<table>
<thead>
<tr>
<th>Number</th>
<th>Permit Section</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>S5.A</td>
<td>Attach a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee’s geographic area of permit coverage during the reporting period per S9.D.6.</td>
<td>bennettbakerviewairport - annexa_1_03312020172406. Comment: See annexation area documents in the attached files.</td>
</tr>
<tr>
<td>2</td>
<td>S5.A</td>
<td>Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)</td>
<td>2020 City of Bellingham NPDES _2_03272020162417</td>
</tr>
<tr>
<td>3</td>
<td>S5.A</td>
<td>Implemented an ongoing program to gather, track, and maintain information per S5.A.3, including costs or estimated costs of implementing the SWMP.</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>S5.A.5.b</td>
<td>Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b)</td>
<td>Yes</td>
</tr>
<tr>
<td>4a</td>
<td>S5.A.5.b</td>
<td>Attach a written description of internal coordination mechanisms. (S5.A.5.b).</td>
<td>Coordination between departmen_4a_03312020171642</td>
</tr>
<tr>
<td>15</td>
<td>S5.C.1.c</td>
<td>Continue to design and implement local development-related codes, rules, standards, or other enforceable documents to minimize impervious surfaces, native vegetation loss, and stormwater runoff, where feasible? See S5.C.1.c.i. (Required annually)</td>
<td>Yes</td>
</tr>
<tr>
<td>16</td>
<td>S5.C.1.c</td>
<td>From the assessment described in S5.C.1.c.i (a), did you identify any administrative or regulatory barriers to implementation of LID Principles or LID BMPs? (Required annually)</td>
<td>No</td>
</tr>
<tr>
<td>20</td>
<td>S5.C.2</td>
<td>Did you choose to adopt one or more elements of a regional program? (S5.C.2)</td>
<td>No</td>
</tr>
<tr>
<td>21</td>
<td>S5.C.2</td>
<td>Attach a description of general awareness efforts conducted, including your target audiences and subject areas, per S5.C.2.a.i.</td>
<td>COB_Education_NPDES_S_21_03302020132624</td>
</tr>
<tr>
<td>22</td>
<td>S5.C.2</td>
<td>Conducted an evaluation of the effectiveness of the ongoing behavior change program and documented recommendations as outlined in S.5.C.2.a.ii(b). (Required no later than July 1, 2020)</td>
<td>Yes</td>
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<tr>
<td>26</td>
<td>S5.C.2</td>
<td>Promoted stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.2.a.iii.</td>
<td>Yes</td>
</tr>
<tr>
<td>26a</td>
<td>S5.C.2</td>
<td>Attach a list of stewardship opportunities provided.</td>
<td>Education-Outreach-Stewardship_26a_03312020145127</td>
</tr>
<tr>
<td>27</td>
<td>S5.C.3</td>
<td>Describe in Comments field the opportunities created for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and updates of the Permittee's SWMP and the SMAP. (S5.C.3.a)</td>
<td>The Bellingham public is invited to participate in stormwater decision-making. Opportunities include the City Council meetings, Community meetings, public hearings, neighborhood association meetings, focus groups, community surveys, and webpage communications.</td>
</tr>
<tr>
<td>28</td>
<td>S5.C.3</td>
<td>Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.3.b)</td>
<td>Yes</td>
</tr>
<tr>
<td>28a</td>
<td>S5.C.3</td>
<td>List the website address in Comments field.</td>
<td><a href="https://www.cob.org/services/planning/environmental/pages/stormwater-program.aspx">https://www.cob.org/services/planning/environmental/pages/stormwater-program.aspx</a></td>
</tr>
<tr>
<td>29</td>
<td>S5.C.4</td>
<td>Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?</td>
<td>Yes</td>
</tr>
<tr>
<td>30</td>
<td>S5.C.4</td>
<td>Started mapping outfall size and material in accordance with S5.C.4.b.i? (Required no later than January 1, 2020)</td>
<td>Yes</td>
</tr>
<tr>
<td>30a</td>
<td>S5.C.4</td>
<td>Attach a spreadsheet that lists the known outfalls' size and material(s).</td>
<td>NPDES_Outfalls_2020_30a_03312020141420</td>
</tr>
<tr>
<td>31</td>
<td>S5.C.4</td>
<td>Completed mapping connections to private storm sewers in accordance with S5.C.4.b.ii? (Required no later than August 1, 2023)</td>
<td>No</td>
</tr>
<tr>
<td>32</td>
<td>S5.C.4</td>
<td>Developed an electronic format for map, with fully described mapping standards in accordance with S5.C.4.c? (Required no later than August 1, 2021)</td>
<td>No</td>
</tr>
<tr>
<td>33</td>
<td>S5.C.5</td>
<td>Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste. Describe actions in Comments field. (S5.C.5.b)</td>
<td>Yes</td>
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<td>Comment: The City of Bellingham, through the Pollution Prevention Assistance (PPA) Program, offers technical assistance to small businesses in order to prevent pollution and improve the state’s water quality. PPA assistants work with local businesses to explain hazardous waste regulations and ensure all waste is being handled properly. PPA assistants also review spill prevention practices, provide best management practices for stormwater management, and educate local businesses on preventing illicit discharges. The City of Bellingham, through our Stormwater Hotline, receives calls concerning illicit discharges. We take this opportunity to educate and inform the general public of what illicit discharges are, and any hazards associated with them. All calls are investigated and either resolved by the Natural Resources group or referred to the appropriate party. Our team also employs quarterly stormwater meetings to ensure our agency is educated and aware of any and all stormwater regulations, illicit discharges, and proper disposal of wastes.</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>S5.C.5</td>
<td>Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.</td>
<td>Yes</td>
</tr>
<tr>
<td>35</td>
<td>S5.C.5</td>
<td>Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.</td>
<td>Yes</td>
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<tr>
<td>35a</td>
<td>S5.C.5</td>
<td>Cite field screening methodology in Comments field.</td>
<td>Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera Environmental Consultants, Inc.; May 2013)</td>
</tr>
<tr>
<td>36</td>
<td>S5.C.5</td>
<td>Percentage of MS4 coverage area screened in the reporting year per S5.C.5.d.i. (Required to screen 12% on average each year.)</td>
<td>22</td>
</tr>
<tr>
<td>36a</td>
<td>S5.C.5</td>
<td>Cite field screening techniques used to determine percent of MS4 screened.</td>
<td>In addition to responding to illicit discharge incidents, the City is proactive in tracing the source of illicit discharges. The City has been utilizing system video inspection since 2003 to both discover illicit discharges and trace the sources as well as to detect maintenance issues. This information is provided to the supervisor and is also logged into system reports for future referral.</td>
</tr>
<tr>
<td>37</td>
<td>S5.C.5</td>
<td>Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i)</td>
<td>11</td>
</tr>
<tr>
<td>39</td>
<td>S5.C.5</td>
<td>Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.</td>
<td>Yes</td>
</tr>
<tr>
<td>40</td>
<td>S5.C.5</td>
<td>Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.</td>
<td>Yes</td>
</tr>
<tr>
<td>41</td>
<td>S5.C.5</td>
<td>Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.5.f.</td>
<td>Yes</td>
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<td>#</td>
<td>Section</td>
<td>Description</td>
<td>Action</td>
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<tr>
<td>42</td>
<td>S5.C.5</td>
<td>Attach a report with data describing the actions taken to characterize, trace, and eliminate each illicit discharge reported to, or investigated by, the Permittee as described in S5.C.5.g. The submittal must include all of the applicable information and must follow the instructions, timelines, and format described in Appendix 12.</td>
<td>NPDES Incident Response BERTS_42_03312020 141334</td>
</tr>
<tr>
<td>43</td>
<td>S5.C.6</td>
<td>Implemented an ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii.</td>
<td>Yes</td>
</tr>
<tr>
<td>44</td>
<td>S5.C.6</td>
<td>Revised ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii. (Required no later than June 30, 2022)</td>
<td>No</td>
</tr>
<tr>
<td>45</td>
<td>S5.C.6</td>
<td>Number of adjustments granted to the minimum requirements in Appendix 1. (S5.C.6.b.i. and Section 5 of Appendix 1)</td>
<td>0</td>
</tr>
<tr>
<td>46</td>
<td>S5.C.6</td>
<td>Number of exceptions/variances granted to the minimum requirements in Appendix 1. (S5.C.6.b.i., and Section 6 of Appendix 1)</td>
<td>0</td>
</tr>
<tr>
<td>47</td>
<td>S5.C.6</td>
<td>Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.6.b.i. (S5.C.6.c.i)</td>
<td>Yes</td>
</tr>
<tr>
<td>47a</td>
<td>S5.C.6</td>
<td>Number of site plans reviewed during the reporting period.</td>
<td>221</td>
</tr>
<tr>
<td>48</td>
<td>S5.C.6</td>
<td>Inspected, prior to clearing and construction, permitted development sites per S5.C.6.c.ii, that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – Determining Construction Site Sediment Damage Potential?</td>
<td>Yes</td>
</tr>
<tr>
<td>49</td>
<td>S5.C.6</td>
<td>Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls per S5.C.6.c.iii.</td>
<td>Yes</td>
</tr>
<tr>
<td>49a</td>
<td>S5.C.6</td>
<td>Number of construction sites inspected per S5.C.6.c.iii.</td>
<td>950 Comment: The City of Bellingham inspected all permitted construction sites for the proper installation and maintenance of required erosion and sediment control. Sites are inspected throughout construction resulting in 5426 inspections in 2019.</td>
</tr>
<tr>
<td>49b</td>
<td>S5.C.6</td>
<td>Inspected stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every 6 months per S5.C.6.c.iv?</td>
<td>Yes</td>
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<tr>
<td>50</td>
<td>S5.C.6.</td>
<td>Inspected all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.6.c.v)</td>
<td>Yes</td>
</tr>
<tr>
<td>51</td>
<td>S5.C.6.</td>
<td>Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects prior to final approval and occupancy being granted. (S5.C.6.c.v)</td>
<td>Yes</td>
</tr>
<tr>
<td>52</td>
<td>S5.C.6.</td>
<td>Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.6.c.ii-iv) (S5.C.7.c.viii)</td>
<td>154</td>
</tr>
<tr>
<td>53</td>
<td>S5.C.6.</td>
<td>Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)</td>
<td>Yes</td>
</tr>
<tr>
<td>55</td>
<td>S5.C.6.</td>
<td>All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites including permitting, plan review, construction site inspections, and enforcement are trained to conduct these activities? (S5.C.6.e)</td>
<td>Yes</td>
</tr>
<tr>
<td>56</td>
<td>S5.C.7.</td>
<td>Implemented maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology per S5.C.7.a.?</td>
<td>Yes</td>
</tr>
<tr>
<td>58</td>
<td>S5.C.7.</td>
<td>Applied a maintenance standard for a facility or facilities which do not have maintenance standards specified in the Stormwater Management Manual for Western Washington? If so, note in the Comments field what kinds of facilities are covered by this alternative standard. (S5.C.7.a)</td>
<td>No</td>
</tr>
<tr>
<td>59</td>
<td>S5.C.7.</td>
<td>Verified that maintenance was performed per the schedule in S5.C.7.a.ii when an inspection identified an exceedance of the maintenance standard.</td>
<td>No</td>
</tr>
<tr>
<td>59a</td>
<td>S5.C.7.</td>
<td>Attach documentation of maintenance time frame exceedances that were beyond the Permittee’s control.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>60</td>
<td>S5.C.7.</td>
<td>Implemented an ordinance or other enforceable mechanisms to verify long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities regulated by the permittee per (S5.C.7.b.i (a))?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>S5.C.7.</td>
<td>Description</td>
<td>Yes/No/Not Applicable/Comment</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>61</td>
<td>S5.C.7.</td>
<td>Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)</td>
<td>Yes</td>
</tr>
<tr>
<td>61a</td>
<td>S5.C.7.</td>
<td>If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.b.i (b)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>62</td>
<td>S5.C.7.</td>
<td>Achieved at least 80% of scheduled inspections to verify adequate long-term O&amp;M. (S5.C.7.b.ii)</td>
<td>Yes</td>
</tr>
<tr>
<td>63</td>
<td>S5.C.7.</td>
<td>Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)</td>
<td>No</td>
</tr>
<tr>
<td>63a</td>
<td>S5.C.7.</td>
<td>Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)</td>
<td>850</td>
</tr>
<tr>
<td>63b</td>
<td>S5.C.7.</td>
<td>Number of facilities inspected during the reporting period.</td>
<td>765</td>
</tr>
<tr>
<td>63c</td>
<td>S5.C.7.</td>
<td>Number of facilities for which maintenance was performed during the reporting period.</td>
<td>635</td>
</tr>
<tr>
<td>64</td>
<td>S5.C.7.</td>
<td>If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>65</td>
<td>S5.C.7.</td>
<td>Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.7.c.ii.</td>
<td>Yes</td>
</tr>
<tr>
<td>66</td>
<td>S5.C.7.</td>
<td>Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S.5.C.7.c.iii)</td>
<td>Yes</td>
</tr>
<tr>
<td>66a</td>
<td>S5.C.7.</td>
<td>Number of known catch basins?</td>
<td>12265</td>
</tr>
<tr>
<td>66b</td>
<td>S5.C.7.</td>
<td>Number of catch basins inspected during the reporting period?</td>
<td>9856</td>
</tr>
<tr>
<td>66c</td>
<td>S5.C.7.</td>
<td>Number of catch basins cleaned during the reporting period?</td>
<td>2274</td>
</tr>
<tr>
<td>67</td>
<td>S5.C.7.</td>
<td>Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>68</td>
<td>S5.C.7.</td>
<td>Implemented practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.7.d)</td>
<td>Yes</td>
</tr>
<tr>
<td>69</td>
<td>S5.C.7.</td>
<td>Documented practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.7.d – Required by December 31, 2022)</td>
<td>No Comment: We are in the process of consolidating existing practices, policies, and procedures into one comprehensive record set and document.</td>
</tr>
<tr>
<td>70</td>
<td>S5.C.7.</td>
<td>Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.7.e)</td>
<td>Yes</td>
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<tr>
<td>71</td>
<td>S5.C.7.</td>
<td>Implemented a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under an NPDES permit that covers stormwater discharges associated with the activity. (S5.C.7.f)</td>
<td>Yes</td>
</tr>
<tr>
<td>72</td>
<td>S5.C.7.</td>
<td>Updated, if needed, SWPPPs according to S5.C.7.f no later than December 31, 2022.</td>
<td>No</td>
</tr>
<tr>
<td>73</td>
<td>S5.C.8</td>
<td>Adopted ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities per S.5.C.8.b.i. (Required by August 1, 2022)</td>
<td>No</td>
</tr>
<tr>
<td>74</td>
<td>S5.C.8</td>
<td>Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)</td>
<td>No Comment: We have an extensive inventory list that was developed during the comment phase of this current permit. We are going to review the list to make sure it captures all applicable pollutant generating sources associated with existing land sources.</td>
</tr>
<tr>
<td>75</td>
<td>S5.C.8</td>
<td>Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).</td>
<td>No</td>
</tr>
<tr>
<td>76</td>
<td>S5.C.8</td>
<td>Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).</td>
<td>No</td>
</tr>
<tr>
<td>77</td>
<td>S5.C.8</td>
<td>Attach a summary of actions taken to implement the source control program per S5.C.8.b.iii and S5.C.8.b.iv.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>78</td>
<td>S5.C.8</td>
<td>Attach a list of inspections, per S5.C.8.b.iii, organized by the business category, noting the amount of times each business was inspected, and if enforcement actions were taken.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>79</td>
<td>S5.C.8</td>
<td>Implemented an ongoing source control training program per S5.C.8.b.v?</td>
<td>Yes Comment: The City of Bellingham has been part of the Ecology Local Source Control (LSC) program since 2008. When the required source control program starts, the City will end participation in the LSC program and have our source control specialists (x2) perform our inspections. Participation in the LSC has provided our staff extensive training, experience, and industry connections.</td>
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<tr>
<td>80</td>
<td>S7</td>
<td>Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)</td>
<td>Yes</td>
</tr>
<tr>
<td>81</td>
<td>S7</td>
<td>For TMDLs listed in Appendix 2: Attach a summary of relevant SWMP and Appendix 2 activities to address the applicable TMDL parameter(s). (S7.A)</td>
<td>Apdx A_2020 Appendix 2 Report__81_033020202134200</td>
</tr>
<tr>
<td>82</td>
<td>S8</td>
<td>Submitted payment for cost-sharing for Stormwater Action Monitoring (SAM) status and trends monitoring no later than December 1, 2019 (S8.A.1); and no later than August 15 of each subsequent year? (S8.A.2.a.)</td>
<td>Yes</td>
</tr>
<tr>
<td>83</td>
<td>S8</td>
<td>Notified Ecology by December 1, 2019 which option you selected: S8.A.2.a, or S8.A.2.b.</td>
<td>Yes</td>
</tr>
<tr>
<td>84</td>
<td>S8</td>
<td>Submitted payment for cost-sharing for SAM effectiveness and source identification studies no later than December 1, 2019 (S8.B.1); and no later than August 15 of each subsequent year (S8.B.2.a or S8.B.2.c)?</td>
<td>Yes</td>
</tr>
<tr>
<td>85</td>
<td>S8</td>
<td>Notified Ecology by December 1, 2019 which option you selected: S8.B.2.a, or S8.B.2.b?</td>
<td>Yes</td>
</tr>
<tr>
<td>86</td>
<td>S8</td>
<td>If conducting stormwater discharge monitoring in accordance with S8.C.1, submitted a QAPP to Ecology no later than February 1, 2020? (S8.C.1.b and Appendix 9)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>88</td>
<td>G3</td>
<td>Notified Ecology in accordance with G3 of any discharge into or from the Permittees MS4 which could constitute a threat to human health, welfare or the environment. (G3)</td>
<td>Yes</td>
</tr>
<tr>
<td>89</td>
<td>G3</td>
<td>Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.</td>
<td>Yes</td>
</tr>
<tr>
<td>90</td>
<td>Compliance with standards</td>
<td>Notified Ecology within 30 days of becoming aware that a discharge from the Permittee’s MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1)</td>
<td>Yes</td>
</tr>
<tr>
<td>91</td>
<td>Compliance with standards</td>
<td>If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>92</td>
<td>Compliance with standards</td>
<td>Attach a summary of the status of implementation of any actions taken pursuant to S4.F.3 and the status of any monitoring, assessment, or evaluation efforts conducted during the reporting period. (S4.F.3.d)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>93</td>
<td>G20</td>
<td>Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>94</td>
<td>G20</td>
<td>Number of non-compliance notifications (G20) provided in reporting year. List permit conditions described in non-compliance notification(s) in Comments field.</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Renee LaCroix
Signature

4/1/2020 9:10:29 AM
Date
City of Bellingham
Stormwater Management Program
Attachment A to the NPDES Phase II Permit Annual Report

City of Bellingham
Public Works Department
Storm and Surface Water Utility
Bellingham, WA
March 31, 2020
FORWARD

This document serves as an attachment to the City of Bellingham's annual report submittal to the Department of Ecology to meet the requirements of the Western Washington Phase II Municipal Stormwater Permit (WAR04-5550) under the National Pollutant Discharge Elimination System (NPDES) program. This Stormwater Management Plan (SWMP) is prepared to demonstrate the City's understanding of, and commitment to fully meeting, the regulatory requirements of this permit. The SWMP is a dynamic document that will be updated on an annual basis and will be integral to our permit compliance.

This report will address work completed in the calendar year 2019, which spans the requirements and implementation of two sequential NPDES permits. From 2012-2018, the City followed requirements found in the second issuance of the permit. The 2019-2024 permit (third issuance) became active August 1, 2019. When applicable and appropriate, this report will differentiate between work completed before and after that effective date. In some cases, permit requirements may have changed and/or have been renumbered in the new permit and such changes will be noted, and section headers amended, when needed for reference to regulatory documents. See Table 2, found in Section 2 of this report for a comparison of the elements of these two permits.

A major change applicable to the City under this new permit are the requirements for a coordinated response to restoration of Lake Whatcom found in Appendix 2 of the 2019-2024 Permit. Details related to this requirement are found in the Lake Whatcom TMDL Implementation Plan Annual Report, attached as Appendix A to this report.

It should be noted that our annual capital programing has been added to the document. This portion of the report, outlining need-driven water quality protection projects and fish passage improvements, is not a requirement of the applicable NPDES permits. The information is included in this report to provide the citizens of Bellingham a more comprehensive view of stormwater efforts that are funded through our rates and fees but aren’t part of the City’s formal NPDES-required SWMP. Similarly, many sections of this report are significantly more detailed than required by permit reporting obligations, to demonstrate the City of Bellingham’s dedication to serving our community above and beyond minimum performance measures and regulatory thresholds.
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Appendices

Appendix A: Lake Whatcom TMDL Response Annual Report
1.0 INTRODUCTION

Stormwater runoff from streets, parking lots, construction sites, industrial properties, and residential areas is recognized as one of the leading sources of pollution to our streams, lakes, wetlands, and Puget Sound. We are committed to regional goals for keystone species protection, including endangered salmonids and resident Orca, which requires preservation of water quality in freshwater streams, lakes, and wetlands. At the same time, we recognize the need to protect nearshore marine water quality to prevent bioaccumulation of pollutants in that same food chain. Significant effort is also put toward preserving and restoring the quality of water in Lake Whatcom, the source of drinking water for over 120,000 city and county residents. Per Bellingham Municipal Code, the City’s stated goals for our stormwater management program are:

1. Minimize water quality degradation in streams, ponds, lakes, wetlands and other water bodies.
2. Minimize the degradation of habitat and habitat forming processes in streams, ponds, lakes, wetlands, and other water bodies.
3. Minimize the impact of increased runoff, erosion and sedimentation caused by land development and maintenance practices.
4. Promote site planning and construction practices that are consistent with natural geological, topographical, vegetational and hydrological conditions.
5. Maintain and protect the city’s stormwater management infrastructure and those downstream.
7. Provide compliance with federal, state and local requirements for stormwater management and water quality.

To address stormwater pollution, the City of Bellingham (City) established a Storm and Surface Water Utility in 1990 and has since been developing and refining its Stormwater Management Program (SWMP). While the City has been actively managing stormwater for decades, the City was officially designated in 2007 by the Environmental Protection Agency and the Washington State Department of Ecology as one of thousands of municipalities in the United States requiring a stormwater permit: the Western Washington Phase II Municipal Stormwater Permit (Permit) under the National Pollutant Discharge Elimination System (NPDES) program. The Department of Ecology is the delegated authority to enforce the Federal Clean Water Act within the state of Washington, and issues the Permit to the City of Bellingham. The City has expanded its stormwater program to meet the terms and conditions of this permit, including revised requirements of the fourth version (third issuance) of the Permit, effective August 2019 and extending through July 2024.

The Phase II Permit allows municipalities to discharge stormwater from municipal systems into “waters of the state” such as streams, lakes, and Puget Sound, as long as there are approved programs in place to
reduce pollutants in stormwater to the “maximum extent practicable”. Stormwater runoff from the City of Bellingham discharges to five urban streams, Lake Whatcom, Lake Padden, Bellingham Bay, and Chuckanut Bay. Improving habitat and water quality in these streams and lakes was identified as one of the top priorities in the City's Legacies and Strategic Commitments to its citizens and is a component of many other City programs such as the Lake Whatcom Management Program, Bellingham water quality improvement plans, habitat restoration plans and other environmental restoration programs. Requirements under the NPDES Phase II Permit provide the City additional opportunities to restore water quality in the City's streams and further protection of Lake Whatcom.

2.0 STORMWATER MANAGEMENT PROGRAM DEVELOPMENT (S5.A and S5.B)

2.1 Permit Requirements

Sections S5.A and S5.B of the Permit as issued by Ecology on August 2012 and unchanged in the 2019-2024 permit cycle require the City to:

- Develop and implement a Stormwater Management Program (SWMP) and submit annual compliance reports, such as this document.
- Manage an ongoing program for gathering, tracking, maintaining and using information to evaluate the SWMP development, implementation and permit compliance and set priorities.
- Track the cost of the development and implementation of the SWMP.
- Track the number of inspections and official enforcement actions.
- Document the types of public education activities and the audiences they reach.
- Coordinate with other NPDES permittees and partners in the region on stormwater related policies, programs, and projects.
- Coordinate internally among City Departments.

2.2 Notable Accomplishments

The City of Bellingham has been proactively managing the quality of stormwater for 29 years using a variety of approaches designed to control runoff, treat runoff, reduce pollutant sources, and employ adaptive management. Over the course of the first Permit term (2007-2012), the reissuance year (2012-2013), the second Permit (2013-2018), and through the first two quarters of the 2019-2024 Permit the City has built a strong stormwater program adding depth to existing programs and increasing staff as needed. Through education and the use of incentive programs, the City has engaged a variety of audiences in stormwater issues; from classroom children and raingarden planting volunteers, to focus groups targeting restoration options and survey respondents documenting behavioral changes. Stormwater control and treatment has been accomplished by implementing Best Management Practices (BMPs) and development standards, designing and building capital projects for new treatment facilities and retrofitting older public facilities. The City has worked with businesses to control sources of pollution as well as individual homeowners to reduce runoff and pollution from their properties. These strategies work in unison to form a multifaceted program that addresses stormwater quality and meets the six Phase II permit elements in the 2012-2018 Permit: education and outreach, public involvement, illicit discharge detection and elimination, runoff control from new development and redevelopment, good housekeeping in municipal operations, and water quality monitoring. The 2019-2024 Permit expands upon three previously generalized requirements—for stormwater planning,
mapping of the City’s stormwater system, and source control for existing businesses—bringing the formal number of program elements to nine. In addition, the 2019-2024 Permit includes specific requirements applicable to the Lake Whatcom Total Maximum Daily Load (TMDL) Implementation Plan, which is now officially part of the City’s obligations under the NPDES permit. The City's stormwater code has been revised five times (1990, 1995, 2006, 2009, and 2017), with the most recent revision incorporating new Low Impact Development (LID) principles for development codes and standards.

The City works very closely with other local jurisdictions to coordinate stormwater efforts citywide and in the Lake Whatcom watershed. One example is the City’s participation in the Lake Whatcom Management Program; a joint effort of the City of Bellingham, Whatcom County, and Lake Whatcom Water and Sewer District to protect Lake Whatcom as a source of drinking water. The focus of efforts is on reducing the pollutant load and the amount of stormwater entering the lake. While there are many constituents typically associated with urban stormwater, including suspended solids, metals, and hydrocarbons, phosphorus and fecal coliform bacteria have become the foremost pollutants of concern to Lake Whatcom’s health. Since 1992, the City has been documenting reductions in phosphorus (P) achieved by capital infrastructure improvements. Starting in 2011, the City has documented reductions in P achieved through private property retrofits, land use regulations, and enhanced operations and maintenance procedures. In 2019, the City moved forward on an ambitious project to identify and refine a new, enhanced treatment media. The City’s media and its associated stormwater facility (the Phosphorus Optimized Stormwater Treatment (POST) system) achieved Pilot Level Use Designation (PULD) approval from the Department of Ecology and is now in the field-testing phase to determine real-world performance and maintenance needs. Once complete, this project will provide an open-source high-performing media that provides excellent phosphorus treatment. Further efforts to protect Lake Whatcom include the land preservation program, which aims to reduce water quality impacts by preserving land within the Lake Whatcom Watershed that might otherwise be made available for development, and ongoing water quality facility retrofits.

The City’s Storm and Surface Water Utility is constantly evaluating, retrofitting, and improving Bellingham’s stormwater system and has completed many projects to date. The City operates six regional flood control dams and continues to be a leader in integrating low impact development (LID) techniques into infrastructure. Several projects were developed or completed during 2019 to upgrade existing infrastructure and install or enhance treatment to remove common pollutants. The Meridian Street Retrofit project, designed in 2019, will address the City’s highest vehicle-trip-per-day corridor and provide enhanced water quality treatment for nearly two miles of high-use roadway that currently drains to Squalicum Creek without treatment. The City also made significant progress in the redesign of the Park Place Water Quality Facility, the largest piece of infrastructure that collects and treats runoff draining to Lake Whatcom. The Park Place rebuild project will be the City’s largest investment to date in the Lake Whatcom watershed, treating more runoff from more developed area than any other facility in the basin. In 2019, phosphorus treatment systems were installed at three major intersections in the Lake Whatcom watershed, treating a combined 20 acres. The City also continues to develop city-wide plans to guide the next set of improvements, including an ongoing Comprehensive Plan update as well as predictive assessment tools that will direct retrofits to the areas of greatest need.
Part of the surface and stormwater comprehensive plan update is to develop a programmatic approach to stormwater improvements. This will be accomplished by a 6-year capital improvement program (CIP) that includes water quality retrofits. We are also performing a surface and stormwater utility rate study where we are ensuring adequate utility rates to support our stormwater management program and ensure we have the financial resources to continue to meet both existing and new NPDES permit requirements.

Additional highlights in 2019 include the completion of phase 1 of the City’s self-guided Stormwater Discovery Tours (stormwater.cob.org) to further inform the community of on-the-ground solutions in place to restore water quality throughout the City. The Local Source Control Program provided pollution prevention technical assistance to 120 businesses and continued the Wash Right campaign to promote proper outdoor washing practices. The Bellingham Water School program continued to bring interactive education to 37 fifth-grade classes in 15 schools, reaching 825 students in 2019. City Stormwater Inspectors conducted over 5,485 construction inspections on 950 sites and completed 158 private facility inspections. The detailed sections that follow will describe these efforts and their impacts on water quality protection for our residents, Bellingham’s many visitors, and the local and regional environment.

2.3 City Organizational Responsibilities for the Stormwater Management Program
The City’s Storm and Surface Water Utility (SSWU) Section in the Natural Resources Division of the Public Works Department holds the primary responsibility for developing and implementing the stormwater program and tracking Phase II Permit requirements. Within the Public Works Department, the Engineering and Operations divisions also hold integral roles in implementing the components of the stormwater program. The program is also supported by Planning & Community Development, Fire, Police, and Parks and Recreation (see Table 1). Internal coordination between these city divisions occurs regularly as issues arise (e.g. handoff between construction inspectors and the private facility inspector, incident response and follow-up actions to stormwater violations) and more formally through stormwater committee meetings and Operations and Engineering coordination meetings.

2.4 Plans for Program Activities in 2020-2024 Permit Cycle
The City plans to continue work on stormwater issues at a level commensurate with 2019 efforts, building on established systems and procedures. The City’s SWMP will necessarily expand to cover the new requirements in the 2019-2024 Permit. New actions planned for 2020 and beyond include:

- Updating the Surface and Stormwater Comprehensive Plan and developing a six-year capital improvement program that aligns with that plan.

- Instituting an evaluation of surface and stormwater utility rates to support continued implementation of the NPDES program and other necessary activities.

- Evaluating current behavior change programs for effectiveness and implementing improvements to remove barriers.
• Launching an interdepartmental team to assess stormwater planning efforts including watershed and basin prioritization.

• Documenting illicit discharge tracking and cross-connection screening for the City’s existing infrastructure.

• Updating mapping requirements to include all known outfalls.

• Launching a required Source Control Program for existing businesses.

• Implementing regulations on industrial discharges directed to sanitary sewer that could affect water quality discharged from the City’s wastewater treatment plant.

• Addressing Lake Whatcom Total Maximum Daily Load Implementation Plan requirements detailed in Appendix 2 of the Permit.
### Table 1: City Organizational Responsibilities for the NPDES program

<table>
<thead>
<tr>
<th>City Department</th>
<th>Description of NPDES Stormwater Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Works - Natural Resources</strong></td>
<td>Administers and develops the SWMP and coordinates with other divisions within the City (and other NPDES jurisdictions) to address Permit elements including:</td>
</tr>
</tbody>
</table>
| **Storm & Surface Water Utility Section**             | • Overarching development and implementation of the City’s Stormwater program  
• Stormwater system planning  
• Education and outreach  
• Public involvement  
• Illicit Discharge Detection and Elimination (IDDE) program  
• Stormwater incident response  
• Private facility inspections  
• Municipal staff training  
• Pollution prevention practices  
• Annual Reporting  
• Business inspections for source control of pollutants  
• Pre-treatment for industrial discharges to sewer                                                                                                          |
| **Public Works - Engineering**                        | • Design of capital projects (new stormwater facilities and retrofits)  
• Oversight of construction contractors  
• Inspection of public and private construction sites to ensure they meet stormwater requirements for water quality protection before, during, and after construction.                                                                   |
| **Development Section**                               | • Review of development applications and site plans for compliance with COB SW codes. Issues stormwater permits in partnership with Planning and Community Development Department                                                                                     |
| **Public Works - Operations**                         | • Inspection, operation, and maintenance of public stormwater facilities  
• Stormwater incident response  
• Tracing and screening infrastructure for illicit discharges                                                                                                                                                                                          |
| **Surface and Stormwater Division**                   |                                                                                                                                                                                                                                                             |
| **Public Works Laboratory at Post Point**             | • Water quality sample analysis for illicit discharge characterization and source tracing  
• Field monitoring of water quality in streams, lakes, and marine waters  
• Water quality monitoring of stormwater facilities as necessary                                                                                                                                                                                   |
| **Planning & Community Development**                  | • Permit Center provides first contact for residents proposing new or redevelopment projects needing stormwater permits  
• Distributes Notice of Intent for projects meeting thresholds                                                                                                                                                                                      |
| **Police Department**                                 | • First responder to stormwater incident if called  
• Code enforcement for stormwater violations                                                                                                                                                                                                             |
Table 2: Permit References Across Permit Cycles

<table>
<thead>
<tr>
<th>Permit Element</th>
<th>Reference and Location in 2012-2018 Permit</th>
<th>Reference and Location in 2019-2024 Permit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Planning</td>
<td>S5.C.4.g Pages: 31-35</td>
<td>S5.C.1 Pages: 11-14</td>
</tr>
<tr>
<td>Public Education</td>
<td>S5.C.1 Pages: 17-18</td>
<td>S5.C.2 Pages: 14-16</td>
</tr>
<tr>
<td>Public Involvement and Participation</td>
<td>S5.C.2 Page: 19</td>
<td>S5.C.3 Pages: 16-17</td>
</tr>
<tr>
<td>MS4 Mapping and Documentation</td>
<td>S5.C.3.a Pages: 19-20</td>
<td>S5.C.4 Pages: 17-18</td>
</tr>
<tr>
<td>Illicit Discharge Detection and Elimination (IDDE)</td>
<td>S5.C.3 Pages: 19-25</td>
<td>S5.C.5 Pages: 18-21</td>
</tr>
<tr>
<td>Compliance with Total Maximum Daily Load Requirements</td>
<td>S7 Page 48</td>
<td>S7 Pages: 37-38, Appendix 2</td>
</tr>
<tr>
<td>Monitoring and Assessment</td>
<td>S8 Pages: 48-56</td>
<td>S8 Pages: 38-40</td>
</tr>
</tbody>
</table>
3.0 Stormwater Planning (S5.C.4.g in 2012-2018 Permit, now S5.C.1)

3.1 Permit Requirements
Section S5.C.1 in the 2019-24 Permit contains text that is new to this permit cycle. This element was not found as a stand-alone element in the 2012-2018 Permit and was generally addressed in element S5.C.4.g discussed in the Controlling Runoff from New Development, Redevelopment, and Construction Sites section of this report. The new, reorganized Permit requires the City to:

- Convene an interdisciplinary team of subject experts to oversee the long-term planning process and implement a Stormwater Planning program.
- Implement planning codes to require Low Impact Development (LID) through enforceable regulations and identify and remove barriers to compliance.
- Develop processes for prioritizing watersheds to direct water quality restoration efforts to the highest need as defined by an internal watershed and basin planning process.
- Create and update a set of Stormwater Management Actions (SMAs) for watersheds ranked highest in priority through the watershed and basin planning exercise.

3.2 Program Overview
The City coordinates stormwater planning across departments. As of 2019, the City plans for stormwater impacts through its 2007 Stormwater Comprehensive Plan assessment of system capacity, which is in the process of being updated and re-presented as a new Surface and Stormwater Comprehensive Plan, due to be considered by City Council in late 2020. This updated Comprehensive Plan will be informed by a detailed analysis of the City’s topography, land use, and existing infrastructure and will include planning-level cost estimates for priority projects. The purpose of the Comprehensive Plan is to provide goals, policies, guidance, and planned program activities required to manage regulator, capital improvement, development, and maintenance requirements associated with the Stormwater Management Program. This will, in turn, inform a six-year Capital Improvement Program (CIP) designed to address some of the largest challenges for water quality, fish passage, and flood protection within city limits. Future stormwater rate increases will be tied to the completion of these identified and needed capital improvements. In tandem with this planning exercise, the City is developing a predictive tool that will identify areas that are best suited for new infrastructure or retrofits. This water quality prioritization exercise will identify an additional ten years of priority projects that will be programmed into the CIP and/or selected for grant applications for voluntary retrofit projects.

Land use planning within the City also aims to address future development impacts to water quality by formalizing Low Impact Development (LID) as the usual and customary practices for land development. LID includes both site development elements, such as clustering subdivisions and limiting street width, and specific engineered best management practices such as rain gardens, permeable pavement, green roofs, and low-impact foundations. Unless project proponents can show that using LID is infeasible, as defined by the Department of Ecology, these practices are required.

3.3 Accomplishments in 2019
The City has not yet begun to implement these permit requirements as they are new to the 2019-2024 Permit and no permit-mandated deadlines occurred in 2019. Accomplishments related to stormwater
planning under the 2012-2018 Permit are found in the section of this report titled “Controlling Runoff from New Development, Redevelopment, and Construction Sites”.

3.4 Plans for Program Area in 2020
In 2020, the City will begin the watershed and basin planning process outlined in the 2019-2024 Permit. The first step will be to collect existing data and convene a team of experts to oversee the long-term planning and prioritization process. The Stormwater Comprehensive Plan will be completed and with it a new list of capital improvements will be formalized. New data will continue to be collected over the course of the year, consistent with the effort to prioritize areas of the city that are lacking in water quality treatment. As clarity is improved, site-specific Stormwater Management Actions (SMAs) will be drafted, for initial coordination with other divisions and departments and integration into future planning documents. Additional data collected throughout both 2020 and 2021 will be used to finalize these SMAs for implementation as early as 2022 and continuing throughout the permit cycle.

4.0 PUBLIC EDUCATION AND OUTREACH (S5.C.1 in 2012-2018 Permit, now S5.C.2)

4.1 Permit Requirements
Section S5.C.1 of the 2012-2018 Permit requires the City to address the following public education and outreach elements:

- Develop a program that targets specific audiences including general public, businesses, homeowners, landscapers, property managers, engineers, contractors, developers, and City employees including review staff and land use planners.
- Develop a program that aims to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Measure improvements in the target audience’s understanding of the problem and what they can do to solve it. Use this information to improve the education program.
- Track and maintain records of public education and outreach activities.

This program area has been changed in the 2019-2024 Permit and is now S5.C.2. In addition to the bullets above, new requirements include:

- Selecting a new topic annually for general outreach and behavior change, based on target audiences for high-priority pollutants or behaviors.
- Evaluating an existing behavior change program implemented in the previous permit.
- Updating the evaluated behavior change effort based on the results of the evaluation.

4.2 Program Overview
The City of Bellingham has developed and implemented a comprehensive stormwater education and outreach program with two main goals; to increase awareness of stormwater pollution issues and to provide tools, assistance, and incentives to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. City staff emphasize the importance of environmental education and technical assistance in daily interactions with the Bellingham community.
Through both broad-based educational efforts aimed at the general public and targeted resources for residents, specific businesses, contractors, stormwater facility owners, and/or municipal staff, the City has compiled a library of resources ready for scheduled presentations or available on hand as outreach opportunities arise. Pollution prevention factsheets and brochures are routinely distributed to specific audiences and many of the resources are available on the City’s website.

City educators are active in STORM, the Stormwater Outreach for Regional Municipalities group, participating in meetings, roundtable discussions, and giving presentations. The City’s outreach team also works with local partners to coordinate stormwater outreach opportunities for the community, such as workshops on LID techniques, and stormwater facility maintenance. Local stewards and restoration groups are also a priority for City educators as they support groups such as Nooksack Salmon Enhancement Association and RE Sources for Sustainable Communities. Specific educational efforts that reach the youth in our community include the Bellingham Water School program.

Through the Homeowner Incentive Program (HIP), the City provides technical and financial assistance to residents living in the Lake Whatcom watershed. Outreach services provided through HIP include small-group workshops, on-on-one site assessments, project design resources, and permitting assistance. HIP-eligible projects protect water quality by reducing sources of phosphorus, improving stormwater treatment, encouraging infiltration, or a combination of best management practices for phosphorus control. Project examples include native planting areas, phosphorus-limiting rain gardens, infiltration trenches, media filter drains, and dispersion systems.

Through experiences, lessons learned, and public feedback, the City continues to improve the outreach program. In particular, the use of audience surveys, both pre- and post-contact, have helped measure improvements in the target audience’s understanding of the problem and document behavioral changes.
4.3 Accomplishments in 2019

The City of Bellingham undertook many outreach activities that brought stormwater information to a variety of audiences. Highlights include the development of the Stormwater Discovery Tours, continuing support of the Homeowner Incentive Program, the We Scoop campaign, the Wash Right campaign, neighborhood meeting presentations, and the Bellingham Water School program. In addition, the City has partnered with RE Sources, Whatcom County, and WSU Extension to carry out joint public education and outreach activities. Table 3 summarizes City education and outreach activities during 2019 and the following paragraphs highlight a few of the efforts.

**Stormwater Discovery Tours**

The City utilized grant funding to launch a new, city-wide education effort in 2019, a series of self-guided web-based tours of stormwater features. The new website, stormwater.cob.org, provides context, historical information, technical details, and interpretive messaging to members of the public who interact with the tours.

Five areas of Bellingham were selected for these Stormwater Discovery Tours; two focus on the more urbanized areas of the city (Downtown, Fairhaven), two are located at public parks (Bloedel-Donovan Park on Lake Whatcom and Squalicum Creek Park), and one focuses on a segment of the highly-used Railroad Trail. Together, these tours highlight stormwater infrastructure – water quality and flow control structures – by guiding users to highly-visible systems like rain gardens and detention ponds and nearly invisible facilities such as filter vaults and infiltration trenches. The City intends for these tours to be accessible to and used by students, teachers, professors, non-profit partners, and curious citizens. We are going to finish the project with the installation of interpretive signs and print brochures and maps promoting the self-guided tours.

**Homeowner Incentive Program (HIP)**

Throughout 2017 and 2018, the HIP underwent a wholesale update as part of the effort to evolve from a small-scale pilot program to a full-scale, watershed-wide offering. Work related to education and outreach for HIP pivoted in 2019, from a program development role to a program advertisement and public engagement effort. A media blitz was conducted during spring of 2019, which included:

- Advertisements on social media, including Facebook and Nextdoor platforms
- Interest articles in targeted publications, such as the Whatcom Conservation District newsletter and the shoreline-specific Lake Views magazine
- Radio advertisements
- Two postcard mailers with program information and calls to action
• Prominent signage in public areas and on private properties of past HIP participants

In addition to a coordinated advertising campaign, City staff also assisted in the development and presentation of three HIP workshops, involving 38 attendees, and an online workshop format that includes a recorded workshop session and a full-text transcription. Eleven households participated in online workshops in 2019. Both workshop options provide individualized resources for each homeowner and are supported by on-site visits and one-on-one technical assistance when the homeowner elects to enroll in the program and pursue a project.

Pet Waste Management
The City continued the We Scoop campaign. City staff promoted messages of proper pet waste disposal on both public and residential properties.

The program is promoted via posters (at vet clinics, pet stores, groomers, and doggy daycares), the We Scoop Bellingham Facebook page, newspaper ads, and dog events. Dog owners are also invited to enter their dogs into the Scooping Stars photo contest. These materials direct dog owners to the We Scoop pledge (“to scoop at home at least once a week, bag it and put it in the trash”).

Pledgers are then sent two We Scoop stickers (image at right) to adhere to either side of their curbside trash tote. We Scoop stickers serve four purposes: (1) to make the dog owner’s pledge publicly visible and durable thereby encouraging the dog owner to follow through with their pledge, (2) to serve as a prompt to the dog owner to remind them to scoop the poop as often as they take out their trash, (3) to make the social norm of scooping visible to people walking or driving by on trash day, and (4) to inform people that the trash is the appropriate place to dispose of dog poop. Pledgers are also offered their choice of a dog bag dispenser for their leash, and/or a small flashlight for their leash.
The City’s Public Works Department works closely with the Parks and Recreation Department to coordinate scoop the poop messaging in Parks and along trails. Parks held 9 “We Scoop” Park clean-up events to scoop poop and raise awareness about the importance of scooping and estimates 315 people attended. Parks also maintains 64 dog stations with signs and bag dispensers and distributed about 400,000 bags this year. In addition, Parks maintains 153 trash cans plus 13 dog waste-specific trash cans and Additionally, Public Works supports 4 Bellingham Public Schools in maintaining dog stations on their play fields. This enhanced partnership leverages the skills of the complimentary programs (stormwater education and park maintenance) to better protect water quality for the environment and park/trail users.

**School Programs**

City educators offer a water education program, "Bellingham Water School", centered on watersheds, the Lake Whatcom Watershed, the drinking water and wastewater treatment processes, water conservation and stormwater pollution prevention. The curriculum is designed for 5th grade students and was conducted at 37 classes in 15 schools, reaching 825 students in 2019.

The program involves a tour of wastewater treatment facility, in-class hands-on activities about watersheds, water distribution, pervious and impervious surfaces, and pollution prevention. Classes watch the video "Lost in Puget Sound" and prepare small group presentations about local stormwater pollutants such as oil and gas, fertilizer, pesticides, pet waste, phosphorus, sediment, litter, and soap. At a follow-up visit, students present their stormwater pollution information to City educators. When finished, they receive a Drain Ranger certificate to remind them of their pledge to keep our waterways clean.

The City contracted with RE Sources for Sustainable Communities' Sustainable Schools program to offer some stormwater action projects to middle, and high school students. Students, either through a class or a club, will have the option of doing a litter cleanup, storm drain marking, or a project of their own design.

**Neighborhood Meetings and Capital Project Outreach**

Public Works staff provided stormwater education to residents and answered questions via neighborhood meetings, city council meetings, the askpw@cob.org email, pre-construction mailers, and capital project web pages.

**Restoration**

Public Works staff incorporate educational stormwater messaging into outreach events and materials that support the City’s Habitat Restoration program. In 2019, there were 481 participants at three volunteer work parties and 136 participants in educational tours at local streams who received stormwater education from tour leaders, displays, and printed materials. About 400 individuals who are subscribed to the City’s Habitat News, a quarterly newsletter with updates from the Habitat Restoration program, received four newsletters about events and capital projects that include stormwater benefits.
**Business Sector Education** (See also: S5.C.8 in 2019-2024 permit “Source Control for Existing Businesses”)
Source Control staff conducted 155 site visits to local businesses providing technical assistance on pollution prevention practices. Business owners receive one-on-one education on good housekeeping practices specific to activities they are conducting such as proper storage and disposal of chemicals, cleaning products, paint, cooking grease, and other hazardous materials. In addition, owners are assisted with locating and maintaining their storm drains and informed about the impacts of illicit discharges, how to report them, and how to prevent them. In 2019, the primary target sectors were marine trades, stone cutters, restaurants, and property managers.

4.4 **Plans for Program Activities in 2020**
The City plans to continue work on stormwater education and outreach at a level commensurate with 2019 efforts building on established systems and procedures.

The annual focus area chosen in 2020, as required by the permit condition S5.C.2.a.i is to build awareness in the general public about low impact development principles and LID BMPs through our Stormwater Discovery Tours. Phase 2 of the project, planned for 2020, includes adding onsite markers with QR codes at tour stops to allow easy access to the information with a click on a smartphone, as well as an interpretive sign at the flagship site, limited printed map distribution for users without smartphones, and community-wide promotion of the tours through media ads and utility bill messaging.

The We Scoop campaign will continue to engage the community through the Scooping Stars photo contest, the We Scoop Bellingham Facebook page, posters at pet businesses, media ads, and tabling at dog events. Over the next five years, we plan to do a direct mail campaign neighborhood by neighborhood covering the whole city over the next five years. The campaign will continue to be used to promote the proper behavior through a pledge and trash tote sticker.

The City will use results of evaluation to develop a strategy and schedule to more effectively implement our Natural Yard Care campaign.
### Table 3: Education and Outreach Activities Undertaken in 2019

<table>
<thead>
<tr>
<th>Education/Outreach Activity</th>
<th>Description</th>
<th>Targeted Audiences</th>
</tr>
</thead>
</table>
| Stormwater Discovery Tours  | • Created a web-based self-guided stormwater tour ([http://stormwater.cob.org](http://stormwater.cob.org)) highlighting 5 areas in town with 31 tour stops that include multiple facility types (rain gardens, gravel filters, bioswales, ponds, bioretention basins, etc.) | • General public  
  • College students and professors |
|    | • **Pledge:** 63 dog owners pledged to scoop the poop at home at least weekly, bag it and put it in the trash in 2019, for a total of 692 pledgers since 2014  
  • **Pledge/Prompt:** We Scoop stickers for trash cans distributed to 438 dog owners at events and through online pledge ([www.SurveyMonkey.com/r/WeScoop](http://www.SurveyMonkey.com/r/WeScoop))  
  • **Tools:** More than 300 poop-scooping toolkits distributed to pledgers, humane society dog adoptees, and puppy class participants. Toolkits include trash stickers, a bag dispenser and/or leash flashlight, info rack card, and photo contest flyer.  
  • **Promotion:** Display and activity at Paws and Claws Expo (75 contacts), and Dog Days of Summer (300 contacts).  
  • **Promotion:** Scooping Stars photo contest (22 photos entered), promoted the contest Facebook posts ([www.Facebook.com/WeScoopBellingham](http://www.Facebook.com/WeScoopBellingham)) and ads.  
  • **Promotion:** Ads profiling local Scooping Stars with messaging about regular scooping and proper disposal in Cascadia Weekly, Leisure Guide, Pickford Film Center, Chinook Book.  
  • **Promotion:** shared education and info rack card thru partner at Whatcom Humane Society in their programs for youth and college students (est. 15-90 contacts) | • Dog owners at home  
  • Dog walkers in public places |
| We Scoop pet waste campaign | • 37 5th grade classes in 15 schools (825 students and 136 adults). Curriculum includes concepts of watersheds, stormwater, pollution prevention, water and wastewater treatment, and water conservation. Includes take-home adult interview about stormwater which reaches over 800 additional adults.  
  • 181 high school and middle school students in 16 classes. 8 stormwater workshops and 8 action projects. | • Elementary school students (mostly 5th grade, some 3rd)  
  • Middle and high school students |
<table>
<thead>
<tr>
<th>Education/Outreach Activity</th>
<th>Description</th>
<th>Targeted Audiences</th>
</tr>
</thead>
</table>
| **Lake Whatcom Homeowner Incentive Program (HIP) – A joint program between City of Bellingham and Whatcom County** | • Raised awareness of both Target and DIY HIP programs through postcards (to about 2,700 eligible households), five Facebook ads (over 600 unique clicks), two Nextdoor announcements (average of 587 impressions per post), three radio ads, four print ads (reach of 3,000 households), eight street signs, yard signs installed in participants’ yards, and the HIP website [www.lakewhatcomHIP.org](http://www.lakewhatcomHIP.org).  
• Engaged participants in visiting the website (2,305 unique visits), contacting HIP staff, participating in a DIY workshop (49 households), scheduling a site visit (26-Target, 24-DIY), signing an intention to participate (9-Target, 21-DIY), or getting a permit (3-Target, 8-DIY).  
• Actions taken by HIP participants included seven DIY native landscaping projects, and five Target program projects (BMPs offered included infiltration trenches, media filter drains, rain gardens, and native landscaping). Seven homeowners committed to becoming Watershed Ambassadors. | • Teachers, parents/guardians  
• DIY program: all Lake Whatcom watershed homeowners in basins 1 and 2 not eligible for Target program (City and County)  
• Target program: Lake Whatcom watershed shoreline, creekside, and large lawn homeowners in basins 1 and 2 (City and County) |
| **Outdoor washing campaign** | • Pressure Wash Kit and technical assistance offered to assist residents and small businesses in proper wash water management.  
• Drivers were encouraged to wash cars at a commercial car wash through an ad on an electronic billboard ad near car dealerships that directed people to more info on the City’s website, [www.cob.org/cleanwater](http://www.cob.org/cleanwater). | • Residents  
• Businesses |
| **Local Source Control Program** | • Provided pollution prevention technical assistance to 120 businesses, including marine trades, stone cutters, restaurants, and property managers. | • Businesses  
• Industries |
<table>
<thead>
<tr>
<th>Education/Outreach Activity</th>
<th>Description</th>
<th>Targeted Audiences</th>
</tr>
</thead>
</table>
| Habitat Restoration outreach    | • 617 participants at three work parties and four tours at local streams received education about stormwater from tour leaders, displays, and printed materials.  
• Approximately 400 Habitat News subscribers received four newsletters about habitat restoration projects that included stormwater benefits. | • General Public                                     
• People interested in Restoration program                  |
| Water Use Efficiency outreach   | • Designed a new online pledge for residential outdoor watering, promoted via social media and available on our webpage (www.cob.org/conserve) and received over 30 pledges. Each pledge participant is able to receive a water saving device such as a hose timer, moisture meter or low-flow spray nozzle. | • Utility customers                                    |
| Don't Drip and Drive vehicle leak campaign | • Drivers were encouraged to check for and fix car leaks through an ad on an electronic billboard ad near car dealerships that promoted the regional website, www.FixCarLeaks.org. | • Automobile owners                                      |
| Resident, Neighborhood & Capital Project outreach | • Public Works staff provided stormwater education to residents and answered questions via phone, email, neighborhood meetings, city council meetings, the askpw@cob.org email, pre-construction mailers, and capital project web pages. | • General public                                      
• Residents impacted by construction                             |
| This Drains Here stormwater awareness campaign | • Ads raising awareness about stormwater in Cascadia Weekly, Leisure Guide, Pickford Film Center, exterior bus ads, interior bus ads.                                                                 | • General public                                    |
| Spills Happen stormwater hotline campaign | • Ads promoting stormwater hotline in Chinook Book mobile app and Pickford Film Center. “Spills happen. Help us find them. www.cob.org/StormwaterHotline”. | • General public                                    |
| Video Outreach                  | • City website includes stormwater resources and videos, including “What's the Scoop About Healthy Streams?” and “Stormwater University”.  
• City television station, BTV10, aired programs about Public Works’ utility services including a specific video about what our stormwater utility does. | • Dog owners                                           
• Business owners                                            
• General public                                              |
5.0 PUBLIC INVOLVEMENT AND PARTICIPATION (S5.C.2 in 2012-2018 Permit, now S5.C.3)

5.1 Permit Requirements
Section S5.C.2 of the 2012-2018 Permit requires the City to address the following public involvement and participation elements, which are unchanged (except for reference numbers) in the 2019-2024 Permit:

- Provide ongoing opportunities for public involvement in the SWMP process through committees/commissions and updating the SWMP to reflect input.
- Make the SWMP and Annual Compliance Report available to the public, including posting it on the City’s website.

5.2 Program Overview
The Bellingham public is invited to participate in stormwater decision-making. Opportunities include the City Council meetings, Community meetings, public hearings, neighborhood association meetings, focus groups, community surveys, and webpage communications. The City also solicits public comment through press releases specific to projects and code updates, and leisure guide advertisements. Status reports on the Stormwater Management Program were presented at the monthly Public Works and Natural Resources Committee meetings. In addition, the current SWMP and Annual Compliance Report were made available to the public by posting downloadable versions on the City’s website and a copy is available for public review at City Hall.

5.3 Accomplishments in 2019
Public involvement opportunities to comment on the stormwater program in 2019 are summarized in Table 4.

<table>
<thead>
<tr>
<th>Public Involvement Opportunity</th>
<th>Description of Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Council Meetings</td>
<td>City Council holds meetings that are open to the public, generally two each month. In 2019, major stormwater items discussed at Council meetings included interlocal agreements with local partners, contracts with regional agencies, and project-specific awards (bids, consultant agreements) for ongoing work. In 2020, the full Council will review final version of Stormwater Comprehensive Plan.</td>
</tr>
<tr>
<td>City Council Public Works and Natural Resources Committee</td>
<td>This council sub-committee usually meets twice per month to consider changes to Public Works policies, procedures, budgets, and operations. This committee will consider changes to the Stormwater Comprehensive Plan and stormwater fees in 2020. This committee meets in Council</td>
</tr>
</tbody>
</table>
5.4 Plans for Program Activities in 2020

The City plans to offer public involvement opportunities similar to those offered in 2019. The City Council will be briefed on the Stormwater Comprehensive Plan in open meetings and committees and the Lake Whatcom Management Program will adopt its 2020-2024 Work Plan at the LWMP Annual Meeting. We will have a public comment period and public open houses to share with the public and accept public comment on the draft comprehensive plan, the draft capital improvement program, and the draft utility rate ordinance. We are planning on posting the aforementioned draft documents on the City website and solicit comments one week prior to the Council meeting and will close the comment period one week after Council.

6.0 MUNICIPAL SEPARATED STORM SEWER SYSTEM (MS4) MAPPING AND DOCUMENTATION (S5.C.3.a in 2012-2018 Permit, now S5.C.4)

6.1 Permit Requirements

Section S5.C.4 in the 2019-2024 Permit contains text that is new to this permit cycle. This element was not found as a stand-alone element in the 2012-2018 Permit and was generally addressed in element S5.C.3.a discussed in the “Illicit Discharge Detection and Elimination (IDDE)” section below. The new, reorganized permit requires the City to:

- Continue ongoing mapping projects begun under previous permits, including the documentation of the location of all outfalls, discharge points, receiving waters, water quality and flow control BMPs, conveyances (pipes/ditches) to all outfalls larger than 24” diameter, and certain connections to the MS4.
• Develop new mapping projects that identify and display:
  o All outfalls, including those smaller than 24” which were exempt from past permit requirements.
  o All known connections to the City’s MS4 from privately-owned stormwater systems from any date.
  o The ability to display of all data in an electronic mapping format that follows well-defined standards and uses industry-standard software.
  o The ability to share all created maps with Ecology, recognized Tribes, and other municipalities and NPDES permit holders.

6.2 Program Overview
The City of Bellingham Public Works Department includes a workgroup of Geographic Information System (GIS) mapping specialists who continually update maps and their data sources to ensure an accurate electronic mapping system is available for use by City staff and the public. This mapping tool, known as City IQ (https://www.cob.org/services/maps/online-mapping), includes layers dedicated to stormwater infrastructure, including BMPs and the areas for which they provide treatment. Our mapping includes most private facilities, especially those in our inspection program, and all public facilities that are operated and maintained by Public Works Operations Crews. Through this program, outfalls are mapped as they are identified by field staff, infrastructure details such as sump depth of catch basins are field-verified, and new/retrofit water quality and flow control BMPs are integrated into the treatment network upon completion.

While many features are available in the City IQ and GIS system, the City also has developed a customized application of the Western Washington Hydrology Model version 3 (WWHM3) to evaluate the hydrology and hydraulics of the City’s stormwater system capacity. The updated model will include characterization of marine outfalls and their capacity and feasibility for capital improvements in their upstream conveyances.

6.3 Accomplishments in 2019
The city has not yet begun to implement these permit requirements as they are new to the 2019-2024 Permit and no permit-mandated deadlines occurred in 2019. However, we are far ahead on the mapping requirements and the data should be consolidated in early 2020. Accomplishments related to stormwater system mapping under the 2012-2018 Permit are found in the section of this report titled “Illicit Discharge Detection and Elimination”.

6.4 Plans for Program Activities in 2020
The City plans to complete mapping tasks new to the Permit in 2020, including launching a new mapping effort to capture outfalls less than 24” in diameter and historical known connections to the MS4, added to our City IQ system as those connections are field-verified.
7.0 ILlicit discharge DETECTION AND ELIMINATION (S5.C.3 in 2012-2018 Permit, now S5.C.5)

7.1 Permit Requirements

Section S5.C.3 of the 2012-2018 Permit requires the City to address and/or maintain the following illicit discharge detection and elimination (IDDE) elements, which are unchanged (except for numeric references) in the new Permit:

- Develop an ongoing program to detect and remove illicit discharges, connections, and improper disposal, including any spills into the municipal separate storm sewers owned or operated by the City.
- Develop a map of the municipal storm sewer system (moved to section S5.C.4 in new Permit).
- Implement an ordinance that prohibits illicit discharges and create a program to detect and address illicit discharges.
- Publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges.
- Train staff on proper IDDE response procedures.
- Track all spills, illicit discharges and connections reported to the City and response actions taken, including enforcement actions.

In addition, Section S5.C.5 of the 2019-2024 Permit requires the City to also address the following requirements for IDDE elements:

- Screen the MS4 system for illicit connections at a rate of at least 12% of the system each year, for a total of at least 60% at the completion of the five-year permit cycle.

7.2 Program Overview

The City has developed and implemented an ongoing program to detect and remove illicit discharges and connections into the City’s Municipal Separate Storm Sewer System (MS4).

Through Bellingham Municipal Code 15.42.050.C, the City prohibits non-stormwater illegal discharges, and/or dumping into the City’s MS4. The enforcement of all stormwater code provisions including illicit discharges is provided for in BMC 15.42, subsections 070-110. Illicit discharges were prohibited in the 1995 adopted code; however, the language was refined in the 2009 ordinance to fully reflect the NPDES permit language. The City is active in the enforcement of illicit discharges.

The City has established interdepartmental coordination to report and respond to illicit discharges. City staff utilize many methods to discover and trace illicit discharges and IDDE problems including visual observation and chemical analysis, dye testing, internal pipe video inspection, observations during pipe cleaning, stormwater outfall monitoring/dry weather monitoring, and source control inspections. The City also uses customer information to identify and resolve stormwater issues.
A stormwater hotline number (360-778-7979) is posted on the City's website and publicized on storm drain markers throughout the City. SSWU staff are ready to record and respond to all calls regarding illicit discharges or spills that are received on the hotline. All reports that are found to represent illicit discharges or connections are followed up as necessary to resolve the issue. Follow-up actions are tracked, and feedback is given to the reporting party as well as Ecology, as necessary. The City has also both received and sent information through the Ecology-administered Environmental Response Tracking System (ERTS) and responds similarly, providing closure information back to Ecology. When accidental discharges occur as part of the City's provision of services (for example, during water main breaks or as a result of contractor inaction on City capital projects) the City self-reports these incidents to ERTS if they have reached our MS4. In the cases where City staff observes a potential illicit discharge as part of their daily work duties, these staff contact the stormwater hotline and/or ERTS as appropriate for the event.

SSWU staff respond to most stormwater incidents to assess the situation and plan follow-up actions to resolve them. For discharges that reach the MS4, SSWU staff work with the Storm Operations crew and a vacuum truck (or other appropriate tools and equipment) is used if needed. Fire and Police are often the first responder; however, if it is not a hazardous materials situation, they are trained to call SSWU responders and the Storm Operations crew. All Public Works Operations vehicles have spill kits for containment and cleanup of small spills. The Storm Operations crew receives training on spill response and addresses any additional questions or concerns through the stormwater committee. The City of Bellingham Emergency Response Plan for Public Works Operations: Water, Wastewater, Stormwater: Chapter 8 Water Quality Contamination, and Checklists 10 and 11 Hazardous Materials Spill to Streets or Storm Water System cover procedures for spill response.

In addition to responding to illicit discharge incidents, the City is proactive in tracing the source of illicit discharges. The City has been utilizing system video inspection since 2003 to both discover illicit discharges and trace the sources as well as to detect maintenance issues. The crew has been trained to look for signs of non-stormwater discharges from private piping entering our system. Signs of staining, foam, and/or discolored discharges are all indications that would be part of the condition report of the piping system. This information is provided to the supervisor and is also logged into system reports for future referral. In recent years, the City has reviewed 100% of our total 28 square miles of stormwater network, including about 280 miles of storm mains, and is beginning to review the system a second time, with approximately 22% completed. The initial effort has covered older infrastructure in the Central Business District and known problem areas. Crews have since proceeded by quarter-sections starting in the northwest moving east and then south. This system review has located many problems including misconnections and suspicious flows.
The City requires IDDE training for all municipal field staff, including the Surface and Storm, Street, Water, Wastewater, and Traffic crews, and the Police and Fire Departments. Public Works inspectors and supervisors have also been trained on illicit discharge identification and procedures. The City has 82 Certified Erosion and Sediment Control Lead (CESCL) trained personnel on staff, in addition to requirements for on-site CESCLs on private development or capital projects (e.g. new parks) greater than one acre in size.

### 7.3 Accomplishments for 2019

The City has taken many steps to identify and eliminate illicit discharges in 2019. Knowledge of City infrastructure improves as the City's comprehensive map of its MS4 continues to be updated. In 2019, the City received 130 hotline calls, as well as an additional 100 notifications from online submittals, direct calls, emails, staff complaints, and ERTS referrals. All incidents reported were responded to in some manner. Some inquiries were discussed with the caller and did not require further action while others were forwarded on to a different department as appropriate. Most inquiries were addressed by SSWU staff and follow-up responses were tracked in the Bellingham Environmental Response Tracking System (BERTS) database.

The IDDE training was completed by 36 new and seasonal field staff. This training will be renewed by all field staff in the Police, Fire, Parks and Public Works departments in 2019. SSWU Staff also participated in:

- Monthly conference call presentations and quarterly in-person trainings with regional Local Source Control Specialists.
- American Public Works Association 2019 Public Works Expo
- The Washington Stormwater Center’s 2019 Washington State Municipal Stormwater Conference
- Certified Erosion & Sediment Control Lead (CESCL) certification renewal
- Certified Stormwater Inspection training

### 7.4 Plans for Program Activities in 2020

The City plans to continue responding to illicit discharges at a commensurate level of effort as in 2019. Additionally, SSWU Staff intend to provide refresher training opportunities for field crews, first responders, inspectors, and supervisors/management.

### 8.0 CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES (S5.C.4 in 2012-2018 Permit, now S5.C.6)

#### 8.1 Permit Requirements

Section S5.C.4 of the 2012-2018 Permit, and unchanged in the newer issuance (except for reference numbers), requires the City to address the following elements regarding controlling runoff from new development, redevelopment and construction sites:
• Develop, implement, and enforce a program to reduce pollutants in stormwater runoff discharging to the municipal separate storm sewer system from new development, redevelopment, and construction site activities.

• Adopt an ordinance to address runoff from new development, redevelopment, and construction activities from both public and private sites using Appendix 1 as the standard. (See also Stormwater Planning requirements under S5.C.1 in the 2019-2024 Permit).

• Retain existing local requirements to apply stormwater controls at smaller sites or at lower thresholds than required pursuant to S5.C.4.

• Develop and implement a planning process for development that includes plan review, inspection, and enforcement capability.

• Provide copies of the Notice of Intent (NOI) for construction or industrial activities to representatives of the proposed new development and redevelopment and post a link to the online electronic version of the NOI (online requirement new in 2020-2024 permit).

• Provide training to staff on the new codes, standards, and standard operating procedures.

• Develop a process to record and maintain all inspections and enforcement actions by staff.

8.2 Program Overview

The City has developed, implemented, and enforced a program to control runoff from new development, redevelopment, and construction site activities. In 2006 and 2009, the City updated its stormwater code to address construction runoff control from both public and private sites using language consistent with the "Minimum Technical Requirements" in Appendix 1 of the Permit. However, since the adoption of the City's initial stormwater ordinance in 1995, a permitting, inspection, and enforcement program has been in place that is more restrictive than the Appendix 1 thresholds. The City requires some form of erosion control on all projects that require a building permit or disturb more than 500 square feet of soil. These local requirements have been retained as the City continues to regulate stormwater from smaller sites or at lower thresholds than required pursuant to S5.C.4. Sites that trigger the Appendix 1 thresholds receive more detailed reporting, increased inspection frequencies, and additional compliance items as necessary to meet the Permit requirements.

The City previously followed the planning process and BMP selection and design criteria outlined in the 2005 Stormwater Management Manual for Western Washington (the Manual). The 2012 and 2019 Manuals were adopted by the City automatically at the time they were adopted by Ecology. Our permitting process includes site plan review, inspection, and enforcement capability. Copies of the Notice of Intent for construction or industrial activities are provided to project proponents. City databases are used to record permit activity and maintain a record of all inspections and enforcement actions taken by staff.

All permitted development sites are inspected by qualified Public Works Department Inspectors for proper erosion and sediment controls and appropriate enforcement actions are taken as necessary to ensure compliance. The City’s inspection program includes site visits before, during, and after construction. Verbal warnings are often given during inspections and corrections are made when the inspector is present. When necessary, stormwater permit correction notices are issued listing the items that do not comply with City codes along with required corrective actions. Stop-work orders are issued
in cases where non-compliance persists, and they remain in effect until additional inspections show compliance. All permitted development sites are inspected upon completion and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls and to verify that a maintenance plan is in place. The City uses an escalating enforcement strategy of corrective warnings, monetary ticketing, and if necessary, the case is transferred to the City's legal staff.

From 2012-2018, post-construction annual inspections were described in this section of the permit. In the 2019-2024 permit, that function has been moved to the section titled “Operations and Maintenance”, specifically S5.C.7.b.i.b. Discussion of those activities, detailed below, will be found in that section in future reports.

The City's Private Stormwater Facility Inspection Program has two major components. The highest priority is inspecting private facilities that trigger the NPDES annual inspection requirement to ensure maintenance standards are met on post-construction private facilities. Secondarily, the City inspects and provides technical assistance to owners of smaller or older private facilities within the City’s jurisdiction. Private facilities built after 2007 that trigger the Appendix 1 thresholds are inspected annually. Inspection reports document conditions and itemize specific maintenance corrective actions. Notification letters are sent to the property owners along with the inspection report and a timeline for action. Typically, maintenance is required prior to the next annual inspection, however there are circumstances that call for more frequent follow-up inspection and the City continues to work with owners until maintenance issues have been resolved.

Site plan reviewers, inspectors, city engineers and SSWU staff have had stormwater code training, Ecology Manual training, and have attended permit overview workshops.

**8.3 Accomplishments in 2019**

The Public Works Development Section reviewed 221 site plans in 2019. These plans were distributed as follows into the four permit levels:

- 131 level 1 permits for projects containing more than 300 square feet and less than or equal to 1,000 square feet of new or replaced impervious surface or containing more than 500 square feet and less than or equal to 5,000 square feet or clearing or grading.
- 52 level 2 permits for projects containing more than 1,000 square feet and less than or equal to 5,000 square feet of new or replaced impervious surface or containing more than 5,000 square feet and less than or equal to 30,000 square feet or clearing or grading.
• 24 level 3 permits for projects containing more than 5,000 square feet and less than or equal to one acre of new or replaced impervious surface or containing more than 30,000 square feet of clearing or grading.
• 14 level 4 permits for projects containing more than one acre of impervious surface.

The City will continue to regulate stormwater from smaller sites or at lower thresholds than required pursuant to S5.C.6 in the 2019-2024 Permit using local ordinances that were in place prior to the NPDES Phase II Permit.

City Stormwater Inspectors made 5,485 stormwater inspections related to active construction during 2019. These inspections occurred on over 950 different sites, including both private and public projects, of which 59 included work without a permit. Stormwater permit correction notices were issued to document 154 construction activities that were not in compliance with City stormwater code. These sites were re-inspected until corrective actions were taken. Eighteen stop work orders and four formal written warnings were issued.

The City continued the inspection program for privately owned and maintained stormwater mitigation facilities. The City conducted 158 inspections. Of these, 95 inspections were for facilities which meet the NPDES requirements for inspection, and 67 inspections were performed on systems that did not meet the NPDES requirements. Further technical assistance was provided through an additional 5 site visits. Requirements related to this work has been moved to section S5.C.7 in the 2019-2024 Permit.

The Public Works Department staff viewed various webcasts on design of stormwater facilities, implementing best management practices, and pollution prevention.

8.4 Plans for Program Activities in 2020
The City plans to continue to control runoff at a commensurate level of effort as in 2019.

9.0 POLLUTION PREVENTION FOR MUNICIPAL OPERATIONS AND MAINTENANCE (S5.C.5 in 2012-2019 Permit, Now S5.C.7)

9.1 Permit Requirements
Section S5.C.5 of the Permit requires the City to address the following pollution prevention and operation and maintenance elements:

• Develop and implement an operations and maintenance program, with the goal of preventing or reducing pollutant runoff from municipal operations.
• Adopt maintenance standards for the municipal separate stormwater system that are at least as protective as those specified in Ecology’s Stormwater Management Manual for Western Washington.
• Perform annual inspections of publicly owned stormwater flow control and treatment facilities and catch basins.
• Develop Standard Operating Procedures to reduce stormwater impacts associated with runoff from municipal O&M activities.
• Train staff to implement new procedures.
• Prepare Stormwater Pollution Prevention Plans (SWPPPs) for all heavy equipment maintenance or storage yards identified for year-round facilities or yards, and material storage facilities owned or operated by the City.

In the 2019-2024 Permit, requirements for inspection and maintenance of privately-owned facilities regulated by the City is have been moved to this section. Performance related to this element under the 2012-2018 Permit can be found in the section above, formerly 55.C.4, now 55.C.6. In subsequent reports, the inspection program overseeing private facility inspection, maintenance standards, and record-keeping will be detailed under the new 55.C.7 reference.

9.2 Program Overview
The City of Bellingham has developed and implemented an operations and maintenance program with the goal of preventing or reducing pollutant runoff from municipal operations. One focus of the program is training municipal staff on good housekeeping pollution-prevention practices that are applicable to daily City operations and activities. Other components include performing annual inspection and maintenance of public stormwater facilities, updating stormwater pollution prevention plans for City facilities, and constructing capital improvement projects that reduce pollution.

The City has a comprehensive program for maintaining City-owned or operated permanent stormwater treatment and flow control facilities. Maintenance standards from Ecology’s Stormwater Management Manual for Western Washington were adopted by the City and are used to evaluate facilities for both private and public inspections. The City maintains over 850 facilities including 6 regional detention ponds, 152 detention/water quality ponds, vaults or pipes, 102 bioswales, 141 rain gardens and bioretention facilities, 44 infiltration/dispersion trenches, 223 sand and media filters, 140 hydrodynamic pre-treatment structures, 19 sections of permeable pavement, one stormwater treatment wetland, and 28 pollution control/oil-water separator structures.

Inspection and maintenance of facilities is scheduled and tracked through a maintenance management system. Inspections occur at a minimum annually with most facilities inspected several times throughout the year. Filters are inspected more frequently, typically on a three-month circuit. Maintenance is scheduled when a facility exceeds the applicable maintenance standards and corrective actions are executed as soon as practical. Catch basins and inlets owned or operated by the City of Bellingham are inspected and cleaned as necessary to comply with the maintenance standards. In addition, City Storm Operations staff have identified potentially vulnerable stormwater facilities that are monitored during and after major storm events.
Stormwater Pollution Prevention Plans (SWPPPs) have been developed for the Public Works Operations Complex and the Parks & Recreation Operations Center. Stormwater Committee members perform regular site inspections of operations facilities to ensure that proper good housekeeping practices are being followed and provide training for municipal employees. The City’s street sweeper program aims to clean all city streets on a two- to three-month circuit. More frequent street sweeping occurs in the downtown Central Business District where streets are serviced twice a week and in the Lake Whatcom watershed where streets are cleaned twice a month. In addition, the City led a joint venture to purchase a street sweeper for Whatcom County NPDES partners to proactively prevent pollutants from entering TMDL water bodies. This state-of-the-art high-efficiency street sweeper has a higher rate of fine particulate capture and is used around the city and particularly in the Lake Whatcom watershed to improve removal of particulate phosphorus from roadways. It is also currently being used by the Port of Bellingham and is available to both Whatcom County and the City of Ferndale.

Capital improvement projects have been a major component of the City’s effort to reduce stormwater impacts associated with runoff from streets and parking lots. Over the past decade, numerous stormwater quality retrofit projects have been completed citywide and many more are scheduled with funding secured. Projects have used LID techniques, conventional water quality facilities, and in-line treatment options.

For the Lake Whatcom Watershed in particular, a key component to the City’s stormwater treatment strategy is implementing controls that reduce the amount of phosphorus entering the Lake. A notable accomplishment in this regard is that all public stormwater facilities in the City’s portion of the Lake Whatcom Watershed are now utilizing phosphorus-specific filtration media, improving phosphorus removal efficiency to approximately 72%. The City has 57 main treatment systems in the Lake Whatcom Watershed and approximately 150 other smaller ones (including native landscape areas) associated with our Homeowner Incentive Program (HIP). HIP facilities are required by ordinance to be maintained by the homeowner and, as of 2017, participation in HIP requires the homeowner to sign a detailed Maintenance Agreement with an obligation to inform the City upon sale of the property so similar agreements can be made with subsequent landowners.
9.3 Accomplishments in 2019

The City of Bellingham inspected over 90% of all publicly owned stormwater facilities and completed maintenance for 75% of those inspected. All reported maintenance issues were responded to promptly. In addition, crews inspected 9,856 catch basin/manhole structures out of the 14,555 known publicly owned structures in the City, out of which 2,274 were cleaned and maintained as required. Publicly owned structures include 12,265 catch basins and 2,290 manholes. City crews also maintain approximately 280 miles of stormwater mains throughout the city.

A major project completed in 2019 was a full resurfacing/restriping of the City’s Operations and Maintenance Yard. This project provided flow control and enhanced treatment for the entire 5.7-acre site. In addition, as part of this project basic treatment was provided for the flow passing under the facility from a 25.88-acre residential area. Prior to this project, this area drained to Whatcom Creek with no treatment.

9.4 Plans for Program Activities in 2020

The City plans to continue to implement pollution prevention and maintenance for municipal operations, private and public facilities, and infrastructure at a commensurate level of effort as in 2019. In addition, the City is gearing up to launch a new project to normalize, city-wide, the practices, policies, and procedures needed to ensure that municipal operations protect water quality to the maximum extent practicable. The City will be engaging a consultant to review our actions related to infrastructure maintenance, ice control, dust control, roadside upkeep, herbicide/pesticide/fungicide use, fertilizers, and trash and pet waste management, amongst others. The complete list of actions is outlined in permit condition S5.C.7.d in the 2019 – 2024 Permit. The following table was developed to identify, across departments and divisions, the appropriate stakeholders for this exercise.
### Table 5: City Workgroups and Policies, Practices, and Procedures to Protect Water Quality

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<th>Pavement Stripping</th>
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10.0 SOURCE CONTROL FOR EXISTING BUSINESSES (part of S5.C.3 in 2012-2018 Permit, now S5.C.8)

10.1 Permit Requirements
This permit condition is now a stand-alone section in the 2019-2024 Permit. It was previously part of the Illicit Discharge Detection and Elimination section and referred to a voluntary source control program for businesses, which was also referenced in the Public Education and Outreach section. Requirements for this element, section S5.C.8 include:

- Taking actions to reduce pollution from existing developed areas through operational or structural Best Management Practices (BMPs)
- Inspecting sources of pollution from private sites, including institutional, commercial, and industrial lands within the City and enforcing violations of local codes or other permits that limit pollution from these land uses.
- Addressing sources of fertilizers, herbicides, or pesticides that are found entering the stormwater system.

10.2 Program Overview
The City, through our Local Source Control (LSC) Partnership with Ecology, provides technical assistance and pollution prevention education to businesses. The City evaluates priority businesses and industrial activities likely to have illicit discharges and provides technical assistance to these entities on ways to reduce sources of pollution. Site visits with businesses include in-depth surveys of current practices, including outdoor storage, catch basin maintenance, and the potential for stormwater contamination. Good housekeeping practices are commended, and corrective actions are discussed. Follow-up letters are sent to establishments highlighting existing good practices and itemizing practices that need to be corrected along with recommendations on how to remedy them. Certain high priority environmental issues trigger an automatic follow-up visit. During these visits the City is able to note business practice changes or continue with education to correct persistent problems. Dye testing is used in cases where questions arise about the storm/sewer network.

Since the program's inception in 2008, the LSC program has focused technical assistance visits on sectors including boat repair, chiropractors, printers, photo processors, dry cleaners, hotels, landscapers, nail salons, nurseries, dentists, veterinary clinics, gas stations, painters, pharmacies, auto body, auto repair shops, wood workers, metal workers, property managers, grocery stores, restaurants, and scrap recyclers. The visits have resulted in significant reductions in stormwater pollution along with reduction in hazardous waste materials sent to our wastewater treatment plant.

10.3 Accomplishments in 2019
For work completed under the 2012-2018 Permit, see discussion of this element in under the “Business Sector Education” heading in the Public Education and Outreach section of this report. No work under
the new permit requirements were completed in 2019, as the permit did not have any deadlines for this year.

10.4 Plans for Program Activities in 2020

For 2020, the LSC program will be focusing primarily on the health care, restaurant, and property management business sectors. In addition, the City’s LSC group will be participating in the Product/Equipment Replacement Program (PRP). The PRP will provide financial incentives to Washington State businesses to eliminate sources of toxic chemicals. Use of chemicals such as PFAS, PCBs, PBDE flame retardants, PERC, lead, and mercury typically lead to the generation of hazardous waste and are difficult or impossible to clean up in wastewater and stormwater. The best way to reduce the generation of this hazardous waste, prevent further environmental contamination, protect water quality, and reduce human health risk is to eliminate the use of products that these chemicals through active removal programs.

11.0 MONITORING (S8.C.1.b and S8.C.2)

11.1 Program Overview

To meet permit requirements, the City elects to pay into a regional fund to conduct both “Status and Trends” and “Effectiveness” monitoring studies through the Stormwater Action Monitoring (SAM) Program, formerly Regional Stormwater Monitoring Program (RSMP), through the Department of Ecology. SAM studies are more efficient, and their results more applicable, when leveraged through this region-wide program.

Locally, The City of Bellingham has conducted water quality monitoring for nearly 30 years through our Urban Streams Monitoring Program. This program was initiated in 1990 with the purpose of collecting data and maintaining a record of stream conditions at up to 19 separate stream sites on the 5 major creeks within Bellingham. In addition, the City sponsors an in-depth water quality program focused on the Lake Whatcom watershed. The program began over 50 years ago due primarily to the City’s requirement as a purveyor of water to test the quality of incoming water to our water treatment system and has continued to grow and expand in scope as additional parameters and studies have been deemed necessary. In recent years, the City has focused not only on the lake quality but also on the nature of the water entering the lake through creeks and large storm drains. Western Washington University (WWU) has been commissioned by the City to provide ambient lake monitoring and stormwater input monitoring from the various creeks. Current water quality research information is available online at www.lakewhatcom.whatcomcounty.org and under the Lake Whatcom tab at WWU’s Institute for Watershed Studies website www.wwu.edu/iws/.

A third facet of the City’s program involves stormwater monitoring. For over 15 years, the City has tested inflows to creeks primarily in the Lake Whatcom Watershed following storm events. Monitoring started with the inclusion of the Park Place stormwater wet pond in the WWU Lake Monitoring study. Our stormwater monitoring program has expanded to test a variety of BMP’s for effectiveness in removing standard pollutants and phosphorus.
Analysis of systems in Lake Whatcom is being used to typify phosphorus removal rates for TMDL compliance. This program is of regional significance because it provides credible information on new stormwater treatment and infiltration techniques that is specific to Western Washington. Best management practices (BMPs) used in the Lake Whatcom watershed, including filter cartridges, proprietary devices, and infiltration facilities are approved by the Department of Ecology for use to treat phosphorus.

Bellingham has also engaged in short-term monitoring as a part of our illicit discharge program. During field investigations, flowing outfalls have been tested for basic water quality parameters including fecal coliform, turbidity, pH, conductivity, dissolved oxygen and temperature. In addition, testing for total phosphorus is included where applicable.

11.2 Accomplishments in 2019
The City’s Urban Stream Monitoring Program and Lake Whatcom Monitoring programs continued to collect data through 2019.

The City participated in SAM by not only paying into the program but offering to allow regional partners to monitor two bioretention systems (rain gardens) owned and operated by the City. This research will inform engineers, developers, scientists, and citizens about the real-world performance of systems designed under the 2012 Stormwater Management Manual for Western Washington (the Manual). This builds upon a 2017 SAM study that the City led, which evaluated older rain gardens constructed under the 2005 Manual. Results from that study show that systems are working as designed, while providing valuable insight into different design strategies, inspection requirements, permitting review steps, and long-term maintenance options throughout the region. The current study evaluates bioretention systems constructed under the 2012 Stormwater Management Manual. The City also participated in the development of videos produced by SAM and shared region-wide related to the importance and function of bioretention systems for protecting water quality at the municipal level.

The City of Bellingham, with the financial and technical support of the Department of Ecology, continued a research project aimed at developing and testing a new media blend specifically intended to increase phosphorus-removal capability. The new media blend is expected to provide a best-available solution for municipalities dealing with high levels of phosphorus loading. The media study, funded partially by a state Grant of Regional or Statewide Significance, builds on research completed by Kitsap County and the City of Seattle, which investigated new bioretention mixes that would not leach metals or nutrients. The Phosphorus-Optimized Stormwater Treatment (POST) media was approved for Pilot Use Level Designation (PULD) through the Department of Ecology in 2019. This designation means that the City can move forward on developing the media by instituting field testing to show real-world performance. Laboratory results showed removal of total phosphorus exceeding 80% for the POST media.

11.3 Plans for Program Activities in 2020
The City plans to continue its monitoring at a commensurate level of effort as in 2019. The City will again be electing to pay into the SAM research studies and is an active participant in planning and defining those research projects.

As part of the City’s obligation to meet the targets and requirements in the Lake Whatcom Total Maximum Daily Load (TMDL) study as detailed in the associated Implementation Plan, the City will be monitoring stormwater facilities throughout the jurisdiction during late summer and fall of 2020. Results will be used to re-calibrate the Lake Whatcom Management Program’s annual phosphorus reduction goals and determine appropriate capital improvements to maximize protection of Lake Whatcom.

12.0 TOTAL MAXIMUM DAILY LOAD REQUIREMENTS (APPENDIX 2)

12.1 Permit Requirements
While the effort to restore water quality in Lake Whatcom has been ongoing since 1992, the formal regulations that require action on the lake first became embedded in the NPDES permit in 2019. As a result, the City and Whatcom County have formally launched ambitious 50-year plan, the first 10 years of which are outlined in the Lake Whatcom Total Maximum Daily Load (TMDL) Implementation Plan. Requirements for these actions and the responsibilities of the partner jurisdictions are found in Appendix 2 of the 2019-2024 Permit. The annual report describing the activities completed in 2019 is found in Appendix (A) of this report.

13.0 CAPITAL PROJECTS and RETROFITTING (Not Required by NPDES)

13.1 Program Overview
The City of Bellingham has an active Capital Program associated with the Storm and Surface Water Utility (SSWU). A part of the SSWU funding has been used for the replacement of capital assets to maintain the infrastructure and retrofitting stormwater facilities to improve water quality and maximize environmental benefits provided by the stormwater network.

Since the 1980's Bellingham has been active in providing system retrofits and managing stormwater. The retrofits were first primarily related to the prevention of flooding. In 1992 Bellingham received a grant from Ecology and constructed our first water quality facility retrofit for the protection of Lake Whatcom. Since Lake Whatcom is the drinking water source for about 120,000 people it has remained high on our needs list. For this basin alone the City has constructed and maintains an oil water separator and more than 57 facilities that reduce phosphorus and other pollutants.

Retrofitting is also of importance to areas outside of Lake Whatcom. In addition to required water quality improvements related to transportation improvements, the City considers including water quality retrofits in water and sewer replacements as well, whenever possible.
13.2 Capital Projects

City Operations Center Maintenance Yard Upgrade
As part of a resurfacing of approximately 5 acres of concrete pavement at the City’s Operations yard, the provided flow control and water quality treatment for nearly 32 acres of industrial and residential land use. This included enhanced treatment for entire 5.7-acre public site using Clara and Aquip Treatment System by StormwateRX and basic/phosphorus treatment for off-site 26-acre basin using a Stormfilter Vault with Phosposorb media.

Northshore Drive Cross-Culvert Drainage Improvement
Completed by City crews, this project corrected a failing drainage channel that was quickly eroding and causing sediment to enter and compromise a downstream water quality facility. Crews installed 260 feet of 30” diameter pipe and manholes in the channel to connect the upstream piped system to the downstream facility creating an enclosed system. Up to 15 feet of backfill was installed over the pipe and the area was restored and replanted to create a natural forested buffer through the project area.

Cornwall Avenue Outfall Improvement
This project relocated the existing stormwater outfall from the southern end of Cornwall Avenue further west to a deeper part of Bellingham Bay in order to prevent siltation of the outfall and flooding of Cornwall Avenue.

13.3 Retrofit Projects
Bellingham’s stormwater capital program has included a substantial number of retrofits over the years. SSWU policy has been that street projects that create new stormwater impacts and trigger code compliance are responsible for those mitigations. SSWU funding has been used to augment those mitigations or to provide funding in total to retrofit project areas that are not responsible for mitigation. Primary examples of this are street projects that are overlaying existing roadways with new asphalt or replacing existing curb/gutter systems. If the improvements do not trigger any code requirements, we look at retrofitting as an opportunity to improve our systems. In such cases decisions are based on average daily traffic for the street, the degree of opportunity, and available funding. Where street projects are only responsible to mitigate for new impervious surfaces, retrofitting is incorporated to aid providing total mitigation for the project area. This is to avoid having streets that are only partially mitigated that may present problems in the future if comprehensive retrofitting is desired or required. Recent projects are described below.

Aldrich overlay (ES-0531)
As part of the overlay of approximately 1,300 linear feet of Aldrich roadway, the City took the opportunity install three Contech single-cartridge stormwater catch basins in order to provide stormwater runoff treatment to this previously untreated roadway corridor.

2019 Lake Whatcom Retrofit Projects (3 projects completed simultaneously)
In 2019, the City substantially completed the infrastructure network that directs almost all runoff from residential properties inside City limits to some level of treatment before discharge to the lake. This required addressing three sub-basins that were known sources of untreated runoff. Those three projects each installed a proprietary treatment device – achieving at least 60% P reduction at each location – while addressing site-specific challenges that required unique design and construction considerations. Each of these projects is detailed below.

1. **Summit and Prospect Intersection Modular Wetlands**

   This project, located at the base of a hill and near Mill Wheel Creek, addressed runoff from over 4 acres of development and reduces phosphorus discharged to the Lake by approximately 2 lbs/year. In order to convey this runoff to the treatment system, two new street-crossing pipes were installed along with more than 100’ of new curb and additional in-street catch basins. Mitigation plantings were also placed adjacent to the treatment vault, to make up for vegetation removed as part of the installation.

2. **Hayward and Northshore Intersection Modular Wetlands**

   This project placed a new treatment vault in-line with an existing outfall conveyance, capturing and treating flows before they were piped across Northshore Drive to the Lake. New curbs and catch basins were installed to move uncontrolled flows from the roadway to the facility and lawn disturbed as part of the project was replanted as native landscaping, reducing sources of phosphorus in the right-of-way. This modular wetland system reduces phosphorus entering Lake Whatcom by about 4 pounds per year, by treating runoff from about 7 acres of residential development.

3. **Huntington and Silver Beach Right-of-Way Modular Wetlands and Infiltration Trench**

   In order to address a seasonal drainage course that was cutting through private properties and bypassing treatment systems on its way directly to an outfall, the City installed a two-facility treatment train along the Silver Beach Avenue shoulder. A large stand of invasive ivy was removed, new piping installed, and a treatment vault placed in a portion of the right-of-way that previously contained a grassy ditch. Downstream of the vault, a rock-filled infiltration trench was constructed, and new native plants were installed throughout the disturbed area. Including about 6 acres of forest, this system can treat nearly 13 acres of total area, reducing phosphorus entering the Lake by about 5 pounds per year.

13.4 **Fish Passage Improvements**

   A component of the SSWU capital program funds the improvement of culverts that are impediments to fish. An attempt has been made to identify fish passage issues within Bellingham and to provide a level of funding to deal with those issues over time. Projects occur based on both a prioritization ranking and on existing system condition/ Work to reduce fish passage barriers in 2019 included securing funding, completing design, and receiving permit approvals for the Middle Fork Nooksack River Fish Passage Project. Scheduled for construction in 2020, this project removes a dam to restore approximately 16 miles of pristine spawning and rearing habitat for three Endangered Species Act listed fish species. In addition, the City updated the local Fish Barrier
Prioritization, secured funding and refined design of a Squalicum Creek fish passage improvement as part of the Squalicum Creek Re-route project (construction scheduled for 2020), and submitted a Fish Barrier Removal Board grant application for a Padden Creek fish passage improvement at 30th Street.