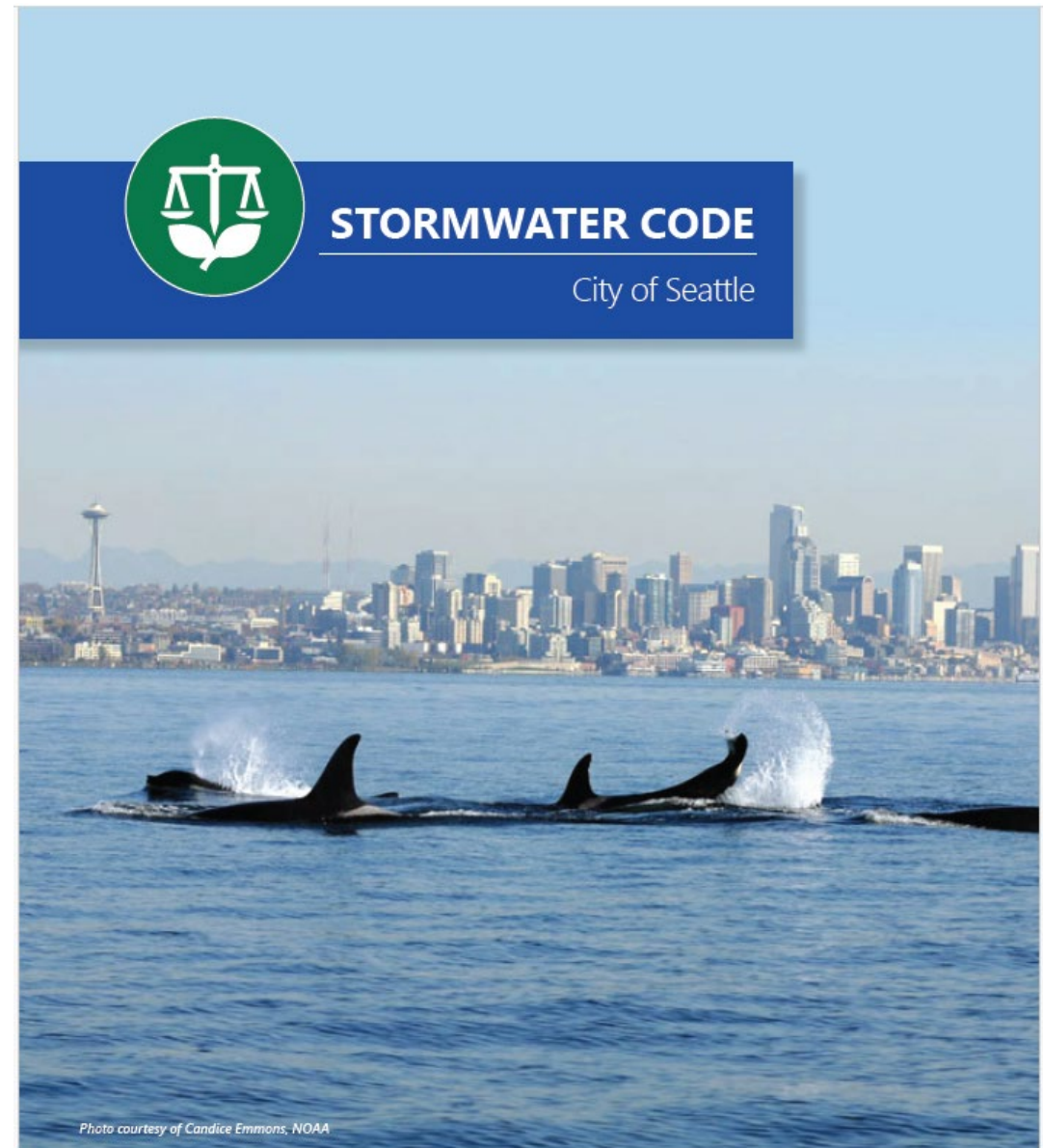
Governance and Utilities Committee

Stormwater Code Update

May 14, 2026

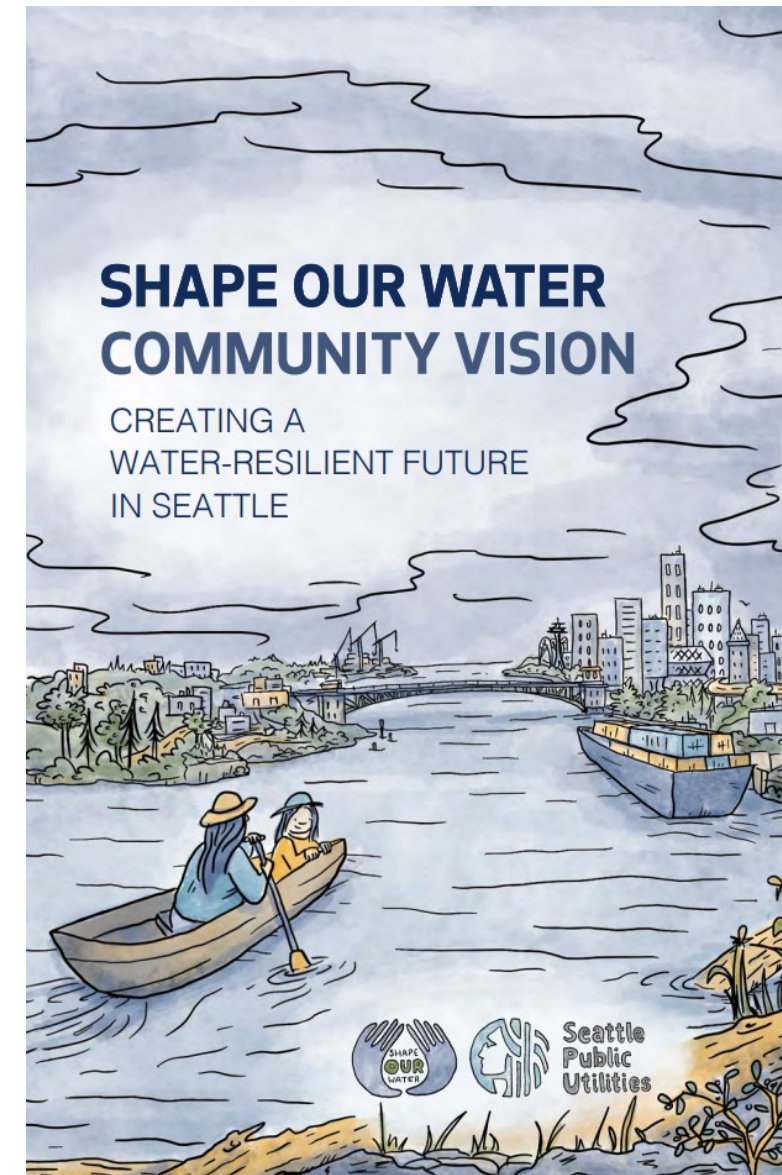
Quick Recap

- Committee Briefing on 4/9
- Provide more information
 - Stakeholder Engagement
 - Response to Comments



Stormwater Code is Only One Tool

- Seattle's stormwater requirements vs. what Ecology requires
- Investing in the future: ShapeOurWater.org
- Approaching 1 billion gallons of runoff managed annually



Additional Highlights

- Removing toxics from busy streets through street sweeping
- Adding resilience & community benefits through green infrastructure retrofits
- Other tools



Engagement - Grounding & Context

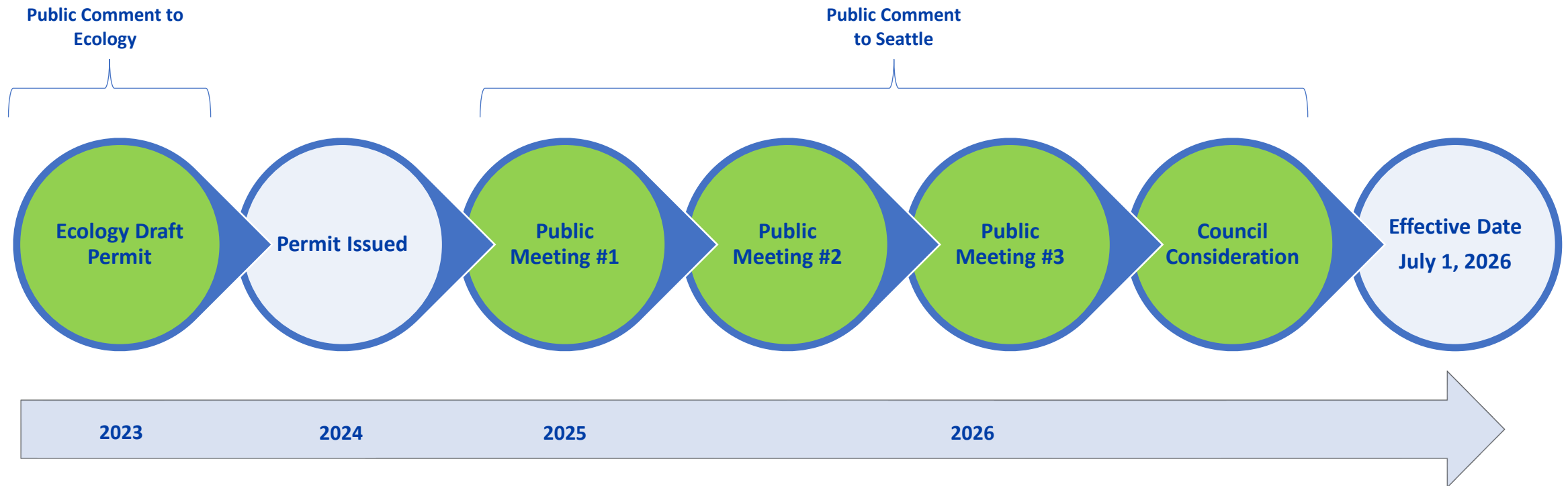
- Stormwater Code & Manual
 - Code provides the authority
 - Manual provides the technical details
- Everyday users are Architects, Engineers & Consultants
 - Private development
 - Right of Way projects
 - City & Agency projects

Process & Engagement Opportunities

- Seattle's Stormwater permit reissued every 5 years
- Three-year cycle with multiple touchpoints



Opportunities for Input



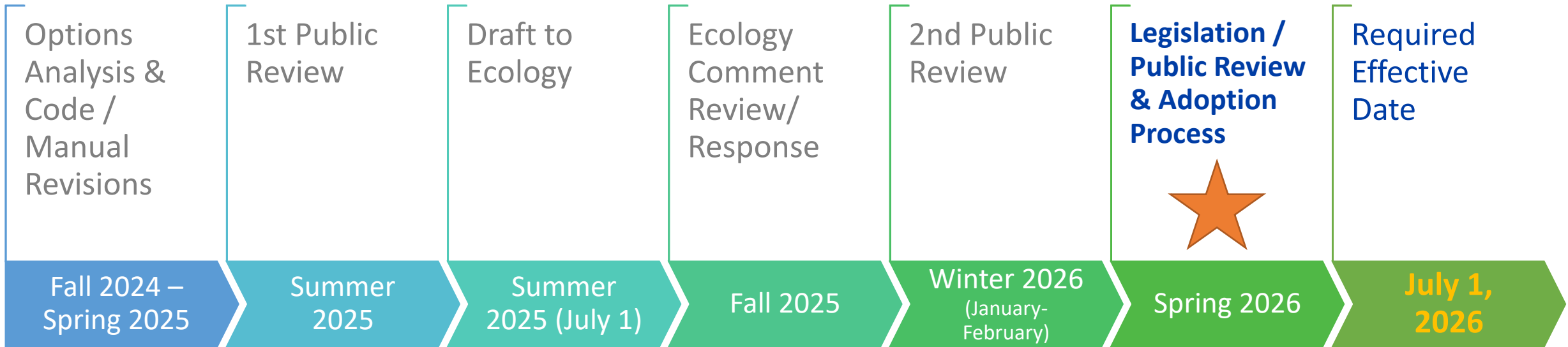
Engagement Summary

- 800+ comments
- Participants: Residents, NGOs, Development, Engineering / Architecture, Partner Agencies, Sister Departments
- List Servs, Bulletins, Newsletters
- Workshops, Meetings, Listening Sessions
- Emails, Phone Calls, etc.

Response to Comments

- Summarized, posted responses on Seattle.gov
- Addressed questions from Mayor's Office, Council & Ecology
- Key Themes:
 - Common Plan of Development
 - Flow Control Thresholds
 - Trees as Stormwater Management

Schedule



Questions & Discussion

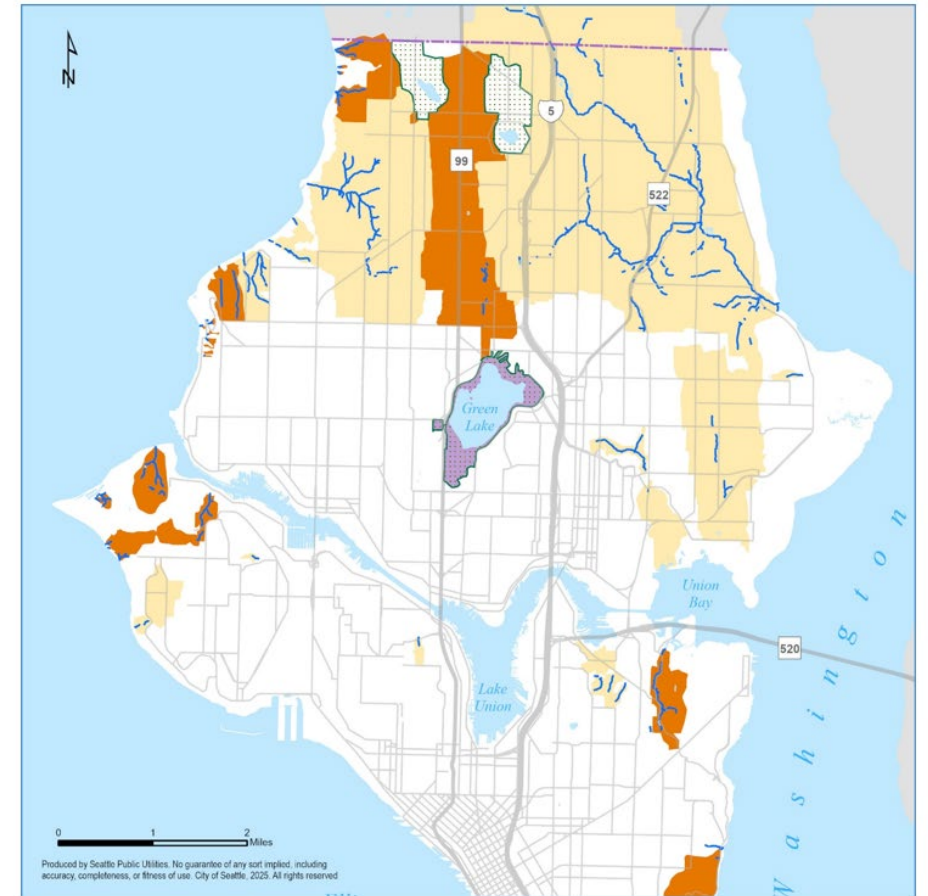
Response To Comments

Key Concerns

- Common Plan of Development
- Flow Control Thresholds
- Trees as Stormwater Management

Revising the Flow Control Requirement

- 2,000 to 5,000 square feet of hard surface
- Haller, Bitter, & Green Lake basins
- Ditch & culvert areas
- *Ecology threshold at 10,000 sq ft*

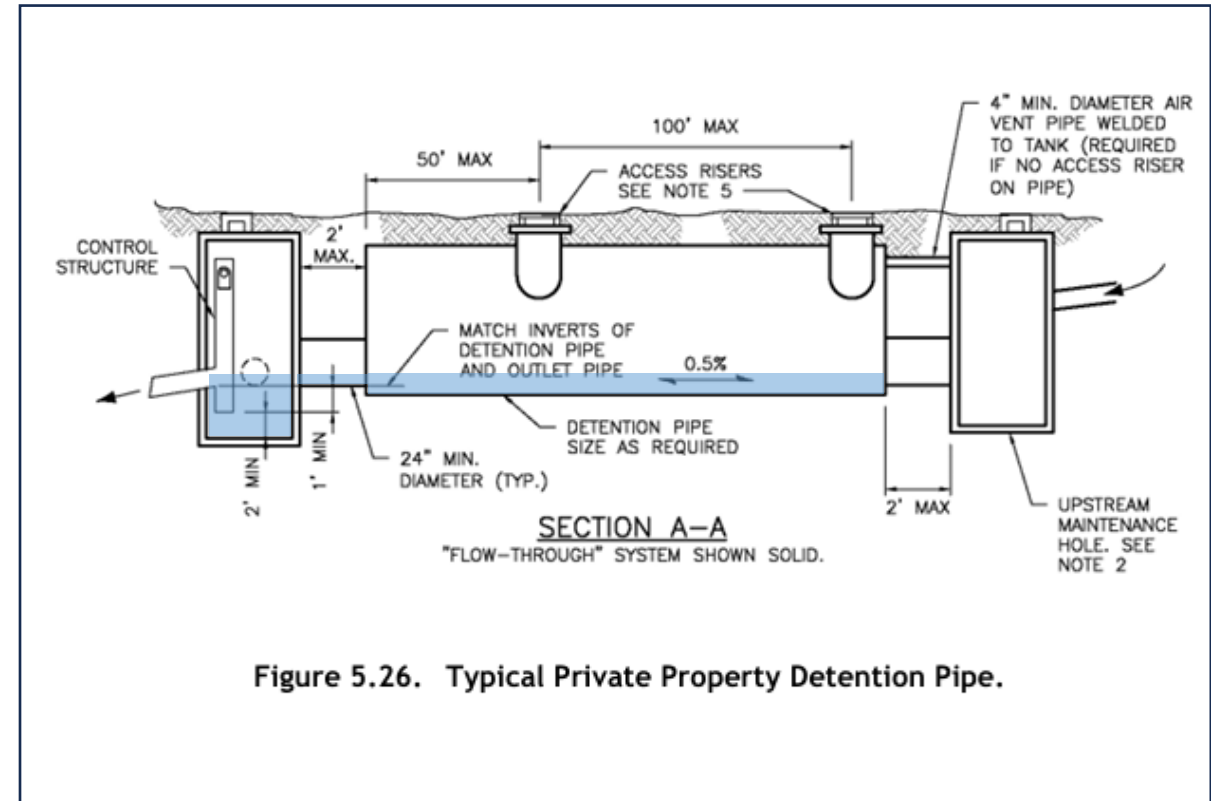


- Creek Watershed (Listed)
- Creek Watershed (Non-Listed)
- Small Lake Basins
- Nutrient-critical Basin
- Open Stream Channel
- - - Seattle City Limits

Figure 2.56. North End Creek and Small Lake Basins.

Existing Requirement

- Projects install underground pipes to slow the flow
- May require pumps, electricity
- Design optimized to manage larger sites
- Requires underground maintenance & city inspection



More Effective Alternative

- Instead, all projects do On-site Stormwater BMPs
 - Trigger at 1,500 square feet hard surface (Ecology @ 2,000)
 - Increased size of non-infiltrating bioretention planters
 - Common tool for development
 - Provides flow control AND water quality benefits



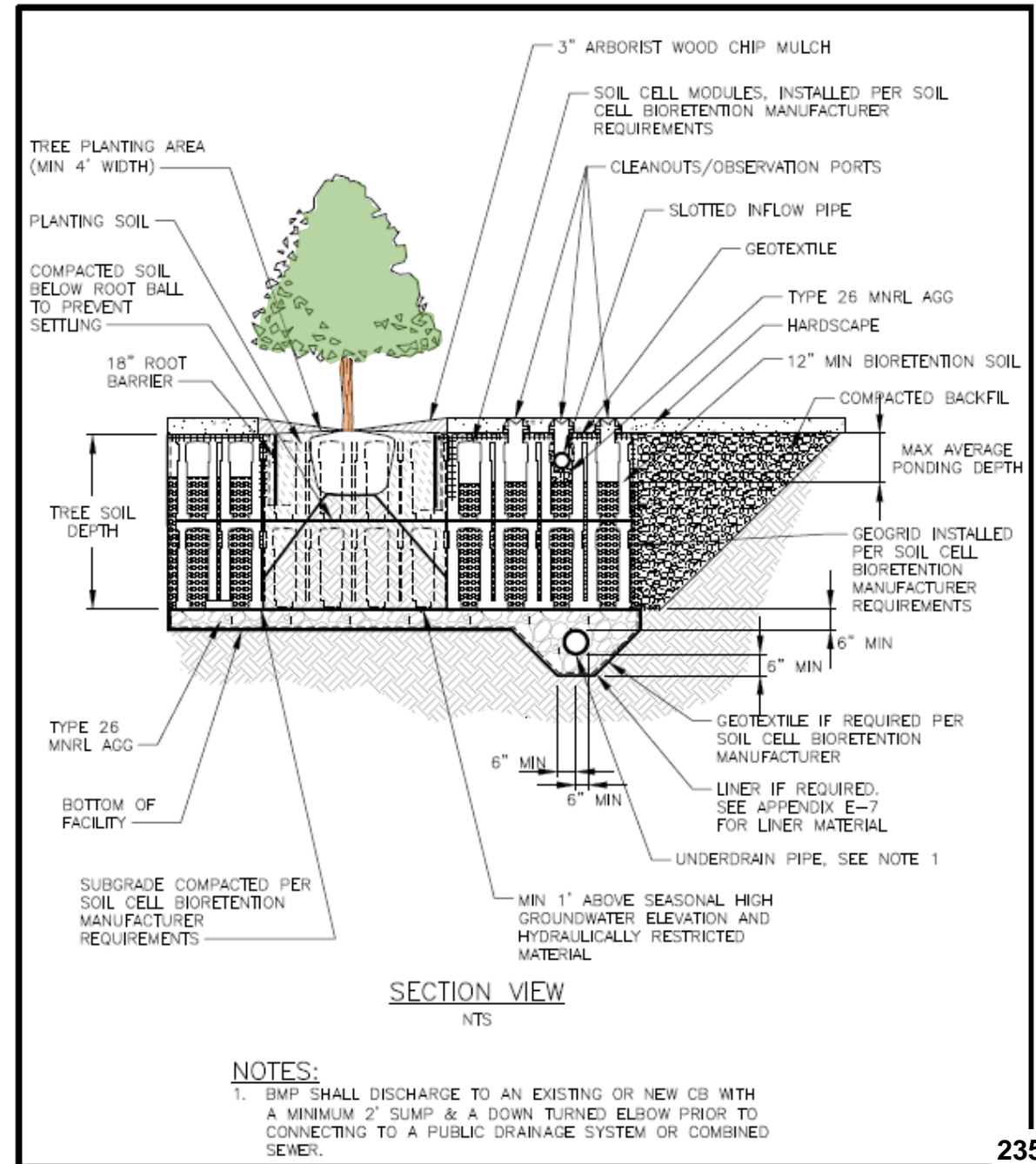
Trees & Stormwater Code

- Trees in Seattle
 - Executive Order
 - Tree Protection Code
- Stormwater Code manages drainage
- Seattle has more tools for trees vs. other cities
- Provides credits for new & retained trees
- SPU Trees for Neighborhood Program



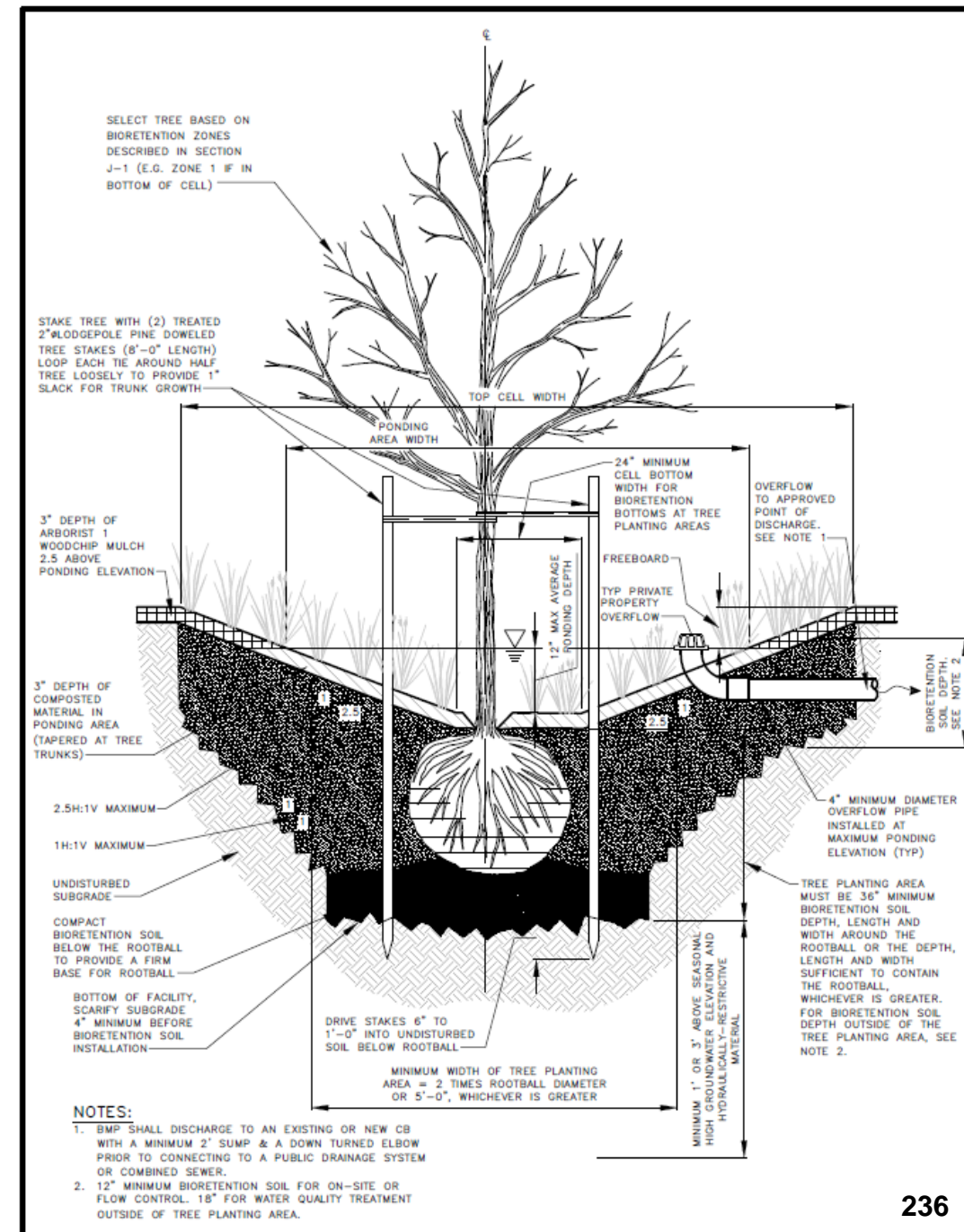
New Tools for Trees

- Structural Bioretention
 - Modular soil cells
 - Cleans the water and slows the flow
 - Applicable for right of way and parcel projects
 - Will help fit trees in Seattle's dense urban environment



New Tools for Trees

- New Plan Detail
- Promotes tree planting in bioretention cells
- Adds trees while reducing conflicts on parcel and in the busy right of way



Screen Reader Users: Make sure settings include reading strikethrough and underline font attributes.

Amendment 1 Version #1 to CB 121190 – 2026 Stormwater Code Update

Sponsor: Council President Hollingsworth

Technical corrections

Effect: This amendment would correct technical drafting errors identified after the introduction of the bill. The changes include the addition of underlines to proposed new code language, removing errant punctuation and superscripts, and adding a serial comma.

1. Amend SMC 22.801.020 "A" in Section 2 of CB 121190 as follows:

22.801.020 "A"

* * *

"Aquatic life use, fresh water" means "aquatic life uses" as defined in WAC 173-201A-200 (Fresh Water Designated Uses and Criteria). For the purposes of this subtitle, at minimum the following water bodies are designated for fresh water aquatic life use: small lakes, ~~((creeks,))~~ streams, wetlands, and fresh water designated receiving waters.

"Aquatic life use, marine water" means "aquatic life uses" as defined in WAC 173-201A-210 (Marine Water Designated Uses and Criteria) and includes marine surface waters of the state of Washington.

* * *

2. Amend 22.801.150 "N" in Section 2 of CB 121190 as follows:

22.801.150 "N"

"Native vegetation" means "native vegetation" as defined in Section 25.09.520.

"New hard surface" means ~~((a))~~ the creation of a hard surface ~~((that is: changed from a pervious surface to a hard surface))~~ or the conversion, modification, or upgrade

of an existing hard surface to another hard surface. Examples of a new hard surface include, but are not limited to, ~~((e.g.,))~~ converting, modifying, or upgrading:

1. ~~Vegetation, lawn, dirt, or other earthen material to a~~ hard surface (e.g., compact gravel, packed earthen material, permeable pavement, ~~((resurfacing by upgrading from dirt to gravel,))~~ a bituminous surface treatment ("chip seal"), asphalt, concrete, or a ~~((hard surface))~~ structure); ~~((or upgraded from gravel))~~

2. Gravel to permeable pavement, chip seal, asphalt, concrete, or a ~~((hard surface))~~ structure; ~~((or from a))~~

3. A hard surface to a modified hard surface (e.g., grading an existing parking area and repaving);

4. A hard surface to a ~~((hard surface))~~ structure; or

5. A structure to another hard surface or another structure not otherwise meeting the definition of replaced hard surface ~~((↑))~~.

~~((Note that if))~~ If asphalt or concrete has been overlaid by a chip seal, the existing condition ~~((should be))~~ is considered ~~((as))~~ asphalt or concrete.

If, for a structure, the existing foundation is removed or, for any other hard surface, the subgrade or base course grade elevation is modified beyond what is required to repair the existing hard surface or base course, then the structure or other hard surface is a new hard surface.

~~(("New impervious surface" means a surface that is: changed from a pervious surface to an impervious surface (e.g., resurfacing by upgrading from dirt to gravel, a bituminous surface treatment ("chip seal"), asphalt, concrete or an impervious structure); or upgraded from gravel to chip seal, asphalt, concrete, or an impervious~~

~~structure; or from a impervious surface to an impervious structure. Note that if asphalt or concrete has been overlaid by a chip seal, the existing condition should be considered as asphalt or concrete.))~~

* * *

3. Amend SMC 22.801.200 "S" in Section 2 of CB 121190 as follows:

22.801.200 "S"

* * *

~~(("Single family residential project" means a project that constructs one Single family Dwelling Unit as defined in subsection 23.84A.032 and any associated accessory dwelling unit located in land classified as being Neighborhood Residential 1 (NR1), Neighborhood Residential 2 (NR2), or Neighborhood Residential 3 (NR3) pursuant to Section 23.30.010, and the total new plus replaced hard surface is less than 5,000 square feet.))~~

"Site" means the area defined by the legal boundaries of a parcel or parcels of land subject to development. For roadway projects, the length of the project site and the right-of-way boundaries define the site. A site may include multiple parcels and/or sections of right of-way, if multiple parcels and/or sections of right-of-way are subject to development.

"Slope" means an inclined ground surface.

"Small lakes" means Bitter Lake, Green Lake, and Haller Lake.

"Small project" means a project with:

1. Less than 5,000 square feet of new and replaced hard surface; and

2. Less than ~~((one-acre))~~ 10,000 square feet of land disturbing activities.

* * *

"Stream" means a ~~((Type S, F, Np or Ns water as defined in WAC 222-16-031, or as defined in WAC 222-16-030 after state water type maps are adopted, and is used synonymously with "creek."))~~ watercourse through which naturally occurring surface waters flow sufficiently, whether on a perennial or intermittent basis, to carve a defined channel or bed evidencing the passage of water, including but not limited to bedrock channels, gravel beds, alluvial mineral beds, defined-channel swales, and beds containing hydraulically sorted sediments. "Stream" does not include watercourses created entirely by artificial means, such as irrigation or roadside ditches, stormwater runoff devices, or canals, unless the watercourse conveys a stream that flowed naturally prior to the creation of the watercourse. "Stream" is used synonymously with "creek".

"Surface waters" means "surface waters of the state" as defined in chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington) and includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands and all other surface waters and watercourses within the jurisdiction of the state of Washington.

* * *

4. Amend Table A (On-site List for Parcel-based Projects) in SMC 22.805.070 in Section 5 of CB 121190 as follows:

Table A for 22.805.070 On-site List for Parcel-based Projects

| |
|--|
| ((Table C for 22.805.070 On-site List for Parcel-based Projects)) |
|--|

| Category | BMPs | Projects Discharging to a Receiving Water Not Designated by Section 22.801.050, Public Combined Sewer, or Capacity-constrained System, or its Basin | Projects Discharging to a Designated Receiving Water or its Basin |
|----------|---|---|---|
| 1 | Full Dispersion | R, S | R, S |
| 1 | Infiltration Trenches | R, S ^g | R, S ^g |
| 1 | Drywells | R, S ^g | R, S ^g |
| <u>1</u> | <u>Rainwater Harvesting—Category 1 Sizing</u> | <u>X^e</u> | <u>X^e</u> |
| 2 | Rain Gardens <u>With or Without Tree</u> | R ^a , S ^a | R ^a , S ^a |
| 2 | Infiltrating Bioretention <u>With or Without Tree</u> | R, S | R, S |
| <u>2</u> | <u>Infiltrating Soil Cell Bioretention With Tree</u> | <u>X</u> | <u>X</u> |
| ((2)) | ((<u>Rainwater Harvesting—Category 2 Sizing</u>)) | ((<u>X^e</u>)) | ((<u>X^e</u>)) |
| 2 | Permeable Pavement Facilities <u>or approved equivalent</u> | R, S | R, S |
| 2 | Permeable Pavement Surfaces <u>or approved equivalent^h</u> | S | S |
| 2 | Sidewalk/Trail Compost-Amended Strip ^h | S | S |
| <u>3</u> | <u>Infiltrating Soil Cell Bioretention Without Tree</u> | <u>X</u> | <u>X</u> |
| 3 | Sheet Flow Dispersion | R, S | R, S |
| 3 | Concentrated Flow Dispersion | S | S |
| 3 | Splashblock Downspout Dispersion | R | R |
| 3 | Trench Downspout Dispersion | R | R |

| | | | |
|----------|--|---------------------------------|---------------------------------|
| 4 | Non-infiltrating Bioretention | R ^d , S ^d | R ^d , S ^d |
| <u>4</u> | <u>Non-Infiltrating Soil Cell Bioretention With Tree</u> | <u>X</u> | <u>X</u> |
| 4 | Rainwater Harvesting—Category 4 Sizing | R ^{b, f} | X ^f |
| 4 | Vegetated Roofs | R ^c | ((X)) R ^c |
| <u>4</u> | <u>Residential Cistern</u> | <u>X</u> | <u>X</u> |
| 5 | Perforated Stub-out Connections | R | R |
| 5 | Trees ^(t) | S | S |

Note that subsection 22.805.070.D.1 requires consideration of all on-site BMPs in a category for feasibility before moving on to each successive category as necessary. Within a category, BMPs may be considered in any order.

Key to Table ((C)) A for 22.805.070

R = Evaluation is required for all roof runoff from parcel-based projects.

S = Evaluation is required for all other hard (non-roof) surfaces of parcel-based projects, unless otherwise noted below.

X = Evaluation is not required but is allowed.

^a Rain gardens cannot be used to meet Section 22.805.080 (Minimum Requirements for Flow Control) or Section 22.805.090 (Minimum Requirements for Treatment) or for projects with areas of 5,000 square feet or more hard surface infiltrating on the project site.

^b Evaluation is not required for projects with less than 20,000 square feet of new plus replaced rooftop surface.

^c Evaluation is not required for projects with less than 5,000 square feet of new plus replaced rooftop surface.

^d Water quality treatment BMPs sized to meet Section 22.805.090 (Minimum Requirements for Treatment) may be installed in lieu of non-infiltrating bioretention unless the project discharges to a public combined sewer basin.

^e Category ((2)) 1 rainwater harvesting shall be sized to meet the on-site performance standard, subsection 22.805.070.C.

^f Category 4 rainwater harvesting shall be sized to reduce the runoff volume by 25 percent or more on an annual average basis.

Brian Goodnight
Governance and Utilities Committee
5/14/2026

D2

^g Evaluation of other hard (non-roof) surfaces is not required but is allowed.

^h Infiltration testing is not required to use for the on-site list approach; it is only necessary to prove infeasibility.

Screen Reader Users: Make sure settings include reading strikethrough and underline font attributes.

Amendment 2 Version #1 to CB 121190 – 2026 Stormwater Code Update

Sponsor: Council President Hollingsworth

Additional recitals highlighting City advocacy and intent for future updates

Effect: This amendment would add three recitals to the bill: the first highlighting the City’s advocacy to prohibit the sale of tires containing 6PPD, the second stating that the City will continue to collaborate with leading researchers on the role of trees in stormwater management, and the third detailing the consideration of the best available science, effective techniques from other jurisdictions, and climate resilience in future Stormwater Code updates.

1. Insert a new Recital 4, as follows:

Recital 4. In the 2026 state legislative session, the City advocated for a bill that would have prohibited the sale of tires containing 6PPD beginning in 2035 and, although unsuccessful, the City intends to continue advocating for the prohibition of 6PPD and similarly harmful chemicals in tire sales statewide.

2. Renumber remaining recitals, as appropriate.
3. Insert new Recitals 13 and 14, as follows:

Recital 13. The City, through Seattle Public Utilities, will continue to collaborate with leading researchers and academics prior to the next Stormwater Code update to explore the proper role and function of trees in stormwater management requirements.

Recital 14. The City will continue to implement the best available science, incorporate effective stormwater management techniques from comparable jurisdictions, and consider climate resilience in its efforts to improve environmental protections in future updates of the Stormwater Code.



Legislation Text

File #: Inf 2889, **Version:** 1

Response to Statement of Legislative Intent (SLI) ITD-010S-A-2: Artificial Intelligence Investment and Usage Reports

2026 STATEMENT OF LEGISLATIVE INTENT

V2

ITD-010S-A

Request that Seattle IT provide a series of reports on the City's investments in, and uses of, Artificial Intelligence

SPONSORS

Alexis Mercedes Rinck, Rob Saka, Mark Solomon, Robert Kettle, Sara Nelson

CENTRAL STAFF SUMMARY

This Statement of Legislative Intent (SLI) requests that Seattle Information Technology (Seattle IT) provide a series of reports on the usage of Artificial Intelligence (AI) across City departments, including pilot projects, integrations into existing technologies, and roadmaps for larger rollouts or distribution. The reports should also detail the financial costs for each of the AI initiatives (one-time and ongoing), any plans for partnerships, and significant lessons learned from prior testing and pilot projects.

The City has taken a deliberative approach to testing AI products over the past couple of years, and in 2024, Seattle IT established a strategy for the City to delay any major AI investments until late 2025 or early 2026. At this time, the majority of the AI initiatives have been cost-free or relatively inexpensive, resulting in the City having almost no ongoing AI liabilities.

Earlier this year, the City released its 2025–2026 AI Plan, which provides a guide for transitioning from an AI exploration phase into the strategic implementation of AI technologies. The Mayor has also established an IT Subcabinet AI Workgroup to steer AI investments, which is intended to ensure that proposed investments are aligned with priorities set by the Mayor and the Council, meet security and privacy requirements, and produce value through improved service delivery.

The Council requests that Seattle IT submit quarterly AI reports to the Council committee with oversight of Information Technology. Seattle IT should work with the chair of the committee to determine whether the reports should be submitted as written reports or should be presentations to the committee.

Responsible Council Committee(s): Governance and Utilities

DUE DATE: April 1, 2026



Artificial Intelligence Usage Report

2026 – Quarter 1 (April 1, 2026)



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Executive Summary

During the budget process in fall 2025, the City Council requested Seattle IT provide a series of reports on the City's investments in, and use of, Artificial Intelligence. Please see Appendix B to view a copy of the 2026 Statement of Legislative Intent (SLI). This is the first 2026 quarterly report and responds to the information requested in [SLI ITD-010S-A](#) in the following five areas. Section five regarding workforce upskilling and education was not specifically requested in the SLI request, but this is an important component in our AI efforts so updates will be included from quarter to quarter. Subsequent quarterly reports will follow the same structure and provide new updates from the last quarterly report. The information in this first quarterly report reflects activity and initiatives from the previous mayoral administration from 2025 through early 2026. Upcoming quarterly reports will reflect Mayor Katie B. Wilson's updated Citywide AI strategy. Report due dates for 2026 are: Q1 (4/01/26), Q2 (7/01/26), Q3 (10/01/26), and Q4 (12/31/26).

- 1) Usage of Artificial Intelligence (AI) across City departments, including pilot projects, integrations into existing technologies and roadmaps for larger rollouts or distribution;
- 2) Financial costs for each of the AI initiatives (one-time and ongoing);
- 3) Plans for partnerships;
- 4) Significant lessons learned from prior testing and pilot projects; and
- 5) Workforce upskilling and education.

The City of Seattle has been at the forefront in developing policy and positioning Seattle as a national leader in responsible artificial intelligence implementation to better serve residents and businesses. Seattle was one of the first cities in the country to release a [generative AI policy](#) in April of 2023, which was then iterated and fully implemented [that October](#). The original policy established governing principles for the City's approach to AI including: innovation, accountability, reliability, fairness, privacy, explainability, and security. In practice, the policy was compliance-centric and did not set strategic direction, center efforts on the City's priorities, build for engagement with staff and partners, nor show positive impact through successful and responsible uses.

In September of 2025, the City of Seattle announced the rollout of the City's [2025-2026 AI Plan](#) paired with an [updated, 2nd-generation AI policy](#). This extended the guiding principles beyond generative AI to all general AI solutions with new trainings to empower the City to use this technology responsibly. The AI Plan serves as a guide for transitioning from an AI exploration phase into the strategic implementation of AI technologies. Our training and upskilling plan includes an introductory Citywide course, deep dive workshops on data science and data integrations, and partnerships with universities. The City is committed to working with labor partners to invest in the professional development of our employees, protect jobs, and preserve the rights of workers while improving the essential services the City provides.

In addition to the City's 2025-2026 AI Plan guidance, the City's AI efforts are being coordinated by the Mayor's Information Technology Subcabinet (MITS) AI Workgroup. The MITS AI Workgroup was formed in late 2025 and provides structured coordination on the City's growing and varied AI efforts, providing visibility and direction from the Mayor's Office, Seattle IT, and with input from lead departments. The Workgroup was formed to review, provide guidance, and evaluate AI projects and investments



departments propose to ensure they:

- 1) Are aligned with priorities set by the Mayor and City Council in Executive Orders, the Budget, and that significantly improve department performance;
- 2) Pass Security, Privacy, and Responsible Use checks;
- 3) Show real and quantified service improvements with adoption/satisfaction to produce value for City investment; and
- 4) Demonstrate trackable ongoing AI performance, appropriate behavior, and operational sustainability over time.

Seattle is positioning AI not as a cost center or a replacement for workers, but as a multiplier for trust, service improvement, and long-term community resilience. Seattle is demonstrating that innovation done right means choosing people first, choosing focus over fragmentation, and choosing public benefit over vendor hype.

Because the information requested in the SLI mostly aligns with the framework in the AI Plan, this first quarterly report will reference information frequently from the AI Plan. In preparing this first AI report to Council, Seattle IT consulted with Council President Joy Hollingsworth's Office and Councilmember Alexis Mercedes Rinck's Office (SLI sponsor) about the report and presentation to committee. While presented in more detail in the subsequent five sections of this document, the following provides a quick summary of the information requested in the SLI:

- **Usage of Artificial Intelligence (AI) Across City Departments:**
 - 22 approved AI software and in active use
 - 16 AI pilots (1 about to begin; 4 executing; 8 completed with decisions; 1 paused; and 2 in review)
 - 17 departments have reached out about new AI software
 - 6 departments are currently running AI pilots
- **Financial Costs of AI Initiatives:**
 - AI Innovation Fund (\$400,000 in the 2025 Year-End Supplemental for ITD-coordinated pilot projects): These one-time dollars were approved as a matching fund for use on initiatives from departments that would overcome burdens on staff, accelerate smart decision-making, and/or improve responsiveness to the community, requiring investment by departments to access the fund.
 - \$750,000 was appropriated in the 2026 Construction and Inspections Fund for the purchase and on-going subscription for an AI permitting tool.
 - \$750,000 was appropriated in the 2026 Information Technology Fund for the Permitting Accountability and Customer Trust (PACT) Program.
- **AI Partnerships:**
 - Working closely with labor partners to ensure that Seattle's AI future strengthens both our workforce and the communities we serve. AI is a tool to augment staff and service levels, not replace people.
 - In January 2026, Seattle IT completed a partnership agreement with UW that allows us to engage with researchers at UW on AI work.

- Completed three AI Community Innovation Hackathons from September to November 2025.
- **Lessons Learned:**
 - CivCheck: This pre-application screening tool for building permits showed an approximate 50% reduction in average days for intake review of permits and 35% reduction in correction cycles per review. 86% of SDCI pilot users reported business value from CivCheck.
 - Microsoft Copilot Chat: The pilot was conducted in 2025 from September to November over two separate waves totaling 500 users. City employees in the pilot self-reported 83% finding business value from having access to Copilot Chat, 79% had a positive user experience, and they reported an average time savings of 2.5 hours/week per user, showing reduced load and improved responsiveness.
- **Workforce Upskilling and Education (May 2025 to February 2026, with more planned for 2026):**
 - Total AI executive/senior manager upskilling sessions and attendees: 2, 44
 - Total upskilling and training sessions: 8
 - Total employee participation: 308
 - Total AI training employee website views: 1579
 - Total training video/presentation views: 699

Usage of Artificial Intelligence (AI) Across City Departments

Seattle IT maintains a detailed list of all AI software and AI pilots across the City and the information will be published on the [Seattle IT AI Program](#) website in Q2 2026. In this first quarterly report, please go to Appendix A to see the complete list describing the AI Software and Pilot name, functional and operational area, and the department lead for that AI technology. In describing the usage of AI by City departments, we are designating them into two categories: 1) Approved AI Software and 2) AI Pilots and Proofs of Concept. Approved AI Software means the software is primarily an AI software and has passed Seattle IT’s official review process. AI Pilots are time bound initiatives to test feasibility, functionality, and business value of an AI software or initiative. The following table provides a breakdown of the two categories and the status for them.

| Approved AI Software (not pilots) | |
|--------------------------------------|-------|
| Status | Total |
| In Active Use | 22 |
| In project phase (will be used) | 5 |
| No longer used | 7 |
| *Requested and under IT review | 6 |

| AI Pilots/ Proofs of Concept | |
|---------------------------------|-------|
| Status | Total |
| Executing or about to begin | 5 |
| Completed | |
| Deploy & Scale | 3 |
| Decision pending | 1 |
| Sunset | 4 |
| Paused/Cancelled | 5 |
| *Planned and under IT Review | 2 |



In summary, nearly all departments are exploring and leveraging AI software in different capacities, either to improve workflow efficiency, or to provide value to residents. The following departments have consulted with Seattle IT about AI software and completed the software review approval process as required by our [AI Policy](#): 1) Human Services Department, 2) Seattle Public Utilities, 3) Office of Police Accountability, 4) Office of Sustainability and Environment, 5) Office of Inspector General for Public Safety, 6) Seattle Department of Transportation, 7) Seattle Police Department, 8) Community Assisted Response and Engagement (CARE), 9) Seattle Fire Department, 10) Seattle IT, 11) Seattle Department of Human Resources, 12) Seattle City Light, 13) Seattle Parks and Recreation, 14) Office of Economic Development, 15) Seattle Department of Construction & Inspections, 16) Office of Labor Standards, and 17) Office of Planning & Community Development. Six departments are currently running AI pilots: 1) Seattle Public Utilities, 2) Innovation & Performance Team, 3) Seattle Department of Construction & Inspections, 4) Seattle IT, 5) Seattle Police Department, and 6) Seattle Fire Department. AI software that has completed the pilot process, IT approved in alignment with our Responsible AI principles, data protection, data security, and governance, and is in a position to be deployed at an enterprise level to all City departments and employees include: 1) Microsoft Copilot Chat and 2) Microsoft Copilot Studio.

Aligned with the civic priorities defined by the Mayor’s Office, City Council, and departmental leadership, we are highlighting AI technologies to help accelerate permitting and housing, improve public safety, enhance the responsiveness of customer service for Seattle residents, and enable more accessible and plain-language interactions to remove barriers.

- **Public Safety:** The Seattle Police Department is actively exploring and implementing AI across several dimensions of public safety and operations. AI-assisted triage tools (Corti) are being piloted to improve dispatch decisions for non-emergency calls, helping direct resources more effectively. The department has also explored AI-powered tools to streamline body camera footage redaction (CaseGuard), and enhanced legal research capabilities have been enhanced through AI-assisted document search (Westlaw deep research). They have tested various general-purpose AI assistants to establish the governance, security, and configuration standards needed to responsibly deploy generative AI for everyday staff workflows, and are using learnings to build towards the streamlining of various business use cases using generative AI (C3, Amazon Q, and Claude). Coming up, AI and data analysis capabilities will be applied to support Missing and Murdered Indigenous People investigations, including efforts to better identify tribal affiliation in existing reports, and to strengthen homelessness data collection (ForceMetrics). To improve community access, SPD will experiment with chatbot interfaces that allow residents to submit crime reports directly (CaseX). While not every tool has moved forward, these efforts reflect SPD's commitment to thoughtfully evaluate AI's potential to support both officers and the communities they serve.
- **Permitting:** The Seattle Department of Construction and Inspections (SDCI) is piloting AI tools aimed at reducing the permitting backlog and improving the experience for both applicants and city reviewers. Pre-application screening tools are being evaluated to help applicants identify potential issues in their submissions before formal review. AI-powered plan review tools allow applicants to test their architectural and engineering designs against local zoning, land use, and building codes. On the customer service side, SDCI is piloting an AI-powered chatbot to intelligently route inquiries to the right support teams, with a phased approach that will eventually allow residents to self-serve for common questions while preserving the option to speak with a person. Together, these efforts reflect a thoughtful strategy to apply AI at multiple points in the permitting lifecycle — reducing friction for applicants, supporting staff efficiency,



and ultimately helping Seattle move projects forward more quickly.

- **Transportation Safety:** The Seattle Department of Transportation (SDOT) is piloting the use of AI powered video analysis tools to support Vision Zero efforts, signal timing, and operational awareness. These tools process video with GPU servers that use AI and machine learning to provide reports and metrics. Live streams from city owned traffic cameras provide vehicle counts, vehicle classification, speeds, red light running metrics, bus only lane violations, near miss analysis, crash detection, pedestrian crossings, and other metrics to describe how people use our roadways. These reports are useful in monitoring how people are detouring with the WSDOT Revive I-5 long-term closures. We are using these tools along Martin Luther King Jr Way S in partnership with Sound Transit as part of a federal grant to further our Vision Zero efforts on the corridor. We expect to also use the tools during the traffic changes around FIFA events as we work to keep people safe and moving along our roadways.
- **Communication Tools:** Several departments have requested tools to assist with text editing, help draft communications that address bias in language, generate copy using customizable templates to ensure consistency in voice, address challenges associated with complex and technical language in public-facing communications, generate an AI animated avatar in alignment with voice recording, and create presentations quicker. This group of software includes three that are currently in use: Grammarly, Textio, and Jasper.ai.
- **Chatbot Tools:** This category of tools simulates human-like conversations in natural language and may be used to handle basic customer requests and interactions. The chatbot dialogues with its user using machine learning to understand user input and provide real-time responses. This group of software includes two that are currently in use (Esri Support Chatbot and Microsoft Copilot Chat) and one not in use yet but will be soon (CaseX).

AI Integrations Into Existing Technologies:

As of February 2026, the primary AI tool that would integrate into our digital workplace tools and is ready for deployment at an enterprise level to all City employees is Microsoft Copilot Chat. After completing comprehensive testing, piloting, and training from August 2025 to February 2026, we are in position to operationalize Copilot Chat citywide as it aligns with Responsible AI principles, data protection, data security, and governance. By providing employees with an AI chatbot option on City devices and through the secured Microsoft 365 environment, it ensures we are transparent, equitable, and accountable. As with all digital workplace tools made available to employees, they are responsible for reviewing outputs, correcting errors, attribution, and ensuring the information aligns with City values. Enabling Copilot Chat does not have any additional license cost as part of our current Microsoft 365 license subscriptions and is included in our existing license structure.

All new AI-related technology requests are required to go through the official AI intake, security, and privacy review process. Identifying potential issues, addressing concerns, and integration feasibility are a core component of the evaluation workflow process. Looking forward, the following are operational systems and software that have been flagged that could potentially be assessed for integration opportunities.

- The Seattle Police Department's Data Analytics Platform (DAP) used by the SPD data science team are exploring an AI agent tool called "AI Navigator." The Accenture built tool is a generative AI-based platform designed to help organizations define AI strategies, build business cases, select architectures, and implement responsible AI.



Seattle Information Technology

- The City of Seattle’s Geographic Information System (GIS) is built on Esri technology. GIS is a spatial data mapping and analytics platform integrated with many of Seattle’s major business systems including work management, asset management, permitting, utility billing, and more. Besides GIS’s unique ability to integrate with and analyze business system data, it is commonly used to provide a spatial dimension to all aspects of business processes and day-to-day decision making. GIS currently supports field operations, asset management, property and facilities management, emergency management, permitting and land use planning, transportation planning and design, environment and environmental justice, event planning and event management, and public access and outreach. Implemented in the late 1980s, GIS is today a crucial technology resource used by virtually all City departments and offices. The use of GIS is particularly pronounced in SDCI, SPR, SDOT, SPU, SCL, SPD, and SFD, all of whom have major investments in the technology.

In 2025, Esri released a browser-based AI chatbot that is available to all. This AI tool is not integrated into their products nor into other City technology solutions. In addition, Esri announced AI assistant tools that will be released in the future. These will be integrated to a number of their products currently used by the City of Seattle (ArcGIS Pro & ArcGIS Online). In 2026, Seattle IT will explore the potential benefits of these new tools and will go through the AI intake, security, and privacy review process.

- The City of Seattle uses Microsoft PowerBI and Tableau business intelligence tools. These provide capabilities for visualizing, analyzing, transforming, and understanding complex data.
 - Tableau offers an AI tool called “Einstein”, which is available to any licensed user as part of our existing Cloud licensing. Because there have been no specific asks or use cases presented, Seattle IT has not initiated any official AI security and privacy review process to enable “Einstein.”
 - Microsoft offers a version of Copilot integrated into PowerBI. Similar to the situation with Tableau’s Einstein product, Seattle IT has not initiated any AI security and privacy reviews at this time given the lack of requests or specific use cases.
- Oracle is a major relational database management system used across most City departments and offices. As part of the ITD Strategic Plan, Seattle IT is pursuing a 2026 workplan item to explore modernization and automation advancements for Oracle database administration. Our goal is to develop an understanding of the AI database features Oracle has integrated into their most recent versions and consider how they could be applied to the day-to-day work of database administration. This opportunity may allow Seattle IT to leverage AI to automation and process improvements, especially for activities that are repetitive and labor intensive. If successful, it would free up database administrator capacity to focus on higher-level needs and areas of data administration and data management that are less conducive to AI automation. An additional aspect of this initiative will apply a new but necessary focus on preparing and managing data for AI consumption. Since many of the potential AI implementations at the City of Seattle will rely on data, attention must be given to preparing data for AI use in order to achieve accurate and consistent results. Best practices will be developed and communicated to data-focused professionals around Seattle IT and the City.
- Accela is an online application submission and workflow management tool used by the city to manage many of our permitting, licensing, and code enforcement lines of business. It moves us closer to a goal of a unified point of entry for service offerings to customers and a consolidated system for our staff to improve efficiently through cross-departmental cooperation. Accela is



the application system behind the [Seattle Services Portal](#) website and is in the top five for most accessed website on Seattle.gov. There is currently two AI pilots related to improving the permitting process — CivCheck and Archistar. Because there have been no specific integration requests with Accela for these AI pilots, Seattle IT has not initiated an integration assessment.

Roadmaps for Larger Rollouts:

The execution roadmap in the AI Plan states, *“Seattle IT will scale from pilot testing toward Citywide use of its first main AI options between 2025 and 2026, navigating the volatility of the AI marketplace with strategic discipline. Governance structures like the Mayor’s IT Subcabinet and centralized review will steer investments, ensuring alignment with community needs and ethical standards. Performance indicators and ROI analyses, including bias audits, user satisfaction, and supportability, will determine success.”* AI priority pilots are guided by high-impact opportunities and City priorities: 1) Enhancing public safety, 2) Streamlining permitting process, 3) Increasing utilities efficiency, 4) Improving government service access, 5) Expanding data analytics availability, 6) Increasing employee productivity, and 7) Improving community support.

These quarterly reports will highlight AI software that is ready for larger enterprise rollout and software currently being evaluated for a potential larger rollout in the future. Ready for larger enterprise rollout means the software completed the official pilot, proof of value, communication, and engagement process.

- **Ready for Larger Enterprise Rollout (Q1-2026):**

- Microsoft Copilot Chat: Copilot Chat is an AI-powered conversational assistant integrated into Microsoft 365, Edge, and Windows, designed to boost productivity by summarizing meetings, drafting content, editing, and searching. It acts as a side-panel assistant that understands context, allowing users to analyze files, generate content, save time on research, and automate tasks. Results from the pilot process are provided below under the lessons learned section.

- **Potential Larger Rollout in the Future (Under Review):**

- AI Governance Tools: Given security trends and briefings in late 2025, Seattle IT observed the need to take a new and layered approach to its Cybersecurity program in 2026. The advent of AI tools and agentic threats has shifted the field and how we can identify, protect, detect, and respond to threats. Seattle IT leadership has identified goals for a layered tools strategy from perimeter and domain traffic patterns, to data activity patterns, to device agents, to identify and access patterns. A new mix will be required to establish visibility, security guardrails, and compliance management for embedded, SaaS (Software as a Service), and native AI applications that currently does not exist. Further, it looks to be a fragmented vendor environment for the foreseeable future, making risks higher. Shadow AI usage and preventing inappropriate usage of AI in the City will be both crucial and difficult.
- NebulaONE (AI platform): nebulaONE is an AI platform and toolbox that uses market-leading models to create custom, secure, and useful AI agents within the City of Seattle Azure cloud environment. Platform allows for rapid prototyping in sandbox and ability to create customized personal AI agents in a low-code environment. IT plans to invest in nebulaONE, a low-code, sandbox environment for rapid AI development and



prototyping that is aligned with our data infrastructure and governance standards.

- Copilot Studio: The plan is to introduce Copilot Studio in production in the second half of 2026 based on approval. This capability extends the existing Citizen Developer paradigm of the Power Platform by allowing staff to create AI-enabled app and Copilots based on the guardrails of low-code strategy building app library and cost models. The solution built in Copilot Studio will go through a structured review and approval process that includes:
 - A mandatory vetting process before deployment
 - Data access and security controls
 - Compliance and responsible-AI safeguards
 - Operational oversight to ensure sustainability and alignment with business needs

Our goal is to empower employees with modern tools while ensuring responsible, transparent, and union-aligned implementation.

AI Pilot Request Process and Mayor’s Information Technology Subcabinet (MITS) AI Workgroup:

The City has established a centralized AI governance process to ensure responsible and effective adoption of AI technologies across departments. When a department identifies an AI solution they want to test, they submit a proposal through a standardized intake form that describes the business problem, anticipated value, and compliance with the City's Responsible AI policies. The AI Request Review Group—a staff-level team of subject matter experts convened by the City AI Officer—conducts rigorous analysis to assess whether AI is the right technical approach, evaluate business justification, check if existing city tools already solve the problem, and identify potential compliance concerns.

Based on their recommendation, the MITS AI Workgroup—comprised of leadership from key departments along with the Mayor’s Office and City Budget Office—will make final go/no-go decisions on whether pilots should proceed. Approved proposals then advance to detailed architecture, security, and privacy reviews before piloting begins. After pilots complete, departments submit a comprehensive evaluation that measures business impact, user experience, technical performance, and responsible AI compliance against citywide objectives, which informs the final decision on whether to scale to full deployment.

Security and Privacy:

[Seattle IT’s AI Policy](#) states, “*City of Seattle AI solutions must be used to solve meaningful challenges and enhance service delivery. At the same time, they must reflect Seattle values through responsible, secure and transparent use. Failures in AI-driven solutions erode public trust in City services and confidence in our staff, often at a greater scale than in traditional technologies. To mitigate these risks, all AI work, systems, and solutions must:*

- 1) *Adhere to established City security, privacy, and responsible use practices and principles.*
- 2) *Assess and control for risks at every stage from procurement to deployment (“go-live”).*
- 3) *Monitor and manage performance and impact throughout the solution’s lifecycle.”*



Seattle Information Technology

The City's Chief Information Security Officer (CISO) ensures all AI solutions have the required controls, monitoring, and incident response, in accordance with the City's IT Security Policy (ITSP) and oversees the security practices of AI solutions.

The City's Chief Privacy Officer (CPO) role and responsibility includes: 1) Ensuring AI solutions are used in accordance with this policy and the City's Privacy Policy; 2) Coordinating review of AI solutions procured through ITD for use by City departments, including coordinating completion of the AI Vendor FactSheet, as detailed in the AI Acquisition & Operation Manual; 3) Overseeing the privacy practices of AI solutions; and 4) Creating and maintaining AI risks and impact criteria and the documentation to support the exception review process for AI solutions.

Additionally, as part of [SMC 14.18](#) ("Surveillance Ordinance"), all new technology acquisitions including all the technologies listed under Appendix A, are listed in the [CTO Quarterly Determination Reports](#). The quarterly report provides a list of all such technology acquisitions, the process followed, and the determinations for each of the technologies reviewed.

Financial Costs of AI Initiatives

For the financial costs reporting in this first quarterly report, we are recapping the 2024 financial strategy, providing an update on AI funding from the most recent budget decision at the end of 2025, and the general cost impact from software and pilots in 2025. Please note that we will include more detailed information about the technologies listed under Appendix A in the 2nd quarterly report. Seattle IT understands the importance of tracking AI financial information closely, knowing vendors will likely push minimal costs at the beginning and then costs ballooning in future years. We are tracking one-time and ongoing financial costs, including operations and maintenance fees, cloud storage fees, and subscription fees.

- **2024 Financial Strategy:** Seattle IT set a strategy for the City in 2024 to not make major AI investments until mid-2025 to mid-2026, as the vendor space and pricing were too early and dynamic. This proved correct as token, hardware, and model pricing have all fallen dramatically. Additionally, contract terms were harder to negotiate as vendors were struggling to respond to privacy and validation requirements for responsible use.
- **2025-2026 AI Innovation Fund (\$400,000):** [Council Bill 121113](#) appropriated \$400,000 in the 2025 Year-End Supplemental for ITD-coordinated pilot projects. These one-time dollars were approved as a matching fund for use on initiatives from departments that would show value to City priorities, overcome burdens on staff, accelerate smart decision-making, and/or improve responsiveness to the community, requiring investment by departments to access the fund. These are to be augmentive and 35% is designed to support core/common AI infrastructure that benefits everyone. Proposals would be submitted to the Mayor's IT Subcabinet (MITS) AI Workgroup for review. Seattle IT was not in a position to execute on these funds in 2025 because the MITS AI Workgroup process was being developed and the first AI Officer for the City of Seattle joined in December 2025. Seattle IT will propose carrying forward the \$400,000 in a special carryforward ordinance in Q2 2026.
- **2026 Council Budget Action SDCI-005-A-1:** \$750,000 was appropriated in the Construction and Inspections Fund for the purchase and on-going subscription for an AI permitting tool. The one-time cost of the tool is \$500,000 and the remainder would be an ongoing \$250,000 cost for subscriptions and integration.



Seattle Information Technology

- **Creation of the Permitting Accountability and Customer Trust (PACT) Program:** \$750,000 was appropriated from the Information Technology Fund for the PACT Program to improve customer trust and service transparency. The investment supports end-to-end case visibility, more complete and accurate service information, performance and survey metrics, expanded language and accessibility features across web, mobile, chat, and virtual agents, and dashboards that show leadership, staff, and the public how the City is performing by case type. AI elements are focused on language support and virtual agents for contact center overflow. The funding also supports unifying the City's constituent relationship management (CRM), mobile app, and performance reporting platforms across departments to improve service and reduce long-term costs through shared implementation. One full-time equivalent (FTE) staff member was approved to support the CRM platform, integrations, and customer-facing service delivery. Together, these investments are intended to create a faster, more transparent, and more user-friendly experience for Seattle residents and businesses.
- **2025 AI Software Testing and Pilots:** Seattle IT and departments have obtained a significant amount of the major pilots on grants and Proof of Concept/Proof of Value projects, so as to minimize City investments until clear value is demonstrated. Investments that the City has made have been small in cost. Some existing systems have rolled out AI features and components that are incorporated into the subscription and licensing fees.
- **2026 AI Software and Pilots:** For the technologies listed in the table under Appendix A, Seattle IT will detail the 2026 financial costs for the approved AI software currently in use and pilot cost estimates in the second quarter AI report.

AI Partnerships

Success through partnerships is one of the four strategic pillars in our City of Seattle 2025-2026 AI Plan. The City's AI plan rests upon these four strategic pillars, providing a foundation for successful long-term use for people and City operations. Partnerships are represented by:

- Collaborating with academia (e.g., University of Washington), nonprofits, and industry to pilot solutions that reflect shared values.
- Engaging the public through educational campaigns, resident-focused tools, and community feedback mechanisms.
- Aligning with other governments to monitor policy impacts and advocate for responsible technology legislation.
- Partnering with our labor partners to ensure proactive engagement and clear communication.

We are collaborating with academia, industry, and communities to gain access to cutting-edge research, expertise and diverse perspectives that shape effective and ethical AI solutions. We are seeking out opportunities to engage the private sector, non-profit, government, and educational communities to enable joint work including:

- Innovation and Performance coordination to ensure collaboration and efforts are focused on City priorities around data analytics, performance metrics, and data objectives.
- Academic Collaborations with the University of Washington (UW) and Seattle University. In January 2026, Seattle IT completed a partnership agreement with the UW that allows us to



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engage with researchers at UW for AI work, establishing a framework through which the City of Seattle and the UW will collaborate on artificial intelligence research, development, technical/professional services, and applied projects on a service order basis. As part of this intergovernmental agreement, Seattle IT has allocated up to \$50,000 for the costs and invoicing requirements for the service order requests with the UW.

- Partnerships across sectors to address data-sharing, infrastructure readiness, and workforce upskilling by offering resources and aligning objectives.
- Industry and university engagement and activation in the form of support for local incubators and accelerators, participation in innovation challenges, partnerships with universities and non-profits, and acquisition of grant-funded projects to supplement City-funded efforts where they align with priorities. City initiatives have included AI House with the State of Washington (pre-AI Plan); constituent language and access support through Gooey.ai with support from the Rockefeller Foundation; an Intergovernmental Agreement with the University of Washington that allows the City to tap the UW for projects, research, and development; hackathons for permitting and customer response with local entrepreneurs and student groups at AI House and AI2; and development of an AI model with the UW Center for Responsibility in AI Systems and Experiences that evaluated State statutes, City ordinances and code, Directors Rules, and guidance for conflicts, gaps, and needs for clarification to accelerate permitting for housing and business.
- Community and non-profit partnerships to accelerate innovation while ensuring focus on public values and digital equity advocacy and build a resilient, inclusive, and empowered community to solve challenges non-profit service organizations face in delivering needed services, including joint work with and support for the GovAI Coalition.

Partnering With Labor:

City leadership has worked closely with labor partners and will continue to be a key ally to ensure that Seattle's AI future strengthens both our workforce and the communities we serve. AI is a tool to augment staff and service levels, not replace people. Efforts to retrain and reposition employees for future-ready roles get us to the service level goals Seattle aspires to. Piloting AI solutions without the input and collaboration of represented employees risks undermining both effectiveness and the trust that sustains successful innovation. The City's labor partners bring a critical understanding of workflows, resident interactions, and the on-the-ground realities that shape implementation. By working together, the City ensures that AI solutions are co-designed to enhance and not disrupt, and that we realize our shared vision of equitable, people-centered, high-performing municipal service.

Our collaborative work with labor was recently demonstrated as part of the Microsoft Copilot Chat outreach plan. We communicated the rollout plan and structured training with our union partners, both Local 17/Coalition and IBEW 77. We will continue to keep our labor partners up to date and informed about AI and Copilot specifically. The conversation themes centered around focusing pilots on AI opportunities that (1) relieve the burdens where employees identify them, (2) allow us to make much better decisions, and (3) enable levels of high responsiveness to staff and community that are not currently possible.

In January, Seattle IT began outlining an AI for Managers learning session focused on leadership oversight and accountability in AI adoption. This work is intended to support managers as departments begin exploring AI-enabled workflows and tools such as Copilot. Early planning focused on ensuring

managers have a shared understanding of the City’s Responsible AI expectations, privacy and public records considerations, and the role of leadership in evaluating appropriate use cases. The session concept also highlights the importance of responsible experimentation through targeted pilots, reinforcing that managers remain accountable for reviewing AI-supported work, protecting sensitive information, and ensuring alignment with City policies and operational standards as AI capabilities continue to evolve.

Regional and National Collaborations:

Seattle IT is in communication with the following government agencies and organizations regarding AI policy, current uses and trends, and regulation to navigate a complex and evolving AI landscape responsibly.

- **Washington State Legislature:** Seattle IT and the Office of Intergovernmental Relations monitored the following AI-related bills by state lawmakers during the 2025-26 legislative session.

| Bill Number | Bill Description | Status |
|-------------------|---|----------------------|
| HB 2157 & SB 6120 | Regulating high-risk artificial intelligence system development, deployment, and use. | Bill did not advance |
| HB 2667 & SB 6284 | AI consumer protections. | Bill did not advance |
| HB 1622 & SB 5422 | Allowing bargaining over matters related to the use of artificial intelligence. | Bill did not advance |
| HB 2225 & SB 5984 | Regulating artificial intelligence companion chatbots. | Passed |
| HB 1170 | Informing users when content is developed or modified by artificial intelligence. | Passed |
| SB 5956 | Addressing artificial intelligence, student discipline, and surveillance in public schools. | Bill did not advance |
| SB 5886 | Concerning personality rights. | Passed |

- **Government AI Coalition:** Formed by the City of San Jose, CA, the Government AI Coalition is collaborating with government agencies across the country to develop standards that promote effective, equitable, trustworthy AI systems to better serve our communities. The GovAI Coalition is committed to using AI for social good, ensuring ethical and responsible AI governance, promoting vendor accountability, realizing improved efficiency, and fostering cross-agency collaboration and knowledge sharing. The Coalition is the largest collection of responsible AI partners spanning government, academia, non-profit, and related partners with 900 organizations, giving it the ability to influence industry and policy. As it moves to become a full non-profit organization in 2026, Seattle aims to be supportive.
- **MetroLab Network Generative AI for Local Governments Task Force:** This group is composed of individuals from cities, counties, non-profits, universities, and metropolitan planning organizations from around the country. Seattle’s work on MetroLab’s AI Task Force concluded, the work was published, and the organization has since been absorbed by the Federation of American Scientists (FAS).
- **State of Washington’s AI Community of Practice:** Seattle IT staff are engaged with WaTech’s AI



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Community of Practice, which continues to work to provide guidance for the development, procurement and implementation of AI technologies by Washington state agencies.

- **State of Washington’s Artificial Intelligence Task Force:** In 2024, the Washington State Legislature passed ESSB 5838, establishing an [Artificial Intelligence \(AI\) Task Force](#). Managed by the Attorney General's Office and although the City of Seattle is not a Task Force member, we monitor the reports and meetings.

Public-Private Partnerships:

- **AI House:** In March of 2025, the [AI House](#) was launched through a public-private partnership. A first-in-the-nation AI hub, focused on entrepreneurs, startups, investors, and community leaders building the next era of AI in Seattle. Launched through a partnership between the City of Seattle’s Office of Economic Development (OED), [AI2 Incubator](#), and [Ada Developers Academy](#), this hub provides co-working space, event space, and collaborative tools for founders creating AI-focused companies. The financial cost included a \$210,000 investment from OED to support programmatic needs and \$400,000 from Washington Department of Commerce for real estate. The goal of the partnership is to foster the unique talent and AI potential present in the Seattle area. Data from Greater Seattle Partners shows that Seattle is currently home to more than 400 AI companies, nearly 200 AI startups, and is a top ten location for AI job markets—all of which is contributing to the global AI market potential of up to \$15.7 trillion by 2030, positioning Seattle as an emerging global leader in AI. Through the AI House partnership, as AI projects mature, they can expand into long-term spaces in Downtown Seattle, fueling economic growth and growing the roster of AI companies in Seattle. From March 2025 through December 2025, OED’s support has contributed to:
 - 24 teams recruited to the incubators
 - \$40.6 million raised
 - 119 events were held with 11,153 participants
 - 127 resident experts (talented applied AI research leaders, founders & builders, engineering executives, product and design leaders, and startup executives)
- **Community Innovation Hackathons:** The Community Innovation Hackathon Series is hosted by Seattle’s Innovation and Performance Team in partnership with AI House. It brings together students, entrepreneurs, technologists, City staff, and community to co-create AI-powered solutions to critical City priorities. These hands-on events facilitate rapid design, prototyping, and presentation of data-driven solutions to specific challenges.
 - The first hackathon was on September 11, 2025, and focused on developing AI-powered tools to enhance Seattle’s Youth Connector web application, aiming to improve awareness and access to youth enrichment programs citywide. This event was based on City research, which identified awareness as the primary barrier to youth participation in mental health-supporting activities.
 - The second hackathon was on October 9, 2025, which focused on streamlining permitting processes. We have heard from the community that permits take too long. In response, we have new goals to speed up permitting timelines and to drive that work, the City created the [Permitting Accountability and Customer Trust \(PACT\)](#) team. PACT is designed to improve the speed, predictability, and transparency of permits for housing

and small businesses. The City’s PACT team challenged the hackathon participants to leverage AI and open data in creative ways that will further our goal of making construction permitting simpler, faster, and more transparent for everyone. All of the winning teams focused on ways to predict and illuminate the process of permitting for users as early as possible, to enable them to avoid pitfalls and anticipate delays.

- The third hackathon was on November 6, 2025, and focused on customer service requests. Teams were challenged to use open data and AI tools to prototype ideas that improve the customer service process or experience — to simplify processes, improve teamwork, and focus on what matters most: helping people and delivering better results.

Lessons Learned

The AI Plan provides in detail a structured Proof of Value (PoV) process and performance metrics to determine the return on investment (ROI). The AI Plan states, *“technologies are evaluated through a ‘Proof of Value’ framework that prioritizes City impact, cost, and operational experience over vendor hype and anecdote.”* The City’s AI Proof of Value framework ensures pilots are judged on clear objectives, business value, responsible use, and long-term supportability, not hype-fueled adoption we hear from sales staff. The return on investment analysis measures the benefits of technology to ensure thoughtful adoption will be specific to each pilot and dependent on the features and functions of the solution under consideration. In general, assessing the return on investment for a pilot will include the following performance metrics:

| Objective | SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) |
|-------------------------------|--|
| Business Value | By the end of a pilot, 80%+ of pilot users reported that they found business value in using the solution. |
| Alignment with Business Goals | Confirm that the solution aligns 100% with business goals and City values. |
| Responsible AI | By the end of the pilot, 100% of pilot users will be educated on the City’s Responsible AI principles. |
| Success Criteria | Establish a benchmark and record measurable benefits of an AI-supported solution compared to the previous solution/approach. |
| Accuracy and Reliability | Measure against the acceptable accuracy of output, including bias and hallucination audit results. |
| User Experience and Feedback | By the end of the pilots, achieve an 80%+ positive rating for overall user experience. |
| Supportability/Scalability | By the end of the pilots, achieve a “Yes” to supportability and scalability of the piloted solution at the City of Seattle. |

The following highlights lessons learned using the proof of value framework evaluation process for technologies that have completed the testing and pilot process:

- CivCheck: This pre-application screening tool for building permits showed an approximate 50% reduction in average days for intake review of permits and 35% reduction in correction cycles per review. 86% of SDCI pilot users reported business value from CivCheck. This is an example of a tailored AI solution to address business problems but requires fine tuning in order to see



significant gains. CivCheck is still currently being evaluated among the AI prescreening tool pilots.

- Microsoft Copilot Chat: The pilot was conducted in 2025 from September to November over two separate waves totaling 500 users. We saw active and robust participation by departments and employees. City employees in the pilot self-reported 83% finding business value from having access to Copilot Chat, 79% had a positive user experience, and they reported an average time savings of 2.5 hours/week per user, showing reduced load and improved responsiveness. Staff found the tool easy to use and results from the pilot indicate the tool would help employees process their work where it may lessen being overwhelmed; help make better decisions; and/or help with responsiveness. Copilot Chat offers immediate business value through time savings, improved communication, and increased productivity, particularly for knowledge workers. While some limitations were noted, such as integration gaps and occasional inaccuracies, the tool was well received and demonstrated strong potential for broader use. This pilot demonstrated a significant desire and opportunity for AI assistants to be force-multipliers in workforce efficiency.
- C3 Pilot: By replacing manual, siloed workflows with AI-driven insights and interactive dashboards, the application reduced collision analysis time and highlighted safety hotspots. However, while the pilot showed exciting results, productionization would require significant effort, configuration, and internal staffing. SDOT is currently evaluating a 3rd party vendor integration and also assessing developing an internal solution that better aligns with our data architecture and governance.
- AI Governance Tools: Seattle IT piloted a tool to provide visibility and compliance monitoring for AI usage across the City of Seattle organization and to track any shadow AI usage. The tool detected 38 out of (at least) 56 shadow AI tools, which validated its value as part of a layered governance model, and is undergoing risk-based evaluation for tooling adoption. Based on the key learning, Seattle IT will implement new firewall configuration rules that will begin blocking unauthorized AI services in the City starting in the second quarter.

From the testing and evaluations conducted in 2025, we learned that proofs of concept developed by external consultants and vendors can be difficult and expensive to integrate into our production environments and to maintain. Examples include the C3 pilots from SPD and SDOT, and the SPU robotic vision project for pipe leakage detection.

Workforce Upskilling and Education

Workforce upskilling is one of the four strategic pillars in the [City of Seattle 2025-2026 AI Plan](#). In summary, we have launched training programs, lunch and learns, and community events to meet the following goals in the AI Plan:

- Launching a comprehensive Citywide AI training program with tiers focused on Fundamentals, Approaches, and Solutions;
- Reskilling staff to navigate ethical AI use and prepare for shifts in roles and responsibilities; and
- Establishing continuous education, cultural change management, and collaboration with unions to support workforce transitions.

Furthermore, the AI Plan states, *“we are working with industry partners to develop an AI skilling*



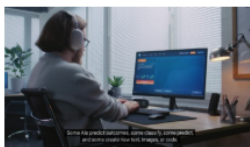
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program centered on *AI Fundamentals, AI Approaches, and AI Solutions*. *AI Fundamentals ensures that everyone—from officials to managers to front-line employees—can distinguish fact from fiction, understand core AI concepts, account for required human decision-making, and speak the general terminology the City will use. This common grounding empowers all City staff to approach new AI opportunities with informed caution, recognize ethical considerations such as bias and privacy, and uphold community trust by knowing how to safeguard sensitive data and ensure equity.* Upskilling staff to develop and support AI solutions includes a three-phased approach:

- Phase 1: Developing Citywide introductory AI overview training in-house.
- Phase 2: Holding upskilling workshops focusing on data science, responsible use, and operational support to develop a detailed training for a deeper dive into issues and next steps to integrate AI into our environment.
- Phase 3: Partnerships with academic and industry institutions to create a curriculum for ITD and other developers.

City Employee AI Training Program: The City of Seattle employee AI Training page went online in 2025 and is accessible by all city employees to explore available AI training resources. Below are screenshots of the training page and the available AI training courses.

^ City of Seattle Training



Responsible AI at the City of Seattle

seattlegov.sharepoint.com

This is an overview of the City of Seattle's approach to responsible AI, highlighting its One Data Strategy, human oversight requirements, workforce training, and commitment to equitable, effective, and transparent AI use in public service.



Understanding AI - A Guide for City of Seattle Staff

seattlegov.sharepoint.com

This guide introduces City of Seattle staff to the fundamentals of AI, emphasizing its potential to improve City services. It outlines key concepts like machine learning, generative AI, and human oversight, while stressing the need for privacy, bias mitigation, and staff training.

^ LinkedIn Learning & Cornerstone Courses

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|--|--|---|--|
| Agentic AI: Building Data-First AI Agents | Foundations of Responsible AI | Responsible AI for Managers | AI Meets Accessibility |
| Everyday AI Concepts | Artificial Intelligence Foundations: Machine Learning | Programming Foundations: Artificial Intelligence | Introduction to Artificial Intelligence |

Upskilling Workshops: Comprehensive AI upskilling effort ensures the entire organization is on the same page—aligned in language, priorities, and process—so the City can responsibly harness AI to serve its residents. The following ongoing upskilling sessions occurred from August 2025 to February 2026, with more planned for 2026:



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- Microsoft Copilot Chat — 2 Sessions (August 18, 2025)
 - Learning in three levels: (1) Foundations, (2) Approaches, and (3) Solutions Building
 - Prompt guidance, data handling, and cross-department readiness
- Microsoft Copilot Chat (October 8, 2025)
 - Two cohort-specific sessions introducing prompt design, applied use cases, and responsible AI practices
 - 110+ participants across departments; aligned with POL-211 and Responsible AI Principles
- ChatGPT Pilot (November 2025-January 2026) - ChatGPT pilot is currently paused.
 - After thorough review, current capabilities of OpenAI ChatGPT and its integration with Microsoft Purview and the Pay-As-You-Go model in Microsoft 365 Government Community Cloud (GCC) do not meet the required compliance standards. On February 10, leadership and key stakeholders agreed to pause the ChatGPT Pilot indefinitely to ensure adherence to Washington State and City of Seattle regulations regarding data handling. All pilot assets (education, governance, communications) will be retained for future use. When the pilot is able to restart, we will reach out to coordinate efforts for finalizing configuration and onboarding pilot users. Seattle IT's Business Solutions Division will continue collaborating with OpenAI and Microsoft to advance capabilities for government customers in Washington State.
- Citywide AI Curriculum— Foundations Track (October 2025 – March 2026)
 - Core modules on Responsible AI, data literacy, and safe tool use.
 - Integrated into onboarding and continuous learning for all employees.
- AI Community of Practice (AI Champs Network)
 - Monthly peer sessions and shared learning channel for applied AI practices and troubleshooting.
- Copilot Chat Lunch-n-Learns (November 2025): Advanced prompting, workflow integration, and live Q&A with vendor specialists.
- AI Safety Awareness — Jefferson Community Center (October 27, 2025): Community event on principles of and safe practices with AI. Target audience included young adults and seniors in the community. This was a free community event. Seattle IT partnered with AI Safety Awareness Project, a non-profit organization we have worked with since early 2025.
- AI for Managers — Responsible Use & Oversight (in progress, rollout in 2026)
 - Practical workshop for supervisors to embed responsible AI practices into team operations.
 - Reinforces leadership accountability and governance maturity.

In summary, the following metrics reflect city employee engagement for the above City Employee AI Training Program and Upskilling Workshops from May 2025 to February 2026, with more planned for 2026:



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- Total AI executive/senior manager upskilling sessions and attendees: 2, 44
- Total upskilling and training sessions: 8
- Total employee participation: 308
- Total AI training employee website views: 1579
- Total training video/presentation views: 699

Appendix A: AI Software and AI Pilots Table

The following department acronyms are used in the following tables and are provided as a reference:

| Acronym | Department |
|----------|--|
| CARE | Community Assisted Response & Engagement |
| Citywide | Multiple Departments |
| FAS | Finance and Administrative Services |
| HSD | Human Services Department |
| I&P | Innovation and Performance |
| ITD | Information Technology Department |
| OED | Office of Economic Development |
| OIG | Office of Inspector General |
| OLS | Office of Labor Standards |
| OPA | Office of Police Accountability |
| OPCD | Office of Planning & Community Development |
| OSE | Office of Sustainability & Environment |
| SCL | Seattle City Light |
| SDCI | Seattle Department of Construction & Inspections |
| SDOT | Seattle Department of Transportation |
| SFD | Seattle Fire Department |
| SHR | Seattle Human Resources |
| SPD | Seattle Police Department |
| SPR | Seattle Parks & Recreation |
| SPU | Seattle Public Utilities |

AI Software Table:

| Software | Department | Category | Status | Description & Business Case |
|----------|---------------|-------------------|------------------|---|
| Textio | OPA, OSE, OIG | Augmented writing | Currently in use | Textio is an augmented writing platform that analyzes drafts and suggests edits to reduce bias and improve clarity and reach. Multiple departments use Textio to help HR and hiring teams craft job postings and candidate communications that align with DEI and RSJI standards. |



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| Derq | SDOT | Business-specific use case | Currently in use | Derq provides a machine learning platform that counts, classifies, and monitors roadway activity, speeds, collisions, and near-miss events. SDOT uses Derq to analyze pedestrian and vehicle behavior, capture short video clips of near misses for engineering review, improve safety analysis, support operational decisions efficiently at scale, and support real-time signal timing adjustments. |
| Currux | SDOT | Business-specific use case | Currently in use | Currux provides a machine learning platform that counts, classifies, and monitors roadway activity, speeds, collisions, and near-miss events. SDOT uses Currux to analyze pedestrian and vehicle behavior, capture short video clips of near misses for engineering review, improve safety analysis, support operational decisions efficiently at scale, and support real-time signal timing adjustments. |
| BLTN | SPD | Business-specific use case | Currently in use | BLTN is a CJIS-secure, cloud-based platform for creating and sharing criminal information bulletins with images and videos. It allows detectives to create online bulletins, curated feeds, and facilitates communication between detectives handling related cases by alerting them to the possibility of a connection between their cases. SPD uses BLTN to modernize information sharing, improve investigative collaboration, and help detectives quickly identify related cases across units and partner agencies. |
| Corti | SPD, CARE, SFD | Call triage | Currently in use | Corti provides AI-powered audio analysis that supports real-time decision-making for medical dispatch and triage. This system has been in place since 2019. It listens to the first 30 seconds of |



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| | | | | 911 calls and flags low acuity calls for triage to a nurse line. This is a visual cue only to assist with dispatch decisions. |
| Esri Support Chatbot | ITD, Citywide | Chatbot | Currently in use | Esri is the City's GIS vendor. The support chatbot helps users diagnose and resolve GIS-related error messages. A small number of city staff use it to reduce time spent troubleshooting, enabling faster resolution of common Esri support issues. |
| Microsoft Copilot Chat | ITD, Citywide | Chatbot | Currently in use | Microsoft Copilot Chat is a generative AI assistant included with City licenses that supports drafting, summarizing, editing, and file analysis. Staff who participated in the pilot use it as a productivity tool to generate documents, refine presentations, and summarize content quickly. Copilot Chat is approved by IT for Citywide use. |
| Jasper.ai | SHR, SDOT | Communications; Copy generation | Currently in use | Jasper.ai is a generative content platform that produces customizable copy aligned with brand and voice guidelines. Departments use Jasper to maintain consistent messaging, simplify technical language for public audiences, and support multilingual communication needs. |
| BlastPoint | SCL | Customer targeting | Currently in use | BlastPoint is a predictive analytics tool that merges utility data with public and proprietary datasets to model customer behavior. Seattle City Light uses it to identify customer propensities, target communications, and improve engagement efficiency and cost-effectiveness. |



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| Placer.ai | SPR, OED, SDOT | Geospatial analysis | Currently in use | Placer.ai uses AI and anonymized mobile location data to estimate visitor counts and analyze foot traffic behavior. Departments use it to understand visitation trends in neighborhoods, support economic forecasting, and plan for facilities, maintenance, and energy needs. |
| Topaz AI | ITD | Image editing | Currently in use | Topaz Photo AI is an image enhancement tool that reduces noise and sharpens or upscales imagery using AI. The Seattle Channel uses it to improve photo and video asset quality for broadcast and digital content. |
| Synthesia.ai | ITD, SHR | Learning & Development | Currently in use | Synthesia creates AI-generated videos with avatars using uploaded scripts or documents. Various departments use it to streamline production of training materials without requiring on-camera recordings. |
| Articulate AI Assistant | ITD, SPD, SPU, SDCI, HSD, SCL | Learning & Development | Currently in use | Articulate's AI Assistant accelerates creation of e-learning content within the Articulate platform. Staff use it to generate, refine, and polish training modules more quickly. |
| Adobe Captivate | SPU | Learning & Development | Currently in use | Adobe Captivate is an e-learning authoring tool with generative features for text, images, avatars, and transcripts. SPU staff uses it to develop interactive training courses for staff. |
| Powtoon - Text to Speech converter | SPD | Learning & Development; Text to speech generation | Currently in use | Powtoon is a rapid authoring tool for creating animated training content with built-in text-to-speech. SPD uses it to produce leadership and employee development training videos without separate voiceover software. |



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| Otter.ai | SPD, OPA | Notetaker; Workflow automation | Currently in use | Otter.ai is an AI notetaking and transcription tool. Staff use it to automate transcription of interviews and virtual meetings, reducing manual documentation time. |
| Qualtrics | SDCI, HSD | Text analysis | Currently in use | Qualtrics provides survey tools with integrated text analysis to measure sentiment and engagement. Departments use it to understand pain points for staff and customers and to analyze feedback more quickly. |
| OpenGov AI-powered Public Procurement | FAS, Citywide | Workflow automation; Content creation | Currently in use | OpenGov's AI drafting tool uses natural language generation to produce initial scopes of work (SOW). Used to accelerate RFP development and research. |
| Westlaw Deep Research (Thomson Reuters) | SPD, OPA | Workflow efficiency; Content extraction | Currently in use | Deep Research enhances legal research within Westlaw using generative AI capabilities. SPD and OPA are testing it to search legal documents more efficiently and reduce time spent on complex research tasks. |
| Axon Fusus | SPD | Object recognition | Currently in use | Fusus is a real-time crime center platform with AI-powered object recognition for non-biometric labels in video (i.e. clothing object or color). This image labeling accelerates searches through video evidence and receive alerts matching investigative criteria. |
| Figma | SPU, SDOT, various | Workflow efficiency | Currently in use | Figma is a cloud-based design and prototyping tool with AI features such as semantic search, automated UI drafts, and image editing. Departments use it for UI/UX design efficiency and collaborative prototyping. |
| Grammarly | SHR | Workflow efficiency | Currently in use | Grammarly is an AI-powered writing assistant for grammar, clarity, and style. SHR uses it to improve communication consistency but plans to sunset the tool in 2026. |



| | | | | |
|------------------------|-----|---|-------------------------------|--|
| Chat.D-ID | OLS | Presentation creation; Text to voice generation | Never used | Chat.D-ID generates animated avatars and text-to-speech presentations. OLS considered using it to create presentation content using recorded staff voices for training and communication, but it was never used. |
| ForceMetrics | SPD | Business-specific use case | Not used yet but will be soon | ForceMetrics provides data linkage and visualizations across public safety data sources. SPD uses it to improve tribal affiliation data, enhance homelessness-related data collection, and support analysis of key programs like Missing and Murdered Indigenous People. |
| CaseX | SPD | Chatbot | Not used yet but will be soon | CaseX is a chatbot-based crime and incident reporting tool for residents to report low-level crimes. CaseX will replace an existing system and will streamline intake for low-level reports, improve user experience, and route cases accurately without requiring in-person response. |
| Telestream Stanza | ITD | Transcription & Translation; Workflow efficiency; Accessibility | Not used yet but will be soon | Telestream Stanza provides AI-driven transcription and captioning with editing and timing tools. ITD uses it to support retroactive accessibility work and ensure compliance with FCC and WCAG standards. |
| BA CoPilot | SCL | Workflow automation | Not used yet but will be soon | BA CoPilot generates business process diagrams and SOPs from text or images. SCL plans to use it to accelerate process documentation and standard operating procedure creation. |
| AWS Comprehend Medical | SFD | Workflow automation; Content extraction | Not used yet but will be soon | Comprehend Medical extracts medical information from unstructured text. SFD uses it to identify vital signs and treatments from EMS and hospital narratives to streamline clinical information extraction. |



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|--|--------------------------------|--|------------------------------------|---|
| Remini AI | ITD | Image editing | Used in the past but not currently | Remini is an AI image-enhancement plugin used for sharpening and improving photo quality. ITD previously used it for Seattle Channel media production before replacing it with Topaz AI. |
| Fathom AI | SPU (single use by contractor) | Notetaker; Voice-to-text transcription | Used in the past but not currently | Fathom AI transcribes and summarizes virtual meeting content. A contractor with SPU used it to analyze focus group conversations in a contractor-led engagement. |
| Beautiful.ai | OPCD (single user) | Presentation creation | Used in the past but not currently | Beautiful.ai generates presentation slides from prompts. A staff member used it to quickly produce visually appealing presentations, but it is no longer used by staff. |
| Axon ALPR (Automated License Plate Reader) | SPD | Object recognition | Used in the past but not currently | Axon ALPR uses computer vision to capture license plates and vehicle characteristics from patrol vehicle cameras. SPD uses it to automatically identify vehicles linked to warrants, missing persons, or investigations. ALPR was recently turned off. |
| Amazon Q (ASQ SQD) | SPD | Chatbot | Used in the past but not currently | Amazon Q for Business is a chatbot that provides access to public and internal job aids. SPD explored it as a solution for a low-risk generative AI assistant for general business tasks. However, it did not meet the needs of the business, and the team is exploring Claude as an alternative. |
| AiDash | SCL | Business-specific use case | Used in the past but not currently | AiDash uses satellite imagery and AI to analyze vegetation management needs for utilities. Seattle City Light used it in the past to assess vegetative clearances, tree health, and buffer compliance around transmission systems. |
| WellSaid Labs | SPD | Learning & Development; | Used in the past | WellSaid uses AI voice avatars to produce voiceover audio from |



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|--|--|--|----------------------|--|
| | | Video generation; Text to voice generation | but not currently | scripts. SPD previously used it to create instructional eLearning content. |
|--|--|--|----------------------|--|

AI Pilots Table:

| Technology/Pilot Name | Department | Pilot Status | Decision (after pilot completion) | Summary/Description |
|--|------------|----------------|-----------------------------------|---|
| Archistar | SDCI | Executing | | Archistar reviews architectural and engineering plans against zoning, land use, and building codes to help applicants identify compliance issues. SDCI is piloting it for similar reasons as CivCheck—to improve completeness and quality of submissions and reduce review cycle times. Archistar is building out the PoC and testing will begin pending SDCI prioritization. |
| Permit Application Navigator (PAN) Copilot project | SDOT | About to begin | | PAN is a Copilot Studio–based chatbot that guides applicants through SDOT permitting processes, translating project details into correct permit pathways. SDOT is pursuing it to reduce confusion caused by the multi-agency permitting environment and high customer support volume. The team is currently building out the chatbot. |
| ChatGPT | ITD | Cancelled | | ChatGPT is a generative AI chatbot used for workplace productivity tasks. Seattle IT determined public records and compliance risks were too high at the time, leading to cancellation of the pilot. The City may reconsider once required security capabilities exist. |



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|---------------------------------|-----|-----------|----------------------|--|
| ThriveBot | ITD | Cancelled | | ThriveBot was an external-facing conversational assistant intended to help residents access information about services, benefits, and activities, built as part of the Copilot Studio pilot. Key outcomes indicate that while the bot itself did not produce a usable external product, the work demonstrated the potential and limitations of Copilot Studio for future City use. |
| UW-MSFT Customer Service Bot | ITD | Cancelled | | This pilot aimed to build a multilingual AI chatbot to help residents find answers to common City questions. |
| UW-MSFT Business Assistance Bot | ITD | Cancelled | | This pilot sought to create an AI assistant to help businesses navigate City licensing, permitting, and support services in multiple languages. |
| Microsoft Copilot Chat | ITD | Completed | City-wide deployment | Copilot Chat provides AI-powered support for drafting, summarizing, coding assistance, and content analysis across Microsoft 365. Seattle IT piloted it to improve productivity and streamline communication. Key learnings: users experienced significant time savings, better communication, and strong value despite occasional inaccuracies. The tool demonstrated strong potential for broader use. |
| Microsoft Copilot Studio | ITD | Completed | City-wide deployment | Copilot Studio enables low-code creation of chatbots and conversational agents. IT tested it to empower citywide teams to build internal AI tools. Key learnings: it performed well for internal use cases, offered strong integration with Microsoft tools, and showed potential for scalable deployment. Technology not yet |



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| | | | | suitable for external-facing chatbots due to technical limitations, but there is a roadmap to address these issues. |
| CivCheck | I&P, SDCI | Completed | Pending | CivCheck is an AI-assisted pre-screening tool that helps applicants submit complete, review-ready permit applications. SDCI tested CivCheck because many applications arrive incomplete, driving low first-pass approval rates and lengthy correction cycles. |
| AI for SPU Workplace Efficiency - HR Chatbot | SPU | Completed | Scale to production. Currently waiting on Copilot Studio rollout. | This PoC compared chatbots built in Copilot Studio and Leena AI to answer HR questions using SPU’s documented policies and procedures. SPU pursued this to help employees find information without searching multiple repositories. Following the PoC, a decision was made to go with the CoPilot Studio version. |
| Gooey.AI SeaMore Voice Bot - Proof of Concept | ITD | Completed | Sunset | SeaMore was a voice-based AI assistant designed to provide rapid answers to common resident questions and reduce contact center call volume. The City tested it to explore a modern, centralized entry point for resident inquiries. Key learnings showed the platform was easy to use but had mixed translation performance; a later full pilot would have tested business value and call-volume impact. |
| CaseGuard | SPD | Completed | Sunset | CaseGuard uses AI to identify and redact sensitive information—such as faces, license plates, and computer screens—from body-worn video. SPD piloted it to support public disclosure reviews but found the |



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| | | | | system did not meet pilot requirements. |
| C3 Pilot for near miss analysis | SDOT | Completed | Sunset | This PoC used C3 AI's Safety Analysis platform to unify collision, speed, and roadway data and identify high-collision intersections. SDOT tested it to support Vision Zero efforts. Key learnings showed significant time savings in some areas, but also revealed that scaling the solution would require significant cost, configuration, and internal staffing. SDOT is now considering other vendors or internal solutions. |
| C3 Pilot for SPD Workforce efficiency | SPD | Completed | Sunset - explore alternate solutions (Claude) | This PoC evaluated natural-language querying and analytics for SPD's policy, law, and structured datasets. SPD pursued it to improve efficiency in answering internal client questions. Key outcomes showed the tool had low risk but also low reward, struggled with structured queries, and produced limited value, leading SPD to explore alternatives like Claude. |
| UW-MSFT Policy Review Engine | ITD | Executing | | <p>This project used a Retrieval-Augmented Generation (RAG) based model to analyze Washington State statutes, City ordinances, rules, and fees to identify contradictions, overlaps, and opportunities to streamline policy. ITD and SDCI collaborated with UW to build this PoC with the expected outcome of producing a prioritized roadmap of recommended policy updates, as reusable methodologies.</p> <p>UW team has produced prototype and the next step is to work with SDCI on evaluation.</p> |



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| SPU Drainage & Wastewater (DWW) Pipe Data Quality Control | SPU | Executing | | This PoC evaluates machine-learning and generative-AI-derived metrics for improving DWW pipe inspection data quality. SPU is testing whether AI-enhanced dashboards can support more accurate risk assessments and better business decisions. PoC results are pending and readout is expected in April. |
| Zendesk Chatbot | SDCI | Executing | | The Zendesk AI chatbot supports automated ticket intake and routing within the existing customer service platform. SDCI is piloting it to reduce misrouted tickets, surface self-help resources, and improve customer experience. The pilot will begin in April. |
| Microsoft M365 Copilot | ITD | Paused | Paused due to security concerns. | M365 Copilot integrates AI into Microsoft applications to enhance workflows and recommendations. The pilot was never started due to security concerns. |
| Knit.it | ITD | Review | | Knit.ai analyzes support tickets to evaluate vendor performance, enabling organizations to track service levels and identify underperforming contracts. |
| Waypoint Transit | SDOT | Review | | Waypoint Transit offers AI-powered tools designed to streamline city planning and traffic analysis for planners. Their platform integrates various data sources, such as crash reports, GIS layers, and transit feeds, into a unified system, enabling efficient geospatial analysis, corridor studies, safety audits, and multimodal transportation planning. Waypoint also supports Vision Zero initiatives, tailoring workflows to meet the |



Seattle
Information Technology

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| | | | | unique needs of municipalities and planning firms. |
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Appendix B: Council SLI ITD-010S-A



2026 STATEMENT OF LEGISLATIVE INTENT

V2

ITD-010S-A

Request that Seattle IT provide a series of reports on the City’s investments in, and uses of, Artificial Intelligence

SPONSORS

Alexis Mercedes Rinck, Rob Saka, Mark Solomon, Robert Kettle, Sara Nelson

CENTRAL STAFF SUMMARY

This Statement of Legislative Intent (SLI) requests that Seattle Information Technology (Seattle IT) provide a series of reports on the usage of Artificial Intelligence (AI) across City departments, including pilot projects, integrations into existing technologies, and roadmaps for larger rollouts or distribution. The reports should also detail the financial costs for each of the AI initiatives (one-time and ongoing), any plans for partnerships, and significant lessons learned from prior testing and pilot projects.

The City has taken a deliberative approach to testing AI products over the past couple of years, and in 2024, Seattle IT established a strategy for the City to delay any major AI investments until late 2025 or early 2026. At this time, the majority of the AI initiatives have been cost-free or relatively inexpensive, resulting in the City having almost no ongoing AI liabilities.

Earlier this year, the City released its 2025–2026 AI Plan, which provides a guide for transitioning from an AI exploration phase into the strategic implementation of AI technologies. The Mayor has also established an IT Subcabinet AI Workgroup to steer AI investments, which is intended to ensure that proposed investments are aligned with priorities set by the Mayor and the Council, meet security and privacy requirements, and produce value through improved service delivery.

The Council requests that Seattle IT submit quarterly AI reports to the Council committee with oversight of Information Technology. Seattle IT should work with the chair of the committee to determine whether the reports should be submitted as written reports or should be presentations to the committee.

Responsible Council Committee(s): Parks, Public Utilities & Technology

DUE DATE: April 1, 2026

Seattle IT Department Q1 2026 Artificial Intelligence Usage Report

Governance & Utilities Committee

May 14, 2026

Purpose of Briefing

- In 2025, the City Council adopted a 2026 Statement of Legislative Intent (ITD-010S-A-2) requesting Seattle IT provide a series of reports on the City's investments in, and use of, Artificial Intelligence (AI).
- **Information Requested:**
 - Usage of AI across City departments
 - Financial costs
 - Plans for partnerships
 - Significant lessons learned from prior testing and pilot projects
 - Workforce upskilling and education
- **2026 Reports** (posted online): Q1 (4/01/26), Q2 (7/01/26), Q3 (10/01/26), and Q4 (12/31/26)
- The first quarterly report reflects activity and initiatives from the previous mayoral administration from 2025 through early 2026.

Responsible AI Program

- **Responsible AI Program:** Upholding the City's commitments to Responsible AI Principles, through partnership, policy, and practice, as we innovate with powerful new AI technologies. To ensure responsible use of AI, the City has established guiding principles and policies, along with actionable guidelines and programs to assist City employees in using AI ethically and effectively.
- **AI Principles, Policy, Plan, and Vision:**
 - [Responsible AI Principles](#) – October 2023
 - [Artificial Intelligence Policy \(POL-211\)](#) – Updated May 2025
 - [2025-2026 AI Plan](#) – September 2025
 - [Mayor Wilson's AI Vision](#) – May 2026
- **City AI Officer:** Lisa Qian (Seattle's first-ever City AI Officer)
- **Public Website:** seattle.gov/tech/data-privacy/the-citys-responsible-use-of-artificial-intelligence



Responsible AI Program – Governance

- **Responsible AI Toolkit for City Departments/Employees:** Serves as a one-stop shop for questions, training resources, approved AI software, current AI pilots, intake resources, and FAQs.
- **Seattle IT AI Intake & Review Process:** When a department identifies an AI solution they want to test, they submit a proposal through a standardized intake form that describes the business problem, anticipated value, and compliance with the City's Responsible AI policies. The AI Request Review Group—a staff-level team of subject matter experts convened by the City AI Officer—conducts rigorous analysis to assess whether AI is the right technical approach.
- **Mayor's Information Technology Subcabinet (MITS) AI Workgroup:** Direction from the Mayor's Office, Seattle IT, and input from lead departments; chartered to review, evaluate, and provide go/no-go decisions on AI projects/investments.
- **Data Governance:** Unified data approach; Seattle Data Strategy; and managing data for AI.

AI Strategic Alignment

- AI tools aligned with the civic priorities defined by the Mayor, City Council, and departmental leadership.
- Help accelerate permitting and housing, improve public and transportation safety, enhance the responsiveness of services for Seattle residents, enable more accessible and plain-language communications, and day-to-day Digital Workplace tools for City employees (e.g., Copilot Chat is an optional new tool for employees to use)
- AI technologies are evaluated through a "Proof of Value" framework that prioritizes City impact, cost, and operational experience/outcome.
- Use cases (improving service delivery and fostering innovation across all departments) where AI can add the most value for City employees and the public.
- Working with business, labor, and community leaders to develop City-led public policies to ensure our residents and workers have the protections we need as the AI field expands.

AI & Environmental Impact

- AI's rapid pace of innovation, exponential growth and demand for resources have raised significant concerns about its potential negative impact on the environment.
- While we are committed to innovating and being leaders in using AI, we also know that AI's impact on the environment is significant.
- AI can be incredibly beneficial to our city, but delivering those benefits requires careful consideration of impacts on our workforce and environment. [On May 1, Mayor Wilson announced specific next steps to begin to address those concerns.](#)
- Below are links to information and resources, such as calculators, to help understand the environmental impact.
 - [Energy](#)
 - [Water](#)
 - [Community Health](#)

AI Intake & Review Process

- **All AI Pilots, Proofs of Concept (PoC) and requests for AI software are required to go through the City of Seattle Service Hub – Ask for New Technology (AFNT)**
- **AI Triage Review:** All submissions are reviewed by the AI Officer (and if necessary, members of AI Review Group) for (1) business value, (2) value of AI in solution, (3) privacy and security risk, (4) redundancy of technology. Requests that do not meet the bar may be denied, deferred, or redirected at this stage.
- **Approved requests progress to Architecture, Privacy, and Cybersecurity assessments.**
- **Pilots & PoCs** must include an evaluation plan to assess business value prior to launch and a post-pilot report upon completion. Reports are reviewed by AI Officer and AI review committee to determine next steps.
- **MITS AI Workgroup** holds final decision-making authority over the City's AI portfolio and investments, and is informed at key stages of the review process.

AI Usage Across City Departments

- Based on data from 2025 through March 31, 2026.
- 17 departments have reached out about AI software; 6 departments currently running AI pilots
- **Approved AI Software (not pilots):**
 - Active Use = 22
 - In Project Phase (will be used) = 5
 - No longer used = 7
 - Requested and under IT Review = 6
- **AI Pilots/Proofs of Concept**
 - Executing or about to begin = 5
 - Completed = 8
 - Paused/cancelled = 5
 - Planned and under IT Review = 2



AI Usage Categories

- **Public Safety:** Improve dispatch decisions for non-emergency calls; streamline body camera footage redaction; enhance legal research capabilities; commitment to thoughtfully evaluate AI's potential to support both officers and the communities they serve.
- **Permitting:** Aimed at reducing the permitting backlog and improving the experience for both applicants and city reviewers.
- **Transportation Safety:** Video analysis tools to support Vision Zero efforts, signal timing, and operational awareness.
- **Communication Tools:** Assist with text editing, help draft communications that address bias in language, generate copy using customizable templates to ensure consistency in voice, and address challenges associated with complex and technical language in public-facing communications.
- **Chatbot Tools:** Simulates human-like conversations in natural language and may be used to handle basic customer requests and interactions.

Lessons Learned – AI Proof of Value Framework

- The **AI Intake & Review Process** includes an **AI Proof of Value framework** with performance metrics to determine the return on investment (ROI) and to ensure pilots are judged on clear objectives, business value, responsible use, and long-term supportability. Objectives are evaluated using the S.M.A.R.T. criteria.

| Objective | SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) |
|--------------------------------------|--|
| Business Value | By the end of a pilot, 80%+ of pilot users reported that they found business value in using the solution. |
| Alignment with Business Goals | Confirm that the solution aligns 100% with business goals and City values. |
| Responsible AI | By the end of the pilot, 100% of pilot users will be educated on the City’s Responsible AI principles. |
| Success Criteria | Establish a benchmark and record measurable benefits of an AI-supported solution compared to the previous solution/approach. |
| Accuracy and Reliability | Measure against the acceptable accuracy of output, including bias and hallucination audit results. |
| User Experience and Feedback | By the end of the pilots, achieve an 80%+ positive rating for overall user experience. |
| Supportability/Scalability | By the end of the pilots, achieve a “Yes” to supportability and scalability of the piloted solution at the City of Seattle. |

Lessons Learned – Examples

- **AI Permitting Prescreening Tools:** This pre-application screening tool for building permits showed an approximate 50% reduction in average days for intake review of permits and 35% reduction in correction cycles per review. 86% of SDCI pilot users reported business value from the tools.
- **Microsoft Copilot Chat:** The pilot was conducted in 2025 from September to November over two separate waves totaling 500 users. City employees in the pilot self-reported 83% finding business value from having access to Copilot Chat, 79% had a positive user experience, and they reported an average time savings of 2.5 hours/week per user, showing reduced load and improved responsiveness
- **C3 Pilot:** By replacing manual, siloed workflows with AI-driven insights and interactive dashboards, the application reduced collision analysis time and highlighted safety hotspots. However, while the pilot showed exciting results, productionization would require significant effort, configuration, and internal staffing.

AI Partnerships

- **Success through partnerships is one of the four strategic pillars in our City of Seattle 2025-2026 AI Plan. Partnerships are represented by:**
 - Collaborating with academia, nonprofits, and industry to pilot solutions that reflect shared values.
 - Engaging the public through educational campaigns, resident-focused tools, and community feedback mechanisms.
 - Aligning with other governments to monitor policy impacts and advocate for responsible technology legislation.
 - Partnering with our labor partners to ensure proactive engagement and clear communication.



AI Partnerships – Community

- **UW Partnership:** Completed partnership agreement with the UW that allows us to engage with researchers at UW for AI research, projects, development, technical/professional services.
- **AI House:** First-in-the-nation AI hub, focused on entrepreneurs, startups, and community leaders building the next era of AI in Seattle. Partnership between the Office of Economic Development, AI2 Incubator, and Ada Developers Academy. Hub provides co-working space, event space, and collaborative tools for founders creating AI-focused companies. \$210,000 investment from OED to support programmatic needs and \$400,000 from Washington Department of Commerce for real estate. 24 teams recruited to the incubators; \$40.6 million raised; and 119 events were held with 11,153 participants.
- **Community Innovation Hackathons:** Students, entrepreneurs, technologists, City staff, and community co-created AI-powered solutions to critical City priorities.
 - September 2025: Improve awareness and access to youth enrichment programs citywide.
 - October 2025: Streamline permitting processes.
 - November 2025: Improve the customer service process or experience
- **AI Safety Awareness Community Event at Jefferson Community Center (October 2025)**

AI Partnerships – Labor

- Partnering with our labor partners to ensure engagement and communication.
- Committed to working with labor partners to invest in the professional development of our employees, protect jobs, and preserve the rights of workers while improving the essential services the City provides.
- The City’s labor partners bring a critical understanding of workflows, resident interactions, and the on-the-ground realities that shape implementation. By working together, the City ensures that AI solutions are co-designed to enhance and not disrupt, and that we realize our shared vision of equitable, people-centered, high-performing municipal service.
- Labor conversation themes centered around focusing pilots on AI opportunities that (1) relieve the burdens where employees identify them, (2) allow us to make much better decisions, and (3) enable levels of high responsiveness to staff and community that are not currently possible.

Workforce Upskilling and Education (2/2)

- **City Employee AI Training Program:** The City of Seattle employee AI Training page went online in 2025 and is accessible by all city employees to explore available AI training resources.
- **Upskilling Workshops:** Comprehensive AI upskilling effort ensures the entire organization is on the same page—aligned in language, priorities, and process—so the City can responsibly harness AI to serve its residents.
- **2026 Trainings/Engagement for City Employees and City Departments:**
 - Microsoft Copilot Chat Training
 - Citywide Employee AI Training
 - AI Training for Managers and Directors
 - AI Community of Practice (AI Champs Network)

Financial Costs (1/2)

- **2024 Financial Strategy:** Seattle IT set a strategy for the City in 2024 to not make major AI investments until 2025-2026, as the vendor space and pricing were too early and dynamic.
- **2025-2026 AI Innovation Fund (\$400,000):** Council Bill 121113 appropriated \$400,000 in the 2025 Year-End Supplemental for ITD-coordinated pilot projects. Seattle IT will propose carrying forward the \$400,000 in a special carryforward ordinance in Q2 2026.
- **2026 Council Budget Action SDCI-005-A-1:** \$750,000 was appropriated in the Construction and Inspections Fund for work related to AI permitting.
- **Creation of the Permitting Accountability and Customer Trust (PACT) Program:** \$750,000 was appropriated for the PACT Program to improve customer trust and service.

Financial Costs (2/2)

- **2025 AI Software Testing and Pilots:**
 - Seattle IT and departments have obtained a significant amount of the major pilots on grants and Proof of Concept/Proof of Value projects, so as to minimize City investments until clear value is demonstrated.
 - Investments that the City has made have been small in cost. Some existing systems have rolled out AI features and components that are incorporated into the subscription and licensing fees.
- **2026 AI Software and Pilots:** Seattle IT will detail the 2026 financial costs for the approved AI software currently in use and pilot cost estimates in the second quarter AI report.

Feedback and Questions

