City of University Place

Phase II NPDES Stormwater Management Program

2022

SECTION 1

Stormwater Planning

Each Permittee shall implement a **Stormwater Planning program** to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters. In order for the city to satisfy the requirements:

The minimum performance measures are:

b. Coordination with long-range plan updates.

i. *Each Permittee shall describe how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the planning update processes and influencing policies and implementation strategies in their jurisdiction. The report shall describe the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning or taking into account stormwater management needs or limitations.*

(a) *On or before March 31, 2021, the Permittee shall respond to the series of Stormwater Planning Annual Report questions to describe how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013-2019 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.*

(b) *On or before January 1, 2023, the Permittee shall submit a report responding to the same questions included in (a), above, to describe how water quality is being addressed, if at all, during this permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.*

b. *Low impact development code-related requirements.*

i. *Permittees shall continue to require LID Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed.*

The intent shall be to make LID the preferred and commonly used approach to site development. The local development-related codes, rules, standards, or other enforceable documents shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations, where feasible.

(a) *Annually, each Permittee shall assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with the 2013*

Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.

c. *Stormwater Management Action Planning (SMAP). Permittees shall conduct a similar process and consider the range of issues outlined in the Stormwater Management Action Planning Guidance (Ecology, 2019; Publication no. 19-10-010). Permittees may rely on another jurisdiction to meet all or part of SMAP requirements at a watershed-scale, provided a SMAP is completed for at least one priority catchment located within the Permittee's jurisdiction.*

i. *Receiving Water Assessment. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.*

By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table.

(a) *Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment.*

(b) *Basins having relatively low expected Stormwater Management Influence for SMAP do not need to be included in S5.C.1.d.ii-iii.*

ii. *Receiving Water Prioritization. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to: 1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.*

No later than June 30, 2022, document the prioritized and ranked list of receiving waters.

(a) *The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local*

watershed management plan(s) as source(s) of information or rationale for the prioritization.

(b) *The ranking process shall include the identification of high priority catchment area(s) for focus of the Stormwater Management Action Plan (SMAP) in (iii), below.*

iii. *Stormwater Management Action Plan (SMAP). No later than March 31, 2023, Permittees shall develop a SMAP for at least one high priority catchment area from (ii), above, that identifies all of the following:*

(a) *A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.*

(b) *Land management/development strategies and/or actions identified for water quality management.*

(c) *Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:*

- *IDDE field screening,*
- *Prioritization of Source Control inspections,*
- *O&M inspections or enhanced maintenance, or*
- *Public Education and Outreach behavior change programs.*

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

(d) *If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.*

(e) *A proposed implementation schedule and budget sources for:*

- *Short-term actions (i.e., actions to be accomplished within six years), and*
- *Long-term actions (i.e., actions to be accomplished within seven to 20 years).*

(f) *A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.*

The City of University Place continues to keep stormwater planning both short and long term, as a priority.

Low impact development: (LID) principles and (LID) BMP's continue to be preferred options when possible.

Short-term and long-term planning: As a result of updating our Comprehensive Storm plan and creation of a SMAP, an evaluation of short and long-term needs will be identified.

Stormwater Management Action Planning (SMAP): In January of 2022, we entered into a contract with a consultant (Gray & Osborne Inc.) to update our Comprehensive Storm Plan and develop the SMAP for this permit cycle. Part of this update includes evaluation of our existing watershed and basin information, updating the City's watershed inventory and producing the prioritized/ranked list of receiving waters.

SMAP Deadlines:

By March 31, 2022	Watershed Inventory
By June 30, 2022	Prioritized & ranked list of receiving waters
By March 31, 2023	SMAP for at least one high priority catchment area

SECTION 2

PUBLIC EDUCATION AND OUTREACH PROGRAM

Public Education and Outreach. An informed and knowledgeable community is crucial to the success of a stormwater management program since it helps to ensure greater support for the program and greater compliance. To satisfy this minimum control measure, the permittee shall:

a. *Each Permittee shall implement an education and outreach program for the area served by the MS4. The program design shall be based on local water quality information and target audience characteristics to identify high priority target audiences, subject areas, and/or BMPs. Based on the target audience's demographic, the Permittee shall consider delivering its selected messages in language(s) other than English, as appropriate to the target audience.*

   i. ***General awareness**. To build general awareness, Permittees shall annually select at a minimum one target audience and one subject area from either (a) or (b):*

      (a) *Target audiences: General public (including overburdened communities, or school age children) or businesses (including home-based, or mobile businesses). Subject areas:*

      - *General impacts of stormwater on surface waters, including impacts from impervious surfaces.*
      - *Low impact development (LID) principles and LID BMPs.*

      (b) *Target audiences: Engineers, contractors, developers, or land use planners.*
      Subject areas:

      - *Technical standards for stormwater site and erosion control plans.*
      - *LID principles and LID BMPs.*
      - *Stormwater treatment and flow control BMPs/facilities*

      (c) *Permittees shall provide subject area information to the target audience on an ongoing or strategic schedule.*

   ii. ***Behavior change**. To affect behavior change, Permittees shall select, at a minimum, one target audience and one BMP.*

      (a) *Target Audiences: Residents, landscapers, property managers/owners, developers, school age children, or businesses (including home-based or mobile businesses).*

      BMPs:

      - *Use and storage of: pesticides, fertilizers, and/or other household chemicals.*

- *Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials.*
- *Prevention of illicit discharges.*
- *Yard care techniques protective of water quality.*
- *Carpet cleaning.*
- *Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings.*
- *Pet waste management and disposal.*
- *LID Principles and LID BMPs.*
- *Stormwater facility maintenance, including LID facilities.*
- *Dumpster and trash compactor maintenance.*
- *Litter and debris prevention.*
- *Sediment and erosion control.*
- *(Audience specific) Source control BMPs (refer to S5.C.8).*
- *(Audience specific) Locally important, municipal stormwater-related subject area.*

(b) Permittees that select option S5.C.2.a.ii(c)3, below, may forgo this evaluation if it will not add value to the overall behavior change program.

(c) Based on the recommendation from S5.C.2.a.ii(b), by February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to community-based social marketing, and develop a campaign that is tailored to the community, including development of a program evaluation plan. Each Permittee shall:

1. *Develop a strategy and schedule to more effectively implement the existing campaign; or*
2. *Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs; or*
3. *Develop a strategy and schedule for a new target audience and BMP behavior change campaign.*

(d) No later than April 1, 2021, begin to implement the strategy developed in S5.C.2.a.ii(c).

(e) No later than March 31, 2024, evaluate and report on:

1. *The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and*
2. *Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.*

(f) *Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program.*

iii. ***Stewardship.*** *Each Permittee shall provide and advertise stewardship opportunities and/or partner with existing organizations (including non-permittees) to encourage residents to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings, and education activities.*

The City of University Place has developed a Public Education and Outreach Program designed to educate the target audiences as noted above. This program consists of the following elements:

- **General Awareness & Behavior Change**
  In 2022, a continued general awareness for general public and school age children targeting stormwater pollution causes and solutions. Additional awareness will be focused towards private business and institutions and their potential stormwater impacts in preparation for future Source Control inspection program. For Behavior Change the new target audience is Private Business and Institutions, and the BMP's of those with Garbage Dumpsters, a corresponding strategy and campaign will be developed and begin implementation.

- **Media & Marketing Efforts**
  In 2022, the community will have stormwater & water quality information at their access through a variety of media platforms. A minimum of four education articles related to stormwater will be published on a yearly basis and shared across social media like Facebook, Twitter, and the use of UP Television.

- **City Website**
  The City will post educational information on its website. This information will include articles, notices of educational opportunities, contact information, photos, maps, and links to other stormwater resource websites. Updates and links to our NPDES Program webpage on an on-going basis.

- **Public Education Workshops**
  Annually, the City NPDES Program will provide at least three public education classes, workshops or events of which may include rain gardens, natural yard care, rain barrels, storm drainage operations and maintenance, environmental impacts of stormwater, Low Impact Design, water quality issues and solutions. The workshops are coordinated with agencies such as Tacoma-Pierce county Health Department, Pierce Conservation District, Department of Ecology, or other qualified entities.

- **Pierce Conservation District Stream Team:** The City has partnered with the Pierce Conservation District to encourage and create stewardship opportunities for the

public. Their Stream Team provides trainings and a water quality stream monitoring program. They also provide and support many volunteer water quality projects.

- **Partnerships and participation:** Partnerships and participation with other Phase II permittees, cities, counties, local and regional organizations or boards whose emphasis lies in water quality, stormwater resources, and education. Continued partnerships with other municipalities for regional water quality campaigns such as Puget Sound Starts Here, Don't Drip and Drive, B.I.G.(Business Inspection Group) Group, Dumpster Social Marketing Campaign.

- **Catch Basin Markers**
  The City has marked catch basins adjacent to concrete curbs with a marker that identifies where the storm water drains (ie drains to stream) and notifies the public not to dump pollutants. These markings are intended to increase the awareness of the public on where storm water ultimately drains.

- **Stormwater Basin Education Map:** The City has developed a storm drainage basin education map which is attached in Appendix C. This map is included once a year in the City Newsletter and is posted on the City's webpage.

- **Other Educational Opportunities**
  In addition to the above noted elements, the City will continue to seek out new opportunities for public education and outreach.

Public Education and Outreach Deadlines:

By March 31, 2024 Evaluate and report on the behavior change campaign

SECTION 3

PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM

Public Involvement and Participation Program. Public involvement/participation activities can be effective tools used to gain much needed public support for stormwater management program implementation.

> *Permittees shall provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. Each Permittee shall comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.*
>
> ***The minimum performance measures are:***
>
> a. *Permittees shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation and update of the Permittee's SMAP and SWMP.*
>
> b. *Each Permittee shall post on their website their SWMP Plan and the annual report, required under S9.A, no later than May 31 each year. All other submittals shall be available to the public upon request. To comply with the posting requirement, a Permittee that does not maintain a website may submit the updated SWMP in electronic format to Ecology for posting on Ecology's website.*

The City of University Place employs the following opportunities for the public to participate in the decision-making process involving the City's SWMP and SMAP.

- **2022 Public Comment Period February 16th – March 7th.**
- **All updates to the City's SWMP will be adopted by the City Council during a Public Meeting. At this meeting, any who wish to comment on the SWMP will be given the opportunity to provide comments. In addition, this meeting will be filmed and broadcast on the City's public information television channel: UPTV.**
- **The SWMP and any subsequent updates will be posted on the City's website. Contact information for comments will be posted on the same web page as the link to the SWMP.**

Public Involvement & Participation Deadlines:
By March 31, 2022 provide updates to the SWMP for public review and comment.
By May 31, 2022 post SWMP and annual report on website

SECTION 4

MS4 MAPPING AND DOCUMENTATION

MS4 Mapping and Documentation. It is crucial to have maps and details of the cities MS4 in order to be knowledgeable and better prepared to meet the many requirements and maintenance needs. Permittees shall include an ongoing program for mapping and documenting the MS4.

The minimum performance measures are:

a. *Ongoing Mapping: Each Permittee shall maintain mapping data for the features listed below:*

   i. *Known MS4 outfalls and known MS4 discharge points.*

   ii. *Receiving waters, other than groundwater.*

   iii. *Stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee.*

   iv. *Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters.*

   v. *Tributary conveyances to all known outfalls and discharge points with a 24-inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following features or attributes (or both) shall be mapped:*

      (a) *Tributary conveyance type, material, and size where known.*

      (b) *Associated drainage areas.*

      (c) *Land use.*

   vi. *Connections between the MS4 owned or operated by the Permittee and other municipalities or public entities.*

   vii. *All connections to the MS4 authorized or allowed by the Permittee after February 16, 2007.*

b. *New Mapping: Each Permittee shall:*

   i. *No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system.*

c. *No later than August 1, 2021, the required format for mapping is electronic (e.g. Geographic Information System, CAD drawings, or other software that can map and store points, lines, polygons, and associated attributes), with fully described mapping standards.*

d. *To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.4.a through c, above.*

e. *Upon request, and to the extent appropriate, Permittees shall provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. This Permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities, and other Permittees.*

The City of University Place has developed a mapping and documentation program which includes:

- **Stormwater Basin map showing 8 areas of the city that all stormwater runs to.**
- **Stormwater System map showing the complete stormwater system, both public and private, including details of catch basins, conveyance pipes, discharge points, and outfalls.**
- **Stormwater System maintenance map showing and documenting the inspections and maintenance of the system.**
- **Interactive Stormwater system map**
- **Review and update of system maps to include new developments and system details.**

Mapping & Documentation Deadlines:

By August 1, 2023 Complete mapping of all known connections to privately owned stormwater systems

SECTION 5

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM

Illicit Discharge Detection and Elimination. Discharges from cities often include wastes and wastewater from non-stormwater sources. Illicit discharges enter the system through either direct connection's, such as wastewater piping mistakenly or deliberately connected to the storm drains, or indirect connection, such as infiltration from cracked sanitary sewers, spills collected by drain outlets, or materials dumped into storm drains. To satisfy this minimum control measure, the permittee must develop, implement and enforce an illicit discharge detection and elimination program. Permittees shall fully implement an ongoing illicit discharge detection and elimination program no later than three years from the effective date of this permit.

The minimum performance measures are:

a. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.

Illicit connections and illicit discharges must be identified through, but not limited to: field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.

b. Permittees shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.

c. Each Permittee shall implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the Permittee's MS4 to the maximum extent allowable under state and federal law.

*i. Allowable Discharges: The regulatory mechanism does **not** need to prohibit the following categories of non-stormwater discharges:*

(a) Diverted stream flows

(b) Rising groundwaters

(c) Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20))

(d) Uncontaminated pumped groundwater

(e) Foundation drains

(f) Air conditioning condensation

(g) Irrigation water from agricultural sources that is commingled with urban stormwater

(h) Springs

(i) Uncontaminated water from crawl space pumps

(j) Footing drains

(k) Flows from riparian habitats and wetlands

(l) Non-stormwater discharges authorized by another NPDES or state waste discharge permit

(m) Discharges from emergency firefighting activities in accordance with S2 Authorized Discharges

ii. Conditionally allowable discharges: The regulatory mechanism may allow the following categories of non-stormwater discharges only if the stated conditions are met:

(a) Discharges from potable water sources, including but not limited to water line flushing, hyper-chlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.

(b) Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts.

(c) Dechlorinated swimming pool, spa and hot tub discharges. The discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and re-oxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Discharges shall be thermally controlled to prevent an increase in temperature of the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

(d) Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of street wash and dust control water used.

(e) Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee, which addresses control of such discharges.

iii. The Permittee shall further address any category of discharges in (i) or (ii), above, if the discharges are identified as significant sources of pollutants to waters of the State.

iv. The ordinance or other regulatory mechanism shall include escalating enforcement procedures and actions.

d. Each Permittee shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the Permittee's MS4. The program shall include the following components:

i. Procedures for conducting investigations of the Permittee's MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections.

The Permittee shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections may be conducted using Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera Environmental Consultants, Inc.; May 2013), or another methodology of comparable or improved effectiveness. The Permittee shall document the field screening methodology in the Annual Report.

(a) All Permittees shall complete field screening for an average of 12% of the MS4 each year. Permittees shall annually track total percentage of the MS4 screened beginning August 1, 2019.

ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges.

iii. An ongoing training program for all municipal field staff, who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the trainings provided and the staff trained.

e. Each Permittee shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the Permittee's MS4. The program shall include:

i. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee. Procedures shall address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge.

ii. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

iii. Procedures for eliminating the discharge, including notification of appropriate authorities (including owners or operators of interconnected MS4s); notification of the property owner; technical assistance; follow-up inspections; and use of the compliance strategy developed pursuant to S5.C.5.c.iv, including escalating enforcement and legal actions if the discharge is not eliminated.

iv. Compliance with the provisions in (i), (ii), and (iii), above, shall be achieved by meeting the following timelines:

(a) Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.

(b) Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports, or monitoring information that indicates a potential illicit discharge.

(c) Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

(d) Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.

f. Permittees shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements or staffing. Permittees shall document and maintain records of the training provided and the staff trained.

g. Recordkeeping: Each Permittee shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report, each Permittee shall submit data for the illicit discharges, spills and illicit connections including those that were found by, reported to, or investigated by the Permittee during the previous calendar year. The data shall include the information specified in Appendix 12 and WQWebIDDE. Each Permittee may either use their own system or WQWebIDDE for recording this data. Final submittals shall follow the instructions, timelines, and format as described in Appendix 12.

The City of University Place has implemented the following:

- **Municipal storm sewer system map:** The City has produced a map of its storm sewer system. This map has been posted on the City's website and is available in the City's Engineering office for viewing by the public.

- **After hours on-call phone line:** The City has established an after-hours phone number that the public can call to report any public works concerns including concerns regarding surface water management and illicit discharges. This number is posted on the City's website.

- **Illicit Discharge Detection and Elimination (IDDE) program:** The City has implemented its Illicit Discharge Detection and Elimination program which is attached in Appendix D.

- **Added GIS mapping and stormwater system technology to be able to quickly assess illicit discharge response.**

- **Dry Weather Field Screening and Analytical Monitoring Program:** The City has adopted this program as an aspect of the overall IDDE program. This program establishes the procedures for locating high risk illicit discharge areas and for testing and inspecting water quality for the purposes of tracking, characterizing, and eliminating illicit discharges.

- **Illicit discharge detection and elimination training program:** The City has developed a training program in order to train field personnel in the detection and elimination of illicit discharges to the City's storm drainage system. All engineering and operations field personnel are required to participate in this program. The training program consists of:
    - *Initial training meeting and orientation video*
    - *Periodic field training conducted by senior staff*

  In addition to these items, the City will continue to seek out new opportunities for training in this field.

Illicit Discharge & Detection Deadlines:

After August 1, 2019	Must field screen on average at least 12% of the MS4 annually and document actual percentage.

SECTION 6

CONTROL STORMWATER RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITES

Site Runoff Control. Polluted stormwater runoff from construction and developed sites ultimately is discharged into local rivers and streams. The Phase II Final Rule requires an operator of a regulated small city to develop, implement, and enforce a program to reduce pollutants in stormwater runoff to their city from construction activities that result in a land disturbance of greater than or equal to one acre or contain less than one acre and are part of a larger common plan of the development or sale. The permittee is required to have:

a. *Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.*

   Each Permittee shall adopt and make effective a local program, no later than June 30, 2022, that meets the requirements of S5.C.6.b(i) through (iii), below, and shall apply to all applications submitted:

   i. *On or after July 1, 2022.*

   ii. *Prior to January 1, 2017, that have not started construction by January 1, 2022.*

   iii. *Prior to July 1, 2022, that have not started construction by July 1, 2027.*

b. *The ordinance or other enforceable mechanism shall include, at a minimum:*

   i. *The Minimum Requirements, thresholds, and definitions in Appendix 1, or the 2013 Appendix 1 amended to include the changes identified in Appendix 10, or Phase I program approved by Ecology and amended to include Appendix 10, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of Ecology-approved basin plans or other similar water quality and quantity planning efforts. Such local requirements and thresholds shall provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1.*

   ii. *The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 (or program approved by Ecology under the 2019 Phase I Permit) will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirement under Chapter 90.48 RCW to apply AKART prior to discharge:*

      (a) *Site planning requirements*

      (b) *BMP selection criteria*

      (c) *BMP design criteria*

(d) *BMP infeasibility criteria*

(e) *LID competing needs criteria*

(f) *BMP limitations*

Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy State AKART requirements.

Permittees who choose to use the requirements, limitations, and criteria, above, in the Stormwater Management Manual for Western Washington, or a Phase I program approved by Ecology, may cite this choice as their sole documentation to meet this requirement.

iii. *The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities approved under the provisions of this Section that discharge to the Permittee's MS4.*

c. *The program shall include a permitting process with site plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in Definitions and Acronyms). At a minimum, this program shall be applied to all sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.*

i. *Review of all stormwater site plans for proposed development activities.*

ii. *Inspect, prior to clearing and construction, all permitted development sites 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. As an alternative to evaluating each site according to Appendix 7, Permittees may choose to inspect all construction sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.*

iii. *Inspect all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.*

iv. *Each Permittee shall manage maintenance activities to inspect all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments every six months, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed.*

v. *Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. Verify that a maintenance plan is completed and responsibility for maintenance is assigned for stormwater treatment and flow control BMPs/facilities. Enforce as necessary based on the inspection.*

vi. *Compliance with the inspection requirements in (ii) through (v), above, shall be determined by the presence and records of an established inspection program*

designed to inspect all sites. Compliance during this permit term shall be determined by achieving at least 80% of required inspections. The inspections may be combined with other inspections provided they are performed using qualified personnel.

vii. *The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.*

viii. *An enforcement strategy shall be implemented to respond to issues of non-compliance.*

d. *The program shall make available, as applicable, the link to the electronic Construction Stormwater General Permit Notice of Intent (NOI) form for construction activity and, as applicable, a link to the electronic Industrial Stormwater General Permit NOI form for industrial activity to representatives of proposed new development and redevelopment. Permittees shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.*

e. *Each Permittee shall ensure that 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. Follow-up training must be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.*

The City of University Place has a program to address site run-off control from new development, redevelopment and construction sites. This program includes the following:

- **Adopted surface water management regulations:** The City has adopted ordinances that regulate water quality, and controlling runoff from new development, redevelopment and construction sites. This portion of the City's municipal code is attached as Appendix A of the SWMP. As part of these regulations, the City has adopted the King County Surface Water Design Manual (2021) and the Stormwater Management Manual for Western Washington (2019).

- **Plan Reviews:** The City requires permits and reviews plans for all new development and redevelopment projects. The City also requires permits and reviews plans for any construction project that disturbs 20,000 square feet of soil, and for any project that otherwise requires drainage review as specified in the King County Surface Water Design Manual.

- **Construction Inspections:** The City conducts inspections of all permitted storm drainage and erosion/sedimentation control facilities within the City.

- **Training:** All personnel in the City conducting construction inspections and/or plan reviews are either trained as Certified Erosion and Sedimentation Control Leads or are licensed professional engineers registered with the State of Washington. In addition, the City will continue to seek out additional training opportunities.

- **Post Development Inspections:** The City conducts post development inspections of all permitted storm drainage facilities within the City.

- **Low Impact Development:** The City's stormwater regulations contain provisions encouraging low impact development.

- **Enforcement Provisions:** The City has adopted stringent enforcement provisions for non-compliance of its stormwater regulations. These enforcement provisions are attached in Appendix A.

- **Sensitive Water Bodies:** The City has identified and prioritized the sensitive receiving waters in the City. In addition, the City's regulations identify specific drainage standards based on the drainage basin sensitivity.

Controlling Runoff from New Development, Re-development, and Construction Sites Deadlines:

By June 30, 2022	Make program have at least the minimum requirements, thresholds, and definitions in Appendix 1, or the 2013 Appendix 1 amended to include changes in Appendix 10, or Phase 1 program approved by Ecology and amended to include Appendix 10.

SECTION 7

MUNICIPAL OPERATIONS AND MAINTENANCE PROGRAM

This measure requires the City to examine and subsequently alter their own actions to help ensure a reduction in the amount and type of pollution that: (1) collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways; and (2) results from actions such as environmentally damaging land development and flood management practices or maintenance of storm sewer systems.

The DOE Phase II permit states that each Permittee shall develop and implement an Operations & Maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations."

The minimum performance measures are:

a. *Each Permittee shall implement 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. For facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard. No later than June 30, 2022, Permittees shall update their maintenance standards as necessary to meet the requirements of this Section.*

    i. *The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.*

    ii. *Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:*

    - *Within 1 year for typical maintenance of facilities, except catch basins.*
    - *Within 6 months for catch basins.*
    - *Within 2 years for maintenance that requires capital construction of less than $25,000.*

    Circumstances beyond the Permittee's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond their control.

b. *Maintenance of stormwater facilities regulated by the Permittee*

    i. *The program shall include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and*

constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.7.a.

The provisions shall include:

(a) *Implementation of an ordinance or other enforceable mechanism that:*

- *Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.7.a.*
- *Requires inspection of facilities in accordance with the requirements in (b), below.*
- *Establishes enforcement procedures.*

(b) *Annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the Permittee according to S5.C.6.c, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency.*

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 – Certification and Signature.

ii. *Compliance with the inspection requirements in (b), above, shall be determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections.*

iii. *The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.*

c. *Maintenance of stormwater facilities owned or operated by the Permittee.*

i. *Each Permittee shall implement a program to annually inspect all municipally owned or operated stormwater treatment and flow control BMPs/facilities, and taking appropriate maintenance actions in accordance with the adopted maintenance standards.*

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 – Certification and Signature.

ii. *Each Permittee shall spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events 24 hour storm event with a 10 year or greater recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control BMPs/facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.*

iii. *Each Permittee shall inspect all catch basins and inlets owned or operated by the Permittee every two years. Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the Stormwater Management Manual for Western Washington. Decant water shall be disposed of in accordance with Appendix 6 – Street Waste Disposal.*

The following alternatives to the standard approach of inspecting all catch basins every two years may be applied to all or portions of the system:

(a) *The catch basin inspection schedule of every two years may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records for catch basins, the Permittee may substitute written statements to document a specific, less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experiences and shall be certified in accordance with*
G19 – Certification and Signature.

(b) *Inspections every two years may be conducted on a "circuit basis" whereby 25% of catch basins and inlets within each circuit are inspected to identify maintenance needs. Include an inspection of the catch basin immediately upstream of any MS4 outfall, discharge point, or connections to public or private storm systems, if applicable. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards established under S5.C.7.a, above.*

(c) *The Permittee may clean all pipes, ditches, and catch basins and inlets within a circuit once during the permit term. Circuits selected for this alternative must drain to a single point.*

iv. *Compliance with the inspection requirements in S5.C.7.c.i-iii, above, shall be determined by the presence of an established inspection program achieving at least 95% of required inspections.*

d. *Implement 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. No later than December 31, 2022, document the practices, policies, and procedures. Lands owned or maintained by the Permittee include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control BMPs/facilities.*

The following activities shall be addressed:

i. *Pipe cleaning*

ii. *Cleaning of culverts that convey stormwater in ditch systems*

iii. *Ditch maintenance*

iv. *Street cleaning*

v. *Road repair and resurfacing, including pavement grinding*

vi. *Snow and ice control*

vii. *Utility installation*

viii. *Pavement striping maintenance*

ix. *Maintaining roadside areas, including vegetation management*

x. *Dust control*

xi. *Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts*

xii. *Sediment and erosion control*

xiii. *Landscape maintenance and vegetation disposal*

xiv. *Trash and pet waste management*

xv. *Building exterior cleaning and maintenance*

e. *Implement an ongoing training program for employees of the Permittee whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided. The staff training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance.*

f. *Implement 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 the Industrial Stormwater General Permit or another NPDES permit that authorizes stormwater discharges associated with the activity. As necessary, update SWPPPs no later than December 31, 2022, to include the following information. At a minimum, the SWPPP shall include:*

i. *A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected must be consistent with the Stormwater Management Manual*

for Western Washington, or a Phase I program approved by Ecology. The SWPPP must be updated as needed to maintain relevancy with the facility.

ii. *At minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections must be documented in an inspection report or check list.*

iii. *An inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution.*

iv. *A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure.*

v. *A plan for preventing and responding to spills at the facility which could result in an illicit discharge.*

g. *Maintain records of the activities conducted to meet the requirements of this Section.*

The City of University Place has developed an operations and maintenance program that

- **Identifies maintenance standards for drainage facilities. (see Appendix B)**
- **Includes a SWPPP for our maintenance facility (see Appendix E)**
- **Established an active IDDE program to protect water quality. Within the program track illicit discharges and ensure field staff training in elimination is conducted annually. (see Appendix D)**
- **Established a program that all municipal facilities are inspected annually.**
- **Added real time mapping, maintenance tracking with in the field IPads, including access to GIS maps and layers of information.**
- **Ensures field staff is trained in ESA track trainings and CESCL certified train our supervisors and inspectors.**
- **Implement practices to reduce storm water impacts associated with public streets and public property.**
- **Adopted maintenance standards as protective or more than those indicated in the DOE manual.**
- **Developed a watershed and outfall inventory that identifies all primary outfalls of the City's stormwater conveyance system (see Appendix F)**

Municipal Operations and Maintenance Program Deadlines:

By June 30, 2022	Update maintenance standards as necessary to meet the requirements of this section.
By December 31, 2022	Document the practices, policies, and procedures that 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.
By December 31,2022	Make sure the SWPPP is updated to include requirements set forth in i. – v. of this section.

SECTION 8

SOURCE CONTROL PROGRAM FOR EXISTING DEVELOPMENT

a. *The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include:*

   i. *Application of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities.*

   ii. *Inspections of pollutant generating sources at publicly and privately owned institutional, commercial and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.*

   iii. *Application and enforcement of local ordinances at sites, identified pursuant to S5.C.8.b.ii, including sites with discharges authorized by a separate NPDES permit. Permittees that are in compliance with the terms of this Permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.*

   iv. *Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory.*

b. *Minimum performance measures:*

   i. *No later than August 1, 2022, Permittees shall adopt and make effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources).*

   The requirements of this subsection are met by using the source control BMPs in the SWMMWW, or a Phase I Program approved by Ecology. In cases where the manual(s) lack guidance for a specific source of pollutants, the Permittee shall work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the Permittee.

   Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided

that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.b.iv, below.

ii. *No later than August 1, 2022, the Permittees shall establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory shall include:*

(a) *Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8).*

(b) *Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.*

iii. *No later than January 1, 2023, Permittees shall implement an inspection program for sites identified pursuant to S5.C.8.b.ii, above.*

(a) *All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.*

(b) *The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements. The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.*

(c) *Each Permittee shall inspect 100% of sites identified through credible complaints.*

(d) *Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.*

iv. *No later than January 1, 2023, each Permittee shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below:*

(a) *If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.*

(b) *When a Permittee determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), the Permittee shall take*

enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.

(c) *Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring sites into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.*

(d) *A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.*

v. *Permittees shall train staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained.*

The City of University Place will develop a Source Control Program over the next couple years. In 2022, the City will:

- **Create an inventory list of public and privately owned institutional, commercial, industrial sites/businesses.**
- **Rank the inventory list by potential for pollutant generation.**

<u>Source Control Program for Existing Development Deadlines:</u>

By August 1, 2022	Permittees shall adopt and make effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities.
By August 1, 2022	Establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4.
By January 1, 2023	Implement an inspection program for sites identified in the inventory process.
By January 1, 2023	Implement a progressive enforcement policy that requires sites to comply with stormwater requirements in a reasonable amount of time period.

SECTION 9

MONITORING AND ASSESMENT

A. *Regional Status and Trends Monitoring*

1. *All Permittees that chose S8.B Status and Trends Monitoring Option #1 in the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall make a one-time payment into the collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound. This payment is due on or before December 1, 2019. Submit payment according to Section S8.D, below.*

2. *All City and County Permittees covered under the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), except the Cities of Aberdeen and Centralia, shall notify Ecology in writing which of the following two options for regional status and trends monitoring (S8.A.2.a or S8.A.2.b) the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019.*

a. *Make annual payments into a collective fund to implement regional receiving water status and trends monitoring of either: small streams and marine nearshore areas in Puget Sound; or, urban streams in Clark and Cowlitz Counties in the Lower Columbia River basin, depending on the Permittee's location. The annual payments into the collective fund are due on or before August 15 each year beginning in 2020. Submit payments according to Section S8.D, below.*

Or

b. *Conduct stormwater discharge monitoring per the requirements in S8.C.*

Either option will fully satisfy the Permittee's obligations under this Section (S8.A.2). Each Permittee shall select a single option for this permit term.

B. *Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies*

1. *All Permittees that chose S8.C Effectiveness Studies Option #1 in the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall make a one-time payment into the collective fund to implement effectiveness studies and source identification studies. The payment is due on or before December 1, 2019. Submit payment according to Section S8.D, below.*

2. *All City and County Permittees covered under the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall notify Ecology in writing which of the following two options (S8.B.2.a or S8.B.2.b) for effectiveness and source identification studies the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019.*

a. *Make annual payments into a collective fund to implement effectiveness and source identification studies. The annual payments into the collective fund are due on or*

before August 15 each year beginning in 2020. Submit payments according to Section S8.D, below.

Or

b. *Conduct stormwater discharge monitoring per the requirements in S8.C.*

Either option will fully satisfy the Permittee's obligations under this Section (S8.B.2). Each Permittee shall select a single option for this permit term.

3. *All Permittees shall provide information as requested for effectiveness and source identification studies that are under contract with Ecology as active Stormwater Action Monitoring (SAM) projects. These requests will be limited to records of SWMP activities and associated data tracked and/or maintained in accordance with S5 – Stormwater Management Program for Cities, Towns, and Counties and/or S9 – Reporting Requirements. A maximum of three requests during the permit term from the SAM Coordinator will be transmitted to the Permittee's permit coordinator via Ecology's regional permit manager. The Permittee shall have 90 days to provide the requested information.*

D. *Payments into the collective funds.*

1. *Each Permittee's S8.A and S8.B payment amounts are listed in Appendix 11 and in the invoices that will be sent to the Permittee approximately three months in advance of each payment due date.*

2. *Mail payments according to the instructions in the invoice, or via United States Postal Service to:*

Department of Ecology Cashiering Unit
P.O. Box 47611
Olympia, WA 98405-7611

The City of University Place has elected to pay into Ecology's collective funds to meet its monitoring & assessment requirements.

- **Make annual payment of $5,394 to collective funds for Status and Trends Monitoring**
- **Make annual payment of $9,858 to collective funds for Effectiveness and Source Identification Studies**

Monitoring and Assessment Deadlines:

By August 15, annually starting in 2020	Submit payments for both Status and Trends Monitoring and SWMP Effectiveness and Source Identification Studies.

SECTION 10

REPORTING REQUIREMENTS

The following requirements shall be met:

A. No later than March 31 of each year beginning in 2020, each Permittee shall submit an annual report. The reporting period for the annual report will be the previous calendar year unless otherwise specified.

Permittees shall submit annual reports electronically using Ecology's Water Quality Permitting Portal (WQWebPortal) available on Ecology's website.

Permittees unable to submit electronically through Ecology's WQWebPortal shall contact Ecology to request a waiver and obtain instructions on how to submit an annual report in an alternative format.

B. Each Permittee is required to keep all records related to this Permit and the SWMP for at least five years.

C. Each Permittee shall make all records related to this Permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee will provide a copy of the most recent annual report to any individual or entity, upon request.

1. *A reasonable charge may be assessed by the Permittee for making photocopies of records.*
2. *The Permittee may require reasonable advance notice of intent to review records related to this Permit.*

D. The annual report for cities, towns, and counties

Each annual report shall include the following:

1. *A copy of the Permittee's current SWMP Plan, as required by S5.A.2.*
2. *Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period.*
3. *Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period, or as a required submittal. Refer to Appendix 3 for annual report questions.*
4. *If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this Permit.*
5. *Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.*

6. *A notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period.*

The City of University Place will produce an annual report that meets these guidelines and submit to Ecology by March 31st of each year.

Reporting Requirement Deadlines:

By March 31, annually	Submit an annual report to Ecology.

APPENDIX A

UNIVERSITY PLACE
PERMITTING & STORMWATER REGULATIONS
UPMC 12.10, 13.05, 13.20 and UPMC 13.25

Chapter 12.10
WATER QUALITY STANDARDS

Sections:

12.10.010 Purpose.

The purpose of this chapter is to protect the City's surface and ground water quality by providing minimum requirements for reducing and controlling the discharge of contaminants. The City Council recognizes that water quality degradation can result either directly from one discharge or through the collective impact of many small discharges. Therefore, this chapter prohibits the discharge of contaminants into surface and storm water and ground water, and outlines preventive measures to restrict contaminants from entering such waters. These measures include the implementation of best management practices (BMPs) by the residents of the City of University Place.

The City Council finds this chapter is necessary to protect the health, safety and welfare of the residents of the City of University Place and the integrity of the City's resources for the benefit of all by: minimizing or eliminating water quality degradation; preserving and enhancing the suitability of waters for recreation, fishing, and other beneficial uses; and preserving and enhancing the aesthetic quality and biotic integrity of the water. The City Council recognizes that implementation of this chapter is required under the federal Clean Water Act, 33 U.S.C. 1251 et seq. In meeting the intent of the Clean Water Act, the City Council also recognizes the importance of maintaining economic viability while providing necessary environmental protection and believes this chapter helps achieve both goals.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.005).

12.10.020 Definitions.

The following definitions shall apply in the interpretation and enforcement of this chapter:

A. "AKART" means an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.

B. "Best management practices" or "BMPs" mean the schedules of activities, prohibitions of practices, maintenance procedures, and reasonable physical, structural, managerial, or behavioral activities that, when used singly or in combination, prevent or reduce the release of pollutants or other adverse impacts to surface and/or ground waters of the state.

C. "Chapter" means this chapter and any administrative rules and regulations adopted to implement this chapter.

D. "City" means the City of University Place.

E. "Clean Water Act" means 33 U.S.C. 1251 et seq., as amended.

F. "Department" means the City of University Place Public Works Department, or other department designated by the City Manager.

G. "Director" means the City of University Place Public Works Department Director, or other person designated by the City Manager, or any duly authorized representatives of the Director.

H. "Discharge" means to throw, drain, release, dump, spill, empty, emit, or pour forth any matter to flow, run, or seep from land or be thrown, drained, released, dumped, spilled, emptied, emitted, or poured into the City's municipal separate storm sewers or waters of the state.

I. "Ground water" means all waters that exist beneath the land surface or beneath the bed of any stream, lake, or reservoir, or other body of surface water, whatever may be the geological formation or structure in which such water stands or flows, percolates or otherwise moves.

J. "Hyperchlorinated" means water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/Liter at the end of the disinfection period. This level is well above the maximum residual disinfectant level of an annual average of four mg/Liter chlorine for potable water.

K. "Illicit connection" means any manmade conveyance that is connected to the City's municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.

L. "Illicit discharge" means any direct or indirect discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges expressly allowed by this chapter.

M. "King County Surface Water Design Manual" ("KCSWDM") means the City's adopted Storm Water Manual that sets forth the drainage and erosion control requirements, BMPs, design, and maintenance procedures and guidance for storm water management.

N. "Low impact development (LID)" means a storm water management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of on-site

natural features integrated with engineered, small-scale hydrologic controls to more closely mimic pre-development hydrologic functions.

O. "Municipal separate storm sewer system (MS4)" means a conveyance, or a system of conveyances (including roads with storm water drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned or operated by the City;

2. Designed or used for collecting or conveying storm water;

3. Which is not a combined sewer; and

4. Which is not part of a publicly owned treatment works as defined at 40 CFR 122.2.

P. "National Pollutant Discharge Elimination System" or "NPDES" means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology. The City's NPDES permit means the Western Washington Phase II Municipal Stormwater Permit issued by the Department of Ecology.

Q. "Non-storm water discharge" means any discharge to the storm drainage system that is not composed entirely of storm water. Examples include but are not limited to sanitary wastewater, laundry wastewater, noncontact cooling water, vehicle wash wastewater, radiator flushing wastewater, spills from roadway accidents, improperly disposed motor oil, solvents, lubricants, and paints.

R. "Notice of intent" means the application forms for coverage under the baseline general permit for storm water discharges associated with industrial activities.

S. "Person" means an individual, their agents or assigns; municipality; political subdivision; government agency; partnership; corporation; business; or any other entity.

T. "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties of surface waters including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gas, solid, radioactive, or other substance into any surface waters as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety, or welfare or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses of the water or to livestock, wild animals, birds, fish, or other aquatic life.

U. "Source control BMP" means a BMP to prevent contaminants from entering surface and storm water and/or ground water including the modification of processes to eliminate the production or use of contaminants. Source control BMPs can be either structural or nonstructural. Structural source control BMPs involve the construction of a physical structure on site, or other type of physical modification to a site; for example, building a covered storage area. A nonstructural source control

BMP involves the modification or addition of managerial or behavioral practices; for example, using less toxic alternatives to current products or sweeping parking lots.

V. "State waste discharge permit" means an authorization, license, or equivalent control document issued by the Washington State Department of Ecology in accordance with Chapter 173-216 WAC.

W. "Storm Water Manual" or "Manual" means the Manual and supporting documents as appropriate describing best management practices, design, maintenance, procedures, and guidance for storm water management which has been adopted by the City.

X. "Storm water drainage facility" means the facilities, including the City's municipal separate storm sewer system, by which storm water is collected and/or conveyed, including but not limited to any roads with drainage, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures. Storm drainage systems may be both public and private.

Y. "Storm water" means water runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

Z. "Treatment BMP" means a BMP intended to remove contaminants once they are already contained in storm water. Examples of treatment BMPs include oil/water separators, biofiltration swales, and wet-settling basins.

(Ord. 554 § 1, 2009; Ord. 423 §§ 26, 27, 2004; Ord. 41 § 1, 1995. Formerly 12.10.015).

12.10.030 Discharges into City of University Place waters.

A. Illicit Discharges Prohibited.

1. It is unlawful for any person to make any illicit discharge or to discharge any pollution or contaminants into the City's MS4 or waters of the state except as provided by this chapter. Contaminants include, but are not limited to, the following:

a. Trash or debris;

b. Construction materials;

c. Petroleum products including but not limited to oil, gasoline, grease, fuel oil, heating oil;

d. Antifreeze and other automotive products;

e. Metals in either particulate or dissolved form;

f. Flammable or explosive materials;

g. Radioactive material;

h. Batteries;

i. Acids, alkalis, or bases;

j. Paints, stains, resins, lacquers, or varnishes;

k. Degreasers and/or solvents;

l. Drain cleaners;

m. Pesticides, herbicides, or fertilizers;

n. Steam cleaning wastes;

o. Soaps, detergents, or ammonia;

p. Swimming pool or spa filter backwash (diatomaceous earth);

q. Chlorine, bromine, and other disinfectants;

r. Heated water;

s. Domestic animal wastes;

t. Sewage;

u. Recreational vehicle waste;

v. Animal carcasses;

w. Food wastes;

x. Bark and other fibrous materials;

y. Collected lawn clippings, leaves, or branches;

z. Silt, sediment, concrete, cement or gravel;

aa. Dyes (except as stated in subsection (C)(3) of this section);

bb. Chemicals not normally found in uncontaminated water;

cc. Any other process associated discharge except as otherwise allowed under this chapter.

dd. Any hazardous material or waste, not listed above.

2. Illicit Connections. The construction, use, maintenance, or continued existence of an illicit connection to convey storm water or illicit discharges to the City's MS4 or waters of the state is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

B. Allowable Discharges. The following types of discharges shall not be considered illicit discharges for the purpose of this chapter unless the Director determines that the type of discharge, whether singly or in combination with others, is causing or likely to cause significant contamination of surface water or ground water:

1. Diverted stream flows;

2. Rising ground waters;

3. Uncontaminated ground water infiltration as defined in 40 CFR 35.2005(20);

4. Uncontaminated pumped ground water;

5. Foundation drains;

6. Air conditioning condensation;

7. Irrigation water from agricultural sources that is commingled with urban storm water;

8. Springs;

9. Water from crawl space pumps;

10. Footing drains;

11. Flows from riparian habitats and wetlands;

12. Discharges from emergency fire fighting activities.

C. Conditional Discharges. The following types of discharges shall not be considered an illicit discharge for the purposes of this chapter so long as the conditions stated in this section are met, and unless the Director determines that the type of discharge, whether singly or in combination with others, is causing or is likely to cause significant contamination of surface water or ground water:

1. Potable water, including water from water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the storm water system.

2. Lawn watering and other irrigation runoff, if minimized to the extent possible.

3. Dye testing, upon notification to the Department at least one day in advance.

4. Dechlorinated swimming pool discharges. Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the storm water system.

5. Street and sidewalk wash water, water used to control dust, and routine external building wash so long as there is no use of detergents and runoff is minimized to the extent possible. At active construction sites, street sweeping must be performed prior to washing the street.

6. Non-storm water discharges covered by another NPDES permit so long as the permittee is in full compliance with all requirements of the permit, waiver, order, or other applicable laws.

7. Other non-storm water discharges so long as the discharges are in compliance with a City-approved storm water pollution prevention plan.

8. Emergency response activities or other actions that must be undertaken immediately to avoid an imminent threat to public health or safety, so long as the person responsible for the emergency response activities can demonstrate that all steps were taken to ensure that the discharges resulting from such activities are minimized to the greatest extent possible. In addition, this person shall evaluate BMPs and the site plan, where applicable, to minimize recurrence.

(Ord. 554 § 1, 2009; Ord. 423 §§ 28, 29, 2004; Ord. 41 § 1, 1995. Formerly 12.10.025).

12.10.040 Storm Water Manual adopted.

The King County Surface Water Design Manual, the King County Stormwater Pollution Prevention Manual, and all associated documents referenced in UPMC 13.25.120(A) are hereby adopted as the City's Storm Water Manual and are hereby incorporated fully into this chapter by this reference.

(Ord. 554 § 1, 2009).

12.10.050 Best management practices.

A. Best Management Practices.

1. The KCSWDM presents the BMPs and the standards and procedures for existing facilities and activities and for new development activities not covered by the City's Public Works Code. The Manual describes the types of regulated activities; the types of contaminants generated by each activity, and the contaminant's effect on water quality; the required source control BMPs and available treatment BMPs; and a schedule for BMP implementation.

2. Property owners are responsible for the maintenance, operation and repair of storm water facilities and the BMPs within their property. Property owners shall maintain, operate and repair these facilities in compliance with the requirements of this chapter and the City's Storm Water Manual.

3. The Director shall apply and implement the BMPs within the KCSWDM as follows. The Director shall first require the implementation of nonstructural source control BMPs. If these are not sufficient to prevent contaminants from entering surface and storm water or ground water, the Director may require implementation of structural source control BMPs or of treatment BMPs, utilizing AKART.

B. Exemptions.

1. Persons implementing BMPs through another federal, state or local program will not be required to implement the BMPs prescribed in the City's Storm Water Manual, unless the Director determines the alternative BMPs to be ineffective at reducing the discharge or contaminants. If the other program requires the development of a plan, the person shall make their plan available to the City upon request. Persons who qualify for exemptions include, but are not limited to, persons who are:

a. Required to obtain a general or individual NPDES permit for storm water discharges from the Washington State Department of Ecology;

b. Implementing and maintaining, as scheduled, a Pierce County conservation district-approved farm management plan;

c. Permitted under a Washington State Department of Ecology NPDES general or individual permit for commercial dairy operations;

d. Implementing BMPs in compliance with the City's zoning ordinance – development standards: animals, home occupation, home industry;

e. Implementing BMPs in compliance with the management program of the county's municipal NPDES permit;

f. Engaged in forest practices, with the exception of Class IV, and Class IV-A special general forest practices. This section will apply to Class IV general forest practices occurring on lands platted after January 1, 1960, or on lands being converted to another use, or where the activity is taking place in areas designated by the Washington State Department of Natural Resources as "lands with a likelihood of future conversion"; or regulatory authority is otherwise provided to local government by RCW 76.09.240; or

g. Identified by the Director as being exempt from this section.

2. Persons conducting normal single-family residential activities will not be required to implement the BMPs prescribed in the City's Manual, unless the Director determines that these activities pose a hazard to public health, safety, or welfare, endanger any property, or adversely affect the safety and operation of City right-of-way, utilities, and/or other property owned or maintained by the City.

(Ord. 554 § 1, 2009; Ord. 423 § 30, 2004; Ord. 41 § 1, 1995. Formerly 12.10.035).

12.10.060 Administration.

The Director is authorized to promulgate and adopt administrative rules and regulations for the purpose of implementing and enforcing the provisions of this chapter. The Director will coordinate the implementation and enforcement of this chapter with other public entities as applicable.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.045).

12.10.070 Inspections.

A. The Director is authorized to develop inspection procedures and requirements for all storm water facilities and to make such inspections and take such actions as may be required to enforce the provisions of this chapter.

B. The Director is authorized to enter at all reasonable times in or upon any property to inspect the property and the storm water facility, observe best management practices, review maintenance records, or examine or sample surface and storm water or ground water as often as may be necessary to determine compliance with this chapter. Prior to such entry, the Director shall obtain permission to enter the premises unless a hazard exists as set forth in UPMC 12.10.080. If entry is refused the City shall have recourse via every remedy provided by law to secure entry.

C. When the Director has reason to believe that any person is violating this chapter, the Director may require the violator to sample and analyze any discharge, surface and storm water, ground water, and/or sediment, in accordance with sampling and analytical procedures or requirements determined by the Director. If the violator is required to complete this sampling and analysis, a copy of the analysis shall be provided to the Department.

(Ord. 554 § 1, 2009).

12.10.080 Hazards.

Whenever the Director determines that any violation of this chapter poses a hazard to public health, safety, or welfare, endangers any property, or adversely affects the safety and operation of City right-of-way, utilities, and/or other property owned or maintained by the City, the person holding title to the subject property, and/or other person or agent in control of said property, upon receipt of notice in writing from the Director shall within the period specified therein address the cause of the hazardous situation in conformance with the requirements of this chapter.

Notwithstanding any other provisions of this chapter, whenever it appears to the Director that conditions covered by this chapter exist requiring immediate action to protect the public health and/or safety, the Director is authorized to enter at all times in or upon any such property, public or private, for the purpose of inspecting, investigating, and correcting such emergency conditions. The Director may without prior notice issue an emergency order for the immediate discontinuance of any activity leading to the emergency condition, including but not limited to, suspending and discontinuing the access to the City's MS4.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.060).

12.10.090 Enforcement.

A. The Director is authorized to carry out enforcement actions pursuant to the enforcement and penalty provisions of this chapter and Chapter 1.20 UPMC. The Director is authorized to enforce against prohibited illicit discharges, prohibited illicit connections, and other violations of this chapter.

B. The Director shall gain compliance with this chapter by requiring the implementation of operational BMPs and, when necessary, AKART. The Director shall initially rely on education and informational assistance as much as possible to gain compliance with this chapter, unless the Director determines a violation is a result of an intentional act or poses a hazard as defined in UPMC 12.10.080.

C. The Director may order the correction or discontinuance of any unsafe condition or operation or correction of any violation of this chapter. Any order issued by the Director may be appealed to the City's Hearings Examiner within 14 days of the order in accordance with the provisions of Chapter 1.20 UPMC. Such an appeal does not stay the requirement to comply with the order, and in particular any emergency order issued under UPMC 12.10.080.

D. In addition to or in the alternative to a correction order or civil infraction, the Director may issue a notice of civil violation for a violation of this chapter with a penalty of up to $10,000, based upon the factors set forth in UPMC 12.10.100.

E. In addition to or in the alternative to a correction order or notice of civil violation, the Director may issue a civil infraction for a violation of this chapter, with a penalty in an amount of $100.00 per violation for minor violations, and $1,000 per violation for significant violations. Each day the violation shall continue shall constitute a separate violation. A minor violation shall be one in which the damage or risk to the public or water quality is low and the violator acted unknowingly or in good faith. A significant violation is one in which the damage or risk to the public or water quality is great or is a repeat violation or the violator acted in bad faith.

F. In addition to any other penalty or method of enforcement, the prosecuting attorney may bring actions for injunctive or other relief to enforce this chapter.

(Ord. 554 § 1, 2009; Ord. 423 § 31, 2004; Ord. 41 § 1, 1995. Formerly 12.10.050).

12.10.100 Civil penalties.

The enforcement provisions for water quality are intended to encourage compliance with this chapter. To achieve this, violators will be required to take corrective action and comply with the requirements of this chapter, and may be required to pay a civil penalty for the redress of ecological, recreational, and economic values lost or damaged due to the unlawful action.

A. The provisions in this section are in addition to and not in lieu of any other penalty, sanction or right of action provided by law.

B. Any person in violation of this chapter may be subject to civil penalties assessed as follows:

An amount, not to exceed $10,000, that is reasonable based upon the nature and gravity of the violation, the cost to the City of enforcing this chapter against the violator, and the economic benefit derived from the violation by the violator.

C. Any person who, through an act of commission or omission, aids or abets in a violation shall be considered to have committed the violation for the purposes of the civil penalty.

D. Each violator is jointly and severally liable for a violation of this chapter. The Director may take enforcement action, in whole or in part, against any violator or against each violator. The decisions whether to take enforcement action, what type of action to take, and which person to take action against, are all entirely within the Director's discretion. Factors to be used in taking such enforcement actions and determining equitable allocation of damages, costs, and expenses shall be:

1. Awareness of the violation;

2. Ability to correct the violation;

3. Cooperation with government agencies;

4. Degree of impact or potential threat to water or sediment quality, human health or safety, or the environment.

E. Penalties may be reduced based upon one or more of the other following mitigating factors:

1. The person responded to City attempts to contact the person and cooperated with efforts to correct the violation;

2. The person showed due diligence and/or substantial progress in correcting the violation; or

3. An unknown person was the primary cause of the violation.

Payment of a monetary penalty pursuant to this chapter does not relieve the person of the duty to correct the violation.

F. All civil penalties recovered during the enforcement of this chapter shall be deposited into the surface water management fund and shall be used for the protection of surface and storm water or ground water as set forth in this chapter, through education or enhanced implementation.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.080).

12.10.110 Criminal penalty.

Any willful violation of an order issued pursuant to UPMC 12.10.080 or 12.10.090 for which a criminal penalty is not prescribed by state law is a misdemeanor.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.070).

12.10.120 Discharges of pollutants into municipal separate storm sewer system – Liability for expenses.

Any person responsible for any pollutant discharge into the City's municipal separate storm sewer system who fails to immediately collect, remove, contain, treat, or disperse such pollutant materials at the Director's request is responsible for the necessary expenses incurred by the City in carrying out the abatement of the pollution, including the collection, removal, containment, treatment, or disposal of such materials.

(Ord. 554 § 1, 2009).

12.10.130 Private wells prohibited.

Except for the replacement of an existing non-contaminated water well, no person shall hereafter drill or install, or cause to be drilled, a nonpublic domestic water supply well, as defined in Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Wells), within the following area located within the City of University Place: the area bounded by Orchard Street to the east; by 44th Street West, if extended, (and also the City limits at this location) to the north; by Cirque Drive to the south; and by Leach Creek on the west. Any replacement well must comply with all state and local laws and regulations and must be tested for the presence of landfill contaminants as noted in Table 3 of the Tacoma Landfill Consent Decree Scope of Work.

(Ord. 554 § 1, 2009; Ord. 214 § 1, 1999. Formerly 12.10.062).

12.10.140 Construction – Intent.

This chapter is enacted as an exercise of the City's power to protect and preserve the public health, safety and welfare. Its provision shall be exempted from the rule of strict construction and shall be

liberally construed to give full effect to the objectives and purposes for which it was enacted. This chapter is not enacted to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this chapter.

The primary obligation of compliance with this chapter is placed upon the person holding title to the property. Nothing contained in this chapter is intended to be or shall be construed to create or form a basis for liability for the City, the Department, its officers, employees or agents for any injury or damage resulting from the failure of the person holding title to the property to comply with the provisions of this chapter, or by reason or in consequence of any act or omission in connection with the implementation or enforcement of this chapter by the City, Department, its officers, employees or agents.

(Ord. 554 § 1, 2009; Ord. 41 § 1, 1995. Formerly 12.10.090).

Chapter 13.05
ADMINISTRATION

Sections:

Article I. Title, Purpose and Scope

13.05.110 Title.

This title shall be known as the University Place Public Works Code, may be cited as such and will be referred to herein as "this code." "This code" shall also include other provisions of the UPMC that are referenced herein.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.120 Purpose.

The purposes of this code are:

A. To establish standards for public and private improvements to real property;

B. To ensure reasonable and safe development of property;

C. To protect the health, safety, welfare and property of the public;

D. To establish street vacation procedures and to implement the City's Comprehensive Plan.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.130 Scope.

This code establishes the standards for the construction, improvement and maintenance of transportation and storm drainage facilities, utilities, grading and clearing, emergency vehicle access, and related amenities, whether such activities occur in public rights-of-way or on private lands. Further, this code establishes procedures to administer these standards.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.140 Provisions of this title not exclusive.

Other provisions of this code apply to the development or improvement to real property. The provisions of this title are not exclusive.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article II. Definitions

13.05.210 General.

For the purpose of this code, certain terms, phrases, words and their derivatives shall be construed as specified in this chapter and elsewhere in this code where specific definitions are provided. The definition of any words not listed in this article shall have the meaning given in any other titles of the University Place Municipal Code (UPMC). Where terms, phrases and words are not defined, they shall have their ordinary accepted meanings within the context in which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, copyright 1986, shall be considered as providing ordinary accepted meanings. Terms, phrases, and words used in the singular include the plural and the plural the singular. Terms, phrases and words used in the masculine gender include the feminine and the feminine the masculine.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.220 Definitions and terms.

As used in this chapter:

"Applicant" means the person or entity that applies for a permit or his duly authorized representative.

"Average daily traffic (ADT)" means the average number of vehicles passing a specified point during a 24-hour period. "Annual average daily traffic (AADT)" denotes that daily traffic that is averaged over one calendar year.

"Building" means any structure used or intended for supporting or sheltering any use or occupancy.

"Building code" means the building construction codes as adopted and amended by UPMC Title 14.

"City" means the City of University Place or its duly authorized representative.

"Clearing" means the cutting, moving on site, or removal of standing or fallen timber, the removal or moving of stumps on site; or the cutting or removal of brush, grass, ground cover, or other vegetative matter from a site in a way which exposes the earth's surface of the site.

"Commercial driveway" means a driveway that is used to provide access to business, multifamily complexes, or nonresidential enterprises, including but not limited to sales, service, industry, churches or other quasi-public buildings.

"Critical area" means wetlands, flood hazard areas, fish and wildlife habitat areas, aquifer recharge areas, geologically hazardous areas and associated buffer areas.

"Development" means any manmade change to improved or unimproved real estate including but not limited to buildings or the structures, placement of manufactured home/mobile home, mining, dredging, clearing, filling, grading, stockpiling, paving, excavation, drilling or the subdivision of property.

"Director" means the City of University Place Director of Engineering or duly authorized representative.

"Drainage course" means the natural or constructed path of surface water.

"Driveway" means a vehicular access connecting a development to a street.

"Driveway approach" means that portion of a driveway located in the right-of-way.

"Easement" means a grant of an interest in land by the property owner for a specific use by another person, entity, or for the public in general.

"Emergency vehicle access" means an access way to real property for emergency vehicles.

"Engineer" means any Washington State licensed professional engineer.

"Engineer of record" means the licensed professional engineer designated by the applicant as the responsible engineer for the project.

"Facility" means a building or use in a fixed location.

"Grading" means any excavating or filling or combination thereof.

"Grubbing" means the digging up of unwanted vegetative matter from a site including but not limited to sod, stumps, roots, buried logs, or other debris. The action of grubbing exposes the surface of the earth such that it is susceptible to erosion.

"Horizon year" means the year in which future conditions are to be evaluated.

"Landslide and erosion hazard areas" means areas that are potentially subject to risk of mass movement or severe erosion due to a combination of geologic, topographic, and hydrologic factors.

"Level of service (LOS)" means a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

"Major improvement" means all improvements to a structure (excluding normal maintenance and repair and life/safety improvements) which within a 12-month period exceeds a cumulative value of 25 percent of the assessed value of the structure. The value of the structure shall be conclusively determined from the current records of the Pierce County Assessor's Office.

"Parcel" means any portion, piece, or division of land, fractional part or subdivision of block, according to plat or survey.

"Project" means a general term encompassing all phases of the work to be performed. A "project" is synonymous with "improvement" or "work." A project may entail work on one or more parcels of land.

"Residential driveway" means a driveway that is used to provide access to a single-family residence.

"Right-of-way" means all public streets and property granted or reserved for, or dedicated to, public use for street and storm drainage purposes, walkways, sidewalks, bikeways and horse trails, whether improved or unimproved, including the air rights, subsurface rights and easements related thereto.

"Sensitive areas" means critical areas or shorelines of the State.

"Shared driveway" means a driveway used to provide access to two dwelling units.

"Street" means a facility providing public or private access. Streets include the traveled way and all other improvements within the right-of-way or easement. The term "street" is used interchangeably with the term "road."

"Street frontage" means the distance between the two points where the lot lines of a parcel intersect the boundary of a street right-of-way or easement.

"Structure" means anything that is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

"Substandard street" means a street that is not constructed in conformance with the City's design standards.

"Tract" means any parcel of land, lot, building site, or contiguous combination thereof under common ownership.

"Traffic signal warrants" means a list of criteria that establish the need to install a traffic signal as outlined in the Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration.

"Utility provider" means any public or private entity providing public services including, but not limited to: natural gas, oil, electric power, street lighting, telephone, telegraph, telecommunications, water, sewer, storm drainage, or cable television.

"Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands generally do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities. However, wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate conversion of wetlands, if permitted by the City.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 423 § 35, 2004; Ord. 395 § 3, 2003).

Article III. Standard Specifications, Guidelines and Regulations

13.05.310 Standard Specifications.

Except as otherwise provided in this code, design, detail, workmanship, and materials shall be in accordance with the current edition of the Washington State Department of Transportation "Standard Specifications for Road, Bridge and Municipal Construction" (referred to hereafter as the Standard Specifications), and the "Standard Plans for Road, Bridge and Municipal Construction." These documents are hereby adopted as part of this code.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.320 Adopted guidelines and regulations.

A. The most current version of the following guidelines and standards are hereby adopted as part of this code. The design detail, workmanship and materials for all projects constructed under this code shall meet the following guidelines and standards. In case of a conflict among standards, the City Manager or authorized designee shall determine which standard shall govern.

B. Standards Adopted.

1. City of University Place Comprehensive Storm Drainage Plan.

2. Conditions and standards as set forth in the Pierce County Health Department regulations.

3. Conditions and standards as set forth in the Pierce Transit regulations.

4. Conditions and standards as set forth in the University Place Comprehensive Land Use Plan.

5. King County Surface Water Design Manual.

6. U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD), as amended and approved by Washington State Department of Transportation.

7. WSDOT Construction Manual as amended and approved by Washington State Department of Transportation.

8. Conditions and standards adopted by the State of Washington, Department of Labor and Industries.

9. Traffic Engineering Handbook, Institute of Traffic Engineers.

10. Highway Capacity Manual, Transportation Research Board.

11. ITE Trip Generation Manual.

12. AASHTO, A Policy on Geometric Design of Highways and Streets.

13. King County Road Standards (for drainage structures, and appurtenances only).

14. Tacoma Electrical Code.

15. Roundabouts: An Informational Guide, Federal Highway Administration.

16. City of University Place Town Center Design Standards.

17. City of University Place Community Commercial Design Standards.

18. City of University Place Standards and Guidelines for Streetscape Elements.

19. Washington State Department of Ecology Stormwater Management Manual for Western Washington.

20. University Place Municipal Code.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article IV. Organization and Enforcement

13.05.405 Authority.

The Director is hereby authorized to interpret and enforce the provisions of this code and all technical codes referenced herein or incorporated by this code, and to adopt and amend policies and rules in order to apply the provisions of this code, including the "University Place Standard Notes and Details" and the "University Place Submittal Requirements" referenced herein.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.410 Conflicting provisions.

In the case of a conflict between a general requirement and a specific requirement under this code, the specific requirement of this code shall govern. In the event of a conflict between a general requirement of another title of the UPMC and a specific requirement of this code, the specific requirement shall govern.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.415 Alternate materials and methods.

The provisions of this code are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this code. The Director may approve alternative materials and methods if, based upon evidence submitted in writing by the applicant, the Director determines that the proposed design is satisfactory and complies with the provisions of this code; is based on sound engineering principles; and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, durability, safety and sanitation. Any alternative must be reviewed and approved in writing by the Director prior to construction.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.420 Modifications.

A. Criteria. The Director may modify the requirements of this code after submittal of an application and approval of associated information, plans, and/or design data provided by the applicant. The application and associated information shall demonstrate to the satisfaction of the Director and City Engineer that: (1) the requested modification is based upon sound engineering principles; (2) strict application of the requirements of this code would impose an undue hardship on the applicant; (3) that the requirements for safety, environmental considerations, function, appearance, and maintainability are fully met; (4) granting the modification adequately protects the public health, safety, and welfare; and (5) granting the modification is in the best interest of the public.

B. Application. All applications for modifications shall be on a form provided by the City. All modifications must be approved by the Director in writing prior to the start of construction.

C. Notification.

1. Whenever the Director determines that a proposed modification has the potential to negatively impact surrounding properties, all adjacent property owners will be notified in writing of the application. The Director shall notify abutting property owners of the due date for any written comments about the application. The applicant shall be furnished a copy of all written comments from abutting property owners that will be considered by the Director in making a decision. Abutting property owners shall be mailed a copy of the decision.

2. The Director may require the notification of additional property owners if he determines they have a potential to be negatively impacted.

3. All costs associated with public notification shall be borne by the applicant.

D. Fees. All fees associated with a modification application shall be in accordance with the Development Services Fee Resolution.

E. Expiration.

1. A modification application shall expire when the applicant fails to provide necessary documentation and/or correction necessary to issue a permit in compliance with this code within 180 days of a request to provide such documentation and/or correction. A modification application may be extended for a single period not exceeding 180 days provided the applicant

submits a request in writing and demonstrates that circumstances beyond the control of the applicant have prevented completion of the request for documentation and/or correction.

2. An approved modification shall expire two years after permit issuance.

F. Extension of Modification. A modification approval may be extended for a period not exceeding 180 days provided the applicant submits a request in writing and demonstrates that circumstances beyond the control of the applicant have prevented completion of the work under the modification. No modification shall be extended more than once.

G. Suspension or Revocation. The Director may suspend or revoke any modification issued in error or on the basis of incorrect information supplied by the applicant. The Director may also suspend or revoke any modification when the applicant fails to comply with the provisions of the modification. Any modification applicant aggrieved by the Director's decision to suspend or revoke a permit may appeal this action as provided in this chapter.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.425 Right of entry.

Upon proper presentation of credentials, the Director or any duly authorized representative may, with the consent of the owner or occupant of a building, development, or premises, or pursuant to a lawfully issued inspection warrant, enter any building, development, or premises to perform the duties imposed by this code. Any applicant for a permit shall, as a condition of the permit, consent to entry of the Director or any duly authorized representative to inspect the building, development, or premises for compliance with the terms and conditions of the permit. In addition, the Director may enter any premises, with proper legal authorization, in the event of an imminent threat to the public health, safety, or welfare or to protect any persons or property.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.430 Stop work order.

A. Issuance. Whenever any work occurs contrary to the provisions of this code or there is a threat to the public health, safety, welfare, or property, the Director may issue a stop work order. The stop work order shall specify the violation and prohibit any work or other activity at the site until the Director authorizes the resumption of work in writing. The stop work order shall be served in writing to any person at the project site or posted prominently on the site in a conspicuous location to be determined by the Director.

B. Effect of Stop Work Order. It shall be unlawful to move, remove or deface any stop work order posted by the Director until the Director has authorized removal of the order. It shall be unlawful for any person to fail to comply with a stop work order issued by the Director.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.435 Emergency order.

A. Issuance. Whenever any work, use, or activity in violation of this code threatens the public health, safety, welfare, or property, the Director may issue an emergency order directing the work, use, or

activity be discontinued and that the condition causing the threat be corrected. The emergency order shall specify the actions to be taken and the time for compliance. The emergency order shall be served in writing to any person at the project site and posted prominently on the site in a conspicuous location to be determined by the Director.

B. Compliance. It shall be unlawful to move, remove or deface any emergency order posted by the Director until the Director has approved, in writing, the corrective action and authorized removal of the order. It shall be unlawful for any person to fail to comply with an emergency order issued by the Director.

C. Agreement to Abatement by City. Any person who obtains a permit issued under this code agrees that the City may abate any condition for which an emergency order has been issued. The applicant shall be financially responsible for all costs incurred by the City in abating the conditions which caused the issuance of an emergency order.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.440 Violations.

It is unlawful for any person to do any of the following:

A. Perform or cause to be performed any work specified in this code upon any structure, land, or property within the City of University Place without first obtaining a permit or authorization as required by this code;

B. Perform or cause to be performed any work upon any structure, land, or property within the City of University Place in a manner not permitted by the terms or conditions of any permit or authorization issued pursuant to this code;

C. Misrepresent any material fact in any application, plans, or other information submitted to the City in conjunction with any permit or authorization issued under this code;

D. Fail to comply with any stop work order, emergency order, or other lawful order issued under this code;

E. Move, remove or deface any sign, notice, or order required by or posted in accordance with this code;

F. Fail to comply with any provisions of this code.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.445 Penalties.

A. Any violation of this code shall be a civil violation subject to the penalties and abatement process set forth in Chapter 1.20 UPMC as enacted or hereinafter amended.

B. In addition to or as an alternative to any other remedy provided in this section, any person or entity violating this code shall be guilty of a misdemeanor punishable as provided for in RCW 9A.20.021.

C. Any work carried out contrary to the provisions of this code shall constitute a public nuisance and may be enjoined as provided by State law.

D. In addition to any other remedies provided for herein, the City may commence legal or equitable action to prevent, enjoin, abate, or terminate any condition that constitutes or threatens to constitute a violation of this code.

E. Any violation of this code may be cause for withholding or withdrawing approval of project plans, revocation of a permit, suspension of building (or other) inspections, forfeiture of financial guarantees submitted to the City, and refusal of the City to accept the work.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.450 Appeals.

A. Right to Appeal. Any person or entity aggrieved by any decision or order of the Director under this code, except a decision by the Director to seek redress in the courts through either civil or criminal remedies, may appeal the decision to the City of University Place Hearings Examiner pursuant to the provisions of UPMC Title 22 as enacted or hereafter amended. Appeals shall be filed in writing with the City within 14 days of issuance of the decision.

B. Effect of an Appeal. The filing of an appeal shall not act as a stay of the decision or order.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.455 Severability.

If any part of these regulations shall be found invalid, all other parts shall remain in effect.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article V. Permits

13.05.510 General.

A. Permit Required. It is unlawful for any person to clear land; cut and/or remove trees; grade, and stockpile material; or to alter, construct, repair, remove, excavate, place, obstruct, damage or disturb any structure, utility, facility or improvement located over, under or upon any property or public right-of-way in the City without first having obtained a permit. It is unlawful for any person to interfere with the free use of any public right-of-way in the City without first having obtained a permit. A separate permit shall be obtained for each separate project. The permits administered under this code are identified in this article.

B. Licensed Contractor. All work performed under a permit must be performed by a licensed, bonded contractor. Work on a single-family or duplex lot may be performed by the property owner if approved by the Director.

C. Permit Fees. The Development Services Fee Resolution establishes the fees required by this code.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.520 Site development permit.

A. Permit Required. A site development permit is required for any of the following activities:

1. Clearing.

2. Grading or stockpiling.

3. Constructing or modifying storm drainage facilities or drainage courses.

4. Constructing or modifying roadways (including but not limited to sidewalks, curbs, gutters, bike lanes, planter strips, and street lighting).

5. Creating or modifying impervious surfaces.

6. Any other activity that the Director determines may impact the right-of-way, adjacent properties, and sensitive areas.

B. Permit Exemptions. A site development permit shall not be required for the activities listed below. Properties which are contiguous and in common ownership at any time during the year preceding will be considered one tract for the purpose of applying these exemptions. Any work that is exempt from the permitting requirements of this code still must comply with all other applicable provisions of this code and the UPMC.

1. Construction, maintenance or repair of public roads or public storm drainage facilities when performed by the City.

2. Any grading activity for which a building permit has been issued. Only grading activity that is reasonably connected to, or required to accomplish the work permitted by, the building permit is exempt from a separate permit.

3. Any grading activity qualifying for a permit exemption in accordance with UPMC Title 14.

4. The import or disturbance of not more than a total of 50 cubic yards of material, for the life of the project except in or near sensitive areas including within 25 feet of a drainage course, pothole, or floodplain and provided adequate measures are taken to prevent off-site erosion or sedimentation.

5. Emergency sandbagging, diking, ditching, filling or similar work when done to protect life or property.

6. The clearing of any area less than 20,000 square feet. This general exemption is not applicable for clearing within sensitive areas.

7. The stockpiling or broadcasting of less than 250 cubic yards of topsoil, peat, sawdust, mulch, bark, chips or solid nutrients on a lot, tract, or parcel of land, per year except in floodplains and except in sensitive areas, provided adequate measures are taken to prevent off-site erosion or sedimentation.

8. Any activity that the Director determines will have negligible impact on the right-of-way, sensitive areas, or other properties or persons.

C. Permit Application. To obtain a site development permit, the applicant must file a written application on the form furnished by the City for that purpose. Any permit application that does not comply with this section may be ineligible for review. The application shall:

1. Identify and describe all work proposed to be covered by the permit.

2. Provide the legal description, street address or other description of the site on which the proposed work will be done and specify the location on the site where the proposed work will occur.

3. Identify the use for which the work is intended.

4. Be accompanied by plans, diagrams, computations and specifications and any other data required by subsection (D) of this section.

5. Be signed by the applicant, or the applicant's authorized agent.

6. Provide such other data and information as may reasonably be required by the Director to process the application pursuant to the UPMC.

7. Pay the appropriate fees.

8. Identify the property owner and the engineer of record.

D. Submittal Documents. Plans, specifications, engineering calculations, diagrams, geotechnical reports, storm drainage reports, easements, dedications, special inspection and observation programs, and other data required by the Director shall constitute the submittal documents and shall be submitted with each application for a permit. The submittal documents shall be prepared by an engineer licensed in the State of Washington unless the Director determines that the nature of the work applied for is such that an engineered design is not necessary to obtain compliance with this code. All submittal documents shall conform to the University Place submittal requirements.

1. Plans and Specifications. Plans and specifications shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work proposed will conform to this code and other applicable laws, ordinances, rules and regulations. The plans shall include all applicable construction notes and details as provided in the University Place Standard Notes and Details.

2. Engineering Reports. Engineering reports include, but are not limited to, storm drainage reports, traffic impact analyses, geotechnical reports, and any other engineering calculations or analyses.

3. Easements and Dedications. Easements and dedications shall be prepared by a professional land surveyor licensed in the State of Washington. All easements and dedications shall include a legal description and drawing depicting the easement or dedication area. Easements and

dedications shall conform to Chapter 13.10 UPMC. All easements and dedications to the public must be in a form acceptable to the City Attorney.

4. Special Inspection and Observation Program. The special inspection and observation program shall be submitted with the permit application in accordance with Article VII of this chapter.

5. Financial Guarantees. Financial guarantees shall be submitted as required in Article VI of this chapter prior to permit issuance.

E. Permit Issuance. The application and submittal documents shall be reviewed by the Director. Such documents may also be reviewed by other departments of the City or independent consultants if determined necessary by the Director. If the Director finds that the work described in an application for a permit and the submittal documents conform to the requirements of this code, other provisions of the UPMC and any other pertinent ordinances, and that the appropriate fees have been paid and financial guarantees presented, the Director shall issue a permit to the applicant. The Director may attach conditions as may be necessary to ensure compliance with this code, other provisions of the UPMC and City ordinances.

F. Approval Limited to Approved Plan. When the Director issues a permit where plans are required, the Director shall sign the plans in an approval block. Such approved plans shall not be changed, modified or altered without authorization from the Director. All work regulated by this code shall be done in accordance with the approved plans.

G. Violations. Failure to obtain a permit is a violation of this code and may be cause for withholding or withdrawing approval of project plans, revocation of a permit, suspension of building (or other) inspections, forfeiture of financial guarantees submitted to the City, refusal of the City to accept the work or other enforcement action under this code or other provisions of the UPMC. It shall be unlawful for any work that requires a permit to be undertaken without a permit. Any permit application submitted for work commenced prior to the application submittal shall be subject to a charge equal to double the applicable fees plus the actual cost for any investigation undertaken in conjunction with the consideration of the permit.

H. Timely Completion of Work. The applicant shall complete the work, obtain an engineer's certification of the work, submit any associated maintenance and defect guarantees, and secure the City's acceptance of the work prior to permit expiration.

I. Validity of Permit.

1. Issuing or granting a permit or approving plans or other submittal documents shall not be construed to be a permit for, or approval of, any violation of this code or other City ordinance.

2. Permit issuance shall not prevent the Director from: (a) requiring the correction of errors in the plans, specifications and other data; or (b) preventing construction activities from being carried out in violation of this code, other provisions of the UPMC, or City ordinances.

3. Permit issuance shall not be construed as approval for any additional work beyond the scope of the permit.

J. Expiration.

1. A site development permit application shall expire when the applicant fails to provide necessary documentation and/or correction necessary to issue a permit in compliance with this code within 180 days of a request to provide such documentation and/or correction. A site development permit application may be extended for a single period not exceeding 180 days. The applicant shall submit a request in writing and demonstrate that circumstances beyond the control of the applicant have prevented completion of the request for documentation and/or correction.

2. Site development permits expire upon any of the following:

a. Two years after permit issuance.

b. One hundred eighty days after permit issuance if construction has not commenced.

3. The work authorized by such permit is either abandoned or suspended for a period of 180 days following commencement of the work.

K. Extension of Permit. A site development permit may be extended for a period not exceeding 180 days. The applicant shall submit a request in writing and demonstrate that circumstances beyond the control of the applicant have prevented completion of the work under the permit. No permit shall be extended more than once.

L. Suspension or Revocation. The Director may suspend or revoke any permit issued in error or on the basis of incorrect information supplied by the applicant. The Director may also suspend or revoke any permit when the applicant fails to comply with the provisions of the permit. Any permit applicant aggrieved by the Director's decision to suspend or revoke a permit may appeal this action as provided in this chapter.

(Ord. 595 § 1 (Exh. A), 2011; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.530 Right-of-way permits.

A. Permit Required. A right-of-way permit is required before any person may cut or remove trees or other vegetation; grade or stockpile material; alter, construct, repair, remove, excavate, place, obstruct, damage or disturb any structure, utility, facility or improvement located in the public right-of-way; or commence any other activity that interferes with the free use of the public right-of-way. An annual right-of-way permit for certain activities may be granted by the City.

B. Permit Exemptions. A right-of-way permit shall not be required for the activities listed below. Exemption from the permitting requirements of this section shall not constitute approval for any work done in violation of this code or any other City code.

1. Construction, improvement, maintenance, or repair of public roads or public storm drainage facilities when performed by the City.

2. Emergency sandbagging, diking, ditching, filling or similar work when done to protect life or property.

3. Any activity that the Director determines does not have the potential to significantly impact the right-of-way or the free use thereof. Any exemption granted under this section shall be issued in writing.

C. Permit Application. To obtain a right-of-way permit, an applicant shall file a written application on a form provided by the City. A permit application that does not comply with this section shall be ineligible for review. An application shall:

1. Identify and describe the work proposed to be covered by the permit.

2. Describe and locate the area where the proposed work is to be performed.

3. Indicate the use for which the work is intended.

4. Be accompanied by plans, diagrams, computations, specifications and other data required in subsection (D) of this section.

5. Be signed by the applicant, or the applicant's authorized agent.

6. Give such other data and information as may reasonably be required by the Director to carry out the objectives of this code and other provisions of the UPMC.

7. Pay the application fee. The permit fee may be waived if the work is done in conjunction with a City capital improvement project.

8. Proof of insurance as required in UPMC 13.05.670.

D. Submittal Documents. Plans, financial guarantees and other data required by the Director shall constitute the submittal documents and must be submitted with the application. Plans shall be of sufficient clarity to indicate the location, nature and extent of the work proposed. The plans shall show in detail that the work will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. If the Director determines that the nature of the work applied for is such that an engineered design is necessary to obtain compliance with this code, the submittal documents shall be prepared by an engineer licensed in the State of Washington. Financial guarantees shall be submitted as required by this chapter prior to permit issuance. All submittal documents shall conform to the University Place submittal requirements.

E. Permit Issuance. The application and submittal documents shall be reviewed by the Director. Such documents may also be reviewed by other departments of this City, or independent consultants if determined necessary by the Director. If the Director finds that the work described in an application for a permit and the submittal documents conform to this code, other provisions of the UPMC and other pertinent laws and ordinances, and that the appropriate fees have been paid, the Director shall issue a permit to the applicant. The Director may attach conditions necessary to ensure compliance with this code, other provisions of the UPMC and City ordinances.

F. Violations. Failure to obtain a permit is a violation of this code and may be cause for withholding or withdrawing approval of project plans, revocation of a permit, suspension of building (or other) inspections, forfeiture of financial guarantees submitted to the City, refusal of the City to accept the work or other enforcement action under this code or other provisions of the UPMC. It shall be

unlawful for any work that requires a permit to be undertaken without a permit. Any permit application submitted for work commenced prior to the application submittal shall be subject to a charge equal to double the applicable fees plus the actual cost for any City investigation undertaken in conjunction with the consideration of the permit.

G. Timely Completion of Work. The applicant shall complete the work, submit any associated maintenance and defect guarantees, and secure the City's acceptance of the work prior to permit expiration.

H. Validity of Permit.

1. Issuing or granting a permit or approving plans or other submittal documents shall not be construed to be a permit for, or approval of, any violation of this code or other City ordinance.

2. Permit issuance shall not prevent the Director from: (a) requiring the correction of errors in the plans, specifications and other data; or (b) preventing construction activities from being carried out in violation of this code, other provisions of the UPMC, or City ordinances.

3. Permit issuance shall not be construed as approval for any additional work beyond the scope of the permit.

I. Expiration. Except for annual right-of-way permits, all other right-of-way permits expire 180 days after permit issuance. The Director may extend the time for action by the applicant for a period not exceeding 180 days on written request by the applicant showing that circumstances beyond the control of the applicant have prevented work under the permit. No permit shall be extended more than once.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.540 Temporary right-of-way sign permit.

A. Permit Required. A temporary right-of-way sign permit is required to place any sign, street banner, or other decoration in, along, over, or across any public right-of-way. A temporary right-of-way sign permit may be issued only for placement of signs, street banners, or decorations to promote bona fide community events. A bona fide community event is a carnival, circus, exhibition, fair, farmers' market, festival, parade, holiday celebration, or other community or regional celebration or event that may be of interest to the entire City or a substantial portion thereof.

B. Permit Exemptions. A temporary right-of-way sign permit shall not be required for the following signs, street banners, or decorations. Exemption from the permitting requirements of this section does not constitute authorization to place any signs, street banners, or decorations in violation of the provisions of this code, the UPMC or other City ordinance.

1. Political signs regulated under Chapter 19.75 UPMC.

2. Advisory or regulatory signs installed under a right-of-way or site development permit.

3. Signs, street banners, or decorations of the City.

4. Public notice signs required by local and State law.

5. Temporary "open during construction" signs approved by the Director.

C. Permit Application. To obtain a temporary right-of-way sign permit, an applicant shall file an application along with the permit fee. The application shall:

1. Describe the size, height, width, number and location of the signs, street banners, or decorations.

2. Describe the materials of construction of the signs, street banners, or decorations.

3. Describe the proposed wording and display of the signs, street banners, or decorations.

4. Identify the duration for which the signs, street banners, or decorations will be displayed.

5. Indicate the community event or celebration that the signs, street banners, or decorations will be promoting.

6. Be signed by the applicant or the applicant's authorized agent.

7. Give such other data and information as may be required by the Director.

D. Permit Issuance. The application and submittal documents shall be reviewed by the Director. Such documents may also be reviewed by other departments of this City. If the Director finds that the work described in an application for a permit and the submittal documents conform to this code, other provisions of the UPMC and other pertinent laws and ordinances, and that the appropriate fees have been paid, the Director shall issue a permit to the applicant. The Director may attach conditions necessary to ensure compliance with this code, other provisions of the UPMC and City ordinances. The Director may deny an application if the installation of signs, street banners or decorations would interfere with any planned installation of City sign, street banner or decoration. No permit will be granted for a proposed sign, street banner, or decoration display more than one year after the date of permit application.

E. Validity. The issuance of a temporary right-of-way sign permit shall not be construed to be a permit for, or an approval of, any violation of any provisions of this code, other provisions of the UPMC, or other City ordinances.

F. Time Limits on Displays. Temporary right-of-way sign permits shall be issued for a two-week display prior to the specified community event. An additional extension for up to two weeks may be granted if no other application has been received 45 days prior to the event. No event shall be advertised or promoted for more than four weeks in a 12-month consecutive period. All displays advertising or promoting an event shall be removed within three days following the event.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.550 Suspension or revocation.

The Director may suspend or revoke any permit issued in error or on the basis of incorrect information supplied by the applicant. The Director may also suspend or revoke any permit if the applicant fails to comply with the provisions of the permit. Any permit applicant aggrieved by the Director's decision to suspend or revoke a permit may appeal as provided in this chapter.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VI. Financial Guarantees

13.05.610 General.

A. A financial guarantee is financial security posted with the City to ensure timely and proper completion of improvements, to ensure compliance with this code, and/or to warranty the design, materials, and workmanship associated with improvements. Financial guarantees include assignments of funds, surety bonds, and other forms of financial security acceptable to the City. Other types of financial guarantees may be accepted if approved by the Director. For the purposes of this title, the terms "performance guarantee," "street use guarantee," "erosion and sediment control/street cleaning guarantee," and "maintenance and defect guarantee" are considered subcategories of financial guarantees.

B. Financial guarantees shall be in a form acceptable to the City. Financial guarantees under $5,000 must be an assignment of funds.

C. All financial guarantees shall: (1) run continuously until released by the City; (2) not be subject to expiration or cancellation without written authorization from the City; (3) be project and site specific; and (4) be nontransferable.

D. The Director shall determine the amount of the financial guarantee. The Director shall consider an engineer's estimate or an executed construction contract between the applicant and a licensed, bonded contractor in determining the amount of the financial guarantee. An engineer's estimate prepared by applicant's engineer shall detail the quantity of work to be done and shall be presented in a format approved by the City. The estimate shall be based on current construction costs and shall be stamped and signed by the engineer. The Director may consider any other reliable evidence in the Director's sole discretion in determining the amount of the financial guarantee.

E. If a property for which a financial guarantee has been posted with the City is sold or otherwise transferred, the applicant is responsible for transferring the financial guarantee liability by having the new owner(s) replace any existing financial guarantees that the City is holding. The City will not release a preexisting financial guarantee until such time as the City accepts a replacement guarantee.

F. The property owner may be required to complete and record a right of entry form prior to acceptance of any financial guarantee covering improvements on private property. The right of entry shall run with the land and shall be recorded with the Pierce County Auditor.

G. All financial guarantees must be reviewed and approved as to form by the City Attorney.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.620 Performance guarantee.

A. A performance guarantee ensures completion of the improvements according to the permit conditions, the University Place Municipal Code and other applicable laws and regulations. If a project requires more than one performance guarantee, the applicant may combine performance guarantees.

The combined guarantee shall be for not less than the amount of separate financial guarantees. The combined guarantee shall clearly delineate on its face the separate financial guarantees that it replaces.

B. Prior to issuance of a site development permit, the applicant shall submit a performance guarantee that ensures the timely and proper construction of all public improvements, storm drainage facilities (both public and private), and any other required improvement that is deemed by the Director to be important to protect the public health, safety, or welfare. The guarantee will include the costs for the installation of landscaping and irrigation systems for both streets and storm drainage facilities.

C. Prior to final plat, short plat, or final development plan approval, the applicant shall submit a performance guarantee that ensures the timely and proper construction and acceptance by the City of all required improvements.

D. Performance guarantees shall be in the amount of 125 percent of the engineer's estimate, the executed contract or the decision of the Director to allow for inflation and engineering administration expenses should the City have to complete the project.

E. The applicant shall complete the work, obtain an engineer's certification of the work, submit any associated maintenance and defect guarantees, and secure the City's acceptance of the work prior to permit expiration.

F. Release Procedures. Any release of the performance guarantee must be in writing to be effective. The City will release the performance guarantee only after each of the following have been met:

1. The applicant's engineer has submitted a certification that the improvements for which a financial guarantee was submitted were completed in conformance with the approved plans and design. The certification shall comply with Article VIII of this chapter.

2. The applicant has obtained a final inspection of all guaranteed improvements.

3. Any deficiencies identified by the City in the final inspection have been corrected.

4. The City has accepted a maintenance and defect financial guarantee from the applicant as provided in this article.

5. The City has issued a written, final approval of the guaranteed improvements to the applicant.

6. The applicant or surety has requested in writing the release of the guarantee.

7. The applicant has paid all outstanding fees.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.630 Street use guarantee.

A. A street use guarantee ensures compliance with right-of-way permit conditions and warranties the design, materials, and workmanship associated with the work performed in a right-of-way. All applicants performing work that will, or has the potential to, disturb, modify, or damage anything within the City right-of-way will be required to post a street use guarantee with the City.

B. Prior to issuance of a right-of -way permit the applicant shall submit a street use guarantee.

C. Street use guarantees shall be in the amount of $5,000 unless the Director determines after a review of a permit that a lower or higher amount is appropriate.

D. When an applicant has multiple right-of-way permits, a single street use guarantee in the amount of $20,000 may be submitted in lieu of individual $5,000 street use guarantees.

E. The applicant shall be responsible to repair all defects resulting from the applicant's activity in the right-of-way. The applicant will not be relieved of this obligation until the right-of-way impacted by the applicant has remained free from defects for a consecutive period of two years. The applicant will be liable for any third party damages that result from a breach of these duties for the duration of the street use guarantee.

F. During the period of the street use guarantee, City staff will periodically inspect the right-of-way impacted by the applicant. The City shall provide notice to the applicant when maintenance and/or repairs are necessary, specifying a reasonable time frame within which such work is to be completed. In the event that the applicant does not complete such maintenance and/or repairs, the applicant will be in default subject to the provisions of this article, and the City may perform such work.

G. If, on the basis of its inspections, the City determines that repairs must be performed immediately to prevent risk to person(s) or property, the City may make necessary repairs and the cost of those repairs shall be paid by the applicant upon demand. If the applicant fails to pay for the repairs by the time specified by the City, the applicant will be in default subject to the provisions of this article.

H. The applicant shall pay for the inspections performed by the City during the duration of the street use guarantee. Inspection fees will be as specified in the development services fee resolution.

I. Release Procedures. Any release of the street use guarantee must be in writing to be effective. The City of University Place will release a street use guarantee only after each of the following have been met:

1. The right-of-way construction work completed by the applicant has remained free of defects for two consecutive years. This period can be reduced if the Director determines that the work associated with the right-of-way permit has been sufficiently completed and stabilized such that there is no further risk of damage to existing facilities.

2. The applicant or surety has requested in writing the release of the guarantee.

3. The applicant has paid all outstanding fees.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 531 § 1 (Exh. A), 2008; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.640 Erosion and sediment control/street cleaning guarantee.

A. An erosion and sediment control/street cleaning guarantee ensures that required erosion and sedimentation control/street cleaning measures are constructed and maintained in accordance with the UPMC. Prior to permit issuance, the applicant must submit to the City a financial guarantee that guarantees the performance and maintenance of the erosion and sedimentation control facilities and

street cleaning. Because of the harm to the public health and safety and the environment arising out of poor erosion and sediment control or failure to clean streets properly, all erosion and sediment control/street cleaning guarantees shall require that the guarantor must pay the face amount of the financial guarantee to the City within 14 days of the City's written demand for funds.

B. If the applicant fails to maintain the erosion and sedimentation control facilities in conformance with this code, the City may issue a written notice specifying required remedial actions. If the remedial actions are not performed in a timely manner, the City may take action including, but not limited to, issuing a stop work order, entering the property to perform the actions needed; and using the financial guarantee to pay for remedial actions. In the event a hazard exists, the City is not required to provide written notice to the applicant. If the City is forced to utilize the guarantee, any stop work order issued shall remain in effect until the applicant has restored the guarantee up to either the original amount or such other amount as the Director may reasonably decide is necessary to ensure future compliance with the permit.

C. The amount of the guarantee will be as follows:

1. For any development larger than one single-family or duplex building: 125 percent of the cost of the approved erosion and sedimentation control measures, plus $5,000 per acre of the disturbed area.

2. For sites impacting a sensitive area, the City may require an additional guarantee amount to compensate for difficulties associated with work in sensitive areas. Any additional amount will be determined by the Director based upon the nature of the sensitive area.

D. Release Procedures. Any release of the erosion and sediment control/street cleaning guarantee must be in writing to be effective. The Director will release the erosion and sediment control/street cleaning guarantee only after each of the following have been met:

1. The applicant's engineer has submitted a certification that all disturbed areas within the site have been stabilized in conformance with the permit conditions and the UPMC. The certification shall be as prescribed in Article VIII of this chapter. For sites with less than five acres of disturbed area, the City may waive the requirement for certification unless the site is located within a landslide and erosion hazard area.

2. The applicant has requested a final inspection of the site.

3. Any deficiencies identified by the City in the final inspection have been corrected.

4. The applicant or surety has requested in writing the release of the guarantee.

5. The applicant has paid all outstanding fees.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.650 Maintenance and defect guarantee.

A. A maintenance and defect guarantee ensures the design, workmanship, maintenance, and operation of improvements to streets, landscaping, and drainage facilities. The City requires three types of maintenance and defect guarantees: storm drainage, street improvement, and landscaping.

B. An applicant shall submit maintenance and defect guarantees for improvements prior to: (1) release of the performance guarantees associated with a project's storm drainage facilities, street improvements, and public landscaping; and (2) City approval of the constructed improvements.

C. The applicant shall be responsible for the operation and maintenance of the improvements for the duration of the defect and maintenance guarantee.

D. During the term of the maintenance and defect guarantee, City staff may periodically inspect the guaranteed improvements. If the Director determines that the improvements are not adequately maintained, do not operate satisfactorily or contain defects in design, materials or workmanship, the City shall notify the applicant, specifying remedial action. If the applicant does not complete the remedial action in a timely manner and to the City's satisfaction, the applicant will be in default.

E. If, on the basis of its inspections, the City determines that repairs must be performed immediately to prevent risk to person(s) or property, the City may make necessary repairs. The cost of necessary repairs shall be paid by the applicant upon the City's written demand. If the applicant fails to pay for the necessary repairs by the time specified by the City, the applicant will be in default.

F. The applicant shall pay for inspections performed by the City during the duration of the maintenance and defect guarantee. Inspection fees will be as specified in the Development Services Fee Resolution.

G. Storm Drainage Maintenance and Defect Guarantee (Public and Private). The storm drainage maintenance and defect guarantee shall be set by the Director in the amount of 10 percent of the construction cost of the storm drainage facility.

H. Street Improvement Maintenance and Defect Guarantee (Public and Private). The street improvement maintenance and defect guarantee shall be set by the Director in the amount of 25 percent of the construction cost of the street improvements.

I. Landscaping Maintenance and Defect Guarantee. The landscaping maintenance and defect guarantee shall be set by the Director in the amount equal to the cost of the landscaping as indicated in the approved engineer's estimate. Any plant material needing replacement shall be replaced in accordance with Chapter 13.20 UPMC, Article VIII, and inspected prior to the release of the maintenance guarantee.

J. Release Procedures. Any release of the maintenance and defect guarantee must be in writing to be effective. The City of University Place will release the maintenance and defect guarantee only after each of the following have been met:

1. The guaranteed improvements have remained free of defects for two consecutive years.

2. The applicant has submitted to the City a letter that requests final inspection of the guaranteed improvements and certifies the guaranteed improvements have been cleaned of all debris, dirt, and sediment.

3. Any deficiencies identified by the City in the final inspection have been corrected.

4. The applicant or surety has requested in writing the release of the guarantee.

5. The applicant has paid all outstanding fees.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.660 Default procedures.

A. The City may make a determination of default after an inspection has indicated that improvements need to be completed, maintained, or corrected. A default means the failure of the applicant to do any of the following:

1. Comply with financial guarantee conditions; or

2. Complete the improvements in accordance with this code and the approved plans and conditions within the specified time; or

3. Maintain the improvements in accordance with this code and the approved plans and conditions for the specified period of time; or

4. Correct any deficiencies identified by the City.

B. In the event of a default, the City shall notify the applicant and the guarantor in writing of the default, the necessary work to remedy the default, and the specified time to complete the remedial work. If the applicant does not perform the remedial work within the specified time, the City may demand payment by the guarantor and perform the remedial work. The guarantor shall be responsible, up to the limits of the financial guarantee, for the payment of any and all costs and expenses that have been or will be incurred by the City in causing the remedial work to be done. Any funds demanded in excess of the costs incurred the by City shall be returned to the guarantor upon completion of the remedial work. The applicant shall be responsible for any and all costs incurred by the City in conjunction with the remedial work. This includes any costs that exceed the amount of the financial guarantee. Nothing in this section shall limit the ability of the City to enforce or otherwise compel compliance with conditions of any City permit or approval in accordance with the enforcement provision set forth in Article IV of this chapter.

C. Bonds are subject to default upon permit expiration or revocation.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.670 Insurance required.

A. The applicant shall procure and maintain for the duration of the permit insurance against claims for injuries to persons or damage to property which may arise from or in connection with operations or activities performed by or on the applicant's behalf with the issuance of this permit.

B. No Limitation. Applicant's maintenance of insurance as required by the permit shall not be construed to limit the liability of the applicant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

C. Minimum Scope of Insurance. The applicant shall obtain insurance of the type described below:

1. Commercial general liability insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 and shall cover products liability. The City shall be named as an insured under the applicant's commercial general liability insurance policy using ISO Additional Insured-State or Political Subdivisions – Permits CG 20 12 or a substitute endorsement providing equivalent coverage.

2. Automobile liability insurance covering all owned, nonowned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

D. Minimum Amounts of Insurance. Applicant shall maintain the following insurance limits:

1. Commercial general liability insurance shall be written with limits no less than $1,000,000 each occurrence, $2,000,000 general aggregate and a $2,000,000 products-completed operations aggregate limit.

2. Automobile liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000 per accident.

E. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions for commercial general liability insurance:

1. The applicant's insurance coverage shall be primary insurance as respect to the City. Any insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the applicant's insurance and shall not contribute to it.

2. The applicant's insurance shall be endorsed to state that coverage shall not be canceled by either party, except after 30 days' prior written notice by certified mail, return receipt requested, has been given to the City.

F. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.

G. Verification of Coverage. Applicant shall furnish the City with original certificates and a copy of the amendatory endorsements, including the additional insured endorsement, evidencing the insurance requirements of the applicant before issuance of the permit.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VII. Inspections

13.05.705 General.

A. All activity regulated under this title shall be subject to inspection by the Director and shall remain accessible and exposed for inspection purposes until approved by the Director. The engineer of record will be responsible to perform professional inspections of the permitted activity. In addition, certain types of construction shall have special inspections, as specified in this article.

B. Approval of inspected work shall not be construed to be an approval of a violation of the provisions of this code, other provisions of the UPMC or City ordinances. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the City shall not be valid.

C. It shall be the duty of the applicant to cause the work to remain accessible and exposed for inspection purposes. The applicant shall be liable for any expense entailed in the removal or replacement of any material required to allow inspection. Failure to receive the City's approval can result in removal or modification of construction at the applicant's expense to bring the work into conformance with approved plans.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.710 Preconstruction conference.

A preconstruction conference is required prior to the commencement of work. It is the responsibility of the applicant to arrange for this meeting and to notify the City in advance of the commencement of any authorized work.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.715 Hours of construction.

The hours of construction for any activity permitted under this code are Monday through Friday, 8:00 a.m. to 5:00 p.m. The Director may authorize work outside of these hours upon request based upon the type of work to be performed or the proximity to residential areas. Requests for extended working hours must be submitted in writing to the Director 24 hours in advance.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.720 Inspection card.

The City will provide the permit holder with the inspection card upon permit issuance. This card shall be on the project site at all times until final approval has been granted by the Director. Any work under the permit shall not be commenced until the permit holder has posted or otherwise made the inspection card available such as to allow the Director to conveniently make the required entries thereon regarding inspection of the work.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.725 Inspections.

All permitted work is subject to inspection by the Director at any time. The permit holder, as a condition of obtaining a permit, shall authorize the Director to enter the site for inspection throughout the duration of the project.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.730 Inspection requests.

A. It shall be the duty of the applicant to notify the Director that such work is ready for inspection. The Director may require that every request for inspection be filed at least one working day before the desired inspection date. Such request may be in writing or by telephone at the option of the Director. It shall be the duty of the applicant to provide access to and the means to inspect the work.

B. If all required inspections are not requested before completion of the work, the City may require the applicant to pay for additional testing and analysis to be performed to ensure conformance with the approved plans and as a condition of final inspection and approval of the City.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.735 Approval required.

Work shall not progress beyond the point indicated in each successive inspection without the prior approval of the Director. The Director shall make the requested inspections and shall indicate to the applicant whether the construction is satisfactory as completed, or fails to comply with this code, other provisions of the UPMC, or other City ordinances. Any portions of the work that do not comply shall be corrected by the applicant. Any such portions of the work shall neither be covered nor concealed until authorized by the Director.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.740 Reinspections.

A. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for previously have not been made. This section shall not be construed to require imposition of reinspection fees the first time a job is rejected for failure to comply with the permit conditions, this code, other provisions of the UPMC or other City ordinances. The City, however, may impose a reinspection fee when the applicant has called for an inspection before the work is ready for inspection or reinspection.

B. Reinspection fees may be assessed for violations including, but not limited to: the inspection record card is not posted or otherwise available on the work site; the approved plans are not readily available to the inspector; failure to provide access on the date for which inspection is requested; or deviating from the plans approved by the Director. If a reinspection fee has been assessed, further approvals of work under the permit are expressly conditioned on prior payment of reinspection fees.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.745 Professional and special inspections.

A. The engineer of record shall prepare an inspection program that shall be submitted to the Director for approval prior to permit issuance. The inspection program shall designate the portions of the work that require professional and special inspection, the stages of construction at which the professional and special inspections are to occur, the name or names of the individuals or firms who are to perform these inspections, and the duties of the inspectors. The inspection program shall include samples of proposed inspection reports and provide time limits for submission of reports.

B. The Director shall approve or amend the inspection program in conjunction with issuing the permit. The inspection program as approved by the Director shall be a permit condition.

C. Professional Inspections. Professional inspections are those inspections to be performed by the engineer of record. The engineer of record shall provide professional inspection only within the engineer's area of technical specialty. The inspections shall be of a nature that enables the engineer of record to provide a "Certification from Engineer" in conformance with Article VIII of this chapter. If revised plans are required during the course of the work they shall be submitted by the engineer of record.

D. Special Inspections. Special inspections are those inspections identified in the inspection program not performed by the engineer of record. Special inspectors shall be employed by the applicant or the engineer of record. Special inspections will be required for any portion of the project that is outside of the engineer of record's area of expertise. This may include erosion and sedimentation control, compaction testing, material testing, and geotechnical and structural components of the project.

1. Special Inspector. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the Director, for inspection of the particular type of construction or operation requiring special inspection.

2. Duties and Responsibilities of the Special Inspector. The special inspector shall observe the work assigned for conformance to the approved plans and the permit conditions. The special inspector shall furnish inspection reports at such times as the Director may require. The reports shall be furnished to the Director, the engineer of record, and the applicant. All discrepancies in the work shall be brought to the immediate attention of the contractor for correction and included in the inspection report. The special inspector shall submit a final signed report stating whether the work requiring special inspection was in conformance to the approved plans and the permit conditions.

3. Failure to Perform. If the Director determines that the special inspector has failed to perform the duties and responsibilities indicated above, the Director may require the applicant to replace the special inspector with another qualified person who will assume the duties and responsibilities of the special inspector.

4. Exception. The Director may waive the requirement for the employment of a special inspector if the construction is of a minor nature.

E. Investigation. If the Director determines that the engineer of record or special inspector have failed to ensure compliance with the approved plans and permit conditions, the Director may retain the services of a qualified individual to evaluate the quality of the work. The applicant shall be responsible for all costs incurred by the City in the investigation. Payment of costs incurred by the City is an express condition precedent to final inspection, acceptance of the work by the City, and release of financial guarantees.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.750 Final inspection.

The applicant is responsible to request a final inspection of all permitted activities upon completion. The applicant must secure approval by the City of these facilities prior to use and release of any applicable financial guarantees.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.755 Notification of noncompliance.

If, in the course of fulfilling their respective duties under this code, the engineer of record or the special inspector finds that the work is not being done in conformance with this code, the approved plans, or the permit conditions, the discrepancies shall be reported immediately in writing to the applicant and to the Director.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.760 Transfer of responsibility.

If the applicant wishes to change the engineer of record during construction, the work shall be stopped until the replacement engineer agrees in writing to accept the duties and responsibilities of the original engineer of record and certify the work. Such an agreement shall be filed with the City and approved by the Director prior to the recommencement of work.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.765 Testing.

Testing shall be as specified in the approved inspection program. Tests shall be performed at the applicant's expense. At a minimum, testing shall be done on all materials and construction as specified in the WSDOT/APWA Standard Specifications, this code, and the University Place Standard Notes and Details.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VIII. Project Closure

13.05.810 As-builts.

As-built drawings must be provided to the City for all roadway and storm system construction. As-builts must be prepared by a licensed professional engineer or surveyor, stamped and signed by the professional and submitted prior to the City's acceptance of any improvement. The following, as applicable, shall be included in all as-built submittals.

A. Roadway centerline stationing at minimum 50-foot spacing. Stationing shall include elevations and horizontal control in State plane coordinates.

B. Right-of-way lines and property lines.

C. Locations, widths, and composition of travel lanes, sidewalks, curbs, gutters, medians, planter strips, irrigation systems, shoulders and bike lanes.

D. Street light locations and types.

E. Utility locations.

F. Street names.

G. Pavement markings and street signs.

H. Type and widths of easements.

I. Catchbasin type, location, rim elevation, bottom elevation, and inlet/outlet invert elevation.

J. Storm drain pipe size, composition, location and invert slope.

K. Detention/retention/infiltration facility location, and inlet/outlet locations and elevations.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.820 Certification from engineer.

Following the construction of facilities allowed under a permit, the engineer of record shall provide to the City a letter of certification. This letter shall be stamped, signed and dated by the engineer and shall state that all permitted facilities have been built in accordance with the approved plans, permit conditions, and all applicable codes. In the event that some components of the work have not been built in strict conformance to the plans and conditions and, in the engineer's opinion, these exceptions do not compromise the integrity of the project, the engineer shall identify the exceptions and include a statement in the certification that the exceptions do not constitute a material defect, compromise the integrity of the project, or violate any provisions of this code.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.05.830 City acceptance.

Unless a development involves a dedication of a public facility, a development is considered final upon final approval or acceptance by the Director. When a development involves a dedication to the public, a development is not considered final until the Director has issued written acceptance of the public facility accepting ownership and addressing responsibility for the dedication.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Chapter 13.20
TRANSPORTATION

Sections:

Article I. General Considerations

Article II. Streets

Article III. Emergency Vehicle Access

Article IV. Sidewalks, Curbs and Gutters

Article I. General Considerations

13.20.110 Purpose.

The purpose of this chapter is to provide for the development of an integrated, uniform, multimodal, fully accessible transportation system that facilitates present and future travel demand with minimal environmental impact to the community.

A. The design objective for vehicular zones is to create a circulation system that provides for the safe and efficient movement of vehicles and reduces conflict with pedestrians and bicyclists and to provide roadway standards that will help create streets that are inviting, multimodal public places.

B. The design objective for pedestrian zones is to provide a high level of design detail, promote walkability by improving pedestrian safety, convenience, and comfort, and enhance the aesthetic character and quality of the pedestrian experience.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.120 Additional design standards.

The "City of University Place Design Standards and Guidelines for Streetscape Elements" are adopted by reference and contained in a separate City design manual titled "Design Standards and Guidelines for Streetscape Elements."

These standards and guidelines apply to neighborhood collector streets and local streets associated with new development as well as qualifying modifications to existing development.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.130 Standardized format for traffic analyses.

A. Introduction. A traffic impact analysis (TIA) is a specialized study of the impacts that a certain type and size of development will have on the surrounding transportation system. The TIA is an integral part of the development impact review process. It is specifically concerned with the generation and distribution of traffic to and from the development.

The purpose of the TIA is to determine the impacts of the development traffic on the existing and proposed street network and the impacts of the existing and projected traffic on the development. The level of detail and scope of work of a TIA may vary with the size, complexity, and location of the development. A TIA shall be a thorough review of the immediate and long-range traffic impacts. The Director may accept the TIA as satisfying the requirements for a concurrency test as identified in UPMC Title 22.

B. When Required. To adequately assess a development's traffic impact on the transportation system and level of service (LOS), the Director may require a TIA based upon the evaluation of the size of the development proposed, existing street and intersection conditions, traffic volumes, accident history, community concerns, and other pertinent factors relating to traffic impacts attributable to the development. A TIA will be required if any of the following conditions are met:

1. The development generates 20 or more trips in either the a.m. or p.m. peak hours. This would include site-generated traffic for all turning movements for the peak hours at all affected intersections.

2. The development lies within an area that contains an existing or proposed local improvement district (LID), local/State transportation improvement areas programmed for development reimbursements or at locations that have latecomer agreements.

3. If a TIA exists but is more than two years old, the Director may require a new or revised TIA prior to permit issuance.

C. Qualifications for Preparing TIA. The TIA shall be prepared by an engineer licensed to practice in the State of Washington with special training and experience in traffic engineering.

D. Submittal Requirements. The TIA shall at a minimum include the following sections: Introduction, Existing Conditions, Development Traffic, Future Traffic, Traffic Operations, and Mitigation. The sections shall at a minimum incorporate the information identified below.

1. Introduction.

a. Provide a statement of the scope of the analysis and identify the limits of the study area. The study area shall include all pertinent intersections and streets impacted by development traffic. This shall include, but not be limited to, any signalized intersection within the City within one mile of the development at which the development-generated traffic equals 10 or more vehicle trips at any peak hour, or any signalized intersection in the City at which the development-generated traffic is 10 percent or more of the volume of existing traffic through the intersection at any peak hour. The Director may also require that the study area include any intersection that currently operates at a LOS of "D" or lower and at which the development-generated traffic is 10 or more vehicle trips at any peak hour. The study area may be expanded outside the City limits if determined necessary by the Director under any environmental review required under the State Environmental Policy Act.

b. Provide a copy of the site plan showing the type of development, street system, rights-of-way limits, access points, and other features of significance in the development. The site plan shall also include pertinent off-site information such as locations of adjacent intersections and driveways, land use descriptions, street right-of-way limits for the existing roadways and other features of significance.

c. Provide a vicinity map of the project area showing the transportation system to be impacted by the development.

d. Address specific development characteristics such as type of development proposed (single-family, multifamily, retail, industrial, etc.), internal street network, proposed access locations, parking requirements, zoning, and other pertinent characteristics of the development.

e. Indicate project completion and occupancy schedule for the development. Identify horizon years for traffic analysis purposes.

2. Existing Conditions.

a. Identify street characteristics including functional classification, number of traveled lanes, lane width, shoulder treatment, bicycle path corridors and traffic control at study intersections.

b. Identify safety and access issues including discussions on accident history, sight distance restrictions, traffic control, and pedestrian conflicts.

c. Provide all necessary traffic data including any current data available from the City of University Place and surrounding jurisdictions if applicable. If data is unavailable or outdated, the individual or firm preparing the TIA shall collect the necessary data.

d. Provide a diagram showing existing average daily traffic (ADT) and a.m. and p.m. peak-hour traffic volumes on the adjacent streets and intersections and illustrating complete turning movement volumes within the study area. This diagram shall represent the baseline traffic volumes for analysis purposes.

3. Development Traffic.

a. Trip Generation. Site-generated traffic of developments shall be estimated using the latest edition of the ITE Trip Generation Manual. Variations of trip rates will require the approval of the Director. Trip rate equations will be utilized for estimating site-generated traffic. Average trip rates shall be used for all land use categories where applicable or required by the Director. Site traffic shall be generated for a.m. and p.m. peak-hour periods. Adjustments made for passer-by and mixed-use traffic volumes shall follow the methodology outlined in the latest edition of the ITE Trip Generation Manual. For multi-use or phased projects, a trip generation table shall be prepared showing proposed land use, trip rates, and vehicle trips for daily and peak-hour periods and appropriate traffic volume discounts if applicable. The TIA shall contain a table illustrating the trip generation.

b. Trip Distribution. The TIA shall contain a diagram illustrating the proposed trip distribution for the development. The methodology shall be clearly defined and discussed in detail in the TIA. A regional trip distribution map may be required by the Director for large-scale development projects. The TIA shall identify other transportation modes that may be applicable, such as transit use, bicycle and pedestrian facilities.

4. Future Traffic.

a. Future Traffic Conditions Without Project. Future traffic volumes shall be estimated using information from transportation models for applying an annual growth rate based on reports of the Puget Sound Regional Council to baseline traffic volumes. The future traffic volumes shall be representative of the horizon year for project development. Proposed development projects approved, under review, or otherwise reasonably foreseeable shall be taken into consideration when forecasting future traffic volumes.

b. Future Traffic Conditions with Project. The site-generated traffic shall be assigned to the street network in the study area based on the approved trip distribution model. The site traffic shall be combined with the forecasted traffic volume to show the total traffic conditions estimated at the horizon year. A diagram will be required showing daily and a.m. and p.m. peak-hour turning movement volumes for each intersection in the study area.

5. Traffic Operations. The LOS and capacity analysis shall be conducted for each intersection in the study area. The methodology and procedures for conducting the capacity analysis shall follow the guidelines specified in the Highway Capacity Manual. The TIA shall include calculations for the intersection LOS for each of the following conditions:

a. Existing peak-hour traffic volumes (diagram required);

b. Existing peak-hour traffic volumes including site-generated traffic (diagram required);

c. Future traffic volumes not including site traffic (diagram required);

d. Future traffic volumes including site traffic (diagram required);

e. The LOS analysis results for each traffic volume scenario (table required). The LOS table shall include LOS results for a.m. and p.m. peak periods. The table shall show LOS conditions with corresponding vehicle delays for signalized intersections and LOS conditions for the critical movements at unsignalized intersections. For signalized intersections, the LOS conditions and average vehicle delay shall be provided for each approach and the intersection as a whole. The capacity analyses for existing signalized intersections shall include existing phasing, timing, splits and cycle lengths in the analysis as observed and measured during the peak-hour traffic periods. If the development is scheduled to be completed in phases, the TIA shall conduct a LOS analysis for each separate development phase. The incremental increases in site traffic from each phase shall be included in the LOS analysis for each proceeding year of development completion. A figure will be required for each horizon year of phased development. If the development impacts a traffic signal coordination system currently in operation, the Director may require the TIA to include operational analysis of the system. Timing plans and proposed modifications to the coordination system may be required. The capacity analysis shall be conducted using a City-approved software package. The computer worksheets, along with an electronic copy of each capacity analysis, shall be submitted with the TIA document. For unsignalized intersections, the Highway Capacity Manual methodology shall be used. A copy of the capacity analyses worksheets shall be submitted with the TIA document.

6. Mitigation. The TIA shall include a proposed mitigation plan. Mitigating measures shall ensure the transportation facilities operate at a LOS "D" or better upon completion of the development. The following guidelines shall be used to determine appropriate mitigating measures of traffic impacts generated by new developments.

a. On transportation facilities where the TIA demonstrates a need to construct improvements, the cost for the mitigation will be entirely borne by the applicant. However, if the Director identifies more than one development under simultaneous review, cumulative impacts and distribution of mitigation costs may be considered. A latecomer's agreement could be formulated by the applicant for reimbursement for mitigation costs.

b. On transportation facilities programmed for improvements and funded as part of a City project, the adverse traffic impacts of the development may be considered mitigated by providing a proportionate share contribution of the costs for the proposed improvements. The proportionate share of local costs for the improvements shall be based on the percentage of development traffic generated through the intersection. The percentage shall be based on the total projected peak hour traffic volumes for the horizon year of the transportation facility. For the purposes of this section, transportation facilities included on the traffic impact fee project list will be considered programmed and funded. For these facilities, payment of the traffic impact fee will satisfy the requirement for providing a proportionate share contribution of the costs for the improvements. If the transportation facility currently operates less than LOS "D," and the Director determines that the impacts of

the development will create a safety hazard, the applicant shall be required to make facility improvements to improve the level of service to LOS "D" or better. The cost of the interim improvements will be deducted from the development's proportionate share of costs for the programmed facility improvements only if the cost of the interim improvements is less than the ultimate proportionate share. If the interim improvements cannot be incorporated into the ultimate improvements programmed for the transportation facility, there will be no reimbursement for interim costs incurred.

c. On transportation facilities where the existing LOS is less than "D" and where no improvements are programmed to improve capacity and traffic operations, the development shall provide mitigation that ensures the intersection operates at LOS "D" or better or wait until the improvements are constructed by the City or others.

d. Intersections where the projected level of service condition is at "D," but where one or more of the LOS on the approaches falls below "D," the development shall provide mitigation that ensures each approach operates at LOS "D" or better.

e. To mitigate the effects of the traffic generated by the development and the effects of that traffic on existing vehicular, pedestrian, and bicycle traffic, the applicant shall provide sufficient right-of-way for and construct paved shoulders/bicycle lanes on abutting streets that are arterial streets or designated bicycle routes.

f. To mitigate the effects of the traffic generated by the development and the effects of that traffic on existing vehicular and pedestrian traffic, planter strips and concrete curbs, gutters, and sidewalks shall be constructed along abutting streets. Planter strips, concrete curbs, gutters, and sidewalks are required along each side of all interior plat roads in formal subdivisions to provide for the safety of pedestrians. To mitigate pedestrian impacts, a bus stop shelter on a concrete pad shall be constructed where Pierce Transit and/or the school district has identified a need for a bus stop to serve the development and the citizens of the City. Design standards for the bus shelter shall be provided by Pierce Transit or the school district.

(Ord. 531 § 1 (Exh. A), 2008; Ord. 518 § 1, 2008; Ord. 505 § 1, 2007; Ord. 395 § 3, 2003).

13.20.140 Developments on substandard streets.

A. The applicant shall be required to construct improvements to bring substandard streets up to current City standards prior to final approval for any development that obtains access from substandard public or private streets. Such improvements shall be made from the point of access to the closest intersection of an arterial street. Street improvements may include but are not limited to curb and gutter, sidewalk, street lighting, traffic signal modification, relocation or installation, utility relocation, street widening, and resurfacing.

B. Exceptions.

1. Any development that does not generate additional vehicular traffic is exempt from the requirements of this section.

2. The construction of or modification to a single-family or duplex residential unit will require the access to be improved up to emergency vehicle access standards in Article III of this chapter.

3. The development of short subdivisions that accommodate no more than four dwelling units will require the substandard street to be improved up to 20 feet of paved driving surface and five-foot gravel shoulders on each side of the street, provided any new dwelling units are equipped with residential fire suppression sprinkler systems.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.150 Street frontage improvements.

A. Street frontage improvements shall be required in conjunction with subdivisions and short subdivisions of land, small lot and innovative housing developments, planned development districts, conditional use permits, binding site plans, and the modification or construction of buildings. Frontage improvements shall consist of half-street improvements in conformance with the standard street section and the City street standards in Article II of this chapter and the Design Standards and Guidelines for Streetscape Elements adopted by reference. Such improvements may include curbs, gutters, bike lanes, planter strips, medians, sidewalks, bus stops, bus shelters, bus pads, bus pullouts, street storm drainage, street lighting systems, traffic signal installation, modification, or relocation, utility relocation, landscaping, irrigation, and street widening.

B. Plans shall be stamped by a civil engineer licensed to practice in the State of Washington.

C. Where the existing right-of-way is of insufficient width to accommodate the required improvements, right-of-way dedication will be required. The dedications shall comply with the provisions of UPMC 13.10.030. For plats, the right-of-way may be dedicated at the time of recording.

D. All frontage improvements shall be completed in a manner acceptable to the City prior to occupancy, final plat approval, final short plat approval, final development plan approval, or binding site plan approval.

E. Exceptions.

1. When the Director determines based on good reasons shown that any or all of the required improvements should not be accomplished at the time specified in subsection (D) of this section, a recorded agreement or financial guarantee shall be completed on forms provided by the City. The agreement shall require the applicant to install the improvements at a later date.

2. The construction, remodeling or enlargement of an individual Group R3 or Group U occupancy (as defined in the building code) shall be exempt from this section.

3. Alterations or repairs not constituting a major improvement are exempt from this section. See UPMC 13.05.220 for the definition of "major improvement."

4. Major improvements that add less than 10 percent floor area and which value does not exceed 50 percent of the assessed value of the existing structure shall be exempt from the requirements of this section. Alterations or repairs completed within the 12-month period

immediately preceding the date of permit application shall be considered as part of the current proposal and their costs shall be included in considering the applicability of this exemption.

5. Two- or three-lot short plats accessing local streets and two-lot short plats accessing arterial streets may elect to defer the construction of the required frontage improvements by completing and recording the City of University Place LID Covenant. By recording this covenant the property owner agrees to participate in and not protest the formation of a local improvement district on the abutting streets. Nothing in the covenant will in any way absolve the property owner from the obligation to improve the frontage of the property. If it becomes necessary to mitigate the effects of the development prior to the formation of an LID, the property owner will have 120 days from receipt of the written notice from the City to complete the required improvements. If right-of-way dedication will be necessary to construct the standard street section, the right-of-way shall be dedicated upon recording of the short plat.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article II. Streets

13.20.205 General.

Street design must provide for the maximum loading conditions anticipated. The width and grade of the pavement must conform to specific standards set forth herein for safety and uniformity.

As feasible, University Place shall incorporate complete streets infrastructure into existing public and private streets to create a comprehensive, integrated, connected transportation network for the City that balances access, mobility, health and safety needs of pedestrians, bicyclists, transit users, motorists, emergency responders, freight and users of all ages and abilities, ensuring a fully connected, integrated network that provides transportation options. "Complete streets infrastructure" means design features that contribute to a safe, convenient, or comfortable travel experience for users, including but not limited to features such as: sidewalks; shared use paths; bicycle lanes; automobile lanes; paved shoulders; street trees and landscaping; planting strips; curbs; accessible curb ramps; bulb outs; crosswalks; refuge islands; pedestrian and traffic signals, including countdown and accessible signals; signage; street furniture; bicycle parking facilities; public transportation stops and facilities; transit priority signalization; traffic calming devices such as rotary circles, traffic bumps, and surface treatments such as paving blocks, textured asphalt, and concrete; narrow vehicle lanes; raised medians; and dedicated transit lanes.

(Ord. 675 § 2, 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.210 Design.

A. The design of streets shall depend upon their type and usage. Standard roadway sections for each street classification are provided at the end of this chapter.

B. The layout of streets shall provide for the continuation of existing principal streets in adjoining subdivisions or of their proper projection when adjoining property is not subdivided. Local streets shall be designed to accommodate through connections for non-motorized traffic (pedestrians and bicycles).

1. Alignment. Alignment of major arterials and collectors shall conform, as nearly as possible, with that shown in the City's Comprehensive Plan.

2. Grade. Street grade should conform closely to the natural contour of the land. In some cases, a different grade may be required by the Director. The minimum allowable grade shall be 0.7 percent. The maximum allowable grade shall be 15 percent, depending upon the street classification.

3. Width. The pavement and right-of-way width depend upon street classification. Table I, Street Design Standards, shows the minimum widths allowed in subsection (D) of this section.

4. Sight Obstruction. The design and construction of all streets shall provide the sight distances indicated in this article.

5. Parking and fire lanes shall be provided in accordance with the requirements of zoning and fire codes.

6. Bus stops, pullouts, and other bus transit amenities shall be in accordance with the requirements of Pierce Transit and/or the school district.

C. Nothing in this chapter shall prevent the City from making interim transportation improvements to existing facilities. The City may make interim transportation improvements that may not fully conform to the standards set forth in this chapter. Such improvements are necessary in order to protect and improve the public health, safety and welfare.

D. Specific street design standards are provided in Table I, below.

Table I. Street Design Standards

Design Standard	Major Arterial	Secondary Arterial	Collector Arterial	Neighborhood Collector	Local Feeder Street	Neighb hood Stree
Right-of-Way Width	85'-89'	63'-67'	60'-67'	60'	60'	53'
[1]Parking Lanes	[2]None	[2]None	[2]None	[2]None	Both sides: 7' wide parallel	One side parallel
Grade (min./max.)	0.7%/8%	0.7%/8%	0.7%/15%	0.7%/15%	0.7%/15%	0.7%/15%
Cement Concrete Curb and Gutter	Both sides	Both sides	Both sides	Both sides	Both sides	Both side

Design Standard	Major Arterial	Secondary Arterial	Collector Arterial	Neighborhood Collector	Local Feeder Street	Neighb hood Street
Sidewalks	[3]Both sides: 6'	[3]Both sides: 6'	[3]Both sides: 6'	Both sides: 6'	Both sides: 5'	Both side 5'
Planter Strip Width (including curb)	Both sides: 4'-5.5'	Both sides: 4'-5.5'	Both sides: 5.5'	Both sides: 5.5'-8'	Both sides: 5.5'-8'	Both side 5.5'-8'
Bike Facilities/Shoulders	Both sides: 5'	Both sides: 5'	Both sides: 5'	[5]On-street, striped: 5' to 6'	[5]On-street, shared use	On-stree shared u
Intersection Curb Radius (inside)	35'	35'	30'	[6]10'-20'	[6]10'-20'	20'
Centerline Radius[7] (minimum)	600'	600'	150'	150'	150'	As approvec
Raised Landscape Median	8'-12'	8'-12'	[8]8'-12'	None	None	None
Through Travel Lanes	Variable	Variable	2	2	2	2
Travel Lane Width	11'	11'	11'	11'	10'	10'

1. Parking bays are required when parking is provided on one side of a street and may be required when parking is provided on both sides of a street.

2. Parking lanes on arterials may be allowed with approval from the Director. Parking bays may be required on arterial streets.

3. Sidewalks in commercial areas shall be 10 feet wide when required by the Director.

4. Not required for two or less dwelling units.

5. A paved shoulder/bike lane shall be required if the neighborhood collector or local feeder street has been designated as a bike route.

6. A typical minimum curb return radius of 10 to 15 feet should be used where:

- high pedestrian volumes are present or reasonably anticipated;
- volumes of turning vehicles are low;
- the width of the receiving intersection approach can accommodate a turning passenger vehicle without encroachment into the opposing lane;
- passenger vehicles constitute the majority of turning vehicles; bicycle and parking lanes create additional space to accommodate the effective turning radius of vehicles;

- low turning speeds are required or desired; and
- occasional encroachment of a turning school bus, moving van, fire truck or oversized delivery truck into an opposing lane is acceptable.

Curb radii will need to be larger than 15 feet where:

- occasional encroachment of a turning school bus, moving van, fire truck or oversized delivery truck into an opposing lane is not acceptable;
- curb extensions are proposed or might be added in the future; and
- receiving street does not have parking or bicycle lanes and the receiving lane is less than 12 feet in width.

In such cases where a minimum curb return radius larger than 15 feet is proposed, it should be demonstrated that pedestrian safety will not be compromised beyond that which is necessary to accommodate other transportation facility requirements.

7. This radius may be reduced with superelevation in conformance with AASHTO if approved by the Director. Maximum equals six percent.

8. May be reduced or eliminated if approved by the Director.

9. Pavement width and tract width shall increase eight feet for each parking lane desired.

10. Alley right-of-way, tract or width may vary depending on type of development being served and be reduced to the minimum dimension shown; provided, that at least 24 feet of separation will be maintained between garages with garage doors facing each other from opposite sides of the alley.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.215 Functional classification.

A. General.

1. Functional Classification Elements. Streets are most effectively classified by their function, according to the character of the service they are intended to provide. The functional classification system creates a hierarchy of classified streets. The classification system can be used for planning new routes, improvements to existing streets, and planning for area development in concert with the transportation network and providing minimum design standards or criteria to encourage the use of the street as intended.

2. City definitions for each functional classification are presented below. The City functional classification system directly addresses all streets that are under the jurisdiction of the City. City streets are divided into major (or principal) arterials, secondary arterials, collector arterials, neighborhood collector arterials, and local access streets in accordance with regional transportation needs and the functional use each serves. Function is the controlling element for classification and shall govern rights-of-way, road width, and road geometrics. The function classification definitions in subsection (B) of this section are provided to assist the applicant in determining the classification of a particular street. New streets will be classified by the Director.

If a street or portion of a street is not listed, the applicant is responsible for making inquiries to the Director to determine the correct street classification.

B. Function Classification Definitions.

1. Major Arterials.

a. Major arterials provide service for major traffic movements within the City. They serve major centers of activity, intra-area travel between University Place and other suburban centers, between larger communities, and between major trip generators. Major arterials serve the longest trips and carry the major portion of trips entering and leaving the overall area. Typically they are one of the highest traffic volume corridors in the City. The design year ADT is approximately 5,000 to 30,000 vehicles per day or more. They frequently carry important intra-urban and inter-city bus routes.

b. The spacing of major arterials usually varies from about one mile in highly developed business areas to five miles or more in rural areas. Service to abutting land is subordinate to the provision of routes for major traffic movements. It is desirable to place arterials on community and neighborhood boundaries or adjacent to, but not through, major shopping centers, parks, and other homogeneous areas.

2. Secondary Arterials.

a. Secondary arterials interconnect with and augment the major arterial system. Secondary arterials connect major arterials to collector arterials and small generators. They provide service to medium-size trip generators, such as less intensive commercial development, high schools and some junior high/grade schools, warehousing areas, active parks and ball fields, and other land uses with similar trip generation potential. They distribute travel to smaller geographic areas and communities than those identified with the major arterial system. They provide routes for trips of moderate length and somewhat lower level of travel mobility than major arterials. The design year ADT is approximately 2,500 to 15,000.

b. Spacing of secondary arterials is usually less than one mile in fully developed areas. They provide intra-community continuity and are typically a continuous street with a direct rather than a meandering alignment. They may carry local bus routes. Secondary arterials allow for more emphasis on land access than the major arterial system. They usually do not penetrate identifiable neighborhoods.

3. Collector Arterials. Collector arterials distribute trips from major and secondary arterials to the ultimate destination, or may collect traffic from local streets and channel it into the major and secondary arterial systems. They carry a low proportion of traffic traveling through the entire subarea; they carry a high proportion of local traffic with an origin or destination within that area. Design year ADT is approximately 2,500 to 15,000. They may be on a somewhat meandering alignment and need not be particularly long or continuous. Spacing is typically about one-quarter mile in developed areas. Collector arterials provide both land access service and traffic circulation within residential neighborhoods, commercial, and industrial areas. They may penetrate identifiable residential neighborhoods.

4. Neighborhood Collector Arterials.

a. Neighborhood collector arterials distribute traffic between more principal traffic routes and local service streets within neighborhoods. All of them serve as fire response routes, some may be transit streets, and some may be designated as bike routes. Because neighborhood collector arterials serve multiple purposes, their use must strike a balance between efficiently moving traffic and preserving neighborhood livability.

b. Neighborhood collector arterials are found only in residential neighborhoods and provide a high degree of access to individual properties. This classification is not applied to streets in commercial and industrial areas. Both right-of-way and paving widths are typically narrower than on other arterials. Left-turn lanes are only infrequently used on neighborhood collector arterials, and then only at intersections having higher volumes. A great deal of flexibility exists for on-street parking on this street type. On most neighborhood collectors, bicycles share the travel lane with other motor vehicles, eliminating the need for striped bicycle lanes. Exceptions to this can occur in situations where traffic volumes or speeds, roadway geometry, or other factors suggest that striped lanes will provide a safer design. Design year ADT is approximately 800 to 3,000.

5. Local Street System.

a. The local street system provides circulation and access for residential neighborhoods away from the arterial system. The local street system consists of local feeder streets, neighborhood streets, access lanes, private streets, and alleys. Local streets should be designed for a relatively uniform, low volume of traffic upon full development. The system should be designed to discourage excessive vehicle speeds, maximize pedestrian connectivity and safety, and minimize the necessity for traffic control devices.

b. For developments or neighborhoods of moderate size or larger, the streets serving as primary access to and from the bordering arterial system should be considered for collector arterial classification. Traffic generators, such as schools or churches, within residential areas should be considered within the local circulation pattern, not only from within the subdivision, but from adjacent neighborhoods as well. There should be a limited number of access points with the arterial streets that border the subdivision.

c. Local feeder streets serve as primary access to the development from the adjacent street system. They distribute traffic from local streets in residential neighborhoods and channel it to the arterial system. There are usually no bus routes, with the possible exception of school bus routes. They directly serve any major traffic generators within the neighborhood, such as an elementary school or a church. They usually serve one moderate-size neighborhood or a combination of a few small developments, rather than interconnecting two or more larger neighborhoods. They serve little, if any, through traffic generated outside the neighborhood. Typical ADT may reach up to 1,500.

d. Neighborhood streets provide direct access from abutting land to the local street system. There are usually no bus routes on neighborhood streets. They are typically internal subdivision streets providing circulation within the subdivision or between subdivisions.

Service to through traffic is deliberately discouraged. Cul-de-sacs are prohibited on neighborhood streets in small lot developments and discouraged in other locations. Such cul-de-sacs must include a central green court consistent with the city's low impact development goals and objectives.Typical ADT may reach up to 1,000.

e. Access lanes are designed to accommodate traffic between clusters of dwelling units, most commonly within small lot developments. They are the smallest street sections that serve emergency vehicles. Access lanes with a hammerhead, central green court or auto courtyard are allowed in lieu of cul-de-sacs, which are prohibited.

f. Private streets are streets privately owned and maintained by the owners of the parcels accessing the street.

g. Alleys are public or private streets providing access to the rear boundary of two or more residential properties that front a public street or a common open space area that fronts a public street. Alleys are not intended for general traffic circulation.

C. Functional classifications for arterial streets are provided in Table II, below.

Table II. Street Classifications

Street Name	From	To
Major Arterials		
27 St. W.	Regents Blvd. W.	Bridgeport Way W.
Bridgeport Way W.	200' S. of 19 St. W.	South City Limits
Cirque Dr. W.	Orchard St. W.	Bridgeport Way W.
Lakewood Dr. W.	Hannah-Pierce/Orchard	66 St. W.
Regents Blvd. W.	67 Ave. W.	27 St. W.
Secondary Arterials		
27 St. W.	Bridgeport Way W.	Grandview Dr. W.
40 St. W.	67 Ave. W.	Olympic Blvd. W.
64 St. W.	Chambers Creek Rd. W.	Grandview Dr. W.
67 Ave. W.	19 St. W.	Bridgeport Way W.
Chambers Creek Rd. W.	Steilacoom City Limits	Bridgeport Way W.
Chambers Ln. W.	Bridgeport Way W.	Chambers Creek. Rd. W.
Cirque Dr. W.	Bridgeport Way W.	Grandview Dr. W.
Mildred St. W.	19 St. W.	Regents Blvd. W.
Olympic Blvd. W.	40 St. W.	Grandview Dr. W.

Collector Arterials		
35 St. W.	67 Ave. W.	Grandview Dr. W.
Alameda Ave. W.	67 Ave. W.	40 St. W.
Grandview Dr. W.	19 St. W.	64 St. W.
Sunset Dr. W.	19 St. W.	Cirque Dr. W.
Neighborhood Collector Arterials		
27 St. W.	Grandview Dr. W.	E. Day Island Blvd. W.
31 St. W.	Vista Pl. W.	Lemons Beach Rd. W.
44 St. W.	67 Ave. W.	Elwood Dr. W.
54 St. W.	Bridgeport Way W.	79 Ave. W.
Beckonridge Dr. W.	Grandview Dr. W.	Cirque Dr. W.
Elwood Dr. W.	40 St. W.	Cirque Dr. W.
Elwood Dr. W.	27 St. W.	Parkway W.
Lemons Beach Rd. W.	27 St. W.	31 St. W.
79 Ave. W.	54 St. W.	Cirque Dr. W.
Parkway W.	Vista Pl. W.	Elwood Dr. W.
70 Ave. W.	19 St. W.	27 St. W.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.220 Right-of-way.

Right-of-way width is determined by the functional classification of a street. See Table I, Street Design Standards, in UPMC 13.20.210 for specific information. Additional roadside easements may be required to facilitate roadway maintenance. Easements shall be on a form approved by the City and meet the provisions of UPMC 13.10.030. Right-of-way width requirements shall be increased to accommodate any additional lanes, pockets, bus loading zones, paved shoulders/bike lanes, utilities, street trees or other features or facilities required by the City. Right-of-way shall be conveyed to the City on a recorded plat or by a right-of-way dedication deed. All costs shall be borne by the applicant.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.225 Private streets.

A. The following are the standards for new private streets. Existing private streets that are not in conformance with any of the following are considered substandard streets.

1. Construction and inspection standards for public streets apply to private streets.

2. The design shall conform to Table I, Street Design Standards, in UPMC 13.20.210.

3. Private streets shall be permanently established by commonly owned tract or easement.

4. No more than four dwelling units or businesses may access a private street unless the following conditions apply: (a) the businesses are situated on one parcel under single ownership; or (b) the dwelling units are part of a multifamily development on one parcel under single ownership. The dwelling units and/or businesses may be owned by persons or entities other than the owner of the underlying property.

5. Private streets shall be accessible at all times for emergency vehicle use.

6. Prior to permit issuance, the applicant shall be required to record a private street maintenance agreement and restrictive covenant with the Pierce County Auditor, on a form provided by the City for this purpose.

7. All street signs for private streets shall include the text "Private Street." This text shall be at least one-half the height of the street name text.

8. The private street shall be signed "No Parking" when parking lanes are not provided.

9. Maintenance and operation of all private streets are the responsibility of the individual property owners.

B. Alleys shall conform to the criteria for private streets in addition to the criteria below.

1. Alleys are allowed only when lots served have frontage on a public street or a common open space area that fronts a public street and are provided direct pedestrian and emergency vehicle access from the public street.

2. Alleys may provide access to an unlimited number of units; provided, that the alley has a maximum length of 400 feet and no dead end if serving more than four lots. When a dead-end alley is used, it should be less than 150 feet in length.

3. Minimum alley tract or easement shall have a width of 20 feet with a pavement surface of 16 feet, provided any structure is set back four feet or more from property line or edge of tract or easement. For small lot and other innovative housing developments that may require a structure setback from alleys of less than four feet, the required alley width may be increased a corresponding amount to provide for safe turning access to properties.

4. Alley entry shall be provided with a driveway approach.

C. Acceptance as Public Streets. The City will consider acceptance of private streets as public streets only if the street(s) meet all applicable public street standards, including right-of-way widths.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 531 § 1 (Exh. A), 2008; Ord. 518 § 1, 2008; Ord. 489 § 1, 2007; Ord. 395 § 3, 2003).

13.20.230 Dead-end streets.

A. Dead-end streets shall be permitted only if the Director determines there is no feasible connection with adjacent streets. All dead-end streets must incorporate a turn-around facility at the closed end.

The turn-around shall conform to the cul-de-sac, hammerhead or auto courtyard standards identified below.

B. Cul-de-Sac. Streets designed to have one end permanently closed shall be no longer than 600 feet measured from centerline of street intersection to the center of the bulb section. Proposed exceptions to this rule will be considered by the Director based on pertinent traffic planning factors such as topography, sensitive areas and existing development. At the closed end, there shall be a widened "bulb" having a minimum paved traveled radius in accordance with the details in the University Place Standard Notes and Details. Within the area of the public easement or dedication, applicant shall install five-foot-wide concrete sidewalk(s) from the end of the cul-de-sac to the nearest public road in accordance with the details in the University Place Standard Notes and Details. Cul-de-sacs must include a central green court consistent with the city's low impact development goals and objectives.

C. Hammerhead Turnaround. Hammerheads are permitted on access lanes, or on private streets that serve four or fewer lots, in accordance with the requirements of the City Fire Code Official. See standard hammerhead detail in the University Place Standard Notes and Details.

D. Central green courts or auto courtyards are permitted on access lanes in lieu of hammerheads, or in lieu of prohibited cul-de-sacs, in accordance with the requirements of the City Fire Code Official.

(Ord. 662 § 1 (Exh. A), 2015; Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.235 Medians.

Raised, landscaped medians shall be provided along all arterial streets except for neighborhood arterial streets. The Director may eliminate the requirement for a median on collector arterial streets based on the size of the street and safety considerations. Medians will include pedestrian landing/refuge areas to make it safer for pedestrians to cross, where appropriate. Medians shall be designed so as not to limit turning radius or sight distance at intersections. The median shall be landscaped in accordance with Article VIII of this chapter.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.240 Intersections.

A. Traffic control will be as specified in the Manual on Uniform Traffic Control Devices (MUTCD) or as modified by the Director as a result of appropriate traffic engineering studies.

B. Street intersection shall be laid out so as to intersect as nearly as possible at right angles. For reasons of traffic safety, a "T" intersection (three leg) is preferable to the crossroad (four leg) intersection for local access streets. For safe design, the following types of intersection features should be avoided:

1. Intersections with more than four legs;

2. "Y" type intersections where streets meet at acute angles;

3. Intersections adjacent to bridges and other sight obstructions;

4. "Y" intersections greater than 15 degrees off perpendicular are prohibited.

C. Spacing between adjacent intersecting streets, whether crossing or "T," should be as follows:

When highest classification involved is:	Minimum/maximum centerline offset should be:
Major Arterial	350 feet/600 feet
Secondary Arterial	300 feet/600 feet
Collector Arterial	200 feet/600 feet
Local Feeder Street	150 feet/600 feet
Local Minor Street	150 feet/600 feet

Blocks shall not be longer than 600 feet.
When different class streets intersect, the higher standard shall apply on curb radii.

On sloping approaches at an intersection, landings shall be provided with the grade not to exceed one foot difference in elevation for a distance of 30 feet approaching any arterial or for a distance of 20 feet approaching a collector or local access street. The distance is measured from nearest right-of-way line (extended) of intersecting street.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.245 Driveways.

A. General.

1. Driveways and driveway approaches shall be constructed in accordance with the University Place Standard Notes and Details.

2. All abandoned driveway approaches on the same frontage shall be removed and the curbing and sidewalk or shoulder and ditch section shall be properly restored.

3. All driveway approaches at locations with curb and gutter shall be constructed of Portland cement concrete and shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.

4. All driveway approaches at locations without curb, gutter or sidewalk may be constructed with either Portland cement concrete, asphalt concrete, or pervious pavement. Approach grade at these locations shall not exceed two percent within the right-of-way in order to accommodate future sidewalk construction.

5. Shared driveways are permitted upon formal written agreement by both property owners and approval of the Director. The agreement shall be a recorded easement for both parcels of land specifying joint usage. Shared driveways shall be a minimum of 15 feet wide and paved along that portion which serves both parcels. Shared driveway width may be reduced within small lot and innovative housing developments to achieve design goals and reduce impervious surface consistent with the City's low impact development goals and objectives.

6. Grade Breaks. The maximum change in driveway grade shall be eight percent within any 10 feet of distance on a crest and 12 percent within any 10 feet of distance in a sag vertical curve. These grades may be exceeded with proper use of smooth vertical curbs in accordance with AASHTO guidelines.

7. No commercial driveway shall be allowed where backing onto a sidewalk or street will occur.

8. Driveway locations shall be unified whenever possible to create the fewest number of accesses onto a street.

9. Driveways that serve only one lot shall be located a minimum of seven and one-half feet from the property line where the driveway enters the right-of-way.

B. Arterial Streets.

1. No driveway may access an arterial street within 75 feet (measured along the arterial) of any other driveway access on either side of the street unless aligned directly opposite another driveway. This distance may be reduced to 35 feet for neighborhood collector arterial streets, provided adequate sight distance is provided.

2. No driveway may access an arterial street within 150 feet of the nearest right-of-way line of an intersecting street. This distance may be reduced to 75 feet along neighborhood collector arterial streets, provided adequate sight distance is provided.

3. Access to arterial streets may be limited to one driveway for each tract of property separately owned. Properties contiguous to each other and owned by the same person are considered to be one tract.

4. Driveways giving direct access onto arterials may be denied if alternate access is available.

5. Wherever a potential access exists to any property from both a public road and a private easement, the City may refuse access to the public road.

6. The Director and Pierce Transit will determine the minimum separation that will be allowed between an existing bus stop and a proposed driveway based on sight obstruction and vehicular and pedestrian traffic.

7. Residential driveways accessing arterial streets shall provide a turn-around for residential vehicles so these vehicles will not have to back out into the arterial. This may be waived along neighborhood collector arterial streets, provided adequate sight distance is provided.

C. Local Streets.

1. Residential driveways shall be constructed a minimum of 35 feet from a side street or intersection. The distance is measured from the street right-of-way line to the nearest edge of the driveway.

2. Wherever a potential access exists to any property from both a public road and a private easement, the City may refuse access to the public road.

D. Width.

1. The maximum driveway width for two-way access onto an arterial or collector shall be 24 feet for residential, 30 feet for commercial uses, and 35 feet for industrial uses. Maximum driveway widths for one-way access onto an arterial or collector shall be 20 feet for residential, 20 feet for commercial, and 25 feet for industrial uses. A road approach or wider driveway width may be approved by the Director where a substantial percentage of over-sized vehicle traffic exists, where divisional islands are desired, or where multiple exit or entrance lanes are needed.

2. The maximum two-way driveway width onto a local access street shall be 24 feet for residential uses and 26 feet for commercial uses.

3. The maximum one-way driveway width shall be 15 feet for residential and 22 feet for commercial driveways.

4. The minimum residential driveway width shall be 10 feet.

5. The Director may require intersection geometry in lieu of a driveway approach and/or ingress and egress tapers in industrial and commercially zoned areas.

6. Commercial drive aisles shall conform to UPMC Title 19.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.250 Sight obstruction.

A. The following sight clearance requirements take into account the proportional relationship between speed and stopping distance. Table III presents the minimum stopping and entering sight distance requirements.

B. A clear-view triangle is the area formed at all intersections by extending two lines of specified length from the center of the intersecting streets or driveways, along the centerlines of both accesses and connecting those endpoints to form the hypotenuse of the triangle. See sight distance triangle detail in the University Place Standard Notes and Details.

C. The vertical clearance area within the clear-view triangle shall be free from obstructions to a motor vehicle operator's view between a height of three feet and 10 feet above the existing surface of the street.

D. Sight obstructions that may be excluded from these requirements include utility poles, regulatory signs, and trees trimmed from the base to a height of 10 feet above the street.

Table III. Sight Distance

1

Design Speed	Stopping Sight Distance[2]	Entering Sight Distance[3]

		Uncontrolled[4]	Yield Controlled[5]	Stop Controlled[5,6]
25 mph	155 ft	115 ft	295 ft	280 ft
30 mph	200 ft	140 ft	355 ft	335 ft
35 mph	250 ft	165 ft	415 ft	390 ft
40 mph	305 ft	195 ft	475 ft	445 ft
45 mph	360 ft	220 ft	530 ft	500 ft

1 Refer to AASHTO for any situation not addressed in this table.

2 Is based on an eye height of 3.5 feet, an object height of 2.0 feet, level terrain and wet pavement.

3 Applies to intersection and driveway approaches with approach grades of three percent or less.

4 This distance corresponds to the legs of the sight distance triangle along both streets.

5 This distance accommodates a passenger car making a left turn maneuver and is based on an entering vehicle eye height of 3.5 feet, measured 14.5 feet back from edge of traveled way, and an approaching vehicle height of 4.25 feet.

6 For intersections where there is stop control for the minor approaches only. The distance is measured along the uncontrolled approach.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.255 Surfacing requirements.

A. All streets will be paved with either asphalt concrete or Portland cement concrete unless the Director authorizes the use of pervious pavement to achieve the City's low impact development goals and objectives.

B. The pavement design shall meet the requirements in the latest publication of the AASHTO Guide for Design of Pavement Structures. The pavement section shall be designed and stamped by an engineer currently licensed to practice in the state of Washington.

C. Construction of streets paved with asphalt concrete shall conform to Section 5-04 of the Standard Specifications. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the Standard Specifications.

D. Asphalt concrete shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the Standard Specifications, except that longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum of 12 inches unless otherwise approved by the Director. Pavement material will be HMA Class one-half-inch asphalt concrete and be constructed at least two inches thick (minimum compacted thickness) over the prepared crushed surfacing top course, or asphalt-treated base. Asphalt concrete over two inches thick shall be placed in equal lifts not to exceed two inches each.

E. Portland cement concrete streets will be constructed as specified in Section 5-05 of the Standard Specifications.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.260 Excavation and backfill.

The following requirements shall apply to any excavation and backfill within any public right-of-way, easement, or private street.

A. No pavement cuts shall be made on any street or driveway constructed of asphalt cement concrete or Portland cement concrete or City-approved pervious pavement, unless approval has been granted by the Director. Pavement cuts shall be made by sawcuts. Pavement cuts for road maintenance activities and small utility windows may be made by alternate methods if approved by the Director.

B. Trenching operations shall not proceed more than 100 feet in advance of pipe laying. Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100 feet of trench is left exposed at any time.

C. Excavation operations shall be in conformance with the Washington Industrial Safety and Health Administration (WISHA) and the Office of Safety and Health Administration (OSHA) Safety Standards.

D. Trenches shall be restored and open to traffic during nonworking hours.

E. Pipe cover, measured from the finished grade elevation to the top of the outside surface of the pipe, shall be three feet minimum unless approved by the Director.

F. Gravel backfill for pipe bedding shall be installed in conformance with Section 2-09 of the Standard Specifications (WSDOT). Native material shall not be used for bedding, unless approved by the Director.

G. Bedding and backfill material shall be placed and compacted around and under the utility pipe by hand tools. Special precautions shall be provided to protect the pipe to a point 12 inches above the crown of the pipe.

H. All excavations shall be backfilled with crushed surfacing top course (five-eighths-inch minus), controlled density fill, or gravel backfill in conformance to Section 9-03.12(3) of the Standard Specifications. All backfill material shall be placed and compacted in maximum six-inch lifts to 95 percent of standard density except controlled density fill, which has no compaction requirement. Native material shall not be used for backfill unless approved by the Director. Utility windows (potholes) shall be backfilled with either crushed surfacing top course (five-eighths-inch minus) or controlled density fill.

I. All excess material shall be hauled off site. It is the applicant's responsibility to dispose of this material at a proper facility.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.265 Street patching and restoration.

A. Temporary restoration of trenches shall be accomplished by using HMA Class one-half-inch asphalt concrete pavement, medium-curing (MC-250) liquid asphalt (cold mix), or asphalt treated base (ATB). After compacting, the trench must be filled flush with the existing pavement surface to provide a smooth riding surface. Steel plates may be used as temporary restoration if approved by the Director.

B. All temporary patches shall be maintained by the applicant until such time as the permanent pavement patch is in place.

C. If the applicant fails to maintain a patch, the City may repair the patch and charge the applicant any costs incurred.

D. The depth of asphalt pavement restoration shall be a minimum of three inches (compacted thickness) asphalt concrete HMA Class one-half-inch. When existing asphalt thickness is found to be greater than two inches, asphalt pavement restoration shall be a minimum of four inches (compacted thickness), placed in maximum two-inch lifts.

E. The depth of Portland cement concrete pavement restoration shall be a minimum of six inches or the existing pavement thickness, whichever is greater.

F. The pavement restoration shall extend a minimum of 24 inches (each side) from the outer limits of the disturbed soil. At no time will a longitudinal patch edge fall on the wheel path of a traveled way. All longitudinal patch edges shall fall on either the edge of pavement or the center or edge of a travel lane. All transverse patch edges shall be perpendicular to the roadway.

G. The applicant must restore any damage resulting from his activity. The City may impose additional restoration requirements in order to mitigate any damages.

H. Tack shall be applied to the existing asphalt pavement edge of cut and shall be emulsified asphalt grade CSS-1 as specified in Section 9-02.1(4)A of the Standard Specifications. Tack coat shall be applied as specified in Section 5-04 of the Standard Specifications.

I. All street surfaces, walks or driveways within the excavation areas affected by the pavement cuts shall provide a smooth riding connection and drainage flow for the newly paved surface.

J. The surface smoothness requirements of Section 5-04.3(13) of the Standards Specifications shall apply to the transition between the new and existing pavement. Any restoration failing to conform to the surface smoothness requirements shall be corrected by removal and replacement.

K. All joints shall be sealed using liquid asphalt in accordance with WSDOT Standard Specifications.

L. When excavating within the roadway shoulder(s), the shoulder shall be restored to its original or better condition. Gravel shoulders shall at a minimum be restored with two inches of crushed surfacing compacted to 95 percent maximum density.

M. The final patch shall be completed within 30 days after first opening the trench. Additional time may be granted by the Director in the event of inclement paving weather or other adverse conditions.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article III. Emergency Vehicle Access

13.20.310 General.

Emergency vehicle access (EV access) shall be provided from a public or private street to a parcel(s) of land that has a facility on it. EV access shall be required for every facility hereafter constructed, altered or installed and shall extend to within 150 feet to any portion of the facility as measured by an approved route around the exterior. Emergency vehicle access shall be provided and maintained in accordance with this article. The provisions of this article shall be enforced in conformance with UPMC Title 14.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.320 Modifications.

A. When buildings are protected with an approved automatic fire sprinkler system, the provisions of this article may be modified.

B. When a site is constrained due to topography, waterways, nonnegotiable grades, or other similar conditions, the Director, after conferring with the Fire Code Official, may modify the requirements of this article to provide an equivalent means of fire protection and EV access.

(Ord. 662 § 1 (Exh. A), 2015; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.330 Exceptions.

The provisions of this section do not apply to the following:

A. All common residential accessory buildings similar to Group U occupancies (private garages, carports, sheds, some agricultural buildings, tanks, towers and fences over six feet tall) as defined by the most current edition of the building code as adopted by the City;

B. A remodel, or alteration of existing uses or structures if the proposed change is not classified as a "major improvement."

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.340 Additional access.

More than one EV access may be required when the access is impaired by vehicle congestion, adverse terrain or climatic conditions, or other factors that could limit access.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.350 EV access specifications.

A. Width. EV access serving one or two dwelling units shall be 15 feet or more. EV access for all other projects shall be not less than 20 feet with no parking allowed, 27 feet with parking on one side, and 34 feet with parking on both sides.

B. Vertical Clearance. EV access shall have an unobstructed vertical clearance of not less than 13 feet six inches.

C. Surface. EV access shall be paved and shall be designed and maintained to support the imposed loads of fire apparatus. Alternate all-weather surfacing may be considered. Individual single-family or duplex EV access surface treatment may be compacted crushed rock surfacing.

D. Turning Radius. A minimum outside turning radius of 45 feet and a minimum 20-foot inside turning radius shall be provided for all EV access.

E. Turnarounds. A dead-end EV access in excess of 150 feet in length shall be provided with a turnaround conforming to the cul-de-sac, hammerhead or central green court/auto courtyard requirements set forth in Article II of this chapter.

F. Grade. The maximum street grade (profile) of an EV access shall be 15 percent. All sections of EV access with grades of over 12 percent shall be paved with a minimum of two inches, compacted depth, of asphalt concrete, or equivalent.

G. Bridges and Elevated Structures. All bridges and elevated structures, including drainage structures, on an EV access shall be constructed in accordance with AASHTO Standards Specified for Highway Bridges. Bridges and elevated structures shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.

H. Gates. If not otherwise prohibited, a gate may be installed in compliance with the following provisions:

1. Locked gates shall have rapid entry capabilities compatible with the local fire district requirements.

2. Electric gates will have an Opticom activation system and Knox key switch.

3. All electrically activated gates will have default capabilities to the unlocked position and swing or move freely in the event of power loss.

4. The minimum EV access width of a gate shall be 12 feet for one-way access and 20 feet for two-way access.

5. Gates shall be constructed in a manner that does not permit obstruction from the accumulation of snow.

6. Gates shall be set back a minimum 35 feet from the edge of the right-of-way. The Director may reduce this setback for single-family and duplex dwellings when site-specific circumstances warrant a reduction. A turnaround immediately outside the gate may be required if determined necessary by the Director.

I. Obstruction. The required width of an EV access shall not be obstructed in any manner, including parked vehicles. Minimum required widths and clearances established under these standards shall be maintained at all times.

J. Signs. When required by the Director, approved signs or other approved notices shall be provided and maintained for EV access to identify such streets and prohibit the obstruction thereof, or both. "No Parking – Fire Lane" signs shall be installed in conformance with the MUTCD and the fire code as adopted in UPMC Title 14.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.360 EV access approval.

EV accesses shall be constructed and approved prior to issuance of the building permit for which access is required.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article IV. Sidewalks, Curbs and Gutters

13.20.405 General.

Sidewalks, curbs, and gutters shall be constructed in conformance with this article.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.410 Purpose.

A. To provide a safe walking area for pedestrians.

B. To mitigate the impacts of development-generated traffic on existing pedestrian traffic.

C. To provide a vertical separation between the vehicular traveled way and the pedestrians and roadside features.

D. To provide for the conveyance of roadway storm water.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.415 Sidewalks.

Sidewalks shall be constructed of Portland cement concrete conforming to the Standard Specifications and be a minimum of four inches thick except in driveway approaches where the minimum thickness shall be six inches. When the sidewalk, curb and gutter are contiguous, the width of the sidewalk shall be measured from back of curb to back of sidewalk.

A. Arterial Streets. Sidewalks, curbs and gutters are required on both sides of all arterial streets interior to the development. Sidewalks, curbs and gutters are also required on the side of streets abutting the exterior of the development. Arterial streets for purposes of this subsection shall include major arterials, secondary arterials, collector arterials, and neighborhood collector arterials.

B. Local Access Streets. Sidewalks are required on both sides of local access streets which are interior to the development and on the side of local feeder and neighborhood streets abutting the exterior of the development including cul-de-sacs.

C. The design and construction of all sidewalks, curbs, and gutters shall conform to the street design standards at Article II of this chapter, Table I in UPMC 13.20.210 and the University Place Standard Notes and Details. The design of all sidewalks shall provide for a gradual rather than an abrupt transition between sidewalks of different widths or alignments.

D. Form and subgrade inspections by the City are required before sidewalk is poured. The applicant shall request the inspection a minimum of 24 hours in advance.

E. Monolithic pour of curb, gutter and sidewalk will not be allowed.

F. Driveways shall be constructed in conformance with Article II of this chapter.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.420 Pedestrian guardrails.

Pedestrian guardrails are required where the walking surface is 30 inches or more above an adjacent grade. The top of guardrails shall be not less than 42 inches in height above the walking surface. Open guardrails shall have balusters or an ornamental pattern such that a four-inch sphere cannot pass through, and shall be constructed so as to not create a readily climbable ladder effect. Top rails shall be designed to resist a force of 50 pounds per lineal foot applied horizontally at a right angle to the rail. Intermediate rails, fillers and connections shall be capable of resisting a force of 25 pounds per square foot applied horizontally at a right angle over the entire tributary area. Reactions due to loading of top rail and intermediate loads need not be combined.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.425 Joint-use facilities.

Joint pedestrian and bicycle facilities shall be a minimum 10-foot-wide travel way with necessary drainage and illumination. The joint bicycle/pedestrian facility shall be concrete.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.430 Accessibility.

All sidewalks must be constructed to provide for accessibility in accordance with the Americans with Disabilities Act (ADA) requirements and WSDOT Standard Specifications.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.435 Curb and gutter.

Cement concrete curb and gutter shall be used for all street edges unless otherwise approved by the Director.

A. All curbs and gutters shall be constructed of Portland cement concrete in conformance with Section 8-04 of the Standard Specifications.

B. Form and subgrade inspections are required before curb and gutter are poured. The applicant shall request the inspection 24 hours in advance.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.440 Bus pads.

Bus stop pads shall be installed in conformance with Pierce Transit specifications.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.445 Pedestrian protection during construction.

Pedestrian protection during construction shall be provided in accordance with the International Building Code adopted by reference in Chapter 14.05 UPMC.

(Ord. 679 § 1 (Exh. A), 2016).

Article V. Paved Shoulders/Bicycle Lanes

13.20.510 General.

Paved shoulders/bicycle lanes are required along all major, secondary, collector and neighborhood collector arterial streets and any designated bicycle route on streets otherwise classified and shall be constructed in accordance with this chapter.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.520 Purpose.

A. To enhance the safety of pedestrians by providing a horizontal buffer from vehicular traffic.

B. To enhance the safety of all modes of travel by providing for the discharge of storm water away from the vehicular traveled way thereby reducing side splash, spray to following traffic, and hydroplaning.

C. To enhance the safety of bicyclists by providing a travel path separate from motorists and pedestrians.

D. To increase the mobility and safety at driveways and intersections by providing increased sight distance and greater effective turning radii.

E. To increase the mobility of emergency vehicles by providing additional area for maneuvering around traffic.

F. To provide additional area for motorists to make evasive maneuvers.

G. To provide for the uniform development of the City arterial street system.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.530 Design standards.

The design and construction of paved shoulders/bicycle lanes must meet the following requirements:

A. Frontage improvements along arterial streets or designated bike routes must include paved shoulders/bicycle lanes as part of the improvements in order to accommodate the traffic generated by the development and to mitigate the effects of the traffic generated by the development on existing vehicular, pedestrian and bicycle traffic.

B. The pavement section for paved shoulders/bicycle lanes shall be designed to accommodate the traffic loading of the street. The construction standards of streets shall also apply to the paved shoulders/bicycle lanes.

C. Pavement markings for paved shoulders/bicycle lanes shall conform to the University Place Standard Notes and Details.

D. Paved shoulders/bicycle lanes shall be a minimum of five feet wide.

E. The Director may allow the construction of a joint pedestrian bicycle facility along major arterials in lieu of the construction of a paved shoulder/bicycle lane. This will be based on topographic constraints and traffic conditions. Joint use facilities shall be constructed in conformance with Article IV of this chapter.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VI. Illumination

13.20.610 General.

Any applicant required to construct or improve arterial streets shall install street lights in accordance with this article. Any applicant required to construct or improve local streets shall install street lights in accordance with the applicable lighting requirements set forth in the Design Standards and Guidelines for Streetscape Elements adopted by reference and Guidelines for Small Lot and Multifamily Development adopted by reference in Chapter 19.53 UPMC. Street lighting located on private properties shall be under a recorded maintenance agreement and maintained by the homeowners' association or property owner.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.620 Purpose.

To increase the safety to motor vehicles, pedestrians, and bicyclists along arterial and local streets.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.630 Design standards.

A street lighting plan submitted by the applicant and approved by the Director shall be required for all street light installations. All public street light designs shall be prepared by an engineer licensed to practice in the state of Washington.

A. Street Lights. Street lights shall meet the following requirements:

1. Streetside lighting shall consist of 16-foot-high, round tapered pole with decorative base and luminaire, in accordance with the University Place Standard Notes and Details.

2. Median lighting shall consist of 35-foot-high, round tapered pole with decorative base, luminaire, and decorative mast arms in accordance with the University Place Standard Notes and Details.

3. Poles shall be positioned to provide a minimum 24-inch clearance between the edge of the pole base and the vertical face of the curb.

B. Spacing. Spacing will be determined using the following criteria:

Average Maintained Horizontal Illumination (Foot-Candles)

Road Class		
Neighborhood Collector Arterial	0.6	
Collector Arterial	0.6	
Secondary Arterial	0.8	
Major Arterial	0.8	
Uniformity Ratio:	6:1	average: minimum for local
	4:1	average: minimum for collector
	3:1	average: minimum for secondary and major arterial

Dirt Factor = 0.85, lamp lumen depreciation factor – 0.073

Minimum Weak Point Light = 0.2 fc except residential local street

Average Illumination at Intersections = 1.5 times the illumination required on the more highly illuminated street

400 watt initial lamp lumens	=	50,000
200 watt initial lamp lumens	=	22,000
150 watt initial lamp lumens	=	16,000

100 watt initial lamp lumens	=	9,500

Line loss calculations shall show that no more than a five percent voltage drop occurs in any circuit. Lamp load factor shall equal 1.2.

All street light electrical installations including wiring conduit and power connections shall be located underground.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.640 Warranty and testing.

All street light systems shall be subject to an electrical inspection. Lamp, photocell and fixture shall be under warranty for a period of two years.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VII. Traffic Control Devices

13.20.710 Signing.

The applicant is responsible for furnishing and installing all required signage. All signage shall conform to the MUTCD. Street designation signs shall be approved by the Director prior to installation.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.720 Signals.

Signals shall be installed in accordance with this article. This work shall consist of furnishing and installing a complete and functional traffic control system of controllers, signals, 3M Opticom systems and appurtenances as required by the Director.

A. Design Standards.

1. Signal system shall be designed in accordance with the specifications as set forth in the WSDOT Design Manual and WSDOT/APWA Standard Specifications.

2. All signal designs shall be prepared by an engineer licensed by the State of Washington.

B. Induction Loops. Induction loops shall be constructed per Standard Specification 8-20.3(14)C and the following:

1. Loops shall not be cut into final lift of new asphalt.

2. Loops cut into existing asphalt shall be sealed with 3M 3000 sealant or current WSDOT Standard Specification.

C. Warranty and Testing.

1. All signals shall be subject to any necessary electrical inspections as well as requirements as set forth in the WSDOT Design Manual and the WSDOT/APWA Standard Specifications.

2. A signal system shall not be approved or accepted by the City until the signal has performed correctly to the City's satisfaction for a 30-day "check-out" period as outlined below.

3. Controller and cabinet testing may be required by WSDOT District 3 laboratory and/or the City. All specifications and materials samples shall be submitted to the City for review and approval prior to installation.

4. Signal equipment shall be under warranty for a period of two years.

D. Check-Out Procedure.

1. The contractor shall call for an intersection "check-out" after completing the controller cabinet installation along with all other signal equipment complete with wiring connections.

2. New signals shall operate without any type of failure for a period of 30 days. The contractor shall have a representative available to respond to system failure within one hour during the 30-day "check-out" period.

3. Failure of any control equipment or hardware within the "check-out" period shall restart the 30-day period.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.730 Roundabouts.

The Federal Highway Administration document Roundabouts: An Informational Guide shall be utilized in the design of roundabouts. Signage and pavement markings shall be in conformance with the MUTCD. Central islands shall be landscaped in accordance with Article VIII of this chapter.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article VIII. Roadside Features

13.20.810 General.

Roadside features shall be designed and placed in accordance with the requirements below and the University Place Standard Notes and Details.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.820 Survey monuments.

A. Survey monuments installed in major arterials, secondary arterials, bus routes and truck routes shall be precast concrete monuments with cast iron monument cases and covers installed per the University Place Standard Notes and Details.

B. Survey monuments installed in collector arterials, neighborhood collector arterials, local feeder streets and local minor streets shall be poured-in-place concrete surface monuments per the University Place Standard Notes and Details.

C. Monument Locations. Monuments shall be placed as follows:

1. At all street intersections;

2. At the points of curvature (PCs) and points of tangency (PTs) of all horizontal curves or at the point of intersection (PI) if it lies in the traveled roadway.

D. The monument case shall be installed after the final course of surfacing has been placed.

E. All existing survey control monuments which will be disturbed or destroyed during construction shall be referenced prior to construction and replaced after construction by a professional land surveyor licensed to practice in the State of Washington. The monuments shall be replaced with the proper type as outlined in subsection (A) or (B) of this section at the expense of the applicant.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.830 Bus stops, shelters, and amenities.

A. Bus stops, pullouts, shelters and other associated amenities are required improvements for new developments where determined necessary by Pierce Transit, the appropriate school district, or the Director and shall be constructed in accordance with the University Place Standard Notes and Details, the Design Standards and Guidelines for Streetscape Elements adopted by reference, or the specific requirements of these agencies.

B. Pierce Transit shelters shall be maintained by Pierce Transit. School bus stop shelters shall be maintained by the subdivision's homeowners' association or apartment owner, whichever is appropriate.

C. Concrete walkways shall be constructed linking subdivisions and developments to streets with bus stops. Developments enclosed by walls or fences shall provide openings or gates for walkways to provide direct access between developments and bus facilities.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.840 Mailboxes.

A. Mailboxes shall be installed in accordance with the requirements of the U.S. Postal Service.

B. During construction, existing mailboxes shall be accessible for the delivery of mail or, if necessary, moved to a temporary location. Temporary relocation shall be coordinated with the U.S. Postal Service. The mailboxes shall be reinstalled at the original location or, if construction has made it impossible, to a location as outlined below and approved by the U.S. Postal Service.

C. Mailboxes shall be positioned to provide a minimum clearance of 18 inches between the back of curb and front edge of the mailbox and a clearance equal to the width of the sidewalk between the

back edge of the mailbox and the back of the walk. See the University Place Standard Notes and Details.

D. Clustered mailboxes may be required for developments. Contact the U.S. Postal Service for details.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.850 Guardrails.

For purposes of design and location, all guardrails along roadways shall conform to the criteria of the current edition of the Washington State Department of Transportation Design Manual and the Standard Specifications.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.860 Walls.

Any wall constructed in a right-of-way over 30 inches high in a fill section, or subject to a surcharge must be designed by a geotechnical engineer. An engineered design may also be required if site specific conditions exist that would compromise the integrity of the wall. The geotechnical engineer shall continuously inspect the installation of the wall as it progresses and shall submit to the Director inspection reports, including compaction test results and photographs taken during the construction, documenting the techniques used and the degree of conformance to the geotechnical engineer's design.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.870 Right-of-way landscaping and irrigation.

A. Applicants required to construct medians or planter strips within the City right-of-way shall install landscaping and irrigation systems in accordance with this section and the Design Standards and Guidelines for Streetscape Elements adopted by reference.

B. Purpose.

1. To enhance the safety and comfort of pedestrians and motorists by providing a physical barrier and horizontal separation between vehicular traffic streams and between vehicular traffic and pedestrians and by reducing vehicular speeds.

2. To enhance the appearance of City streetscapes, provide shade and cooling effects, provide a sense of enclosure, definition and scale to the street, and provide protection from the wind and a reduction of airborne dust and pollutants.

C. General Landscaping Requirements.

1. All plant material shall meet or exceed ANSI Z60.1-2004, American Standards for Nursery Stock.

2. All ground areas not planted with trees shall be planted with shrubs and groundcover in the medians and with groundcover in the planter strips.

3. Shrubs may be comprised of a mixture of sizes but shall be not less than a two-gallon container size at time of planting. Shrubs shall be planted at a minimum density of five shrubs per 100 square feet.

4. Groundcover shall be planted to achieve a minimum planting area coverage of 80 percent within three years of installation and shall achieve 100 percent coverage within five years of installation.

5. Fully composted organic material (compost) shall be installed around all trees, shrubs, and groundcover to a depth of three inches. The City may require installation of bark mulch as a top dressing over the compost.

D. Street Tree Requirements. Street trees are required on both sides of all newly created, widened, or substantially improved public and private streets to provide shade and to calm traffic, subject to the considerations provided in the Design Standards and Guidelines for Streetscape Elements and the following requirements:

1. Trees shall have a minimum caliper of two inches within a development at time of planting unless the City determines that a particular species or cultivar, which is available only in a smaller size, is the preferred selection for a specific location;

2. Spacing of street trees, on average, shall be 30 feet on center. Wider spacing may be approved for trees having exceptionally broad canopies and narrower spacing may be required for trees having narrow canopy forms;

3. Street trees shall be high-branching with a canopy that starts at least six to eight feet above finished grade, depending on species or cultivar, and have roots that will not break up sidewalks or roadbeds or invade utility lines. For areas without overhead power lines, tree types shall be planted that will achieve a minimum height of 35 feet at maturity;

4. Street trees shall be placed so as not to block sight distance or create a safety concern. Generally, trees should be planted at least 10 feet from utility or light poles or fire hydrants, 20 feet from street intersections, and 10 feet from driveways and alleys. The City may authorize irregular spacing to accommodate sight distance requirements for driveways or intersections or to avoid public infrastructure such as street lighting, utility poles or fire hydrants;

5. The use of a variety of street trees within a development is encouraged to increase visual interest and minimize exposure to diseases that could target specific species and cause widespread damage if these species are heavily planted within an area;

6. For access lanes, street trees may be planted on the abutting private lot if the City determines that insufficient space exists within the public right-of-way to accommodate the trees;

7. Trees shall be centered in the planter strip or median; and

8. Root barriers shall be provided for all trees located within five feet of sidewalks, curbs or pavement and shall be a minimum of 24 inches in depth and 14 feet in length, installed per the

manufacturer's recommendations. The City may approve the use of engineered soil to accommodate tree roots in restricted planting areas.

E. Median Landscaping Requirements. Landscaping shall be subject to the following guidelines:

1. Where medians are narrowed near intersections, landscaping should be graduated and include the use of small accent trees and ground cover;

2. The use of groundcover or xeriscape concepts at intersections is favored over the extensive use of hardscape;

3. Hardscape should only be used in medians where planting is not feasible due to site-specific constraints such as narrow median width or preservation of a significant view corridor.

F. Planting Strip Landscaping Requirements. Landscaping shall be designed subject to the following guidelines:

1. Landscaping shall take into account visibility at intersections and a safe passage for pedestrian movement;

2. To provide a landscape separation between street and sidewalk, planting strips should be installed between the back of the curb and the sidewalk;

3. Planting strips shall be designed to the extent practicable to be wide enough to accommodate medium to large street trees that have a high, broad-branching canopy; a continuous streetscape planting strip, exclusive of easements, shall be located in areas adjacent to an existing or proposed public road. The City shall decide on the width of the planting strip in order to balance median and sidewalk widths;

4. The planting strip shall be located generally parallel to the existing or proposed road and shall not be located in areas identified for road widening, road projects, drainage areas, or other public improvement projects. Minor encroachments in the planting strip by drainage easements may be approved by the City;

5. Street trees shall be required to be planted within the planting strip with an even, linear spacing. If minor shifts to the linear spacing are required due to the location of existing infrastructure, development or required sight distance, these shifts may be approved by the City;

6. The use of groundcover or xeriscaping concepts adjacent to intersections is favored over the extensive use of hardscape; and

7. Hardscape should only be used in areas where planting is not feasible due to site-specific constraints such as a narrow median width or preservation of a significant view corridor.

G. Approved Right-of-Way Landscaping Species.

1. Street trees shall be approved by the City in accordance with the Approved Street Tree Palette in Table 3-1 of the Design Standards and Guidelines for Streetscape Elements. The City may approve trees not on the Approved Street Tree Palette if a registered landscape architect or

certified arborist demonstrates to the satisfaction of the City that the proposed tree species or cultivar will not cause damage to infrastructure or create nuisance conditions.

2. Shrubs.

a. Photinia – Photinia fraseri;

b. Viburnum – Viburnum spp.;

c. Japanese Privet – Ligustrum japonicum;

d. Smooth Sumac – Rhus glabra;

e. Dogwood – Cornus spp.;

f. English Laurel – Prunus laurocerasus;

g. Rock Rose – Cistus spp.;

h. Mock Orange – Philadelphus lewisii;

i. Evergreen Huckleberry – Vaccinium ovatum;

j. Heather – Calluna spp.;

k. Heath – Erica spp.;

l. Pieris – Pieris japonica.

3. Groundcover.

a. Wintercreeper – Euonymus fortunei;

b. Cotoneaster – Cotoneaster spp.;

c. Japanese Spurge – Pachysandra terminalis;

d. Kinnikinnick – Arctostaphylos uva-ursi.

H. Exceptions to the planting theme may be made by the Director. Exceptions include but are not limited to screening industrial areas, planting around historical sites, planting native or drought-resistant species, maintaining natural vegetation that better serves as street landscaping or beautification.

I. An irrigation plan is required to ensure that the planting will be watered at a level sufficient to ensure plant survival and healthy growth. All landscaped areas must provide a permanent underground irrigation system with an automatic controller plus an overriding rain switch. Battery-powered systems are not allowed. Irrigation systems shall be designed by a certified irrigation designer. The irrigation plan shall be submitted for approval as part of the landscaping plan. All pipe used in irrigation systems shall be schedule 40 PVC.

J. The applicant is required to pay all water system fees and charges associated with installation of an irrigation system.

K. Landscape plans shall be prepared by a Washington State registered landscape architect, a Washington State certified nurseryperson, or a Washington State certified landscaper. The landscape plans must be approved prior to permit issuance. Right-of-way landscaping may be incorporated into the landscaping plans for the entire development. Landscaping plans shall conform to the requirements of Chapter 19.65 UPMC and the Design Standards and Guidelines for Streetscape Elements adopted by reference.

L. Landscaping and irrigation installed as a condition of development shall be maintained and all utility fees and charges paid in perpetuity by the development property owner(s). A maintenance covenant shall be recorded prior to permit issuance. Any installed plant material located within required landscape areas that dies shall be replaced during the spring or fall growing season following plant loss but not later than 180 days from time of loss.

M. Following the installation of the landscaping and irrigation system, the person or persons who prepared the planting and irrigation plans shall submit, within 30 days, a signed affidavit that the landscaping and irrigation system has been installed per the approved plans and shall submit a signed set of as-built plans. The City will conduct an inspection prior to final approval of the landscaping.

(Ord. 565 § 1 (Exh. A), 2010; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.880 Temporary right-of-way signs, street banners and decorations.

A. Signs, street banners, or decorations may be permitted in City right-of-way only to promote bona fide community events. A bona fide community event is a carnival, circus exhibition, fair, farmers' market, festival, fiesta, parade, holiday celebration, or other community or regional celebration or event that may be of interest to the entire City or a substantial portion thereof.

B. Any temporary right-of-way sign permit shall be subject to the following conditions:

1. Signs, street banners, or decorations shall not promote or advertise the sale of any product, service, or commodity except that 10 percent of a sign may contain sponsor information. The remaining 90 percent will contain information promoting the community event or celebration.

2. Signs, street banners, or decorations shall not advertise or promote any religious or political message, except that political signs are regulated under Chapter 19.75 UPMC.

3. The City may remove any sign, street banner, or decoration if it obstructs any traffic sign, interferes with the safe movement of traffic, or otherwise interferes with the public health, safety or welfare.

C. Additional Conditions for Signs. Additional conditions for temporary signs placed in the City right-of-way are as follows:

1. Signs in the right-of-way shall be located as close as possible to the outside edge of the right-of-way.

2. The size of temporary right-of-way signs shall be as set forth for temporary signs as provided in Chapter 19.75 UPMC, except for street banners which are regulated below.

3. No sign shall obstruct safe visibility for vehicular or pedestrian traffic, or obstruct the clear-view triangle as described in Article II of this chapter.

4. All temporary right-of-way signs must be removed within three working days after the expiration of the permit. If the applicant fails to remove the sign in the time required, the City may remove the sign and the applicant will not be eligible for another temporary right-of-way sign permit for 12 months.

5. Signs subject to temporary sign permits shall not be placed in medians or roundabouts.

D. Additional Conditions for Street Banners and Decorations. Additional conditions for temporary street banners or decorations placed in the City right-of-way are as follows:

1. Street banners and decorations shall be mounted and removed only by authorized City personnel on City-owned street light poles or other City-owned facilities approved by the Director for that purpose.

2. No more than 10 City street light poles shall be affixed with street banners at any one time unless the banners are owned by the City.

3. No street banner or decoration shall obstruct safe visibility for vehicular or pedestrian traffic, or obstruct the clear-view triangle as described in Article II of this chapter.

4. Street banner or decoration shall not interfere with any planned City street banner or decoration.

5. No street banner or decoration may be hung across the traveled portion of any public right-of-way.

6. Street banners and decorations shall be constructed in accordance with the University Place Standard Notes and Details.

7. Banners shall be no greater than 30 square feet.

8. Banners subject to temporary sign permits shall not be placed in medians or roundabouts.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.20.885 Temporary "open during construction" right-of-way signs.

A. The Director may allow temporary "open during construction" signs placed in front of businesses affected by a City capital facility project, provided:

1. The sign(s) shall be no larger than 12 square feet.

2. The sign(s) may include limited promotional messaging for the associated business, provided the primary message is "Business Open During Construction."

3. The signs must be removed immediately following the construction activity that affects that business.

(Ord. 679 § 1 (Exh. A), 2016).

The University Place Municipal Code is current through Ordinance 679, passed December 5, 2016.
Disclaimer: The City Clerk's Office has the official version of the University Place Municipal Code. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

Chapter 13.25
SURFACE WATER MANAGEMENT

Sections:

Article I. General Considerations

13.25.110 General.

This chapter sets forth the minimum surface water management requirements for the City of University Place. Surface water management includes the design, construction, operation and maintenance of storm drainage and erosion control facilities and practices.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.115 Adopting King County Surface Water Codes.

Chapter 9.04 and Section 16.82.100 of the King County Municipal Code are hereby adopted and incorporated herein fully by this reference with the exceptions enumerated below.

A. All references within these codes to King County or County shall be construed to be the City of University Place.

B. All references to King County Departments shall be construed to be the City of University Place Engineering Department.

C. Section 9.04.020.Z.3 is hereby revised to read:

Has a project site of fifty acres or more within a critical aquifer recharge area, as defined in UPMC 17.20.

D. Section 9.04.020.VV is hereby revised to read:

"Surface Water Design Manual" means the manual, and supporting documentation referenced or incorporated in the manual, describing surface and storm water design and analysis requirements, procedures and guidance that has been formally adopted in UPMC 13.05.320.

E. Section 9.04.030(4) is hereby revised to read:

Contains or is adjacent to a flood hazard area as defined in UPMC 17.30.

F. Section 9.04.050(A)(7) is hereby revised to read:

Financial guarantees and liability. All drainage facilities constructed or modified for projects, except downspout infiltration and dispersion systems for single family residential lots, must comply with the liability requirements of K.C.C. 9.04.100 and the financial guarantee requirements of UPMC 13.05 Article VI.

G. Section 9.04.050(C)(4) is hereby revised to read:

A request for an adjustment shall be processed in accordance with the procedures specified in the Surface Water Design Manual and UPMC 13.05.

H. Section 9.04.050(D) is hereby revised to read:

The drainage review requirements in this section and in the Surface Water Design Manual may be modified or waived under the procedures in UPMC 13.05.

I. Section 9.04.095 is hereby revised to read:

Vesting period for lots in final short plats. Unless the department finds that a change in conditions creates a serious threat to the public health or safety in the short subdivision, for a period of five years after recording, a lot within a short subdivision shall be governed by the provisions of this chapter in effect at the time a fully completed application for short subdivision approval was filed in accordance with UPMC 22.05.

J. The last sentence of Section 9.04.100 is hereby revised to read:

If this liability insurance is not kept in effect as required, University Place may initiate enforcement action pursuant to UPMC 1.20.

K. Section 9.04.140(A)(1) is hereby revised to read:

The director is authorized to promulgate and adopt administrative rules under the procedures specified in UPMC 13.05 for the purpose of implementing and enforcing the provisions of this chapter.

L. Section 9.04.196 is hereby deleted.

M. Section 16.82.100(A)(2) is hereby revised to read:

All disturbed areas including faces of cuts and fill slopes shall be prepared and maintained to control erosion in compliance with UPMC 13.25 Article III.

(Ord. 555 § 1, 2009).

13.25.120 Design standards.

A. The King County Surface Water Design Manual (KCSWDM) and the King County Stormwater Pollution Prevention Manual and the portions of the King County Road Standards referenced therein are hereby adopted and incorporated fully into this chapter by this reference. The King County Surface Water Design Manual sets forth the drainage and erosion control requirements as supplemented herein. In these documents, all references to King County or the County shall be construed to refer to the City of University Place; all references to the King County Department of Development and Environmental Services (DDES) or the Water and Land Resources Division of the King County Department of Natural Resources (WLR) shall be hereby revised to read the City of University Place Engineering Department or such other department as the City Manager may designate to enforce this chapter.

B. The design standards shall be applied in the following hierarchy of precedence:

1. University Place Municipal Code;

2. King County Surface Water Design Manual;

3. King County Stormwater Pollution Prevention Manual;

4. King County Road Standards;

5. Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction;

6. WSDOT Design Manual;

7. WSDOT Construction Manual.

C. The term "critical drainage area" in the King County Surface Water Design Manual shall have the meaning of "critical area" as defined in Chapter 13.05 UPMC, Article II, and classified in UPMC Title 17.

D. The term "landslide hazard drainage area" in the King County Surface Water Design Manual shall have the meaning of "landslide and erosion hazard area" as defined in Chapter 13.05 UPMC, Article II, and classified in UPMC Title 17.

E. A site development permit is added to the permits and approvals listed in Section 1.1.1 of the King County Surface Water Design Manual.

F. Core Requirement No. 3, "Impervious Surface Performance Exemption," of the KCSWPM is deleted and not in effect.

G. Core Requirement No. 5 provision for the allowance for projects in the residential zone that result in no more than four percent total impervious surface and no more than 15 percent pervious surface is deleted and not in effect.

H. Soil equality and depth criteria located in reference Section 4-A of the KCSWPM are hereby specifically adopted by reference as the sole criteria.

I. King County's approved method for modeling impervious area for rain garden credits in the KCSWDM is hereby specifically adopted by reference as the method for determining credits for Treatment under Minimum Requirement No. 6.

J. Department of Ecology Stormwater Manual Wetlands Provisions Adopted. Minimum Requirement No. 8 of Appendix 1 of the Washington State Department of Ecology Stormwater Manual and Ecology's Guide Sheets 1B and 2B are hereby adopted and incorporated herein fully by this reference.

K. The Washington State Department of Ecology Stormwater Management Manual for Western Washington is accepted as an alternative design standard to the King County Surface Water Design Manual.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 555 §§ 1, 2, 2009; Ord. 518 § 1, 2008; Ord. 423 § 40, 2004; Ord. 395 § 3, 2003).

Article II. Storm Drainage

13.25.210 Design.

A. When a storm drainage report is required, it must include any relevant data from the City comprehensive storm water plan.

B. The Leach Creek and Chambers Creek Drainage Basins are hereby designated as conservation flow control areas as defined in the KCSWDM.

C. The Morrison Pothole Drainage Area (sub-basin within the North Day Island Drainage Basin) is hereby designated as a flood problem flow control area as defined in the KCSWDM.

D. All other drainage basins are hereby designated as basic flow control areas as defined in the KCSWDM.

E. Certain portions of the storm system on 27th Street West within the Day Island Waterway Basin have been identified as a conveyance system nuisance problem (Type 1 downstream problem) as defined in the KCSWDM. Additional flow control, as identified in the KCSWDM, or system improvements are required for development projects that are tributary to the deficient portions of the system.

F. The Crystal Springs Creek Drainage Basin has been identified to have a severe erosion problem (Type 2 downstream problem) as defined in the KCSWDM.

G. For the purpose of rainfall modeling, the City of University Place will be considered to have the same rainfall characteristics as the City of Federal Way.

H. Low impact development design techniques shall be incorporated into storm drainage system designs when feasible in accordance with the Department of Ecology Stormwater Management Manual for Western Washington and the King County Surface Water Design Manual.

(Ord. 679 § 1 (Exh. A), 2016; Ord. 531 § 1 (Exh. A), 2008; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.220 Construction.

All workmanship and materials shall be in accordance with the UPMC, KCSWDM, King County Road Standards, and the Standard Specifications.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.230 Excavation and backfill.

All excavation and backfill of storm drainage facilities shall be in conformance with UPMC 13.20.260.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.240 Street patching and restoration.

All street patching and restoration shall be in conformance with UPMC 13.20.265.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.250 Roof downspout controls.

Roof downspout systems that tie into storm drainage facilities shall be constructed in accordance with the plumbing code as adopted by UPMC Title 14 and the following criteria:

A. Connections to the storm drainage facility must be made at a catch basin. Connections made in the right-of-way or public easement require a right-of-way permit.

B. Roof downspouts systems installed in conjunction with work performed under a building permit will be administered under that permit.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.260 Storm drainage inventory.

All new and modified storm drainage facilities will be mapped on the University Place G.I.S. inventory system. The storm drainage inventory fee to be adopted shall be paid by the applicant at the time of permit issuance.

(Ord. 555 § 1, 2009; Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.270 Operation and maintenance.

Operation and maintenance of all drainage facilities is the responsibility of the applicant or property owner, except for those facilities for which the City assumes operation and maintenance responsibility as described below.

A. Drainage Facilities to Be Maintained by Private Parties.

1. Prior to permit issuance, the applicant shall be required to record a storm drainage maintenance agreement and restrictive covenant with the Pierce County Auditor. The form for this document is available at the City of University Place permit counter. The Operation and Maintenance Manual, as described below, will be included as an attachment to the agreement.

2. All privately owned drainage facilities must be maintained as specified in the King County Surface Water Design Manual. A copy of the Operation and Maintenance Manual submitted as part of the permit application shall be retained on site and shall be transferred with the property to any new owner. The property owner(s) shall keep a record of all maintenance activity indicating when the maintenance occurred and where waste was disposed of. These records shall be available for inspection by the City. The City may inspect all privately owned drainage facilities for compliance with these requirements. If property owner(s) fail to maintain their facilities, the City may issue a written notice specifying required actions. If these actions are not performed in a timely manner, the City may enter the property to perform the actions needed. The property owner is responsible for the costs incurred by the City. In the event an imminent hazard to public safety or the environment exists, written notice may not be required. Actions performed by the City on privately owned drainage facilities do not constitute an official assumption of operation and maintenance of these facilities.

3. An easement must be recorded granting right-of-access to the City for all storm facilities in accordance with Chapter 13.10 UPMC. The easement must also be depicted and described on the face of the plat, short plat, final development plan, or binding site plan.

B. Drainage Facilities to Be Maintained by the City.

1. Drainage facilities to be owned and operated by the City must be located in a tract or right-of-way dedicated to the City. Access roads serving these facilities must also be located in the tract or right-of-way and must be connected to an improved public road right-of-way. Any dedications shall be in conformance with Chapter 13.10 UPMC.

2. The City will provide written notification to the applicant, officially assuming maintenance and operation of these facilities only after each of the following has been met:

a. The Design Engineer has submitted a certification that the work has been completed per the approved design. The certification shall be as prescribed in UPMC 13.05.820.

b. The City has accepted a maintenance financial guarantee from the applicant or property owner as prescribed in Chapter 13.05 UPMC, Article VI.

c. The City has issued a written, final approval of the constructed facility to the applicant or property owner.

d. A minimum of 85 percent of the homes in the development have been occupied.

e. All of the public improvements required to be constructed by the applicant have been completed and accepted by the City.

f. The storm drainage system is free of all sediment and debris.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

Article III. Erosion Control

13.25.310 General.

All proposed projects that will clear, grade or otherwise disturb a site must provide erosion and sediment controls to prevent, to the maximum extent possible, the transport of sediment from the project site to downstream drainage facilities, water resources, and adjacent properties. Both temporary and permanent erosion and sediment controls shall be designed, implemented and maintained as described in Section 1.2.5 and Appendix D of the King County Surface Water Design Manual.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.320 Maintenance.

All erosion and sediment control measures shall be maintained and inspected on a regular basis as prescribed in Appendix D of the KCSWDM. The applicant shall designate an erosion and sedimentation control (ESC) supervisor who shall be responsible for maintenance and inspection of the erosion and sedimentation control measures for compliance with all permit conditions relating to erosion and sediment control as described in Appendix D. The ESC supervisor will be responsible to submit reports to the City for each inspection of the site. Section D.5.4 of Appendix D of the King County Surface Water Design Manual sets forth the minimum schedule for erosion and sediment control reviews/inspections. For sites within or impacting sensitive areas, the City may require the ESC supervisor to be a licensed professional engineer with demonstrated expertise in erosion and sediment control. This professional shall be designated as a special inspector in conformance with Chapter 13.05 UPMC, Article VII.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.330 Erosion and sediment control/road cleaning financial guarantee.

Prior to permit issuance, the applicant must submit to the City a financial guarantee, guaranteeing the performance and maintenance of the erosion and sedimentation control facilities. The financial guarantee shall be as specified in Chapter 13.05 UPMC, Article VI.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

13.25.340 Final stabilization.

Prior to obtaining final construction approval and the release of financial guarantees, the site shall be stabilized, structural erosion and sediment control measures (such as silt fences and sediment traps) shall be removed and the drainage facilities shall be cleaned as specified in Appendix D of the King County Surface Water Design Manual.

(Ord. 518 § 1, 2008; Ord. 395 § 3, 2003).

APPENDIX B

UNIVERSITY PLACE
STORMWATER MAINTENANCE
STANDARDS
(KING COUNTY APPENDIX A, 2021)

APPENDIX A

MAINTENANCE REQUIREMENTS FOR FLOW CONTROL, CONVEYANCE, AND WATER QUALITY FACILITIES

This appendix contains the maintenance requirements for the following typical stormwater control and water quality facilities and components *(ctrl/click ► to follow the link)*:

NO. 1 – DETENTION PONDS

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Top or Side Slopes of Dam, Berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
Storage Area	Sediment accumulation	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth; pond reseeded if necessary to control erosion.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
Inlet/Outlet Pipe.	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Emergency Overflow/Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger or any exposure of native soil on the spillway.	Spillway restored to design standards.

NO. 2 – INFILTRATION FACILITIES

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Infiltration Pond, Top or Side Slopes of Dam, Berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Storage Area	Sediment accumulation	If two inches or more sediment is present or a percolation test indicates facility is working at or less than 90% of design.	Facility infiltrates as designed.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
Infiltration Tank Structure	Plugged air vent	Any blockage of the vent.	Tank or vault freely vents.
	Tank bent out of shape	Any part of tank/pipe is bent out of shape more than 10% of its design shape.	Tank repaired or replaced to design.
	Gaps between sections, damaged joints or cracks or tears in wall	A gap wider than ½-inch at the joint of any tank sections or any evidence of soil particles entering the tank at a joint or through a wall.	No water or soil entering tank through joints or walls.
Infiltration Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.

NO. 2 – INFILTRATION FACILITIES

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Results Expected When Maintenance is Performed
Inlet/Outlet Pipes	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Filter Bags	Plugged	Filter bag more than $^1/_2$ full.	Replace filter bag or redesign system.
Infiltration Pond, Tank, Vault, Trench, or Small Basin Pre-settling Ponds and Vaults	Sediment accumulation	6" or more of sediment has accumulated.	Pre-settling occurs as designed
Infiltration Pond, Rock Filter	Plugged	High water level on upstream side of filter remains for extended period of time or little or no water flows through filter during heavy rain storms.	Rock filter replaced evaluate need for filter and remove if not necessary.
Infiltration Pond Emergency Overflow Spillway	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.

NO. 3 – DETENTION TANKS AND VAULTS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Tank or Vault Storage Area	Trash and debris	Any trash and debris accumulated in vault or tank (includes floatables and non-floatables).	No trash or debris in vault.
	Sediment accumulation	Accumulated sediment depth exceeds 10% of the diameter of the storage area for ½ length of storage vault or any point depth exceeds 15% of diameter. Example: 72-inch storage tank would require cleaning when sediment reaches depth of 7 inches for more than ½ length of tank.	All sediment removed from storage area.
Tank Structure	Plugged air vent	Any blockage of the vent.	Tank or vault freely vents.
	Tank bent out of shape	Any part of tank/pipe is bent out of shape more than 10% of its design shape.	Tank repaired or replaced to design.
	Gaps between sections, damaged joints or cracks or tears in wall	A gap wider than ½-inch at the joint of any tank sections or any evidence of soil particles entering the tank at a joint or through a wall.	No water or soil entering tank through joints or walls.
Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.
Inlet/Outlet Pipes	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 3 – DETENTION TANKS AND VAULTS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 4 – CONTROL STRUCTURE/FLOW RESTRICTOR

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Structure	Trash and debris	Trash or debris of more than ½ cubic foot which is located immediately in front of the structure opening or is blocking capacity of the structure by more than 10%.	No Trash or debris blocking or potentially blocking entrance to structure.
		Trash or debris in the structure that exceeds $^1/_3$ the depth from the bottom of basin to invert the lowest pipe into or out of the basin.	No trash or debris in the structure.
		Deposits of garbage exceeding 1 cubic foot in volume.	No condition present which would attract or support the breeding of insects or rodents.
	Sediment	Sediment exceeds 60% of the depth from the bottom of the structure to the invert of the lowest pipe into or out of the structure or the bottom of the FROP-T section or is within 6 inches of the invert of the lowest pipe into or out of the structure or the bottom of the FROP-T section.	Sump of structure contains no sediment.
	Damage to frame and/or top slab	Corner of frame extends more than ¾ inch past curb face into the street (If applicable).	Frame is even with curb.
		Top slab has holes larger than 2 square inches or cracks wider than ¼ inch.	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than ¾ inch of the frame from the top slab.	Frame is sitting flush on top slab.
	Cracks in walls or bottom	Cracks wider than ½ inch and longer than 3 feet, any evidence of soil particles entering structure through cracks, or maintenance person judges that structure is unsound.	Structure is sealed and structurally sound.
		Cracks wider than ½ inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering structure through cracks.	No cracks more than $^1/_4$ inch wide at the joint of inlet/outlet pipe.
	Settlement/ misalignment	Structure has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the structure at the joint of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of inlet/outlet pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Ladder rungs missing or unsafe	Ladder is unsafe due to missing rungs, misalignment, rust, cracks, or sharp edges.	Ladder meets design standards and allows maintenance person safe access.
FROP-T Section	Damage	T section is not securely attached to structure wall and outlet pipe structure should support at least 1,000 lbs of up or down pressure.	T section securely attached to wall and outlet pipe.
		Structure is not in upright position (allow up to 10% from plumb).	Structure in correct position.
		Connections to outlet pipe are not watertight or show signs of deteriorated grout.	Connections to outlet pipe are water tight; structure repaired or replaced and works as designed.
		Any holes—other than designed holes—in the structure.	Structure has no holes other than designed holes.
Cleanout Gate	Damaged or missing	Cleanout gate is missing.	Replace cleanout gate.

NO. 4 – CONTROL STRUCTURE/FLOW RESTRICTOR

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
		Cleanout gate is not watertight.	Gate is watertight and works as designed.
		Gate cannot be moved up and down by one maintenance person.	Gate moves up and down easily and is watertight.
		Chain/rod leading to gate is missing or damaged.	Chain is in place and works as designed.
Orifice Plate	Damaged or missing	Control device is not working properly due to missing, out of place, or bent orifice plate.	Plate is in place and works as designed.
	Obstructions	Any trash, debris, sediment, or vegetation blocking the plate.	Plate is free of all obstructions and works as designed.
Overflow Pipe	Obstructions	Any trash or debris blocking (or having the potential of blocking) the overflow pipe.	Pipe is free of all obstructions and works as designed.
	Deformed or damaged lip	Lip of overflow pipe is bent or deformed.	Overflow pipe does not allow overflow at an elevation lower than design
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Metal Grates (If Applicable)	Unsafe grate opening	Grate with opening wider than $^{7}/_{8}$ inch.	Grate opening meets design standards.
	Trash and debris	Trash and debris that is blocking more than 20% of grate surface.	Grate free of trash and debris.
	Damaged or missing	Grate missing or broken member(s) of the grate.	Grate is in place and meets design standards.
Manhole Cover/Lid	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open structure requires urgent maintenance.**	Cover/lid protects opening to structure.
	Locking mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to Remove	One maintenance person cannot remove cover/lid after applying 80 lbs. of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 5 – CATCH BASINS AND MANHOLES

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Structure	Sediment	Sediment exceeds 60% of the depth from the bottom of the catch basin to the invert of the lowest pipe into or out of the catch basin or is within 6 inches of the invert of the lowest pipe into or out of the catch basin.	Sump of catch basin contains no sediment.
	Trash and debris	Trash or debris of more than ½ cubic foot which is located immediately in front of the catch basin opening or is blocking capacity of the catch basin by more than 10%.	No Trash or debris blocking or potentially blocking entrance to catch basin.
		Trash or debris in the catch basin that exceeds $^1/_3$ the depth from the bottom of basin to invert the lowest pipe into or out of the basin.	No trash or debris in the catch basin.
		Dead animals or vegetation that could generate odors that could cause complaints or dangerous gases (e.g., methane).	No dead animals or vegetation present within catch basin.
		Deposits of garbage exceeding 1 cubic foot in volume.	No condition present which would attract or support the breeding of insects or rodents.
	Damage to frame and/or top slab	Corner of frame extends more than ¾ inch past curb face into the street (If applicable).	Frame is even with curb.
		Top slab has holes larger than 2 square inches or cracks wider than ¼ inch.	Top slab is free of holes and cracks.
		Frame not sitting flush on top slab, i.e., separation of more than ¾ inch of the frame from the top slab.	Frame is sitting flush on top slab.
	Cracks in walls or bottom	Cracks wider than ½ inch and longer than 3 feet, any evidence of soil particles entering catch basin through cracks, or maintenance person judges that catch basin is unsound.	Catch basin is sealed and is structurally sound.
		Cracks wider than ½ inch and longer than 1 foot at the joint of any inlet/outlet pipe or any evidence of soil particles entering catch basin through cracks.	No cracks more than $^1/_4$ inch wide at the joint of inlet/outlet pipe.
	Settlement/ misalignment	Catch basin has settled more than 1 inch or has rotated more than 2 inches out of alignment.	Basin replaced or repaired to design standards.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the catch basin at the joint of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of inlet/outlet pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 5 – CATCH BASINS AND MANHOLES

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Metal Grates (Catch Basins)	Unsafe grate opening	Grate with opening wider than $^{7}/_{8}$ inch.	Grate opening meets design standards.
	Trash and debris	Trash and debris that is blocking more than 20% of grate surface.	Grate free of trash and debris.
	Damaged or missing	Grate missing or broken member(s) of the grate. **Any open structure requires urgent maintenance.**	Grate is in place and meets design standards.
Manhole Cover/Lid	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open structure requires urgent maintenance.**	Cover/lid protects opening to structure.
	Locking mechanism Not Working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to Remove	One maintenance person cannot remove cover/lid after applying 80 lbs. of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 6 – CONVEYANCE PIPES AND DITCHES

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Pipes	Sediment & debris accumulation	Accumulated sediment or debris that exceeds 20% of the diameter of the pipe.	Water flows freely through pipes.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Damage to protective coating or corrosion	Protective coating is damaged; rust or corrosion is weakening the structural integrity of any part of pipe.	Pipe repaired or replaced.
	Damaged	Any dent that decreases the cross section area of pipe by more than 20% or is determined to have weakened structural integrity of the pipe.	Pipe repaired or replaced.
Ditches	Trash and debris	Trash and debris exceeds 1 cubic foot per 1,000 square feet of ditch and slopes.	Trash and debris cleared from ditches.
	Sediment accumulation	Accumulated sediment that exceeds 20% of the design depth.	Ditch cleaned/flushed of all sediment and debris so that it matches design.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Vegetation	Vegetation that reduces free movement of water through ditches.	Water flows freely through ditches.
	Erosion damage to slopes	Any erosion observed on a ditch slope.	Slopes are not eroding.
	Rock lining out of place or missing (If Applicable)	One layer or less of rock exists above native soil area 5 square feet or more, any exposed native soil.	Replace rocks to design standards.

NO. 7 – DEBRIS BARRIERS (E.G., TRASH RACKS)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed.
Site	Trash and debris	Trash or debris plugging more than 20% of the area of the barrier.	Barrier clear to receive capacity flow.
	Sediment accumulation	Sediment accumulation of greater than 20% of the area of the barrier	Barrier clear to receive capacity flow.
Structure	Cracked broken or loose	Structure which bars attached to is damaged - pipe is loose or cracked or concrete structure is cracked, broken of loose.	Structure barrier attached to is sound.
Bars	Bar spacing	Bar spacing exceeds 6 inches.	Bars have at most 6 inches spacing.
	Damaged or missing bars	Bars are bent out of shape more than 3 inches.	Bars in place with no bends more than ¾ inch.
		Bars are missing or entire barrier missing.	Bars in place according to design.
		Bars are loose and rust is causing 50% deterioration to any part of barrier.	Repair or replace barrier to design standards.

NO. 8 – ENERGY DISSIPATERS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed.
Site	Trash and debris	Trash and/or debris accumulation.	Dissipater clear of trash and/or debris.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Rock Pad	Missing or moved Rock	Only one layer of rock exists above native soil in area five square feet or larger or any exposure of native soil.	Rock pad prevents erosion.
Dispersion Trench	Pipe plugged with sediment	Accumulated sediment that exceeds 20% of the design depth.	Pipe cleaned/flushed so that it matches design.
	Not discharging water properly	Visual evidence of water discharging at concentrated points along trench (normal condition is a "sheet flow" of water along trench).	Water discharges from feature by sheet flow.
	Perforations plugged.	Over 1/4 of perforations in pipe are plugged with debris or sediment.	Perforations freely discharge flow.
	Water flows out top of "distributor" catch basin.	Water flows out of distributor catch basin during any storm less than the design storm.	No flow discharges from distributor catch basin.
	Receiving area over-saturated	Water in receiving area is causing or has potential of causing landslide problems.	No danger of landslides.
Gabions	Damaged mesh	Mesh of gabion broken, twisted or deformed so structure is weakened or rock may fall out.	Mesh is intact, no rock missing.
	Corrosion	Gabion mesh shows corrosion through more than ¼ of its gage.	All gabion mesh capable of containing rock and retaining designed form.
	Collapsed or deformed baskets	Gabion basket shape deformed due to any cause.	All gabion baskets intact, structure stands as designed.
	Missing rock	Any rock missing that could cause gabion to loose structural integrity.	No rock missing.
Manhole/Chamber	Worn or damaged post, baffles or side of chamber	Structure dissipating flow deteriorates to ½ or original size or any concentrated worn spot exceeding one square foot which would make structure unsound.	Structure is in no danger of failing.
	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch or any evidence of soil entering the structure through cracks, or maintenance inspection personnel determines that the structure is not structurally sound.	Manhole/chamber is sealed and structurally sound.
	Damaged pipe joints	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering the structure at the joint of the inlet/outlet pipes.	No soil or water enters and no water discharges at the joint of inlet/outlet pipes.

NO. 9 – FENCING

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Erosion or holes under fence	Erosion or holes more than 4 inches high and 12-18 inches wide permitting access through an opening under a fence.	No access under the fence.
Wood Posts, Boards and Cross Members	Missing or damaged parts	Missing or broken boards, post out of plumb by more than 6 inches or cross members broken	No gaps on fence due to missing or broken boards, post plumb to within 1½ inches, cross members sound.
	Weakened by rotting or insects	Any part showing structural deterioration due to rotting or insect damage	All parts of fence are structurally sound.
	Damaged or failed post foundation	Concrete or metal attachments deteriorated or unable to support posts.	Post foundation capable of supporting posts even in strong wind.
Metal Posts, Rails and Fabric	Damaged parts	Post out of plumb more than 6 inches.	Post plumb to within 1½ inches.
		Top rails bent more than 6 inches.	Top rail free of bends greater than 1 inch.
		Any part of fence (including post, top rails, and fabric) more than 1 foot out of design alignment.	Fence is aligned and meets design standards.
		Missing or loose tension wire.	Tension wire in place and holding fabric.
	Deteriorated paint or protective coating	Part or parts that have a rusting or scaling condition that has affected structural adequacy.	Structurally adequate posts or parts with a uniform protective coating.
	Openings in fabric	Openings in fabric are such that an 8-inch diameter ball could fit through.	Fabric mesh openings within 50% of grid size.

NO. 10 – GATES/BOLLARDS/ACCESS BARRIERS

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Chain Link Fencing Gate	Damaged or missing members	Missing gate.	Gates in place.
		Broken or missing hinges such that gate cannot be easily opened and closed by a maintenance person.	Hinges intact and lubed. Gate is working freely.
		Gate is out of plumb more than 6 inches and more than 1 foot out of design alignment.	Gate is aligned and vertical.
		Missing stretcher bar, stretcher bands, and ties.	Stretcher bar, bands, and ties in place.
	Locking mechanism does not lock gate	Locking device missing, non-functioning or does not link to all parts.	Locking mechanism prevents opening of gate.
	Openings in fabric	Openings in fabric are such that an 8-inch diameter ball could fit through.	Fabric mesh openings within 50% of grid size.
Bar Gate	Damaged or missing cross bar	Cross bar does not swing open or closed, is missing or is bent to where it does not prevent vehicle access.	Cross bar swings fully open and closed and prevents vehicle access.
	Locking mechanism does not lock gate	Locking device missing, non-functioning or does not link to all parts.	Locking mechanism prevents opening of gate.
	Support post damaged	Support post does not hold cross bar up.	Cross bar held up preventing vehicle access into facility.
Bollards	Damaged or missing	Bollard broken, missing, does not fit into support hole or hinge broken or missing.	No access for motorized vehicles to get into facility.
	Does not lock	Locking assembly or lock missing or cannot be attached to lock bollard in place.	No access for motorized vehicles to get into facility.
Boulders	Dislodged	Boulders not located to prevent motorized vehicle access.	No access for motorized vehicles to get into facility.
	Circumvented	Motorized vehicles going around or between boulders.	No access for motorized vehicles to get into facility.

NO. 11 – GROUNDS (LANDSCAPING)

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash or litter	Any trash and debris which exceed 1 cubic foot per 1,000 square feet (this is about equal to the amount of trash it would take to fill up one standard size office garbage can). In general, there should be no visual evidence of dumping.	Trash and debris cleared from site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Trees and Shrubs	Hazard	Any tree or limb of a tree identified as having a potential to fall and cause property damage or threaten human life. **A hazard tree identified by a qualified arborist must be removed as soon as possible.**	No hazard trees in facility.
	Damaged	Limbs or parts of trees or shrubs that are split or broken which affect more than 25% of the total foliage of the tree or shrub.	Trees and shrubs with less than 5% of total foliage with split or broken limbs.
		Trees or shrubs that have been blown down or knocked over.	No blown down vegetation or knocked over vegetation. Trees or shrubs free of injury.
		Trees or shrubs which are not adequately supported or are leaning over, causing exposure of the roots.	Tree or shrub in place and adequately supported; dead or diseased trees removed.

NO. 12 – ACCESS ROADS

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris exceeds 1 cubic foot per 1,000 square feet (i.e., trash and debris would fill up one standards size garbage can).	Roadway drivable by maintenance vehicles.
		Debris which could damage vehicle tires or prohibit use of road.	Roadway drivable by maintenance vehicles.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Blocked roadway	Any obstruction which reduces clearance above road surface to less than 14 feet.	Roadway overhead clear to 14 feet high.
		Any obstruction restricting the access to a 10- to 12 foot width for a distance of more than 12 feet or any point restricting access to less than a 10 foot width.	At least 12-foot of width on access road.
Road Surface	Erosion, settlement, potholes, soft spots, ruts	Any surface defect which hinders or prevents maintenance access.	Road drivable by maintenance vehicles.
	Vegetation on road surface	Trees or other vegetation prevent access to facility by maintenance vehicles.	Maintenance vehicles can access facility.
Shoulders and Ditches	Erosion	Erosion within 1 foot of the roadway more than 8 inches wide and 6 inches deep.	Shoulder free of erosion and matching the surrounding road.
	Weeds and brush	Weeds and brush exceed 18 inches in height or hinder maintenance access.	Weeds and brush cut to 2 inches in height or cleared in such a way as to allow maintenance access.
Modular Grid Pavement	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Damaged or missing	Access surface compacted because of broken on missing modular block.	Access road surface restored so road infiltrates.

NO. 13 – BASIC BIOSWALE (GRASS)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash and/or debris accumulated on the bioswale site.	No trash or debris on the bioswale site.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Swale Section	Sediment accumulation	Sediment depth exceeds 2 inches in 10% of the swale treatment area.	No sediment deposits in grass treatment area of the bioswale.
		Sediment inhibits grass growth over 10% of swale length.	Grass growth not inhibited by sediment.
		Sediment inhibits even spreading of flow.	Flow spreads evenly through swale
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Poor vegetation coverage	Grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom.	Swale has no bare spots and grass is thick and healthy.
	Grass too tall	Grass excessively tall (greater than 10 inches), grass is thin or nuisance weeds and other vegetation have taken over.	Grass is between 3 and 4 inches tall, thick and healthy. No clippings left in swale. No nuisance vegetation present.
	Excessive shade	Grass growth is poor because sunlight does not reach swale.	Health grass growth or swale converted to a wet bioswale.
	Constant baseflow	Continuous flow through the swale, even when it has been dry for weeks or an eroded, muddy channel has formed in the swale bottom.	Baseflow removed from swale by a low-flow pea-gravel drain or bypassed around the swale.
	Standing water	Water pools in the swale between storms or does not drain freely.	Swale freely drains and there is no standing water in swale between storms.
	Channelization	Flow concentrates and erodes channel through swale.	No flow channels in swale.
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 14 – WET BIOSWALE

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and/or debris accumulated at the site.	No trash or debris at the site.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Swale Section	Sediment accumulation	Sediment depth exceeds 2 inches in 10% of the swale treatment area.	No sediment deposits in treatment area.
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Water depth	Water not retained to a depth of about 4 inches during the wet season.	Water depth of 4 inches through out swale for most of wet season.
	Vegetation ineffective	Vegetation sparse, does not provide adequate filtration or crowded out by very dense clumps of cattail or nuisance vegetation.	Wetland vegetation fully covers bottom of swale and no cattails or nuisance vegetation present.
	Insufficient water	Wetland vegetation dies due to lack of water.	Wetland vegetation remains healthy (may require converting to grass lined bioswale
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 15 – FILTER STRIP

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash and debris accumulated on the filter strip site.	Filter strip site free of any trash or debris
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Grass Strip	Sediment accumulation	Sediment accumulation on grass exceeds 2 inches depth.	No sediment deposits in treatment area.
	Erosion/scouring	Eroded or scoured swale bottom due to channelization or high flows.	No eroded or scoured areas in bioswale. Cause of erosion or scour addressed.
	Grass too tall	Grass excessively tall (greater than 10 inches), grass is thin or nuisance weeds and other vegetation have taken over.	Grass is between 3 and 4 inches tall, thick and healthy. No clippings left in swale. No nuisance vegetation present.
	Vegetation ineffective	Grass has died out, become excessively tall (greater than 10 inches) or nuisance vegetation is taking over.	Grass is healthy, less than 9 inches high and no nuisance vegetation present.
Flow Spreader	Concentrated flow	Flow from spreader not uniformly distributed across entire swale width.	Flows are spread evenly over entire swale width.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 16 – WETPOND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Any trash and debris accumulated on the wetpond site.	Wetpond site free of any trash or debris.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Side Slopes of Dam, Berm, internal berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm or embankment integrity, are not interfering with access or maintenance or leaves do not cause a plugging problem they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
Top or Side Slopes of Dam, Berm, internal berm or Embankment	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
	Irregular surface on internal berm	Top of berm not uniform and level.	Top of berm graded to design elevation.
Pond Areas	Sediment accumulation (except first wetpool cell)	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth.
	Sediment accumulation (first wetpool cell)	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level (all wetpool cells)	Cell level(s) drops more than 12 inches in any 7-day period.	Cell level(s) drops less than 12 inches in any 7-day period.
	Algae mats (first wetpool cell)	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)

NO. 16 – WETPOND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
	Design planting and vegetation survival and maintenance	Sparse or dying design planting, or when design plantings are not thriving across 80% or more of the design vegetated areas within the pond; invasive vegetation e.g., cattails	Design plantings and vegetation are thriving and appropriately spaced across 80% or more of the design vegetated areas within the pond; invasives removed including root clumps
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Emergency Overflow Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 17 – WETVAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
Treatment Area	Trash and debris	Any trash and debris accumulated in vault (includes floatables and non-floatables).	No trash or debris in vault.
	Sediment accumulation	Sediment accumulation in vault bottom exceeds the depth of the sediment zone plus 6 inches.	No sediment in vault.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
Vault Structure	Damage to wall, frame, bottom, and/or top slab	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks, vault does not retain water or qualified inspection personnel determines that the vault is not structurally sound.	Vault is sealed and structurally sound.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure or baffle cannot be removed.	Repair or replace baffles or walls to specifications.
	Ventilation	Ventilation area blocked or plugged.	No reduction of ventilation area exists.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Access Manhole	Access cover/lid damaged or difficult to open	Access cover/lid cannot be easily opened by one person. Corrosion/deformation of cover/lid.	Access cover/lid can be opened by one person.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Access doors/plate has gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.

NO. 18 – STORMWATER WETLAND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Side Slopes of Dam, Berm, internal berm or Embankment	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.
Top or Side Slopes of Dam, Berm, internal berm or Embankment	Settlement	Any part of a dam, berm or embankment that has settled 4 inches lower than the design elevation.	Top or side slope restored to design dimensions. If settlement is significant, a licensed civil engineer should be consulted to determine the cause of the settlement.
	Irregular surface on internal berm	Top of berm not uniform and level.	Top of berm graded flat to design elevation.
Pond Areas	Sediment accumulation (first cell/forebay)	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Sediment accumulation (wetland cell)	Accumulated sediment that exceeds 10% of the designed pond depth.	Sediment cleaned out to designed pond shape and depth.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level (first cell/forebay)	Cell level drops more than 12 inches in any 7-day period.	Cell level drops no more than 12 inches in any 7-day period.
	Water level (wetland cell)	Cell does not retain water for at least 10 months of the year or wetland plants are not surviving.	Water retained at least 10 months of the year or wetland plants are surviving.
	Algae mats (first cell/forebay)	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)

NO. 18 – STORMWATER WETLAND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
	Vegetation	Vegetation dead, dying, or overgrown (cattails) or not meeting original planting specifications across more than 20% of the entire design vegetated area within the pond.	Plants in wetland cell surviving across 80% or more of the entire design vegetated area within the pond and not interfering with wetland function.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Emergency Overflow Spillway	Tree growth	Tree growth impedes flow or threatens stability of spillway.	Trees removed.
	Rock missing	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway. Rip-rap on inside slopes need not be replaced.	Spillway restored to design standards.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 19 – SAND FILTER POND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover (not in the treatment area)	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Pre-Treatment (if applicable)	Sediment accumulation	Sediment accumulations in pond bottom that exceeds the depth of sediment storage (1 foot) plus 6 inches.	Sediment storage contains no sediment.
	Liner damaged (If Applicable)	Liner is visible or pond does not hold water as designed.	Liner repaired or replaced.
	Water level	Cell empty, doesn't hold water.	Water retained in first cell for most of the year.
	Algae mats	Algae mats develop over more than 10% of the water surface should be removed.	Algae mats removed (usually in the late summer before Fall rains, especially in Sensitive Lake Protection Areas.)
Pond Area	Sediment accumulation	Sediment or crust depth exceeds ½-inch over 10 % of surface area of sand filter.	No sediment or crust deposit on sand filter that would impede permeability of the filter section.
	Grass (if applicable)	Grass becomes excessively tall (greater than 6 inches) or when nuisance weeds and other vegetation start to take over or thatch build up occurs.	Mow vegetation and/or remove nuisance vegetation.
Side Slopes of Pond	Rodent holes	Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	Rodents removed or destroyed and dam or berm repaired.
	Tree growth	Tree growth threatens integrity of dams, berms or slopes, does not allow maintenance access, or interferes with maintenance activity. If trees are not a threat to dam, berm, or embankment integrity or not interfering with access or maintenance, they do not need to be removed.	Trees do not hinder facility performance or maintenance activities.
	Erosion	Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. Any erosion observed on a compacted slope.	Slopes stabilized using appropriate erosion control measures. If erosion is occurring on compacted slope, a licensed civil engineer should be consulted to resolve source of erosion.

NO. 19 – SAND FILTER POND

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Sand Filter Media	Plugging	Drawdown of water through the sand filter media, takes longer than 24 hours, and/or flow through the overflow pipes occurs frequently. A sieve analysis of >4% -100 or >2% -200 requires replacing sand filter media.	Sand filter media surface is aerated or the surface is scraped and replaced, and drawdown rate is normal.
	Prolonged flows	Sand is saturated for prolonged periods of time (several weeks) and does not dry out between storms due to continuous base flow or prolonged flows from detention facilities.	Excess flows bypassed or confined to small portion of filter media surface.
	Short circuiting	Flows become concentrated over one section of the sand filter rather than dispersed or drawdown rate of pool exceeds 12 inches per hour.	Flow and percolation of water through the sand filter is uniform and dispersed across the entire filter area and drawdown rate is normal.
	Media thickness	Sand thickness is less than 18 inches.	Rebuild sand thickness to a minimum of 18 inches.
Underdrains and Clean-Outs	Sediment/debris	Underdrains or clean-outs partially plugged or filled with sediment and/or debris. Junction box/cleanout wyes not watertight.	Underdrains and clean-outs free of sediment and debris and are watertight.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Rock Pad	Missing or out of place	Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil.	Rock pad restored to design standards.
Flow spreader	Concentrated flow	Flow from spreader not uniformly distributed across sand filter.	Flows spread evenly over sand filter.

NO. 20 – SAND FILTER VAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on facility site.	Trash and debris removed from facility site.
	Noxious weeds	Any noxious or nuisance vegetation which may constitute a hazard to County personnel or the public.	Noxious and nuisance vegetation removed according to applicable regulations. No danger of noxious vegetation where County personnel or the public might normally be.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oil, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Grass/groundcover	Grass or groundcover exceeds 18 inches in height.	Grass or groundcover mowed to a height no greater than 6 inches.
Pre-Treatment Chamber	Sediment accumulation	Sediment accumulation exceeds the depth of the sediment zone plus 6 inches.	Sediment storage contains no sediment.
Sand Filter Media	Sediment accumulation	Sediment depth exceeds ½-inch on sand filter media.	Sand filter freely drains at normal rate.
	Trash and debris	Trash and debris accumulated in vault (floatables and non-floatables).	No trash or debris in vault.
	Plugging	Drawdown of water through the sand filter media, takes longer than 24 hours, and/or flow through the overflow pipes occurs frequently. A sieve analysis of >4% -100 or >2% -200 requires replacing sand filter media.	Sand filter media drawdown rate is normal.
	Short circuiting	Seepage or flow occurs along the vault walls and corners. Sand eroding near inflow area. Cleanout wyes are not watertight.	Sand filter media section re-laid and compacted along perimeter of vault to form a semi-seal. Erosion protection added to dissipate force of incoming flow and curtail erosion.
Vault Structure	Damaged to walls, frame, bottom and/or top slab.	Cracks wider than ½-inch, any evidence of soil entering the structure through cracks or qualified inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to provide complete sealing of the structure.
	Ventilation	Ventilation area blocked or plugged.	No reduction of ventilation area exists.
Underdrains and Cleanouts	Sediment/debris	Underdrains or clean-outs partially plugged, filled with sediment and/or debris or not watertight.	Underdrains and clean-outs free of sediment and debris and sealed.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.

NO. 20 – SAND FILTER VAULT

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. Any open manhole requires immediate maintenance.	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat; covers access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 21 – STORMFILTER (CARTRIDGE TYPE)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Facility	Documentation	Update facility inspection record after each inspection.	Maintenance records are up to date.
		Provide certification of replaced filter media.	Filter media is certified to meet Stormfilter® specifications.
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Any evidence of contaminants or pollution such as oils, gasoline, concrete slurries or paint.	Materials removed and disposed of according to applicable regulations. Source control BMPs implemented if appropriate. No contaminants present other than a surface oil film.
	Life cycle	System has not been inspected for three years.	Facility is re-inspected and any needed maintenance performed.
Vault Treatment Area	Sediment on vault floor	Greater than 2 inches of sediment.	Vault is free of sediment.
	Sediment on top of cartridges	Greater than ½ inch of sediment.	Vault is free of sediment.
	Multiple scum lines above top of cartridges	Thick or multiple scum lines above top of cartridges. Probably due to plugged canisters or underdrain manifold.	Cause of plugging corrected, canisters replaced if necessary.
Vault Structure	Damage to wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch and any evidence of soil particles entering the structure through the cracks, or qualified inspection personnel determines the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking warping, and/or showing signs of failure as determined by maintenance/inspection person.	Repair or replace baffles to specification.
Filter Media	Standing water in vault	9 inches or greater of static water in the vault for more than 24 hours following a rain event and/or overflow occurs frequently. Probably due to plugged filter media, underdrain or outlet pipe.	No standing water in vault 24 hours after a rain event.
	Short circuiting	Flows do not properly enter filter cartridges.	Flows go through filter media.
Underdrains and Clean-Outs	Sediment/debris	Underdrains or clean-outs partially plugged or filled with sediment and/or debris.	Underdrains and clean-outs free of sediment and debris.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.

NO. 21 – STORMFILTER (CARTRIDGE TYPE)

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.
Inspection	Frequency	Maintenance conditions are site-specific, depending on pollutant loading. FIRST YEAR POST CONSTRUCTION: Monthly during wet season, every other month during dry season FOLLOWING FIRST YEAR: Continue monthly until site-specific frequency is established, then follow that schedule AT A MINIMUM, FOLLOWING FIRST YEAR: Annually (or quarterly if used as primary treatment) and following significant storms.	Inspect Stormfilter facility for any maintenance deficiencies; maintain or replace as required per established site-specific schedule and manufacturer's requirements.

NO. 22 – BAFFLE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Floating oil in excess of 1 inch in first chamber, any oil in other chambers or other contaminants of any type in any chamber.	No contaminants present other than a surface oil film.
Vault Treatment Area	Sediment accumulation	Sediment accumulates exceeds 6 inches in the vault.	No sediment in the vault.
	Discharge water not clear	Inspection of discharge water shows obvious signs of poor water quality- effluent discharge from vault shows thick visible sheen.	Effluent discharge is clear.
	Trash or debris accumulation	Any trash and debris accumulation in vault (floatables and non-floatables).	Vault is clear of trash and debris.
	Oil accumulation	Oil accumulations that exceed 1 inch, at the surface of the water in the oil/water separator chamber.	No visible oil depth on water.
Vault Structure	Damage to Wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch or evidence of soil particles entering the structure through the cracks, or maintenance/inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure as determined by maintenance inspection personnel.	Repair or replace baffles to specifications.
Gravity Drain	Inoperable valve	Valve will not open and close.	Valve opens and closes normally.
	Valve won't seal	Valve does not seal completely.	Valve completely seals closed.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or cover/lid.	Lifting rings sufficient to lift or remove cover/lid.

NO. 23 – COALESCING PLATE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Any trash or debris which impairs the function of the facility.	Trash and debris removed from facility.
	Contaminants and pollution	Floating oil in excess of 1 inch in first chamber, any oil in other chambers or other contaminants of any type in any chamber.	No contaminants present other than a surface oil film.
Vault Treatment Area	Sediment accumulation in the forebay	Sediment accumulation of 6 inches or greater in the forebay.	No sediment in the forebay.
	Discharge water not clear	Inspection of discharge water shows obvious signs of poor water quality - effluent discharge from vault shows thick visible sheen.	Repair function of plates so effluent is clear.
	Trash or debris accumulation	Trash and debris accumulation in vault (floatables and non-floatables).	Trash and debris removed from vault.
	Oil accumulation	Oil accumulation that exceeds 1 inch at the water surface in the in the coalescing plate chamber.	No visible oil depth on water and coalescing plates clear of oil.
Coalescing Plates	Damaged	Plate media broken, deformed, cracked and/or showing signs of failure.	Replace that portion of media pack or entire plate pack depending on severity of failure.
	Sediment accumulation	Any sediment accumulation which interferes with the operation of the coalescing plates.	No sediment accumulation interfering with the coalescing plates.
Vault Structure	Damage to Wall, Frame, Bottom, and/or Top Slab	Cracks wider than ½-inch and any evidence of soil particles entering the structure through the cracks, or maintenance inspection personnel determines that the vault is not structurally sound.	Vault replaced or repaired to design specifications.
	Baffles damaged	Baffles corroding, cracking, warping and/or showing signs of failure as determined by maintenance/inspection person.	Repair or replace baffles to specifications.
Ventilation Pipes	Plugged	Any obstruction to the ventilation pipes.	Ventilation pipes are clear.
Shutoff Valve	Damaged or inoperable	Shutoff valve cannot be opened or closed.	Shutoff valve operates normally.
Inlet/Outlet Pipe	Sediment accumulation	Sediment filling 20% or more of the pipe.	Inlet/outlet pipes clear of sediment.
	Trash and debris	Trash and debris accumulated in inlet/outlet pipes (includes floatables and non-floatables).	No trash or debris in pipes.
	Damaged	Cracks wider than ½-inch at the joint of the inlet/outlet pipes or any evidence of soil entering at the joints of the inlet/outlet pipes.	No cracks more than ¼-inch wide at the joint of the inlet/outlet pipe.
Access Manhole	Cover/lid not in place	Cover/lid is missing or only partially in place. **Any open manhole requires immediate maintenance.**	Manhole access covered.
	Locking mechanism not working	Mechanism cannot be opened by one maintenance person with proper tools. Bolts cannot be seated. Self-locking cover/lid does not work.	Mechanism opens with proper tools.
	Cover/lid difficult to remove	One maintenance person cannot remove cover/lid after applying 80 lbs of lift.	Cover/lid can be removed and reinstalled by one maintenance person.
	Ladder rungs unsafe	Missing rungs, misalignment, rust, or cracks.	Ladder meets design standards. Allows maintenance person safe access.

NO. 23 – COALESCING PLATE OIL/WATER SEPARATOR

Maintenance Component	Defect	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
Large access doors/plate	Damaged or difficult to open	Large access doors or plates cannot be opened/removed using normal equipment.	Replace or repair access door so it can opened as designed.
	Gaps, doesn't cover completely	Large access doors not flat and/or access opening not completely covered.	Doors close flat and cover access opening completely.
	Lifting Rings missing, rusted	Lifting rings not capable of lifting weight of door or plate.	Lifting rings sufficient to lift or remove door or plate.

NO. 24 – CATCH BASIN INSERT

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Media Insert	Visible Oil	Visible oil sheen passing through media	Media inset replaced.
	Insert does not fit catch basin properly	Flow gets into catch basin without going through media.	All flow goes through media.
	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
	Oil absorbent media saturated	Media oil saturated.	Oil absorbent media replaced.
	Water saturated	Catch basin insert is saturated with water, which no longer has the capacity to absorb.	Insert replaced.
	Service life exceeded	Regular interval replacement due to typical average life of media insert product, typically one month.	Media replaced at manufacturer's recommended interval.
	Seasonal maintenance	When storms occur and during the wet season.	Remove, clean and replace or install new insert after major storms, monthly during the wet season or at manufacturer's recommended interval.

NO. 25 – DRYWELL BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Plugging, obstructions	Any cause limiting flow into drywell.	Drywell able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the drywell is evident.	No trash or debris that could get into the drywell can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet.
Structure	Basin leaks	Holes or breaks in the basin allow water to leave the basin at locations other than per design.	Basin is sealed and allows water to exit only where designed.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect drywell system for any defects of deficiencies.

NO. 26 – GRAVEL FILLED INFILTRATION TRENCH BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow to infiltration trench.	Infiltration trench able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the infiltration trench is evident.	No trash or debris that could get into the infiltration trench can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet to the trench.
Structure	Flow not reaching trench	Flows are not getting into the trench as designed.	Water enters and exits trench as designed.
	Cleanout/inspection access does not allow cleaning or inspection of trench	The cleanout/inspection access is not available.	Cleanout/inspection access is available.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect infiltration trench system for any defects of deficiencies.

NO. 27 – GRAVEL FILLED DISPERSION TRENCH BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow to dispersion trench or preventing spreader function.	Dispersion trench able to receive full flow prior to and during wet season.
Site	Trash and debris	Trash or debris that could end up in the dispersion trench is evident.	No trash or debris that could get into the dispersion trench can be found.
Pipes	Inlet is plugged	The entrance to the pipe is restricted due to sediment, trash, or debris.	The entrance to the pipe is not restricted.
	Vegetation/roots	Vegetation/roots that reduce free movement of water through pipes.	Water flows freely through pipes.
	Plugged	Sediment or other material prevents free flow of water through the pipe.	Water flows freely through pipes.
	Broken joint or joint leaks.	Damage to the pipe or pipe joints allowing water to seep out.	Pipe does not allow water to exit other than at the outlet to the trench.
	Cleanout caps	Cleanout caps are broken, missing, or buried.	Cleanout caps are accessible and intact.
Structure	Flow not reaching trench	Flows are not getting into the trench as designed.	Water enters and exits trench as designed.
	Perforated pipe plugged	Flow not able to enter or properly exit from perforated pipe.	Water freely enters and exits perforated pipe.
	Flow not spreading evenly at outlet of trench	Outlet flows channelizing or not spreading evenly from trench.	Sheet flow occurs at the outlet of the trench.
	Cleanout/inspection access does not allow cleaning or inspection of perforated pipe	The cleanout/inspection access is not available.	Cleanout/inspection access is available.
Filter Media	Filter media plugged	Filter media plugged.	Flow through filter media is normal.
Inspection	Frequency	Annually and prior to and following significant storms.	Inspect dispersion trench system for any defects of deficiencies.

NO. 28 – NATIVE VEGETATED SURFACE / NATIVE VEGETATED LANDSCAPE BMP

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance Is Performed
Site	Trash and debris	Trash and debris accumulated on the native vegetated surface/native vegetated landscape site.	Native vegetated surface site free of any trash or debris.
Vegetation	Native vegetation type	Less than two species each of native trees, shrubs, and groundcover occur in the design area.	A minimum of two species each of native trees, shrubs, and groundcover is established and healthy.
	Native vegetated area	Less than 90% if the required vegetated area has healthy growth.	A minimum of 90% of the required vegetated area has healthy growth.
	Undesirable vegetation	Weeds, blackberry, and other undesirable plants are invading more than 10% of vegetated area.	Less than 10% undesirable vegetation occurs in the required native vegetated surface area.
Vegetated Area	Soil compaction	Soil in the native vegetation area compacted.	Less than 8% of native vegetation area is compacted.
	Insufficient area	Less than 3.5 square feet of native vegetation area for every 1 square foot of impervious surface.	A minimum of 3.5 square feet of native vegetation area for every 1 square foot of impervious surface.
	Excess slope	Slope of native vegetation area greater than 15%.	Slope of native growth area does not exceed 15%.
Inspection	Frequency	Annually	Inspect native vegetation area for any defects of deficiencies

NO. 29 – PERFORATED PIPE CONNECTIONS BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Blocking, obstructions	Debris or trash limiting flow into perforated pipe system or outfall of BMP is plugged or otherwise nonfunctioning.	Outfall of BMP is receiving designed flows from perforated pipe connection.
Inflow	Inflow impeded	Inflow into the perforated pipe is partially or fully blocked or altered to prevent flow from getting into the pipe.	Inflow to the perforated pipe is unimpeded.
Pipe Trench Area	Surface compacted	Ground surface over the perforated pipe trench is compacted or covered with impermeable material.	Ground surface over the perforated pipe is not compacted and free of any impervious cover.
Outflow	Outflow impeded	Outflow from the perforated pipe into the public drainage system is blocked.	Outflow to the public drainage system is unimpeded.
Outfall Area	Erosion or landslides	Existence of the perforated pipe is causing or exasperating erosion or landslides.	Perforated pipe system is sealed off and an alternative BMP is implemented.
Inspection	Frequency	Annually and prior to and following significant storms.	Perforated pipe system is operating as designed.

NO. 30 – PERMEABLE PAVEMENT BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Surface cleaning/ vegetation control	Media surface vacuumed or pressure washed annually, vegetation controlled to design maximum. Weed growth suggesting sediment accumulation.	No dirt, sediment, or debris clogging porous media, or vegetation limiting infiltration.
Porous Concrete, Porous Asphaltic Concrete, and Permeable Pavers	Trash and debris	Trash and debris on the pavement interfering with infiltration; leaf drop in fall season.	No trash or debris interfering with infiltration
	Sediment accumulation	Sediment accumulation on the pavement interfering with infiltration; runoff from adjacent areas depositing sediment/debris on pavement.	Pavement infiltrates as designed; adjacent areas stabilized.
	Infiltration rate	Pavement does not infiltrate at a rate of 10 inches per hour.	Pavement infiltrates at a rate greater than 10 inches per hour.
	Ponding	Standing water for a long period of time on the surface of the pavement.	Standing water infiltrates at the desired rate.
	Broken or cracked pavement	Pavement is broken or cracked.	No broken pavement or cracks on the surface of the pavement.
	Settlement	Uneven pavement surface indicating settlement of the subsurface layer.	Pavement surface is uniformly level.
	Moss growth	Moss growing on pavement interfering with infiltration.	No moss interferes with infiltration.
	Inflow	Inflow to the pavement is diverted, restricted, or depositing sediment and debris on the pavement.	Inflow to pavement is unobstructed and not bringing sediment or debris to the pavement.
	Underdrain	Underdrain is not flowing when pavement has been infiltrating water.	Underdrain flows freely when water is present.
	Overflow	Overflow not controlling excess water to desired location; native soil is exposed or other signs of erosion damage are present.	Overflow permits excess water to leave the site at the desired location; Overflow is stabilized and appropriately armored.
Permeable Pavers	Broken or missing pavers	Broken or missing paving blocks on surface of pavement.	No missing or broken paving blocks interfering with infiltration.
	Level surface	Uneven surface due to settlement or scour of fill in the interstices of the paving blocks.	Pavement surface is uniformly level.
	Compaction	Poor infiltration due to soil compaction between paving blocks.	No soil compaction in the interstices of the paver blocks limiting infiltration.
	Dead grass	Grass in the interstices of the paving blocks is dead.	Healthy grass is growing in the interstices of the paver blocks.
Inspection	Frequency	Annually and after large storms, and as needed seasonally to control leaf drop, evergreen needles etc.	Permeable pavement is functioning normally.

NO. 31 – BIORETENTION BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Vegetation	Vegetation to be watered and pruned as needed and mulch applied to a minimum of 2 inches to maintain healthy growth.	Healthy vegetation growth with full coverage as designed.
Bioretention Area	Trash and debris	Trash and debris in the bioretention area; leaf drop in the fall season.	No trash or debris In the bioretention area.
	Sediment accumulation	Sediment accumulation in the bioretention area interfering with infiltration.	Water in the bioretention infiltrates as designed.
	Ponding	Standing water in the bioretention area for more than two days.	Standing water infiltrates at the desired rate.
	Inflow	Inflow not getting into bioretention; debris/sediment blockage at inlet features; native soil is exposed or other signs of erosion damage is present.	Unobstructed and properly routed inflow into bioretention area; inlet is stabilized and appropriately armored.
	Overflow outlet	Overflow water not controlled by outlet features; native soil is exposed or other signs of erosion damage is present.	Outlet features control overflow; overflow is stabilized and appropriately armored.
	Underdrain	Underdrain is not flowing when bioretention area has been infiltrating water.	Underdrain flows freely when water is present.
Vegetation	Plant health	Plants not thriving across at least 80% of the entire design vegetated area within the BMP; overly dense vegetation requiring pruning.	Healthy water tolerant plants in bioretention area, plants thriving across at least 80% of the entire design vegetated area within the facility.
	Plant species	Plants not water tolerant species.	Plants are water tolerant.
	Weeds	Weeds growing in bioretention area.	No weeds in bioretention area.
	Watering	Planting schedule requires frequent watering (approx. weekly Year 1, bimonthly Years 2 and 3) for new facilities, and as needed for established plantings or dry periods	Plants are established and thriving
	Pest Control	Signs of pests, such as wilting or chewed leaves or bark, spotting or other indicators; extended ponding period encouraging mosquitoes	Plant community is pest-free when following an approved Integrated Pest Management plan; bioretention functioning normally and ponding controlled as needed for pest control
Containment Berm and Earthen Slopes	Erosion;	Erosion occurring at earthen slopes or containment berm side slope.	Erosion on the containment berm and side slopes has been repaired and the cause of the erosion corrected.
	Voids created by nuisance animals (e.g., rodents) or tree roots	Voids affecting berm integrity or creating leaky pond condition	Voids have been repaired; facility is free of nuisance animals following an approved Integrated Pest Management plan.
	Settlement	Any part of the containment berm top has less than 6 inches of freeboard from the maximum pond level to the top of the berm.	A minimum of 6 inches freeboard from the maximum pond level to the top of the berm.
Amended Soil	Soil nutrients	Soil not providing plant nutrients.	Soil providing plant nutrients.
	Bare spots	Bare spots on soil in bioretention area.	No bare spots, bioretention area covered with vegetation or mulch mixed into the underlying soil.
	Compaction	Poor infiltration due to soil compaction in the bioretention area.	No soil compaction in the bioretention area.
Inspection	Frequency	Annually and after large storms, and as needed seasonally for pruning, plant maintenance, pest control and to control leaf drop, evergreen needles etc.	Bioretention facility is functioning normally; plant community is thriving and pest-free.

NO. 32 – RAINWATER HARVESTING BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Storage volume	No rain water in storage unit at the beginning of the rain season.	Maximum storage available at the beginning of the rain season (Oct. 1st).
Collection Area	Trash and debris	Trash of debris on collection area may plug filter system	Collection area clear of trash and debris.
Filter	Restricted or plugged	Filter is partially or fully plugged preventing water from getting in to the storage unit.	Filter is allowing collection water into storage unit.
Inspection	Frequency	Annually and after large storms	Rain harvesting equipment is functioning normally.
	Maintenance log	A Maintenance log must be kept and available for review by KC staff.	Maintenance log is kept and is available to KC staff.

NO. 33 – ROCK PAD BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on rock pad site.	Rock pad site free of any trash or debris.
Rock Pad Area	Rock pad size	Rock pad is not 2 feet by 3 feet by 6 inches thick or as designed.	Rock pad is 2 feet by 3 feet by 6 inches thick or as designed.
	Vegetation	Vegetation is seen growing in or through rock pad.	No vegetation within rock pad area.
Rock	Exposed soil	Soil can be seen through the rock pad.	Full thickness of the rock pad is in place, no soil visible through rock pad.
Inspection	Frequency	Annually and after large storms	Rock pad is functioning normally.

NO. 34 – SHEET FLOW BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on the sheet flow site.	Sheet flow site free of any trash or debris.
Sheet flow area	Erosion	Soil erosion occurring in sheet flow zone.	Soil erosion is not occurring and rills and channels have been repaired.
	Concentrated flow	Sheet flow is not occurring in the sheet flow zone.	Sheet flow area is regraded to provide sheet flow.
Inspection	Frequency	Annually and after large storms	Rain harvesting equipment is functioning normally.

NO. 35 – SPLASH BLOCK BMP

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Site	Trash and debris	Trash and debris accumulated on the splash block.	Splash block site free of any trash or debris.
Splash Block	Dislodged	Splash block moved from outlet of downspout.	Splash block correctly positioned to catch discharge from downspout.
	Channeling	Water coming off the splash block causing erosion.	No erosion occurs from the splash block.
	Downspout water misdirected	Water coming from the downspout is not discharging to the dispersal area.	Water is discharging normally to the dispersal area.
Inspection	Frequency	Annually and after large storms.	Rain harvesting equipment is functioning normally.

NO. 36 – VEGETATED ROOF BMP (Retained from the 2009 SWDM for reference)

Maintenance Component	Defect or Problem	Conditions When Maintenance is Needed	Results Expected When Maintenance is Performed
Preventative	Vegetation	Vegetation to be watered and pruned as needed to maintain healthy growth.	Healthy vegetation growth with full coverage as designed.
Site	Trash and debris	Trash and debris has accumulated on the vegetated roof.	Vegetated roof free of any trash or debris.
Waterproof Membrane	Leaking	Waterproof membrane breached.	Waterproof membrane has no tears or holes allowing water through it.
Drainage Layer	Drainage pathway	Drainage layer flow plugged or obstructed.	Drainage layer passing water with no obstruction.
Drainage	Overflow	Drainage of overflow is obstructed.	Overflow has no obstruction.
Growth Media	Compaction	Soil in the growth media area compacted.	No part of the growth media is compacted.
	Erosion	Growth media washed out.	Growth media is not being washed away.
	Nutrients	Plants are not thriving.	Growth media has proper nutrients to support plant growth.
Vegetation	Vegetation Type	Vegetation species not succulents, grass, herbs, and/or wildflowers adapted to harsh conditions.	Correct species of vegetation is used.
	Vegetation Area	Healthy vegetation covers less than 90% of vegetation area.	Healthy vegetation covers more than 90% of vegetation area.
	Undesirable Vegetation	Weeds and other undesirable plants are invading more than 10% of vegetated area.	No undesirable vegetation occurs in the vegetated area. No herbicides or pesticides used to control undesirable vegetation.
	Special Vegetation	Special vegetation not thriving.	Special vegetation is kept healthy and inspected on frequent schedule.
Border Zone	Access	Border zone limited by vegetation overgrowth or other means.	Border zone is kept open so vegetated area is accessible.
Gravel Stop	Containment	Gravel stop does not contain overflow or divert it to a designed outlet.	Overflow water is only exits from the designed outlet.
Inspection	Frequency	Annually and after large storms.	Rain harvesting equipment is functioning normally.
		Vegetation inspected monthly.	Vegetation is kept healthy and thriving.

APPENDIX C

UNIVERSITY PLACE
STORMWATER BASIN EDUCATION MAP

Where does the Stormwater from Your Neighborhood go?

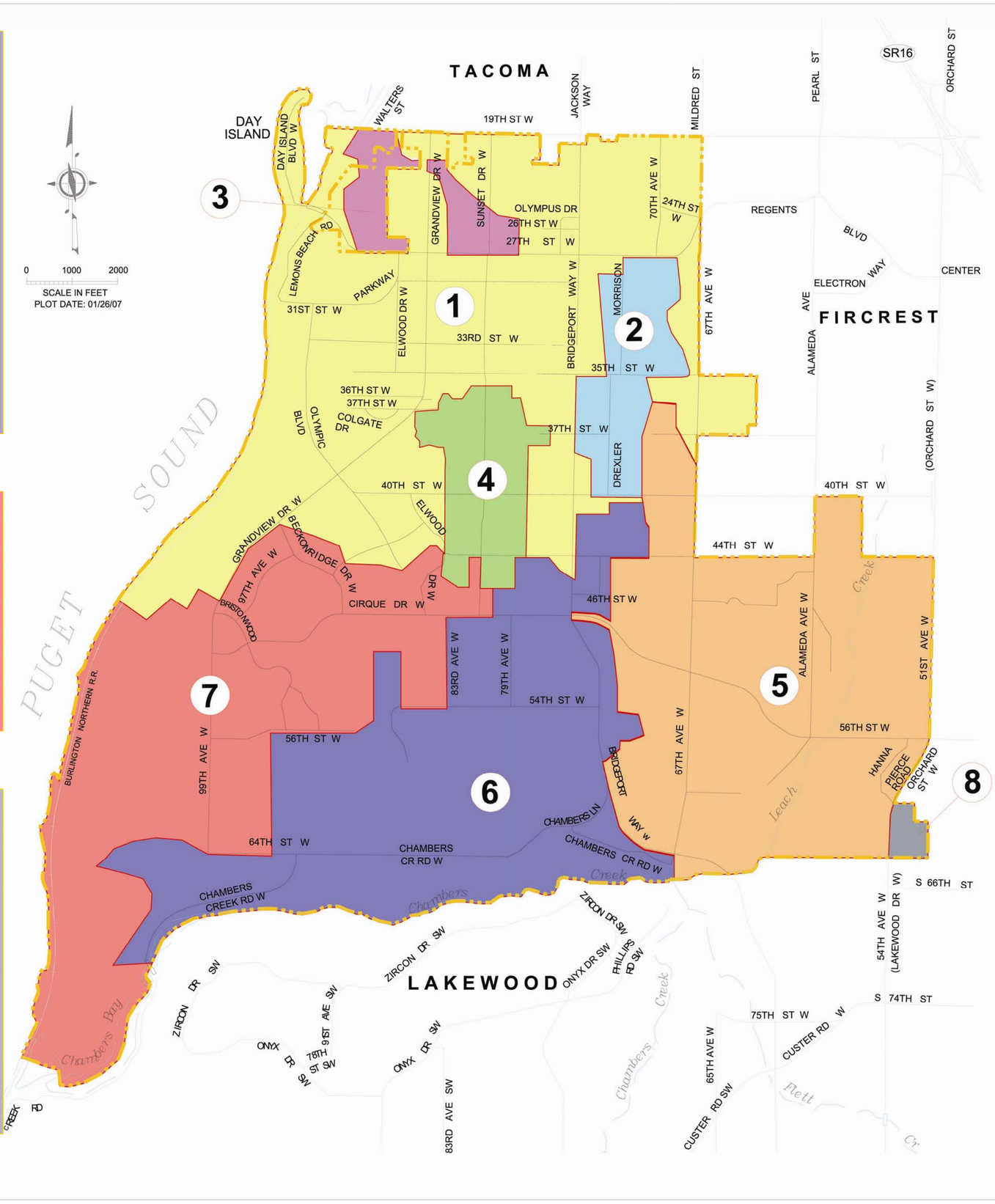
Every time it rains, water runs off your roof, lawn, driveway and street, picking up contaminants such as fertilizer, bacteria from dog waste, motor oil and antifreeze. The water and contaminants then enter the nearest storm drain. Once it enters the storm drain, it travels through the City's stormwater system to one of eight locations. Use the map to find out where the stormwater system directs stormwater from your neighborhood.

1. Day Island and Soundview drainage basins: In these basins, the storm water is collected in both pipes and open ditches that drain directly to Puget Sound.

2. Morrison Pothole drainage area: In this area, storm water drains to the Morrison Wetland located between Morrison road and 67th Avenue, immediately adjacent to the Adriana Wetland Park (on Morrison). In high storm events, this wetland overflows into the Day Island basin that drains into the Sound.

3. Crystal Springs Creek basin: In this area, storm drainage drains directly to Crystal Creek at the north end of the City. This creek runs into Puget Sound at the Day Island lagoon.

6. Chambers Creek basin: Storm water in this basin drains to Chambers Creek either directly into the creek or though Peach Creek. Chambers Creek supports Silver, Chum and Chinook salmon and runs into the sound at Chambers Bay.



4. Curtis Pothole: This area in the center of the City drains to a depressed area near Curtis High School. From there the water ponds and eventually infiltrates into the groundwater.

5. Leach Creek basin: Storm water in this area on the east side of the City drains directly into Leach Creek. Both Silver and Chum salmon use this creek for spawning. This creek ultimately runs into Chambers Creek near the Kobayashi park.

7. West Side basins: Storm water in the southwest area of the City either infiltrates into the groundwater or drains directly to Puget Sound.

8. Flett Creek basin: Water in this area drains to the south into Lakewood and ultimately runs into Flett Creek. This creek joins into Chambers Creek near the Kobayashi park.

How Can You Help?

In the Yard—cut down on fertilizer use, or just use compost

Your Car—Repair leaky car problems and use commercial car washes

At Home—Use environmentally friendly cleaning products.

With Pets—Always pick up after pets and put their waste in the trash

APPENDIX D

UNIVERSITY PLACE
ILLICIT DISCHARGE DETECTION & ELIMINATION (IDDE) PROGRAM

Illicit Discharge Detection and Elimination Component

University Place
WASHINGTON

4951 Grandview Dr W
University Place, WA 98467
PH: 253.460.6493 FAX: 253.460.6497

The City of University Place will implement the following Illicit Discharge Detection and Elimination program which meets the requirements of the Permit to actively seek and eliminate illicit discharges.

1.1 Introduction

The City's program to actively seek and eliminate illicit discharges to the MS4 is comprised of several programs participated in and implemented by the City. In general, illicit discharges to the MS4 are any discharges not composed entirely of storm water (for example: storm water containing pollutant or non-stormwater discharges) unless they are authorized under an NPDES Permit or specifically permitted by the City (see Section 3, Non-Stormwater Discharges). For the most part, the programs that the City implements to detect and eliminate illicit discharges are part of the City's Permit. Programs such as those that relate to the inspection and enforcement of municipal, industrial, commercial, residential, and construction activities all contribute to the identification of illicit discharges and their elimination. These programs are crucial components of an illicit discharge detection and elimination program because they are focused on the sources of illicit discharges. Often, when an illicit discharge is detected during one of these programs, it can be eliminated before it affects receiving water.

In a comprehensive approach to the problem of illicit discharges, the City also participates in and conducts programs to detect illicit discharge within the MS4 and at the receiving waters. The City participates in a regional receiving water monitoring program required by the Permit. The City will also participate in the MS4 Outfall Monitoring and Source Identification Monitoring programs implemented at the regional level and conduct a Dry Weather Monitoring program. Each of these programs is focused on the identification of non-storm water illicit discharges.

Also, extremely important to the detection of illicit discharges are the municipal staff and public reporting hotlines. The programs are directly supported by a very informed public and city staff familiar with urban runoff discharges and they serve as the best source for the timely detection of illicit discharges.

Monitoring programs, inspections, public reporting and city staff reporting are good detectors of illicit discharges. However, in some cases the sources of the discharges are not evident and, therefore, elimination can be difficult. The City implements investigational source identification procedures in conjunction with the monitoring and notification programs in order to track down the sources and eliminate the discharge.

In almost all cases of illicit discharges, elimination of the discharge requires some level of enforcement and/or abatement action. Specifications in the University Place Municipal Code grant the City the powers to enforce its regulations pertaining to illicit discharges. In addition, the Municipal Code provides the City the ability to require a responsible party to conduct abatement activities required to eliminate an illicit discharge or for the City to conduct those activities itself and recover the cost from the responsible party.

Of the greatest importance to the long-term elimination of illicit discharges in the City are those programs that it employs to prevent and avoid illicit discharges. City regulations and supporting

outreach materials prepared by the City prohibit illicit discharges and provide guidance to residences and businesses to avoid illicit discharge. Maintaining up-to-date measures to comply with the City's regulations and educating those that are regulated by the City will lead to compliance and reduce illicit discharges. The land development and redevelopment project planning and review program conducted by the City is another proactive program that the City implements to prevent and avoid illicit discharges. The program informs applicants of regulations and helps prevent illicit discharges in new projects through review and inspection during the planning and construction phases, respectively.

The programs conducted by the City as part of its illicit discharge detection and elimination effort are described in various sections within this document. The following sections discuss some of those programs that are not described within the other sections of this document.

1.2 Public Reporting of Illicit Discharges and Connections

The City will promote, publicize and facilitate the reporting of illicit dischargers or water quality impacts associated with discharges into or from MS4.

The City of University Place relies on the regional hotline, the local City departmental phone numbers, and the City's main number to receive storm water complaints from the public. Callers with emergencies are notified to call other appropriate numbers such as those for the police and fire dispatcher, or the call is forwarded.

Locally, University Place residents are encouraged to contact the City's main line to file complaints including storm water or illicit discharges. All City receptionists, including the receptionist for the City's main line, are trained to answer and forward illicit discharge or water quality related calls to the appropriate staff member using the Hotline Tracking Form and Mobilization Guide. Calls may also be received by other City departments including Public Works or Community Services.

The regional public hotline and local City department phone numbers are publicized in various periodicals, on various web sites (including City of University Place and Pierce County websites), and at local community events and meetings where literature is distributed. Most urban runoff related handouts and educational materials include the hotline number. In addition, public education stresses the importance of reporting and describes the critical role that the public plays in the identification and elimination of urban runoff pollution related problems.

1.3 Spill Reporting, Response, and Prevention

As required by the Permit, the City of University Place will prevent, respond to, contain and clean up sewage and other spills that may discharge into its MS4 from any source. The following section describes the City's approach to spill prevention, notification and response.

1.3.1 Spill Prevention

1.3.1.1 Pierce County Sanitary Sewers

The Pierce County's preventive and corrective sewer maintenance programs are conducted in accordance with the County's Sanitary Sewer Overflow Prevention Plan and consist of a variety of activities for the effective operation, maintenance, repair and replacement of sewer mains, manholes and pump stations. The plan provides for the routine monitoring, inspection, cleaning and related maintenance of the sanitary sewer collection system in order to reduce the potential of sanitary sewer overflows (SSO's) and other structural failures. Potential problems are noted and maintenance schedules adjusted accordingly. If necessary, repairs are initiated by Pierce County Public Works maintenance crews. Larger, more complex projects are referred for inclusion in the Capital Improvement Project process for planning, design and construction.

When system malfunctions do occur, such as SSO's, main stoppages, electrical outages, and mechanical breakdowns, the cause of the problem is investigated and analyzed to prevent its reoccurrence. Maintenance schedules are then adjusted as necessary. If appropriate, the infrastructure component is referred for repair or replacement by maintenance crews.

1.3.1.2 Private Sewer Laterals and Septic Systems

Pierce County requires that private sewer laterals and septic systems be designed and operate in accordance to industry standards. The County also requires the proper maintenance of these facilities in order to avoid spills, breakages, and failures.

Pierce County responds to all sewer spills to assess the risk to human health and the environment, and requires private sewer lateral and septic system failures and spills to be contained and cleaned by the responsible party. Private lateral spills and septic system failures that discharge into the City's MS4 are logged and reported by the County. In the event that a private sewer lateral spill or septic system failure poses a risk or the discharge has entered the MS4 or the receiving waters, Pierce County will initiate containment and clean-up procedures to minimize the impact.

1.3.1.3 Other Spills

The City of University Place prevents other spills containing or suspected to contain pollutants through the implementation of BMPs, secondary containment, and other mechanisms to prevent and avoid discharges to the receiving waters (through the MS4 or directly). Spills from private businesses and residents are reduced through required BMPs, education, and enforcement of relevant regulations for the storage and usage of hazardous materials. Other non-hazardous spills are investigated and enforcement action led by the City of University Place Public Works and Code Enforcement departments. Hazardous waste or materials spills are referred to Fire Department and/or the State of Washington's Department of Ecology Hazardous Materials Response team.

1.3.2 Spill Notification

The City operates a notification hotline under its Public Works Department to receive notification of spills during business hours. After hours and on weekends, these calls are answered through after hours On-call personnel. Sanitary sewer spills are immediately reported to Pierce County Department of Environmental Health by the City's Public Works staff.

1.3.3 Spill Response

Responses to sewer spills are conducted in by Pierce County's Sewer Department accordance to the County's Sanitary Sewer Overflow Response Plan. The County has on-call Public Works duty personnel 24 hours a day, 7 days a week that respond upon notification through the dispatcher. Implementation of the spill response plan will prevent entry of spills into the MS4 and contamination of receiving waters to the maximum extent practicable.

Responses to other spills are conducted by the Fire Department or qualified personnel in the Public Works Department, as appropriate to the situation.

1.4 Urban Runoff Monitoring

1.4.1 MS4 Outfall Monitoring

In accordance with the Permit Sections pertaining to Receiving Waters Monitoring and Reporting Program, the City of University Place developed a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet and dry weather. The program includes a rationale and criteria for selection of outfalls to be monitored. The program also includes collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program will be implemented within each watershed.

The monitoring design is based on a combination of both random and targeted sampling of MS4 outfalls that drain into receiving waters. Random sampling will be conducted to assess citywide conditions of MS4 outfall water quality. Targeted sampling will be conducted to assess the relative contribution of particular MS4 outfalls. The targeted approach focuses monitoring efforts on those MS4 outfalls that are most likely to contribute to receiving water problems. Both random and targeted sampling will be implemented during wet and dry weather periods.

1.4.2 Source Identification Monitoring

In accordance with the Permit, the City of University Place developed a monitoring program designed to identify sources of discharges of pollutants causing the priority water quality problems within each watershed. The monitoring program includes focused monitoring which moves upstream into each watershed as necessary to identify sources. The monitoring program uses source inventories and "Threat to Water Quality" analysis to guide monitoring efforts. This program will be implemented within each watershed.
The monitoring design is based on a combination of both specific activity sampling and targeted sampling of flows within MS4 conveyances. If adequate information already exists on pollutant sources within an MS4 drainage, sampling will focus on those sources or specific activities. However, if water quality problems are identified by other monitoring programs and insufficient information exists that indicate the specific sources of the problem; sampling will be conducted at these targeted locations.

1.4.3 Dry Weather Field Screening and Analytical Monitoring

This section incorporates and describes the City's Dry Weather Field Screening and Analytical Monitoring Program to be conducted in accordance with the requirements of Permit sections

At a minimum, the program includes the following:

- Selection of dry weather field screening and analytical monitoring stations

- A complete, updated MS4 map (including locations of the MS4, dry weather field screening and analytical monitoring sites, and watersheds
- Dry weather field screening and analytical monitoring procedures

In accordance with the requirements of the Permit, thr Dry weather monitoring program consists of (1) field observations; (2) field screening monitoring; and (3) analytical monitoring at selected stations. The program is designed to detect and eliminate illicit connections and illegal discharges to the MS4 using frequent, geographically widespread dry weather discharge monitoring and follow-up investigations.

The Dry Weather Field Screening and Analytical Laboratory Monitoring program consists of annual and other routine inspections of the City's MS4 at established dry weather monitoring stations. Annual inspections consist of visual observations at each station, field screening for a specific set of analytes at stations which have flowing or ponded water. If any field screening or laboratory analysis result exceeds predetermined action levels follow-up testing will be conducted at that station within two business days. If follow-up sampling confirms the exceedance or if investigating personnel observes suspicious flow during the initial or follow-up site visit, City staff will conduct a source investigation.

1.4.4 Coastal Storm Drain Monitoring

The Coastal Storm Drain Monitoring (CSDM) Program is designed and implemented as part of the Receiving Waters Monitoring Program. Although this program is a component of the Receiving Water Monitoring Program, the results and frequent inspection of coastal storm drain outlets allow City staff frequent opportunity to inspect and observe a large portion of the City's MS4. The majority of the City's MS4 system drains directly to the Puget Sound. Therefore visiting and sampling all of the City's coastal storm drains on a periodic basis provides the City with frequent opportunity to detect illicit discharges. Any discharges suspected of containing harmful levels pollutants when observed during coastal monitoring will be investigated using the source investigation and follow-up procedures described in Section 1.5.

The CSDM program consists of periodic inspections of all the coastal storm drains outfalls which discharge into the Puget Sound. Visual observations are documented during each site visit. If water is flowing from the storm drain at the time of inspection the investigator will conduct field screening tests.

If re-sampling exhibits continued exceedances of AB411 or Basin Plan standards in either the storm drain or receiving water, investigations of the sources of contamination commence within one business day. Investigations of the source of contamination occur immediately if evidence of abnormally high flows, sewage releases, or similar evidence is observed.

1.5 Follow-up and Enforcement

This section provides a description of the City's follow-up investigation and inspection procedures for dry weather monitoring results above the established regional action levels or other information which indicate potential for illicit discharges, illicit connections or other sources of non-storm water. This section also includes procedures for eliminating detected illicit discharges and connections, a description of enforcement mechanisms and how they are implemented.

1.5.1 Source Investigation

The City conducts source investigations when an illicit discharge is detected or suspected, and the source of the illicit discharge is not readily identifiable. The purpose of source investigations is to locate the source of an illicit discharge so that all necessary measures to eliminate it can be implemented.

1.5.1.1 Initiation

Source investigations are initiated when appropriate information suggests a reasonable potential for the presence of an illicit discharge. Such instances may include the following:

- A public citizen or City staff reports the observation of a possible illicit discharge.
- Results from one of the Receiving Waters Monitoring programs indicate the possibility of an illicit discharge.
- Dry weather monitoring identifies pollutant levels that exceed the action level.
- Professional judgment by monitoring personnel determines that there is a reasonable potential for an illicit discharge to exist due to visual observations or measurements.

In accordance with the Permit, if dry weather field screening analytical results meet or exceed action criteria, the City will initiate source investigation within two business days of receipt of the monitoring results or provide a rationale for why the discharge does not pose a threat to water quality and does not need further investigation.

In some cases, just the existence of flows in a portion of the MS4 or the noticeable increase in dry weather flows at a certain location may trigger a source investigation. The City's monitoring personnel will use their judgment and experience in making such a decision based on site specific observations. Visually obvious illicit discharges (i.e. color, odor, or significant exceedances of field screening action levels) will be investigated immediately.

1.5.1.2 Source Investigation Procedures

The Dry Weather Monitoring personnel will typically conduct source investigations. In some cases, City personnel may conduct a source investigation. When conducting a source investigation, the staff member should be equipped with the set of equipment listed in the Dry Weather Monitoring Program Field Manual that is included as part of the Dry Weather Monitoring Program.

Step 1 – Location of Observation: Source investigations begin at the location where the observations were made which initiated the investigation. If someone made the observations other than the person or persons conducting the investigation (the investigators) or if the observations were made more than several hours prior to the initiation of the source investigation, the source investigation should begin with a thorough visual inspection of the location. If flows exist, samples should be collected for field screening analysis as deemed appropriate by the investigators. If the illicit discharge is still occurring and it poses a substantial threat to human health or the environment actions should be taken immediately by the City to prevent or minimize the discharge from entering the receiving waters.

Step 2 – Source Tracking Determination: While at the observation location, the investigator should consult various resources such as MS4, drainage basin, and land use maps to determine the characteristics of the tributary areas and upstream sources. In some instances, the investigator may be able to identify probable sources of the illicit discharge based on the expected activities of upstream sites or the results of previous investigations. If this is the case, the investigator may choose to go directly to these potential sources to investigate if they are the source of the illicit discharge.

If visits to potential sources do not reveal the cause of the illicit discharge, if potential sources are too numerous, or if potential sources cannot be identified while at the observation location, the investigator should track the discharge upstream through the MS4.

If the discharge has ceased it may be impossible to track the source. In these circumstances, the investigator should document that the discharge has ceased and cannot be tracked. A brief drive- or

walk-through survey of the tributary area should be conducted and documented to verify that there is no obvious source. In some cases, although a discharge has ceased, the sources may still be identified by evidence of a discharge (wet pavement, discoloration, etc.) at the site or further upstream. For example, if a sediment laden discharge was reported, an upstream site may reveal signs of sediment discharge such as deposits along curbs or in inlets, signs of eroded slopes, or exposed soils lacking required BMPs.

Step 3 – Source Tracking: If source tracking is determined appropriate, the investigator should use MS4 maps, drainage basin maps and other resources to aid in the tracking. Any traceable characteristic of the illicit discharge (color, constituents, odor, quantity, etc.) should also be noted, as these will aid the investigator in making decisions during tracking and identifying sources. The City's strategy for source tracking is not necessarily to immediately find the discharge directly to its source, but instead, to follow the discharge upstream, thereby reducing the tributary area and potential sources. Once the set of possible sources has been reduced to a manageable set, the investigator may choose to end the source tracking and to continue the investigation by inspecting the various potential sources. However, if none of these can be identified as the source of the discharge, or if the investigator cannot identify any potential sources, tracking may be required to be conducted all the way up the drainage area.

In order to conduct source tracking, the investigator should work his or her way upstream along the main portion of the MS4, ruling out potential tributaries and narrowing the potential source area. When tributary pipes or inlets are encountered while working upstream along the MS4, the investigator should evaluate each for their potential to be the conveyor of the discharge. If the tributary pipe or inlet is dry and the discharge is still occurring along the mainline, it can automatically be eliminated as the source. If the pipe or inlet is the source of the flow in the main portion of the MS4, then the tracking should continue along that pipe or inlet. If the main portion of the MS4 and the tributary pipe or inlet both contain flow, more detailed observations must be made.

The investigator may be able to rule out one of the conveyances based on simple visual observations and the characteristics of the illicit discharge. Field screening sampling of the flows from the two conveyances may also be appropriate depending on the constituents in the illicit discharge.

Tracking along underground MS4 conveyances is more difficult because observations can only be made at the locations of manholes, outlets, and inlets. The MS4 map will prove the most useful for these investigations, although the underground portions of the MS4 in University Place is very limited. Tracking upstream along an underground conveyance usually consists of periodic observations at manholes and other access locations along the MS4. If the map indicates the confluence of two MS4 conveyances, or if an unmapped confluence is suspected, if possible, the investigator should make observations at the point of confluence. Otherwise, the investigator should make observations at the nearest access point upstream along each conveyance. When tracking along underground conveyances, the investigator should be aware that illicit connection or unmapped confluences may exist between observation points that could be the source of the discharge. The investigator should check surrounding inlets if such an instance is suspected.

If the source cannot be located and an illicit connection is suspected, the investigator should check the surrounding area and consult appropriate City personnel or City records for evidence of infrastructure construction or other activities that might have involved the installation of an illicit connection.

In the case of chronic illicit discharges for which a source cannot be identified, the City may choose to conduct dye testing, smoke testing, video monitoring, and/or underground visual inspections using closed circuit televising techniques.

Once the source of a discharge has been identified, if the discharge is still occurring, it must be eliminated. Section 1.5.2 of this document describes the discharge elimination process.

Step 4 – Damage Assessment: After the discharge has been terminated, the investigator or Code Enforcement personnel should travel downstream from the discharge to assess the impacts that the discharge caused to downstream resources. Additional remediation may be required of the responsible party if downstream impacts are detected. Monitoring may also be necessary to ensure recovery of downstream areas. City staff may also want to consider the level of downstream impact caused by the illicit discharge, prior to deciding on which level of enforcement action is appropriate for the case.

Step 5 – Reporting and documentation: Thorough documentation of a source investigation will be conducted by the investigator. Documentation may include photographs, detailed notes on observations, discussions on decisions made, and other information relevant to the investigation. This information could be useful to future investigations, and possible future resolution of illicit discharges for which sources were unidentified. It is also important because this information supports any enforcement actions. Appendix 1-F is a Source Investigation Record Form which may aid in documenting the investigation. City staff will either use this form or an equivalent method when documenting a source investigation. All documentation and other information relevant to source investigations should be made available to Code Enforcement once the source is identified, if a citation or other enforcement action is to be considered.

1.5.2 Discharge Elimination

As required by the Permit, depending on the type of illicit discharge detected, the City will eliminate the discharge as soon as possible after detection by means of various procedures. As described in detail below, elimination measures will include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to public health or the environment will be eliminated immediately.
If the owner or manager of the property where the discharge originates is present at the time of investigation or inspection, the investigator will make their best effort to get the owner or manager to immediately terminate the discharge. The actions required of the responsible party to eliminate the illicit discharge will vary depending on type of illicit discharge. Clean up or remediation actions may also be required of the responsible party.

If the owner or manager is unwilling to cooperate, the investigator should immediately contact Code Enforcement personnel who will issue a citation to the discharger and an order to make the necessary alterations to terminate and clean up the discharge. Depending on the egregiousness of the discharge, the investigator may opt to have the Code Enforcement officer issue a citation even if the responsible party cooperates and terminates the discharge.
Regardless of whether or not a citation is issued, detection of an illicit discharge or illegal connection will be formally followed up with a Notice of Violation. A Notice of Violation is a form or letter that is used in the case of a violation of the City's Municipal Code. The City may also opt to issue a citation at the time the Notice of Violation is issued. By issuing these notices, the City requires the person responsible for the illicit discharge to conduct activities necessary to eliminate the illicit discharge at his or her own expense and prevent any further discharges from occurring in the future. The activities necessary for elimination and prevention will be described in the Notice. A deadline for correcting the infraction with the required activities will also be provided in the Notice.

A follow-up inspection may be conducted by City staff to ensure that abatement activities were successfully and adequately implemented. Follow-up investigations will be conducted by the City, if the City issued an order for a responsible party to cease and/or clean-up the discharge. In addition, if the source or activity causing the discharge is identified as possessing high potential for the occurrence of illicit discharges, periodic follow-up visits will be conducted to ensure that future discharges do not take place.

If the discharge poses a serious threat to public health or the environment, or the City determines that the individual responsible for the illicit discharge is incapable of performing such activities by the compliance date, or if the individual chooses not to perform the activities, the City may conduct the necessary activities and recover the resulting costs from the individual.

Illicit discharges that are the City's responsibility will be immediately eliminated by contacting the appropriate supervisor who oversees the activities that are causing the discharge. Action and communications will be documented through internal memorandums, emails, and work orders.

1.5.3 Enforce Ordinances

As required by the permit, the City will employ several enforcement mechanisms and penalties to ensure the compliance with its ordinances. The levels of enforcement and associated penalties are typically issued at the discretion of or the Code Enforcement officer with consideration of relevant circumstances regarding the violation.

1.6 Annual Reporting Requirements

The NPDES annual reports prepared by University Place for subsequent inclusion in the unified NPDES Annual Report will comply with the standard reporting requirements of the Permit. The City will be preparing a Dry Weather Field Screening and Analytical Monitoring Report that will address all the requirements pertaining to that program (as detailed in Appendix 1-E). The Illicit Discharge Detection and Elimination component includes additional reporting requirements. A summary of the reporting requirements for this component are provided below.

1.6.1 Dry Weather Monitoring and IDDE

- Correction of any inaccuracies in either the MS4 map or the Dry Weather Field Screening and Analytical Stations Map.

- Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted (within two business days) at sites where field testing or analytical action levels were exceeded, any City or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting requirements.

- Any dry weather field screening and analytical monitoring reports generated (by City or consultant), to be provided as an attachment to the annual report.
- A brief description of any other investigations and follow-up activities for illicit discharges and connections.
- The number and brief description of illicit discharges and connections identified.
- The number of illicit discharges and connections eliminated.

1.6.2 Spill Reporting

- Identification and description of all spills to the MS4 and response to the spills.
- A description of activities implemented to prevent sewage and other spills from entering the MS4.
- A description of the mechanism whereby notification of sewage spills from private laterals and

septic systems is received.

1.6.3 Hotline Reporting

- Number of times the hotline was called, as compared to previous reporting periods, and a summary of the calls.
- A description of efforts to publicize and facilitate public reporting of illicit discharges.

1.6.4 Enforcement

- The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved or describe actions that are being taken to achieve compliance.

1.6.5 Notable Activities

- A description of notable activities conducted to manage illicit discharges and connections.

1.7 Illicit Discharge Detection and Elimination Component Effectiveness Assessment (Optional)

The City of University Place will assess the effectiveness if it's Illicit Discharge Detection and Elimination Program. The effectiveness assessment will be based on the established regional effectiveness assessment guidelines.

1.8 Program Review and Modification

After each annual assessment of the Illicit Discharge and Elimination Component's effectiveness, any proposed or required modifications to the program will be placed in this section.

APPENDICES

1-A Public Hotline Tracking Form and Mobilization Guide
1-B MS4 Outfall Monitoring Program
1-C Source Identification Monitoring Program
1-D Dry Weather Monitoring Program

Appendix 1-A
Public Hotline Tracking Form and Mobilization Guide

City of University Place
Hotline Tracking Form

University Place WASHINGTON

4951 Grandview Dr W
University Place, WA 98467
PH: 253.460.6493 FAX: 253.460.6497

I. General Information Collection

Caller Name:_____ **Date:**_____

Caller Phone #:_____ **Time:**_____

Caller Address:_____ **Received by:**_____

_____ **Referred from:**_____

Nature of call:_____

_____

_____

Location:_____ **Source:**_____

Hazardous? ☐**Yes** ☐**No** **Approximate Quantity:**_____

II. Response (Check all that apply)

- ☐ **No Response**
- ☐ **Dispatch Public Works**
- ☐ **Dispatch Code Enforcement**
- ☐ **Dispatch Stormwater Enforce.**
- ☐ **Dispatch Eng. Inspection**
- ☐ **Dispatch Fire Department**
- ☐ **Contact CIP Programs**
- ☐ **Contact Facility Manager**
- ☐ **Contact Dept./Activity Mgr.**
- ☐ **Other:**_____

Business Hours Phone
7:00 am-4:30 pm 253.460.6493-
8- 5 pm 253.798.3133

After Hours Phone
Call out 253.208.7925

☐ **III. Resolution**

☐ **Describe:**

Appendix 1-B
MS4 Outfall Monitoring Program

Appendix 1-C
Source Identification Monitoring Program

Appendix 1-D
Dry Weather Monitoring Program

Dry Weather Field Screening and Analytical Monitoring Program

University Place
WASHINGTON

4951 Grandview Dr W
University Place, WA 98467
PH: 253.460.6493 FAX: 253.460.6497

1.0 Introduction

As required under our NPDES (Permit), the City of University Place (City) has reviewed and updated its existing Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Program). This program is a requirement and critical element of the Illicit Discharge Detection and Elimination component of the City's Stormwater Management Program.

In general, the Dry Weather Program is required to consist of field observations, field screening and analytical monitoring at selected stations. The purpose of the program is to detect and eliminate illicit connections and illegal discharges to the MS4 using frequent, geographically widespread dry weather discharge monitoring and follow-up investigations.

- Complete MS4 Map
- Develop Dry Weather Field Screening and Analytical Monitoring Procedures
- Conduct Dry Weather Field Screening and Analytical Monitoring

This document describes the Dry Weather Program that the City of University Place has developed.

2.0 Dry Weather Monitoring Locations

The City performs dry weather monitoring at catch basins, storm ponds, vaults, ditches and outfalls throughout the City during the course of the system maintenance activities. City staff also considered the following criteria in evaluating any potential illicit discharges at any monitoring location:

Drainage areas: The City delineated the drainage basins within the City of University Place based on the location of the City's storm drain system (including surface drainage, underground drainage, inlets, and outlets) and surface elevation. The City's natural drainage consists of several small drainage basins which discharge directly to the Puget Sound or Chambers Creek.

Land use: The City of University Place primarily consists of residential and commercial land uses. These land uses have the potential to impact water quality, therefore monitoring stations were located downstream of each of these land uses.

Accessibility and Safety: The safety of monitoring personnel is a critical concern. If monitoring personnel determine any location to be unsafe or inaccessible upon inspection, an alternate location will be monitored. Certain sites may need to be monitored or sampled at low tide due to limited accessibility or for safety.

Any location identified to exceed dry weather monitoring criteria for any constituents will continue to be monitored in subsequent years.

3.0 Storm Drain System Mapping

The City is required to develop and/or update a labeled map of its entire MS4 and corresponding drainage areas. As defined by the Permit, an MS4 consists of all conveyances within the City, including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, natural drainage features, modified natural channels, man-made channels, and storm drains that are owned or operated by the City. Currently the City has up-to-date GIS data for the MS4 and corresponding drainage areas. Additionally, the City has created maps showing public roads, streets, drainage basins, channels, and storm drains.

Due to the transfer of data from hardcopy drawings, maps or other documents to GIS, its complexity and the many elements that make up the City's MS4, minor inaccuracies or gaps are anticipated to exist. In addition, the maps will be constantly changing as new improvements or developments are constructed. In order to maintain a complete and accurate map, the different mapped elements will be verified during monitoring activities, as well as other activities conducted by the City such as maintenance. The MS4 and Dry Weather Station Map includes the most up to date and available information.

4.0 Dry Weather Analytical Monitoring Procedures

This section describes the City's procedures for conducting dry weather field screening and analytical monitoring and generally includes visual observations, field screening, and laboratory analysis. The following procedures meet the guidelines and criteria outlined in section II.B.3.c of the Monitoring Program. A separate field manual has been developed to provide more detailed guidance to the personnel conducting the monitoring and is included as Attachment 1.

4.1 Field Data Electronic Documentation

The City has developed an electronic field data collection system in conjunction with the Pierce County GIS system. All inspections, visual observations and field screenings are noted in the system.

City monitoring personnel will use the GIS system to keep track of dry weather visual observations and field screening results. Any follow-up activities related to illicit discharges are tracked on the Department of Ecology on-line reporting system.

4.2 Personnel Training

The City will adequately train field personnel to achieve consistent, accurate results from dry weather monitoring or will rely on a qualified environmental contractor. Field instruments should be calibrated daily and the viability (including expiration dates) of test kit reagents should be checked regularly. Periodically, the City may submit sample splits to the laboratory for analysis of the accuracy of their field testing methods. Duplicate samples may be analyzed in the field to assess precision. Establishing a record keeping system to track specific field activities such as samples collected and submitted, calibration records, and reagent expiration dates will assist the City in maintaining a high level of quality control.

4.3 Screening Frequency

Screening will occur throughout the year during the course of normal system maintenance activities.

4.4 Qualitative Field Observations

Qualitative field observations must be made during each site visit whether or not ponded or flowing water is observed. Field observations consist of documentation of a general site description, atmospheric conditions, runoff characteristics and flow estimation. The site description will include information such as the location, date, time, sampler and land use characteristics. Atmospheric conditions which will be documented in the field include weather, tide, time since last rain, and rainfall amount. Runoff observations will provide an assessment of variables such as odor, water clarity, the presence of floatables, visible deposits/stains, and biological character. Evidence of present or past illicit connections and illegal discharges to the MS4 can often be ascertained by careful field observations.

Photographing of the site can document the site conditions for the record and future reference and should be conducted when deemed appropriate by the monitoring personnel.

Qualitative field observations will be recorded on the most current version of the City's standard Dry Weather Monitoring Field Datasheet. The datasheet will serve as a record of the field visit and must be

completed for every site visit regardless of whether samples are collected. If one of the primary monitoring stations is dry, personnel conducting the monitoring will make and record all applicable observations and select another station from the list of alternate stations for monitoring.

Informal field observation of the monitoring stations may also be conduced and could be as often as every week. Informal field observations typically consist of a brief visual inspection whereas a formal field observation consists of completely documenting the observations on a monitoring form.

4.5 Field Screening Analysis

If flowing or ponded runoff is observed during formal field observations, and the flow or ponded runoff is sufficient to obtain a sample, a grab sample shall be collected for the purposes of conducting field screening analysis.
When a grab sample is taken for the purpose of field screening analysis, the sample will be analyzed onsite for the following constituents:

a) Turbidity
b) pH
c) Temperature

If flowing or ponded runoff is observed during an *informal* field observation, the personnel conducting the monitoring shall use his or her discretion as to whether or not to take a grab sample. Ponded runoff should not typically be sampled if it is stagnant and shows no recent signs of a source or contribution. Factors that should be considered in making a determination about collecting a sample should include the present conditions and characteristics of the site and runoff, the occurrence of illicit connections or illegal discharges at that location in the past, the conditions and uses in the tributary area, and other relevant factors. If a grab sample is taken, the informal field observation is then considered a formal field observation and a monitoring form must be completed.

Additional constituents may also be analyzed to aid in the field screening effort. All results of the field screening analysis will be recorded.

4.6 Analytical Laboratory Analysis

Samples may be analyzed for any or all of the following constituents should field conditions warrant additional sampling:

a) Total hardness
b) Oil and Grease
c) Diazinon and Chlorpyrifos
d) Cadmium (Dissolved)
e) Lead (Dissolved)
f) Zinc (Dissolved)
g) Copper (Dissolved)
h) Enterococcus bacteria
i) Total Coliform bacteria
j) Fecal Coliform bacteria

The personnel conducting the monitoring will use his or her discretion as to whether or not to take a grab sample at a particular site. Factors that should be considered in making a determination about collecting a sample should include the results of the field screening analysis, the present conditions and characteristics of the site and runoff, the historical occurrence of illicit connections or illegal discharges at that location, the conditions and uses in the tributary area, and other relevant factors. Unless a specific contaminant is expected, grab samples for analytical laboratory testing should be preceded by a field

screening analysis.

A grab sample that is taken for the purpose of analytical laboratory analysis will be collected, stored, and otherwise handled in accordance with standard analytical procedures as described in the attached field manual and provided by the laboratory of use. A summary of laboratory sampling and analytical requirements for a range of water quality parameters is provided in Table 1.

Field personnel must also follow strict sampling and chain-of-custody protocols when conducting dry weather analytical monitoring. Chain-of-custody records will be maintained for all samples sent to the laboratory. Proper chain-of-custody records provide critical documentation in enforcement cases involving illegal discharges. Once results of these analyses are available they may be recorded on the monitoring form for that site or attached directly to the form.

All dry weather data, visual observations, field screening results and laboratory analytical results will be entered into a data sharing spreadsheet.

4.7 Investigation Action Criteria

As required by the Monitoring Program, exceedance action levels for field screened and laboratory analyzed constituents were developed and continue to be evaluated and updated as needed by the appointed staff. An action level is a specific pollutant concentration that will trigger a source identification study when it is exceeded during dry weather monitoring.

Numeric Action Levels: The use of numeric action levels is the primary approach for interpreting pH, orthophosphate, nitrate, ammonia, MBAS, oil and grease, chlorpyrifos, and dissolved metal data results. Action levels for these constituents were determined based on best available data and staff experience and expertise. As new data becomes available the Workgroup will evaluate each of the constituent action levels and update as necessary.

Action levels for dissolved metals (Cd, Cu, Pb, and Zn) will vary depending on the total hardness of the water and based on Washington State Department of Ecology. Total hardness will be analyzed by the laboratory in order to calculate the action level for dissolved metals.

Statistical Confidence Interval: The identification of highly elevated concentrations using confidence intervals is the primary approach for interpreting total and fecal coliform bacteria, and enterococcus results.

As the City conducts the dry weather program a substantial amount of water quality data will be collected. This data may allow the determination of regional, jurisdictional-specific, or conveyance-specific background levels for subsequent dry weather monitoring seasons for many or all of the parameters. The various action levels and the usefulness of identifying outlier values with confidence intervals will be reevaluated after the each dry weather season.

Best Professional Judgment: The use of best professional judgment is the primary approach for interpreting turbidity, temperature, conductivity, and visual observations. As required by he Permit, obvious illicit discharges will be investigated immediately. These discharges could include abnormal color, clarity, odor, or flow volume.

Best professional judgment is also the secondary approach for interpreting the results of all other field and laboratory analyses. If results exceed certain action levels or are statistical outliers this may be due to natural or background factors. For example, conditions like highly elevated summertime water temperatures in exposed concrete conveyances, high ambient pH (>9.0) levels due to photosynthesis and CO_2 depletion, or elevated NO_3 or electrical conductivity readings in channels with high groundwater input are unrelated to illicit connections and illegal discharges. Field personnel will use best professional judgment to evaluate cases like this to determine whether or not source investigation is necessary.

If the results of field screening exceed the action levels or guidelines presented in Table 2, water quality personnel will initially confirm the results by resampling. A second water sample will be collected and analyzed between 4 and 24 hours after the initial sample was collected. Field personnel may opt to test only for the constituent that was in exceedance or screen for additional pollutants. Testing the sample for additional constituents would be warranted if field personnel think that the additional information would assist with the possible source investigation. In accordance with the Permit, if the resample confirms that the site is in exceedance of any of the action levels, within two business days of receiving the results, City personnel will either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation.

If any laboratory analytical result exceeds action levels, field personnel will initiate follow-up investigation within two business days. Depending on the analyte in exceedance and initial inspection of the site, field personnel may opt to initiate one of the several investigative actions:

- Confirm the initial result by collecting and sending a second sample to the laboratory for analysis. Field personnel may also resample for other constituents to get a better understanding of the composition of the discharge.
- Commence source investigation as described in the Illicit Discharge Detection and Elimination Component (Chapter 1) of this document.
- If field personnel have reasons to believe that a source investigation is not warranted, field personnel will document the rationale for why the discharge does not pose a threat to water quality.

Monitoring personnel shall use their discretion to determine if a source investigation is necessary. The decision should be based on site-specific characteristics. Any decision not to initiate an investigation when an action level was exceeded should be thoroughly documented on the monitoring form.

Other relevant factors that should be considered when deciding to initiate a source investigation include the type of MS4 conveyance (i.e. storm drain, open concrete channel, natural channel, etc.), the status of downstream receiving waters, and weather conditions when the samples/measurements were collected. Qualitative observations (dead animals, strong odors, the presence of an oily sheen on the water surface, excessive floatables or trash, etc.) may indicate that serious water quality problems are present at a location even when field and analytical sampling results are below action levels or not immediately available. The City will maintain enough flexibility in its dry weather program to enable water quality personnel to respond decisively to water quality problems as indicated by all of the available qualitative and quantitative information.

Any dry weather monitoring stations identified to exceed dry weather monitoring action levels for any constituents will continue to be monitored in subsequent years.

4.8 Source Investigation and Elimination of Illicit Discharges and Connections

Procedures for source identification follow up investigations and elimination of detected illicit discharges and connections will be conducted as required by the Permit and Section 1.5 of this document.

5.0 Conduct Dry Weather Field Screening and Analytical Monitoring

Implementation of dry weather field screening and analytical monitoring under the requirements of this Permit are in effect. Dry weather monitoring will be conducted in accordance with the City's storm water conveyance system map and dry weather analytical and field screening monitoring procedures as described in this document. If monitoring indicates an illicit connection or illegal discharge, follow-up investigation and elimination activities will be conducted as required by the Permit and the Illicit Discharge Detection and Elimination Component (Section 1) of this document.

6.0 Quality Control and Annual Report

Quality Control

Upon completion of dry weather field work and receipt of laboratory results the data will be entered into a standardized spreadsheet. All data will be entered by the same person and peer reviewed by a different staff member.

Annual Dry Weather Monitoring Report

As required by the Permit, the City will annually report all dry weather field screening and analytical monitoring results in the City's NPDES Phase II update. The data will be presented in tabular and graphical form. NPDES report will comply with the standard reporting requirements outlined in Section 1.6 of this document or at a minimum shall include the following related to the Dry Weather Monitoring Program:

- Correction of any inaccuracies in the MS4 map.
- Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted (within two business days) at sites where field testing or analytical action levels were exceeded, any City or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting requirements.
- Any dry weather field screening and analytical monitoring reports generated (by City or consultant), to be provided as an attachment to the annual report.
- A brief description of any other investigations and follow-up activities for illicit discharges and connections.
- The number and brief description of illicit discharges and connections identified.
- The number of illicit discharges and connections eliminated.
- The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved or describe actions that are being taken to achieve compliance.
- A description of notable activities conducted to manage illicit discharges and connections.

For ease of reading, the data and any follow-up sampling and/or investigation will be presented in the report by site. If relevant, historical data will also be analyzed and presented in conjunction with the current year's data so that any temporal data trends can be assessed.

Dry Weather Program Action Levels

Action Levels for Field Screening and Laboratory Analytical Parameters

ATTACHMENTS

1 Dry Weather Monitoring Field Manual
2 Dry Weather Monitoring Field Datasheet

Attachment 1 Dry Weather Monitoring Field Manual

City of University Place
Dry Weather Monitoring Field Manual

University Place WASHINGTON

4951 Grandview Dr W
University Place, WA 98467
PH: 253.460.6493 FAX: 253.460.6497

This manual provides detailed guidance for conducting the City's Dry Weather Field Screening and Analytical Monitoring Program. All monitoring personnel should review this manual prior to conducting monitoring, and should bring this manual in the field while conducting monitoring.

1.0 Field Equipment Checklist

The field equipment listed below is used to conduct dry weather monitoring. This list should be reviewed prior to conducting monitoring to ensure that the proper materials are on hand.

- Monitoring Station Checklist
- Monitoring Station and MS4 map(s)
- Field Datasheets
- Chain-of-Custody forms
- Field notebook
- Clipboard
- Pens and/or pencils
- Permanent felt tip pen
- Digital camera
- Nitrile/Latex gloves (powder free)
- Protective eyeglasses or goggles
- Rubber boots/waders (optional)
- Cooler and ice
- Paper towels
- Sealable plastic bags
- Tape
- Small Scissors
- Sample bottles and labels (see Lab Requirements, Table T1)
- Polypropylene bucket with rope, or sampling rod
- Sampling hand pump
- Portable field test kits, colorimeters, or spectrophotometer and all reagents for these meters.
- Multi-parameter or individual probes to measure temperature, electrical conductivity, and pH
- Extra batteries for all meters
- Flow measurement equipment (required equipment will depend on method used)
  - Measuring tape for measuring stream width
  - Folding scale for measuring stream depth
  - Current meter or wristwatch
- De-ionized water in squeeze bottles
  Sample Vials (2 boxes)
- Scratch-free Wipes for Spectrometer vials
- Two Plastic beakers
- Thermometer
- Waste disposal bottles or bags
- Sunscreen
- Hand Disinfectant
- Camera
- Safety Vest and safety cones
- Grate or Manhole tools
- Flashlight
- First Aid Kit

2.0 Station Visitations and Recording

Every sampling station identified on the Dry Weather Monitoring Stations Map must be subject to formal field observations at least once a year between May 31 and September 30. A monitoring station checklist should be used to track which stations have been visited for formal observations within the sampling period, and which ones have not. Formal field observation consists of completing a monitoring datasheet. The monitoring datasheet consists of five parts: general site description, visual observations of atmospheric conditions, runoff characteristics, field screening results, flow estimate, and comments. During every formal field observation, the general site description and atmospheric conditions must be completed.
The flow characteristics portion of the form only

needs to be completed when flow is present. The field screening results portion of the form must be completed only if field analysis of samples occurs.

3.0 Sampling Procedures

3.1Sampling Frequency

If flowing or ponded runoff is observed during formal field observations, and the flow or ponded 6. runoff is sufficient to obtain a grab sample, a grab sample shall be collected for the purposes of conducting field screening analysis. At a minimum, grab samples will be collected for analytical laboratory analysis at 25 percent of the monitoring stations where ponded or flowing water is observed.

3.2 Sampling Procedures

Dry weather monitoring involves the collection of *grab* samples only. The following procedures apply:

1 Use appropriate containers. Consult the laboratory, the manual for field sampling equipment, 40 CFR Part 136 or the latest approved edition of Standard Methods for the Examination of Water and 8. Wastewater to determine appropriate container types for each sample analysis. The laboratory will provide pre-cleaned sample bottles with preservatives already added for samples that require laboratory analysis.

2 Do not rinse pre-cleaned, preserved containers, as the preservative will be lost.

3 Use the proper preservatives, See Table 1 9. in the Dry Weather Program or other appropriate guidance. Use only analytical or laboratory grade reagents for sample preservation. Store samples in an ice chest at 4 ^{o} C until custody is transferred to the analytical laboratory directly or via contracted courier.

4 Wear latex gloves to avoid contaminating the sample and to protect skin from potential toxins or irritants. 10.

5 If practical, collect the sample at approximately 60% of the water's depth from the surface in an area of maximum turbulence (except when sampling for volatile organics). Avoid stagnant pools near the edge of flowing water unless the purpose is to sample a stagnant pool.

6 If entering the water is necessary for sampling, enter the water downstream of the sampling location disturbing as little of the bottom material as possible. Always take the sample upstream of your position so that the sample will not be contaminated by yourself or materials on the bottom of the channel that you may have disturbed.

7 Record all qualitative observations and field testing results on the field datasheet. Estimate the flow rate as described on the back of the field datasheet. Also note any changes to standard procedures (for whatever reason) and describe any unusual or noteworthy conditions or results in detail in the comments section.

8 Dispose of all spent reagents, reacted samples, and rinse solutions in the appropriate waste containers. Upon returning to the office or laboratory, decant these wastes into the sewer system of the office or laboratory, as permitted by local regulations. Be sure to clean all equipment (recheck calibration if any results were questionable), and restock reagents (if necessary).

9 If filtering samples in the field for dissolved trace metals analysis, do not preserve with HNO_3 until after the sample is filtered. Do not preserve unfiltered samples with HNO_3 if they are to be submitted for dissolved trace metals analysis. Filtration is more appropriate in the laboratory and should only be performed in the field under special circumstances.

10 Samples collected for laboratory analysis should be submitted to the laboratory as soon as possible after collection. Complete the following tasks for samples for laboratory analysis:

- Carefully pack the sample bottles in a cooler with ice.
- Fill out the chain-of-custody form making sure that all sample bottles are correctly labeled.
- Transport the samples to the laboratory within the required holding time.

4.0 Source Investigations

Source investigations are initiated when a suspicious discharge is observed or sampling results are in exceedance of action levels. Consult the most current version of the action level table produced by the Dry Weather Monitoring Workgroup when assessing sampling results and initiating source investigations. The City's Dry Weather Field Screening and Analytical Monitoring Program and Section 9.5 of the JURMP describe how to interpret results and conduct source investigation.

5.0 Equipment Maintenance

In order to ensure the quality of field results, maintenance of equipment must be given a high priority. All equipment must be cleaned and serviced at the end of a field shift.

1 All water quality meters must be calibrated in the laboratory or office before field use. Calibration solutions should remain uncontaminated and not be used after their expiration dates. Buffer solutions should be labeled with the date the bottle is opened and not be used if they have been stored longer than recommended by the method (see 1.0 above).

2 Field meters and cameras must be in proper working order. Make sure that batteries have sufficient voltage to power the equipment for the entire field trip. Recharge or replace them as necessary. Keep extra batteries in the instrument case. Probes should be inspected, cleaned and reconditioned regularly.

3 Clean and rinse all other sampling equipment after returning from the field. Store clean equipment in clear polyethylene bags or storage cases.

4. Glassware used in the field (e.g. graduated cylinders for sample dilutions, test kit flasks and/ or beakers) should be cleaned immediately after usage. Use laboratory detergent, a brush, and hot tap water or 10% Analytical Grade HCl. Rinse three to four times with deionized water and wipe the outside of the glassware dry with a white paper towel. Dry in an inverted position. Store the dry glassware in the cabinets with stoppers intact (volumetric flasks) or in an inverted position (beakers).

6.0 Quality Control/ Quality Assurance

Quality Assurance (QA) samples can be in the form of replicates, spikes, field blanks, method blanks, or synthetic samples. Dry weather monitoring programs may use various types of QA/ QC samples to assess the accuracy and precision of the field and laboratory analyses performed.

1 Replicate samples can be collected periodically and submitted to the analytical laboratory to assess the accuracy of the field analyses for nitrate, ammonia, phosphate, electrical conductivity, pH, and turbidity.

2 Replicate samples are used to assess laboratory or field precision. They should be collected in the field in one container and split into two samples for analysis.

3 Spiked samples can be prepared in the field or the laboratory/office. A field sample is spiked with known amounts of analytes and the total volume of this fraction is adjusted to a specific volume (usually 1 liter) using a portion of the original sample as makeup water. *The volume of the added spike should be small compared to the volume of the sample to which it is added.* This is generally conducted by the laboratory.

4 Blank samples must be prepared with deionized or ultrapure water (resistivity greater than 17 mega ohms). A trip blank is

prepared by filling a sample container in the laboratory/ office and transporting it on a routine

monitoring assignment, preserving it in the field (noting the station location), and submitting it with a normal batch of samples.

Method or equipment blanks are prepared using the same methods used to collect, process, or contain samples before submittal to the laboratory. An example of an equipment blank would be pouring deionized water into a sample container to test the cleanliness of the container.

5. Synthetic samples can be prepared using aliquots of commercially prepared standards or from EPA quality assurance ampules. Deionized water should be used as makeup water and analytical grade NaCl should be used to adjust the electrical conductivity of the QA sample into the range of the environmental samples.

7.0 Health and Safety

Dry weather water sampling may occur when the sampling environment and discharges create hazardous conditions. Use safety precautions at all times when conducting dry weather monitoring.

Safety Guidelines

- Keep a first aid kit with field equipment.
- Watch out for traffic along the access road when sampling or making observations. Wear an approved safety vest if working near traffic or in an otherwise unsafe area.
- Do NOT remain in open areas or stand under trees if lightning is occurring in the vicinity.
- Watch your step; the ground may be wet and slippery, steep, or unstable. Do not attempt to climb down unsafe slopes.
- Always wear clean latex rubber gloves when sampling.
- Protect eyes and skin against contact with acids and other preservatives.
- Use common sense when deciding whether to sample during adverse weather conditions. *This program is intended to assess dry weather conditions.* Do not sample during dangerous conditions such as high winds, lightning storms, high tides (as appropriate) or flooding conditions that might be unsafe.
- Do not enter channels during periods of high flow. The general rule of thumb is: If the product of the water depth in feet and the velocity in feet per second is greater than 10, or the level is above your waist, don't go in.
- Do not enter confined spaces (storm drain pipes or manholes). Confined space entry requires special training and equipment.
- Follow all analytical procedures as prescribed in the equipment manuals. Heed all warnings and precautionary statements.
- Be familiar with Material Safety Datasheets for all chemicals used in the field and when calibrating instruments. Know the health hazards and emergency medical treatments, and follow proper disposal instructions.

Safety Equipment

The following safety equipment is recommended for use during dry weather sampling:

- First aid kit
- Safety glasses
- Latex gloves
- Rubber boots
- Safety rope

Attachment 2 Dry Weather Monitoring Field Datasheet

Dry Weather Monitoring Field Data Sheet

University Place WASHINGTON
4951 Grandview Dr W
University Place, WA 98467
PH: 253.460.6493 FAX: 253.460.6497

☐ **Routine Sampling** ☐ **Verification Sampling** ☐ **Follow-up For** _____

GENERALSITE DESCRIPTION (NAD 83 decimal degrees to 5th place)

Site ID		**Latitude**	(e.g., 33.4174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location		**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date		**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time		**Observer**			**Discharge Area** (Optional)	

Land Use (Primary)
(Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary)
(Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance
(Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSHPERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog
Tide ☐ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ft.
Last Rain ☐ >72 hours ☐ <72 hours
Rainfall ☐ None ☐ <0.1" ☐ >0.1"

RUNOFF CHARACTERISTICS

Odor ☐ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other
Color ☐ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other
Clarity ☐ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other
Deposits ☐ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other
Vegetation ☐ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other
Biology ☐ Manhole ☐ Insects ☐ Algae ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☐ N/A

Evidence of Overland Flow ☐ Yes ☐ No ☐ Irrigation Runoff ☐ Other _____

Photo Taken ☐ Yes ☐ No **Photo #**_____

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4(mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)			

Analytical Lab Samples Collected? ☐ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		ml.
Time to Fill		Sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS:

APPENDIX E

UNIVERSITY PLACE
PUBLIC WORKS MAINTENANCE FACILITY
STORMWATER POLLUTION PREVENTION PLAN
(SWPPP)

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FACILITY NAME	**City of University Place Public Works Maintenance Facility**
FACILITY LOCATION	**4951 Grandview Dr W, University Place WA 98467**
MAILING ADDRESS	**3751 BridgeCity Way W, Suite B1, University Place WA 98467**
CONTACT NAME	**Kevin Schmidt**
CONTACT PHONE	**253-460-6493**
MAIN SITE ACTIVITIES	**Maintenance facility Parks & Public Works Vactor Decant**

KEEP THIS SWPPP ON SITE AT ALL TIMES

THIS SWPPP IS TO BE MADE AVAILABLE TO THE PUBLIC UPON REQUEST

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Contents

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1 Introduction

This document presents the Stormwater Pollution Prevention Plan (SWPPP) for the City of University Place

This SWPPP was completed by the facility using a template provided by the City of University Place. The template was provided by the City of University Place. The SWPPP template is targeted to comply with 2 the City of University Place's Phase 2 Municipal NPDES Permit

1.1 SWPPP Objective

The objective of this SWPPP, "to implement measures to prevent and control the contamination of discharges of stormwater to surface or ground water."

1.2 Recordkeeping

All records related to this SWPPP shall be maintained by the City of University Place for at least **five years**. All records related to this SWPPP shall be kept with the SWPPP, preferably in the same binder. Records to be retained include the SWPPP, prior versions of the SWPPP, related correspondence with the City or Ecology, and O&M inspections.

1.3 SWPPP Availability

All records related to this SWPPP shall be made available to the public at reasonable times during business hours. Members of the public who request SWPPP records in person shall be allowed to view documents on site. SWPPP records shall not be removed from the site.

All records related to the SWPPP shall be made available to the City of University Place, Washington State Department of Ecology or the Director of University Place Public Utilities (or the Director's designee, who may be an employee of SPU or another City department) upon request.
Please notify the City of University Place Stormwater Program Manager at (253) 460-6493 of any request for SWPPP records.

1.4 SWPPP Updates

Keep the SWPPP up to date. The SWPPP should be updated whenever changes occur that have the potential to affect how stormwater is managed on the site. Updates to the SWPPP may be handwritten. Examples of changes that may require an update to the SWPPP are:

- A change in facility operations (leased area increases or decreases, new operations, new materials, paving, etc.)
- New BMPs are implemented.
- Change in O&M procedures.
- Modification of the stormwater system.
- Pollution prevention team changes.
- Permit requirements change.

1.5 Cooperation with City of University Place Municipal NPDES Permit

The City of University Place is required by the Washington State Department of Ecology to be covered by the Phase I Municipal NPDES permit. The Phase I permit requires that all City lands be covered by SWPPPs, which resulted in this SWPPP template.
The NPDES permit also requires the City to develop an educational program, map stormwater conveyances, develop a program to detect and eliminate illicit discharges, and develop a City-wide Operations and Maintenance Plan. City staff may need your cooperation to comply with these and other requirements. Cooperation may mean reviewing educational materials or attending an educational meeting, allowing access to your site, or providing information about stormwater management. **Please cooperate with City staff in their efforts to prevent stormwater pollution and comply with the Phase I NPDES permit.**

1.6 Facility Description

Facility Name	City of University Place Maintenance Facility
Facility Location	4951 Grandview Dr W, University Place WA 98467
Business Description	Maintenance Facility Public Works and Parks Vactor Decant Station

Area of Facility in acres: 4 acres

☒	Permanent Buildings:	3	number of buildings
			square feet
☒	Temporary Buildings:	2	number of buildings
		700	square feet

Surface Types: *(Check all that apply and fill in approximate area)*

☒	Pavement:	1	acres
☒	Gravel:	1	acres
☐	Bare Ground:		acres
☒	Vegetation:	1	acres

1.7 Potential Pollutant Sources

This section identifies and describes the activities conducted on site that have the potential to contaminate stormwater. Please complete the following sections:

1.7.1 Waste Management

Waste management activities have the potential to contaminate stormwater through improper storage of wastes, or spills, leaks or drips from containers.

☐ No waste management activities are performed on site.
☒ Wastes are managed as follows:

- ☒ Dumpster, located: east side of facility
- ☐ Trash compactor, located: _____
- ☐ Recycling Containers, located: _____
- ☐ Used Oil Container, located: _____
- ☒ Other, describe: Vactor/sweeper waste stored in decant area

1.7.2 Cleaning and Washing

If not conducted properly, cleaning and washing of vehicles, equipment, buildings, tools, or paved surfaces, can contaminate stormwater by washing contaminants such as oil and grease, soap, dirt or food scraps into the storm sewer or onto areas exposed to rain.

☐ No cleaning or washing activities are performed on site.
☒ Cleaning and washing is performed as follows:

Location of cleaning or washing activity: Vactor Decant station

Type(s) of materials cleaned or washed:

- ☐Vehicles, describe: pickups, flatbeds, dump trucks
- ☐Equipment, describe: sweepers, backhoes, skidsteer, vactor
- ☐Buildings
- ☐Paved areas
- ☐Other: _____

Chemical(s) used in washing: Soaps or detergents: Abrasives:

- ☒ Soaps or detergents: Simple Green, car wash soap
- ☐ Abrasives: _____
- ☐ Acids: _____
- ☐ Solvents: _____
- ☐ Other: _____

1.7.3 Transfer of Liquids or Solids

Loading, unloading, or other transfer of liquid or solid materials has the potential to contaminate stormwater through spills, leaks, or drips of the transferred material or from the equipment performing the transfer.

☐ No transfer of liquids or solids is performed on site.

☒ Transfer of liquids is performed as follows:

Location(s) where transfer occurs:

☒ Direct connection to aboveground storage tank

☐ Direct connection to underground storage tank

☐Railroad yard

☐Loading dock

☒ Permanent fueling station

☐Open area

☐Indoors

☐Other:

Type(s) of liquids transferred:

☒ Fuels, oils, or greases: unleaded, diesel, lubricants

☐Paints: _____

☐Acids: _____

☐ Pesticides, Herbicides, Fertilizers:_____

☐ Cleaning products: soaps, detergents, solvents, etc.: ____

☒ Other: Deicer station- salt brine

Type of transfer:

☐Bulk liquid

☐Mobile fueling

☒Liquid filled container: ☒ Small Containers, ☐ Drums, ☒ Totes

☐Bunker, ☐ Other, describe: _____

,

☐Transfer of solids is performed as follows:

Location(s) where transfer occurs:

☐ Railroad yard

☐ Loading dock

☒Open area

☐Indoors

☐Other:

Type(s) of solids transferred:

☐ Shipping Containers:

☐ Equipment:

☒Packaged goods:

☐Bulk materials (aggregate, debris, etc.):

☐Other:

Equipment involved in transfer:

☐ Top pick

☒ Forklift

☐Crane

☐Dump truck (end, side, bottom, etc.) :

☐Other:

1.7.4 Production and Application Activities

Outdoor production or application activities have the potential to contaminate stormwater from debris left behind during production, spills, leaks, or drips from products or equipment used during production, or leaching or erosion from materials involved. Application activities involve the application of product to an object such as painting, coating, spraying, or other treatment.

☐No outdoor production or application activities are performed on site.

☐Outdoor production and/or application is performed as follows:

Location(s) of production and/or application activities: _____
_____

Description of production and/or application activities: _____
_____

1.7.5 Storage and Stockpiling

Vehicle and Equipment Storage and Parking

Vehicles and heavy equipment contain hazardous liquids (fuel, hydraulic oils, antifreeze, etc.) or have other parts (tires, brake pads) that can contaminate stormwater. If vehicles or heavy equipment are stored, or parked outdoors on site, please complete the following:

☐No vehicle or equipment storage or parking is performed on site.

☐Vehicle and/or equipment storage and/or parking application is performed as follows:

Type and Number of vehicles and equipment used, parked, or stored on site

☐ Passenger vehicles: _____

☒ Utility trucks: 13

☒ Dump truck: 3

☐ Tractor trailer: _____

☐ Crane: _____

☐ Forklift: _____

☒Earthmoving equipment (loader, dozer, scraper, excavator, backhoe, etc.): 3

☒Other: Sideboom mower; snorkel lift

Location of parking or storage area List potential stormwater contaminants used in the operation or maintenance of heavy equipment on site:

☒Petroleum products (fuel, oils, greases) – source of oil & grease and metals

☐Acids – source of low pH

☒Batteries – source of low pH, and heavy metals (lead, nickel, cadmium, etc.)

☒Antifreeze

☐Solvents

☒Soaps or detergents – source of phosphorus

☒ Brake pads – source of suspended solids, metals (copper)

☒ Rubber tires – source of suspended solids, metals (zinc)

☐Other: _____

Material Storage

Materials stored outside have the potential to contaminate stormwater through erosion of granular materials, spills or leaks from liquids or equipment containing liquids, dissolution of soluble materials. If materials are stored outside on site, please complete the following section:

☐No material storage is performed on site.

☒Material storage is performed as follows:

Location(s) of where materials are stored:

Surface of Storage Area: ☒Paved, ☒Compacted Gravel , ☐ Soil

Type(s) of Liquids Stored:

- ☒ Fuels, oils, or greases
- ☐ Paints
- ☐Acids
- ☒Pesticides, Herbicides, Fertilizers
- ☐Cleaning products: Soaps, detergents, solvents, etc.
- ☒Other: salt brine

Liquids are stored in ☐Small Containers, ☐Drums,☒Totes, ☒ Aboveground Tanks,
☐ Other, describe:_____

Type(s) of Solid Materials Stored:

- ☒Aggregates (sand, gravel, rock, broken concrete, broken asphalt, etc.)
- ☒Soil and compost
- ☐Wood Products (untreated lumber, logs, wood chips, wood waste, etc.)
- ☒Scrap metals
- ☐Building Materials (masonry products, metal framing, rebar,etc.)
- ☐Treated lumber
- ☐Other: _____

Type(s) of Equipment Stored:

- ☐Equipment with galvanized metal components
- ☒Equipment with fluid filled reservoirs
- ☒Equipment with greased joints or other moving parts
- ☐Other: _____

1.7.6 Dust Control and Soil and Sediment Control

Stormwater can be contaminated from dusts deposited on surfaces exposed to rain, or from erosion of exposed soils.

☐ No dust generating activities are performed on site and no exposed soils are present.

☒ Exposed soils are present on site as follows:

Location of exposed soils: Dirt spoils pile,, Asphalt spoils pile, gravel pile

Reason soils remain exposed: space containment

☒Dust generating activities are performed on site as follows:

Location of dust-generating activity:

Type(s) of dust-generating activity:

☐ Storage of materials (aggregate, sawdust, ash, etc.), describe: _____

☐Manufacturing process, describe: _____

☒ Vehicle traffic

☐Soil disturbance/grading

☐Other: _____

1.7.7 Other Pollution-Generating Activities

This template does not capture all potential sources of stormwater pollution. Evaluate your site for any additional pollution generating activities not listed above and describe here.

☒No other pollution-generating activities are performed on site.

☐Other pollution-generating activities are performed as follows: _____

_____

_____

_____

_____

_____

_____

_____

1.8 Stormwater Drainage System

The stormwater drainage system is shown on Figure 1 and consists of the following components: *Check all that apply*

- ☒Catch basins
- ☐Floor drains
- ☐Deck drains
- ☒Roof drains
- ☐Trench drains
- ☐Culverts
- ☒Subsurface Pipes
- ☐Ditches
- ☐French Drains
- ☐Pump station

- ☒ Stormwater Treatment:
  - ☐ Oil/water separator
  - ☐ Catch basin inserts
  - ☒Bioswale
  - ☒Pond
  - ☐ Filtration System
  - ☐Other: _____

Stormwater from the site discharges to: *Check all that apply*

- ☐East Waterway
- ☐Duwamish River/West Waterway
- ☐Elliott Bay
- ☐Shilshole Bay
- ☐Lake Washington Ship Canal
- ☐City of University Place Storm Sewer
- ☐Sanitary Sewer
- ☒Ground

2 Illicit Non-Stormwater Discharges

The City of University Place has adopted a policy prohibiting illicit connections, illicit discharges and illegal dumping. This site is required to comply with these prohibitions as follows.

2.1.1 Illicit Connections

Illicit connections are defined as “any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.”

The City of University Place’s BMP 1 – Eliminate Illicit Connections to Storm Drains, included in Appendix A, provides additional guidance on procedures for identifying and eliminating illicit connections.

If an illicit connection is detected, the Pollution Prevention Team shall take appropriate steps to redirect the connection to an appropriate discharge location.

2.1.2 Illicit Discharges

Illicit discharges are “any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.” Specifically, the City has fully prohibited the following discharges:

i) Solid waste;
ii) Human and animal waste;
iii) Antifreeze, oil, gasoline, grease and all other automotive and petroleum products;
iv) Flammable or explosive materials;
v) Metals in excess of naturally occurring amounts, whether in liquid or solid form;
vi) Chemicals not normally found in uncontaminated water;
vii) Solvents and degreasers;
viii) Painting products;
ix) Drain cleaners;
x) Commercial and household cleaning materials;
xi) Pesticides, Herbicides and Fertilizers;
xii) Acids and Alkalis;
xiii) Ink;
xiv) Steam-cleaning waste, laundry waste, soap, detergent; ammonia;
xv) Chlorine
xvi) Chlorinated swimming pool or hot tub water;
xvii) Domestic or sanitary sewage;
xviii) Animal carcasses;
xix) Food and food waste;
xx) Yard waste, dirt, sand and gravel.

In addition, the following discharges are conditionally prohibited, unless the stated conditions are met:

i) Discharges from potable water sources, including water line flushing, hyper chlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water, unless planned discharges are de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.

ii) Discharges from lawn watering and other irrigation runoff, unless minimized to the maximum extent practicable.

iii) Dechlorinated swimming pool discharges, unless the discharges are dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and re-oxygenated if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

iv) Street and sidewalk wash water, water used to control dust, and routine external building wash down, unless they do not contain detergents and are minimized to the maximum extent practicable. At active construction sites, street sweeping shall be performed prior to washing the street.

If a prohibited discharge is observed, the Pollution Prevention Team shall take immediate action to stop the discharge. Depending on the nature of the illicit discharge, it may be necessary to reCity it as a spill, according to the Spill Plan (Appendix C).

2.1.3 Illegal Dumping

According to City policy, “it is prohibited to spill, dump, release, throw, deposit or place solid waste, litter, pet waste, yard waste, or hazardous materials on City property, without permission from the City.”

If illegal dumping is observed, the Pollution Prevention Team shall take immediate action to identify the responsible party and cleanup the dumped material.

3 Best Management Practices (BMPs)

Best Management Practices (BMPs) for managing stormwater quality are “a series of actions that are designed to prevent and reduce stormwater pollution” (City of University Place Source Control Technical Requirements Manual, 2008). **All City of University Place tenants must also implement BMPs required by the City of University Place** (SMC 22.802.013).

This section of the SWPPP identifies the BMPs required for the site. It also presents a plan and schedule for implementing the BMPs.

3.1.1 Pollution Prevention Team

The Pollution Prevention Team is responsible for implementing BMPs to control stormwater pollution at the site. Team members are responsible for inspections, operation and maintenance, operational source controls, employee and tenant training, emergency response and other activities necessary to implement the SWPPP.

The Pollution Prevention Team consists of:

Supervisor: **Kevin Schmidt** is responsilble for :

- Supervising SWPPP Implementation,
- Planning Structural BMPs,
- Updating the SWPPP as necessary,
- Coordinating activities with City of University Place Environmental, Maintenance and Compliance staff, and
- Recordkeeping.

Maintenance: Vactor Crew Lead is responsible for:

- Inspecting stormwater system and BMPs,
- Coordinating maintenance with outside contractor (if used), and
- Maintaining stormwater system and BMPs as necessary.

All Employees are responsible for:

- Good housekeeping,
- Promptly reCitying spills, drips and leaks,
- Appropriately storing materials and wastes, and
- Implementing other operational BMPs

3.1.2 Good Housekeeping

Good Housekeeping involves maintaining a clean and organized site to prevent contamination of stormwater from exposure to spilled liquids, dust, trash, or debris.

The following good housekeeping source controls from Ecology's 2005 Stormwater Management Manual for Western Washington (SWMMWW) will be implemented on the site:

- Promptly contain and clean up solid and liquid pollutant leaks and spills including oils, solvents, fuels, and dust from manufacturing operations on any exposed soil, vegetation, or paved area.

- Sweep paved material handling and storage areas regularly as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.

- Clean oils, debris, sludge, etc. from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater. Refer to Appendix IV-D R.3 for references [of the 2005 Stormwater Management Manual for Western Washington] to assist in determining if a waste must be handled as hazardous waste.

- Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking and any other drainage areas, which are subjected to pollutant material leaks or spills.

- Promptly repair or replace all leaking connections, pipes, hoses, valves, etc. which can contaminate stormwater.

Stormwater Management Manual for Western Washington, Ecology, 2005. Vol IV page 2-2.

3.1.3 Preventive Maintenance

Preventive Maintenance involves anticipating potential problems and performing regular maintenance to avoid contamination of stormwater. The following Preventive maintenance source controls from Ecology's 2005 SWMMWW will be implemented in the materials storage areas of the site:

- Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains which discharge to surface water, or to the ground.

- Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local sewer authority, or to other approved treatment.

- Use drip pans to collect leaks and spills from industrial/ commercial equipment such as cranes at ship/boat building and repair facilities, log stackers, industrial parts, trucks and other vehicles, which are stored outside.

- At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.

- For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.

- For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums and comparable containers, which are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a lean-to or equivalent structure.

- Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.

Stormwater Management Manual for Western Washington, Ecology, 2005. Vol IV page 2-3.

3.1.4 Employee and Tenant Training & Education

The City of University Place has developed an Education Program aimed at tenants and City employees, in accordance with Special Condition S6.E.1. The goal of the program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. The Education Program includes specific training activities and educational materials oriented toward prevention of stormwater pollution and implementation of the SWPPP.

All City of University Place tenants shall participate in the education program and training opCityunities to improve their understanding of stormwater impacts and ways to prevent stormwater pollution.

3.1.5 Spill Prevention, Reporting & Emergency Cleanup

A summary of basic spill response procedures is included in Appendix C.

3.1.6 Pesticide, Herbicide and Fertilizer Application

Landscape management (including control of weeds) has the potential to introduce chemical pollutants into stormwater. To reduce the potential for contaminating stormwater, this site uses the following landscape management practices:

Check one:

☐ There are no vegetated areas on site. No pesticides, herbicides or fertilizers are used.
☐ Vegetated areas are present on site. The City of University Place's organic landscaping approach has been adopted. No pesticides, herbicides or fertilizers are used.
☒ Vegetated areas are present on site. A site-specific landscape management approach has been developed using City of University Place BMP 20.

3.1.7 Activity-Specific BMPs

The following BMPs are applicable to the pollution generating activities performed on site. BMP descriptions were drawn from the City of University Place's Source Control Technical Requirements Manual (2008) and are included in Appendix A.

Some heavy industrial activities that are not typical for City properties (e.g., mining, logging, wood treating, storage of contaminated soils, etc.) have been removed from Table 1 to streamline BMP selection. Generally, these activities are not permitted on City property unless specifically authorized in the lease. If you are engaged in heavy industrial activities that are not covered by the BMP Selection Worksheet please contact your City Property Manager. These activities may require coverage under an Individual or General NPDES permit.

Complete the following worksheet (Table 1) by marking the activities performed at your site. Each activity corresponds to a BMP. BMP descriptions are included in Appendix A. The BMPs selected in Table 1 will be used to complete the Implementation Plan in Section 3.2.

Table 1. BMP Selection Worksheet

	Activity – *If these activities take place on your site, check the box in the left column. The required BMP is indicated in the right column. These BMPs must be implemented at your facility.*	**Required BMP**
CLEANING AND WASHING		
☐	Cleaning or washing of tools, engines, and manufacturing equipment • Applies to cleaning or washing, including pressure washing, parts or equipment outside or where the washwater can enter the outside drainage system.	BMP 7
☐	Cleaning or washing of food service establishment equipment • Applies to vents, filters, pots and pans, grills, floor mats, and related items	BMP 8
☒	Washing, pressure washing, and steam cleaning of vehicles, equipment, and building structures • Applies to cleaning and washing at all types of establishments, including fleet vehicle yards, car dealerships, car washes, and maintenance facilities.	BMP 9
TRANSFER OF LIQUID OR SOLID MATERIALS		
☐	Loading and unloading of liquid or solid material • Applies to loading and unloading of liquid or solid materials at industrial, commercial, and transportation facilities.	BMP 11
☒	Fueling at dedicated stations • Applies to gas stations, pumps at fleet vehicle yards or shops, and other privately owned pumps, including construction sites.	BMP 12
☐	Automotive repair and maintenance • Applies to oil changes and other engine fluids at permanent or temporary sites.	BMP 13
☐	Mobile fueling of vehicles and heavy equipment • Applies to fleet fueling, wet fueling, and wet hosing.	BMP 14
PRODUCTION AND APPLICATION ACTIVITIES		
☐	Manufacturing and post-processing of metal products •Applies to machining, grinding, soldering, cutting, welding, quenching, rinsing, etc.	BMP 17
☐	Painting, finishing, and coating of vehicles, boats, buildings, and equipment • Applies to surface preparation and the applications of paints, finishes, and/or coatings.	BMP 21
☐	Outdoor manufacturing activities • Applies to manufacturing activities in outdoor areas.	BMP 23

	Activity – *If these activities take place on your site, check the box in the left column. The required BMP is indicated in the right column. These BMPs must be implemented at your facility.*	**Required BMP**
STORAGE AND STOCKPILING		
X	Outdoor storage or transfer of solid raw materials, byproducts, or finished products • Includes sand, topsoil, lumber, and other products.	BMP 24
☐	Temporary storage or processing of fruits or vegetables • Applies to storage of fruits and vegetables outdoors, processing activities at wineries, by fresh and frozen juice makers, and other food and beverage processing operations.	BMP 26
X	Outdoor portable container storage • Applies to containers that are located outside a building and used for temporary storage.	BMP 28
X	Storage of liquids in permanent aboveground tanks • Applies to all liquids in aboveground tanks.	BMP 29
X	Parking lot maintenance and storage of vehicles and equipment • Applies to public and commercial parking areas.	BMP 30
DUST CONTROL AND SOIL AND SEDIMENT CONTROL		
X	Dust control in disturbed land areas and on unpaved roadways and parking lots	BMP 31
☐	Dust control at manufacturing sites • Applies to grain dust, sawdust, coal, gravel, crushed rock, cement, boiler fly ash and other airborne polluting materials.	BMP 32
☐	Soil erosion and sediment control at industrial sites • Applies to industrial activities that take place on soil.	BMP 33
OTHER		
☐	Boat building, mooring, maintenance, and repair • Applies to all types of maintenance, repair, and building operations at shipyards, ports, and marinas.	BMP 36
X	Maintenance and management of roof and building drains at manufacturing and commercial buildings	BMP 41
☐	Maintenance and operation of railroad yards	BMP 42
☐	Maintenance of public and private utility corridors and facilities • Applies to maintenance activities related to public and private utilities, including pipelines, pump stations, rights-of-way and transmission corridors.	BMP 43
☐	Maintenance of roadside ditches	BMP 44

3.2 BMP Implementation Plan

The plan for implementing the BMPs listed above is shown in Table 2. Each BMP requires a series of actions. The BMP Implemention Plan in Table 2 describes how these actions will be performed on your site.

BMPs shall be implemented according to the following schedule:

- Non-structural BMPs shall be implemented **immediately**.
- Structural BMPs shall be implemented:
  - Within 6 months, if operational BMPs are not sufficient to prevent pollution from leaving site, or
  - as part of development or redevelopment of that Cityion of the site.

Complete Table 2 by:

1 *deleting or crossing out any BMPs that were not selected in Table 1,*
2 *entering name or title of person responsible for implementing and maintaining the BMP in the "Responsibility" column, and*
3 *entering the date and notes regarding when and how the BMP was implemented.*

Table 2 – BMP Implementation Plan

1. *Delete or corss out BMP's not selected in Table 1.*
2. *Enter name or title of person responsible for implementing and maintaining the BMP in the "Responsibility" colum.*
3. *Enter the date and notes regarding when and how the BMP was implemented*

BMP	Action	Responsibility	Schedule / Notes
Pollution Prevention Team	Fulfill PPT responsibilities	Kevin Schmidt	
	Promptly contain and cleanup leaks and spills.		
	Sweep paved areas regularly as needed. Do not hose down pollutants.	Brett Gaiser	
Good Housekeeping	Clean BMP systems regularly.		
	Promptly repair damaged secondary containment, paving, and other areas potentially subject to leaks or spills.		
	Promptly repair or replace all leaking connections.		
	Prevent discharge of unpermitted liquid or solid wastes.	Kevin Schmidt	
	Conduct washing or cleaning of equipment inside or in a contained area.	Kevin Schmidt	
	Use drip pans.		
Preventive Maintenance	Drain oil and fuel filters before disposal.	N/A	
	For liquid storage, use rigid and durable containers appropriate for material stored.		
	For solid wastes, use durable, corrosion resistant containers appropriate for material stored.		
	Use containers, piping, tubing, pumps, fittings and valves appropriate for intended use and liquid contained.		
BMP 1 - Eliminate Illicit Connections to Storm Drains	Perform dry season inspection	Bob Longer	
BMP 2 - Perform Routine Maintenance for Stormwater Drainage System	Clean catchbasins when more than half full or when sediment is within 18 inches of the bottom of outlet pipe.	Bob Longer	
	Inspect and clean catch basin filter.	Bob Longer	

Table 2 – BMP Implementation Plan

1. *Delete or corss out BMP's not selected in Table 1.*
2. *Enter name or title of person responsible for implementing and maintaining the BMP in the "Responsibility" colum.*
3. *Enter the date and notes regarding when and how the BMP was implemented*

BMP	Action	Responsibility	Schedule / Notes
BMP 3 - Dispose of Fluids and Wastes Properly	Dispose of solid and liquid wastes and contaminated stormwater properly by 1) recycling, 2) disposing in a municipal solid waste facility, 3) disposing in a hazardous waste TSDF, or 4) discharging to sanitary sewer.		
	Store wastes in suitable containers.		
	Storage containers must have leak proof lids and be kept closed.		
BMP 4 - Proper Storage of Solid Wastes	Check containers for leaks.		
	Sweep waste area.		
	Drain dumpsters to sanitary sewer.		
	Use spill cleanup materials to clean up fats, oils and greases.		
	Do not overfill containers.		
	Clearly label all containers that contain potential pollutants		
	Use appropriate containers.		
	Use drip pans under containers, fittings, and valves.		
BMP 5 - Spill Prevention and Cleanup	Use ground cloths, tarps, or drip pans in areas where materials are mixed, carried, or applied.		
	Train employees on safe handling techniques		
	Develop and implement spill plan.	Chris Johnson	
	Place spill kits near areas with potential for spills.	Chris Johnson	
	Promptly report and respond to spills		
BMP 6 - Provide Oversight and Train Staff	Train all employees annually.	Chris Johnson	
	Document training.	Chris Johnson	

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
BMP 7 - Cleaning or Washing of Tools, Engines and Manufacturing Equipment	Discharge all washwater to sanitary sewer, process treatment system, or holding tank.		
	Never discharge washwater to storm drains.		
	Conduct pressure washing in a designated area draining to a sump, sanitary sewer, or treatment system.		
	Wash pads that discharge to sanitary sewer must have less than 200 square feet of uncovered area.		
	Wipe off equipment before washing.		
	Do not pour cooking grease down the drain. Collect and dispose of grease properly.		
	Use a tub to contain washwater.		
BMP 8 - Cleaning or Washing of Food Service Equipment	Discharge washwater to sanitary, process treatment system, or holding tank.		
	Conduct washing indoors		B M
	If washing cannot be moved indoors, washwater must be captured and discharged to sanitary, process treatment system, or holding tank and stormwater run-on prevented.		
	Do not discharge wash water or process water to roof drains or storm water system when washing roof equipment or hood vents.		nta tio n Sc he dul e –
	Conduct indoor washing in an area that drains to sanitary sewer and prevents washwater from running outside.		
BMP 9 - Washing, Pressure Washing, and Steam Cleaning of Vehicles, Equipment, or Buildings	Conduct outdoor washing in designated wash area draining to sump then combined sewer, process treatment system, or other appropriate system.		
	Wash pads that discharge to sanitary sewer must have less than 200 square feet of uncovered area.		
	Clearly mark the washing area.		
	Wash building facades, fences, rooftops, and masonry according to requirements of Table 2 in BMP 11 (App. A)		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Frequently sweep surfaces in loading and unloading areas.		
BMP 11 - Loading and Unloading of Liquid or Solid Material	Use drip pans where spills may occur and when making or breaking connections.		
	Check loading and unloading equipment as needed.		
	If possible, prevent stormwater from entering loading area.		
	Place curbs at edge of loading area to direct stormwater to treatment system.		
	Pave and slope loading area to prevent the pooling of water.		
	Train employees on proper use of fuel dispensers.		
	Post signs related to the operation of fuel dispensers in accordance with University Place Fire Code.		
	Ensure that the person fueling stays at the pump.		
	Ensure that the automatic shutoff is functioning properly.		
BMP 12 - Fueling at Dedicated Stations	At least one designated, trained person is available on site or on-call to respond to spills. If fueling station is unattended, spill plan and spill kit must be visible to all customers.		
	Keep suitable spill cleanup materials on site.		
	Transfer fuel from delivery trucks in impervious, contained area. Or cover all nearby storm drains and use drip pans under hose connections.		
	Design fuel island according to BMP 12 (See Appendix A)		
	Have an employee supervise the fuel dock.		
	Use automatic shut-off nozzles and promote use of "whistles" and fuel/air separators on air vents.		
For fueling over water	Visually monitor liquid level during fueling.		
	Do not fill beyond 95% of tank capacity.		
	Spilled fuel should be conveyed to oil treatment facility, or sanitary sewer (if approved).		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Educate employees annually on need for careful handling of equipment fluids		
	Keep spill cleanup materials close at hand		
	Maintenance and repair activities must be located indoors		
BMP 13 - Automotive (and Equipment) Repair and Maintenance	Drain all fluids from wrecked vehicles or equipment when they arrive.		
	If work must be performed outdoors, use drips pans or other containment to capture all spills and drips.		
	Do not hose down maintenance area		
	Connect indoor floor drains to sanitary sewer.		
	If floatables present, use oil/water separator prior to discharge to sanitary.		
	If excessive stain or oil sheen is present, use absorbent pillows or booms around catch basins.		
	Ensure that all mobile fueling operations are approved by University Place Fire Department and comply with fire codes.		
	Train operator annually in spill prevention and cleanup		
	Develop written fueling plan.		
	Ensure operator is present during fueling.		
BMP 14 - Mobile Fueling of Vehicles and Heavy Equipment	Fuel at least 25 feet away from storm drain or cover drain		
	Use drip pan		
	Carefully handle hoses and nozzles to prevent drips		
	Do not allow vehicles to drive over hose		
	Use an adequate lighting system		
	Do not "top off" fuel tanks		
	Have a spill kit on fueling vehicle.		
	Immediately remove and dispose of contaminated soils.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Discharge process wastewater and stormwater runoff to sanitary sewer.		
BMP 17 - Manufacturing and Post Processing of Metal Products	Cover activity.		
	Sweep activity area daily or more often as needed		
	Educate employees about controlling their work to minimize stormwater pollution. Document training		
	May need Industrial NPDES Permit.		
	Train employees in application and cleanup of paints and finishes. Keep records of training.		
	Use ground cloths or drop cloths underneath outdoor painting.		
	Use a storm drain cover, catch basin filter, or other similar device.		
BMP 21 - Painting, Finishing, and Coating of Vehicles, Boats, Buildings and Equipment	Do not conduct spraying, blasting or sanding over open water, or if wind may blow particles into water. Use curtain on windy days.		
	Enclose or contain spray gun and sandblasting work.		
	Wipe up spills with rags and absorbent materials.		
	Sweep rather than hose down debris.		
	Clean paintbrushes and tools covered with water-based paints in sink or portable containers. Discharge to sanitary sewer.		
	Collect solvents used to clean brushes and tools covered with non-water based paints or finishes. Recycle or dispose of used solvent appropriately.		Marilyn guthrie is ath the port of University Place hlepaljfsieutrthljahoiutlathloih latjohhoiathe ahlthatoihn iahtatonahouitnaltjalhtoiantuo athoahtoaiethti
	Store paints, finishes and solvents inside or in covered secondary containment.		
	All containers must have tight fitting lids.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Move activity indoors, if possible.		
BMP 23 - Outdoor Manufacturing Activities	Cover the activity and connect floor drains to sanitary sewer.		
	Sweep paved areas daily or more often as needed.		
	Modify activity to eliminate or minimize contamination of stormwater.		
	Isolate and segregate pollutants as feasible.		
BMP 24 - Outdoor Storage or Transfer of Solid Raw Materials, Byproducts, or Finished Products	Do not hose down the storage area.		
	Sweep paved storage areas daily.		
	Cover erodible & soluble materials. Cover metal products.		
	Pave area and install drainage system with perimeter curbs and slope to minimize pooling.		
	Educate employees on benefits of maintaining clean process area. Keep records of training.		
BMP 26 - Temporary Storage or Processing of Fruits and Vegetables	No water used to clean produce can enter storm drainage system.		
	Minimize use of water used to clean produce to avoid excess runoff.		
	Sweep paved storage areas daily or more often as needed.		
	Processing area must be enclosed in building or shed, or covered with provisions to prevent stormwater run-on.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Where possible, store in a building or on paved surface under a roof.		
	Use tight-fitting lids.		
	Label all containers.		
	Place drip pans beneath spigots or taps.		
BMP 28 - Outdoor Portable Container Storage	Regularly inspect container storage area.		
	Secure drums.		
	Provide covered secondary containment for hazardous liquids.		
	Dangerous wastes that do not contain free liquids must be stored in a sloped area, protected from stormwater run-on		
	Comply with University Place Fire Code and Uniform Fire Code.		
	Keep containers inside a building unless impractical.		
	Locate and design tanks to prevent contamination (See BMP 29 in Appendix A). Tanks must be in impervious secondary containment.		
BMP 29 - Storage of Liquids in Permanent Aboveground Tanks	Inspect tank containment to identify problems. Document inspections.		
	Sweep and clean tank storage area regularly.		
	At petroleum tank farms, convey stormwater to oil-water separator, or other approved treatment prior to discharge to sanitary sewer.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Sweep or vacuum parking lots.		
BMP 30 - Parking Lot Maintenance and Storage of Vehicles and Equipment	Do not hose down the storage area.		
	If parking lot must be washed, discharge washwater to sanitary sewer (with prior approval from Industrial Waste Program)		
	Install oil removal system such as oil water separator, catch basin filter, or equivalent in high use areas.		
BMP 31 - Dust control in Disturbed Land Areas and on Unpaved Roadways and Parking Lots	Regularly sweep street gutters, sidewalks, driveways, and other paved surfaces in immediate area of dust generating activities.		
	Properly dispose of loose debris and garbage		
	Install catch basin filters in surrounding catch basins.		
	Never use oil for dust control.		
BMP 32 - Dust Control at Manufacturing Sites	Clean accumulated dust and residue from material handling equipment and vehicles each day, or more often as needed.		
	Maintain onsite controls so that no vehicle track-out occurs.		
	Regularly sweep areas using vacuum filter equipment.		
	Maintain dust collection devices on a regular basis.		
	Provide vegetated cover in erodible areas.		
BMP 33 - Soil Erosion and Sediment Control at	Provide cover with clear plastic, jute, or synthetic fiber mats.		
	Preserve natural vegetation.		
Industrial Sites	Use structural erosion control BMPs, such as check dams, gravel filter berms, vegetated swales, etc., as an alternative to the above.		
BMP 36 - Boat Building, Mooring, Maintenance and Repair	Collect bilge and ballast water for proper disposal. Do not discharge to land or water.		
	Convey sanitary sewage to a pump-out station or other appropriate facility. Do not discharge sewage to water.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
	Spill kits must be located on all piers and docks. Spill kit for shipyards and boatyards must contain marine containment boom.		
	Immediately clean up any spills on dock, boat, or ship deck areas. Dispose of wastes properly.		
	Immediately repair or replace leaking connections, valves, pipes, hoses or equipment.		
	Move maintenance and repair activities onshore.		
	Perform paint and solvent mixing, fuel mixing, and similar handling of liquids onshore or in proper containment.		
	Properly dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers.		
- Continued -BMP 36 - Boat Building, Mooring, Maintenance and Repair	Store all batteries, motors, and other oily parts in a covered container with tight fitting lid. Store materials like paints, tools, equipment, ground cloths, indoors or under cover.		
	Collect spent abrasives regularly and contain and store them under cover until can be properly disposed.		
	Sweep and clean dock and yard areas weekly, or more often as needed.		
	Do not use soap or detergents when washing boats in the water. Brush the hull with water only.		
	Use fixed platforms with appropriate barriers when work is performed on a boat in the water.		
	Direct deck drainage to a sump for settling and/or additional treatment.		
	Do not dump waste down floor drains, sinks, or outdoor storm drain inlets that drain to surface water. Plug or block floor drains connected to surface water.		
	See BMP 36 in Appendix A for procedures for blasting and spray painting activities.		

Table 2 – BMP Implementation Plan

BMP	Action	Responsibility	Schedule / Notes
BMP 41 - Maintenance and Management of Roof and Building Drains at Manufacturing and Commercial Buildings	If roof is potential pollutant source, sample and analyze runoff		
	If roof is source of pollutants, implement source controls.		
	Replace materials containing pollutants with more environmentally friendly alternatives.		
	Do not allow discharge from toilets to outside areas. Use pump out facilities.		
BMP 42 - Maintenance and Operation of Railroad Yards	Use drip pans at hose and pipe connections.		
	Do not discard debris or waste liquids along tracks.		
	Convey contaminated stormwater to sanitary sewer (if allowed) or an appropriate treatment system.		
	Do not hose down maintenance and repair areas.		
BMP 43 - Maintenance of Public and Private Utility Corridors and Facilities	Remove water or sediments from utility vaults according to requirements of BMP 43 (See Appendix A)		
	Provide maintenance practices to prevent stormwater from accumulating and draining onto roadways.		
	Maintain ditches and culverts at an appropriate frequency.		
	Regularly inspect roadside ditches and culverts.		
	Clean ditches on a regular basis.		
	Keep ditches free of rubbish and debris.		
	Conduct ditch maintenance when most effective (usually late spring or early fall).		
BMP 44 - Maintenance of Roadside Ditches	Do not apply fertilizer unless needed to maintain vegetative growth.		
	Do not leave material from ditch cleaning on the roadway.		
	Sweep and remove dirt and debris from roadway after ditch cleaning.		
	Segregate clean materials from contaminated materials. Reuse or dispose appropriately.		
	Remove vegetation only when flow is blocked		

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4 Operation and Maintenance

Regular operation and maintenance of stormwater facilities is key to controlling stormwater pollution. Generally, individual **tenants are responsible for maintenance of the stormwater system** for tenant-controlled areas (i.e., not common areas) within their leases. Please refer to your lease for specifics about who is responsible for maintaining the stormwater system.

The City of University Place requires that at a minimum all businesses perform the routine maintenance of the stormwater system. The City's requirements are documented in BMP 2 from the City of University Place Source Control Technical Manual (included in Appendix A). The tenant is responsible for keeping the SWPPP up to date with City of University Place requirements.

Proper operation and maintenance of the stormwater system and BMPs requires regular inspection. Inspections at this facility will be performed at least:

- ☐ Annually
- ☐ Quarterly
- ☐ Monthly
- ☐ Weekly
- ☐ Other: _____

Inspections will be documented on the form provided in Appendix B. Completed inspection forms will be maintained with this SWPPP.

APPENDIX A
Best Management Practices

APPENDIX B
O&M Inspection Reports

Operation and Maintenance Checklist

Name of Facility

Date	Inspected by	Catch Basins	BMPs	Comments
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspect ed ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	
		☐ Inspected ☐ Cleaned	☐ Inspected ☐ Maintained	

APPENDIX F

UNIVERSITY PLACE
WATERSHED AND OUTFALL INVENTORY

University Place
WASHINGTON

2017

WATERSHED AND OUTFALL INVENTORY

The purpose of this document is to fulfill the City's NPDES PHASE II Stormwater permitting requirements pertaining to the evaluation of watersheds.

Data used to compile this guide:

City of University Place Comprehensive storm drainage map.

City of University Place storm drainage study conducted by Earth Tech.

Gathered field notes, and data.

The study area is bounded by the 1995 incorporated limits of the City of University Place.

University Place, with a population of approximately 36,000, is located directly south of the Tacoma Narrows Bridge and is bordered by Puget Sound to the west. The 8.5-square-mile area is comprised largely of single-family residential neighborhoods, with commercial development existing in areas along Bridgeport Way, 67" Avenue and South Orchard Street. Little undeveloped land remains.

2.02 CLIMATE

University Place is located at the eastern edge of the Puget Sound Lowlands climatic region and experiences typical weather patterns brought about with the absorption of maritime influences by the Cascade Mountains. Summer temperatures in the 80s can be sustained, while winter temperatures usually are in the 40s. The recorded maximum and minimum temperatures for the area are 102 and -3'F, respectively. The average annual precipitation, as measured at the Chambers Creek Wastewater Treatment Plant, is 42 inches.

2.03 BASIN DESCRIPTIONS

For analysis purposes, the study area was divided into the 12 drainage basins Surface water for all of University Place eventually drains into Puget Sound; primarily through Leach, Peach and Chambers Creeks to the south and Day, Crystal and Brookside Creeks to the north.

Crystal Springs Creek Basin

The Crystal Springs Creek watershed is an area in the north end of University Place which drains directly into Crystal Creek. The basin is segmented by an overpass of the creek on Grandview Drive. Catch basins on Grandview collect the majority of the surface water in this vicinity, routing it north to the North Day Island watershed. Two 36-inch culverts underneath the railroad tracks at the lower end of this basin route the creek into an outfall to the Day Island Lagoon.

Unnamed - City of Tacoma Basin

This watershed, also on the north border of University Place, all drains to the catch basins and 18-inch storm sewer existing along 10 Street West. The storm sewer flows by gravity to a low point in the street, near the comer of 19' and Crystal Springs Road, where a detention pond routes the water north into Tacoma.

North Day Island Basin

The North Day Island watershed is a large drainage basin comprising the northeast portion of University Place. Surface water drainage is conveyed largely through street storm sewers in this area, with numerous detention ponds and a pump station. The storm sewers range in size between 12-inch and 30-inch, with all runoff eventually being conveyed into a 24-inch storm sewer, which drains into a 36-inch storm sewer on Crystal Springs Road in the northwest comer of the basin. The water is eventually routed to Day Island Lagoon and Puget Sound through a 42-inch storm drain along 19' Street West. The watershed also contains a large pothole drainage area.

Unnamed (City of Tacoma)- See (North Day Island Watershed)

Day Island Lagoon Basin

The Day Island Lagoon watershed is a small basin bordering Puget Sound which drains to a 12-inch storm sewer along 94th Avenue West. Runoff is discharged to the Sound through a 24-inch culvert which runs underneath the railroad tracks.

Crystal Springs Creek Basin – See (Day Island Lagoon)

Day Island Waterway Basin

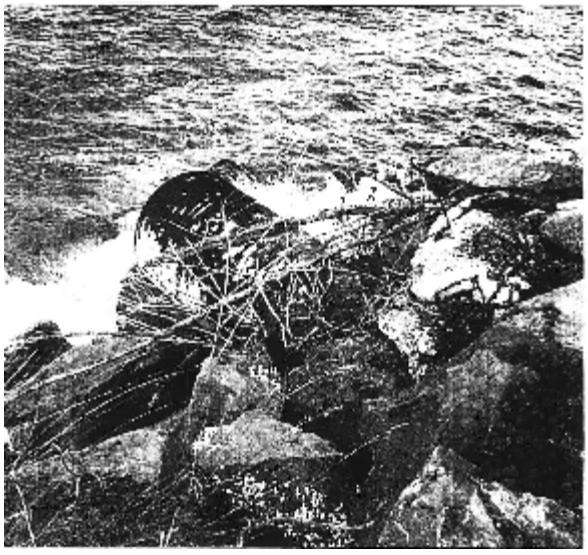
The Day Island Waterway watershed all drains northward by storm sewers, culverts and detention ponds to 24-inch storm sewer along 27' Street West. This storm sewer becomes 36 inches in diameter at the lower portion of the basin towards the northwest and parallels the north side of Day Island Bridge Road and discharges into the Puget Sound through a pair of 36-inch culverts underneath the railroad tracks. A small portion of the basin on the south side of Day Island Bridge Road drains to Puget Sound through a natural creek.

Curtis Pothole Basin

The Curtis Pothole watershed, encompassing the central area of University Place, generally drains by 12-inch storm sewer and culvert to an undeveloped depression in the topography towards the northwest portion of the basin near Curtis High School. Here, the runoff ponds and eventually infiltrates into the ground.

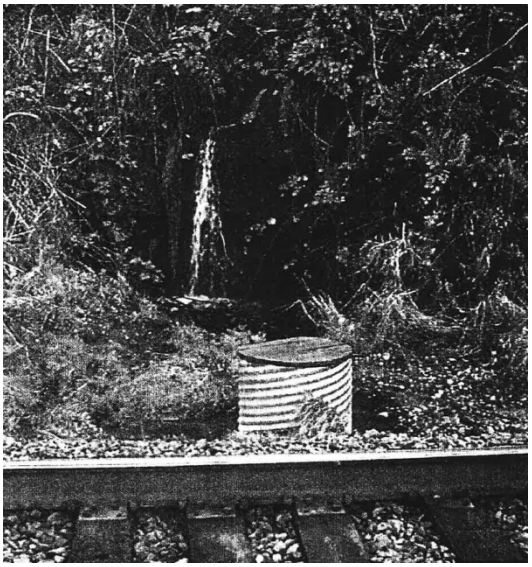
Soundview Basin

The Soundview watershed drains exclusively through street storm sewers ranging from 12-inch to 30-inch in size. Runoff water is eventually collected and routed to Brookside Creek at the merge of Brookside Way and Palisades Place, where the creek and intermittent 30-inch culverts channel flow underneath the railroad tracks and into Puget Sound.



Unnamed Basin

This unnamed basin represents the Sunset Beach area of University Place Area surface drains over the bank and is collected in a 36in vertical metal manhole structure. It then flows westward between two residential units to daylight at bulkhead in Puget Sound.



Unnamed (Glacier) Basin

This watershed, adjacent to Puget Sound and representing the southwest portion of University Place, includes Chambers Creek Properties and Chambers Bay Golf Course. This Basin area is a former gravel pit. The basin has no outfalls or flow to Chambers Bay. Through development of the site extensive storm drain system now exist. Three large retention ponds allow permeation of water into the ground.

Westside Sewer District Basin

The Westside Sewer District watershed drains through storm sewers to two main collectors. The northern and eastern portions of -the basin, in the Beckonridge and Park Ridge areas, drains to a 36-inch storm sewer which runs along Beckonridge Drive to Grandview Drive. The southwest portion of the basin, encompassing Bristonwood and Grandview Park, drains to a 30-inch storm sewer along Bristonwood Drive and 52 nd Street West and merges with the northern collector on Grandview Drive. A 36-inch storm sewer then proceeds westward and empties into Puget Sound through a culvert underneath the railroad tracks.

No picture pipe discharges below water line of Puget Sound.

Chambers Creek Basin

The Chambers Creek watershed represents the southern portion of University Place. The western part of this basin drains directly into Chambers Creek through a 36-inch storm sewer running south from 64' Street West. The eastern part of the basin discharges into Peach Creek in the Westhampton, University Woods, and Chambers

Point areas through culverts ranging in size from 12-inch to 21-inch. Peach Creek drains into Chambers Creek at the southern limit of University Place.

Leach Creek Basin

Surface water from the Leach Creek watershed discharges to Leach Creek in the Fir Crest and Trikalla areas as well as along Cirque Drive West and Bridgeport Way West. Storm sewers range in size between 12-inch and 36-inch with detention ponds in places. Eventually water discharges into Leach Creek via several outfalls.

A large capacity underground retention- filter vault was constructed in 2007 by the WSDOT As part of a wetland mitigation restoration project associated with the construction of the new Narrows Bridge. This system slows the discharge of water allowing it to filter through a conical structure then discharging to a wetland that eventually flows to Leach Creek.

Flett Creek Basin

A small portion of the Flett Creek watershed lies within the southeast comer of University Place. A12-inch storm sewer running south along 54' Avenue drains the storm water to the south toward City of Lakewood discharging into Leach Creek.