Mill Creek
Stormwater Management Action Plan

City of Kent
March 2023

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Acronyms

ADT - Average Daily Traffic

BMP - Best Management Practice

City - City of Kent

DMP - Drainage Master Plan

Ecology - Washington State Department of Ecology

EPA - United States Environmental Protection Agency

GIS - Geographic Information System

IDDE - Illicit Discharge Detection and Elimination

NPDES - National Pollutant Discharge Elimination System

O&M - Operations & Maintenance

Permit - NPDES Phase II Municipal Stormwater Permit

SMAP - Stormwater Management Action Plan

SWDM - Surface Water Design Manual

SWMP - Stormwater Management Program

TMDL - Total Maximum Daily Load

1. Introduction

1.1 Background

The National Pollutant Discharge Elimination System (NPDES) is a permit-based water quality program implemented under the Federal Clean Water Act. The goal of the NPDES program is to reduce the amount of pollution that reaches streams, lakes, wetlands, oceans, and other water bodies by regulating stormwater runoff. The City of Kent (City) is required to operate its stormwater system in compliance with the NPDES Western Washington Phase II Municipal Stormwater Permit (Permit), administered by the Washington State Department of Ecology (Ecology). The Permit requires the city to implement a Stormwater Management Program (SWMP) to address each of the required components within section S5.C of the Permit. Implementing the SWMP is an ongoing effort by the city to protect water quality. Visit the following links to learn more about the City of Kent SWMP and the city's obligations under Ecology's Permit.

Stormwater Planning is one component of the SWMP, per section S5.C.1 of the Permit. Permittees are required to 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. Stormwater Planning requirements include convening an inter-disciplinary team to inform and assist with the development of the program, coordination with long range plan updates, low impact code-related requirements, and Stormwater Management Action Planning.

1.2 Objective

Stormwater Management Action Planning requires permittees like Kent to incorporate strategic stormwater management into all aspects of city planning. This report describes the city's efforts to meet the Stormwater Management Action Planning requirements according to section S5.C.1.d of the Permit. This includes the assessment of receiving waters, prioritization and selection of a high priority basin, and the development of a Stormwater Management Action Plan (SMAP) for the city's selected basin following the processes outlined in Ecology's SMAP Guidance (ECY2019).

The Stormwater Management Action Planning process is a watershed-scale approach to stormwater management that aims to protect designated uses and improve water quality under both current and future developed conditions. Stormwater Management Action Planning helps the city to critically assess water quality at the watershed level, identify and prioritize basins that would receive the most benefit from intervention, and develop a basin-specific action plan for improvement in the form of a SMAP. The resulting SMAP includes stormwater management actions, land management strategies, and best management practices (BMPs) that are tailored to the selected basin.

1.3 Interdepartmental Planning

To accomplish citywide and project-specific planning, the city formed a cross-departmental "Interdisciplinary Team" (**Attachment 1**) which allowed technical experts in their respective fields the opportunity to provide data, analyze results, and aid in decision making throughout the development of the SMAP. This team included members from the Public Works, Economic & Community Development, and Parks & Community Services departments. The interdisciplinary team considered growth management planning, growth center or area redevelopment proposals, transit-oriented development, land conservation, and open space and parks planning that can benefit from coordinated efforts.

Specific city related items considered:

- Traffic average daily traffic (ADT) volumes
- Future widening projects planned

- 2022 Kent Parks and Open Space Plan
- Light rail impacts
- Public access to surface waters
- Quantity of municipal outfalls in the basin
- Basin development influences and development pressures

2. Basin Prioritization

2.1 Receiving Water Assessment

The city delineated all 38 basins within its jurisdictional boundaries (**Figure 1**) for the receiving water conditions assessment and collected existing data for each basin. The assessment considered the unique characteristics and challenges within each basin, including water quality, current land uses, the influence of the existing municipal separate storm sewer system (MS4), and whether these challenges could be addressed using stormwater retrofits, land management and development policies, or targeted stormwater management actions. The results of this assessment are documented within the Findings of the Stormwater Management Influence Assessment, submitted to Ecology on March 31, 2022.

Informed by the findings of the receiving water conditions assessment, the following eleven basins were determined to potentially receive the most benefit from intervention and selected to be considered as priority basins for further analysis:

- Green River Natural Resource Area
- Lake Fenwick
- Lake Meridian
- Lower Garrison Creek
- Lower Mill Creek
- Lower Springbrook Creek
- McSorley Creek
- Mill Creek - 76th Ave Outfall
- Soosette Creek
- Upper Garrison Creek
- Upper Mill Creek

2.2 Prioritization Process

For the prioritization process, the city compared basin characteristics and potential impacts based on current and future development conditions. The criteria used for the prioritization process are documented in the Prioritization Criteria Matrix (**Attachment 2**). The data used to prioritize the eleven selected basins is documented in **Table 1**.

To address the Stormwater Management Action Planning objectives, the city developed a weighted scoring system to rank the eleven prioritized basins. Prioritization criteria were weighted using a scoring of high, medium, and low depending on their stormwater influence on water quality in Kent. Considering impacts to water quality within each basin, metrics receiving low scores are less likely to impact water quality, while metrics receiving high scores are more likely to impact water quality.

This criteria weighting helped prioritize basins where the city had a greater potential to influence receiving waters with direct stormwater management actions:
High Influence:

- Percent of Watershed in Kent (**Figure 1**)
- Source Control Properties per Acre (**Figure 2**)
- Number of Source Control Properties (**Figure 2**)

- Illicit Discharges & Connections per Acre (**Figure 3**)
- Percent Impervious Surface Area (**Figure 4**)
- Road Density (**Figure 5**)

Medium Influence:

- Zoning Density (**Figure 6**)
- Social Vulnerability to Hazards (**Figure 7**)
- Water Quality & Flow Control Facilities per Acre (**Figure 8**)

Low Influence:

- Industrial Permittees per Acre (**Figure 9**)
- Developable Land per Acre (**Figure 10**)
- On-site Septic Systems per Acre (**Figure 11**)

Additional factors considered as part of the basin selection process included:

- Basins where future capital projects are planned (e.g., transportation, drainage, flood control) or redevelopment is occurring
- Basins where there are high levels of public interest and support, concern over water quality impacts, existing planning and restoration efforts, and past and proposed community investments with public and stakeholder partners

The weighted scoring and final prioritization process is documented in **Table 2** and depicted in **Figure 12.** Basins that received higher scores were those that would most benefit from the development of a SMAP.

2.3 Catchment Area of Focus – Lower Mill Creek

Following the completion of the basin prioritization process described above, Kent chose to focus on Mill Creek as the high priority receiving water, including Upper Mill Creek, Lower Mill Creek, and Mill Creek - 76th Outfall (**Figure 13**). The contributing area within the Mill Creek Basin consists of industrial, commercial, and residential development. Major pollutants within the basin are non-point sources such as impervious surfaces, and point source pollutants from dense industrial and commercial areas.

The Lower Mill Creek Basin scored highest in the prioritization process and was chosen as the Catchment Area of Focus (**Figure 14**). Receiving a high score indicated that targeted stormwater management actions within this basin would have the most benefit to water quality in Mill Creek. Choosing a basin with 96% of the basin area inside Kent's jurisdictional boundaries allows the city to influence water quality within a majority of the basin.

The city chose not to further narrow the catchment area of focus because the 2,557-acre Lower Mill Creek Basin is within Kent's industrial valley with no defining differences in terms of topographic features or industrial property distribution. Since this area is primarily industrial with a high concentration of 383 source control properties, the city can immediately begin implementing stormwater actions, including targeted source control inspections, which have the potential to bring relatively quick, widespread, and drastic benefits to water quality.

Figure 13 – Mill Creek Basin

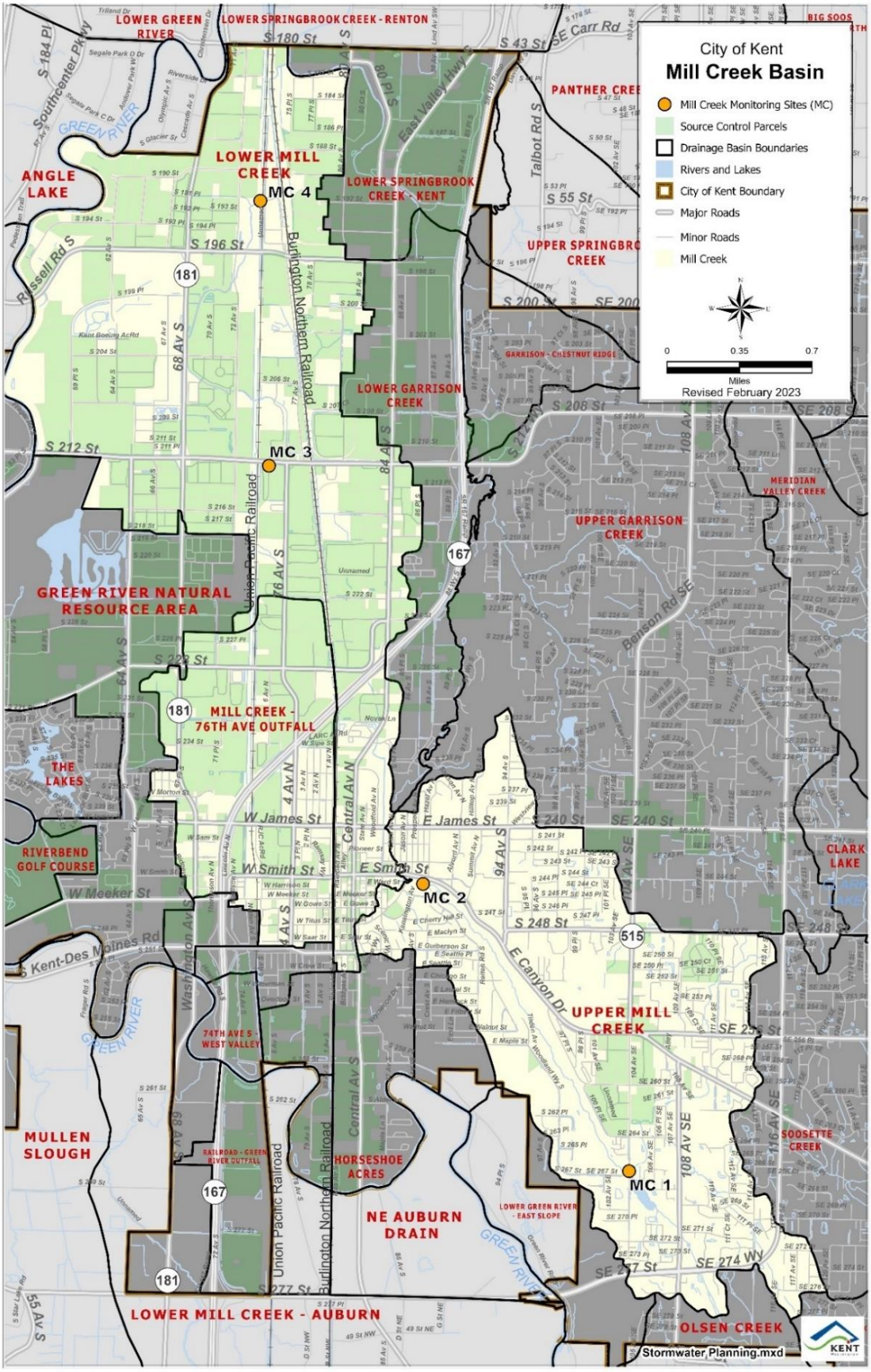
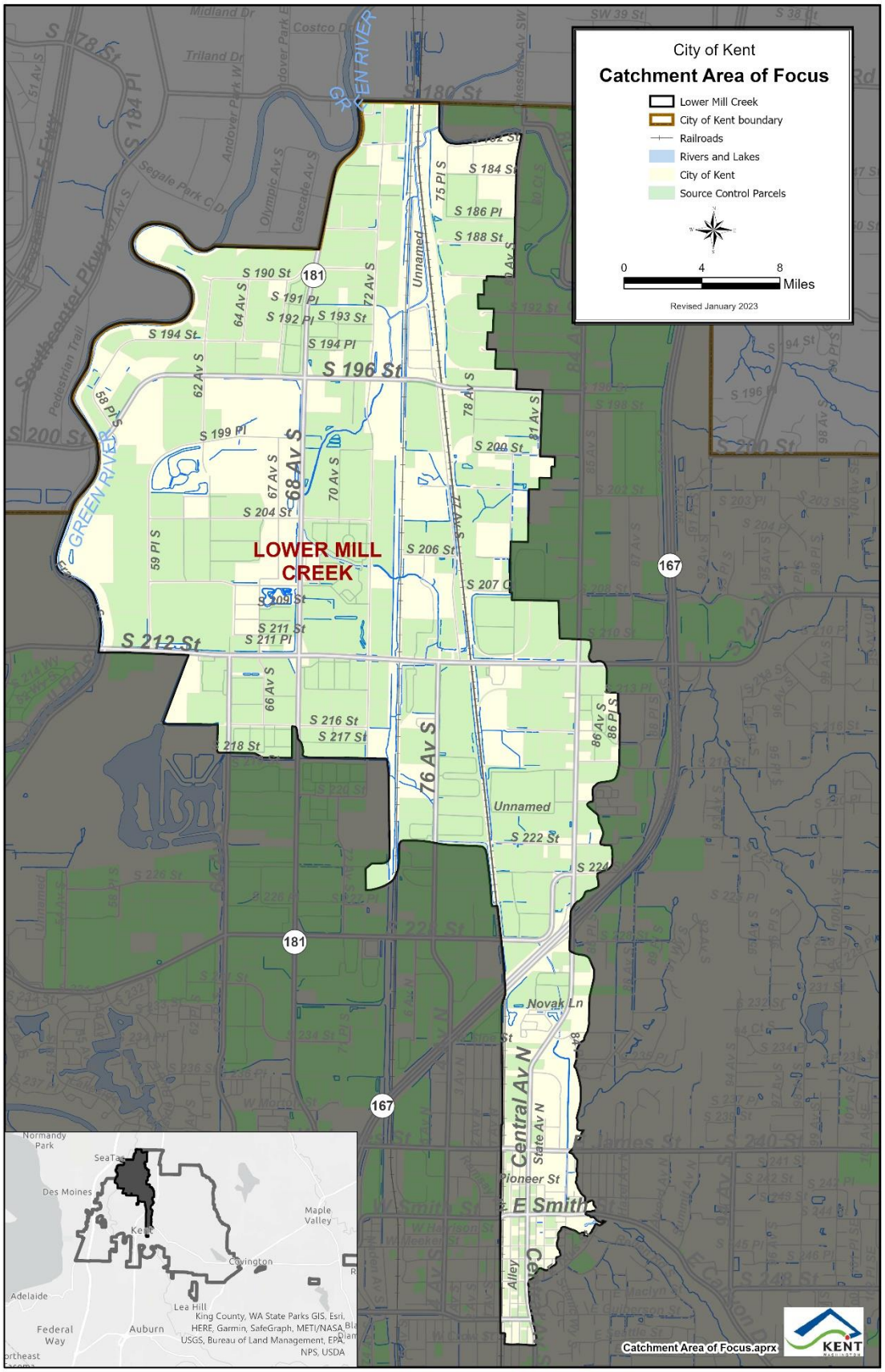


Figure 14 – Catchment Area of Focus



3. Public Involvement

3.1 Stormwater Management Actions Survey

Using the information gathered during the basin prioritization process, the city identified seven stormwater management actions to include in a stormwater survey. The city requested public input on the seven actions to determine which stormwater investments should be prioritized, and to further assess their potential to improve water quality in the Lower Mill Creek Basin. Input was sought from environmental organizations and the general public through an online survey on the city's stormwater webpage. The survey was promoted with targeted emails to stakeholders and by using announcements on the City of Kent social media pages and the Mayor's Newsletter.

The identified stormwater management actions included the following:

- **Flow Control Facility Construction**
  Install stormwater storage facilities to reduce erosion in streams, damage to habitat, and flooding.
- **Water Quality Facility Construction**
  Install treatment systems to remove pollutants from stormwater runoff.
- **Water Quality Monitoring Program**
  Targeted sampling, testing, and tracing of pollutants in the public drainage system to identify and eliminate pollutant sources.
- **Enhanced Education & Outreach Program**
  Develop and implement campaigns to encourage behavior change that benefits water quality.
- **Street Sweeping Program**
  Clean roadways using street sweepers on a regular basis to improve aesthetics, reduce localized flooding, and reduce pollutants in stormwater runoff.
- **Regional Stormwater Facility Construction**
  Install facilities designed to control stormwater runoff from multiple properties to improve water quality and flow control. These facilities may also be used for education and outreach.
- **Preserve and Restore Natural Areas**
  Protect and create natural vegetated areas to restore natural processes.

3.2 Stakeholders

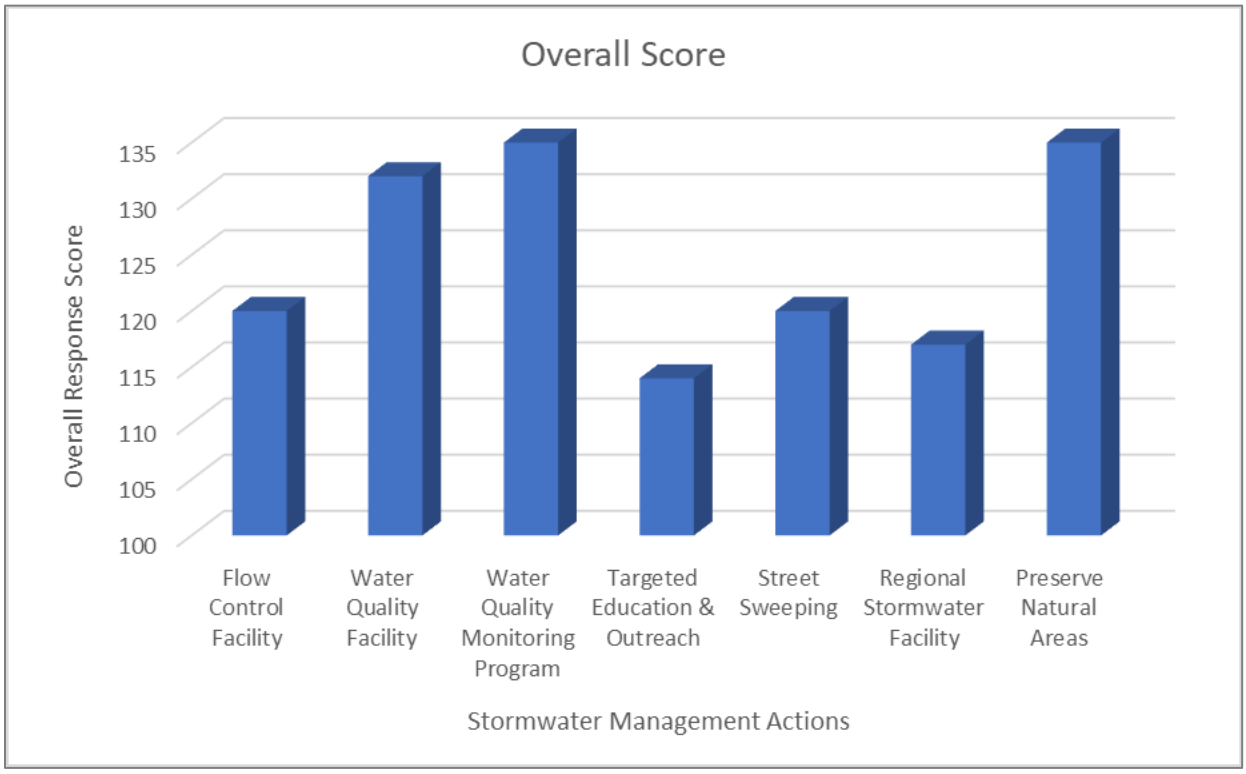
Stakeholders invited to take the survey included, but were not limited to:

- King County Department of Natural Resources and Parks
- Washington State Department of Fish & Wildlife
- University of Washington Environmental Department
- Master Builders Association of King County
- Poverty Bay Shellfish Protection District
- Northwest Indian Fisheries Commission
- King County Drainage District #1
- National Marine Fisheries Service
- Washington Stormwater Center
- Sustainability Ambassadors
- Adopt a Stream Foundation
- Puget Soundkeepers Alliance
- Muckleshoot Indian Tribe
- Rivers Without Borders
- Lost Urban Streams
- Green River Coalition
- King County Streams

3.3 Stormwater Survey Results

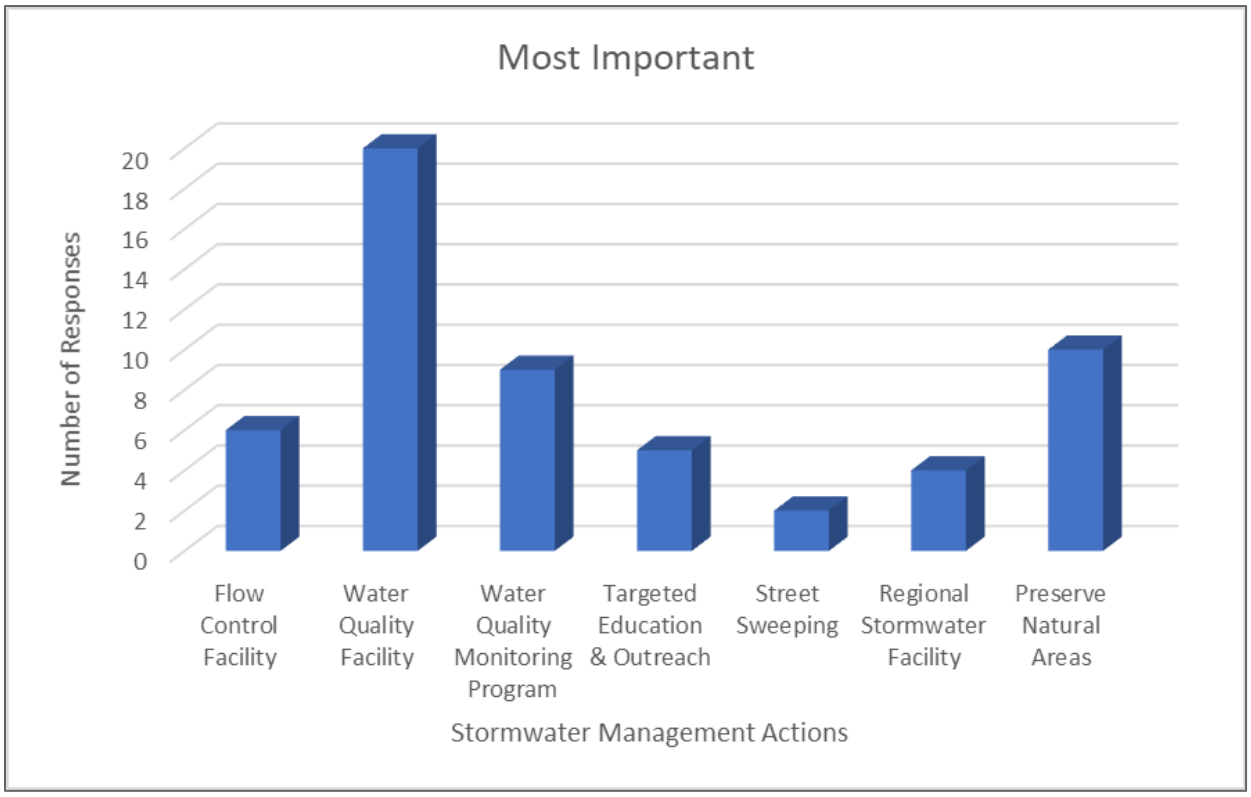
Survey participants were asked to rank each stormwater management action individually to assist in determining their level of importance for consideration within the SMAP. This was done using a point system of 0 – 5, with 0 being not important and 5 being very important. The actions that participants ranked as most important were:

- Water quality monitoring program
- Preserve and restore natural areas
- Water quality facility construction



Survey participants were then asked to choose which single stormwater management action should be the highest priority for the city to consider as a stormwater investment for the SMAP. Actions identified as the highest priority were:

- Water quality facility construction
- Preserve and restore natural areas
- Water quality monitoring program



The feedback received from the online survey was considered for the development of the SMAP and water quality monitoring program.

4. Stormwater Management Action Plan

The Mill Creek Basin is already built out and the receiving waters are more in need of improvement than protection. Therefore, stormwater investments for the SMAP will focus on targeted stormwater management actions, an ongoing water quality monitoring program, and the identification of stormwater facility retrofits and regional stormwater facility opportunities to address water quality concerns.

4.1 Targeted Stormwater Management Actions

Targeted stormwater management actions are enhanced versions of the programs the city is already implementing as required by S5.C of the Permit, with a focus on improving water quality within the selected catchment area to meet the goals of the SMAP. These programs include:

- IDDE field screening
- Prioritization of source control inspections
- O&M (operations & maintenance) inspections or enhanced maintenance
- Public education and outreach behavior change programs

After the initial review of the seven identified stormwater management actions, the following actions were selected and refined to address the needs of the Lower Mill Creek Basin:

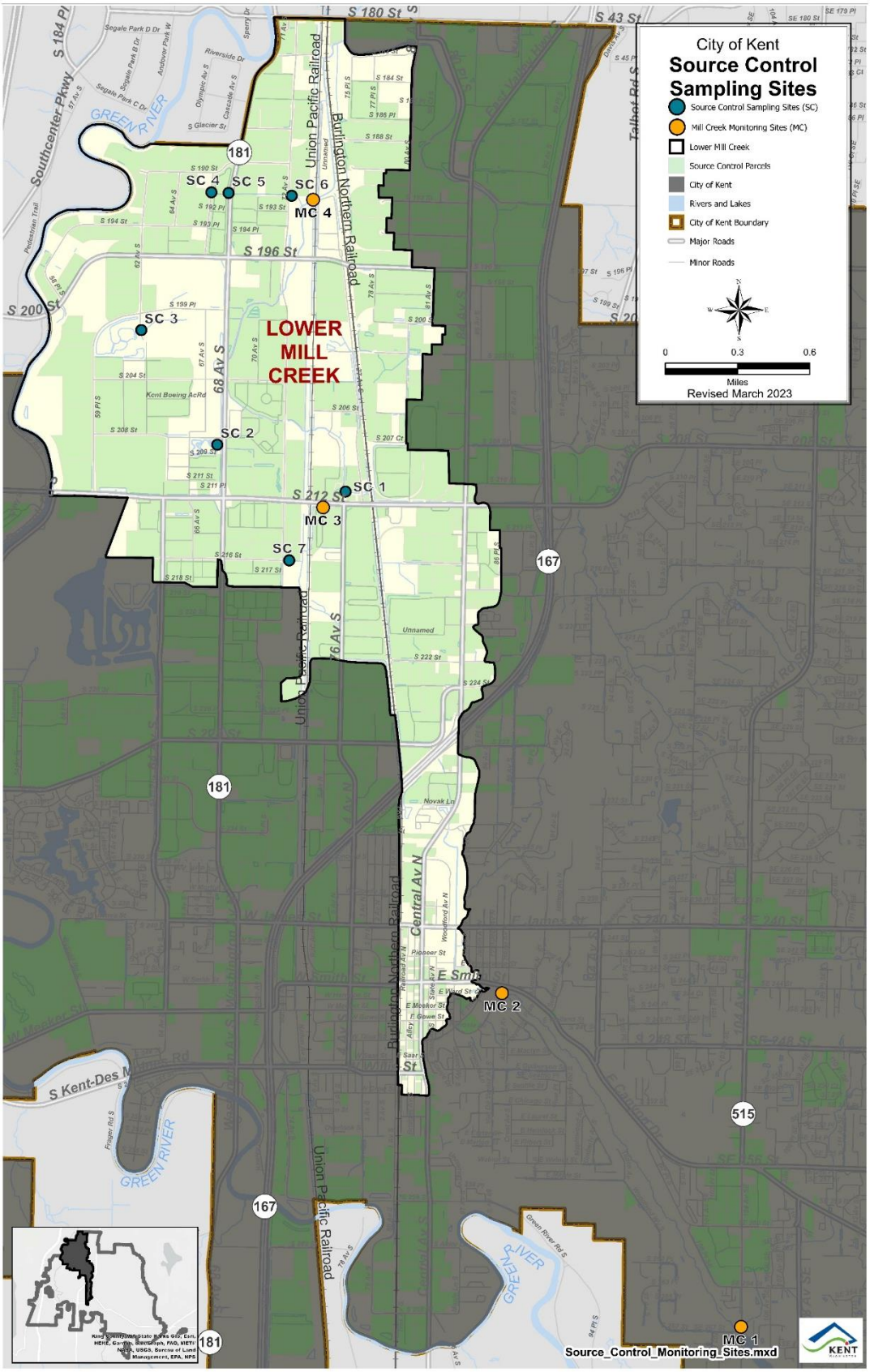
a. Pollutant Source Tracing Program

As part of the SMAP, the city hired an outside consulting firm to conduct stormwater sampling. This sampling was completed as a first step in assessing whether pollutants present in the MS4 could be linked to industrial activities at source control properties or other identifiable sources that can be addressed with targeted stormwater management actions. The city strategically selected seven source control sampling locations within the MS4 that capture runoff from a variety of sources in the Lower Mill Creek Basin (**Figure 15**). The initial round of sampling was completed on February 23 and March 2, 2023 and tested for the parameters listed within the Water Quality Monitoring section below. Any pollutants found in the MS4 beyond target threshold levels will be investigated to focus in on the area where the pollutant originated.

The Pollutant Source Tracing Program is an enhancement of the IDDE field screening program. The data gathered from this program will also help narrow the focus area of the other targeted stormwater management actions within the Lower Mill Creek Basin. By analyzing the new water quality monitoring data, existing illicit discharge data, and more closely assessing the risk factor of source control properties and potential pollutants, the city will focus on areas that would benefit from additional or specialized source control inspections, education and outreach efforts, and enhanced O&M actions.

The first round of sampling at seven source control locations is estimated to cost just over $14,000, including lab analysis, supplies, and labor. Follow up testing cost will depend on the locations and type of pollutants found that require source tracing.

Figure 15 – Source Control Sampling Sites



b. Targeted Source Control Program

The Lower Mill Creek Basin is primarily composed of industrial source control properties, which have the potential to generate pollutants that can discharge into the MS4. If pollutants are found in the MS4 during the initial round of the Pollutant Source Tracing Program, staff will work with the consultant to trace the pollutant and investigate pollutant sources upstream of where the pollutant was identified.

Pollutant Source Tracing Program data will be used to target source control inspections in areas believed to be the source of pollutants identified during sampling. Staff will focus inspections on businesses in the area that have the potential to discharge the identified pollutants to the MS4 and educate businesses on how to use proper operational and structural BMPs to prevent or eliminate illicit discharges.

c. Enhanced Education & Outreach

Because the Lower Mill Creek Basin is primarily composed of source control properties; the city has the opportunity to provide enhanced education and outreach in conjunction with the Targeted Source Control Inspection Program. Due to the historically high concentration of spills in the Lower Mill Creek Basin, targeted source control inspections will include an emphasis on spill prevention and response. During these inspections, the city will educate facility owners, managers, and staff and provide spill kit handouts and information on where to purchase replacement supplies.

The dense industrial and manufacturing area of the Lower Mill Creek Basin also has a high concentration of dumpsters. Open dumpster lids allow rainwater to enter dumpsters, leak into the nearest storm drain, and contribute polluted runoff and excessive trash to local waterways. To address the potential impacts of dumpsters on water quality, the city joined a regional effort to develop the "Shut It Campaign," which uses community based social marketing techniques to effect measurable behavioral change. The campaign uses regionally developed educational materials including stickers, signs, and posters to encourage business owners and staff to keep dumpster lids closed when not in use. A pilot program determined the campaign was effective in changing behavior and resulted in dumpster lids being closed more often at pilot facilities. The city is now implementing the Shut It Campaign as a part of the existing Source Control Program, which will be targeted within the Lower Mill Creek Basin.

d. Street Sweeping Program

Streets accumulate pollutants that are detrimental to water quality when combined with stormwater. With the Lower Mill Creek Basin being a high traffic area, there is an increase in pollutants on roadways. Street sweeping can minimize some of these pollutants, including sediment, debris, and vehicle fluids. Street sweeping also helps reduce the frequency at which catch basin and line cleaning is needed.

The current city-wide street sweeping program aims to improve aesthetics, reduce localized flooding, and reduce pollutants in stormwater runoff. Street sweeping within the Lower Mill Creek Basin includes weekly sweeping of all major arterials and monthly sweeping of industrial and residential streets. The existing O&M program may be enhanced to focus on areas within the Lower Mill Creek Basin where drainage does not flow through treatment facilities before reaching receiving waters.

4.2 Mill Creek Water Quality Monitoring Program

Reviewing the results of the Stormwater Survey, it was evident respondents were in favor of a water quality monitoring program, which was an action the city could begin implementing immediately. To move forward with this action, the city hired an outside consulting firm to conduct water quality

monitoring within Mill Creek. In addition to the Pollutant Source Tracing Program above, the consultant will conduct routine water quality monitoring at four locations within the Mill Creek Basin (**Figure 13**). Gathering water quality data throughout the receiving water allows the city to assess the impacts of stormwater on water quality as it moves through the city and the dense industrial area of the Lower Mill Creek Basin. The ongoing collection of water quality data will provide a baseline for measuring the effectiveness of current and future SMAPs.

a. Parameters

To allow for comparative analysis over time and across sampling locations, the city chose to include the same parameters as King County's Stream Monitoring Program. King County's program gathers data for eight parameters (dissolved oxygen, pH, total phosphorus, total nitrogen, turbidity, total suspended solids, temperature, and fecal coliform bacteria), which can be aggregated to produce a single unit-less number ranging from 10 to 100, known as the Water Quality Index (WQI). The higher WQI score correlates to better water quality. King County's WQI is based on Ecology's Puget Sound lowland stream version of the WQI (WQI2023).

Other parameters were selected based on a consideration of the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (WASWC2023), Ecology's priority toxic chemicals (ECY2023), spill history, and a knowledge of the types of businesses and pollutants likely to be found in the industrial and manufacturing area of Lower Mill Creek. Parameters selected for source control sampling included a variety of metals including Copper, Nickel, and Zinc, as well as the Resource Conservation and Recovery Act metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver). The city also chose to sample for Nitrate, E. Coli bacteria, and fuel and petroleum related pollutants including BTEX (benzene, toluene, ethylbenzene, and xylene) and Total Petroleum Hydrocarbons (TPH). The city used the same parameters for both the pollutant source tracing and stream monitoring programs for consistency and comparison purposes.

Priority toxic chemicals including polycyclic aromatic hydrocarbons (PAHs) and 6PPD-quinone (6PPD-q) were also selected. Due to the recent interest in the impacts of 6PPD-q on Coho salmon (ECY2023b), the city chose to include it as a sampling parameter. 6PPD-q is a recently discovered contaminant found in tire dust particles, which washes into stormwater and can spread to rivers, streams, and the Puget Sound. Since there is limited data on the occurrence and amount of 6PPD-q in local waterbodies, gathering this data may be a valuable contribution to regional studies and efforts to minimize it's impacts on water quality and wildlife.

4.3 Land Management Strategies

Land management strategies should aim to protect current designated uses in Lower Mill Creek, which include recreation, salmon rearing/migration, and stormwater conveyance. The Lower Mill Creek Basin is highly developed with minimal natural areas available for preservation. Therefore, land management strategies will focus on code updates and implementing more stringent guidelines for redevelopment. The city actively evaluates opportunities for improvements to development requirements that preserve or protect water quality.

The following are examples of the city's ongoing evaluation of land management strategies:

a. 2022 City of Kent Surface Water Design Manual Update

The City of Kent Surface Water Design Manual (SWDM) requires all development within the city to conform with water quality and flow control requirements. The city recently updated the SWDM to meet Permit requirements and address the use of galvanized materials. Galvanized materials leach zinc into the environment, especially in areas with standing water. High zinc concentrations, sometimes in the range that can be toxic to aquatic life, have been observed in the region. Therefore,

the use of galvanized materials in stormwater facilities and conveyance systems is discouraged in the updated SWDM, and if used, they are required to be coated to minimize the release of zinc.

b. 2022 Kent City Code 8.09 Update - Camping on City Property

This code update provides the city with the authority to immediately remove unlawful camps from public places, specifically in environmentally sensitive areas such as wetlands, streams, fish and wildlife habitat, and steep slopes. The city has placed an emphasis on this effort because the activities associated with these camps cause significant damage to the environment including the destruction of habitat and native vegetation, accumulation of litter, and discharge of pollutants into local waterways. This code update will assist the city in the goal of preserving natural areas around Mill Creek.

c. City of Kent Drainage Master Plan Update

The City of Kent Drainage Master Plan (DMP) is being updated to evaluate and recommend drainage facility capital improvement needs to reduce flood risks, improve water quality, enhance fish passage and instream/riparian habitats, and to efficiently serve planned growth. The DMP update will have a significant focus on Mill Creek and the city will opportunistically incorporate the analysis, findings, and solutions of this SMAP into the DMP.

d. Mill Creek Restoration Project

The city is working on the Mill Creek Restoration Project, which is an effort to remove accumulated sediment from multiple stretches of Mill Creek to reestablish the original creek bottom elevation and restore channel capacity. This project will restore the natural processes of Mill Creek to reduce flood risks, improve water quality, enhance fish passage, and reduce erosion. This project includes installation of native plants, trees, and shrubs to improve wetland and stream function.

4.4 Stormwater Facility Retrofits

Much of the development within the Lower Mill Creek Basin was constructed prior to the standards required today. Stormwater facility retrofits (retrofits) provide an opportunity to address water quality concerns that may result from development not built to today's standards. Retrofits include the improvement of existing treatment facilities or installation of new stormwater BMPs where none previously existed. Constructing a stormwater retrofit may benefit both flow control and water quality if a suitable location is available.

To identify locations for potential retrofit opportunities, city staff reviewed all city owned parcels within the Lower Mill Creek Basin (**Figure 16**). The city focused on current city owned parcels during the retrofit location selection process because they are more feasible for potential project construction, as land acquisition is not required. Selected locations are depicted in **Figure 17**.

During the potential location selection process, the following criteria were considered:

- Total surface area draining to the location
- Number of source control properties upstream
- Existing treatment facilities within the drainage area
- Opportunities for water quality treatment within or near existing MS4
- Available space for installation of a treatment facility on the selected parcel

Figure 16 – City Owned Parcels

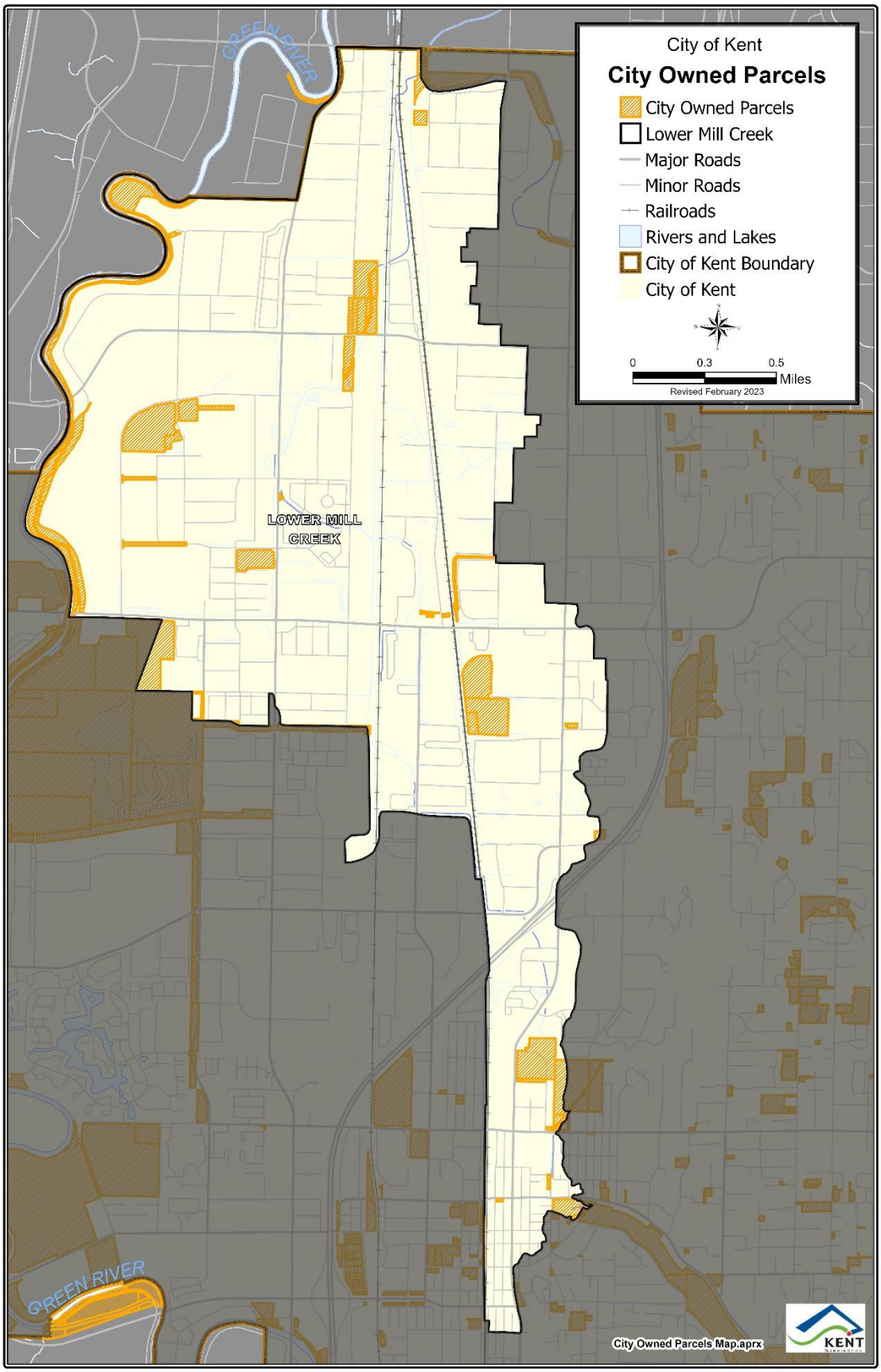
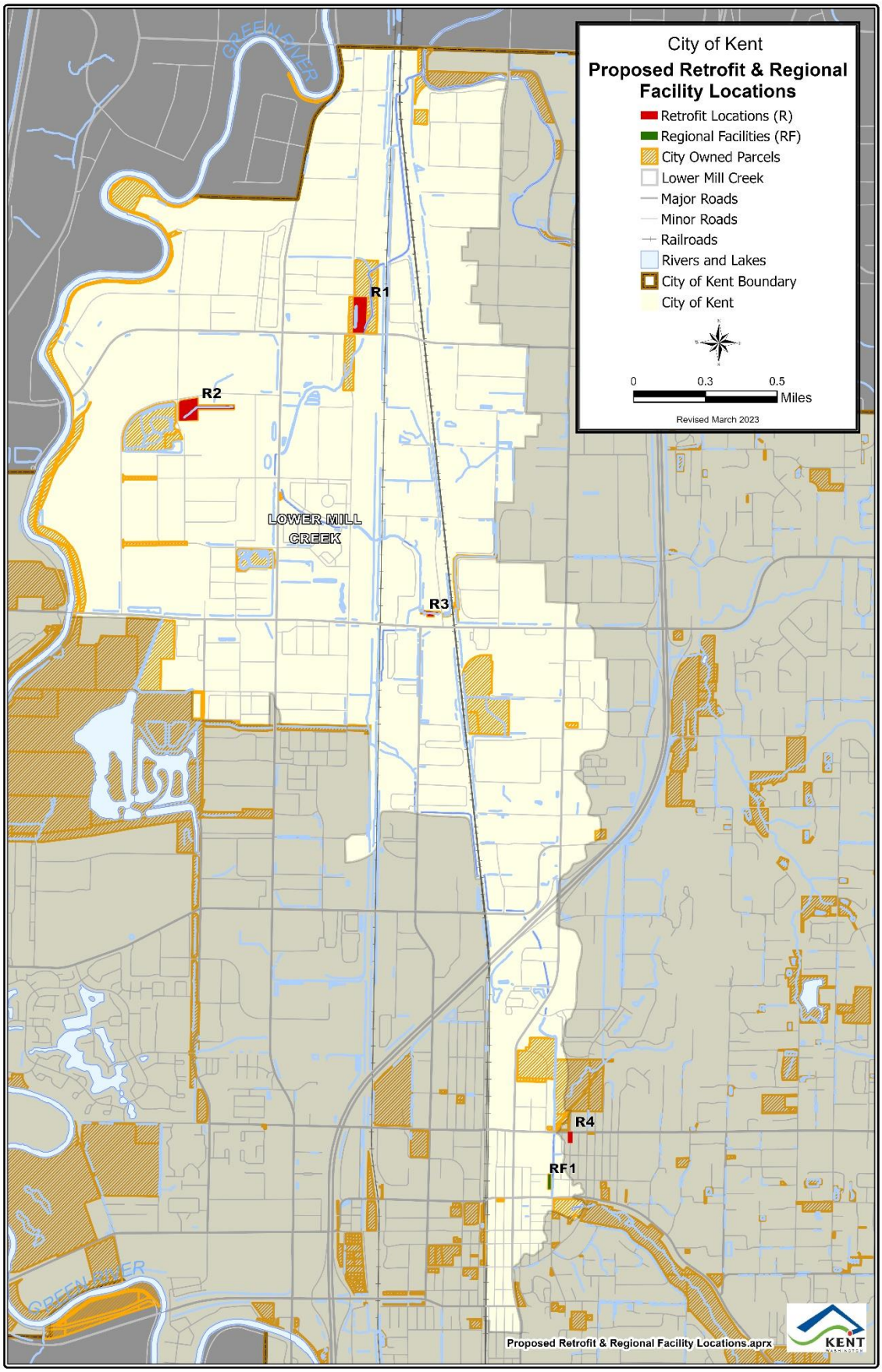


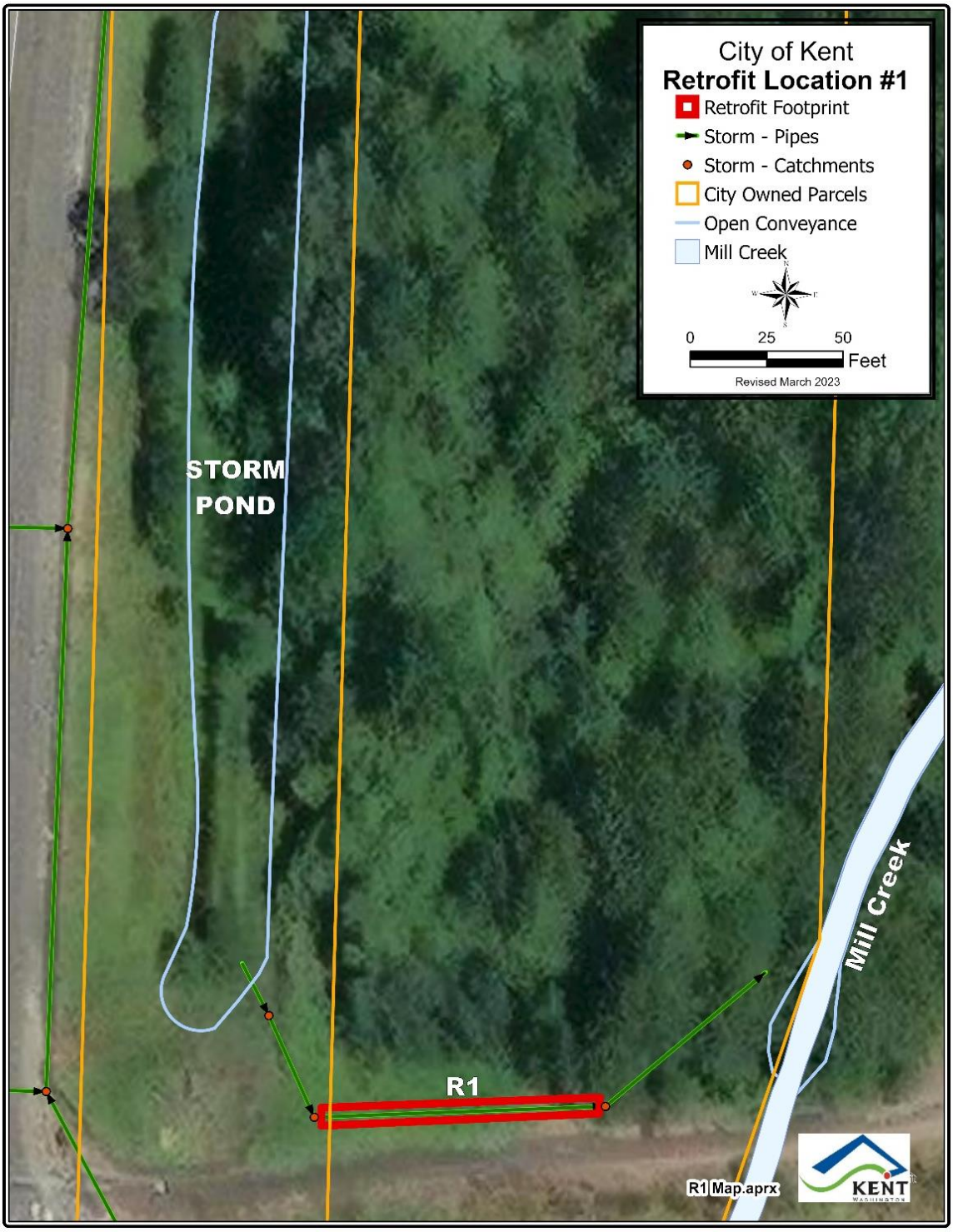
Figure 17 – Proposed Retrofit & Regional Facility Locations



The identification process led to the selection of four potential retrofit locations:

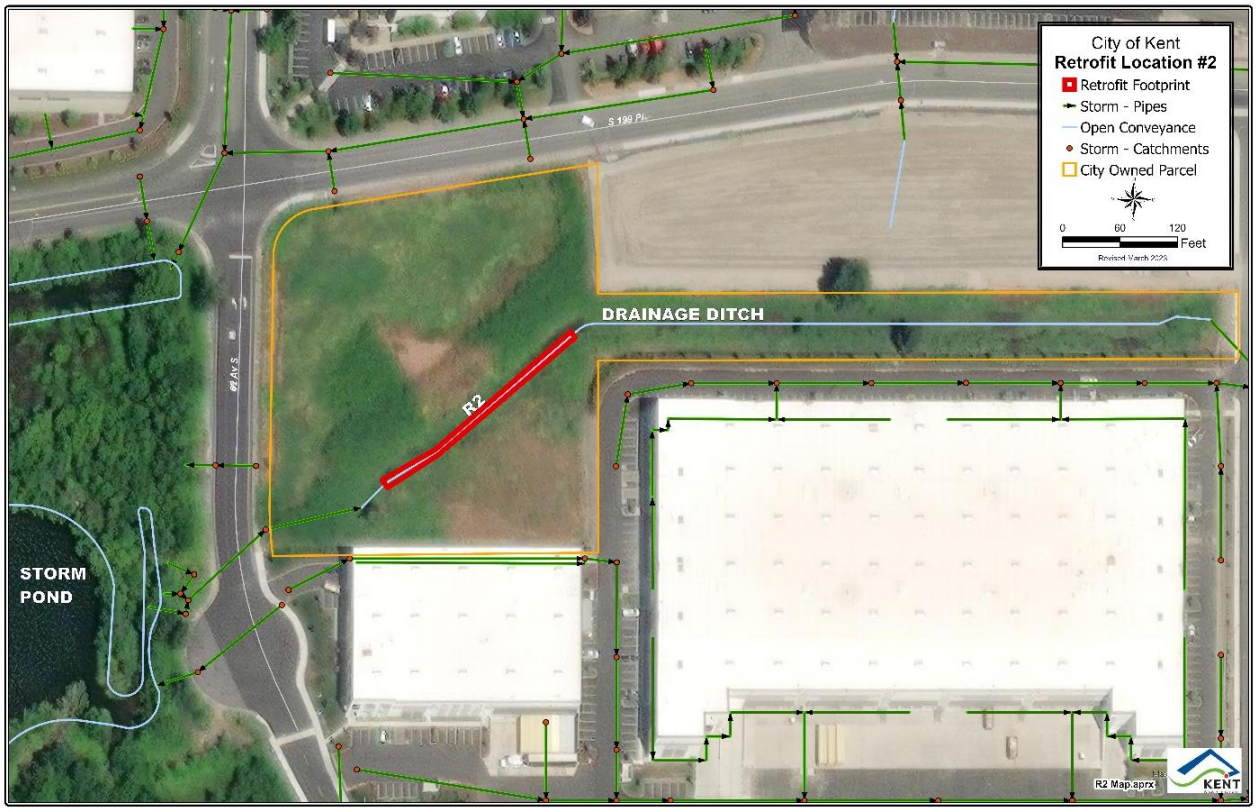
a. Retrofit Location #1

- Location: S 196th & 72nd Ave S (Parcel 310600365)
- Project Goal: Install a water quality treatment facility at the outfall of the existing pond before discharging into a wetland that flows into Mill Creek.



b. Retrofit Location #2

- Location: S 199th St & 62nd Ave S (Parcel 6600210350)
- Project Goal: Install a water quality treatment facility downstream of the existing pond and establish native vegetation in the remaining ditch before discharging to Mill Creek.

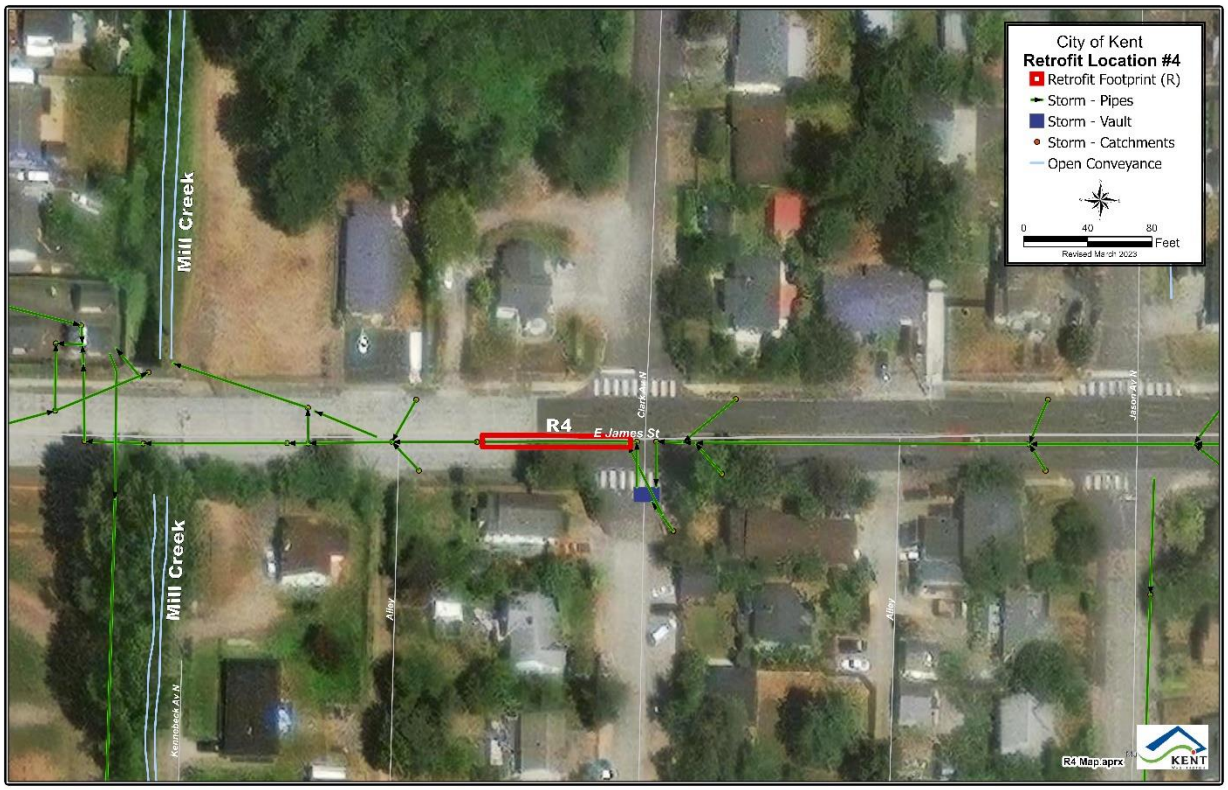


c. Retrofit Location #3

- Location: 77th Ave S & S 212th St (Parcel 8867000110)
- Project Goal: Divert existing ditch through a water quality treatment facility before discharging to Mill Creek. Planting of native vegetation may also be included.

d. Retrofit Location #4

- Location: E James St & Clark Ave N (within right-of-way)
- Project Goal: Create a treatment train by installing a water quality treatment facility downstream of the existing sediment vault on James Street before discharging into Mill Creek.



4.5 Regional Stormwater Facilities

A regional stormwater facility (regional facility) is designed to control adverse impacts from stormwater runoff. Regional facilities can mitigate insufficient flow control or water quality treatment for existing developments and may have the capacity to provide the same benefit to future developments. A moderate sized regional facility can cost effectively treat stormwater from a large area and fix legacy stormwater problems from roads and land developed prior to today's construction standards. A facility that can provide multiple benefits is especially useful in areas of dense development where land is at a premium. Regional facilities also benefit water quality by helping preserve and restore natural areas.

Stormwater parks are a type of regional facility that enhance communities by treating stormwater from a larger drainage area while also providing the community with recreational opportunities such as parks, trails, open space, and community gardens. These types of facilities can help address environmental justice and inequity when constructed in areas with limited access to open space and recreational opportunities. One way to create a stormwater park is by enhancing an existing park to utilize a portion of the park for stormwater education. The addition of a stormwater facility to a park can provide supplementary stormwater treatment and educational opportunities related to water quality, habitat, and other environmental issues.

City staff reviewed all city owned parcels within the Lower Mill Creek Basin to identify potential locations for regional facilities (**Figure 16**). Because land acquisition is not required to construct or add regional facilities to city owned property, these parcels are more feasible locations for consideration.

Other criteria considered during the potential retrofit location selection process included:

- Locations where the MS4 discharges untreated to Mill Creek
- Proximity to Mill Creek, city parks, and neighborhoods
- Opportunities for connectivity between neighborhoods and existing parks
- Opportunities for installation of educational signage
- Available space for walking paths and bridges

The city selected the following potential regional facility, depicted in **Figure 17**:

a. Regional Facility Location #1

- Location: Kennebeck Ave N & McMillan Ave (Parcel 9179601970)
- Project Goal: Create a regional facility that will increase stormwater storage to reduce erosion and flooding in Mill Creek. This project would include educational signage, trails, and open space.

4.6 Proposed Implementation Schedule

The implementation plan is designed to take place over 20 years in two phases. A high-level depiction of the implementation schedule for the SMAP is described in **Table 3**. Phase one of SMAP implementation is proposed to occur in years one through six. Phase one includes flow control and water quality treatment facility construction, conducting a water quality monitoring program, and implementing targeted stormwater management actions. This first phase would also include potential retrofit project evaluation, feasibility, prioritization, and assessment of funding sources.

Phase 2 of SMAP implementation is proposed to occur in years seven through twenty and include the first tier of high priority capital improvement projects. The extent of implementation within this timeframe is dependent on availability of funding.

4.7 Budget Sources

The SMAP recommends a variety of projects and programs to meet state water quality standards, many of which may be funded by the City of Kent storm drainage utility fund. The storm drainage utility fund is supported by stormwater rates and fees and allows the city to operate and maintain the MS4. Enhancements to existing city programs in the form of targeted stormwater management actions will continue to be funded by the storm drainage utility fund. However, capital projects may require opportunistically incorporating stormwater retrofit projects into existing or upcoming capital improvement projects or acquiring additional outside funding sources. Therefore, timing and implementation of the proposed retrofit and regional facilities will be dependent on funding and grant availability. The city will be tracking the grant opportunities outlined in **Table 4** below and may apply for this additional funding to support projects and actions identified in the SMAP.

The Nature Conservancy performed an independent basin selection and prioritization process within the Lower Green River sub-watershed and selected Lower Mill Creek as one of the top priority basins that would benefit from stormwater improvements to protect water quality. As part of SMAP implementation, the city will be working with the Nature Conservancy to identify opportunities for stormwater improvements in the priority basin that may benefit from a joint effort approach to project implementation, including a collaborative effort to identify and apply for additional funding and grant opportunities.

Table 4 - Potential Grant Opportunities for Stormwater Projects and Actions

Program Name	Description
Washington State Department of Ecology	
Water Quality Combined Funding Program	Integrated funding program for projects that improve and protect water quality. The program combines grants and loans from state and federal funding sources and provides technical assistance in navigating the process.
Stormwater Capacity Grants Program	Awarded to NPDES municipal stormwater permittees to implement their municipal stormwater programs as outlined in the municipal stormwater permits.
United States Environmental Protection Agency	
Water Infrastructure Finance and Innovation Act Program, (WIFIA)	Federal credit program administered by the EPA for eligible water and wastewater infrastructure projects.
Clean Water State Revolving Fund, (CWSRF)	Funding will support communities in upgrading essential water, wastewater, and stormwater infrastructure that protects public health and treasured water bodies across the nation.
Source Reduction Assistance Grant	Funds projects that support research, education and/or training of innovative source reduction techniques.
King County	
Water Works Grant Funding	This program supports local efforts to protect water quality, control pollution, and build healthy communities.
King County Flood Control District	
Cooperative Watershed Management	Funds allocated to Water Resource Inventory Areas
Subregional Opportunity Fund	Funds distributed for stormwater, flood control or watershed management, such as habitat conservation

4.8 Adaptive Management

The city will use an adaptive management approach during both phases of SMAP implementation. Adaptive management can be used to modify stormwater management actions, incorporate new information and technologies that were not available during SMAP development, and adjust the level of implementation effort if objectives have reached desired thresholds. Adaptive management allows a flexible response to new information and a more effective and efficient use of available city resources.

The SMAP will be evaluated and adapted as appropriate based on water quality monitoring data and continued drainage basin analysis. The water quality monitoring program will provide the methodology and procedures for capturing water quality data, which will help inform adaptive management decisions. The initial data will provide the current status of water quality and a baseline for the long-term assessment of whether SMAP actions are effectively improving water quality. The continued collection of monitoring data will be used to evaluate SMAP actions in

comparison to water quality and flow targets. In addition, the data will allow for the continued assessment and refining of basin priority rankings to improve their use in planning the projects and actions outlined in the SMAP. As the city continues learning from the implementation of the SMAP using adaptive management strategies, program effectiveness can be improved, and the city can report whether the project goals are being achieved.

5. Conclusion

The basin prioritization process, stakeholder input, and strategies outlined in the SMAP allow for a strategic approach to addressing stormwater concerns in the Lower Mill Creek Basin. The projects identified in this report are a conceptual planning level and the feasibility of each will be assessed throughout the process of implementing the SMAP. However, selected stormwater management actions may be implemented immediately to protect and improve receiving water conditions while meeting future population and density targets.

Appendix 1 - Tables

Table 1 – City of Kent Stormwater Basin Data

City of Kent Stormwater Basin Data																				
Basin	Receiving Water	Total Watershed Area (Acres)	% of Watershed in Kent	Water Quality & Flow Control Facilities	WQ & FC Facilities/Acre	Untreated Impervious Area (Acres)	% Untreated Impervious	On-site Septic Systems	On-site Septic/Acre	Zoning Density	Road Density	Illicit Discharge & Connections	Illicit Discharge & Connections /Acre	% of Vulnerable Population	Source Control Properties	Source Control Properties/ Acre	Developable Land (Acres)	Developable Land/Acre	Homeless Camps	# of Industrial Permittees	Industrial Permittees /Acre	Receiving water on 303(d) List
Green River Natural Resource Area	Green River	1187	100.00%	157	0.13	276.23	23%	4	0.00	High	Low	17	0.014	6.89%	89	0.07	31.42	0.03	22	7	0.006	Yes
Lake Fenwick	Lake Fenwick	603	95.74%	51	0.08	87.32	14%	53	0.09	Low	Low	6	0.010	1.95%	9	0.01	7.87	0.01	0	0	0.000	Yes
Lake Meridian	Lake Meridian	862	95.22%	110	0.13	125.96	15%	140	0.16	Low	Low	14	0.016	2.73%	4	0.00	35.61	0.04	0	0	0.000	Yes
Lower Garrison Creek	Garrison Creek	604	100.00%	83	0.14	392.36	65%	1	0.00	High	Med	19	0.031	3.62%	59	0.10	15.05	0.02	0	6	0.010	Yes
Lower Mill Creek	Mill Creek	2557	96.17%	540	0.21	1561.19	61%	7	0.00	High	Low	72	0.028	14.68%	383	0.15	330.47	0.13	36	39	0.015	Yes
Lower Springbrook Creek	Springbrook Creek	484	94.21%	124	0.26	312.97	65%	2	0.00	High	Med	12	0.025	2.86%	101	0.21	23.20	0.05	3	4	0.008	Yes
McSorely Creek	McSorely Creek	2537	32.49%	103	0.04	236.87	9%	108	0.04	Low	Med	16	0.006	4.01%	69	0.03	183.62	0.07	3	1	0.000	Yes
Mill Creek - 76th Ave Outfall	Mill Creek	744	100.00%	266	0.36	496.43	67%	0	0.00	High	Med	48	0.065	4.72%	149	0.20	29.41	0.04	17	9	0.012	Yes
Soosette Creek	Soosette Creek	1808	95.41%	329	0.18	308.58	17%	494	0.27	Low	Low	25	0.014	6.70%	36	0.02	207.00	0.11	0	0	0.000	Yes
Upper Garrison Creek	Garrison Creek	2353	100.00%	504	0.21	531.08	23%	374	0.16	Low	Low	47	0.020	11.94%	92	0.04	208.60	0.09	28	0	0.000	Yes
Upper Mill Creek	Mill Creek	1793	99.97%	386	0.22	526.86	29%	317	0.18	Low	Low	37	0.021	10.74%	90	0.05	126.11	0.07	16	0	0.000	Yes

Table 2 – City of Kent Stormwater Basin Scores

City of Kent Stormwater Basin Scores															
Basin	Receiving Water	Source Control Properties/ Acre	Source Control Properties	% Untreated Impervious	Illicit Discharge & Connections /Acre	Road Density	% of Watershed in Kent	Zoning Density	% of Vulnerable Population	WQ & FC Facilities /Acre	Industrial Permittees /Acre	Homeless Camps	Developable Land/Acre	On-site Septic Systems/Acre	Overall Basin Score
Lower Mill Creek	Mill Creek	40	40	40	40	20	40	10	30	10	20	20	20	0	**330**
Upper Garrison Creek	Garrison Creek	20	30	30	30	30	40	30	30	10	0	20	10	20	**300**
Upper Mill Creek	Mill Creek	20	30	30	30	30	40	30	30	10	0	20	10	20	**300**
Lower Garrison Creek	Garrison Creek	30	30	40	40	30	40	10	10	20	10	0	0	0	**260**
Mill Creek - 76th Ave Outfall	Mill Creek	40	30	40	40	30	40	10	20	10	20	20	0	0	**300**
Soosette Creek	Soosette Creek	20	20	20	20	30	40	30	20	20	0	0	20	20	**260**
McSorely Creek	McSorely Creek	20	30	20	20	30	20	30		30	0	10	10	10	**230**
Lake Meridian	Lake Meridian	20	20	20	20	20	40	30	10	20	0	0	0	20	**220**
Lower Springbrook Creek	Springbrook Creek	40	30	40	40	30	30	10	10	10	10	10	10	0	**270**
Green River Natural Resource Area	Green River	30	30	30	20	20	40	10	20	20	10	20	0	0	**250**
Lake Fenwick	Lake Fenwick	20	20	20	20	20	40	30	10	30	0	0	0	10	**220**

Scoring Weight:
Low: 0, 10, 20,
Medium: 10, 20, 30
High (or y/n): 0/20, 30, 40

Table 3 – Implementation Schedule

Strategy Identified	Description	Type of Strategy	Section(s) of Permit Supported	Implementation Schedule
Flow Control Facility Construction	Install more stormwater storage facilities to reduce the risk of erosion in streams, damage to habitat, and downstream flooding.	Stormwater Facility Retrofits		Short Term (Within 6 Years)
Water Quality Facility Construction	Install stormwater treatment systems to remove pollutants from stormwater runoff. Includes facilities such as bioswales, filter systems, rain gardens, and engineered wetlands.	Stormwater Facility Retrofits		Short Term (Within 6 Years)
Pollutant Source Tracing Program	Targeted sampling, testing, and tracing of pollutants in the public drainage system so pollutant sources can be identified and eliminated.	Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5	* IDDE field screening * Prioritization of Source Control inspections * Education and Outreach behavior change programs	Short Term (Within 6 Years)
Targeted Source Control Inspection Program	Test the storm system downstream of pollutant generating facilities that have the potential to discharge pollutants into the storm system. If pollutants are found staff would then trace them to the source and work with the business to use proper BMPs to stop the discharge.	Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5	* IDDE field screening * Prioritization of Source Control inspections * Education and Outreach behavior change programs	Short Term (Within 6 Years)
Enhanced Education & Outreach Program	Develop and implement campaigns to bring about behavior changes that will protect water quality. Subjects include cleaning up after pets, natural yard care, and no dumping of pollutants in the storm drain.	Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5	* Prioritization of Source Control inspections * Education and Outreach behavior change programs	Short Term (Within 6 Years)
Street Sweeping Program	Clean roadways using street sweepers on a regular basis to improve aesthetics, reduce localized flooding, and reduce pollutants in stormwater runoff.	Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5	* O&M enhanced maintenance	Short Term (Within 6 Years)
Water Quality Monitoring Program	Ongoing collection of Mill Creek water quality data to provide a baseline for measuring the effectiveness of the SMAP.	Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5	* IDDE field screening * Prioritization of Source Control inspections * Education and Outreach behavior change programs	Short Term (Within 6 Years)
Regional Stormwater Facility Construction	Install facilities designed to control stormwater runoff from multiple properties to improve water quality and flow control. These can be constructed in areas where treatment and flow control are currently underutilized.	Land Management/Development and/or Water Quality Management		Long Term (7-20 years)
Preserve and Restore Natural Areas	Protect and create vegetated areas to restore natural processes such as infiltration of stormwater, which improves water quality and reduces downstream erosion and flooding.	Land Management/Development and/or Water Quality Management		Long Term (7-20 years)

Appendix 2 - Figures

Figure 1 – Drainage Basin Map

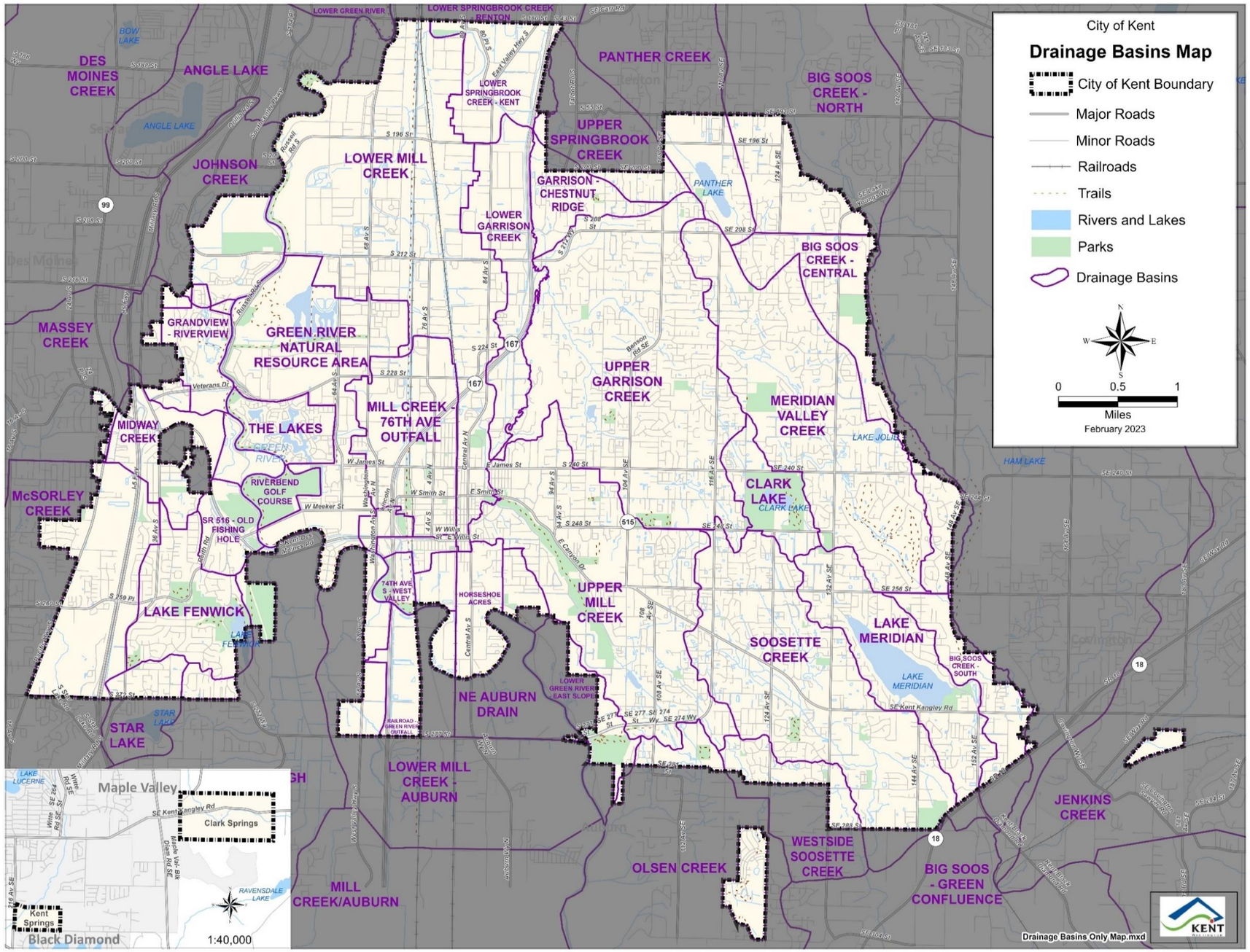


Figure 2 – Source Control Properties

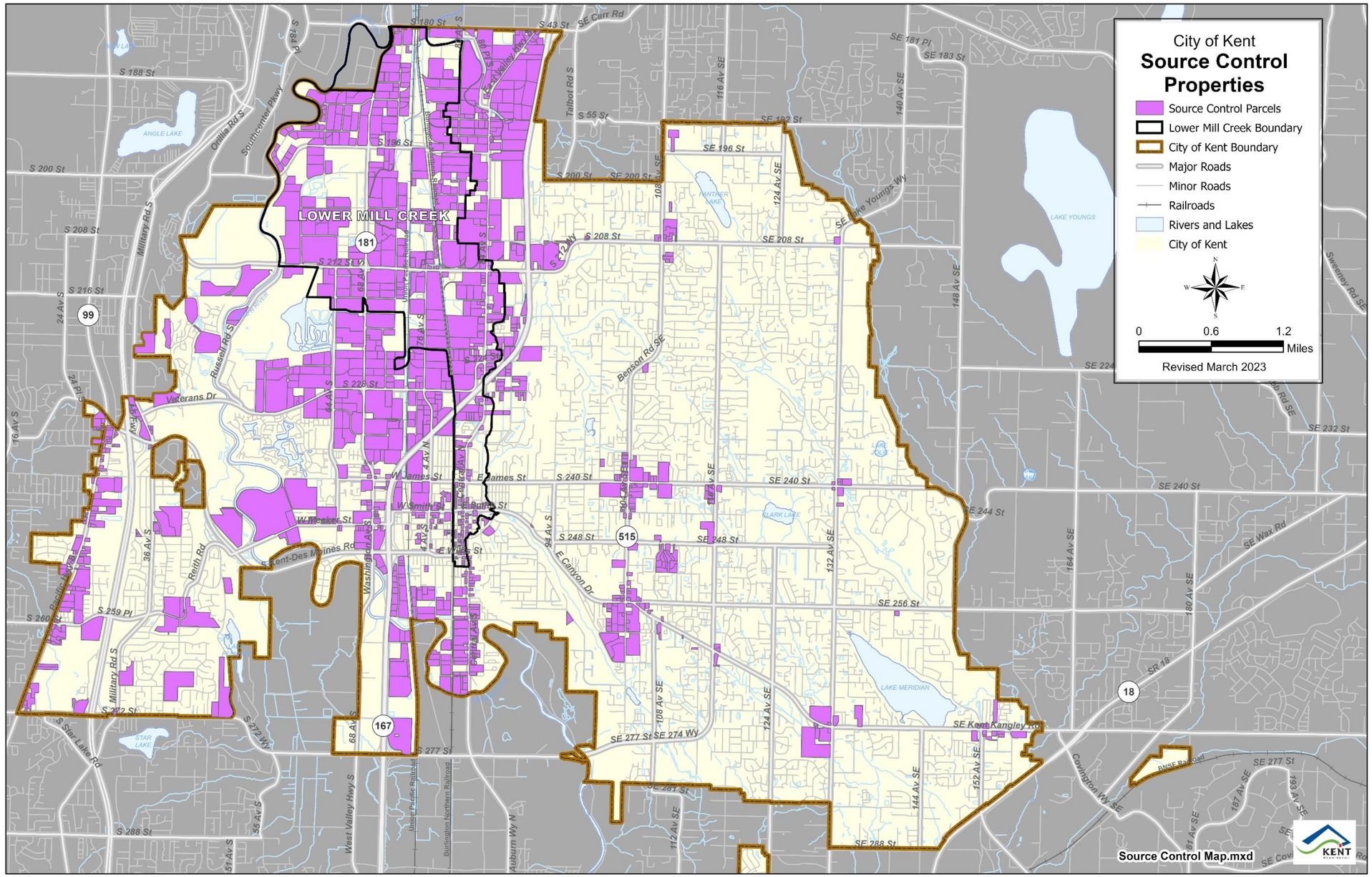


Figure 3 – Illicit Discharge Detection & Elimination Reports

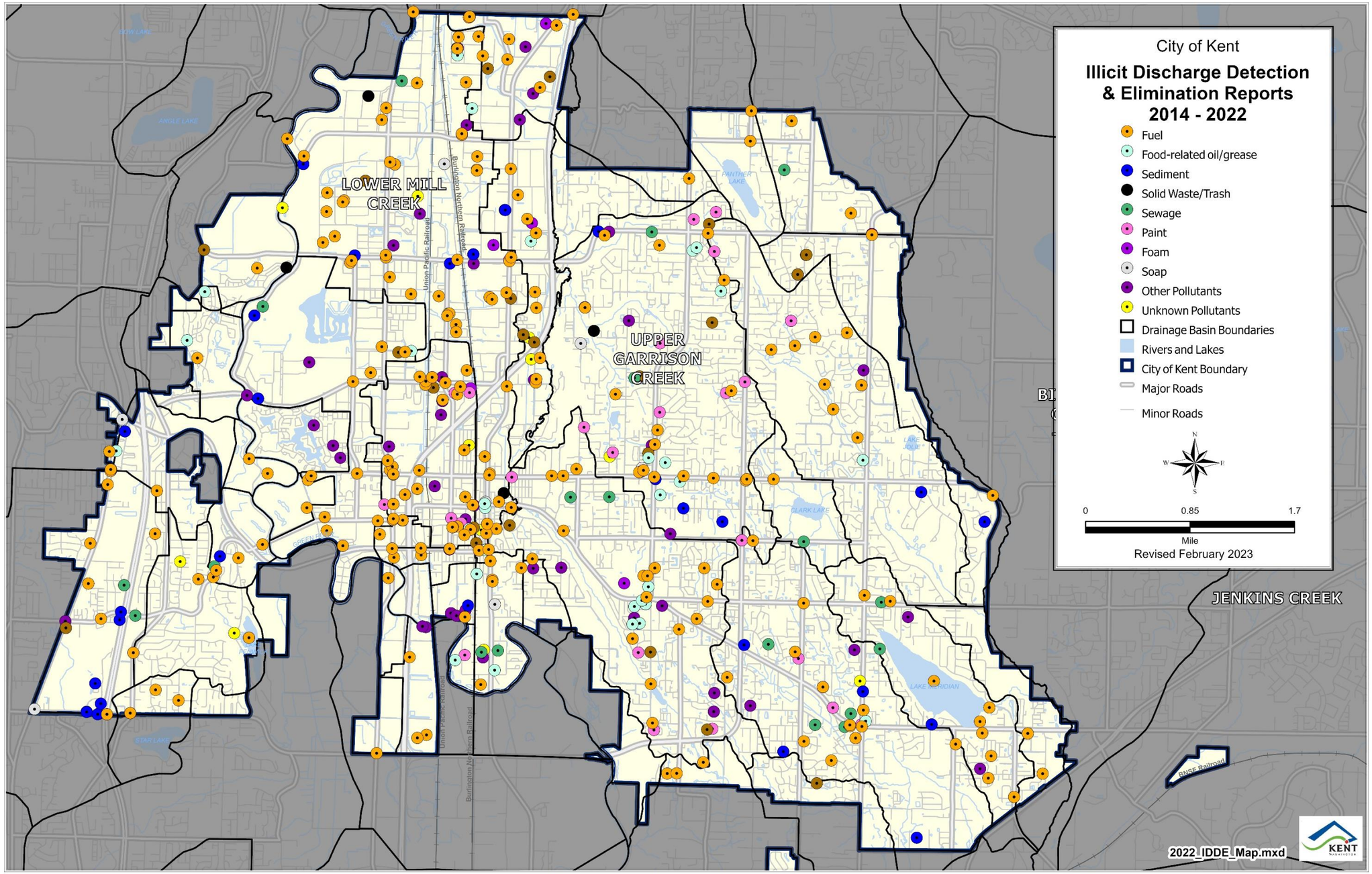


Figure 4 – Impervious Surface

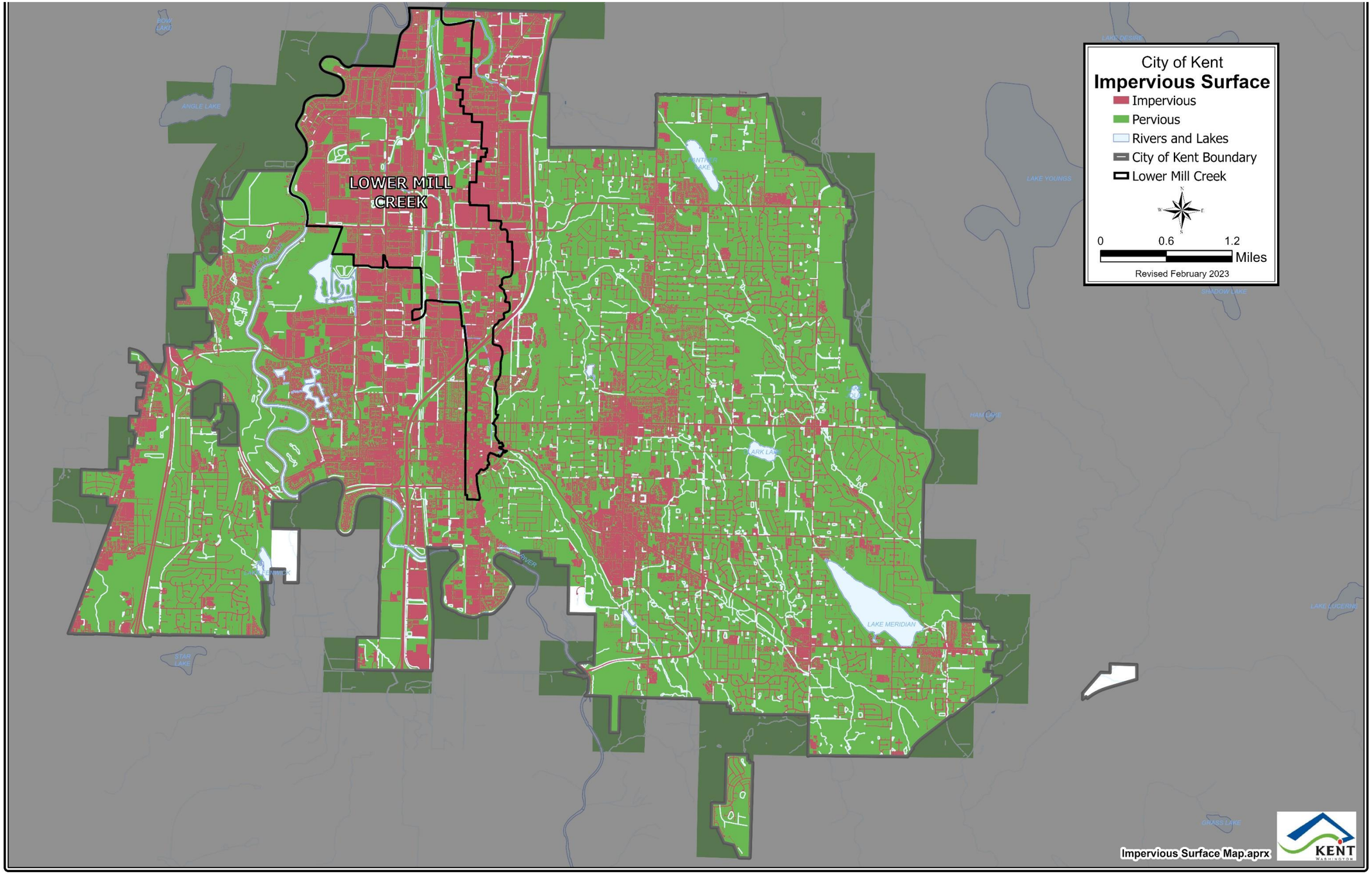


Figure 5 – Drainage Basin Road Density

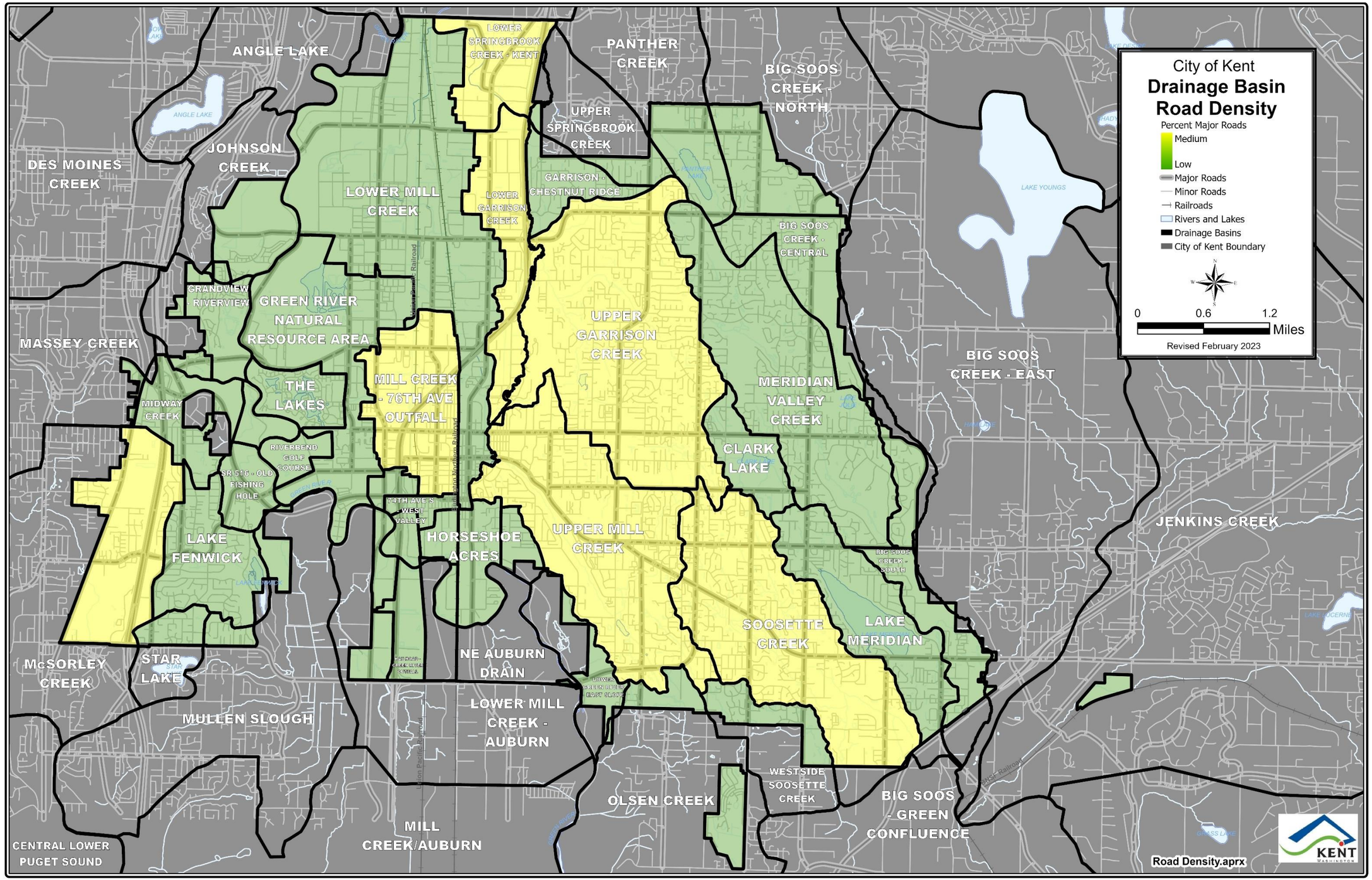


Figure 6 – Zoning Density

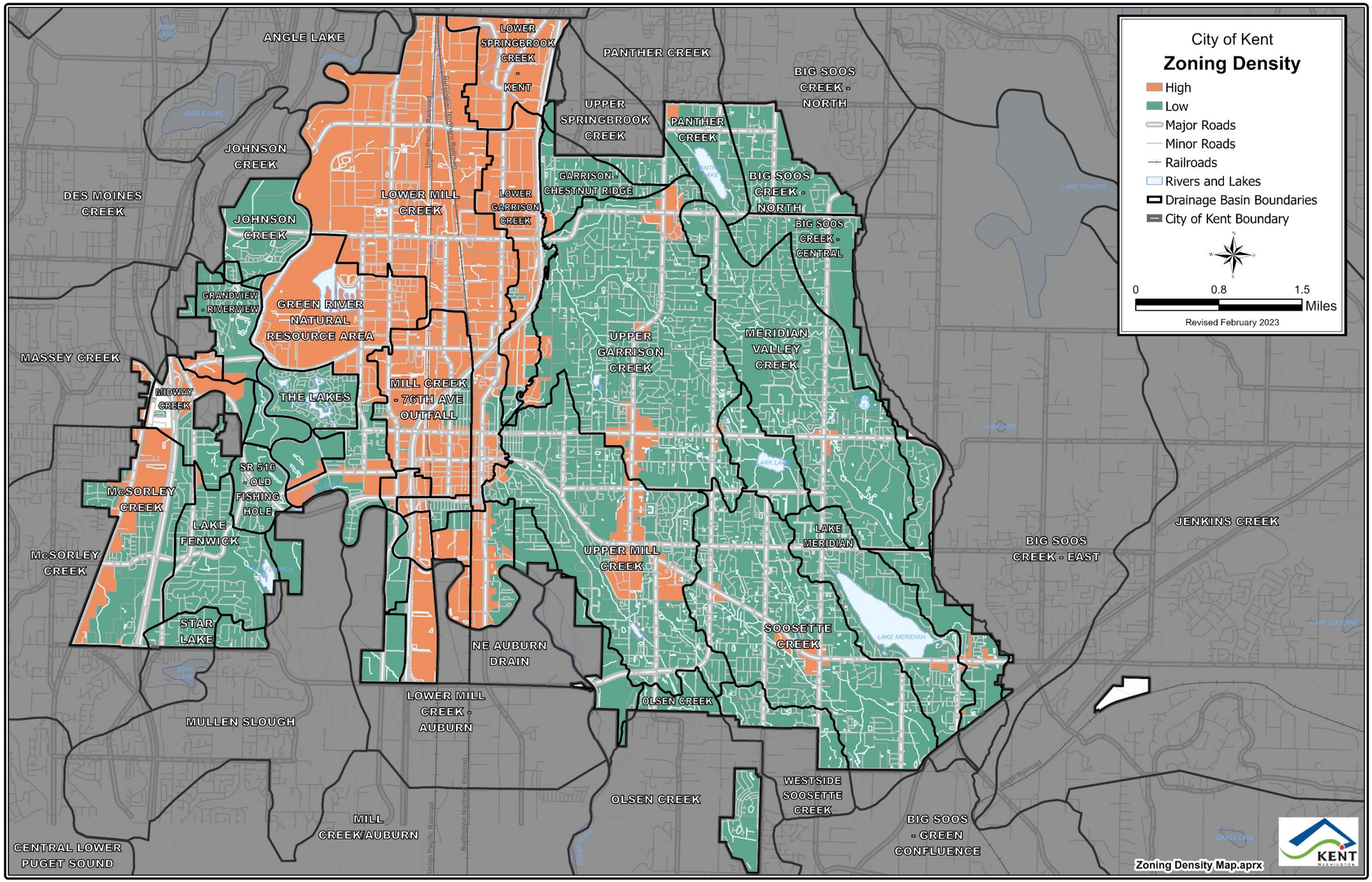


Figure 7 – Social Vulnerability to Hazards

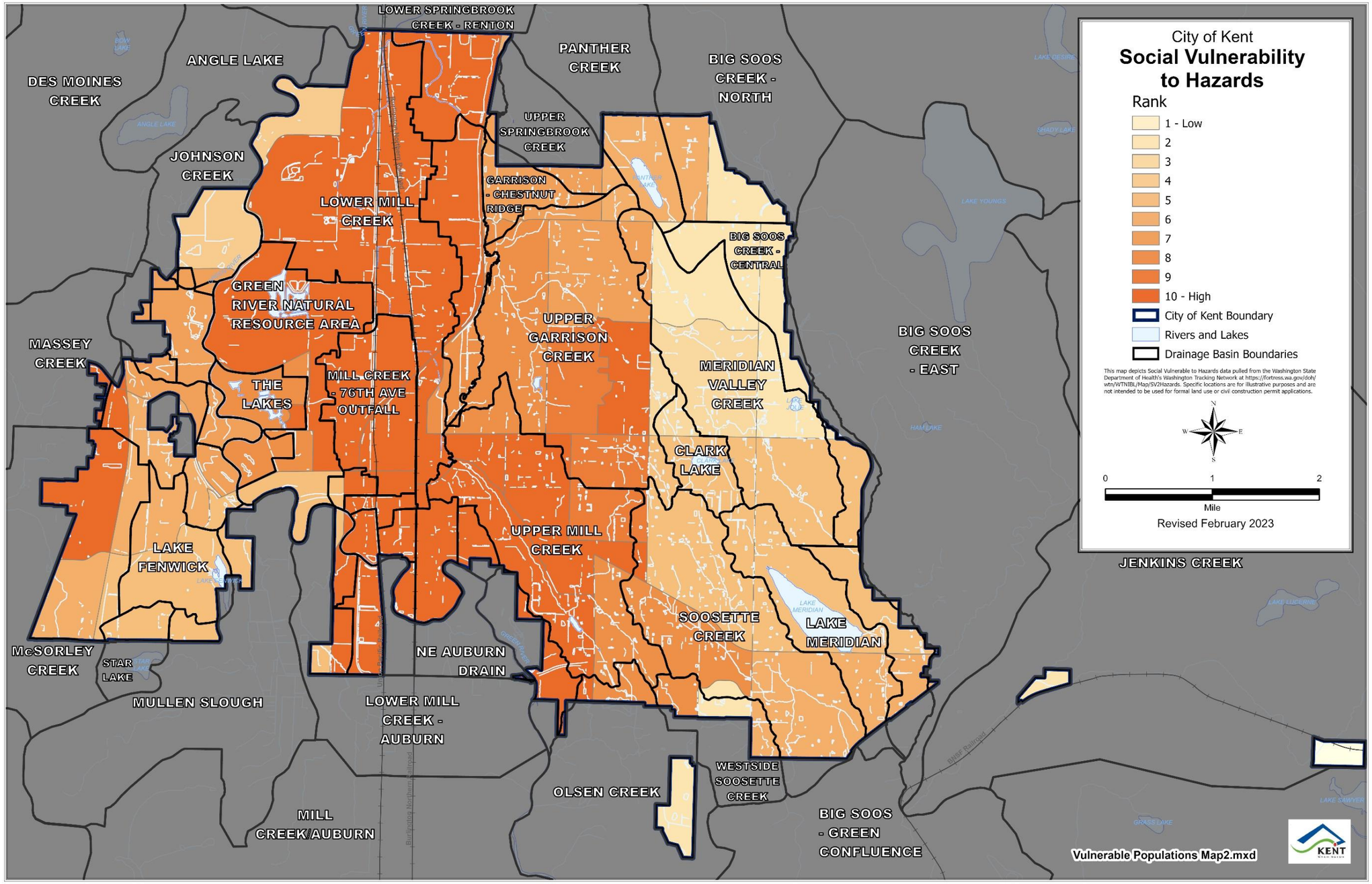


Figure 8 – Treatment Types

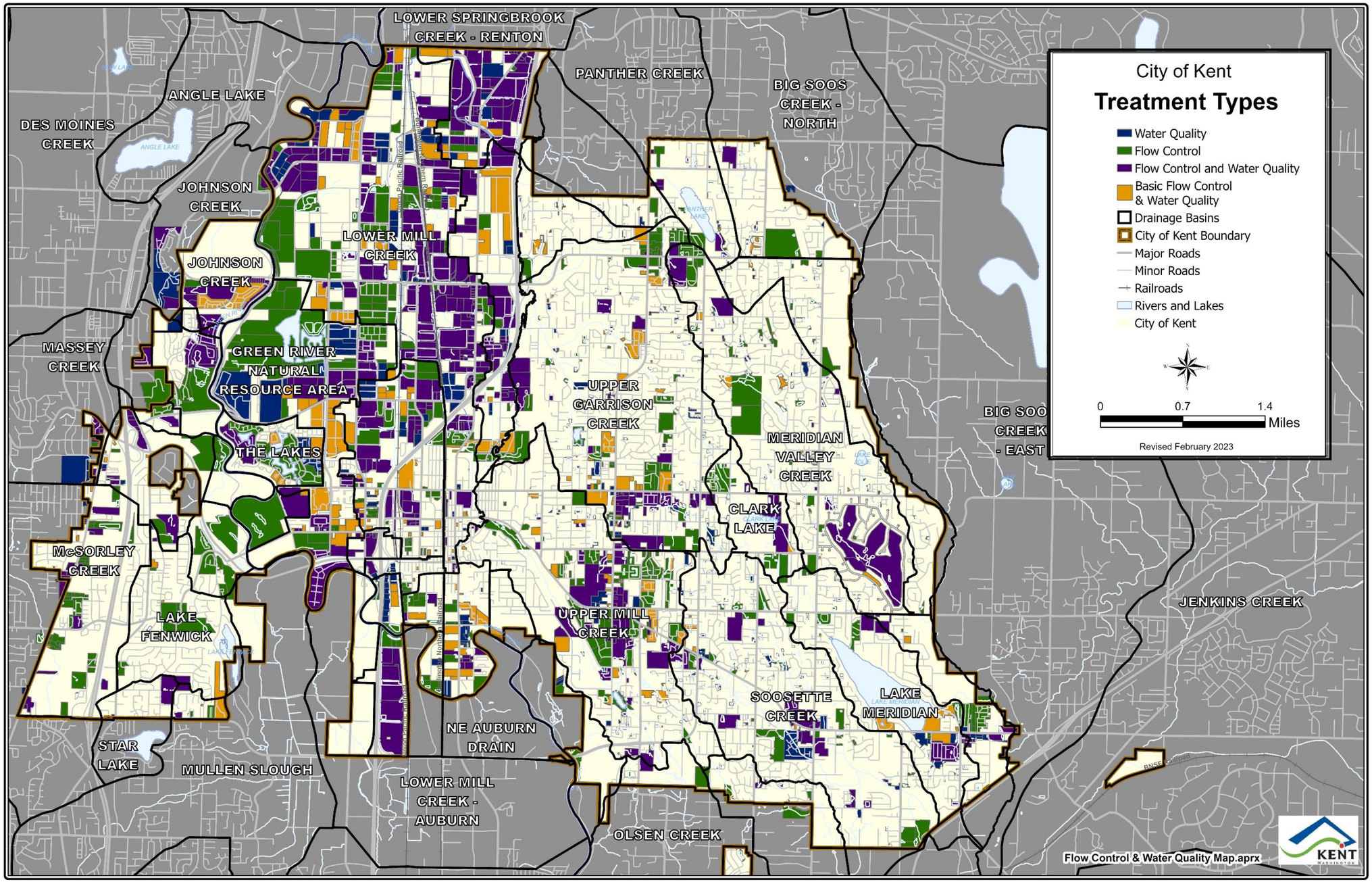


Figure 9 – Industrial Permittees

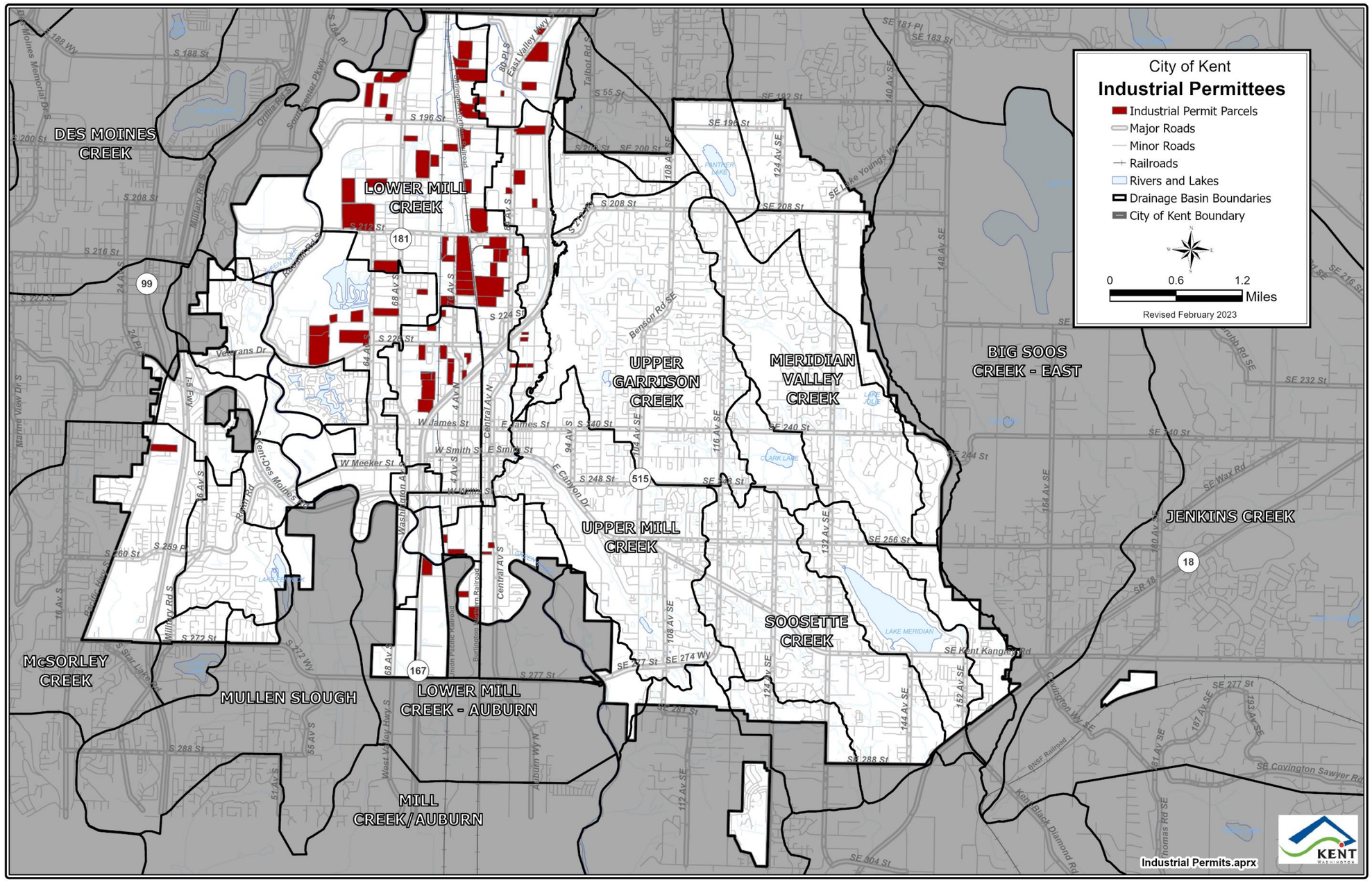


Figure 10 – Developable Land

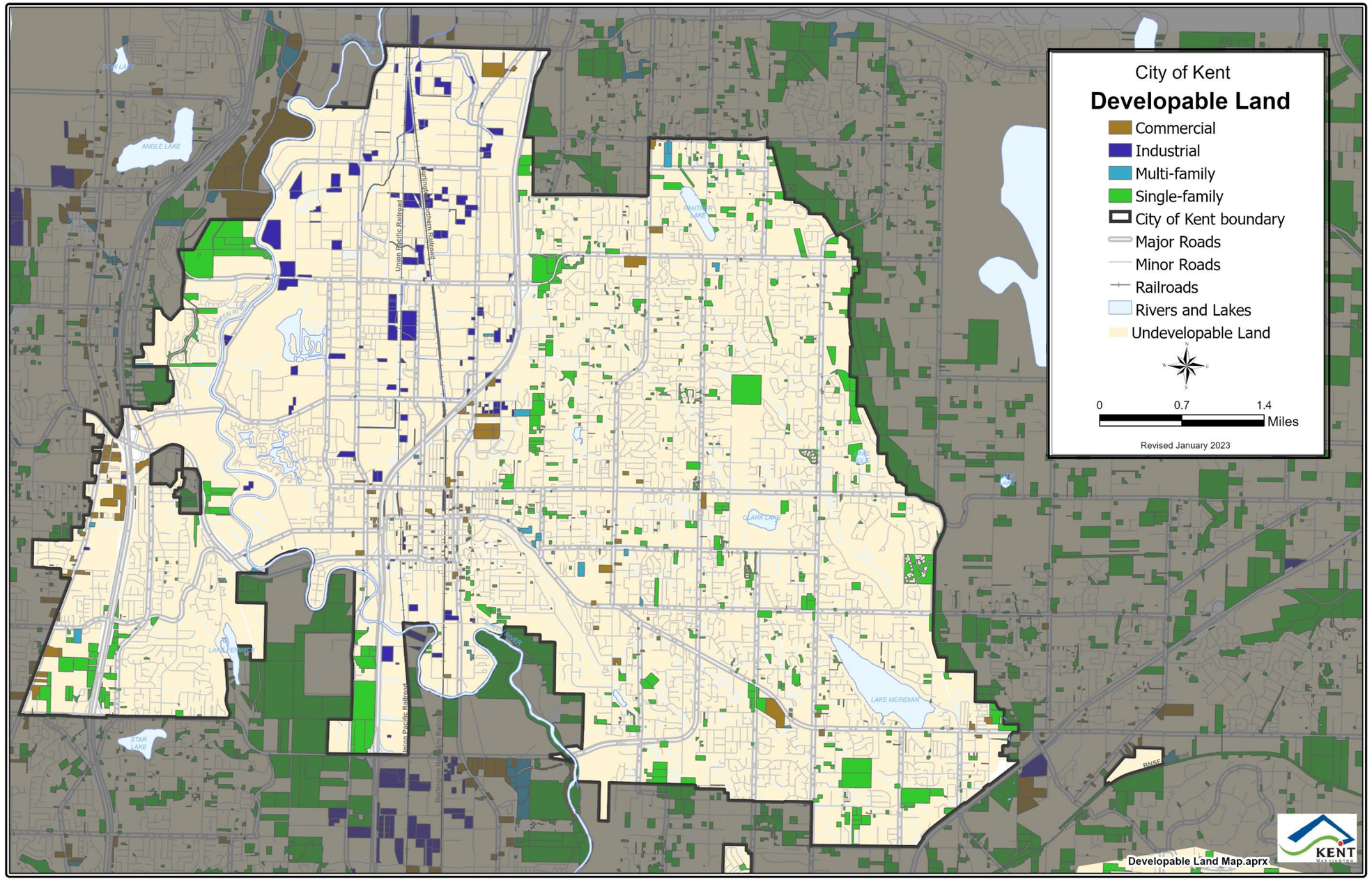


Figure 11 – Septic Systems

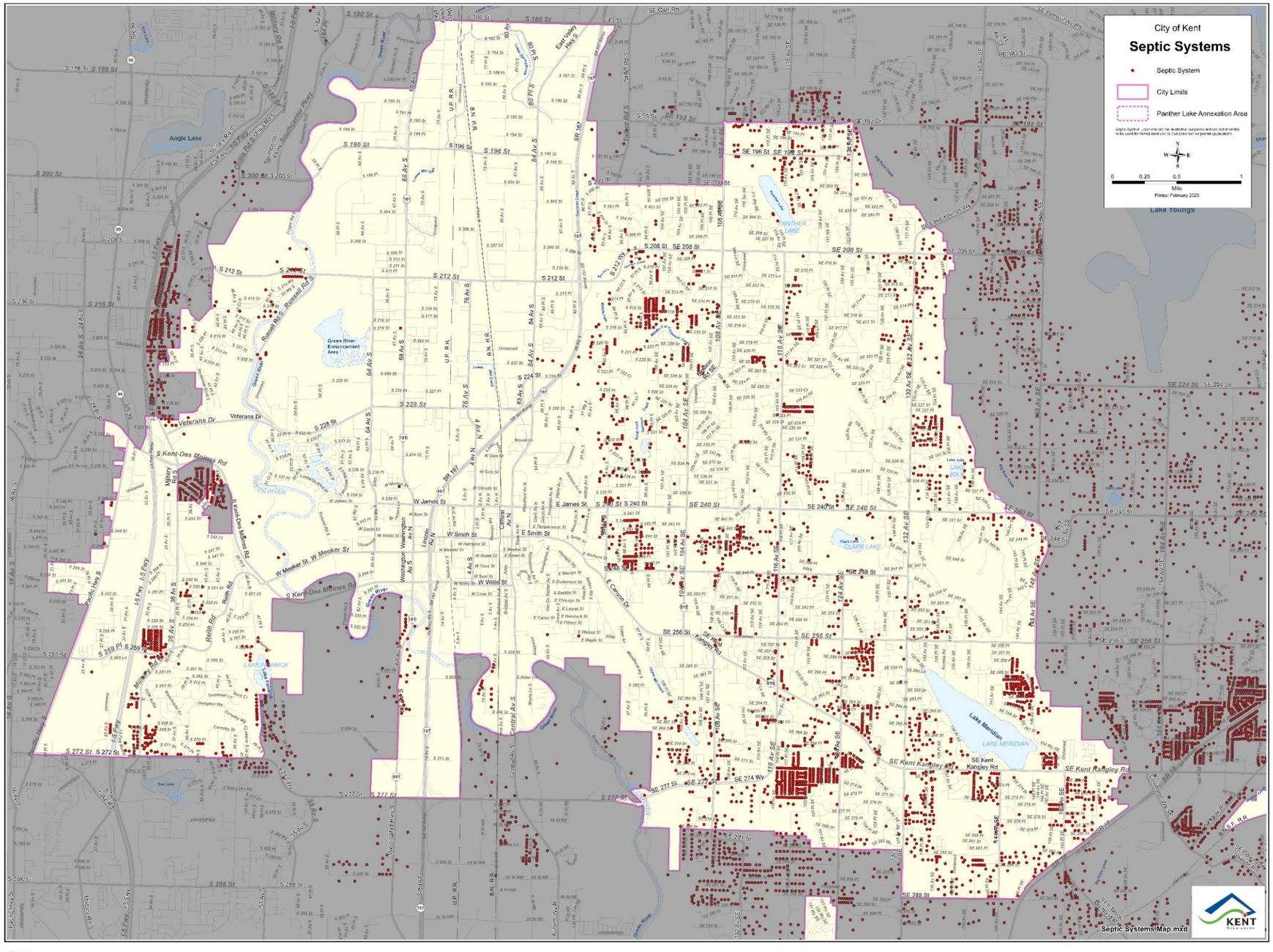
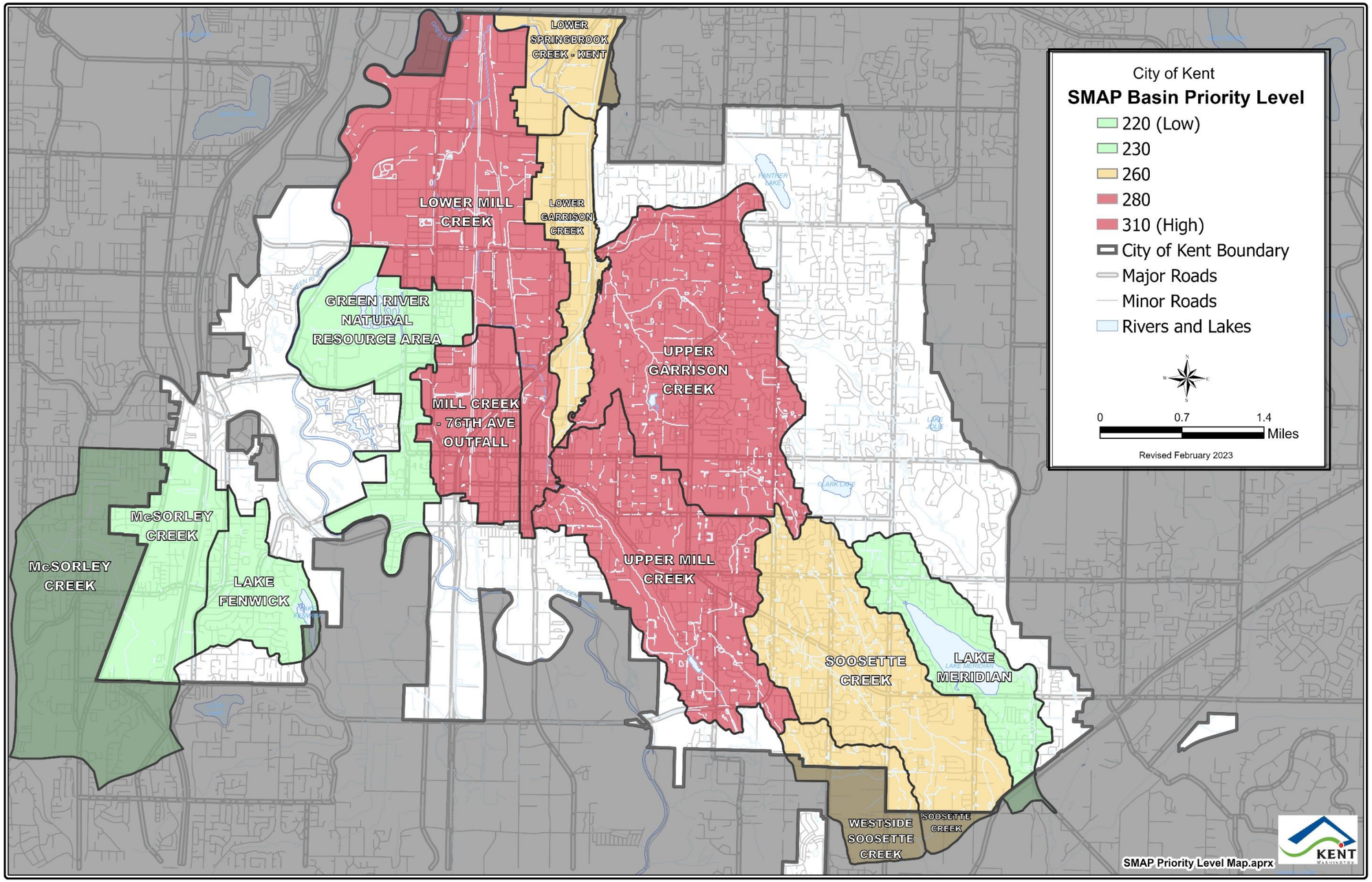


Figure 12 – SMAP Basin Priority



Appendix 3 - Attachments

Attachment 1 - Interdisciplinary Team

Laura Haren – Environmental Conservation Analyst - Public Works Engineering

Evan Swanson – Environmental Conservation Coordinator – Public Works Engineering

Natesha Hutchison – Environmental Specialist – Public Works Engineering

Nate Wood – Environmental Specialist – Public Works Engineering

Shawn Gilbertson - Environmental Supervisor - Public Works Engineering

Jason Barry – Construction Supervisor – Public Works Engineering

Drew Holcomb – Engineer II – Public Works Design Engineering

Eric Knowles – Land Survey/GIS Manager - Public Works Engineering

Heath Brackett - GIS Supervisor – Public Works Engineering

Rob Brown – Transportation Manager – Public Works Engineering

Jens Vincent – Sewer/Storm Drainage Manager – Public Works Operations

Joe Codiga – Storm Vegetation Field Supervisor – Public Works Operations

Andy Martin – Maintenance Worker IV – Parks Operations

Kerry O'Conner – Parks/Facilities Planning & Development Coordinator – Parks

Christina Schuck - Civil Attorney - Attorney's Office

Brennan Taylor - Development Engineering Manager - Economic and Community Development

Matt Gilbert - ECD Deputy Director - Economic and Community D

Attachment 2 - Prioritization Criteria Matrix

City of Kent Stormwater Planning Basin Prioritization Criteria Matrix					
Criteria	**Definition**	**Explanation**	**Why this criterion is important to Kent**	**Data Source**	**Scoring**
Number of Source Control properties/Acre	Per Acre calculation of Publicly or privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4 based on the presence of activities that are pollutant generating or based on complaint response to illicit discharges.	The combined pollution from all commercial, industrial, or other activities such as fertilizers, oil and grease, wash water, etc., that is collected and discharged to our waterways has been shown to have negative impacts on salmon, orcas, and all species that depend on water quality in the Puget Sound region. Stopping these pollutants at the source is a critical step that all jurisdictions must take to protect our receiving waters. Areas with a higher number of source control properties have a higher potential for illicit discharges causing polluted receiving waters.	The Kent Valley is the 2nd largest industrial park on the West Coast, 5th in the nation. It is the 3rd largest distribution/warehouse area after New York/New Jersey and LA. This means Kent has many properties that are considered Source Control properties based on the activities being performed at these sites that produce pollutants that have the potential to enter the storm system or surface waters. Having so many of these types of businesses results in higher traffic levels which also contribute to the release of pollutants into the storm system and water ways. Areas that have a high concentration of source control properties will result in a higher concentration of pollutants generally.	City of Kent - NPDES	o Below 50 - 20 points o 51 to 150 - 30 points o 150 and above - 40 points
Number of Source Control properties	Publicly or privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4 based on the presence of activities that are pollutant generating or based on complaint response to illicit discharges.	The combined pollution from all commercial, industrial, or other activities such as fertilizers, oil and grease, washwater, etc., that is collected and discharged to our waterways has been shown to have negative impacts on salmon, orcas, and all species that depend on water quality in the Puget Sound region. Stopping these pollutants at the source is a critical step that all jurisdictions must take to protect our receiving waters. Areas with a higher number of source control properties have a higher potential for illicit discharges causing polluted receiving waters.	The Kent Valley is the 2nd largest industrial park on the West Coast, 5th in the nation. It is the 3rd largest distribution/warehouse area after New York/New Jersey and LA. This means Kent has many properties that are considered Source Control properties based on the activities being performed at these sites that produce pollutants that have the potential to enter the storm system or surface waters. Having so many of these types of businesses results in higher traffic levels which also contribute to the release of pollutants into the storm system and water ways.	City of Kent - NPDES	o Below 0.06 - 20 points o 0.06 to 0.10 - 30 points o 0.11 and above - 40 points
% Impervious Area	The amount of non-vegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development in the catchment without existing stormwater treatment.	Impervious areas are a priority because stormwater may cause flashiness in streams in addition to delivering pollutants.	This criterion is important to Kent because there are several areas within Kent that are built out and contain a lot of impervious areas that allow pollutants to be directly washed into the storm system or surface waters.	City of Kent - GIS	Percent impervious surface in basin o More than 60% - 40 points o 21% to 60% - 30 points o 0% to 20% - 20 points
Illicit Discharges & Connections /Acre	Illicit discharge means any discharge to a MS4 that is not composed entirely of stormwater or of non-stormwater discharges allowed as specified in the NPDES permit. Illicit connection means any infrastructure connection to the MS4 that is not intended, permitted, or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in the NPDES permit.	Illicit discharges and connections cause water pollution by sending pollutants directly into the storm system, creeks, streams, ponds, and lakes.	This criterion is important to Kent because illicit discharges and connections cause pollutants to be discharged into the storm system and surface waters. Because Kent has many source control properties including high hazard properties, it is important to work to prevent these discharges or connections.	City of Kent - NPDES	o Below 0.019 - 20 points o 0.020 to 0.024 - 30 points o 0.025 and above - 40 points

% of Watershed in Kent	Total watershed area within Kent City limits.	The total watershed area within Kent City limits allows us to determine how activities within Kent impact each basin.	This is important to Kent because we want to make an effort in a basin that will benefit the City the most. So, we want a basin that is mostly in the boundaries of the City of Kent	City of Kent - NPDES	o Above 95% - 40 points o 50% to 95% - 30 points o Below 50% - 20 points
Road Density	Road density is the total length of roads per unit area of watershed.	Roads affect watersheds as they concentrate and accelerate run-off, interrupt subsurface flows, and increase hydrological connectivity. Because of this road development has typically contributed watershed deterioration, caused flooding and gullying and triggering erosion. Rain and snow flow over roads collecting excess nutrients and pollutants before entering a storm drain or water body.	According to the City's Comprehensive Plan, the majority of land use in Kent remains single family, however multifamily housing and mixed-use developments are bringing increased density to the downtown urban core and adjacent neighborhoods as well as along major roadway and transit corridors. Kent's Industrial Valley has become highly specialized in warehousing and distribution uses, which competes for space with aerospace manufacturing needs. Due to the amount of both residential and commercial growth in Kent it increases the need for roadways to provide for transportation needs. Because of the effect of road density on water quality, flow control and flooding this growth in road density is a concern of the city as it pertains to stormwater runoff treatment.	City of Kent- GIS	o Low - 20 points o Medium - 30 points
On-site Septic Systems	An on-site septic system is a wastewater treatment system that has a septic tank for primary treatment and a trench or bed soil absorption system for secondary treatment of wastewater.	On-site septic systems which no longer function properly can allow pollutants such as nitrogen, bacteria, and viruses to spill into our drainage system and/or waterways.	There are some areas in Kent that have a high concentration of homes that have on-site septic systems that are older systems and have the potential to fail and cause an illicit discharge of wastewater to the storm system or surface waters.	King County - Department of Health	o More than 0.15 - 20 points o 0.01 to - 0.015 - 10 points o 0.0 - 0 points
Zoning Density	Density zoning is zoning restrictions upon land use intensity. Density zoning can be used to limit or encourage development in alignment with planning objectives according to the needs and objectives of the community.	Zoning is important because future development impacts to the watershed must be considered. Studies show that higher density development generates less stormwater runoff per household. This allows for stormwater infiltration and reduces the amount of pollutants being washed off impervious surfaces into waterways. (EPA - Protecting Water Resources with Higher Density Development Study).	Although the majority of Kent is built our, zoning is important because future development impacts to the watershed must be considered. Studies show that higher density development generates less stormwater runoff per house. This allows for stormwater infiltration and reduces the amount of pollutants being washed off impervious surfaces into waterways.	City of Kent - GIS	o High - 10 points o Low - 30 points

Vulnerable Population	Minority, low-income, tribal, or indigenous populations or geographic locations that potentially experience disproportionate environmental harms and risks.	Vulnerable populations are affected by multiple factors, including both environmental and socio-economic stressors that may act cumulatively to affect the health and environment in these communities and contribute to persistent environmental health disparities. Untreated stormwater poses serious risks to human health and the environment, especially in low-income communities and communities of color that are overburdened with exposure to other sources of pollution. There are many ways to treat stormwater that will benefit communities, particularly communities that have experienced a lack of investment.	When race and ethnicity are reviewed together, Kent is a majority-minority city with 56 percent of the population identifying as Hispanic, Latino, or non-White. Notably, the percentage of foreign-born residents, citizens and non-citizens, and languages spoken at home reflects the City's diversity, which poses challenges for developing and implementing a stormwater management plan that captures many voices. Just over 10 percent of Kent's population identify themselves as having a disability. Approximately 16 percent of the population lives below the poverty level and 45 percent of occupied housing units are renter occupied. Since the City of Kent is such a diverse community, we want to ensure that we consider ways to treat stormwater that will benefit communities that have experienced a lack of investment to reduce toxic runoff and improve the safety and health of these neighborhoods.	King County - Department of Health	o Above 10% - 30 points o 4% to 9.99% - 20 points o Below 4% - 10 points
Water Quality and Flow Control Facilities	Water quality facilities are drainage facilities designed to mitigate the impacts of increased pollutants in stormwater runoff generated by site development. Flow control facilities can be either detention or retention structures that regulate the release rate of stormwater to prevent issues such as downstream flooding and erosion.	This will help us determine which basins already have flow control and water quality facilities to protect receiving waters and which basins could benefit from the installation of flow control and water quality treatment facilities.	The majority of the area within Kent boundaries is built out and developed. The use of water quality and flow control facilities can be a beneficial retrofit to these areas to mitigate the impact of increased pollutants in the stormwater runoff generated by this development.	City of Kent - GIS	o 0.0 to 0.10 - 30 points o 0.11 to 0.20 - 20 points o higher than 0.20 - 10 points
Industrial Permittees/Acre	Sites required to obtain a statewide permit that applies to facilities conducting industrial activities that could release pollutants and discharge stormwater to a surface waterbody or to a storm system that drains to a surface waterbody.	Stormwater can pick up pollution from these factories and businesses. Those contaminants are carried into waterways and harm fish and other aquatic life. Areas with a higher number of industrial permittees have a higher potential for illicit discharges causing polluted receiving waters.	Kent has a high number of Industrial Permittee facilities that conduct industrial activities that could release pollutants and discharge stormwater to a surface waterbody or to a storm system that drains to a surface waterbody. So, it is important to the city to take this into consideration when planning stormwater management activities.	Washington State Department of Ecology	o More than 0.10 - 20 points o 0.01 to - 0.010 - 10 points o 0.0 - 0 points
Number of Homeless Camps	Homeless encampments are locations where one or more homeless people live in an unsheltered area. These encampments can be found on properties owned by private individuals or companies or owned by local, state, and federal governmental agencies.	People experiencing homelessness often have no access to shelter, safe drinking water or sanitation services, and homeless encampments are commonly established along the sides of streams and rivers on the periphery of urban areas. Storm water runoff flowing through these sites leads to receiving body impairments associated with excessive trash, human waste, and drug paraphernalia, such as used hypodermic needles.	Because homeless encampments are commonly established along the sides of streams and rivers on the periphery of urban areas. Storm water runoff flowing through these sites leads to receiving body impairments associated with excessive trash, human waste, and other pollutants. The city has determined that we need to consider the location and number of camps when planning stormwater management activities. However, these conditions are constantly changing as these camps are not permanent, so it is difficult to account for.	City of Kent - Streets Department	o More than 10 - 20 points o 10 or less - 10 points o 0.0 - 0 points *not using per acre due to lack of info on different sizes of homeless camps

Developable Land/ Acre (Likelihood of Projects Occurring in the Basin)	This data includes both private development and public development projects.	This data will allow us to determine how much new development may impact each receiving water.	The city needs to consider areas that are not developed and might benefit from development regulations that can reduce the amount of stormwater runoff through the use of low impact development and therefore reduce pollutants and flow control and flooding concerns.	City of Kent - Planning Department	o Below 0.06 - 20 points o 0.06 to 0.10 - 30 points o 0.11 and above - 40 points
Receiving Water on 303D List	The federal Clean Water Act requires that all states restore their water bodies to be “fishable and swimmable.” Section 303 (d) of the Clean Water Act establishes a process to identify and clean up these impaired waterways.	Water restoration planning involves developing and completing TMDLs, or in some cases alternative restoration approaches, for the waters identified and listed as impaired. A TMDL is essentially a plan, usually based on monitoring information and scientific modeling that describes how pollutant loads coming from various types of sources must be reduced to meet water quality standards.	The federal Clean Water Act requires that all states restore their water bodies to be “fishable and swimmable.” So, it is important for the city to consider areas that discharge to receiving waters that are on the 303D List for water restoration planning.	Washington State Department of Ecology	o Yes - 40 points o No - 0 points

References

Commerce (Washington State Department of Commerce). 2016. Building Cities in the Rain Watershed Prioritization for Stormwater Retrofits. Publication Number 006. September 2016.

Ecology. Permit. National Pollutant Discharge Elimination System Western Washington Phase II Municipal Stormwater Permit.
Available at: https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits/Western-Washington-Phase-II-Municipal-Stormwater.

Ecology. ECY2019. Stormwater Management Action Planning Guidance. Publication. 19-10-010.
Available at: https://apps.ecology.wa.gov/publications/documents/1910010.pdf.

Ecology. ECY2012. Water Quality Atlas - Map. 303(d).
Available at: https://apps.ecology.wa.gov/waterqualityatlas/wqa/map

Ecology. ECY2023. Addressing Priority Toxic Chemicals.
Available at: https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals

Ecology. ECY2023b. Tire anti-degradant (6PPD) and 6PPD-quinone
Available at: https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals/6PPD

King County. KC2021. GIS Center, OneDrive. Custom Data Request. Washington State
Data Source: King County GIS Center OneDrive

King County. WQI2023. King County Water Quality Index Background.
Available at: https://kingcounty.gov/services/environment/watersheds/streams-data/water-quality-index/WQIBackGround.aspx

Stormwater Center. WASWC2023. Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual
Available at: https://www.wastormwatercenter.org/wp-content/uploads/2020_ICID_Manual_final_20200507-1.pdf

Washington State Department of Health. DOH2023. Information by location: Washington Tracking Network (WTN)
Available at: https://fortress.wa.gov/doh/wtn/WTNIBL