

Summary of Key Changes to Seattle’s Stormwater Manual

Volume	2021 Stormwater Manual
Volume 1 – Project Minimum Requirements	<p>March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> • Placeholder watermarks added to code language (final code language will be added to the final manual) • Clarified definitions and provided examples for single-family residential, parcel-based projects, and special circumstances projects • Added approved landscape management plan as an alternative to treating runoff from pollution generating pervious surfaces • Added new section with submittal requirements for Preliminary Drainage Review • Updated and clarified submittal requirements for Standard Drainage Review and Comprehensive Drainage Review • Updated internal and external references and weblinks
Volume 2 – Construction Stormwater Control	<p>March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> • Split Concrete Handling and Concrete Washout Area into two separate BMPs for consistency with the 2019 Stormwater Management Manual for Western Washington (SWMMWW) • Minor BMPs updates (as summarized in the attached tables) • Minor terminology updates and clarifications • Updated terminology to "Construction Stormwater Control and Soil Management Plan" • Updated internal and external references and weblinks
Volume 3 – Project Stormwater Control	<p>March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> • Updated guidance related to the Infiltration Investigation Map • Clarified minimum investigation and testing requirements for shallow infiltration BMPs • Clarified On-site List Approach, On-site Performance Standard, and Flow Control requirements • Clarified Modeling Approach and added modeling guidance for projects located in closed depressions • Updated bypass, flow-through, and off-site flow general design requirements for on-line and offline BMPs • Updated and clarified presettling and pretreatment requirements • Added a new BMP (Sidewalk and Trail Compost-Amended Strip) • Updated BMPs and associated figures (as summarized in the attached tables) • Updated internal and external references and weblinks
Volume 4 – Source Control	<p>March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> • Updated, clarified, and added required BMP elements and recommended BMPs (as summarized in the attached tables) • Shifted several BMPs from Chapter 3 to Chapter 2 (BMPs for All Real Property) • Added new BMPs (with reference to the 2019 SWMMWW for specifics) • Added new Rooftop Dog Run BMP • Removed Lot Maintenance and Storage BMP • Updated internal and external references and weblinks
Volume 5 – Enforcement	<p>March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> • Placeholder page only. Volume 5 will be updated after the Ecology review period (July through September 2020) and will be available for public review in the fall of 2020.

Volume	2021 Stormwater Manual
Appendices	<p data-bbox="370 174 1013 203">March 2020 Public Review Draft Stormwater Manual</p> <ul style="list-style-type: none"> <li data-bbox="383 212 1365 275">• Appendix A <ul style="list-style-type: none"> <li data-bbox="428 245 1365 275">○ Placeholder page only. Refer to SMC, Chapter 22.801 to review definitions. <li data-bbox="383 285 1458 384">• Appendix B <ul style="list-style-type: none"> <li data-bbox="428 319 1430 348">○ Content deleted (included with reference to BMP C250 in the 2019 SWMMWW) <li data-bbox="428 352 1458 384">○ Will be updated to include Submittal Requirements in a future draft of the Manual <li data-bbox="383 394 1479 598">• Appendix C <ul style="list-style-type: none"> <li data-bbox="428 428 1386 491">○ Added new infeasibility criteria for All BMPs and All BMPs (except Rainwater Harvesting) <li data-bbox="428 495 1479 558">○ Added new infeasibility criteria for Vegetated Roof Systems for consistency with the On-site List Calculator <li data-bbox="428 562 1386 598">○ Revised categories for consistency with proposed Stormwater Code updates <li data-bbox="383 609 1433 812">• Appendix D <ul style="list-style-type: none"> <li data-bbox="428 642 1175 672">○ Clarified roles and responsibilities of licensed professionals <li data-bbox="428 676 1433 739">○ Updated documentation requirements for simple, standard, and comprehensive subsurface investigation reports <li data-bbox="428 743 943 772">○ Updated infiltration testing procedures <li data-bbox="428 777 1433 812">○ Added section for acceptance testing including criteria, requirements, and submittals <li data-bbox="383 823 959 1026">• Appendix E <ul style="list-style-type: none"> <li data-bbox="428 856 911 886">○ Updated and clarified design criteria <li data-bbox="428 890 688 919">○ Added new figure <li data-bbox="428 924 781 953">○ Added impermeable liner <li data-bbox="428 957 922 987">○ Clarified when each liner type applies <li data-bbox="428 991 959 1026">○ Added general planting design principles <li data-bbox="383 1037 1455 1241">• Appendix F <ul style="list-style-type: none"> <li data-bbox="428 1071 1182 1100">○ Added note regarding current approval status of MGSFlood <li data-bbox="428 1104 1455 1167">○ Added notes regarding the evaluation of tidal influence, sea level rise, and climate change (currently in progress) <li data-bbox="428 1171 1341 1201">○ Updated runoff curve number table for consistency with the SWMMWW <li data-bbox="428 1205 1130 1234">○ Updated internal and external references and weblinks <li data-bbox="383 1251 1433 1350">• Appendix G <ul style="list-style-type: none"> <li data-bbox="428 1285 1433 1314">○ Added O&M table for Proprietary Technology Modular Wetland System (No. 22) <li data-bbox="428 1318 1135 1350">○ Updated terminology, table numbering, and references <li data-bbox="383 1360 886 1423">• Appendix H <ul style="list-style-type: none"> <li data-bbox="428 1394 886 1423">○ One minor edit from 2016 Manual <li data-bbox="383 1434 805 1497">• Appendix I <ul style="list-style-type: none"> <li data-bbox="428 1467 805 1497">○ No edits from 2016 Manual

Summary of Changes to Volume 1 (Project Minimum Requirements) of the Seattle Stormwater Manual

March 2020 Public Review Draft Stormwater Manual

- Placeholder watermarks added to code language (final code language will be added to the final manual)
- Clarified definitions and provided examples for single-family residential, parcel-based projects, and special circumstances projects
- Added approved landscape management plan as an alternative to treating runoff from pollution generating pervious surfaces
- Added new section with submittal requirements for Preliminary Drainage Review
- Updated and clarified submittal requirements for Standard Drainage Review and Comprehensive Drainage Review
- Updated internal and external references and weblinks

Section Number and Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Chapter 1 – Introduction			
Section 1.2 – How to Use this Manual (Volumes 1 through 5 and Appendices)	Updated Appendix B reference. Appendix B content will be updated in a future draft to include additional detail on submittal requirements.		
Chapter 2 – Determining Minimum Requirements			
Step 1 – Define the Boundaries of the Project Site	Added new requirements for defining project site boundaries		
Step 2 – Identify the Type of Project	<ul style="list-style-type: none"> • Clarified definitions and provided examples for single-family residential and parcel-based projects • Added a new project type for certain land-disturbing activities. Shifted details on utility projects and pavement maintenance projects to Section 4.5 • Added clarification regarding special circumstances projects 		
Step 3 – Identify the Receiving Water and Downstream Conveyance	Added clarification regarding how to determine the receiving water and downstream conveyance		
Step 4 – Perform Site Assessment and Planning	No edits		

Section Number and Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Step 5 – Calculate Land-Disturbing Activity and New Plus Replaced Hard Surface	<ul style="list-style-type: none"> Renamed this step to add “and New Plus Replaced Hard Surface” Updated impervious surface terminology to hard surfaces Added guidance for existing hard surfaces that will be re-routed to another basin (considered replaced hard surfaces) 		
Step 6 – Calculate New Plus Replaced Pollution Generating Surface	<ul style="list-style-type: none"> Added guidance for existing pollution generating surfaces that will be re-routed to another basin or converted from non-pollution-generating surface to a pollution generating surface (considered replaced pollution generating surfaces) 		
Step 7 – Determine Which Minimum Requirements Apply	<ul style="list-style-type: none"> Clarified requirements for watersheds near the City limits discharging to adjacent jurisdictions (more stringent requirements apply) Added references to other internal documentation that may apply when determining the minimum requirements for a project 		
Chapter 3 – Minimum Requirements for All Projects			
Various	Minor terminology revisions and external reference updates		
Chapter 4 – Minimum Requirements Based on Project Type			
NA	<ul style="list-style-type: none"> Added mainline extensions to the list of key minimum requirements Added areas subject to additional/modified requirements 		
Section 4.4 – Parcel-Based Projects	Clarified threshold for parcel-based projects discharging groundwater		
Section 4.5 – Reduced Requirements for Certain Land-disturbing Activities	Consolidated requirements for utility projects, pavement maintenance projects, remediation projects (placeholder), and structural stormwater control projects (placeholder) in this section. Refer to draft Stormwater Code for specific language.		
Section 4.7 – Special Circumstances	Expanded section on special circumstances projects to include clarification for projects that propose to develop multiple blocks, projects that discharge to closed-contour basins, projects that discharge to multiple drainage basins, and projects that discharge to subbasins within the public combined sewer system.		
Chapter 5 – Minimum Requirement Standards			
Section 5.3 – Flow Control	Clarified requirements for projects with 35% or greater existing hard surface		

Section Number and Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Section 5.4 – Water Quality Treatment	<ul style="list-style-type: none"> • Added approved landscape management plan as an alternative to treating runoff from pollution generating pervious surfaces • Clarified that if the soil suitability criteria for infiltration treatment are met and presettling is provided, then the enhanced treatment performance goal is met • Removed the concept of Basic Treatment Receiving Waters • Removed employee parking lots for industrial and commercial project sites from the list of basic treatment requirements 		
Chapter 6 – Alternative Compliance			
NA	<ul style="list-style-type: none"> • Clarified impervious vs. hard surface 		
Chapter 7 – Site Assessment and Planning			
Section 7.2 – Project Boundaries and Structures	<ul style="list-style-type: none"> • Clarified that project boundaries may include multiple properties • Updated impervious surface terminology to hard surfaces 		
Section 7.8 – Site Design Considerations	Added a reference to BMP T5.40: Preserving Native Vegetation (Volume V of the SWMMWW)		
Chapter 8 – Drainage Control Review and Application Requirements			
Section 8.1 – Preliminary Drainage Review	Added a new Section with Preliminary Drainage Review submittal requirements		
Section 8.2 – Standard Drainage Review	Updated and clarified submittal requirements for Standard Drainage Review		
Section 8.3 – Comprehensive Drainage Review for Large Projects	Updated and clarified submittal requirements for Comprehensive Drainage Review		
Section 8.4 – Additional Documentation	Added upstream analysis to additional documentation requirements		

Summary of Changes to Volume 2 (Construction Stormwater Control) of the Seattle Stormwater Manual

March 2020 Public Review Draft Manual

- Split Concrete Handling and Concrete Washout Area into two separate BMPs for consistency with the 2019 SWMMWW
- Minor BMP updates (as summarized below)
- Minor terminology updates and clarifications
- Updated terminology to “Construction Stormwater Control and Soil Management Plan”
- Updated internal and external weblinks

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Temporary Cover Practices			
BMP E1.10: Temporary Seeding	No edits		
BMP E1.15: Mulching, Matting, and Compost Blankets	<ul style="list-style-type: none"> • Added note to Table 3 regarding evaluation of PCB content (recycled cellulose) • Added “wood straw” as an alternative name for hog fuel (for consistency with the 2019 SWMMWW) 		
BMP E1.20: Clear Plastic Covering	Added Design Criteria regarding drainage at the toe of the covered slope		
Permanent Cover Practices			
BMP E1.30: Preserving Natural Vegetation	Added weblink (SDOT Urban Forestry)		
BMP E1.35: Buffer Zones	Minor terminology edits (for consistency with the 2019 SWMMWW)		
BMP E1.40: Permanent Seeding and Planting	No edits		
BMP E1.45: Sodding	No edits		
BMP E1.50: High-Visibility Fence	Minor terminology edits (“filter fence” instead of “silt fence”)		
Temporary Erosion Control BMPs			
BMP E2.10: Stabilized Construction Access	<ul style="list-style-type: none"> • Updated BMP name for consistency with the 2019 SWMMWW (changed “entrance” to “access”) • Updated terminology (“access point” instead of “entrance,” added “exits”) • Added note regarding use of alternative materials (other than quarry spalls) 		
BMP E2.15: Tire Wash	Minor terminology edits		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
BMP E2.20: Construction Road Stabilization	Minor terminology edit		
BMP E2.35: Check Dams	Minor terminology edit		
BMP E2.40: Triangular Silt Dike (TSD)	<ul style="list-style-type: none"> • Updated BMP name for consistency with the 2019 SWMMWW • Minor terminology edits 		
BMP E2.45: Dust Control	Updated BMP references		
Permanent Erosion Control BMPs			
Ecology BMP C202: Riprap Channel Lining	Updated BMP name for consistency with the 2019 SWMMWW (added “Riprap”)		
Temporary or Permanent Erosion Control BMPs			
BMP E2.70: Subsurface Drains	No edits		
BMP E2.80: Earth Dike and Drainage Swale	Updated sizing criteria (minor revisions from the 2019 SWMMWW)		
Sediment Control Practices			
BMP E3.10: Filter Fence	<ul style="list-style-type: none"> • Updated terminology from “silt fence” to “filter fence” • Updated figure (refer to Public Review Draft figure packet) 		
BMP E3.20: Gravel Filter Berm	No edits		
BMP E3.25: Inlet Protection	<ul style="list-style-type: none"> • Updated BMP name for consistency with the 2019 SWMMWW (removed “Storm Drain” prior to “Inlet Protection”) • Minor terminology edits 		
BMP E3.30: Vegetated Strip	No edits		
BMP E3.35: Straw Wattles, Compost Socks, and Compost Berms	Minor terminology edits		
BMP E3.40: Sediment Trap	<ul style="list-style-type: none"> • Updated planning considerations • Clarified sizing criteria • Updated outlet riser or pipe elevation for consistency with Figure 19 		
BMP E3.50: Portable Sediment Tank	<ul style="list-style-type: none"> • Minor terminology edits • Added reference to BMP E3.40 for design inflow selection requirements 		
BMP E3.60: Construction Stormwater Filtration	<ul style="list-style-type: none"> • Terminology edits • Updated filtration treatment system design requirements (added reference to Element 3) 		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
BMP E3.65: Cleaning Inlets and Catch Basins	Updated BMP reference		
BMP E3.70: Street Sweeping and Vacuuming	Updated BMP reference		
Ecology BMP C241: Sediment Pond (Temporary)	Updated BMP name for consistency with the 2019 SWMMWW (moved “Temporary” to the end of the BMP name and removed “or Basin”)		
Source Control Practices			
BMP C1.15: Material Delivery, Storage, and Containment	No edits		
BMP C1.20: Use of Chemicals During Construction	Updated weblink (Ecology’s list of approved chemicals)		
BMP C1.25: Demolition of Buildings	Updated weblinks (Ecology’s Construction and Demolition web page, Puget Sound Clean Air Agency web page)		
BMP C1.30: Building Repair, Remodeling, and Construction	No edits		
BMP C1.35: Sawcutting and Paving Pollution Prevention	No edits		
BMP C1.40: Temporary Dewatering	<ul style="list-style-type: none"> • Minor terminology edits • Updated BMP references 		
BMP C1.45: Solid Waste Handling and Disposal	<ul style="list-style-type: none"> • Updated weblinks to City requirements and King County Green Tools • Updated timelines for disposal bans (Table 9) 		
BMP C1.50: Disposal of Asbestos PCBs	Updated weblinks		
BMP C1.55: Airborne Debris Curtain	Updated BMP reference		
BMP C1.56: Concrete Handling	<ul style="list-style-type: none"> • Updated BMP name (removed “and Disposal”) • Moved disposal-related content to BMP C1.58: Concrete Washout Area 		
BMP C1.58: Concrete Washout Area	<ul style="list-style-type: none"> • Added Concrete Washout Area as a separate BMP • Added conditions where practice applies • Added text for washout facility nearing capacity 		
BMP C1.59: High pH Neutralization Using CO ₂	No edits		

Summary of Changes to Volume 3 (Project Stormwater Control) of the Seattle Stormwater Manual

March 2020 Public Review Draft Stormwater Manual

- Updated guidance related to the Infiltration Investigation Map (Section 3.2)
- Clarified minimum investigation and testing requirements for shallow infiltration BMPs (Table 3.1)
- Clarified On-site List Approach (Section 3.3.1), On-site Performance Standard (Section 3.3.2), and Flow Control (Section 3.3.3) requirements
- Clarified Modeling Approach (Section 4.1.3) and added modeling guidance for projects located in closed depressions (Section 4.1.3.4)
- Updated bypass, flow-through, and off-site flow general design requirements for on-line and offline BMPs (Section 4.2)
- Updated and clarified presettling and pretreatment requirements (Section 4.4)
- Added a new BMP in Chapter 5 (Sidewalk and Trail Compost-Amended Strip)
- Updated BMPs and associated figures in Chapter 5 (as summarized below)
- Updated internal and external references and weblinks

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Soil Amendment BMP	<ul style="list-style-type: none"> • Added language on Soil Management Plan requirements • Clarified modeling guidance 		
Tree Planting and Retention	<ul style="list-style-type: none"> • Modified structure setback for newly planted trees • Updated tree list and tree size requirements for newly planted trees for consistency with the Green Factor Director’s Rule • Clarified the On-site List Approach credits • Extended supplemental irrigation requirements (at least 5 growing seasons) 		
Dispersion BMPs			
Full Dispersion	No edits (refers to the SWMMWW)		
Splashblock Downspout Dispersion	<ul style="list-style-type: none"> • Updated dispersion flowpath requirements • Updated continuous modeling assumptions (Table 5.5) • Updated figure (refer to Public Review Draft figure packet) 		
Trench Downspout Dispersion	<ul style="list-style-type: none"> • Updated dispersion flowpath requirements • Added contributing area design criteria (from Splashblock Downspout Dispersion section) • Added continuous modeling assumptions (Table 5.7) • Updated figure (refer to Public Review Draft figure packet) 		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Sheet Flow Dispersion	<ul style="list-style-type: none"> Updated dispersion flowpath requirements Updated continuous modeling assumptions (Table 5.9) Updated figure (refer to Public Review Draft figure packet) 		
Concentrated Flow Dispersion	<ul style="list-style-type: none"> Updated dispersion flowpath requirements Updated continuous modeling assumptions (Table 5.11) 		
Sidewalk and Trail Compost-Amended Strip	<ul style="list-style-type: none"> New BMP for on-site stormwater management for sidewalks or trails Added a new figure (refer to Public Review Draft figure packet) 		
Infiltration BMPs			
Infiltration Trenches	<ul style="list-style-type: none"> Added clarifying text related to UIC regulations Modified flow entrance and presettling requirements (removed yard drain option) Updated figure (refer to Public Review Draft figure packet) 		
Drywells	<ul style="list-style-type: none"> Added clarifying text related to UIC regulations Updated figure (refer to Public Review Draft figure packet) 		
Infiltrating Bioretention	<ul style="list-style-type: none"> Clarified and updated design criteria for contributing area, ponding area, bioretention soil, plants, and mulch layer Added note to continuous modeling approach section that MGSFlood is currently not approved for modeling bioretention Updated figures (refer to Public Review Draft figure packet) Added a new figure for a facility cleanout outside of the right-of-way 		
Rain Gardens	<ul style="list-style-type: none"> Updated allowable ponding depth in right-of-way (3 inches) Replaced specific right-of-way setbacks with a reference to CAM 1190 		
Permeable Pavement Facilities	<ul style="list-style-type: none"> Removed simplified comparison table; replaced with text describing the main difference between permeable pavement facilities and permeable pavement surfaces Clarified and updated design criteria for flow entrance/presettling, wearing course, subsurface check dams, geotextiles, and observation/maintenance ports Added design criteria for edge treatment Updated minimum construction requirements Updated figures (refer to Public Review Draft figure packet) Added new figures for edge treatment (refer to Public Review Draft figure packet) 		
Perforated Stub-Out Connections	Updated figure (refer to Public Review Draft figure packet)		
Infiltration Basins	Updated external references to SWMMWW		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Infiltration Chambers/ Vaults	<ul style="list-style-type: none"> • Updated BMP name to add “Vaults” • Added design criteria for liners and observation/maintenance ports • Clarified applicability for pre-sized approach • Updated O&M requirements • Updated figure (refer to Public Review Draft figure packet) 		
Rainwater Harvesting BMPs			
Rainwater Harvesting	<ul style="list-style-type: none"> • Updated On-site List Approach [sizing spreadsheet to be developed] • Updated assumptions for determining rainwater demand • Updated On-site Performance Standard modeling approach to allow a daily time step 		
Single Family Residential (SFR) Cistern	No edits		
Alternative Surface BMPs			
Vegetated Roof Systems	<ul style="list-style-type: none"> • Clarified above-grade impervious surfaces (at least 10 feet above grade) • Added irrigation requirement (minimum of 5 growing seasons) 		
Permeable Pavement Surfaces	Updated modeling approach (for consistency with SWMMWW)		
Detention BMPs			
Detention Ponds	Updated external references to SWMMWW		
Detention Pipes	<ul style="list-style-type: none"> • Updated site considerations (steep slopes, known landslide areas, and buffers) • Updated and clarified design criteria for detention pipe materials and bedding, structural stability, and access • Added exfiltration (i.e., watertightness) testing requirements • Updated O&M requirements • Added new figure (refer to Public Review Draft figure packet) 		
Detention Vaults/ Chambers	<ul style="list-style-type: none"> • Updated BMP name to add “Chambers” • Updated site considerations (steep slopes, known landslide areas, and buffers) • Split design criteria into two sections (Standard Detention Vaults and Stackable, Modular Detention Chambers) • Updated and clarified design criteria for structural stability (Standard Detention Vaults) • Added design criteria for sediment storage and observation/maintenance port (Standard Detention Vaults) 		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Detention Vaults/ Chambers (continued)	<ul style="list-style-type: none"> Added design criteria for flow entrance and presettling, sediment storage, chamber materials and layout, chamber bedding, liner, structural stability and observation/maintenance port (Stackable, Modular Detention Chambers) Clarified applicability for pre-sized approach Added exfiltration (i.e., watertightness) testing requirements Updated O&M requirements Updated figure (refer to Public Review Draft figure packet) 		
Detention Cisterns	Minor edits		
Other Detention Options	No edits		
Non-infiltrating BMPs			
Non-infiltrating Bioretention	<ul style="list-style-type: none"> Clarified design criteria for hydraulic restriction layer and bioretention soil mix Added note to continuous modeling approach section that MGSFlood is currently not approved for modeling bioretention Updated figures (refer to Public Review Draft figure packet) 		
Biofiltration Swales	Minor edits (terminology and consistency with the SWMMWW)		
Filter Strips/Drains	Updated BMP name from “Basic Filter Strip” to “Vegetated Filter Strip” (for consistency with the SWMMWW) Updated minimum construction requirements (for consistency with the SWMMWW)		
Sand Filters	Updated site considerations (steep slopes, known landslide areas, and buffers)		
Wet Ponds	Updated site considerations (steep slopes, known landslide areas, and buffers)		
Wet Vaults	<ul style="list-style-type: none"> Updated site considerations (steep slopes, known landslide areas, and buffers) Added exfiltration (i.e., watertightness) testing requirements Updated figure (refer to Public Review Draft figure packet) 		
Stormwater Treatment Wetlands	Minor edits (terminology and consistency with the SWMMWW)		
Combined Detention and Wet Pool Facilities	No edits		
Oil/Water Separators	<ul style="list-style-type: none"> Minor revisions to equations Updated figure (refer to Public Review Draft figure packet) 		

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Proprietary and Emerging Water Quality Treatment Technologies	<ul style="list-style-type: none"> • Updated applicability table to include Bio Clean (Forterra) MWS-Linear Modular Wetland • Added note regarding multiple media blends (only some of which have GULD approval) • Added site considerations for the MWS-Linear Modular Wetland • Added clarification to mass loading ratios regarding on-line vs. offline water quality design flow rates 		

Summary of Changes to Volume 4 (Source Control) of the Seattle Stormwater Manual

March 2020 Public Review Draft Stormwater Manual

- Updated, clarified, and added required BMP elements and recommended BMPs (as summarized below)
- Shifted several BMPs from Chapter 3 (Business and Public Entity BMPs for Specific Activities) to Chapter 2 (BMPs for All Real Property)
- Added new BMPs (with reference to the 2019 SWMMWW for specifics)
- Added new Rooftop Dog Run BMP
- Removed Lot Maintenance and Storage BMP (content addressed in BMP 7)
- Updated internal and external references and weblinks

BMP Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Chapter 2 – BMPs for All Real Property (updated from 2016 Stormwater Manual title: “Citywide BMPs”)			
BMP 1: Eliminate Illicit Connections and Illicit Discharges	<ul style="list-style-type: none"> • Updated BMP name (added “and Illicit Discharges”) • Added language related to eliminating illicit discharges 		
BMP 2: Perform Routine Maintenance	Minor edits		
BMP 3: Dispose of Fluids and Wastes Properly	<ul style="list-style-type: none"> • Added Permitted Centralized Waste Treatment Facilities and combined sewer to list of disposal options • Clarified guidance for handling of contaminated street waste solids 		
BMP 4: Proper Storage of Solid Wastes	<ul style="list-style-type: none"> • Updated storage requirements related to dumpsters and trash compactors • Added requirements for used cooking oil storage 		
BMP 5: Spill Prevention and Cleanup	<ul style="list-style-type: none"> • Clarified that spills resulting from vandalism or poor management are the responsibility of the waste owner • Minor edits to spill prevention • Updated spill cleanup and proper disposal of material requirements 		
BMP 6: Provide Oversight and Training for Staff	No edits		
BMP 7: Property Maintenance	<ul style="list-style-type: none"> • Updated BMP name (changed “Site” to “Property”) • Updated BMP requirements 		
BMP 8: Rooftop Dog Runs	Added new BMP		

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BMP 9: Fueling at Dedicated Stations	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Renumbered BMP (previously BMP 10) Updated design requirements for fueling island spill containment pad Updated instructions for calculating the spill retention volume Removed requirements for fueling over open water (covered by BMP 11) 		
BMP 10: Mobile Fueling of Vehicles and Heavy Equipment	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Renumbered BMP (previously BMP 12) Updated and clarified spill cleanup materials Added requirement for fuel operation plan Clarified that dispersants are allowed (if disposed of properly) 		
BMP 11: In-Water and Over-Water Fueling	Added new BMP (references S439 BMPs in the 2019 SWMMWW for specifics)		
BMP 12: Maintenance and Repair of Vehicles and Equipment	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Renumbered BMP (previously BMP 11) Updated required BMP elements Removed spill response bullets (covered by BMP 5) 		
BMP 13: Concrete and Asphalt Mixing and Production	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Removed pouring areas (covered by BMP 14) Minor edits to required BMP elements 		
BMP 14: Concrete Pouring, Concrete/Asphalt Cutting, and Asphalt Application	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Minor edits to required BMP elements and recommended BMPs 		
BMP 15: Recycling Wrecking Yard, and Scrap Yard Operations	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Renumbered BMP (previously BMP 24) Added examples of PCB sources Updated and added required BMP elements for structural controls, storage, and inspection 		
BMP 16: Storage of Liquids in Above-ground Tanks	<ul style="list-style-type: none"> Moved from Chapter 3 to Chapter 2 Renumbered BMP (previously BMP 26) Updated and clarified required BMP elements 		

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Chapter 3 – Business and Public Entity Best Management Practices for Specific Activities			
Cleaning or Washing			
BMP 17: Cleaning or Washing	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 18) • Added PCBs to list of potential pollutants • Updated and clarified required BMP elements • Added conditionally permissible wash practices 		
Transfer of Liquid or Solid Materials			
BMP 18: Loading and Unloading of Liquid or Solid Material	<ul style="list-style-type: none"> • Updated required BMP elements for impervious containment 		
Production and Application			
BMP 19: Manufacturing and Post-Processing of metal Products	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 15) • Minor edits to required BMP elements 		
BMP 20: Processing of Treated Wood	<ul style="list-style-type: none"> • BMP name change (removed “and Storage”) • Renumbered BMP (previously BMP 16) • Updated storage area and treated wood products requirements 		
BMP 21: Commercial Composting	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 17) • Removed content specific to dangerous wastes and undesirable materials 		
BMP 22: Landscaping and Vegetation Management	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 18) • Deleted content related to pesticides (covered by BMP 49 and BMP 50) 		
BMP 23: Painting, Finishing, and Coating Activities	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 19) • Minor edits to required BMP elements 		
BMP 24: Commercial Printing Operations	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 20) 		
BMP 25: Manufacturing Activities	<ul style="list-style-type: none"> • Renumbered BMP (previously BMP 21) • Minor edits to required BMP elements • Added recommended BMPs 		
Storage and Stockpiling			
BMP 26: Storage of Leachable Erodible Materials	<ul style="list-style-type: none"> • Updated BMP name (removed “or Transfer”) • Updated and clarified required BMP elements • Streamlined recommended BMPs 		

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BMP 27: Temporary Storage of Processing of Fruits, Vegetables, or Grains	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 23) Added note regarding NPDES permit coverage Updated and clarified required BMP elements Added requirement for keeping cleanup materials near storage areas 		
BMP 28: Portable Container Storage	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 25) Updated and clarified required BMP elements Shifted content to recommended BMPs 		
Lot Maintenance and Storage (previously BMP 27)	Removed BMP (covered by BMP 7)		
Dust, Soil Erosion, and Sediment Control			
BMP 29: Dust Control in Disturbed Land Areas and on Unpaved Roadways and Parking Lots	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 28) Updated and clarified required BMP elements 		
BMP 30: Dust Control at Manufacturing Sites	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 29) Clarified required BMP elements 		
BMP 31: Soil Control and Sediment Control at Industrial Facilities	<ul style="list-style-type: none"> Updated BMP name (changed “Sites” to “Facilities”) Renumbered BMP (previously BMP 30) 		
Other Activities			
BMP 32: Commercial Animal Care and Handling	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 31) Minor edits to recommended BMPs 		
BMP 33: Log Sorting and Handling	Renumbered BMP (previously BMP 32)		
BMP 34: Boat Building, Maintenance, and Repair	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 33) Updated BMP name (removed “Mooring”) Minor edits to required BMP elements 		
BMP 35: Cleaning and Maintenance of Pools, Spas, Hot Tubs, and Fountains	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 34) Minor edits to required BMP elements 		
BMP 36: Deicing and Anti-icing Operations for Airports and Streets	Renumbered BMP (previously BMP 35)		

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BMP 37: Maintenance and Management of Roof and Building Drains at Industrial and Commercial Buildings	<ul style="list-style-type: none"> Updated BMP name (changed “Manufacturing” to “Industrial”) Renumbered BMP (previously BMP 36) Added note regarding NPDES permit coverage Minor edits to required BMP elements 		
BMP 38: Maintenance and Operation of Railroad Yards	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 37) Added required BMP elements (from 2019 SWMMWW) 		
BMP 39: Maintenance of Public and Private Utility Corridors and Facilities	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 38) Minor edits to required BMP elements 		
BMP 40: Maintenance of Roadside Ditches	<ul style="list-style-type: none"> Renumbered BMP (previously BMP 39) Minor edits to required BMP elements 		
BMP 41: Potable Water Line Flushing, Water Tank Maintenance, and Hydrant Testing	Added new BMP (references S441 BMPs in the 2019 SWMMWW for specifics)		
BMP 42: Urban Streets	Added new BMP (references S430 BMPs in the 2019 SWMMWW for specifics)		
BMP 43: Nurseries and Greenhouses	Added new BMP (references S449 BMPs in the 2019 SWMMWW for specifics)		
BMP 44: Color Events	Added new BMP (references S436 BMPs in the 2019 SWMMWW for specifics)		
BMP 45: Pet Waste	Added new BMP (references S440 BMPs in the 2019 SWMMWW for specifics)		
BMP 46: Labeling Storm Drain Inlets on Your Property	Added new BMP (references S442 BMPs in the 2019 SWMMWW for specifics)		
BMP 47: Well, Utility, Directional and Geotechnical Drilling	Added new BMP (references S446 BMPs in the 2019 SWMMWW for specifics)		
BMP 48: Goose Waste	Added new BMP (references S452 BMPs in the 2019 SWMMWW for specifics)		
BMP 49: Pesticides and an Integrated Pest Management Program	Added new BMP (references S435 BMPs in the 2019 SWMMWW for specifics)		
BMP 50: Storage of Dry Pesticides and Fertilizers	Added new BMP (references S444 BMPs in the 2019 SWMMWW for specifics)		
BMP 51: Irrigation	Added new BMP (references S450 BMPs in the 2019 SWMMWW for specifics)		
BMP 52: Dock Washing	Added new BMP (references S434 BMPs in the 2019 SWMMWW for specifics)		
BMP 53: Roof Vents	Added new BMP (references S447 BMPs in the 2019 SWMMWW for specifics)		
BMP 54: Streets and Highways	Added new BMP (references S406 BMPs in the 2019 SWMMWW for specifics)		

Summary of Changes to the Appendices in the Seattle Stormwater Manual

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Appendix Name	March 2020 Public Review Draft	Fall 2020 Public Review Draft	Final 2021 Stormwater Manual
Appendix A – Definitions	Placeholder page only. Refer to SMC, Chapter 22.801 to review definitions. These definitions will be incorporated into the Manual after Ecology and public review.		
Appendix B – Background Information on Chemical Treatment	<ul style="list-style-type: none"> • Content deleted (included with reference to BMP C250 in the 2019 SWMMWW) • Appendix B will be updated to include Submittal Requirements in a future draft of the Manual 		
Appendix C – On-site Stormwater Management Infeasibility Criteria	<ul style="list-style-type: none"> • Added new infeasibility criteria for All BMPs and All BMPs (except Rainwater Harvesting) to Table C.1 • Added reference to additional BMP groupings in Table C.1 to Tables C.2, C.3, C.4, C.5, and C.6 • Added new infeasibility criteria for Vegetated Roof Systems to Table C.5 for consistency with the On-site List Calculator • Added new tables (Tables C.5 and C.6) for Category 4 and 5 BMPs and shifted content from Table C.4 for consistency with proposed Stormwater Code updates 		
Appendix D – Subsurface Characterization and Infiltration Testing for Infiltration Facilities	<ul style="list-style-type: none"> • Clarified roles and responsibilities of licensed professionals (Section D-1) • Updated documentation requirements for simple, standard, and comprehensive subsurface investigation reports (Section D-2) • Updated infiltration testing procedures (Section D-3) • Added requirement for vertical separation for groundwater mounding (Section D-7) • Added section for acceptance testing including criteria, requirements, and submittals (Section D-8) 		

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Appendix E – Additional Design Requirements	<ul style="list-style-type: none"> • Updated and clarified design criteria for flow control structures for regionally sized detention BMPs, multiple orifice restrictors, weir restrictors (Section E-1) • Added new figure for Rectangular Notch, Sharp-Crested Weir (refer to Public Review Draft figure packet) • Updated design criteria for through-curb ports (Section E-3) • Minor revisions to design criteria and maintenance for level spreaders, pipe slope drains, and outlet protection for consistency with the SWMMWW (Sections E-4, E-5, and E-6) • Clarified sizing approach for level spreaders and pipe slope drains (Sections E-4 and E-5) • Added impermeable liner and clarified when each liner type applies (Section E-7) • Added general design principles to the introduction of the plant lists section (Section E-9) • Clarified when the drywell sizing tables apply (Section E-10) 		
Appendix F – Hydrologic Analysis and Design	<ul style="list-style-type: none"> • Added note that MGSFlood is currently not approved for modeling bioretention (Table F-1) • Added notes regarding the evaluation of tidal influence, sea level rise, and climate change (currently in progress) (Sections F-3 and F-4) • Clarified post-developed model application (Table F.8) • Updated runoff curve number table for consistency with the SWMMWW (Table F.18) • Updated internal and external references and weblinks 		
Appendix G – Stormwater Control Operations and Maintenance Requirements	<ul style="list-style-type: none"> • Added Table of Contents with clickable links instead of a bulleted list of BMPs at the beginning for easier navigation • Added Modular Wetland System O&M table (No. 22) • Updated terminology, table numbering, and references 		
Appendix H – Financial Feasibility Documentation for Vegetated Roofs and Rainwater Harvesting	One minor edit from 2016 Manual		
Appendix I – Integrated Pest Management Plan	No change from 2016 Manual		