LID INFEASIBILITY STUDY

SeaTac, Washington

Prepared for: The City of SeaTac

Project No. 170396 • March 30, 2018 Final

Aspect CONSULTING

earth + water

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Aspect Consulting, LLC
in association with Robin Kirschbaum, Inc.

March 30, 2018

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Contents

List of Tables

List of Figures

List of Appendices

1 Introduction

This report prepared by Aspect Consulting, LLC (Aspect) describes the results of the City of SeaTac (City) Low Impact Development (LID) Infeasibility Assessment. The report provides detailed information on the LID infeasibility criteria, data review process, and the Geographic Information System (GIS) infeasibility mapping results.

1.1 Document Organization

This document is organized into five sections, as described below:

- Section 1 provides an introduction and background information, including the applicable LID best management practice (BMP) infeasibility criteria that were considered for this project.
- Section 2 provides an overview of the local geology in the vicinity of the City.
- Section 3 summarizes the data review process and describes identified data gaps.
- Section 4 summarizes the results of the LID BMP infeasibility mapping.

A list of references cited is provided at the end of the document.

1.2 Project Background Information

The City is approximately 10.2 square miles in total area and located in southern King County (see Figure 1, Vicinity Map, and Figure 2, Aerial Imagery). The City is interested in promoting new and redevelopment projects while concurrently meeting the LID standards required by the Phase II Permit issued by the Washington State Department of Ecology (Ecology). Aspect has been contracted by the City to conduct an LID infeasibility study incorporating infeasibility criteria specified in the 2016 King County Surface Water Design Manual (KCSWDM), as amended by the SeaTac Addendum to the KCSWDM. The results of the study include the following 10 GIS maps and associated web maps indicating areas of LID infeasibility by LID BMP type:

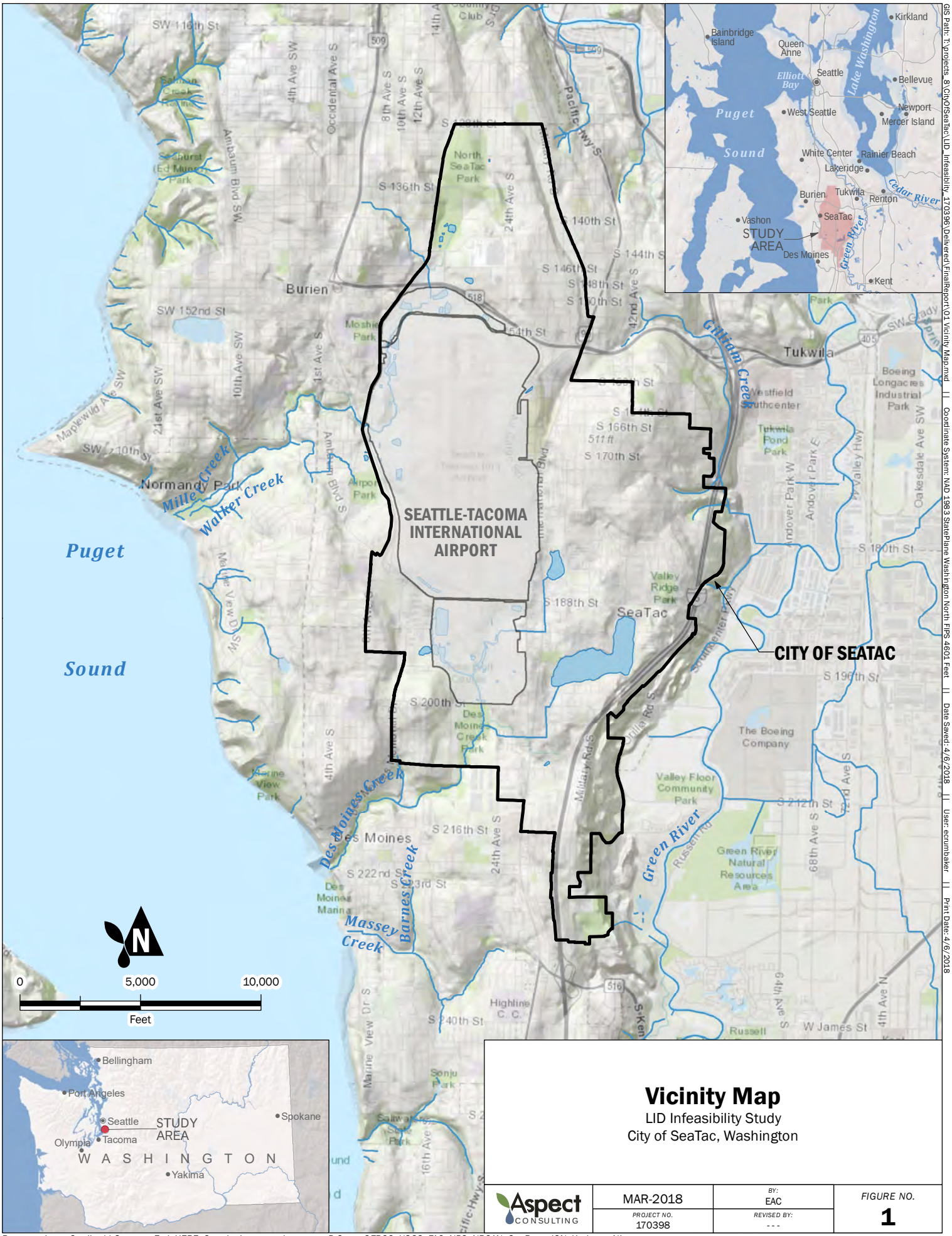
- Soil Amendment Infeasibility
- Full Dispersion Infeasibility
- Full Infiltration Infeasibility
- Limited Infiltration Infeasibility
- Basic Dispersion Infeasibility
- Bioretention Infeasibility
- Permeable Pavement (Asphalt) Infeasibility
- Permeable Pavement (Concrete) Infeasibility

- Permeable Pavement (Concrete Interlocking) Infeasibility
- Perforated Pipe Connection Infeasibility

These maps can be used by development project applicants and City staff to determine whether infiltration has been pre-mapped as infeasible for proposed project sites, and determine whether site-specific infiltration assessments are required to comply with applicable requirements.

1.3 LID Infeasibility Criteria

The 2016 KCSWDM, as amended by the SeaTac Addendum to the KCSWDM, defines the infeasibility criteria for the individual LID BMP types (SeaTac Municipal Code (SMC) 12.10.010). The LID infeasibility criteria were reviewed. This information was used to create an LID BMP infeasibility criteria checklist for all dispersion BMPs and infiltration BMPs (see Table 1 Infeasibility Criteria and Checklist for All Dispersion and Infiltration BMPs) and an infeasibility criteria checklist for flow control BMPs (see Table 2 Infeasibility Criteria and Checklist for Flow Control BMPs). This information was used to support the data review process described in Section 3 and creation of individual LID BMP infeasibility maps described in Section 4.

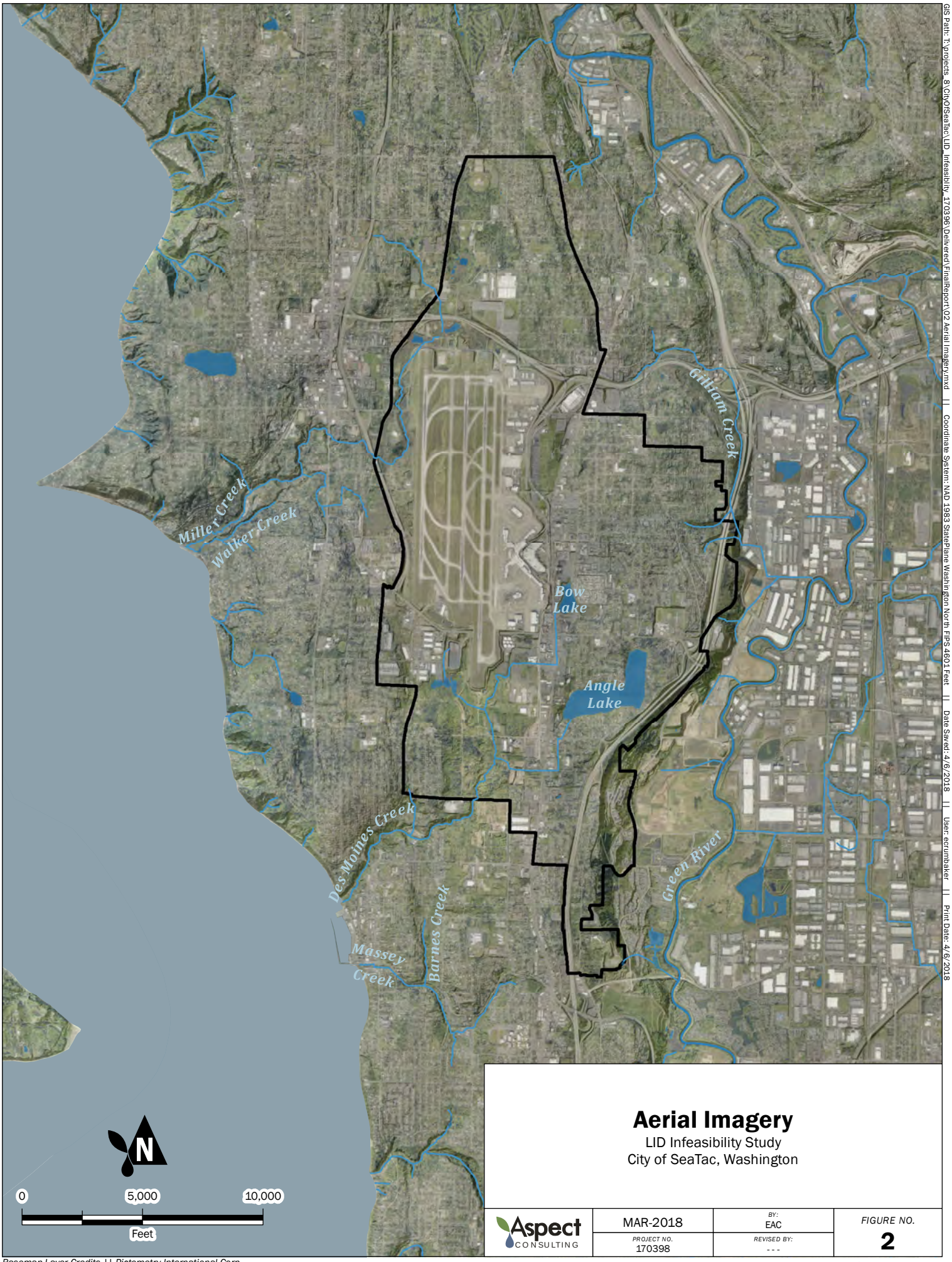


Vicinity Map

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC	FIGURE NO. 1
	PROJECT NO. 170398	REVISED BY: ---	

GIS Path: T:\projects_8\City\SeaTac\LID_Infeasibility_170396\Delivered\FinalReport\01 Vicinity Map.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/6/2018 || User: ecrumbaker || Print Date: 4/6/2018



Aerial Imagery

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC	FIGURE NO. 2
	PROJECT NO. 170398	REVISED BY: ---	

Basemap Layer Credits || Pictometry International Corp.

GIS Path: T:\projects_8\CityOfSeaTac\LID_Infeasibility_170396\Delivered\FinalReport\02 Aerial Imagery.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/6/2018 || User: ecrumbaker || Print Date: 4/6/2018

2 Overview of Local Geology

The surficial and near-surface geology of the Puget Sound basin results from long periods of erosion and nonglacial sedimentation in depositional environments similar to those present in predevelopment times, punctuated by multiple glacial advances into the Puget Sound lowland. The most recent glaciation, the Vashon Stade of the Fraser glaciation, ended about 13,000 years ago. The resulting landform consists of glacially sculpted uplands composed of north-to-south elongated glacial drumlins and flutes, and the broad river valleys and waterways of Puget Sound. Postglacial erosion has locally incised the uplands and created steep-sided ravines and steep bluffs near coastal areas and river valleys. Alluvial soils have been deposited in river and stream valleys since the end of the Vashon glaciation.

Figure 3, Surface Geology illustrates the surficial geology in the vicinity of the City based on the Washington State Department of Natural Resources (DNR) surficial geology dataset. The DNR surficial geologic map is based on the publicly available Booth and Waldron (2004) geologic map of the Des Moines quadrangle, published by the U.S. Geological Survey (USGS) as Scientific Investigation (SI) Map 2855.

The regional geologic units are divided into the following general categories (from generally older to younger):

- **Pre-Fraser-Glaciation-Age Glacial and Nonglacial Deposits:** Pre-Fraser-glaciation-age deposits includes all undifferentiated soils of older glacial or nonglacial origin. This group of pre-Fraser soils has generally not been dated or regionally correlated with specific named glacial or nonglacial formations of sequences, and consequently they are subdivided based on dominant grain size and hydraulic properties into fine-grained and coarse-grained subunits.

  Pre-Fraser Fine-Grained Deposits ($Qpf_{(f)}$) includes deposits of glacial and nonglacial origins that are predominantly fine grained (composed chiefly of silt and clay). Due to the relatively high percentage of fine soil particles, these deposits are generally considered poor for infiltration and form aquitards or perching strata.

  Pre-Fraser Coarse-Grained Deposits ($Qpf_{(c)}$) includes the older glacial and nonglacial deposits that are primarily coarse grained. These deposits are generally aquifers where saturated, or are considered potentially feasible for infiltration where unsaturated.

- **Vashon Deposits:** Deposited during the recent Vashon glaciation, these deposits include the following units (from oldest to youngest): advance outwash (Qva), glacial till (Qvt) and subglacial meltout till (Qvtm), ice-contact deposits (Qvi), and recessional outwash (Qvr).

  The Qva advance outwash unit is a predominately slightly silty to clean, fine-to-medium-grained sand unit that lies stratigraphically below the glacial till. In some areas the Qva unit lies directly above older coarse-grained deposits ($Qpf_{(c)}$). Where the advance outwash present, it is generally considered moderately permeable, with

moderate infiltration capacity. It forms an aquifer where saturated and a potential infiltration target where unsaturated.

Vashon Qvt basal glacial till generally consists of a very dense mixture of silt, sand, and gravel and is considered relatively impermeable. A till subunit, subglacial meltout till, (Qvtm), is locally present in place of the Qvt basal till or occurs below the basal till. It consists of interbedded sandy till-like layers and silty outwash-like lenses and layers. Due to the lack of hydraulic continuity between the sandy lenses and layers, the unit as a whole has low permeability, and is an aquitard.

The Qvi ice-contact deposits are commonly transitional in texture between glacial till and recessional outwash deposits and are in isolated areas. The permeability of the ice-contact deposits is generally between that of glacial till and advance outwash.

Vashon recessional outwash (Qvr) generally consists of moderately to highly permeable sand and gravel. Recessional outwash is often underlain by glacial till and may contain shallow groundwater.

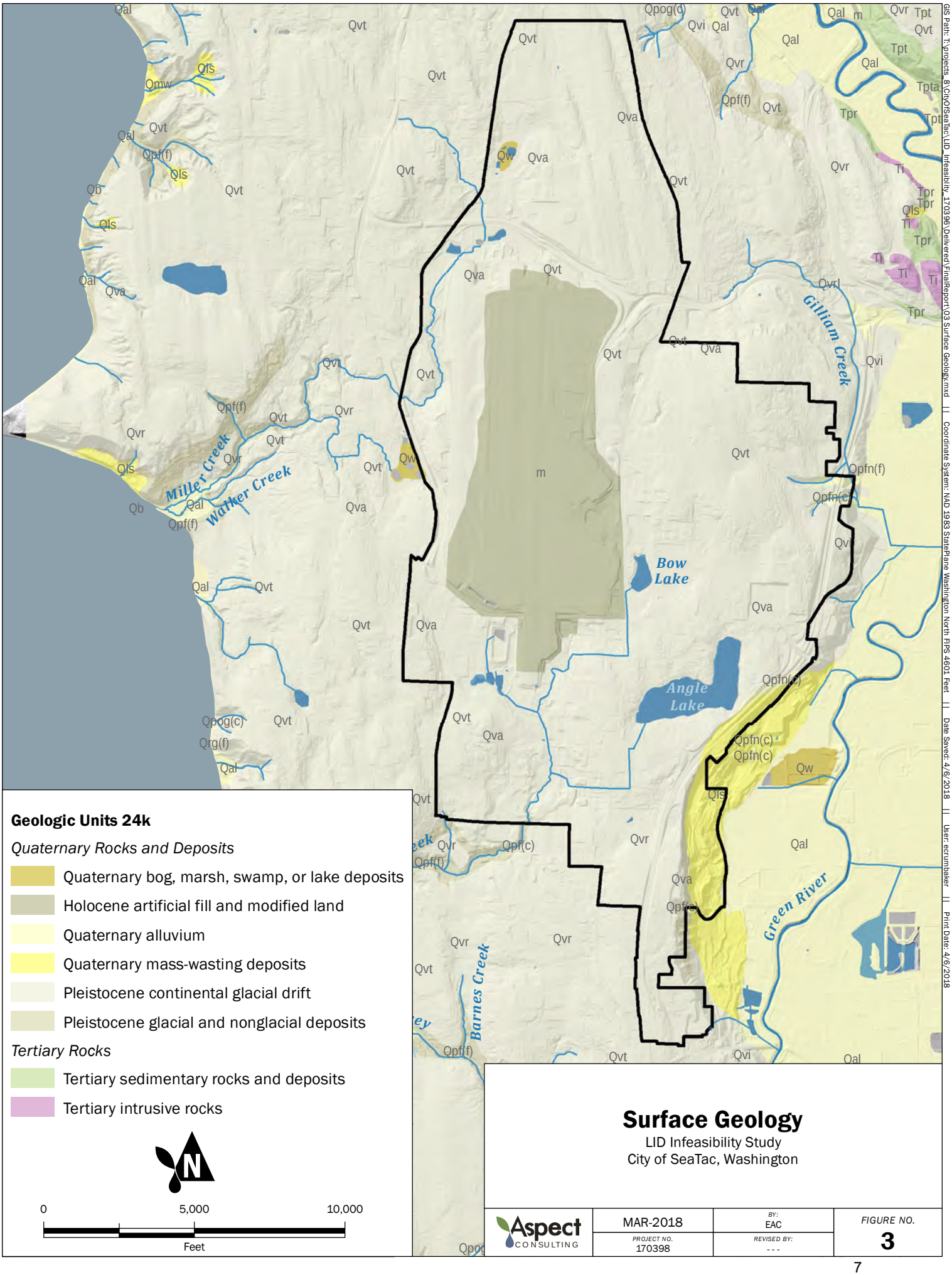
- **Postglacial (Recent) Deposits:** Deposited after the most recent glaciation, these deposits include alluvial deposits (Qal), wetland deposits (Qw), and modified land (m).

  The alluvial deposits, which typically are relatively permeable, are generally restricted to the channels of narrow drainages that flow from the uplands. Due to proximity to stream beds, they are generally saturated and are not significant targets for infiltration.

  Wetland deposits are generally associated with surface water bodies and are typically saturated, fine grained, and unsuitable for infiltration.

  The modified land unit includes areas of fill associated with regrading for the Seattle-Tacoma International Airport (STIA) and other developments with the City. Due to variable hydraulic properties, modified lands and fills are not considered targets for infiltration.

The region's complex geologic and glacial history has resulted in multiple periods of erosion and deposition. Thus, it should be noted that not all of the above geologic units are typically present at any one location. For example, the advance outwash unit is typically not present in relatively low-lying areas where subglacial erosion during advance of the Vashon ice sheet and later incision of creeks have eroded this unit.



Geologic Units 24k

Quaternary Rocks and Deposits

- Quaternary bog, marsh, swamp, or lake deposits
- Holocene artificial fill and modified land
- Quaternary alluvium
- Quaternary mass-wasting deposits
- Pleistocene continental glacial drift
- Pleistocene glacial and nonglacial deposits

Tertiary Rocks

- Tertiary sedimentary rocks and deposits
- Tertiary intrusive rocks

N

0 5,000 10,000

Feet

Surface Geology

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC	FIGURE NO. 3
	PROJECT NO. 170398	REVISED BY: ---	

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3 Data Review

The 2016 KCSWDM, as amended by the SeaTac Addendum to the KCSWDM, defines separate infeasibility criteria for each type LID BMP. To map out spatial extents of the different criteria, Aspect compiled data from various places and of various types, including reports, tables and GIS datasets provided by the City; GIS data downloaded from public entities; and data that was available in-house from previous project work or derived from these public datasets. The review of data included examining its accuracy and resolution to determine if it was suitable for use at the scale required for this analysis.

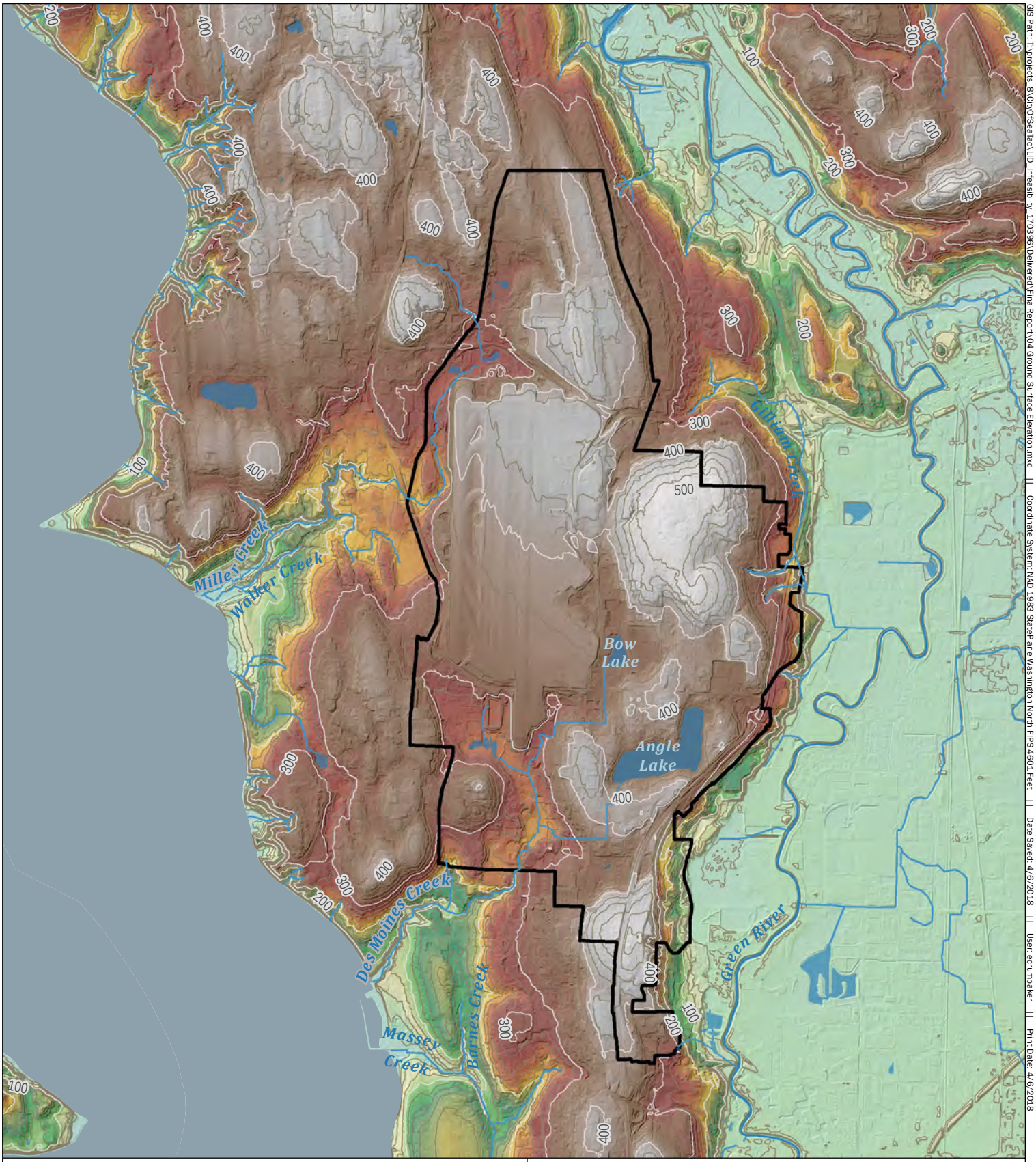
While there are many areas where infeasibility of specific BMPs can be readily mapped, there were also instances where the data were considered too coarse or insufficiently constrained geographically to be used in the final map products. The following sections describe the data review for GIS, geotechnical, and environmental data, and summarizes the data gaps that were identified based on the data review.

3.1 GIS Data Review

GIS data that define the spatial extent of the criteria listed in the Tables 1 and 2 were compiled and reviewed for use in this study. These data and the associated review are described in the following subsections.

3.1.1 Topography

In 2016, the Puget Sound LiDAR Consortium contracted with Quantum Spatial (QSI) to produce a LiDAR bare earth digital elevation model (DEM) with a 3-ft cell size resolution. The high-resolution dataset was downloaded from the DNR LiDAR portal. Ground surface elevations for the City area are shown on Figure 4, Ground Surface Elevation. Spatial analysis tools derived the critical slope percentages for different slope criteria. For each flow control BMP, the KCSWDM defines a steep slope percentage where infiltration is not allowed.



100-foot LiDAR Contour

25-foot LiDAR Contour

Ground Surface Elevation (KC LiDAR, 2016)

High : 524 feet

Low : 0 feet

0 5,000 10,000

Feet

Ground Surface Elevation

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC	FIGURE NO. 4
	PROJECT NO. 170398	REVISED BY: ---	

GIS Path: T:\projects_8\City\SeaTac\LID_Infeasibility_170396\Delivered\FinalReport\04 Ground Surface Elevation.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/6/2018 || User: ecrumbaker || Print Date: 4/6/2018

3.1.2 Critical Areas

The City of SeaTac Municipal Code Title 15.700 defines critical areas as those that:

> *"are subject to natural hazards or those land features which support unique, fragile or valuable natural resources including fishes, wildlife and other organisms and their habitat, and such resources which carry, hold or purify water in their natural state. Critical areas include coal mine hazard areas, erosion hazard areas, flood hazard areas, landslide hazard areas, seismic hazard areas, steep slope hazard areas, streams, volcanic hazard areas, wetlands and critical aquifer recharge areas."*

The Environmental Element of the City's Comprehensive Plan displays the mappable extent of these types of area within the City. The suitability of the data on these maps, as well as other potential data sources, for use in infiltration infeasibility mapping is described below:

- **Coal Mine Hazard Areas** – A review of the King County Coal Mine Hazards GIS dataset showed no coal mine hazard areas exist within the boundaries of the City of SeaTac.

- **Erosion Hazard Areas** – Two datasets were reviewed for erosion hazard areas:
    1) The SeaTac Addendum to the KCSWDM defines slopes greater than or equal to 15 percent as an erosion hazard area. LiDAR slopes of 15 percent or greater (produced as described above) were used wherever erosion hazard areas were listed in the infeasibility criteria. Surface slope erosion hazards within the City are shown on Figure 5, Surface Slope Erosion Hazards.
    2) The mapped erosion hazard areas of the King County Erosion Hazard Area dataset are based on the 1990 Sensitive Areas Folio. This layer uses the physical and chemical characteristics of certain types of mapped soils as an indicator of erosion potential. Because soil types were mapped at a regional scale, data layers that rely on these mapped boundaries aren't appropriate for use at a parcel-level analysis and cannot be used for infeasibility mapping.

Erosion Hazard Areas - LiDAR-derived Slopes of 15 Percent or Greater

As per SeaTac Addendum to the KCSWDM, slopes greater than or equal to 15 percent are considered an erosion hazard area.

0 1,250 2,500

Feet

Surface Slope Erosion Hazards

LID Infeasibility Study

City of SeaTac, Washington

Aspect Consulting	MAR-2018	BY: EAC / TA	FIGURE NO. 5
	PROJECT NO. 170396	REVISED BY: ---	

- **Flood Hazard Areas** – Four different flood hazard datasets were reviewed:
    1) *Qualitative Data Provided by City Staff* – The Cityworks and Known Problem Areas spreadsheets provided by City staff were coded where reports of flooding had occurred. Flooding due to shallow groundwater is discussed in this report in subsequent sections. For flooding due to other reasons, licensed professionals from Aspect reviewed the information provided and determined that the distribution of the point data was too sparse and discontinuous to be connected into specific, mappable areas. Therefore, the data was mapped as point data but not as discreet polygons.
    2) *Channel Migration Hazards Areas* – The King County GIS dataset covers estimated channel migration hazards areas for the Green River. No channel migration hazard areas were identified within the City.
    3) *Floodways in King County* – This King County GIS dataset defines floodways within the county as the stream channel and its floodplain. King County specifies that the dataset is for informational purposes only and should not be used for parcel level analysis.
    4) *Federal Emergency Management Agency (FEMA) 100-year Floodplain* – King County makes available the FEMA GIS dataset of any flood area with a 1-percent chance of being equaled or exceeded in a single year. This dataset is mostly illustrative and not for use for parcel-level analysis.

- **Landslide Hazard Areas** – In 2016, King County employed Shannon & Wilson to use the Oregon Department of Geology and Mineral Industries' landslide mapping protocol (DOGAMI - Special Paper 42) to map the county's deep-seated landslides. The DOGAMI method uses hillshade maps, in this case produced with the new 2016 LiDAR DEM, to delineate visible landslide areas on maps at specified scales. The resulting GIS dataset mapped out 930 landslides within river corridors over the county, some of which fall within the City. This dataset was suitable for use in our analysis where critical areas or landslides are listed as infeasibility criteria. Landslide hazards within the City are shown on Figure 6, Landslide Hazards.

- **Seismic Hazard Areas** – The King County Seismic Hazard Areas GIS dataset is intended for general reference and illustrative purposes and is not appropriate for this analysis.

- **Steep Slope Hazard Areas** – The King County GIS dataset of potential steep slope hazard areas is illustrative and not intended to identify actual steep slope hazards. King County states that the map does not purport to identify actual slope hazards or existing risks for specific properties. Therefore, it cannot be used for infeasibility mapping purposes.

- **Streams** – Stream and buffer areas provided by the City have been shown on the infeasibility maps. Streams and buffers within the City are shown on Figure 7, Surface Water, Wetlands, and Stream Buffers.

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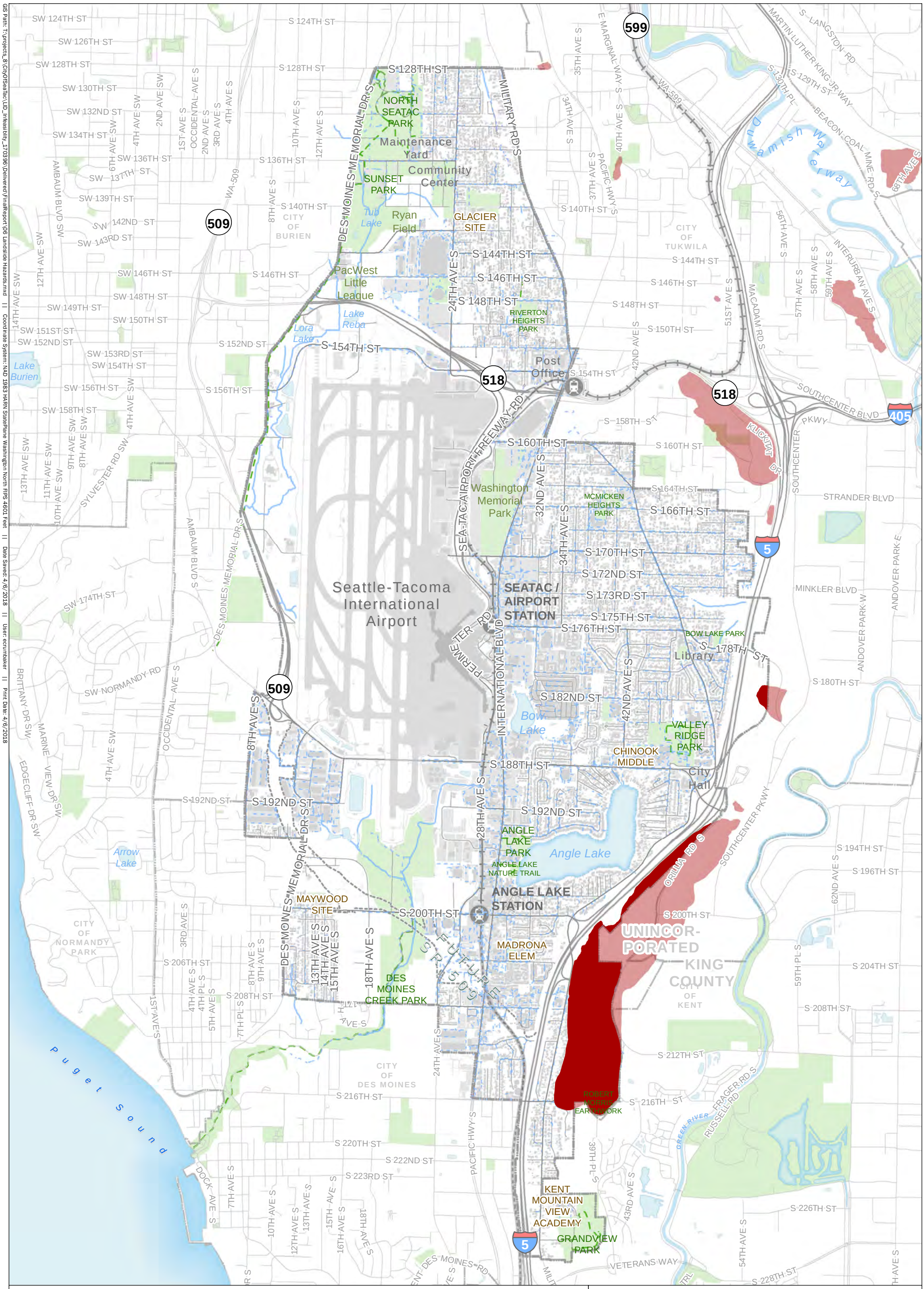

Landslide Hazards

Landslides identified and mapped as per Oregon Department of Geology and Mineral Industries' landslide mapping protocol (Special Paper 42). (Shannon & Wilson, 2016)

Landslide Hazards outside of City Boundary

Landslide Hazards

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 6
	PROJECT NO. 170396	REVISED BY: ---	

Stream Buffer Areas
As per City of SeaTac code 15.700.330.
Class 2 streams with salmonid present or undertermined have a 100 foot buffer.
Class 3 streams have a 25 foot buffer.

Wetland Areas
As per SeaTac code 15.700.015

N

0 1,250 2,500
Feet

Surface Water, Wetlands and Stream Buffers

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 7
	PROJECT NO. 170396	REVISED BY: ---	

- **Volcanic Hazard Areas** – No volcanic hazard areas have been identified within the City.

- **Wetlands** – The City provided GIS coverage of wetland areas which are described as meeting the criteria in SeaTac Municipal Code (SMC) 15.700.015. Wetlands within the City are shown on Figure 7. These data were used in the infiltration infeasibility mapping where critical areas or wetlands are listed as a criterion. Wetlands buffers were not incorporated since the City does not have an up-to-date wetland buffer layer. Wetlands buffers should be added in the future once the data is available.

- **Critical Aquifer Recharge Areas**
    1) Critical Aquifer Recharge Areas (CARA) – The CARA areas of King County were developed as part of the King County Critical Areas Ordinance. These areas do not cover the City of SeaTac and therefore were not used in this analysis.
    2) Wellhead Protection Areas were provided by the City. These areas are buffers around well sites and describe the estimated time of travel (1, 5, 10 years) for public water wells. The dataset is approximate and intended as a reference layer. It is not detailed enough to be used at the parcel level and therefore were not used in this analysis.

Group A and B drinking water wells locations were downloaded from the Washington State Department of Health. The locations of these wells with 100-ft buffers was used in the infeasibility analysis and are shown on Figure 8, Drinking Water Wells and Other Pertinent GIS Data. Other water supply wells were excluded from consideration for infiltration since they are not classified as a Group A or B drinking water wells. Site-specific evaluations would be needed to verify that stormwater infiltration would not negatively influence relevant wellhead protection zones.

Bridges
Bridges as defined by impervious surface data from the City of SeaTac.

Culvert
Derived from stormwater pipe information as provided by the City of SeaTac.

Multi-Level Parking Garage
Multi-level parking garage building footprints as per City of SeaTac building footprint.

Gas Station
Gas station parcels within the City of SeaTac.

Industrial Zoning
Areas zoned as industrial by the City of SeaTac.

Well Buffer
Group A and B drinking water wells with a 100 foot buffer.

N

0 1,250 2,500
Feet

Drinking Water Wells and Other Pertinent GIS Data

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 8
	PROJECT NO. 170396	REVISED BY: ---	

3.1.3 Other Pertinent GIS Data

Other GIS data reviewed include:

- **Impervious surfaces** – The City provided GIS data of impervious areas including those listed below, which are shown (combined) on Figure 9, Impervious Surfaces.

    - **Building Footprints** – The City provided building footprints within the City limits. The building footprints were delineated from 2012 aerial imagery by the contracted data creator, MapCon, and has subsequently been modified and updated by City staff. This data was used for the infeasibility mapping where impervious surfaces are listed as a criterion.

    - **Bridges** – Within the impervious area dataset provided by the City, bridges are distinguished from other impervious areas. The bridges were delineated from 2012 aerial imagery by MapCon. Bridges are shown on Figure 8. This data was used for the infeasibility mapping where bridges are listed as a criterion.

    - **Culverts** – The City provided stormwater network data that contained linework for culverts within the city limits. The diameter of these culverts was also provided. Culvert lines were buffered by the radius of each asset. Culverts are shown on Figure 8. This data was used for the infeasibility mapping where culverts are listed as a criterion.

    - **Multi-level Parking Garages** – The City parcel data defines parcels with commercial parking lots and parking garages. Aspect conducted a review of available aerial and oblique imagery to determine if any structures on the parcels used for parking contained multi-level garages. The building footprint dataset provided by the City was used to extract the footprint of the multi-level garages and was used in this analysis where multi-level parking garages are listed as a criterion. Multi-level parking garages are shown on Figure 8.

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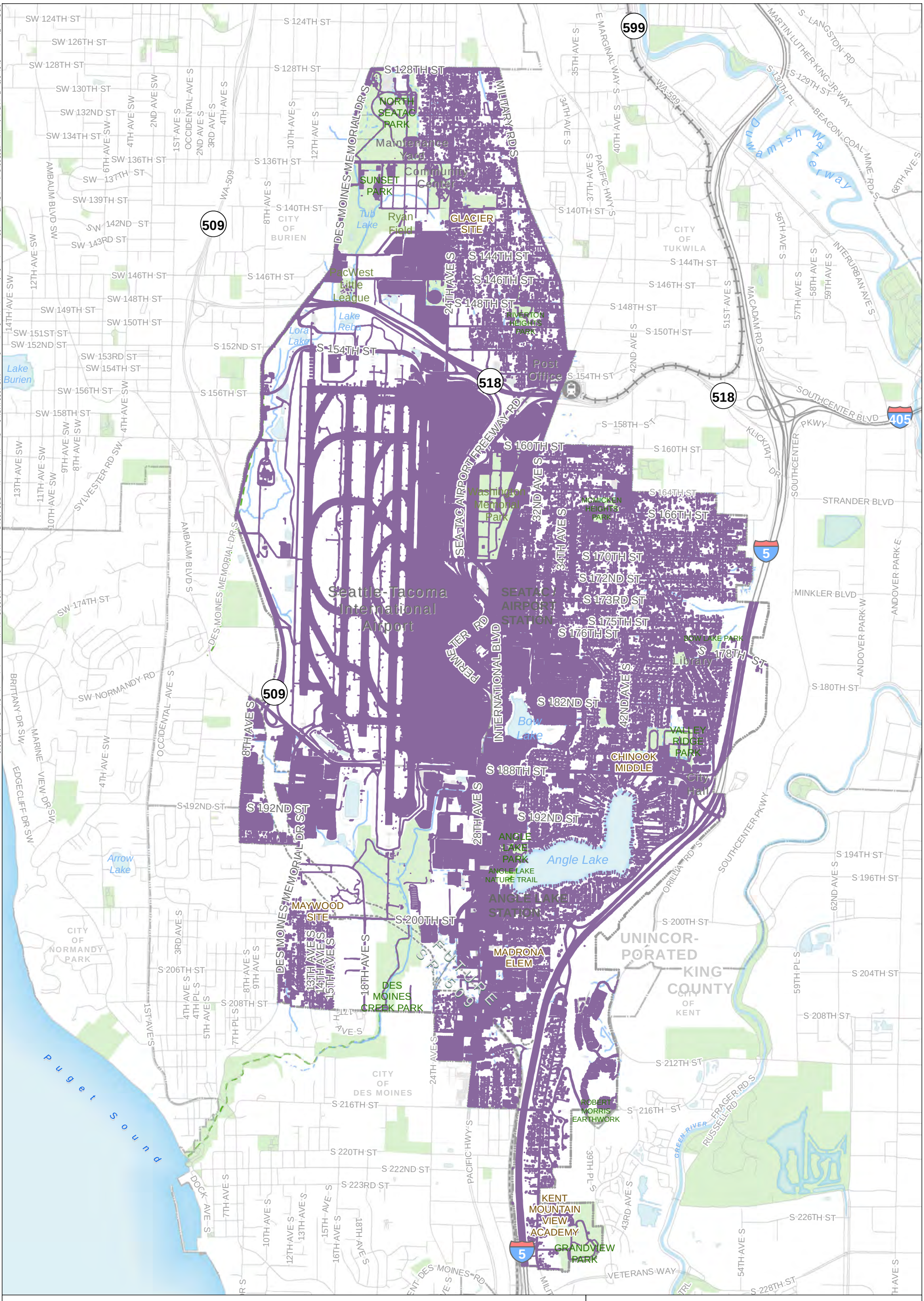


Impervious Surfaces
A selection of surfaces from the impervious surface layer as provided by the City of SeaTac

0 1,250 2,500
Feet

Impervious Surfaces

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 9
	PROJECT NO. 170396	REVISED BY: ---	

- **Areas with Engineered/Structural Fill** – City staff have indicated that most developed sites have some amount of structural fill or engineered slopes. Areas with engineered slopes/structural fill are infeasible for the soil amendment BMP. The City provided Aspect with a set of development plans, of which two provided information on the aerial extent of existing structural fill. These were incorporated into the GIS mapping. Structural fill and engineered slope locations from the development plan sets and the STIA's third runway embankment, as defined previously by Aspect (Aspect, 2017), are shown on Figure 10, Structural Fill. The City plans to set up a database for tracking engineered/structural fill and further plans on evaluating updates to the GIS layer on an annual basis.

- **Surficial Geology** – An overlay of the till soils (surficial geology unit Qvt as shown on Figure 3) DNR surficial geology dataset (spatial resolution of 1:24,000) with 2016 LiDAR-derived slopes greater than 33 percent was used in the soil amendment BMP map, as specified in the 2016 KCSWDM infeasibility criteria.

- **Soils** – The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil map for the City was reviewed. The NRCS soil map does not cover the northern or central portion of the City. In the southern portion of the City, mapped soil units commonly associated with wetlands/shallow groundwater (Seattle Muck and Tukwila Muck) were reviewed. One area was identified as potentially being infeasible for infiltration. Creation of a GIS layer delineating this area is discussed in the Identified Data Gaps section of this report.

- **Shallow Groundwater** – There is currently no available GIS layer mapping out areas of known shallow groundwater. Creation of a GIS layer delineating areas of known shallow groundwater is discussed in the Identified Data Gaps section of this report.

- **Gas Stations** – Gas stations are infeasible for infiltration for the permeable pavement BMP. The parcel areas corresponding to the City's list of 11 gas stations were reviewed against recent aerial imagery to confirm a gas station was present. Two parcels were found unusable. One did not have a gas station, and the other was seated on a large parcel at STIA. Aspect also reviewed the City parcel data's land use descriptions, and an additional gas station was included in the selection after this review. The resulting parcel dataset was incorporated into the permeable pavement BMP infeasibility maps.

Structural Fill and Engineered Slopes
As defined by development plan sets and previously know structural fill areas.

0 1,250 2,500
Feet

Structural Fill and Engineered Slopes

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 10
	PROJECT NO. 170396	REVISED BY: ---	

- **Truck Routes** – Roads that receive more than very low traffic volumes, and areas having more than very low truck traffic are infeasible for infiltration for the permeable pavement BMP. All City-owned streets are subject to regular garbage/recycling truck traffic. The City provided Aspect a list of City streets meeting the LID Infeasibility criteria per Section C2.7 Item #25 of the 2016 King County Surface Water Design Manual, Appendix C. However, since the City's GIS data only includes a street center line and not a right-of-way (ROW) layer, the truck routes could not be mapped at this time. Therefore, a note has been included on the permeable pavement BMP infeasibility maps listing the City streets that meet the LID infeasibility criteria.

- **Industrial Zoning** – Areas with "industrial activity" as identified in 40 CFR 122.26(b)(14) can be described as areas zoned as industrial. Industrial areas are infeasible for infiltration for the permeable pavement BMP. The City's Zoning dataset was used to map Industrial Zoning on the permeable pavement BMP infeasibility maps.

3.2 Geotechnical, Soils, and Groundwater Data Review

Data review for this category included the surficial geologic map data covering the City and review of other readily available data, such as the substantial amount of information provided by City staff during late 2017 (described in more detail below). The DNR surficial geologic map is considered the best available data indicating the extent of surface geologic units that are potentially infeasible for infiltration.

As part of the Port of Seattle's 2008 regional groundwater study that was conducted to evaluate the proposed 3rd Runway at STIA, Aspect compiled additional geologic information and developed the hydrostratigraphic interpretations for 2,000 subsurface explorations and wells in the SeaTac area. This data was used to develop a 3-D hydrogeologic model that evaluated groundwater flow and contaminant transport.

Significant portions of the City are mapped as having glacial till present at the surface, which is often a relatively low permeability unit. However, the presence of till cannot be used by itself for infeasibility mapping without additional supporting evidence, such as field infiltration testing that does not achieve the minimum required infiltration rate (0.30 in/hour). As described below, the available infiltration testing information for the City indicated that the field tests achieved infiltration rates of 2 in/hour or greater, well above the minimum required infiltration rate criteria. Therefore, the geologic mapping and borehole logs indicating the presence of glacial till cannot be used as stand-alone justification for mapping infiltration infeasibility. However, as additional information is obtained in the future, such as field infiltration rate testing conducted within the City, it may be possible to map infeasibility using multiple sources of data. The Port of Seattle maintains the geologic database that was created for the STIA area and can be contacted to obtain additional information.

Aspect staff assessed the University of Washington GeoMap NW-Washington Department of Natural Resources Division of Geology and Earth Resources (WDGER) soil/geotechnical subsurface geologic information database. The distribution of data was

primarily along the I-5 corridor (and steep slope/slide-prone areas east of I-5) in areas that weren't considered potentially accessible for development within the City, so the information wasn't further considered.

As described above, it may be possible to map infeasibility using multiple sources of data as additional information is obtained in the future. The link to the Washington GeoMap NW- WDGER geologic map is https://pubs.usgs.gov/sim/2004/2855/ and the link to the portal for reports and associated subsurface information is https://www.dnr.wa.gov/geologyportal.

The groundwater model developed by Aspect in 2008 for the Port of Seattle STIA 3rd Runway Embankment Project focused on intermediate and deep aquifers and aquitards (typically 20 feet or greater in depth below ground surface). Shallow groundwater could not be accurately modelled or mapped due to its intermittent and discontinuous (perched) nature. Therefore, shallow groundwater was not used as an infeasibility criterion for the STIA Infiltration Infeasibility Study that was completed in December 2017 (Aspect, 2017), and the STIA database cannot be used to map the presence of shallow groundwater within the City.

The geotechnical, soils, groundwater, and related information provided by City staff included:

- Forty-five hard copy and electronic geotechnical reports containing soils and geotechnical data; references for these reports are provided in Appendix A Geotechnical Report References. The majority of the reports included boring logs and typically include depth to groundwater information; a few include field infiltration rate testing data. The reports are for the period 2013 through 2017, as reports prior to 2013 have not been kept by the City. It is recommended that the City consider implementing a process for scanning all geotechnical reports and creating electronic PDFs that would be retained in a database for future use. This could include the creation of a GIS layer (or layers) of specific geotechnical information such as field infiltration rate test data.

- A spreadsheet containing 203 Cityworks service requests for the period January 3, 2012 through October 25, 2017, providing information on known drainage problems (see Appendix B City of SeaTac 2017 Cityworks and List of Known Problem Areas for LID Infeasibility Mapping Spreadsheets). This includes the request details, site address, and related comments provided by City staff.

- Spreadsheet titled "List of Known Problem Areas for LID Infeasibility Mapping" providing descriptions of drainage problems for 104 sites, including the project/site name, address/cross street or Parcel Number, and name of the City staff providing the data (Appendix B).

This information provided by City staff was reviewed, screened, and assigned codes indicating the type of data:

- Site has subsurface soil information (41 of the geotechnical reports);

- Site has quantitative field infiltration rate test data (6 of the geotechnical reports);
- Site has quantitative depth-to-groundwater information indicating shallow groundwater less than 3 feet or less below ground surface (5 of the geotechnical reports);
- Site has relevant, qualitative indication of shallow groundwater (35 locations based on review of the Cityworks and Known Problem Areas spreadsheets);
- Site has relevant, qualitative indication of steep or wet slopes (55 locations based on review of the Cityworks and Known Problem Areas spreadsheets);
- Site has relevant, qualitative indication of flooding associated with stormwater run-on (32 locations based on review of the Cityworks and Known Problem Areas spreadsheets); and
- Site has relevant, qualitative indication of landslides (3 locations based on review of the Cityworks and Known Problem Areas spreadsheets).

3.2.1 Review of Quantitative Geotechnical Information Provided by the City

Review of the 41 geotechnical reports that provided subsurface boring logs with depth-to-groundwater information indicated that five test pits or soil boring logs indicated shallow groundwater 3 feet or less below ground surface, but each of the five locations with test pits or boring logs indicating shallow groundwater also had one or more test pit or soil boring log indicating water depths greater than 3 feet below ground surface.

Review of the six geotechnical reports with quantitative field infiltration test data indicated that the results ranged from approximately 2 to 137 in/hour, and that none of the individual infiltration field tests showed infiltration rates <0.30 in/hour, which is the minimum rate below which infiltration is considered infeasible (Table 2). Five of the sites had at least one test showing infiltration rates >4 in/hour, which is the maximum rate above which infiltration is considered infeasible for the permeable pavement BMP category (Table 2). However, this point data does not provide mapped areas or boundaries, and the point data by itself is not sufficient for creating GIS infeasibility layers for the permeable pavement BMP. Further evaluation of point data representing maximum infiltration rates above which infiltration is considered infeasible for the permeable pavement BMP is discussed later in the Identified Data Gaps section.

3.2.2 Review of Relevant, Qualitative Cityworks and Known Problem Areas Information Provided by the City

To further assess the relevant, qualitative information provided in the Cityworks and Known Problem Areas spreadsheets related to shallow groundwater and landslides, the locations of the sites were plotted according to the following information type (or, in some cases, combinations of information types since some sites had more than one type):

- Site has relevant, qualitative indications of shallow groundwater;
- Site has relevant, qualitative indication of steep or wet slopes;

- Site has relevant, qualitative indication of flooding associated with stormwater run-on; and
- Site has relevant, qualitative indication of landslides.

The locations of the sites indicating shallow groundwater, steep or wet slopes, and/or flooding associated with stormwater run-on are shown on Figure 11. Figure 11 also shows the locations of the five test pits or soil boring logs indicating shallow groundwater 3 feet or less below ground surface along with the surficial geology, wetlands, and 50-ft topographic contours.

The locations of the sites indicating landslides or steep or wet slopes are shown on Figure 12 Steep Slope Related Information, which also shows LiDAR slopes greater than 15 percent and landslide boundaries mapped by King County.

The Cityworks and Known Problem Areas spreadsheets provide valuable information on shallow groundwater, steep or wet slopes, flooding and landslides at the parcel level. However, these data sources do not provide mapped areas or boundaries, and the point data by itself is not sufficient for creating GIS infeasibility layers. The data has been mapped as point data, and the individual point information will be integrated into the web map portal at the parcel level to aid users in screening for potential infiltration feasibility on a site-specific basis. In addition, clusters of point data could potentially indicate a mappable area depending on the area's specific land use, and geologic, topographic, and hydraulic setting. Further evaluation of clusters of qualitative point data is discussed later in the Identified Data Gaps section.

3.3 Environmental Data Review

Based on review of the infeasibility criteria in Table 2, BMPs requiring consideration of environmental data are the bioretention and permeable pavement BMPs. Environmental data needed to evaluate the infeasibility criteria for these BMPs can be generally summarized as the following: the presence and nature of soil and/or groundwater contamination documented by the federal Superfund program and/or the Washington State Model Toxics Control Act (MTCA) programs; the presence of underground storage tanks (USTs) and associated systems; and, locations of landfills.

To evaluate the usability of environmental data in these categories, information provided by MTCA programs overseen by the Washington State Department of Ecology (Ecology) and Ecology's Environmental Information Management System (EIM) were reviewed. The Washington State Facilities Index, provided for public access and use by Ecology, provides a database of Ecology's regulatory facilities throughout Washington State (including state MTCA cleanup sites and federal cleanup sites in the Superfund program). This includes facilities with known or suspected contamination (to soil, groundwater, and/or soil gas) in various stages of cleanup; facilities with regulated[1] UST systems; and,

[1] Some UST systems are not regulated by Washington State and are not included in UST system datasets, including UST systems with a capacity of 110 gallons or less, farm or residential UST systems of 1,100 gallons or less used for storing motor fuel for noncommercial purposes, and UST systems of 1,100 gallons or less used for storing heating oil for use on the premises where stored,

active/inactive registered landfills, among others. Ecology's EIM provides soil, groundwater, and/or soil gas analytical testing data for select sites included in the Facilities Index. The link to the Washington State Facilities Index is https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Facility-Site-database, and the link to Ecology's EIM is https://fortress.wa.gov/ecy/eimreporting/Default.aspx.

Both data resources only identify regulated facilities by point location data, and can be utilized to assist in screening purposes. The data has been mapped as point data in the applicable GIS layers to aid users in screening for potential infiltration feasibility on a site-specific basis. The following items need to be considered for application of environmental data for LID infeasibility mapping purposes:

1) The data are just discrete point data and do not provide mappable contaminated soil or groundwater areas or boundaries. Further site-specific evaluation would be required to determine the specific locations of areas of environmental concern. The data has been mapped as point data in the applicable GIS layers to aid users in screening for potential infiltration feasibility on a site-specific basis.

2) The data available should not be assumed to be comprehensive. Additional contaminated sites may exist that have not been discovered or have not yet been reported to state or federal regulatory agencies. Similarly, additional UST systems may exist that are not available in a data set (such as, unregulated UST systems which do not require registration with the state).

3) The status of cleanup sites is changing. Data regarding the status of cleanup sites and the nature of in-place contamination changes as the cleanup actions are completed. Further evaluation by the user will be needed to determine if a known or suspected contaminated site meets the infeasibility criteria.

For these reasons, environmental data available for utilization by this study are considered inadequate for incorporation into the LID Infeasibility maps. The data has been mapped as point data in the applicable GIS layers to aid users in screening for potential infiltration feasibility on a site-specific basis.

3.4 Identified Data Gaps

The following subsections describe the identified data gaps along with potential data gap filling activities and associated costs.

3.4.1 Shallow Groundwater

Shallow groundwater area(s) include qualitative points identified through review of the City's Cityworks and Known Problem Areas spreadsheets of drainage problem areas (Appendix A), and quantitative point data from test pit and soil boring logs in geotechnical reports provided by the City indicating groundwater at 3 feet or less below ground surface. The locations of the addresses/parcels containing the data were plotted

among others. Refer to Washington Administrative Code (WAC) 173-360-110 for a full list of UST systems that are not regulated.

and assessed for correlation with other indicators of potential infeasibility, and clustering that potentially indicates a broader area of infeasibility. Due to the spot nature of these data, it is not currently possible to confidently develop infeasibility map areas, other than data points, without assessing each site's specific land use, and geologic, topographic, and hydraulic setting.

Five areas containing clusters of point qualitative information are identified on Figure 11, Shallow Groundwater Related Information; only one of these areas (Area 5) contains a single point of quantitative soil boring information indicating depth of shallow groundwater. In addition, a sixth area (identified as Area 6 on Figure 11) represents NRCS mapped soil units commonly associated with wetlands/shallow groundwater where a wetland is also explicitly present.

Site-specific assessment is a data gap that cannot be filled through desktop analysis alone. To fill the data gap, desktop review of historical aerial photographs, topography, geology, etc., would need to be completed at an individual site or parcel level. This would be followed by a site reconnaissance visit to observe conditions from accessible areas such as roads or other public easements to determine if the site area has visible indications of infeasibility that can be mapped based on apparent site characteristics. The site reconnaissance will provide the confidence and documentation necessary to support extending map infeasibility boundaries beyond a specific point, or parcel, if appropriate. Specific activities for filling these data gaps would include the following:

- Detailed review of site- or cluster-specific data;
- Generation of GIS map bases for the reconnaissance visits;
- Conducting reconnaissance visits;
- Analyses to generate map areas;
- Associated reviews and documentation; and
- Preparation of a short memorandum describing the activities and results.

Area of Potental Data Gap Filling

Symbol Shape Indicates Data Source:

- City List of Known Problem Areas for LID Infeasibility Mapping
- CityWorks Service Requests

Symbol Color Indicates:

- Site has relevant indication of flooding and site drains to steep or wet slope
- Site drains to steep or wet slope
- Site has relevant indication of flooding
- Site has relevant qualitative indication of shallow groundwater
- Site has relevant qualitative indication of shallow groundwater and site drains to steep or wet slope
- Reviewed Geotech Reports with Boring Logs Indicating Shallow Groundwater
- 50-foot Contour (King County LiDAR, 2015)
- Wetlands that meet criteria in SMC 15.700.015

Surficial Geology (1:24,000)

- Qal - Quaternary alluvium
- Qls - Quaternary mass-wasting deposits
- Qpf(c) - Pleistocene glacial and nonglacial coarse-grained deposits
- Qpf(f) - Pleistocene glacial and nonglacial fine grained deposits
- Qpfn(c) - Quaternary alluvium nonglacial coarse-grained deposits
- Qpfn(f) - Quaternary alluvium nonglacial fine-grained deposits
- Qva - Pleistocene continental glacial drift advance outwash
- Qvi - Pleistocene continental glacial drift ice-contact deposits
- Qvr - Pleistocene continental glacial drift recessional outwash
- Qvt - Pleistocene continental glacial drift glacial till
- Qw - Quaternary bog, marsh, swamp, or lake deposits
- m - Holocene artificial fill and modified land
- wtr - Water

Available Flood Datasets:
Channel Migration Area [King County]
FEMA Floodway [King County]
100-year Floodplain [King County]

N

0 1,250 2,500 Feet

Shallow Groundwater Related Information

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TLA	FIGURE NO. 11
	PROJECT NO. 170396	REVISED BY: ---	

Estimated Cost and Benefit

The activities listed above would be focused on the five cluster areas containing multiple points with qualitative indications of shallow groundwater (plus the one quantitative indicator in Area 5), Area 6 identified through review of the NRCS soil map, and the four points where City-provided geotechnical reports have exploration data potentially meeting shallow groundwater infeasibility criteria. This work is estimated to be approximately 70 labor hours. Prior to Aspect staff conducting field reconnaissance on any private property, City staff will need to obtain legal access to these properties.

If the site reconnaissance and associated activities provide the documentation necessary to support mapping infeasibility boundaries, these areas could be included in the LID infeasibility mapping for seven of the LID BMP types (all except the soil amendment BMP). Assuming the six data gap areas identified on Figure 11 represent the mapped infeasibility boundaries, this would result in an additional 10,359,780 ft^2 (238 acres) of area that would be mapped as infeasible. In addition, the data gaps filling activities would help establish the process and procedures for future data gaps evaluations.

Estimated Cost: $11,000

3.4.2 Steep Slope and Landslide Hazard Areas

Sites or parcels related to drainage toward steep or potentially unstable slopes were identified through review of the qualitative information contained in City's Cityworks and Known Problem Areas spreadsheets (Appendix A). Due to the qualitative nature of these data, it is not currently possible to confidently develop infeasibility map areas beyond discrete data points without further assessment.

These data have been mapped and assessed for correlation to adjacent steep slope or landslide hazard areas, and most points occur within two clusters (designated Areas 7 and 8 on Figure 12, Steep Slope Related Information). These two areas are outside of the areas with LiDAR slopes greater than or equal to 15 percent and landslide boundaries mapped by King County. The clustering suggests that these sites can be geographically defined and included as mapped infeasibility areas. Site-specific evaluation through cluster-specific desktop analyses and site reconnaissance will be required to provide the confidence and documentation necessary to support delineating map infeasibility boundaries associated with specific points or parcels, if appropriate.

Area of Potental Data Gap Filling

Symbol Color Indicates:

- Site drains to steep or wet slope
- Site drains to steep or wet slope and landslides at or near site
- Landslides at or near site
- Site drains to steep or wet slope and site has relevant qualitative indication of shallow groundwater

Symbol Shape Indicates Data Source:

- City List of Known Problem Areas for LID Infeasibility Mapping
- CityWorks Service Requests

Slopes Greater than or Equal to 20%
Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

- Landslide Outline (King County)
- LiDAR Slope Greater than 15%
- 50-foot Contour (King County LiDAR, 2015)

0 50 1,250 2,500
Feet

Steep Slope Related Information

LID Infeasibility Study
City of SeaTac, Washington

Aspect Consulting	MAR-2018	BY: EAC / TLA	FIGURE NO. 12
	PROJECT NO. 170396	REVISED BY: ---	

Estimated Cost and Benefit

Filling this data gap would require development of topographic, geologic, and other GIS data for Areas 7 and 8, and completing a site reconnaissance of accessible areas to map the extent of affected areas. Deliverables would include a short memorandum describing the activities and results. We anticipate that this effort could be completed in approximately 30 labor hours. If the site reconnaissance and associated activities provide the documentation necessary to support mapping infeasibility boundaries, these areas could be included in the LID infeasibility mapping for seven of the LID BMP types (all except the soil amendment BMP). Assuming the two data gap areas identified on Figure 12 represent the mapped infeasibility boundaries, this would result in an additional 3,002,547 ft^2 (69 acres) of area that would be mapped as infeasible. In addition, the data gaps filling activities would help establish the process and procedures for future data gaps evaluations. Other individual (non-clustered) sites could also be added in this data gaps analysis, but at an increasing cost relative to the benefit. If the City is interested, Aspect would work with City staff to refine the study and associated cost.

Estimated Cost: $5,000

3.4.3 Areas with Measured Infiltration Rates greater than 4 in/hour

Due to the spot nature of the infiltration test data, it is not currently possible to develop permeable pavement infeasibility map areas indicating infiltration rates > 4 in/hour without conducting additional field tests. Given the relatively high cost to conducting pilot infiltration tests (typically $10k or more, depending on the number of tests required for a specific site), and the fact that the results could only be applied to the permeable pavement BMP category, it is our opinion that it wouldn't be cost-effective to conduct field infiltration testing as a data gaps filling activity. As the City obtains additional field infiltration test data over the coming years, the results could be tracked and potentially applied to the permeable pavement BMP mapping.

4 LID Infeasibility Mapping

4.1 Applicable LID Infeasibility Mapping Criteria

Table 3 lists the LID BMP types and the applicable infeasibility criteria (and data source) that were applied for developing the 10 GIS LID infeasibility maps. For areas that are not mapped as being infeasible, the detailed LID BMP infeasibility criteria provided in Tables 1 and 2 can be used by the designer or applicant to assess LID BMP feasibility at the project site scale.

Table 3. LID BMP Types and Applicable Infeasibility Map Criteria

LID BMP Type	Infeasibility Map Criteria that Apply and Data Source
Soil Amendment	Impervious Surfaces (City of SeaTac)
	STIA Embankment Area (Aspect)
	Structural Fill or Engineered Slopes (limited amount of initial data)
	Till soils (Surficial Geology - Washington DNR) with slopes of 33% or Greater LiDAR Slopes (King County)
Full Dispersion	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	15% or Greater LiDAR Slopes (King County); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
Full Infiltration	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	15% or Greater LiDAR Slopes (King County); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
Limited Infiltration	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	15% or Greater LiDAR Slopes (King County); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
Basic Dispersion	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	15% or Greater LiDAR Slopes (King County); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope

LID BMP Type	Infeasibility Map Criteria that Apply and Data Source
Bioretention	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	MTCA Environmental Information (Ecology) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	8% or Greater LiDAR Slopes (King County); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
	Group A & B Drinking Water Wells and 100-ft Buffer (WA Department of Health)
LID BMP Type	**Infeasibility Map Criteria that Apply and Data Source**
Permeable Pavement	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	MTCA Environmental Information (Ecology) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	6% or Greater (Asphalt), 10% or Greater (Concrete), and 12% or Greater (Concrete Interlocking) LiDAR Slopes (King County) (there are three permeable pavement infeasibility maps); also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
	Group A & B Drinking Water Wells and 100-ft Buffer (WA Department of Health)
	Bridges (City of SeaTac)
	Culverts (City of SeaTac)
	Gas Stations (City of SeaTac)
	Industrial Zoning (City of SeaTac)
	Truck Routes (City of SeaTac)
	Multi-level Parking Garages (City of SeaTac)
Perforated Pipe Connection	Streams with Buffers and Wetlands (City of SeaTac)
	Shallow Groundwater and/or Steep Slope Related Information (City of SeaTac) has been included as point data
	Landslide Hazards along River Corridors - Landslide outline (King County)
	15% or Greater LiDAR Slopes (King County; also slopes >20% are indicated and noted to have a 50 ft infeasibility setback from top of slope
	Impervious Surfaces (City of SeaTac)

4.2 LID Infeasibility Maps

GIS infeasibility input layers were developed using the applicable infeasibility mapping criteria summarized in Table 3, and models were created to prepare the infeasibility map

for each LID BMP. The resulting datasets contain metadata in accordance to the content standards for Digital Geospatial Metadata or the International Organization for Standardization. Aspect and City staff participated in a technical walk through meeting on March 9, 2018, to review and demonstrate the models, which were then provided to the City.

The LID infeasibility maps highlight both infeasible areas not requiring additional study and potentially feasible areas that will require additional study. In addition, the infiltration infeasibility map prepared for STIA (Aspect, 2017) is included in the City's LID infeasibility maps. The STIA Infiltration Infeasibility study used different criteria relative to the City's LID Infeasibility study since it incorporated Federal Aviation Administration (FAA) standards and requirements for airports and the requirements of STIA's individual NPDES permit. The STIA Infiltration Infeasibility Assessment report (Aspect, 2017) provides detailed information on the regulatory requirements and infeasibility criteria applied at the airport.

The results include the following 10 maps indicating areas of LID infeasibility by BMP type:

- Figure 13 - Soil Amendment Infeasibility
- Figure 14 - Full Dispersion Infeasibility
- Figure 15 - Full Infiltration Infeasibility
- Figure 16 - Limited Infiltration Infeasibility
- Figure 17 - Basic Dispersion Infeasibility
- Figure 18 - Bioretention Infeasibility
- Figure 19 - Permeable Pavement (Asphalt) Infeasibility
- Figure 20 - Permeable Pavement (Concrete) Infeasibility
- Figure 21 - Permeable Pavement (Concrete Interlocking) Infeasibility
- Figure 22 - Perforated Pipe Connection Infeasibility

In a separate deliverable from this report, Aspect will provide the City with the final geodatabase package. This will include the various input and analysis result layers, cartographic layer files prepared per City specifications, the related- ESRI Map Packages (.mpk) used to create them, and the ArcGIS layer files (.lyr) of the underlying data and final LID infeasibility areas by LID BMP type.

4.3 Web Maps

Aspect is providing 11 web maps to the City of SeaTac. These will consist of an overall LID BMP map viewer, which will provide limited reporting functionality, and the 10 maps listed in Section 4.2 above. For these 10 maps the web application will support more detailed reporting and analysis tools.

The web maps were developed as a template in Aspect's organizational ArcGIS Online account. The City will use this prototype to replicate the features and functionality in its own ArcGIS Online environment, and the City will incorporate the web map into the City's web site. The ArcGIS Online-hosted feature classes displayed on the map include parcels and site address points, the various LID infeasibility analysis results, and analytical input layers (as deemed appropriate for display, review, and public consumption). Search tools allow for queries by parcel number, and a print template with layer descriptions and map use disclaimers is being developed. In a separate deliverable from this report, Aspect will provide the City documentation on how to implement and manage the feature classes, search features, and print template. Aspect will perform an onsite installation at the City of SeaTac to help move the content to the City of SeaTac's ArcGIS Online infrastructure.

4.4 Limitations of Analysis and Conditions of Use

Given that this work product will be available to the public and/or City staff, it is important to communicate the limitations of analysis and conditions of use to all potential users. These limitations and conditions of use include the considerations described below:

- The infiltration infeasibility maps are intended to assist developers, their engineers, and City staff in determining when infiltration may be considered infeasible for proposed development sites, or portions of proposed development sites. As required by the KCSWDM (and amended by the SeaTac Addendum), areas not mapped as infeasible require the developer or their engineer to conduct their own site-specific analysis regarding the feasibility of infiltration to assess potential impacts with stormwater infiltration, and to support design and construction of their project.
- The mapping is based on approximate information provided by others and has not been field verified by Aspect staff. It is possible that conditions at any location will differ from the conditions shown on the maps.
- This analysis does not include a slope stability assessment. The locations of landslide hazard and erosion hazard areas are based on qualitative criteria such as geologic setting, and quantitative criteria based on slope angles. Adding water to the subsurface is known to increase the potential for landslides, and erosion and buffer zones should be incorporated to provide sufficient protection from future landslides and erosion.
- The City and Aspect do not provide any guarantees regarding the accuracy of information provided on these maps. The user of these maps will indemnify and defend the City and Aspect for any damages incurred due to use of these maps.

5 References

Aspect Consulting, LLC (Aspect) 2008, Phase 1 Groundwater Study Report, Seattle-Tacoma International Airport, SeaTac, Washington, prepared for Port of Seattle, July 25, 2008.

Aspect Consulting, LLC (Aspect) 2017, Infiltration Infeasibility Assessment report, Seattle-Tacoma International Airport, SeaTac, Washington, prepared for Port of Seattle, December 28, 2017.

Booth, D.B. and Waldron, H.H., 2004, Geologic Map of the Des Moines 7.5' Quadrangle, King County, Washington, U.S. Geological Survey Scientific Investigations Map 2855.

King County, 2016, King County Surface Water Design Manual.

Limitations

Work for this project was performed, and this report prepared in accordance with, generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

This report prepared by Aspect Consulting is intended solely for the City of SeaTac (the Client) and apply only to the services described in the Agreement with the Client. Any use or reuse by the Client for purposes outside of the scope of Client's Agreement is at the sole risk of Client and without liability to Aspect Consulting. Aspect Consulting shall not be liable for any third parties' use of the deliverables provided by Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

TABLES

Table 1. Infeasibility Criteria and Checklist for All Dispersion and Infiltration BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

LID BMP	Infeasibility Criteria	Additional Information from Applicant
All Dispersion BMPs	The following criterion establishes that dispersion BMPs are infeasible, but only if based on an evaluation of site-specific conditions and a signed and stamped written determination from an appropriately licensed professional (e.g., engineer, geologist, or hydrogeologist):	
	☐ Where professional geotechnical evaluation recommends dispersion not be used due to reasonable concerns about erosion, slope failure, or downgradient flooding.	
	The following criteria each establish that dispersion BMPs are infeasible, without further justification, though some criteria may require professional services to evaluate:	
	☐ Where the minimum design requirements for dispersion BMPs in the 2016 King County Surface Water Design Manual (KCSWDM), as amended by the City of SeaTac FINAL Addendum to KCSWDM (Addendum), effective January 2017, cannot be met.	
	☐ For sites with septic systems, where the discharge of runoff from dispersion devices cannot be located down slope of the primary and reserve drainfield areas.	
	☐ Where the only available sites for dispersion devices are within critical area buffers (City of SeaTac Municipal Code [SMC] Title 15.700) or on slopes ≥15%.	
	☐ Where the only available sites for dispersion devices are within 50 feet of a steep slope hazard area (SMC Title 15.700.270), erosion hazard area (Addendum), or landslide hazard area (SMC Title 15.700.250).	
All Infiltration BMPs	The following criterion establishes that infiltration BMPs are infeasible, but only if based on an evaluation of site-specific conditions and a signed and stamped written determination from an appropriate licensed professional (e.g., engineer, geologist, or hydrogeologist):	
	☐ Where professional geotechnical evaluation recommends infiltration not be used due to reasonable concerns about erosion, slope failure, or down gradient flooding.	
	The following criteria each establish that infiltration BMPs are infeasible without further justification, though some criteria may require professional services to evaluate:	
	☐Where the minimum design requirements in the KCSWDM, as amended by the Addendum, cannot be met.	
	☐ Where the minimum 5-foot setback between any part of an infiltration device and any structure or property line cannot be provided.	
	☐ For sites with septic systems, where the infiltration device cannot be located downgradient of the primary and reserve drainfield areas.	
	☐ Where the only available sites for infiltration devices are within sensitive area buffers or critical area buffers (SMC Title 15.700.015).	

Table 1. Infeasibility Criteria and Checklist for All Dispersion and Infiltration BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

LID BMP	Infeasibility Criteria	Additional Information from Applicant
All Infiltration BMPs (Continued)	☐ Where the only available sites for infiltration devices are within 50 feet of a steep slope hazard area (SMC Title 15.700.270), erosion hazard area (Addendum), or landslide hazard area (SMC Title 15.700.250).	
	Note: For most infiltration BMPs, setbacks are measured from the vertical extent of maximum ponding before overflow. For bioretention, setback distances are as measured from the bottom edge of the bioretention soil mix (i.e., bioretention cell bottom at the toe of the side slope).	

Notes:

Addendum	FINAL City of SeaTac Addendum to the King County Surface Water Design Manual, effective January 2017
BMP	Best Management Practice
KCSWDM	2016 King County Surface Water Design Manual
SMC	City of SeaTac Municipal Code

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

BMP	Infeasibility Criteria	Reference (Standard, Section, Page)	Additional Information from Applicant
Soil Amendment	The following portions of the project area are considered to be infeasible for soil amendment:		
	☐ Areas covered by an impervious surface	Addendum, Key Revisions section, Page 3	
	☐ Areas incorporated into a drainage facility		
	☐ Areas that are subject to a state surface mine reclamation permit		
	☐ Structural fill or engineered slopes		
	☐ Till soils with slopes >33%		
Full Dispersion	The following portions of the project area are considered to be infeasible for full dispersion:		
	☐ Where any of the infeasibility criteria for "All Dispersion BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for full dispersion cannot be met.	KCSWDM, Section C.2.1, Page C-32	
	☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.		
	☐ Where the minimum flowpath length from Table C.2.1.A of the KCSWDM is unachievable.	KCSWDM, Section C.2.1.7, Page C-38	
Full Infiltration	The following portions of the project area are considered to be infeasible for full infiltration:		
	☐ Where any of the infeasibility criteria for "All Infiltration BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for full infiltration cannot be met.	KCSWDM, Section C.2.2, Page C-48	
	☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.		
	☐ Where the minimum 5-foot setback between any part of an infiltration device and any structure or property line cannot be met.	KCSWDM, Section C.2.2.2, Page C-49	
	☐ For gravel filled trenches, where the required minimum 15-foot setback from buildings with crawl space cannot be met or where basement elevations are below the overflow point of the infiltration system.	KCSWDM, Section C.2.2.3, Page C-50	

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

BMP	Infeasibility Criteria	Reference (Standard, Section, Page)	Additional Information from Applicant
Full Infiltration (Continued)	☐ For drywells, where the required minimum 15-foot setback from buildings with crawl space cannot be met or where basement elevations are below the overflow point of the drywell.	KCSWDM, Section C.2.2.4, Page C-51	
	☐ For ground surface depressions, where the required minimum 15-foot setback from buildings with crawl space cannot be met or where basement elevations are below the overflow point of the ground surface depression.	KCSWDM, Section C.2.2.5, Page C-52	
Limited Infiltration	The following portions of the project area are considered to be infeasible for limited infiltration:		
	☐ Where any of the infeasibility criteria for "All Infiltration BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for limited infiltration cannot be met.	KCSWDM, Section C.2.3, Page C-57	
	☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.		
	☐ Where the minimum 5-foot setback between any part of an infiltration device and any structure or property line cannot be met.	KCSWDM, Section C.2.3.2, Page C-57	
	☐ For gravel filled trenches used for limited infiltration, where the required minimum 15-foot setback from buildings with crawl space cannot be met or where basement elevations are below the overflow point of the infiltration system.	KCSWDM, Section C.2.3.3, Page C-58	
	☐ For drywells used for limited infiltration, where the required minimum 15-foot setback from buildings with crawl space cannot be met or where basement elevations are below the overflow point of the infiltration system.	KCSWDM, Section C.2.3.4, Page C-58	
Basic Dispersion	The following portions of the project area are considered to be infeasible for basic dispersion:		
	☐ Where any of the infeasibility criteria for "All Dispersion BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for basic dispersion cannot be met.	KCSWDM, Section C.2.4, Page C-60	
	☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.		

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

BMP	Infeasibility Criteria	Reference (Standard, Section, Page)	Additional Information from Applicant
Basic Dispersion (Continued)	☐ For gravel filled trenches proposed for basic dispersion, where the minimum 5-foot setback between any edge of the trench and the property line cannot be met.	KCSWDM, Section C.2.4.4, Page C-63	
Bioretention	The following portions of the project area are considered to be infeasible for bioretention:		
	☐ Where any of the infeasibility criteria for "All Infiltration BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for bioretention cannot be met. ☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.	KCSWDM, Section C.2.6, Page C-73	
	☐ Within setbacks from structures as established by the City of SeaTac. ☐ Where they are not compatible with surrounding drainage system as determined by the City of SeaTac (e.g., project drains to an existing stormwater collection system whose elevation or location precludes connection to a properly functioning bioretention facility). ☐ Where land for bioretention is within area designated as an erosion hazard, or landslide hazard. ☐ Where the site cannot be reasonably designed to locate bioretention facilities on slopes <8%. ☐ Within 50 feet from the top of slopes >20% and >10 feet of vertical relief.	KCSWDM, Section C.2.6, Page C-75	
	☐ For properties with known soil or ground water contamination (typically federal Superfund sites or state cleanup sites under the Model Toxics Control Act (MTCA)): ☐ Within 100 feet of an area known to have deep soil contamination; ☐ Where ground water modeling indicates infiltration will likely increase or change the direction of the migration of pollutants in the ground water; ☐ Wherever surface soils have been found to be contaminated unless those soils are removed within 10 horizontal feet from the infiltration area;	KCSWDM, Section C.2.6, Page C-75 & C-76	

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

BMP	Infeasibility Criteria	Reference (Standard, Section, Page)	Additional Information from Applicant
Bioretention (Continued)	☐ Any area where these facilities are prohibited by an approved cleanup plan under the state Model Toxics Control Act or Federal Superfund Law, or an environmental covenant under Chapter 64.70 RCW.		
	☐Within 100 feet of a closed or active landfill. ☐Within 100 feet of a drinking water well, or a spring used for drinking water supply. ☐Within 10 feet of small on-site sewage disposal drainfield, including reserve areas, and grey water reuse systems. For setbacks from a "large on-site sewage disposal system", see Chapter 246-272B WAC. ☐Within 10 feet of an underground storage tank and connecting underground pipes when the capacity of the tank and pipe system ≤1,100 gallons. (As used in these criteria, an underground storage tank means any tank used to store petroleum products, chemicals, or liquid hazardous wastes of which ≥10% of the storage volume (including volume in the connecting piping system) is beneath the ground surface. ☐Within 100 feet of an underground storage tank and connecting underground pipes when the capacity of the tank and pipe system >1,100 gallons. ☐Where the minimum vertical separation of 1 foot to the seasonal high water table, bedrock, or other impervious layer would not be achieved below bioretention that would serve a drainage area that is: 1) <5,000 sq. ft. of pollution-generating impervious surface, and 2) <10,000 sq. ft. of impervious surface; and, 3) <¾ acres of pervious surface. ☐Where the minimum vertical separation of 3 feet to the seasonal high water table, bedrock or other impervious layer would not be achieved below bioretention that: 1) would serve a drainage area that meets or exceeds: a) 5,000 square feet of pollution-generating impervious surface, or b) 10,000 square feet of impervious surface, or c) three-quarter (3/4) acres of pervious surfaces; and 2) cannot reasonably be broken down into amounts smaller than indicated in (1). ☐Where the field testing indicates potential bioretention sites have a measured (a.k.a., initial) native soil saturated hydraulic conductivity <0.30 inches per hour.	KCSWDM, Section C.2.6, Page C-76	

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

Permeable Pavement	The following portions of the project area are considered to be infeasible for permeable pavement:		
	☐ Where any of the infeasibility criteria for "All Infiltration BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for permeable pavement cannot be met. ☐ Where geotechnical evaluation and approval is required for BMPs that propose to discharge towards or within described setbacks of steep slope hazard area, erosion hazard area, landslide hazard area, or slopes ≥15%.	KCSWDM, Section C.2.7, Pages C-86 & C-87	
	☐ Within an area designated as an erosion hazard, or landslide hazard. ☐ Within 50 feet from the top of slopes >20%. ☐ For properties with known soil or ground water contamination (typically federal Superfund sites or state cleanup sites under the Model Toxics Control Act (MTCA)): ☐ Within 100 feet of an area known to have deep soil contamination; ☐ Where ground water modeling indicates infiltration will likely increase or change the direction of the migration of pollutants in the ground water; ☐ Wherever surface soils have been found to be contaminated unless those soils are removed within 10 horizontal feet from the infiltration area; ☐ Any area where these facilities are prohibited by an approved cleanup plan under the state Model Toxics Control Act or Federal Superfund Law, or an environmental covenant under Chapter 64.70 RCW. ☐ Within 100 feet of a closed or active landfill. ☐ Within 100 feet of a drinking water well, or a spring used for drinking water supply, if the pavement is a pollution-generating surface. ☐ Within 10 feet of a small on-site sewage disposal drainfield, including reserve areas, and grey water reuse systems. For setbacks from a "large on-site sewage disposal system", see Chapter 246-272B WAC. ☐ Within 10 feet of any underground storage tank and connecting underground pipes, regardless of tank size. As used in these criteria, an underground storage tank means any tank used to store petroleum products, chemicals, or liquid hazardous wastes of which	KCSWDM, Section C.2.7, Pages C-88 & C-89	

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

Permeable Pavement (Continued)	≥10% of the storage volume (including volume in the connecting piping system) is beneath the ground surface. ☐ At multi-level parking garages, and over culverts and bridges. ☐ Where the site design cannot avoid putting pavement in areas likely to have long-term excessive sediment deposition after construction (e.g., construction and landscaping material yards). ☐ Where the site cannot reasonably be designed to have a porous asphalt surface <5% slope, or a pervious concrete surface at <10% slope, or a permeable interlocking concrete pavement surface (where appropriate) at <12%. Grid systems upper slope limit can range from 6% to 12%; check with manufacturer and local supplier. ☐ Where the native soils below a pollution-generating permeable pavement (e.g., road or parking lot) do not meet the soil suitability criteria for providing treatment (See Section 5.2.1 of the KCSWDM). Note that where the soil beneath the infiltration BMP does not have properties that reduce the risk of groundwater contamination, the applicant has the option of using permeable pavement for residential driveways serving ≤2 households that are not within a groundwater protection area if a 6" sand liner beneath the permeable pavement is included in the design. This approach is optional and does not make permeable pavement required to be implemented as part of the prescriptive BMP lists detailed in Core Requirement #9 and Section 1.3 of Appendix C of the KCSWDM. ☐ Where seasonal high ground water or an underlying impermeable/low permeable layer would create saturated conditions within 1 foot of the bottom of the lowest gravel base course. ☐ Where underlying soils are unsuitable for supporting traffic loads when saturated. Soils meeting a California Bearing Ratio of 5% are considered suitable for residential access roads. ☐ Where appropriate field testing indicates soils have a measured (a.k.a., initial) native soil saturated hydraulic conductivity <0.3 inches per hour. ☐ Roads that receive more than very low traffic volumes, and areas having more than very low truck traffic. Roads with a projected average daily traffic volume of ≤400 vehicles are very low volume roads (AASHTO, 2001) (U.S. Dept. of Transportation, 2013). Areas with very low truck traffic volumes are roads and other areas not subject to through truck traffic but may receive up to weekly use by		

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

Permeable Pavement (Continued)	utility trucks (e.g., garbage, recycling), daily school bus use, and multiple daily use by pick-up trucks, mail/parcel delivery trucks, and maintenance vehicles. Note: This infeasibility criterion does not extend to sidewalks and other non-traffic bearing surfaces. ☐ Where replacing existing impervious surfaces unless the existing surface is a non-pollution generating surface over an outwash soil with a saturated hydraulic conductivity ≥4 inches per hour. ☐ At sites defined as "high use sites". ☐ In areas with "industrial activity" as identified in 40 CFR 122.26(b)(14). ☐ Where the risk of concentrated pollutant spills is more likely such as gas stations, truck stops, and industrial chemical storage sites. ☐ Where routine, heavy applications of sand occur in frequent snow zones to maintain traction during weeks of snow and ice accumulation.		
Rainwater Harvesting	NA – Infeasibility assessment not required.		
Reduced Impervious Surface Credit	The following portions of the project area are considered to be infeasible for reduced impervious surface credit:		
	☐ Where the minimum design requirements for reduced impervious surface credit cannot be met.	KCSWDM, Section C.2.9, Page C-98	
Native Growth Retention Credit	The following portions of the project area are considered to be infeasible for native growth retention credit:		
	☐ Where the minimum design requirements for native growth retention credit cannot be met.	KCSWDM, Section C.2.10, Page C-103	
Perforated Pipe Connection	The following portions of the project area are considered to be infeasible for perforated pipe connection:		
	☐ Where any of the infeasibility criteria for "All Infiltration BMPs" apply.	Table 1 (above)	
	☐ Where the minimum design requirements for perforated pipe connection cannot be met. ☐ Where the only location for the perforated pipe portion of the system is under impervious or heavily compacted (e.g., driveways and parking areas) surfaces. ☐ Where a minimum of 10 feet of perforated pipe per 5,000 square feet of contributing roof area is unachievable.	KCSWDM, Section C.2.11.1, Page C-105	
Vegetated Roof	NA – Infeasibility assessment not required.		

Table 2. Infeasibility Criteria and Checklist for Flow Control BMPs

Project No. 170396, SeaTac LID Infeasibility Study, SeaTac, WA

Notes:

Addendum	FINAL City of SeaTac Addendum to the King County Surface Water Design Manual, effective January 2017
BMP	Best Management Practice
KCSWDM	2016 King County Surface Water Design Manual
LID	Low Impact Development
NA	Not Applicable
SMC	City of SeaTac Municipal Code

FIGURES

Areas Infeasible for Soil Amendment within City of SeaTac

Slopes Greater than or Equal to 20%

Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

Seattle-Tacoma International Airport (STIA) Boundary

Areas within the boundary adhere to different requirements. See "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017) for details.

Areas Infeasible for Infiltration within STIA Boundary

Areas within the airport boundary have different LID infeasibilty criteria requirements. The areas infeasible for infiltration within the STIA Boundary were mapped in the "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017)

Notes for use:

• Infeasibility areas shown on the top of structures are not valid.

N

0 1,250 2,500

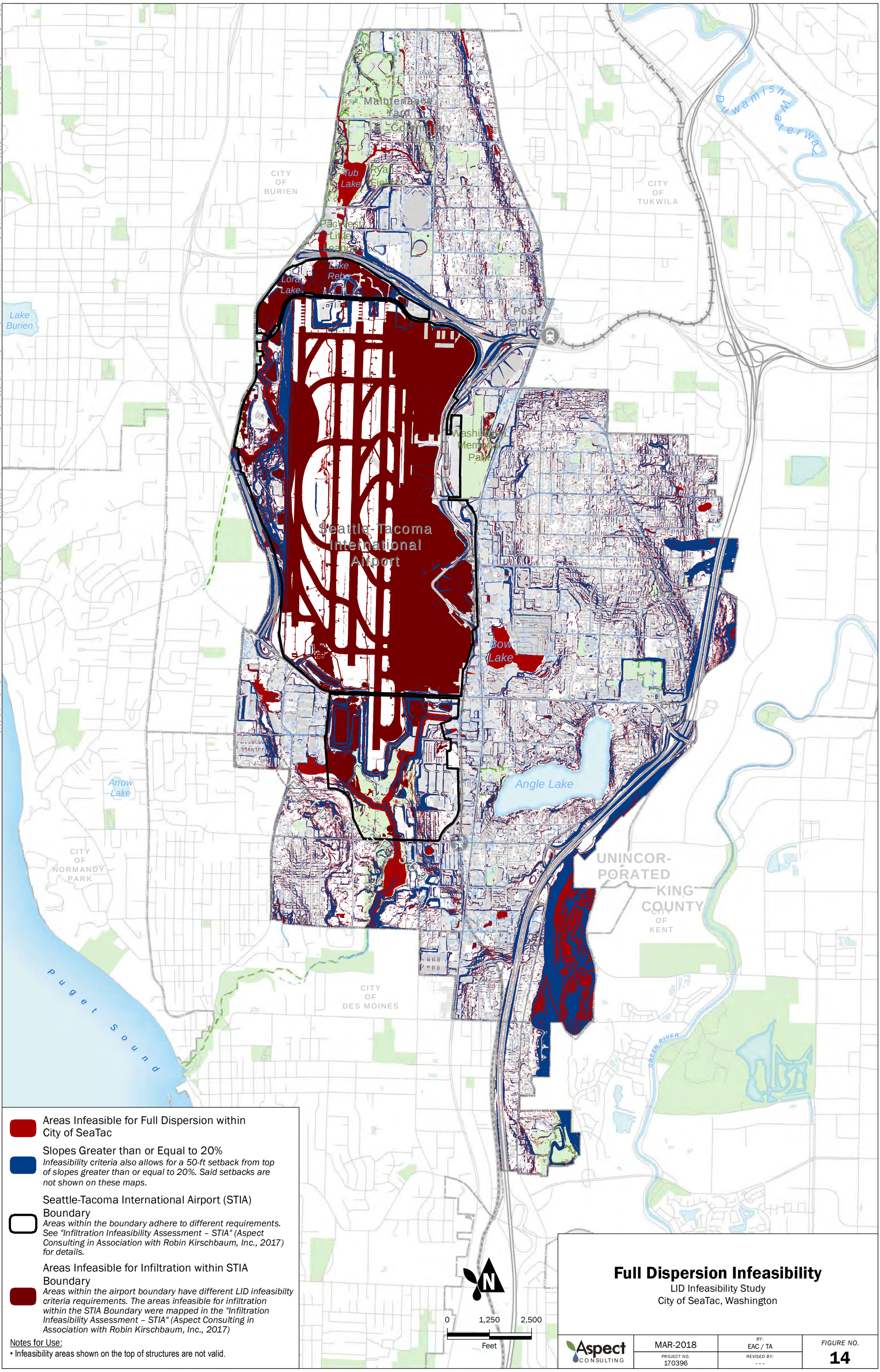
Feet

Soil Amendment Infeasibility

LID Infeasibility Study

City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 13
	PROJECT NO. 170396	REVISED BY: ---	



Full Dispersion Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 14
	PROJECT NO. 170396	REVISED BY: ---	

Areas Infeasible for Full Infiltration within City of SeaTac

Slopes Greater than or Equal to 20%

Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

Seattle-Tacoma International Airport (STIA) Boundary

Areas within the boundary adhere to different requirements. See "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017) for details.

Areas Infeasible for Infiltration within STIA Boundary

Areas within the airport boundary have different LID infeasibilty criteria requirements. The areas infeasible for infiltration within the STIA Boundary were mapped in the "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017)

Notes for Use:

• Infeasibility areas shown on the top of structures are not valid.

N

0 1,250 2,500

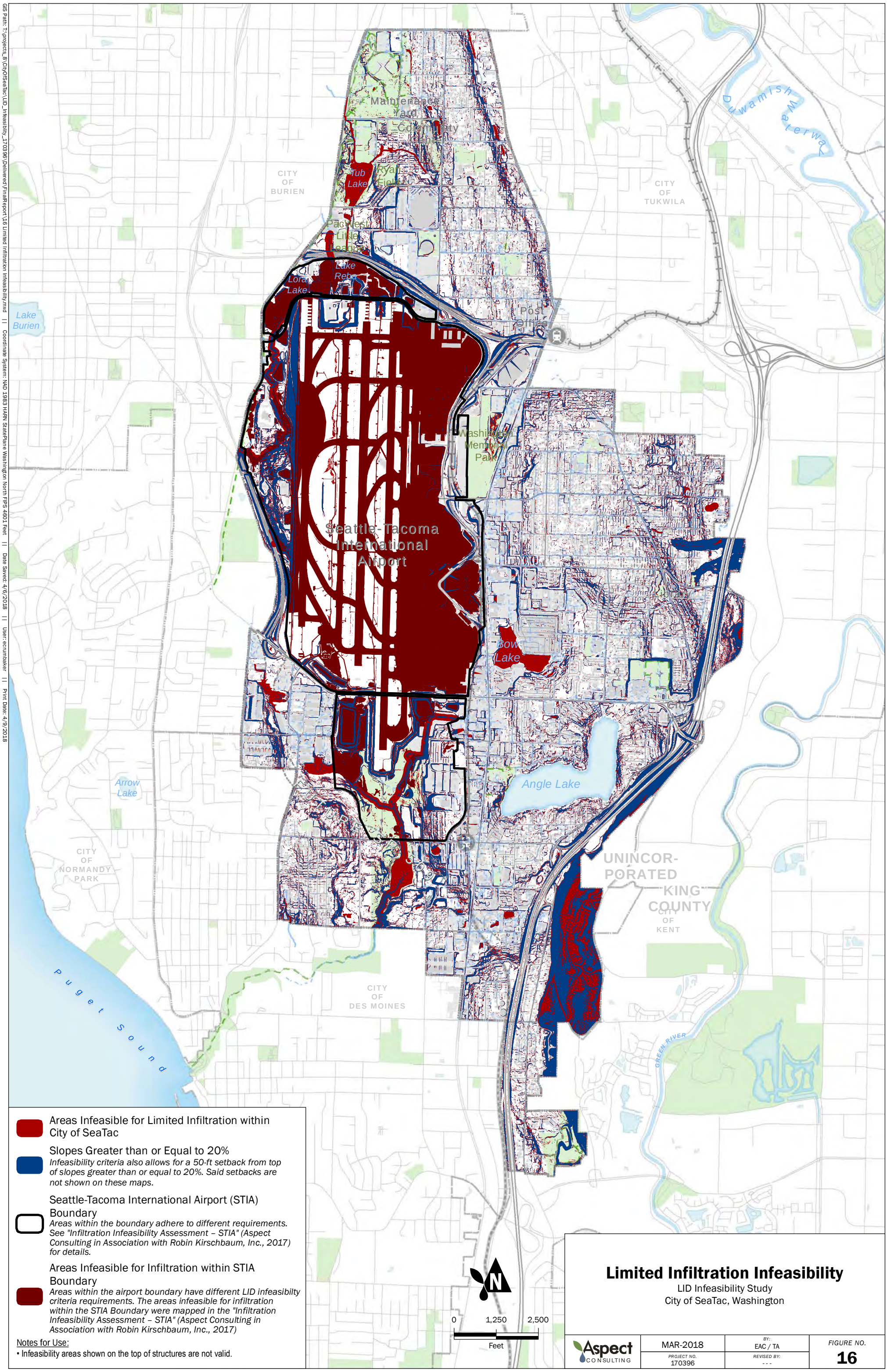
Feet

Full Infiltration Infeasibility

LID Infeasibility Study

City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 15
	PROJECT NO. 170396	REVISED BY: ---	

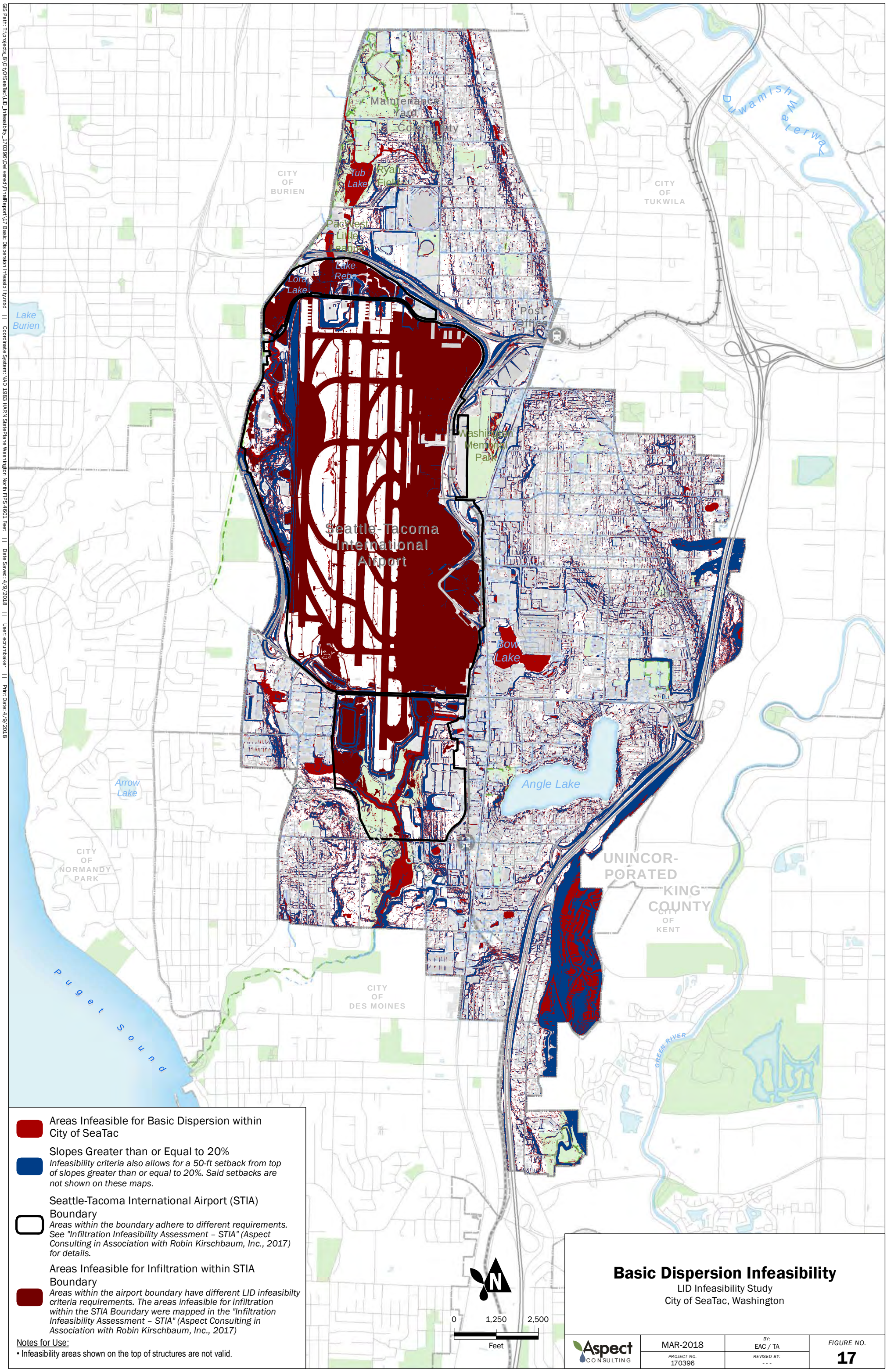


Limited Infiltration Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 16
	PROJECT NO. 170396	REVISED BY: ---	

GIS Path: T:\projects_8\CityOfSeaTac\LID_infeasibilty_170396\Delivered\FinalReport\16 Limited Infiltration Infeasibility.mxd || Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/6/2018 || User: ecrumbaker || Print Date: 4/9/2018

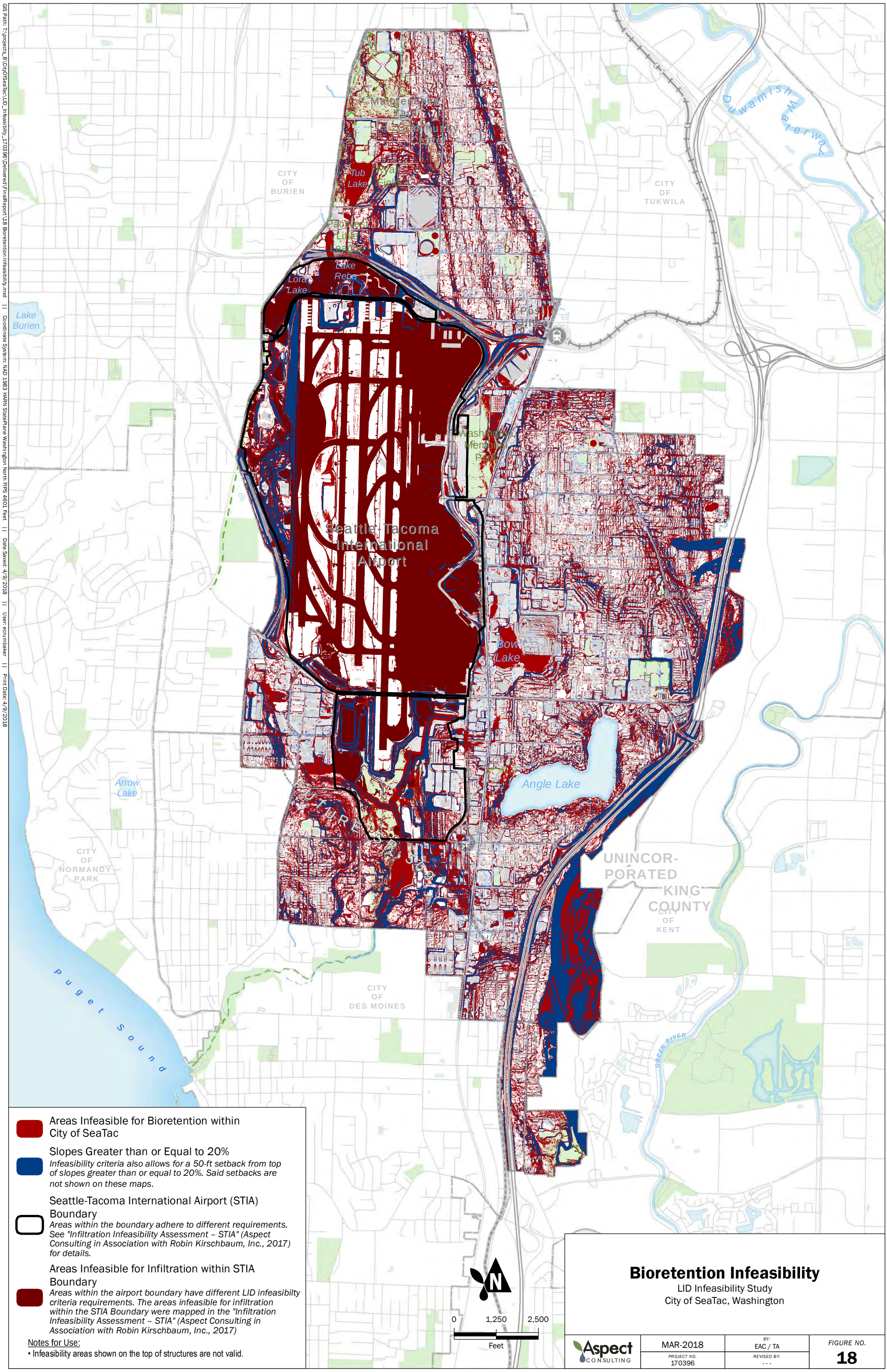


Basic Dispersion Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 17
	PROJECT NO. 170396	REVISED BY: ---	

GIS Path: T:\projects_8\CityOfSeaTac\LID_infeasibilty_170396\Delivered\FinalReport\17 Basic Dispersion Infeasibility.mxd || Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/9/2018 || User: ecrumbaker || Print Date: 4/9/2018

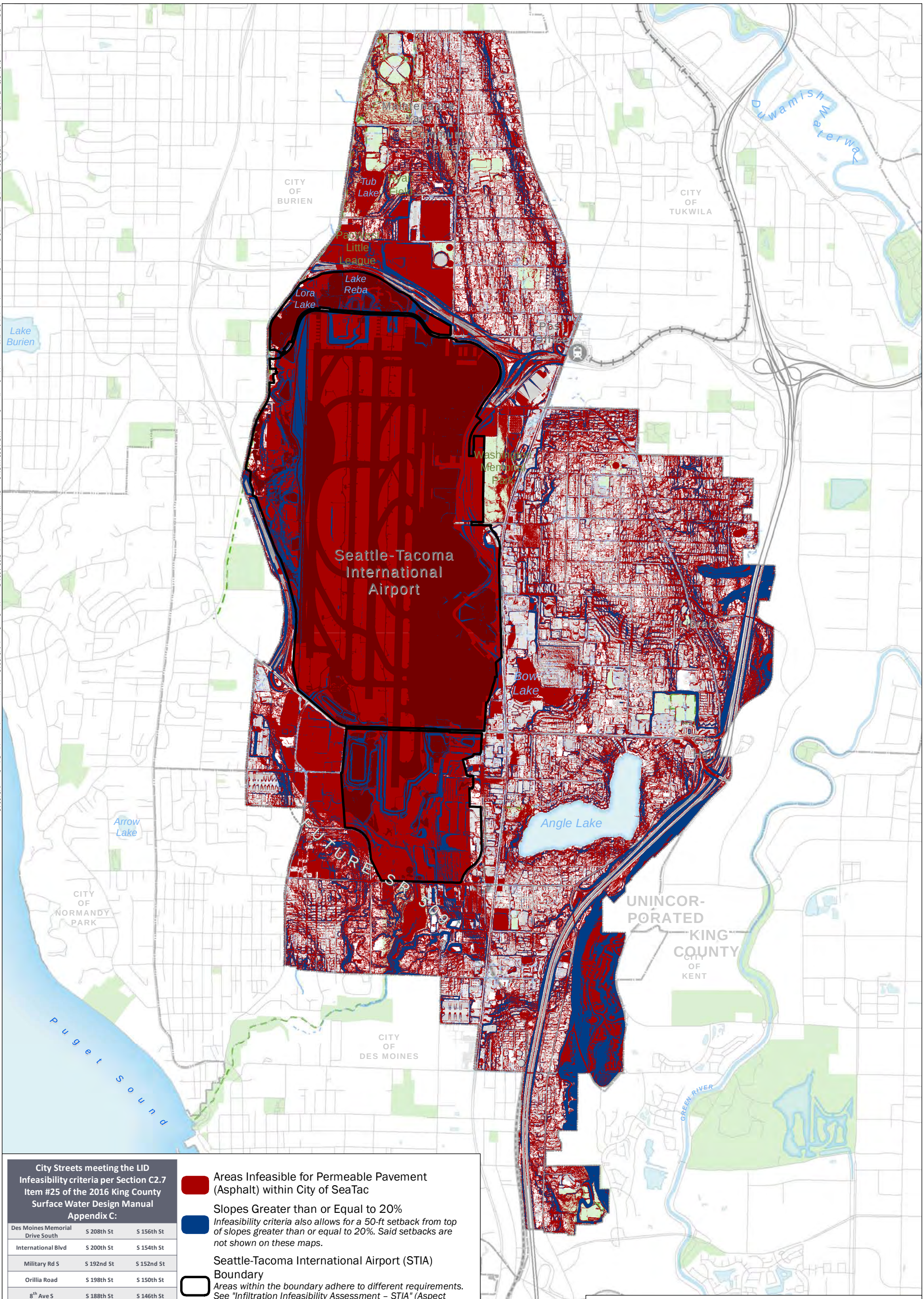


Bioretention Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 18
	PROJECT NO. 170396	REVISED BY: ---	

GIS Path: T:\projects_8\CityOfSeaTac\LID_infeasibilty_170396\Delivered\FinalReport\18 Bioretention Infeasibility.mxd || Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/9/2018 || User: ecrumbaker || Print Date: 4/9/2018



City Streets meeting the LID Infeasibility criteria per Section C2.7 Item #25 of the 2016 King County Surface Water Design Manual Appendix C:		
Des Moines Memorial Drive South	S 208th St	S 156th St
International Blvd	S 200th St	S 154th St
Military Rd S	S 192nd St	S 152nd St
Orillia Road	S 198th St	S 150th St
8th Ave S	S 188th St	S 146th St
24th Ave S	S 182nd St	S 144th St
26th Ave S	S 178th St	S 142nd St
28th Ave S	S 176th St	S 138th St
32nd Ave S (between S 170th St and S 176th St)	S 170th St	S 136th St
34th Ave S	S 166th St	S 135th St
42nd Ave S	S 164th St	S 133rd St
51st Ave S	S 160th St	S 128th St
S 216th St		

Areas Infeasible for Permeable Pavement (Asphalt) within City of SeaTac

Slopes Greater than or Equal to 20%

Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

Seattle-Tacoma International Airport (STIA) Boundary

Areas within the boundary adhere to different requirements. See "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017) for details.

Areas Infeasible for Infiltration within STIA Boundary

Areas within the airport boundary have different LID infeasibilty criteria requirements. The areas infeasible for infiltration within the STIA Boundary were mapped in the "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017)

Notes for Use:

- Infeasibility areas shown on the top of structures are not valid.

N

0 1,250 2,500

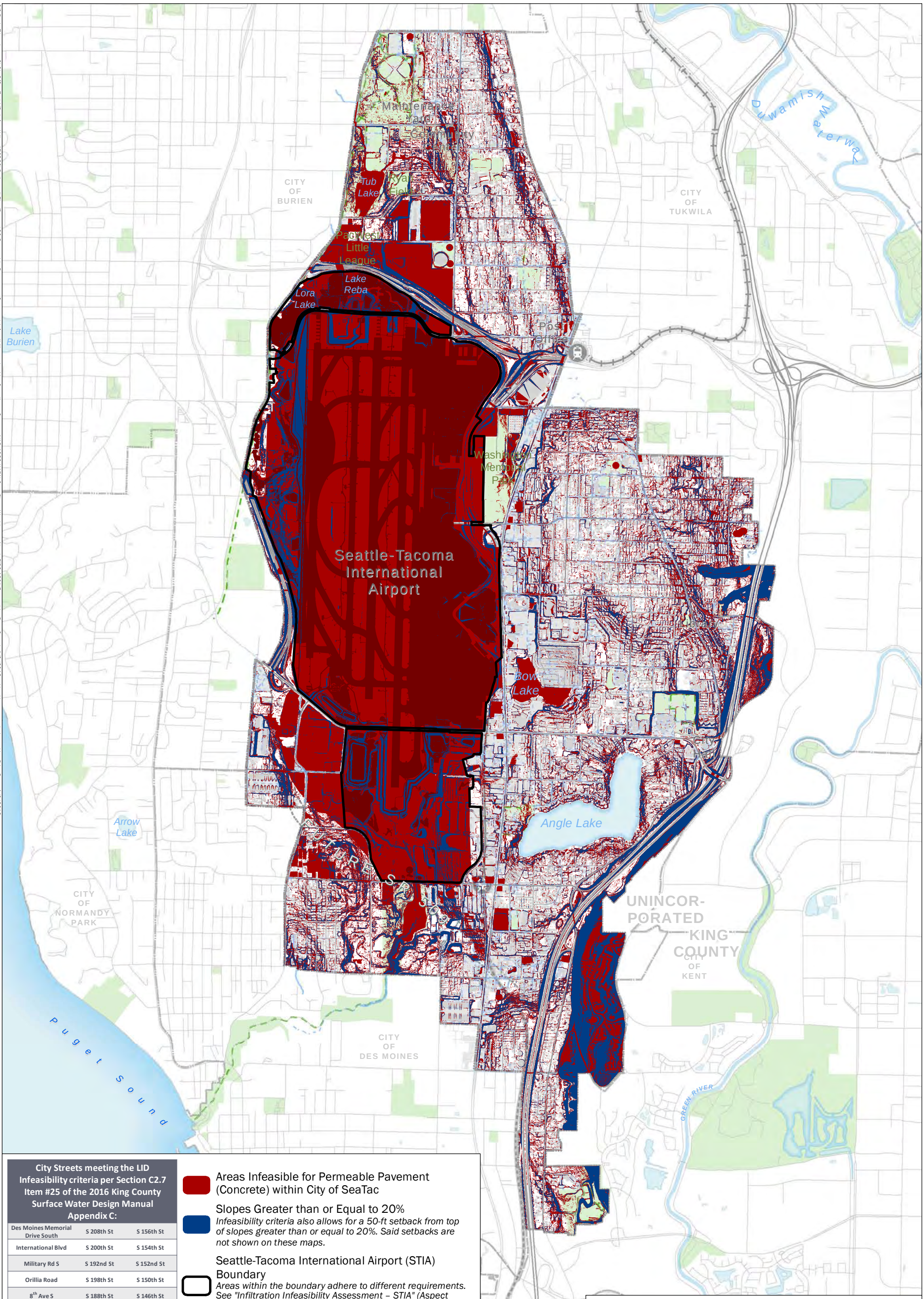
Feet

Permeable Pavement (Asphalt) Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 19
	PROJECT NO. 170396	REVISED BY: ---	

GIS Path: T:\projects_8\CityOfSeaTac\LID_Infeasibility_170396\Delivered\FinalReport\20 Permeable Pavement (Concrete) Infeasibility.mxd || Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet || Date Saved: 4/9/2018 || User: ecrumbaker || Print Date: 4/9/2018



City Streets meeting the LID Infeasibility criteria per Section C2.7 Item #25 of the 2016 King County Surface Water Design Manual Appendix C:		
Des Moines Memorial Drive South	S 208th St	S 156th St
International Blvd	S 200th St	S 154th St
Military Rd S	S 192nd St	S 152nd St
Orillia Road	S 198th St	S 150th St
8th Ave S	S 188th St	S 146th St
24th Ave S	S 182nd St	S 144th St
26th Ave S	S 178th St	S 142nd St
28th Ave S	S 176th St	S 138th St
32nd Ave S (between S 170th St and S 176th St)	S 170th St	S 136th St
34th Ave S	S 166th St	S 135th St
42nd Ave S	S 164th St	S 133rd St
51st Ave S	S 160th St	S 128th St
S 216th St		

Areas Infeasible for Permeable Pavement (Concrete) within City of SeaTac

Slopes Greater than or Equal to 20%

Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

Seattle-Tacoma International Airport (STIA) Boundary

Areas within the boundary adhere to different requirements. See "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017) for details.

Areas Infeasible for Infiltration within STIA Boundary

Areas within the airport boundary have different LID infeasibilty criteria requirements. The areas infeasible for infiltration within the STIA Boundary were mapped in the "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017)

Notes for Use:

- Infeasibility areas shown on the top of structures are not valid.

Permeable Pavement (Concrete) Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING	MAR-2018	BY: EAC / TA	FIGURE NO. 20
	PROJECT NO. 170396	REVISED BY: ---	

Maintenance Yard
Community Center
Ryan Field
Tub Lake
Little League
Lake Reba
Lora Lake
Lake Burien
Post Office
Washington Memorial Park
Seattle-Tacoma International Airport
Bow Lake
Angle Lake
Arrow Lake
Duwamish Waterway
Puget Sound
Green River

CITY OF BURIEN
CITY OF TUKWILA
CITY OF NORMANDY PARK
CITY OF DES MOINES
UNINCORPORATED KING COUNTY
CITY OF KENT

City Streets meeting the LID Infeasibility criteria per Section C2.7 Item #25 of the 2016 King County Surface Water Design Manual Appendix C:		
Des Moines Memorial Drive South	S 208th St	S 156th St
International Blvd	S 200th St	S 154th St
Military Rd S	S 192nd St	S 152nd St
Orillia Road	S 198th St	S 150th St
8th Ave S	S 188th St	S 146th St
24th Ave S	S 182nd St	S 144th St
26th Ave S	S 178th St	S 142nd St
28th Ave S	S 176th St	S 138th St
32nd Ave S (between S 170th St and S 176th St)	S 170th St	S 136th St
34th Ave S	S 166th St	S 135th St
42nd Ave S	S 164th St	S 133rd St
51st Ave S	S 160th St	S 128th St
S 216th St		

Areas Infeasible for Permeable Pavement (Concrete Interlocking) within City of SeaTac

Slopes Greater than or Equal to 20%
Infeasibility criteria also allows for a 50-ft setback from top of slopes greater than or equal to 20%. Said setbacks are not shown on these maps.

Seattle-Tacoma International Airport (STIA) Boundary
Areas within the boundary adhere to different requirements. See "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017) for details.

Areas Infeasible for Infiltration within STIA Boundary
Areas within the airport boundary have different LID infeasibilty criteria requirements. The areas infeasible for infiltration within the STIA Boundary were mapped in the "Infiltration Infeasibility Assessment – STIA" (Aspect Consulting in Association with Robin Kirschbaum, Inc., 2017)

Notes for Use:
• Infeasibility areas shown on the top of structures are not valid.

N

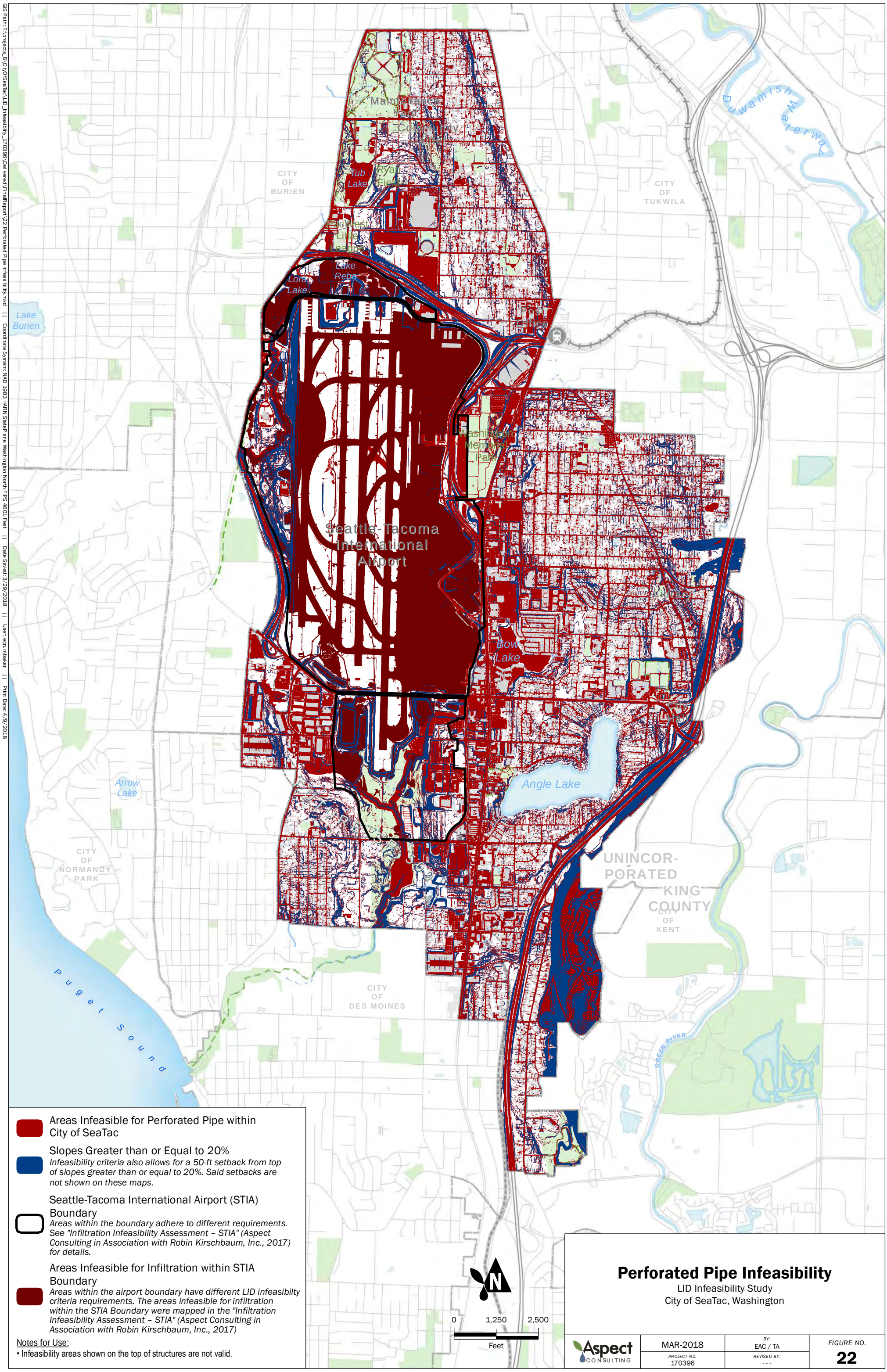
0 1,250 2,500
Feet

Permeable Pavement (Concrete Interlocking) Infeasibility

LID Infeasibility Study
City of SeaTac, Washington

Aspect CONSULTING

MAR-2018	BY: EAC / TA	FIGURE NO. 21
PROJECT NO. 170396	REVISED BY: ---	



GIS Path: T:\projects_8\CityOfSeaTac\LID_infeasibilty_170396\Delivered\FinalReport\22 Perforated Pipe Infeasibility.mxd || Coordinate System: NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet || Date Saved: 3/29/2018 || User: ecrumbaker || Print Date: 4/9/2018

APPENDIX A

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APPENDIX B

City of SeaTac 2017 Cityworks and List of Known Problem Areas for LID Infeasibility Mapping Spreadsheets

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
42	Tuesday, January 03, 2012 8:27:00 AM	Service Request	13004 24TH AVE S	A holding tank from an RV has been dumped in the storm ditch.	By BOYCE, HELEN: 1/3/2012 1:28:28 PMThere was no evidence of dumping into the CB. The storm system looked clean.By ROBINETT, DON: 2/2/2012 11:18:15 AMAct:	1277365.48	181022.24
134	Monday, February 06, 2012 8:42:00 AM	Service Request	19810 DES MOINES MEMORIAL DR S	The storm drain in front of Mr Nelson's house appears to be blocked. He thinks this is causing water to back up into his basement. He said we came out last year and unplugged the drain and this fixed his problem and he would like us to do it again.	By BOYCE, HELEN: 2/8/2012 8:30:36 AM2/6/2012 - The ditch is full of leaves, but the storm pipe is clear. I told Tony we will clean the ditch. I let him know it's not our storm pipe that is causing water to back up into his basement.By BOYCE, HELEN: 2/8/2012 8:31:27 AM2/7/2012 - We cleaned 50 ft of ditch for now. We will clean the rest of the ditch during the summer.	1272559.85	158209.4
135	Monday, February 06, 2012 1:56:00 PM	Service Request	South 205th St	There are sink holes on S 205 St. We believe the gravel from the sink holes wash into the retention pond. This is private property (POS).	By MCFAYDEN, ADAM: 2/9/2012 11:57:54 AMACT: 2/9/12 - Conducted a field investigation. I did see and photograph the sink holes. I checked the pond but did not notice any gravel at the outfalls.By MCFAYDEN, ADAM: 3/20/2012 10:43:40 AMACT: 3/20/12 - Gathering evidence of the impact on the city pond from the port property.		
173	Tuesday, March 06, 2012 8:16:00 AM	Service Request	17046 51ST AVE S	There is a large piece of wood under one of the grates on top of the weir connected to the Sunrise View bypass. It is restricting flow. Please have it removed.	By BOYCE, HELEN: 3/12/2012 1:06:29 PM3/7/2012 - Removed the 4 x 4 post from the basin.	1284946.14	167399.75
199	Monday, March 19, 2012 7:48:00 AM	Service Request	44th AVe S & S 168th St	3/18/2012 - There was an oil spill from a hit and run accident.Brett called the Spill Hotline.	By BOYCE, HELEN: 3/20/2012 8:19:09 AM3/19/2012 - There was a small trace of an oil sheen on the roadway. Brett checked to see if the road was slippery. It wasn't. He checked two (2) cb's and one (1) ditch. The oil had not made it into either. Due to the rainy conditions, there was no need to put down absorbal.		
201	Monday, March 19, 2012 1:13:00 PM	Service Request	16828 35TH AVE S	The storm water coming down the street is running along the sidewalk and then going under the sidewalk by the water meter. It's creating a gap that continues to grow.	By BOYCE, HELEN: 3/21/2012 9:48:13 AM3/20/2012 - Packed down the hole next to the water meter. Added top soil and grass seed to the hole to bring it back to elevation of sidewalk.We need to regrade the shoulder. Possibly trough the shoulder to push water away from the sidewalk when the ground isn't so saturated with water. We need to wait for a dry day.	1280692.47	168293.28
203	Friday, March 23, 2012 7:17:00 AM	Service Request	South 188th St & Military Rd S	King County called Brett about an accident on S 188 St - west of Military Rd S.Brett called the Spill Hot Line.	By BOYCE, HELEN: 3/23/2012 2:01:51 PMBrett used two (2) 2-cubic ft bags of absorbal to clean up the oil spill.No oil went into the storm system.		
239	Friday, April 20, 2012 10:08:00 AM	Service Request	42nd Ave S & S 188th St	Fluid spill. Oil approx. 5 -10 gallons. Source of spill unknown.Brett called the Spill Hotline	By ROBINETT, DON: 4/20/2012 12:35:50 PMAct: 1 Maintenance Staff lead by Brett Reinhart responded to apparent oil spill. Absorbent material was applied and removed by sweeper truck. Catch basin and manholes were vactored/cleaned. By ROBINETT, DON: 4/20/2012 12:47:13 PMAct: 2 Absorbent pads were placed in CBs by IDDE staff (Adam McFayden & Don Robinett) to capture any remaining residue after they were vactored. IDDE staff was unable to confirm that the the entire spill wa		
243	Wednesday, April 25, 2012 11:38:00 PM	Service Request	S 160TH ST & INTERNATIONAL BLVD	backed up drain near road intersection of International blvd and 160th st. when last substantial rain on 4-25-12 Back up created flood in roadway on 160th st right after the subway driveway. the tree on the property near that back up seems to be caught up into the power lines and must be trimmed for future prevention of power loss.	By BOYCE, HELEN: 4/26/2012 3:15:29 PMLau checked the area and there was no obstruction in the catch basins or the pipe. There was a very heavy rain on 4/25 and if the CB had debris covering it, it could have contributed to the flooding. The area looks OK today.The tree in the power lines is a Seattle City Light issue. The person who filed this complaint didn't leave any way to contact him/her so could not be reached.	1279021.83	169406.3
252	Wednesday, May 02, 2012 10:18:00 AM	Service Request	18214 44TH AVE S	When it rains really hard, the water floods his garage. He thinks there may be something wrong with the drain in front of his house.	By BOYCE, HELEN: 5/7/2012 7:31:37 AM5/2/2012 - Lau left a message with Abebe that he checked the storm pipe and it was clear and clean. There was no visible problem with the storm drain as the cause of flooding in his garage. Previously we installed a berm in front of Abebe's driveway to divert water toward the catch basin located there.	1282794.04	163581.9
256	Friday, May 04, 2012 11:08:00 AM	Service Request	12840 22nd Ave S	Janice wants to know why improvements made to 22nd Ave S catch basins stopped short of her home (12840) and S 128th St. She has concerns about the catch basin in front of her driveway.	By ROBINETT, DON 5/4/2012 11:08:16 AM: Janice wants to know why improvements made to 22nd Ave S catch basins stopped short of her home (12840) and S 128th St. She has concerns about the catch basin in front of her driveway.By BOYCE, HELEN: 5/8/2012 11:49:19 AM5/7/2012 - Lau called Janice but had to leave a message. He told her that the CB in front of her house is OK. We will be paving around more CB's later this year when the weather is better and hers will be one	1276683	181286
266	Monday, May 14, 2012 10:16:00 AM	Service Request	17017 35th Ave S	Caller (real estate agent) wanted tax information including Storm rates on a parcel he plans to buy.	By ROBINETT, DON 5/14/2012 10:16:54 AM: Act: Looked op rates on KC imap - called Guri back and left detailed message giving tax prperty tax information	1280148.11	167803.71
310	Monday, June 11, 2012 3:31:00 PM	Service Request	20612 12th Pl S	Homeowner requests recommendations to address septic overflow during rainy season. Property on downhill slope. Garage and back yard floods. See attached email	By SPENCER, KAREN: 6/14/2012 7:44:37 AMPW and Mtce inspectors investigated the situation; it was determined that the property is approx 4' lower than the lot to the east, and the resulting drainwater compromises their septic field; it is determined that a french drain around the property would be a good possible solution for this issue; will recommend to owner. David Carnes will continue to try to reach the homeowner.	1272978	155999
325	Monday, June 18, 2012 2:21:00 PM	Service Request	S 204th St & 28th Ave S	Foam/Suds in storm system on 204 near detention pond.	By MCFAYDEN, ADAM 6/18/2012 2:21:49 PM: 6-18-12 ACT: During our investigation of the storm system at 204th in the mobile home park we discovered suds in the man hole in the ROW on 204th inside the park. We ran a detergents test with positive results. We tracked it through the mobile home park over to 208th up to the apts across Int'l Blvd on 208th. We periodically ran detergents tests with positive results. We will continue our investigation on 6-19-12.	1277980	156314
342	Thursday, June 28, 2012 3:10:00 PM	Service Request	Military Rd S & S 216th St	There was an oil spill (origin unknown) on Military Rd S from S 216 St to approximately S 221 St.	By BOYCE, HELEN: 6/29/2012 6:52:44 AM6/27/2012 - Brett, Chris, and Cherie spread twelve (12) bags of absorbal to contain the spill. They broomed the area before they left.	1279764	152307
368	Friday, July 20, 2012 8:58:00 AM	Service Request	18214 44th Ave S	Abebe was concerned about the storm drain in front of his house. He had some issues with it in the past and was afraid it would not drain properly in this heavy rain we're experiencing and his garage would flood. He requested we check on it.	By BOYCE, HELEN: 7/20/2012 9:00:53 AMLau had Everson's vactor this particular drain a few weeks ago to eliminate the issue Abebe had before. He was familiar with this problem. Lau went to the site to be sure the system was working properly and it was.	1282794	163581
377	Wednesday, July 25, 2012 8:48:00 PM	Service Request	4235 S 164TH ST	Re: Surface Water Management in front of 4235 S 164 St. - Storm water currently runs from the street into my driveway when it rains. I realize that we cannot change the contour of the street or my property, but I wonder if there is some sort of channelization that could be done so that this water is diverted onto the parking strip in front of my house to the east of my driveway rather than into my driveway. I'm not sure if this is a Tukwila issue or a SeaTac issue, as S 164th St at this locati	Citizen request response via email: Idlockwood@msn.comBy BOYCE, HELEN: 7/27/2012 10:09:05 AMBrett e-mailed John Howat at the City of Tukwila to let him know about Vicki's concern.Hel also e-mail Vicki (per her requested means of response) to give her John's phone number so she could call him.	1282601.08	169651.41
382	Monday, July 30, 2012 8:11:00 AM	Service Request	3303 S 194th St	An abandoned house at 3303 S 194 St has a plastic jug of what appears to be motor oil sitting in front of the house by the garage. The jug is deteriorating is ready to spill or leak the contents into the pea gravel on which it sits. The jug is located 100 - 200 ft from Angle Lake. To avoid a spill, Mr Duncan suggested a large scoop shovel be used to pick up the whole thing and put it in a secure container.	By MCFAYDEN, ADAM: 7/30/2012 11:20:52 AM7/30/2012 ACT: SWC staff went to 3303 194th St to investigate the oil container. It appeared to be used motor oil. The container was removed and taken to the City of SeaTac maintenance shop for proper disposal.	1279514	159775
383	Monday, July 30, 2012 8:28:00 AM	Service Request	S 195th St & International Blvd	King County requested assistance cleaning up the debris left by a tow truck after an accident. Case #12-176091	By BOYCE, HELEN: 7/30/2012 2:48:27 PM7/28/2012 - Tom George responded to this call. He spread Absorbal over the area. He swept up the excess leaving a thin layer on the roadway. No fluid entered the CB.	1278434	159461
386	Tuesday, July 31, 2012 3:22:00 PM	Service Request	19408 INTERNATIONAL BLVD	Received a complaint of raw sewage in the grass by the picnic area at Angle Lake Park.	By MCFAYDEN, ADAM 7/31/2012 3:22:23 PM: 7/31/2012 ACT: SWC staff conducted field screening tests. the results were positive for ammonia at a high level (6.0), pH is 6.6-6.8, detergents-3.0+, chlorine-0. I notified Roger Chouinard of the results.By MCFAYDEN, ADAM: 8/2/2012 9:30:49 AM8/2/2012 ACT: SWC staff conducted field screening tests at the Angle Lake Park swimming area, ammonia-0, chlorine-0, pH-7.2, detergents-0. I also tested the water at the faucet at the lower picnic area, ammon	1278965.41	159607.1
405	Friday, August 10, 2012 9:10:00 AM	Service Request	18000International Boulevard	Downstream storm system runs through the Kilroy property (formerly City Hall) and is discharged into Bow Lake. The existing storm structures are packed with all kinds of bottles, or sticky mud. appears that this structure has not been maintained for years. Issue is important due to impending Wally Park surface parking redevelopment project.	By MCFAYDEN, ADAM: 8/10/2012 11:07:12 AM8/10/12 ACT: SWC staff conducted a field investigation and did not find any illicit discharge.By ROBINETT, DON: 8/13/2012 3:10:27 PMAct: 2 SWC staff met Mike Bryant on Site. Mike helped us identify stormwater facilities clogged with sediment and debris in need of maintenance. Adam notified Maintenance Staff that SDC inspection and main	1278518	164448
487	Tuesday, October 09, 2012 8:14:00 AM	Service Request	S 176th St & 33rd Ave S	A street sign was knocked down from an accident. Also, there may be some oil residue on the ground at this location.	By BOYCE, HELEN: 10/9/2012 8:16:11 AMHelen notified King County Roads of the sign that needs to be replaced (Becky). They will have it replaced.By BOYCE, HELEN: 10/9/2012 9:00:05 AM10/8/2012 - Brett found no oil on the ground. The tow truck driver had already cleaned it up any oil and/or debris from the accident.		
491	Tuesday, October 09, 2012 2:34:00 PM	Service Request	14055 Military Rd S	Elena would like the storm ditch in front of her house cleared out before the rainy season.	By BOYCE, HELEN: 10/11/2012 8:20:25 AM10/9/2012 - Lau spoke with Mr Guevara about the ditch. He was told the ditch would be cleaned the next day.By BOYCE, HELEN: 10/11/2012 8:20:49 AM10/10/2012 - Lau and John cleaned out the ditch.	1279533	177187
494	Wednesday, October 10, 2012 3:22:00 PM	Service Request	17025 53rd Ave S	View attached letter from resident Ron Beaver and three neighbors regarding complaint of ongoing drainage problems related to Sunrise View Bypass Project	By SPENCER, KAREN: 10/12/2012 12:16:00 PMPW Director and Asst City Engineer met with resident at their property, and informed resident they would review the City's Storm system to see if water drainage onto the property could be restored to previous levels before recent years of development, improvements. View attached letter in response.	1285619	167591
525	Friday, October 26, 2012 11:42:00 AM	Service Request	S 188th St & 46th Ave S	King County requested assistance with a tractor trailer at this location. It's leaking fluid and they want it contained before it reaches the storm drain system.	By BOYCE, HELEN: 10/26/2012 1:14:23 PMChris called the Spill Hot Line.By BOYCE, HELEN: 10/26/2012 1:15:40 PMNo fluid reached the catch basins. Chris and Cherie spread absorbal on the area and broomed the area clean.	1283305	161777

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
533	Thursday, November 01, 2012 8:49:00 AM	Service Request	1422 S 192nd St	The drainage ditch (culvert) on the west side of the entrance to Monroe Machined Products "has been neglected" and with the heavy rain this week, storm water has backed up into his parking lot. The area needs attention so the water will drain more efficiently.	By BOYCE, HELEN: 11/2/2012 9:12:05 AM11/1/2012 - Mr Boustedt cleaned up the culvert so the water could flow. John and Tom G spoke with Mr Boustedt and assured him we check that ditch frequently. The drainage is OK now.	1273531	160981
535	Friday, November 02, 2012 2:03:00 PM	Service Request	S 216th St & 22nd Ave S	Report of foam and soap suds on the Des Moines Creek Trail - approximately 1 mile from the bottom.	By BOYCE, HELEN: 11/5/2012 8:27:25 AMThe foam was not soap or any chemical.		
536	Monday, November 05, 2012 8:01:00 AM	Service Request	19041 46th Ave S	Report of a approx 140' oil sheen on east side of Angle Lake. Called in by a lake resident. Sheen came from a boat that was not winterized and had been sinking early last week around 10/31/12 with the large amount of rain. A pump had been placed in the boat to prevent the boat from sinking	By SPENCER, KAREN: 11/5/2012 8:04:05 AMFollowing Spill Response procedures, the National Response Center was notified. Within minutes, Dept of Ecology and Marine Unit of KC Sheriff's Office were also notified. Owner of the dock was convinced to remove boat. As of 6:15 pm 11/2/12, boat was traveling to boat launch at Angle Lake Park to be put on a trailer and hauled away. Sheen is most likely gasoline and DOE guidance recommends letting the sheen dissipate.	1282457	160646
537	Monday, November 05, 2012 9:13:00 AM	Service Request	4229 S 172nd St	Someone (he thinks it was a City worker) has cleared the grass from the ditch that he has been maintaining. Now the water puddles where it used to flow. He's concerned about the rainy season and a larger area of standing water.	By BOYCE, HELEN: 11/5/2012 3:10:02 PMLau spoke with Mike to explain the work that had been done in his ditch. The ditch is in proper working order and by removing the sediment, the water will flow better than before. Mike is satisfied with the explanation.	1282445	167218
550	Monday, November 19, 2012 7:50:00 AM	Service Request	S 180th St & International Blvd	Flooding by the entrance to Sea-Tac Airport making dangerous to turn into the airport entrance.	By BOYCE, HELEN: 11/20/2012 8:32:37 AM11/19/2012 - The crew cleared the CB of leaves and debris to allow for water flow.	1278451	164681
551	Monday, November 19, 2012 8:50:00 AM	Service Request	S 150th St & Military Rd S	There is water over the roadway.	By BOYCE, HELEN: 11/20/2012 8:30:21 AMWe put up a "Water Over Roadway" sign to alert drivers of the situation.	1280356	174404
552	Monday, November 19, 2012 8:57:00 AM	Service Request	4625 S 168th St	His driveway and garage are flooding. He's not sure if there is a plugged drain or if there is just too much rain water for the system to handle. The culvert by his mailbox overflowed.He would also like the berm checked to make sure it's high enough to be effective.	By BOYCE, HELEN: 11/19/2012 1:25:32 PMJohn Letourneau spoke with Mr Halfen and told him we would make the necessary repairs when weather permitted.By BOYCE, HELEN: 12/3/2012 11:36:11 AM11/27/2012 - The pipe was repaired and water is now flowing.	1283733	168257
555	Monday, November 19, 2012 2:58:00 PM	Service Request	18628 8th Ave S	Storm water is getting into his storage garage. It runs from a warehouse built above his property.	By BOYCE, HELEN: 11/20/2012 11:37:15 AMLau put down sand bags to divert the storm water away from Mr Ruiz's property.	1271509	162532
560	Wednesday, November 28, 2012 2:58:00 PM	Service Request		I would like to complain about the road drainage problem that is occurring from the street into my driveway. Please contact me as soon as possible. With the heavy rains the water is threatening to flood my house.	Citizen request response via email: paulin_ng88@hotmail.comBy BOYCE, HELEN: 12/4/2012 7:18:02 AM11/30/2012 - Lau and crew put down a temporary berm to divert storm water away from the driveway. Siew was shown that the drain in front of her garage was plugged and advised to keep it clear to prevent floodi		
564	Monday, December 03, 2012 10:48:00 AM	Service Request	S 216th St & 37th Pl S	King County reported a spill on the S 216 St hill.	By BOYCE, HELEN: 12/3/2012 10:49:38 AMThis location is in the City of Kent boundaries. Sean spoke with Gwen at Kent and they will respond.By ROBINETT, DON: 12/31/2012 10:31:50 AMAct:1		
565	Monday, December 03, 2012 10:56:00 AM	Service Request	S 170th St & International Blvd	11/29/2012 - A report that a fluid spill was caused by an accident.	By BOYCE, HELEN: 12/3/2012 10:57:33 AM11/29/2012 - The spill hot line was called.Absorbal was put down to contain the spill. No fluid entered the storm system.By ROBINETT, DON: 12/31/2012 10:38:55 AMAct: 1	1278509	167829
566	Monday, December 03, 2012 11:01:00 AM	Service Request	S 216th St & Military Rd S	Report of a diesel spill.	By BOYCE, HELEN: 12/3/2012 2:45:37 PM11/30/2012 - Brett, Chris, Ryan, and Cherie spread absorbal over the area then cleaned the site.No oil reached the storm drain system.	1279764	152307
569	Monday, December 03, 2012 11:45:00 AM	Service Request	12825 26th Ave S	Water from the West side of his house is getting into his basement. He thinks it could be the result of storm water not being properly diverted.	By BOYCE, HELEN: 12/4/2012 7:20:37 AM12/3/2012 - Lau spoke with Alamz and let him know the street is private and the City will not be performing work on that road.	1277741	181443
570	Monday, December 03, 2012 1:07:00 PM	Service Request	4448 S 175th St	The water runoff that flows into the ditch is eroding the sides of the ditch. The corner is suffering erosion and is starting to compromise his driveway.	By BOYCE, HELEN: 12/4/2012 2:09:46 PMLau left a message for Ray to let him know a trough would be installed at the end of his driveway to divert storm water away from the ditch. This work would be done when weather permitted.By SIVA, LAU: 1/16/2013 9:51:17 AMDone 1/15/2013	1283295	166181
571	Wednesday, December 05, 2012 2:14:00 PM	Service Request	2661 S 138th St	Water is running off the NE corner of the property. She called the water district out and it was confirmed there was no chlorine in the water so it wasn't a water district issue. She would like help to determine the origin of the water.	By TEMP, PWMAINT: 12/7/2012 9:57:53 AMJohn called the citizen and left a message about findings.	1278447	178325
574	Friday, December 07, 2012 9:19:00 AM	Service Request	Military Rd south & S 188th st	Oil spill stretching from S 188th & Military to Seattle Christian School.	By TEMP, PWMAINT: 12/7/2012 1:13:31 PMChris, Ryan, and Tom A spread absorbal over the area and cleaned the site.By ROBINETT, DON: 12/31/2012 10:50:57 AMAct:	1284036	161267
576	Monday, December 10, 2012 4:58:00 PM	Service Request	17011 34TH AVE S	Drainage complaint regarding localized flooding in front yard. Requesting an improvement in the near future.	By SPENCER, KAREN: 12/24/2012 10:54:37 AMPW Inspector Carnes met with homeowner on site, and investigated the complaint. Several steps are being taken on this property regarding drainage.	1280184.56	167860.21
593	Thursday, December 20, 2012 10:29:00 AM	Service Request	16421 Desmoines Memorial Dr	Terry called in to report that the drain in front of 16421 is clogged and overflowing. Would like someone to come take a look.	By TEMP, PWMAINT: 12/20/2012 11:56:16 AMTom G removed floating debris.	1271184	169554
620	Wednesday, January 09, 2013 10:09:00 AM	Service Request	28th Ave	Ted Snider stopped in to report that a family that moved in on the corner of 28th Ave & 128th st have filled in a ditch which covered the drain. Now there is water pouring out into the road. He would like someone to go take a look.	By TEMP, PWMAINT: 1/9/2013 11:00:08 AMLau cleaned out the plugged pipe and the drain is working now.	1277939	157996
622	Wednesday, January 09, 2013 11:10:00 AM	Service Request	4304 S. 178th St	Joyce Mullin Called on behalf of Loretta Flesh who wanted to report surface water from the street. She says when it rains water from across the street flows onto her property and down her steps. She would like someone to come take a look and see if the issue can be resolved.	By TEMP, PWMAINT: 1/10/2013 7:48:53 AMLau installed a temporary berm in front of her house to keep the water from flowing onto her property.	1282665	165015
638	Wednesday, January 23, 2013 10:10:00 AM	Service Request	21245 30TH AVE S	Louise Preston called in to report Tar cracked on the street where they extended it a few years back. The cracked tar is causing water leaking onto her property when it rains which she says is getting into her basement. She also wanted to report a downspout drain that comes out of her neighbors yard into their driveway and wanted to talk to someone about it.	By TOTTEN, HILARY: 1/25/2013 8:53:32 AMLau Called Louise and left a message to call him if she had any further questions. He didnt see any issues with the cracks in the tar on the road.	1278392.1	153035.01
795	Tuesday, April 02, 2013 8:50:00 AM	Service Request	3595 S 188TH ST	Tony called in to report that one of the grated covers in the parking lot of the YMCA has been removed. He would like someone to come replace it.	By TOTTEN, HILARY: 4/2/2013 1:15:23 PMLau called Tony to let him know that this wouldn't be taken care of by the city due to the fact that it is private property.	1280413.77	161601.89
798	Thursday, April 04, 2013 10:10:00 AM	Service Request	2358 S 154TH ST	Brian called in to report a chemical smell coming from the sewer drain coming from the address above	By SIVA, LAU: 4/17/2013 1:12:13 PMI spoke with Brian, He said everything ok he was concern more about sewer being over flow. I told him next time this happen call the sewer company. (Private Property)	1276776.8	173272.46
854	Monday, April 29, 2013 3:05:00 PM	Service Request	4800 S 188TH ST	As I was returning to city hall, I noticed a Waste Management truck broken down in the parking lot with something leaking from the engine area.	By MCFAYDEN, ADAM: 4/29/2013 3:11:44 PM4/29/2013 ACT: I spoke to the driver of the truck, he said the truck has a coolant leak, Waste Management had a crew on site to clean everything up. The driver already had absorbent pads down. Nothing entered the storm system.	1284175.62	161553.78
871	Monday, May 13, 2013 10:23:00 AM	Service Request	19018 32ND AVE S	Complaint of ponding water in street in front of or near this address. Due to cars always parked on side of street and no sidewalks, says school children and pedestrians have to walk in the street to and fro; ponding makes it difficult.	By SIVA, LAU: 5/14/2013 7:19:44 AMMike and John gravel shoulder around the area.By SPENCER, KAREN: 5/21/2013 3:53:07 PMFurther complaint of children walking and playing in the middle of the street due to ponding water on sides of street, and apartment cars parking on both sides of street. Requester is asking for added signa	1279299.61	161318.34
927	Tuesday, June 11, 2013 3:03:00 PM	Service Request	2022 S Tippycanoe	Test Test Test; please ignore			
986	Friday, June 28, 2013 9:25:00 AM	Service Request	S 188TH ST & 36TH AVE S	Accident on S 188th St & 36th S resulted in steering & radiator fluid on roadway. No fluids in CB's. Ryan called spill hot line 6/28/2013 9:15.	By POTTER, DEBB: 7/2/2013 2:49:16 PMACT: Maintenance staff Ryan and John responded to spill and confirmed no pollutants made it to catch basins. Staff applied absorbents and cleaned spill.By POTTER, DEBB: 7/2/2013 2:55:11 PMNote above work was completed same day June 28th, at time of call.	1280485.4	161874
1014	Wednesday, July 10, 2013 8:39:00 AM	Service Request		Requested further information on surface water plan at next RCM including how projects are prioritized for private drainage policy, opportunities for partnership and how to be more proactive.	By ROBINETT, DON: 7/16/2013 4:15:20 PMTom Gut and myself met with Councilmember Gregerson this afternoon and discussed issues concerning the draft private property drainage policy. Ms. Gregerson was satisfied with the staff's explanation and indicated she had no further issues with the direction of the policy or the Surface Water Plan.		
1046	Tuesday, July 30, 2013 8:19:00 AM	Service Request	S 188TH ST & MILITARY RD S	Radiator spilled fluid at accident site	By POTTER, DEBB: 7/30/2013 8:22:29 AMAaron responded to site. Fluid was cleaned up and contained.	1284036.2	161267.27
1094	Friday, August 30, 2013 7:31:00 AM	Service Request	S 204TH ST & INTERNATIONAL BLVD	Manhole cover missing	By POTTER, DEBB: 8/30/2013 10:00:53 AMChris Anderson came fixed the issue on overtime hours 8/29 5:30pm.	1278094.76	156311.88
1096	Friday, August 30, 2013 8:49:00 AM	Service Request	18214 44TH AVE S	Storm drain issue, run off in garage.	By POTTER, DEBB: 8/30/2013 9:58:58 AMLau went out directly and met with Abebe. Lau mirrored the storm drain and it was clear of clogs and running great. It appears the water run off came from the residents driveway.	1282794.04	163581.9
1098	Friday, August 30, 2013 10:19:00 AM	Service Request	14914 27TH PL S	water run off issue	By SIVA, LAU: 9/9/2013 3:54:39 PMPrivate property No contact information	1278202.81	174705.51
1105	Tuesday, September 03, 2013 11:46:00 AM	Service Request	16TH AVE S & S 188TH ST	16th Ave S between S 188th and S 192nd Streets was reported as oily and very slick.	By POTTER, DEBB: 9/3/2013 11:54:47 AMLau went out to check for potential waste water hazard. Lau found a trail of oil perhaps diesel that had not spread into collection bins but required clean up using absorbal pads.	1274030.69	162070.06
1111	Wednesday, September 04, 2013 2:48:00 PM	Service Request	21203 31ST AVE S	Owner has an issue with water run off. The catch basins are functioning and Tran is hopeful a berm of sorts could redirect the water.	By SIVA, LAU: 9/11/2013 6:47:44 AMInstall berm keep water run off on the street redirect to catch basin.	1278730.75	153444.48

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
1114	Friday, September 06, 2013 8:20:00 AM	Service Request	46TH AVE S & S 188TH ST	Storm drains overflow when it rains.	By POTTER, DEBB: 9/6/2013 2:31:57 PM9/6/2013 Lau went out the sight this morning and water had drained off and was unsure of the exact area of the problem. Lau is trying to get a hold of the home owner and find out where the problem occured. By POTTER, DEBB: 9/18/2013 7:08:59 AMLau located the slow draining cistern. It is one that a bag has been placed in to act as a needed filter. this practice slows the flow of the water.	1283305.58	161777.13
1115	Friday, September 06, 2013 2:23:00 PM	Service Request	S 150TH ST & MILITARY RD S	Catch basin not draining properly .	By SIVA, LAU: 9/9/2013 3:46:06 PMTo much water system can't handle, happen all the time when we have big rain storm.	1280356.12	174404.73
1116	Saturday, September 07, 2013 12:15:00 AM	Service Request	17812 46th Avenue South	The water drain over flows from drain going down drive way. Seems not to drain across street to other drain to flow out. Drains need vac out !! ?	By SIVA, LAU: 9/11/2013 7:07:45 AMCan't find any problem with our storm pipe, we jet the line to make sure the pipe it's clean.By SPENCER, KAREN: 9/27/2013 1:58:39 PMProject completed by Lau Siva, PW Maintenance on 9/11/13	1283394.2	164770.96
1117	Saturday, September 07, 2013 5:08:00 PM	Service Request	4470 S 173RD ST	a curb or water run off diverter in front of my house at 4470 s 173st to stop rain water on 173st from running down my drive way and washing out the gravel and also across the the street at the mail boxes which is going into the neighbors drive way	Citizen request response via email: tpepperbelly@aol.comBy SIVA, LAU: 9/11/2013 7:01:13 AMPipe plugged cost water run off down the street, We unplug the pipe and re-gravel the shoulder.	1283525.04	166767.04
1138	Tuesday, September 17, 2013 11:44:00 AM	Service Request	S 196TH ST & 13TH PL S	leaking hydrant was emailed to Don Robinett, Stormwater Compliance. Water Quality Inspector investigated and leak was confirmed. Karen emailed to Highline Water District	By SPENCER, KAREN: 3/17/2014 11:00:54 AMKaren emailed issue to Highline Water District	1273174.23	159248.16
1154	Thursday, September 26, 2013 1:15:00 PM	Service Request	14055 MILITARY RD S	Homeowner believes ditch under driveway may be clogged and need cleaning.	By POTTER, DEBB: 9/27/2013 11:55:57 AM9/26 Tom G & John L shoveled debris from front of pipe. examined with mirror to confirm it is clean and clear.Sean called Frank and informed him pipe is clean.	1279533.34	177187.15
1155	Thursday, September 26, 2013 1:18:00 PM	Service Request	21403 MILITARY RD S	Frank Romano believe the ditch under his driveway maybe clogged.	By POTTER, DEBB: 9/27/2013 11:58:43 AM9/26 Tom G & John L shoveled debris from front of pipe and looked with mirror to confirm pipe is clean and clear. Sean called Frank and informed him pipe is clean.	1279764.65	152929.46
1157	Friday, September 27, 2013 2:11:00 PM	Service Request	14055 MILITARY RD S	Ditch in front of her house has pipe of some type that fills up fast and causes localized flooding. PW Maintenance cleared out last year, which made a big difference. Homeowner is asking for same clear out again prior to seasonal rain. She said a vactor or other machinery was used last year.	By POTTER, DEBB: 10/21/2013 2:58:28 PMA crew went out on 10/1 and cleaned out the blockage.	1279513.06	177379.33
1159	Saturday, September 28, 2013 8:05:00 PM	Service Request	16450 MILITARY RD S	Drainage ditch on south side of 16450 Military Rd. So. is full of dirt & grass clippings. Can not drain.	By POTTER, DEBB: 10/21/2013 3:00:39 PMCrew went out and cleaned the ditch on 10/1.	1282328.87	169486.69
1162	Tuesday, October 01, 2013 7:45:00 AM	Service Request	3421 S 194TH ST	Street ground water flowing into yard and flooding street.	By POTTER, DEBB: 10/1/2013 7:48:44 AMSean and Lau talked to Brice and Lau researched the issue. Lau has talked with city engineers and the issue was left in there hands.	1280102.73	160003.28
1163	Tuesday, October 01, 2013 7:55:00 AM	Service Request	S 194TH ST & 10TH CT S	Water main job causing bad flooding in area	By POTTER, DEBB: 10/1/2013 7:56:05 AMLau and his crew will be creating a berm to direct water flow.	1272173.28	159851.22
1165	Tuesday, October 01, 2013 10:53:00 AM	Service Request	20234 DES MOINES MEMORIAL DR	Rain water from street running into residents home.	By POTTER, DEBB: 10/1/2013 10:58:08 AMLau went out to the residents home and inspected the issue. A berm would help to direct the water away from the home, but can not be done until we have dryer conditions. Lau recommended the homeowner come by the shop and pick up sand bags until he can build a berm.	1272344.8	156999.22
1173	Friday, October 04, 2013 3:15:00 PM	Service Request	3774 S 189TH PL		By SPENCER, KAREN: 10/4/2013 3:19:52 PMSee attached email trail where Planning Manager and Engineering Review division Engineer visited site located at east end of S 189th, due to a complaint about drainage in the area. In the past, City crews had performed some work on a drainage easement that crosses her property. Further examination of the plat map of Angle Lake Haven, shows that there is an easement for util and drainage, tho the language is brief. The area of the easement is currentl	1281094.82	161199.12
1177	Wednesday, October 09, 2013 8:31:00 AM	Service Request		Related to Don's SWM presentation: Requested relative amounts of residential vs. non-residential surfaces for rate balance; requested exploration of two tier system for residential property: a flat rate for all residential property including undeveloped and those that infiltrate 100% plus another additive rate based on impervious surface; requested confirmation of where $60,000 to support utility is coming from and to ensure all stormwater fees now are going into utility costs.	By ROBINETT, DON: 10/23/2013 1:11:38 PMAt the he 10/22/13 Council Study session I responded to all the questions raised regarding the Rate Study Presentation (10/8/13 CSS) The presentation is available on the City web page.		
1181	Thursday, October 10, 2013 1:20:00 PM	Service Request	22625 MILITARY RD S	Culvert running in front of 22625 full of debris and not draining.	By POTTER, DEBB: 10/21/2013 2:54:19 PM10/14/ Mike & John cleaned the debris.	1279483.6	148793.35
1198	Tuesday, October 22, 2013 3:19:00 PM	Service Request	S 200TH ST & 26TH AVE S	Semi broke down and leaking diesel.	By POTTER, DEBB: 10/22/2013 3:23:22 PM10/22/2013 John Letourneau went out and used absorbal to clean and contain the small amount of diesel that leaked from the disabled semi-truck .	1277320.55	157654.61
1199	Tuesday, October 22, 2013 3:20:00 PM	Service Request	17029 51ST AVE S	Please see attached letter from homeowner of above address, with a drainage issue created by neighbor creating a drainage pipe jutting from their yard down over homeowner's pipe. Issue has been alive for for four or more years.	By SPENCER, KAREN: 10/23/2013 9:57:51 AMKaren spoke initially with homeowner, and advised that this is a civil issue between two neighbors, and as such we cannot intervene, and recommend neighbors discuss the issue or a lawyer could be retained. Referred to Stormwater Compliance Manager for follow up.	1284768.13	167551.05
1223	Thursday, November 07, 2013 8:20:00 AM	Service Request	3774 S 189TH PL	(Little red house by YMCA; no number on the house)Has ongoing drainage issue; newer neighbors drain into her yard which drains into a well that overflows and then backs up into her yard and floods it.Has been "told by PW Eng" in the past that City needs to install drainage ditch.	By SPENCER, KAREN: 11/12/2013 2:51:13 PMDavid Carnes, PW Inspector Supervisor, has been in contact with homeowner, and is investigating the matter.By SPENCER, KAREN: 2/10/2014 2:03:34 PMThis service request is being tracked more fully under Service Request #1173. Please refer to #1173.	1281094.82	161199.12
1267	Monday, December 02, 2013 3:09:00 PM	Service Request	3421 S 194TH ST	Resident called about a large amount of brown water rushing through the storm drain and it has been dry all day.	By POTTER, DEBB: 12/2/2013 3:10:49 PMLau immediately went out to investigate and found a broken water main. Sean called Highline Water District.	1280102.73	160003.28
1269	Wednesday, December 04, 2013 2:01:00 PM	Service Request	22625 MILITARY RD S	Resident has a lot of leaves in the ditch and the culvert is plugged up.	By POTTER, DEBB: 12/10/2013 1:54:32 PM12/6/2013 Tom George and John Letourneau cleaned ditch and culvert.	1279483.6	148793.35
1288	Monday, December 16, 2013 12:14:00 PM	Service Request	Miller/Walker Creek	SWC received an email about a foam pile and 1 dead fish in Miller/Walker Creek in Normandy Park.	By MCFAYDEN, ADAM: 12/16/2013 12:30:54 PM12/16/2013 ACT: SWC received an email from Elissa Ostergaard (King County) stating a volunteer noticed a pile of foam and 1 dead fish in Miller/Walker Creek in Normandy Park. SWC staff conducted a field investigation at Miller/Walker Creek at the DMMD and SR 509 intersection in SeaTac. Staff did not see any foam piles or any fish kills.		
1295	Wednesday, December 18, 2013 2:13:00 PM	Service Request	DES MOINES MEMORIAL DR & S 157TH PL	Fuel spill in Des Moines Memorial DR between S 157th and S 162nd St. Fuel running down the road took 18 bags of absorbal to clean. Tom Atkins, Tom Gouger, Ryan Rosen and Mike Kopick spent an hour cleaning. Fuel did not make it to catch basin all was contained and cleaned.		1271835.08	172046.85
1313	Monday, January 06, 2014 7:54:00 AM	Service Request	19023 INTERNATIONAL BLVD	Aaron Wiseman reported to a 20 Gallon gasoline spill on 19023 International Blvd Saturday Saturday 1/4/2013 at 4am. The fire department was called in and the Department of Ecology was consulted. the Department of Ecology asked for the catch basin to be Vactored out. All clean up including the use of absorbal on the streets and the vactor cleaning of the catch basin were performed immediately following the spill.	By POTTER, DEBB: 1/6/2014 9:12:27 AMSpill was fully contained.By POTTER, DEBB: 1/7/2014 9:12:56 AMAct: Spill was fully contained on 1/4/2014 at time of incident.	1278537.14	161084.4
1324	Saturday, January 11, 2014 12:37:00 PM	Service Request	S 172ND ST & 51ST AVE S	Storm drain at corner of 172nd and 51st is backflowing. This is causing erosion in front of my house and flooding in front of my neighbors, the erosion is significant, and the flooding will soon prevent two cars from passing on the street. It is not currently damaging my house (and seems unlikely to be damaging the neighbors).	No response requestedBy POTTER, DEBB: 1/14/2014 10:11:08 AM1/13/2014 Unplugged pipe and graveled shoulder.	1284861.35	167275.18
1334	Friday, January 17, 2014 12:36:00 PM	Service Request	2640 S 142ND ST	Drainage problem on city easement. Wants to fix to get rid of problem. Please have PW Maintenance check to see stormdrains are in good working order. Please respond by phone or email as to status. pphanina@yahoo.com	By MCCLUNG, DEBRA: 1/17/2014 12:41:19 PMSee attached documents for further information. Map and Easement Recording. PLEASE update here when addressed.By MCCLUNG, DEBRA: 1/17/2014 12:54:17 PMSee attached documents, Map and Easement Recording copies, for further information.	1278012.95	177130.6
1343	Thursday, January 23, 2014 10:42:00 AM	Service Request	3018 S 146TH ST	Culvert West of home is full of vegetation debris and is backing up flooding residents property.	By SIVA, LAU: 1/27/2014 3:18:54 PMWe cleaned the ditch and check the culvert make sure its clean. I/17/14	1279291.18	175899.14
1350	Thursday, January 30, 2014 7:30:00 AM	Service Request	2640 S 142ND ST	Homeowner has drainage issue in the ditch that runs along his easement driveway. I explained that his private property and the city does not maintain it. After a lengthy discussion I agreed to have someone come out and check if there is any debris in the city portion. It would be helpful if Edward was shown where the private property begins.	By SIVA, LAU: 2/3/2014 4:53:03 PM1/31/14 Install bigger trash rack to keep debris from plugging the pipe.	1278165.63	177273
1366	Tuesday, February 11, 2014 9:23:00 AM	Service Request	S 200TH ST & 26TH AVE S	King County Sheriff called in a large oil spill on S 200th and International Blvd at 8:48. Mike Kopick was closest and Aaron contacted him and directed him to the scene. ACT: Mike located the incident on the 2300 block of S 200th and began applying abosorbal by 9:05. Aaron contacted Don Robinett at 9:08 and reported that it appeared to be both oil and diesel making its way into the drain system. SeaTac's vactor truck began decanting at the shop and Aaron, Tom George and John Letourneau	By MCFAYDEN, ADAM: 2/11/2014 2:49:11 PM2/11/2014 ACT: City staff received a call about a semi truck leaking diesel fuel at the 2300 block of S 200th st. The truck's transmission broke and scattered pieces of the transmission on the road. A piece of the transmission flew off and punctured the fuel tank. Maintenance and Stormwater staff responded. We spread absorbent, installed pads and booms to contain the spill. Some of the fuel did get into a small section of the open ditch. Maintenance s	1277320.55	157654.61
1394	Wednesday, March 05, 2014 3:09:00 PM	Service Request	2930 S 176TH ST	Caller from Roadway Inn is concerned about water coming out of catch basin.	By POTTER, DEBB: 3/5/2014 3:11:32 PM3/5/2014 Lau went out to location and found the catch basin to be on private property. Lau met with the hotel management and gave them a list of companies to contact.	1278996.12	166671.2
1397	Tuesday, March 11, 2014 1:36:00 PM	Service Request	S 208TH ST & MILITARY RD S	Culvert at bottom of road is not draining & causing flooding.	By POTTER, DEBB: 3/11/2014 1:39:47 PMAaron sent Mike Kopick out to check it out. Mike cleared the colvert and removed litter. The water is draining now	1280297.22	154931.18

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
1401	Monday, March 17, 2014 11:49:00 AM	Service Request	4848 S 170TH ST	Homeowner called about a year round water/moisture issue on his property.	By POTTER, DEBB: 3/18/2014 8:23:43 AMLau went out and examined the residence n 3/17/2014. The home down a private drive and all water is coming from a underground marshy area up the hill, not the public street area. This is a private property issue.	1284633.47	168092.01
1412	Thursday, March 27, 2014 11:02:00 AM	Service Request	S 192ND ST & INTERNATIONAL BLVD	A large oil sheen found at S 192nd & International Blvd.	By POTTER, DEBB: 3/27/2014 11:04:21 AMOn 3/27/2014 Chris, Cherie, Ryan and Tom A used 7 bags of absorbal to clean the spill prior to it getting into the catch basin.	1278548.52	160644.74
1416	Friday, March 28, 2014 1:17:00 PM	Service Request	3229 S 187TH ST	drain water backing up at catch basin in front of 3229 S 187th ST.	By POTTER, DEBB: 3/28/2014 1:22:18 PM3/28/2014 Lau went out and checked the drain. It is a drain put in by King County that is not connected to the system and can not deal with excessive amounts of water. It has been investigated by planning and found adequate. Lau called Ashwani and explained. Ashwani seemed fine with the explanation.	1279798.16	161998.74
1430	Tuesday, April 08, 2014 2:11:00 PM	Service Request	Town and Country Mobile Home Park	Water coming up from the ground and leaving a large patch of algae on the street.	By MCFAYDEN, ADAM: 4/8/2014 2:16:22 PM4/8/2014 ACT: While at a site meeting at the Town and Country Mobile Home Park a large patch of algae was discovered where water was coming up from the ground and running across the street. The running water was field screened for ammonia due to a live sewer line in the area. The ammonia test was negative.		
1435	Wednesday, April 09, 2014 2:46:00 PM	Service Request	20119 14TH AVE S	Public Works received a call about a seeping septic tank.	By MCFAYDEN, ADAM: 4/9/2014 2:52:42 PM4/9/2014 ACT: Public Works staff received a call about a septic tank seeping out of the driveway at 20119 14th Ave S. None of the sewage has discharged into the city storm system. Staff conducted an ammonia test, the results were positive. The King County Health Dept has been notified.	1273403.89	157270.69
1447	Saturday, April 19, 2014 7:51:00 AM	Service Request	16633 37TH AVE S	I seem to be getting a lot of water runoff coming off the city street whenever it rains. It flows from the street in front of the house 2 doors north of mine, down the shoulder where it puddles, and then culiminates in a small river running down my driveway that stops at the foundation to my house. My address is 16633 37th Ave S. I'm not sure if the poor drainage is related to all the recent roadwork and construction that has occurred the past few years.	Citizen request response via email: bhagar@aol.comBy POTTER, DEBB: 4/22/2014 1:44:56 PMThis area has no storm water collection system in place. on 4/22/2014 Lau is informing the homeowner of this and that we will forward his concerns onto the engineering department. Debb left Florendo a voic	1280890.68	168884.75
1456	Friday, April 25, 2014 11:12:00 AM	Service Request		I am writing to introduce myself. I am a Grant Manager for the Department of Ecology's Water Quality program and I want to tell your departments that we have a grant and loan funding cycle coming this fall. I have noticed that many eligible applicants do not know that we can provide financial assistance for wastewater facilities, on-site sewage systems, non-point sources, stormwater retrofit and Low Impact Development (LID) projects. I am not sure whether to contact your planning department,	Citizen request response via email: Melisa.Snoeberger@ecy.wa.govBy ROBINETT, DON: 4/25/2014 1:24:41 PMResponded via email: Hi MelisaPlease contact me regarding any water quality grant opportunities that are coming available.ThxDonDon Robinett, MRP, CPESCStormwater Compliance Manager City of		
1610	Monday, August 04, 2014 1:13:00 PM	Service Request	2632 S 130TH PL	Rainwater is coming into the home and would like to see about water diversion options.	By POTTER, DEBB: 8/6/2014 11:31:12 AM8/6/2014 Lau, Tom, John and Mike built a asphalt berm to control runoff.	1278244.67	181024.21
1639	Thursday, August 21, 2014 11:18:00 AM	Service Request	2412 S 140TH ST	white bubbles are coming out of the catch basin in front of 2412 S 140th St.	By POTTER, DEBB: 9/24/2014 11:19:40 AMLau cleaned out the mysterious white stuff in 8/21.	1277340.95	177946.47
1692	Thursday, September 25, 2014 9:27:00 AM	Service Request	2908 S 152ND ST	Resident reported potential oil spill or automotive spill from a semi truck parked on the side of the street next to his home. He expected spills from the age of the vehicle, etc. Call came in to City after 5pm on 9/23 to Clerks office. Did not get to Public Works until 10am on 9/24.	By ROBINETT, DON: 9/25/2014 9:31:09 AMACT: Lau Siva investigated on 9/24, and found no illicit discharges.By ROBINETT, DON: 9/25/2014 9:32:01 AMACT: Office staff mailed a spill response card to resident for any future possible spills.	1279088.9	173788.4
1695	Tuesday, September 30, 2014 7:28:00 AM	Service Request	3018 S 146TH ST	Culvert in front of 3018 S 146th St is full of debris. Caller said this was cleaned out in spring but left in the ROW and eventually ended up back in the ditch.	By POTTER, DEBB: 9/30/2014 12:58:33 PMLau Siva went out to clean the culvert and found it to be pretty darn clean. Lau will follow up with a phone call to Judy.	1279291.18	175899.14
1710	Monday, October 13, 2014 8:59:00 AM	Service Request	18214 44TH AVE S		By POTTER, DEBB: 10/14/2014 9:55:18 AMLau has been to this property on numerous occasions and found it not to be a city water issue. Sean accompanied Lau and talked to the resident. they will come out to verify the street catch basin is working when it rains.	1282794.04	163581.9
1736	Wednesday, October 29, 2014 2:02:00 PM	Service Request	17053 34TH AVE S	Catch basin on 173rd by house is full of debris.	By POTTER, DEBB: 10/29/2014 2:03:50 PMJohn L cleaned out the catch basin and Lau is contacting the homeowner.	1280166.82	167446.35
1776	Friday, November 21, 2014 10:44:00 AM	Service Request	19231 DES MOINES MEMORIAL DR	Parking lot at the BBQ Schact getting large puddles when it rains. Appears there is a blockage somewhere in the drainage system.	By MCFAYDEN, ADAM: 11/21/2014 10:58:49 AM11/21/2014 ACT: I went out to the site and pulled the cb grates to check for any obvious blockages. The cbs are clean, no sediment. I talked to the property owner, he said he thinks its a tree root blocking the pipe. The tree is on the Sonic Collision side of the fence, however, the Sonic Collision owner said he thinks there was an easement granted to PSE for an electrical box, so then the tree would be in the PSE easement. The owner of the property c	1272894.4	160666.53
1787	Wednesday, December 03, 2014 9:48:00 AM	Service Request	18035 Military Road South	Failing/plugged 12 inch concrete drainage line running east to west along North property line.	By ROBINETT, DON: 12/3/2014 9:48:49 AMThe Property owner Carol Trail called me on Wednesday November 25, 2014 requesting that the City clean out/repair the failing drainage line as it is causing her crawl space to flood. Carol emailed me a copy of drainage easement granted to King County and its heir. She told me she spoke to King County staff and they contend the easement is now SeaTac's (aka its heir upon incorporation of the City.	1284218.36	164022.1
1808	Monday, December 22, 2014 3:01:00 PM	Service Request	14055 MILITARY RD S	Home owner would like the ditch in front of her home 14055 Military Rd, cleaned out. It is over flowing and backing up.	By POTTER, DEBB: 12/29/2014 11:16:12 AMon 12/29 Lau and John went out met with the homeowner and cleaned the ditches.	1279533.34	177187.15
1818	Friday, January 02, 2015 10:41:00 AM	Service Request	1238 S 200TH ST	Homeowner Denise said that 2 catch basins one to the east corner of her property and one to the west are caving in. The one to the west is also full of leaves.	By POTTER, DEBB: 1/5/2015 7:57:19 AMJohn met with the homeowner on 1/2/2015 and repaired and cleaned the catch basins.	1273136.21	157859.03
1821	Tuesday, January 06, 2015 9:44:00 AM	Service Request	S 208TH ST & 24TH AVE S		By SPENCER, KAREN: 1/6/2015 9:49:08 AMDon Robinett Stormwater Compliance Manager, is working with the City of Des Moines regarding a landslide/erosion situation located at or near Des Moines Creek Business Park. See attached scanned letter.By ROBINETT, DON: 1/7/2015 9:37:58 AMFlows have been diverted away from the slide area by mid December. The Des Moines Creek Watershed Committee is working with City of Des Moines to mitigate slide impacts on the short term. The slide has force	1276693.58	155032.48
1828	Thursday, January 08, 2015 11:02:00 AM	Service Request	18415 Int'l Blvd	Received a call from Glenn Greene (Chief Engineer) at Coast Gateway Hotel about water seeping from cracks in the parking lot.	By MCFAYDEN, ADAM: 1/8/2015 11:10:23 AM1/6/2014 ACT: Received a call from Glenn Greene (Chief Engineer) at Coast Gateway Hotel. He said the parking lot for the hotel and the Roaster's restaurant is seeping water from the cracks. I met Scott Smith (City Engineer) on site and spoke with Glenn. We informed him that it appears to be a ground water situation.	1278337.64	163083.38
1846	Thursday, January 22, 2015 1:02:00 PM	Service Request	28TH AVE S & S 144TH ST	Ditches in front of 2804 S 144th on both S 144th and S 28th Ave full of debris.	By POTTER, DEBB: 1/30/2015 8:04:32 AMLau and crew cleaned the ditch on 1/28/2015.	1278428.36	176451.52
1866	Friday, February 06, 2015 8:40:00 AM	Service Request	2204 S 132ND ST	Homeowner has lived at residence for over 40 years and suddenly in the last year water has begun to pool in her yard. Sometime last year work was done on S 132nd that required a road patch, and resident believes that work altered the waters path to run into her yard and would like someone to take a look.	By POTTER, DEBB: 2/6/2015 1:23:02 PMJohn Letourneau inspected property on 2/6/2015 at 9:15 during heavy rain and noted that water was coming from 2212 (see photos) 132nd St. John put down sand bags to divert water and informed Mrs. Fernandez that her driveway drain didn't appear to be working and gave her a list of drain cleaners to call.Additionally John will return to property on a dry day to determine if water from 2212 is a spring or possible water leak.	1276687.21	180479.18
1868	Monday, February 09, 2015 9:17:00 AM	Service Request	19629 MILITARY RD S	Storm drain in front of 19629 Military Rd has a tarp blocking the flow of water.	By WISEMAN, AARON: 2/19/2015 8:47:00 AMJohn spoke to David Carnes who explained that the project is not completed yet and that when they do the punchlist the silt bag will be removed	1282105.69	158807.47
1876	Tuesday, February 10, 2015 3:08:00 PM	Service Request	20411 Des Moines Memorial Dr	Tree trunk in ditch on DMMD in between 204th and 206th near 20411 DMMD.	By WISEMAN, AARON: 2/19/2015 8:49:40 AMJohn looked at the issue and determined it to not be a hazard. The stump is to large to remove by hand and will need a backhoe for removal. John stated that they have a job coming up in the future that will require the backhoe to be in the are at which time they will remove the stump.	1272305.34	156653.79
1895	Wednesday, February 25, 2015 10:40:00 AM	Service Request	16639 51ST AVE S	Neighbor calling as resident at 16639 51st Ave S because has language limitations. Neighbor not clear on issue but asking that ditch be checked/cleaned.	By SIVA, LAU: 3/5/2015 7:54:52 AMHome owner concern water moving slow in the ditch. I checked the culvert the pipe it's clean. I told the home owner I will check the ditch when it rain.	1284781.69	168681.92
1923	Thursday, March 12, 2015 2:08:00 PM	Service Request	1238 S 200TH ST	PW Maintenance stopped by several months and filled in a small sink hole in the asphalt at southeast corner of her property. It is falling in or sinking again. Also, a very low stormwater drain exists at the southwest corner of property. It is lower than road and gets filled up with gunk regularly. Wants it cleared out, but also wanted to mention that new construction from a neighbor has tied into this drain. She is concerned it will fill up and run over onto her property.	By SPENCER, KAREN: 3/12/2015 2:12:21 PMPW Maintenance, please start with clean up or fill. Please check with Engineering afterward if needed for neighboring runoff.By SIVA, LAU: 3/18/2015 1:03:44 PM3/18/15 Mike,Tom & John Repair sinkhole replace frame & grate and berm the driveway.	1273136.21	157859.03
2031	Wednesday, May 13, 2015 11:03:00 AM	Service Request	S 188TH ST & 28TH AVE S	King County Sheriff called in accident on S 188th St in tunnel.	By POTTER, DEBB: 5/13/2015 11:06:19 AMLau went out and cleaned antifreeze. No runoff into catch basins.	1277949.81	161965.88
2055	Wednesday, May 27, 2015 1:30:00 PM	Service Request	18214 44TH AVE S		By SIVA, LAU: 6/1/2015 8:47:39 AM5/27/15 I spoke with the home owner in person he want to raise the catch basin in front of his driveway its low, we raise it on 5/29/15	1282794.04	163581.9
2152	Thursday, July 23, 2015 9:30:00 AM	Service Request	4803 S 168TH ST	Homeowner Mike, has erosion at the end of his driveway, that he believes is coming from the near by culvert.	By SIVA, LAU: 7/24/2015 7:32:15 AMRepair pipe separation. MK,JL,TG	1284256.1	168338.55
2163	Wednesday, July 29, 2015 11:35:00 AM	Service Request		ACT: Received ERTS# 658453	By KULJU, JON: 7/29/2015 11:35:13 AMReport indicated site clearing was creating water quality violation. By KULJU, JON: 7/29/2015 11:42:21 AMVisited site with Code Enforcement and did not observe water quality issue. Noted site activities and reported to Planning. They will follow up with the site owner.	1279679.44	148857.7
2195	Wednesday, August 12, 2015 2:39:00 PM	Service Request	17214 51st Ave S	Asphalt berm diverting rain water at 17214 51st Ave S is in need of repair by the mailbox.	By SIVA, LAU: 8/19/2015 8:33:10 AMRepair berm 8/12/15 TG		

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
2196	Thursday, August 13, 2015 10:05:00 AM	Service Request	DES MOINES MEMORIAL DR & S 204TH ST	Culvert totally plugged with debris on northwest corner of DMMD & S 204th St	By POTTER, DEBB: 8/14/2015 11:55:36 AMLau and his team cleaned out this on 8/13.	1272325.58	156714.35
2207	Wednesday, August 19, 2015 9:47:00 AM	Service Request	4446 S 172ND ST	Between address 4446 S 172nd St and 4438 S 172nd St there is an open ditch where someone has dumped yard waste, dirt and concrete.	By POTTER, DEBB: 8/21/2015 2:38:04 PMLau Siva and his crew cleaned all the debris from the ditch and added a grate and berm to direct water flow	1283330.78	167384.08
2244	Wednesday, September 16, 2015 7:22:00 AM	Service Request	4832 S 172ND ST	Culvert in front of house is filled with debris.	By POTTER, DEBB: 9/17/2015 9:06:37 AMCleaned 9/16.	1284509.24	167356.84
2254	Tuesday, September 22, 2015 3:55:00 PM	Service Request	30TH AVE S & S 200TH ST	City stormwater discharge and overflow onto private property located at 2916-3024 S. 200th. There is a discharge pipe that collects water from the street, goes under 200th, and empties onto the SE corner of this property. After rain storms the water floods the residences located downhill from the discharge point. The city cannot be flooding private homes with its stormwater, and corrective action is needed ASAP before the fall storms start.	By WEBFORM, WEBFORM: 9/22/2015 3:55:39 PMCitizen request response via email: bachmanconsulting@gmail.comBy CLARK, SEAN: 9/25/2015 7:53:18 AMThis appears to be a problem from the ditch that is located on private property.	1278664.33	157618.09
2283	Tuesday, October 13, 2015 10:17:00 AM	Service Request	S 172ND ST & MILITARY RD S	Anita called about digging on her road S 172nd. Debb called Chris and he went out and found that John and Mike were making a trench to redirect rain water. Anita has been having issues with rain water and the graveled ROW. Debb called Anita back and she had since gone out and talked to John and understands what they are trying to do but is skeptical of the outcome.		1283077.9	167319.51
2307	Monday, October 19, 2015 10:33:00 AM	Service Request	14075 Military Road South	Received ERTS # 660143 from Ecology describing illicit discharges to sediments on the above mentioned property from automotive work and cleaning (see attached).	By ROBINETT, DON: 10/19/2015 10:39:06 AMJon and Adam investigated and determined that the activity does not discharge to stormwater. The the complaint has been forwarded to City Code Compliance staff and back to Ecology as it is not a direct or indirect illicit discharge to to the City storm system. Discharges to sediment are Ecology's purview.	1279470.33	176947.5
2329	Tuesday, November 03, 2015 2:02:00 PM	Service Request	18951 34TH AVE S	Storm drain in front of 18951 34th Ave S is backing up.	By SIVA, LAU: 11/5/2015 3:35:46 PMMike and John remove construction drain guard from catch basin was causing the water from backing up.	1279727.88	160934.5
2354	Monday, November 16, 2015 3:16:00 PM	Service Request	14055 MILITARY RD S	Drain in front of residence is not draining.	By SIVA, LAU: 11/18/2015 12:56:43 PMLau clean ditch full of sediment	1279533.34	177187.15
2355	Tuesday, November 17, 2015 10:16:00 AM	Service Request	13660 MILITARY RD S	Storm drain in front of 13660 is difficult for resident to keep debris out of due to its depth. Resident would like to discuss options for a more permanent solution.	By SIVA, LAU: 11/18/2015 2:22:37 PMJohn and I use vac truck to clean debris out of storm drain.	1279093.46	178617.34
2375	Tuesday, December 08, 2015 8:50:00 AM	Service Request	19810 DES MOINES MEMORIAL DR	Resident at 19810 Des Moines Memorial Dr has water issues with his basement and thinks the drainage ditch in front of his house could drain faster and help. Lau is contacting resident immediately as per his request.	By POTTER, DEBB: 12/8/2015 1:19:17 PMLau went out and met with Tony and will have drains cleaned today.	1272527.9	158349.66
2378	Tuesday, December 08, 2015 1:35:00 PM	Service Request	MILITARY RD S & S 150TH ST	Stormwater crew found quite a bit of standing water on Military Rd between S 150th St and S 152nd St. Lau and John checked the lines and they are full of water with no blockages. System is overloaded with continual rainfall.	By SIVA, LAU: 12/11/2015 9:42:21 AMJohn and I put out water over the roadway signs	1280356.12	174404.73
2380	Wednesday, December 09, 2015 12:11:00 PM	Service Request	28TH AVE S & S 144TH ST	Standing water in ditch at 28th Ave S & S 144th St	By SIVA, LAU: 12/11/2015 9:40:19 AM12/9/15 John and I clean the ditch and culvert around the area.	1278428.36	176451.52
2383	Thursday, December 10, 2015 3:13:00 PM	Service Request	13045 MILITARY RD S	Home owner Jim reported a good deal of standing water in the ditch in front of his home. The near by drain is draining well, but his ditch is backing up into a lake in front of his home. He has been making an effort to keep it clean, but the row of vegetation in the ROW makes it impassable for his John Deere. He can only pull leaves with his rake. There is quite a bit of vines in the ditch that Jim would like to see removed and the vegetation thinned out for easier maintenance.	By SIVA, LAU: 12/28/2015 7:22:57 AMMike John and Tom clean culvert on each side of the ditch, wait for dry weather to clean the rest of the ditch. 12/11/15	1278545.69	180631.38
2390	Wednesday, December 16, 2015 2:46:00 PM	Service Request	4800 S 188th St.	Mark Hasbargen witnessed a 5 gallon bucket of bleach fall off a truck and break on the street. He called maintenance to handle cleanup. No material entered the storm drain.	By KULJU, JON: 12/16/2015 2:50:14 PMDriver of truck was Al Seeley, Icicle Seafoods, 253-405-0168	1283917.62	161496.19
2391	Thursday, December 17, 2015 12:01:00 PM	Service Request	2601 S 128TH ST	Loccation: 2601 S 128th St Request that the asphalt burm use to prevent rain water from the road to be funneled to my house. Currently the burm ends at my house so all the rain water that would have drained to other houses are all funneled to my house. I have placed sand bags around the affected area. Please create the asphalt burm ASAP to prevent more flooding to my house.	By WEBFORM, WEBFORM: 12/17/2015 12:01:15 PMCitizen request response via email: thangnguyen@ebay.comBy SIVA, LAU: 12/17/2015 3:18:02 PMWait for dry weather to install berm.	1277898.96	181649.71
2394	Saturday, December 19, 2015 8:23:00 AM	Service Request	3725 S 188TH PL	3725 South 188 PlaceOn the south property line of this address is a location where surface water run off is flooding my garden bed and yard through cement foundation.	By WEBFORM, WEBFORM: 12/19/2015 8:23:45 AMCitizen request response via email: mtkovacs@earthlink.netBy ROBINETT, DON: 12/21/2015 8:26:06 AMI left phone message with Michael Kovaks explaining that this drainage issue is a matter between private property owners and does not involve the City. I gave him my number in case he has any further questi	1280908.96	161520.8
2396	Sunday, December 20, 2015 10:48:00 AM	Service Request	2601 S 128th St	Either landlord or one one of many residents from one of the multiple rental units in this single family home has lined the public right of way with sandbags which they need to remove The fact that residents of this property constantly block the public street by parking entirely on the roadway may be contributing to any runoff issues they may perceiveCitySourced Id: 202062Device Type: AppleDevice Model: iPhone 6Nearest Address (Est.): 2601 S 128th St, SeaTac, WA 98168, USALat/Lng	By CLICKNREQUEST, CLICKNREQUEST: 12/20/2015 10:49:29 AMImage File: http://cdn.freedomspeaks.com/FileStorage/2015-12/0323a30ca1744d31a0f8d51f0f019c4b.pngBy SIVA, LAU: 12/31/2015 10:37:31 AMSandbags its been removed on 12/29/15	1277888.81	181663.43
2397	Monday, December 21, 2015 10:04:00 AM	Service Request	18129 44TH AVE S	John Glover called about his neighbor's flooding at 18129 44th Ave. The drain in the cul-de-sac is in front of his neighbors home. I could not get John to say water was pooling at the drain and not going in. But he said there is a blockage that is causing the flooding from the pipe that runs behind the homes. The pipe is old and John thinks it will break if the blockage is not removed. John has not seen any water coming from the pipe.	By SIVA, LAU: 12/28/2015 7:49:27 AMMike and John use the vac truck to unclog the storm pipe. 12/22/15	1282598.92	163975.04
2399	Monday, December 21, 2015 11:23:00 AM	Service Request	18129 44TH AVE S	Home owner at address has water backing into crawlspace and suspects storm line is blocked. J Kulju and A McFayden inspected SD00001496 from CM00001091 and found outlet to CB is blocked with debris back about 10 feet.	By KULJU, JON: 12/21/2015 11:23:29 AMRequest SD00001496 jetted and cleaned from CM00001091 to ROW approximately 22' from the CB. We will re-inspect afterwards. Please call Jon Kulju or Adam McFayden with questions. Picture of blockage will be sent to Sean and Lau.	1282688.35	163947.67
2402	Wednesday, December 23, 2015 7:47:00 AM	Service Request	4405 S 168th St	Property owner Sargele Filipo submitted a complaint at the permit counter on 12/21/15, that road side ditch was flooding a portion of his property during heavy rains	By ROBINETT, DON: 12/23/2015 7:58:15 AMI met with Mr Filipo on site on the afternoon of 12/21/15. We walked the site and determined that the localized flooding was directed away from his house and was not threatening the foundation of his home. I also explained that the City was aware of the flooding problem, but the correction would require significant construction and Public Works would have to get budget and project approval from the Council, so the earliest we could begin construction	1282759.69	168519.82
2419	Friday, January 15, 2016 3:46:00 PM	Service Request	2125 S 128TH ST	Resident complains of water backing up on roadway adjacent to his property and then flowing over to his foundation and running into his basement. The storm facilities are across the street and not capturing stormwater on his side of 22nd Ave S.	By SIVA, LAU: 1/26/2016 11:50:31 AMI spoke with the home owner today, I inform him the city agree to install a catch basin to catch the water on the west side of the street and keep it from running to his yard. I also let him know we had to wait for dry weather to get the work done. He said ok.	1276560.6	181649.84
2424	Tuesday, January 19, 2016 2:08:00 PM	Service Request	S 208TH ST & MILITARY RD S	Car drove through the ditch on S 208th and smashed the pipe and filled the ditch with dirt.	By SIVA, LAU: 1/22/2016 7:35:49 AMTom and I clean up the ditch and repair the pipe.	1280297.22	154931.18
2425	Wednesday, January 20, 2016 2:11:00 PM	Service Request	20625 12TH AVE S	Scott Davis called from Highline Water Dist. He was called out on a water leak and found the issue to be 2 plugged catch basins behind 20625 12th Ave S.	By SIVA, LAU: 1/22/2016 7:26:02 AMIt's a private property catch basins.	1272590.38	155949.94
2431	Friday, January 22, 2016 3:57:00 PM	Service Request	19802 DES MOINES MEMORIAL DR	Resident Ruby says PW Mtce came out recently and filled the hole at the entrance to her driveway. There is a bigger hole again. Please come out and fix.	By REINHARDT, BRETT: 1/26/2016 9:49:48 AMBrett filled the hole with cold mix for the time being. Talked with Lau and he will schedule the repair in dryer weather. I informed Ruby of the plan and she is thankful.By REINHARDT, BRETT: 1/28/2016 10:40:37 AMLau and crew fixed the pipe on 1-28-16.	1272533.69	158370.72
2445	Thursday, January 28, 2016 4:14:00 PM	Service Request	20627 12TH AVE S	drainage on street.20627 12th ave S. strom drains backing up in front and back of houses lots of water. Please come and look at it	By WEBFORM, WEBFORM: 1/28/2016 4:14:01 PMCitizen request response via email: ckearl@hotmail.comBy SIVA, LAU: 1/29/2016 10:51:04 AMI email Cherie, to inform her the catch basin behind her house is on private property, its full of sediment and needs cleaning and it's the homeowner responsibility to clean it.	1272589.88	155924.54
2460	Tuesday, February 16, 2016 12:56:00 PM	Service Request	4405 S 168th St	Sink hole in driveway reported by property owner Storm pipe is collapsedCitySourced Id: 214100Device Type: AppleDevice Model: iPhone 5C (CDMA)Nearest Address (Est.): 4405 S 168th St, SeaTac, WA 98188, USALat/Lng Coordinates: 47.452667, -122.278732AttachedMediaCount: 1InitialBoundaryName: SeaTac, WAEmailedToAddress: lkellis@ci.seatac.wa.usEmailedToAddress: kspencer@ci.seatac.wa.us	By CLICKNREQUEST, CLICKNREQUEST: 2/16/2016 12:57:08 PMImage File: http://cdn.freedomspeaks.com/FileStorage/2016-02/78dbedf74d244bd7bc028055524090f0.pngBy SIVA, LAU: 2/22/2016 8:00:45 AMRepair pipe separation. TG/LS 2/17/16	1282825.77	168478.08
2463	Friday, February 19, 2016 10:57:00 AM	Service Request	3529 S 172ND ST	Hole in culvert in front of 3529 S 172nd St	By SIVA, LAU: 2/22/2016 8:04:07 AMRepair pipe separation TG/LS 2/22/16	-13612847	6015720.11

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
2465	Saturday, February 20, 2016 6:12:00 PM	Service Request	South 198th St & International Blvd	Hi. Angle Lake is filling up and the water level is over our ramp to our dock. Who do I contact to drain water out of the lake? Thanks	By WEBFORM, WEBFORM: 2/20/2016 6:12:02 PMCitizen request response via email: dnamayeda@comcast.netBy CLARK, SEAN: 2/22/2016 2:50:27 PMSean left a message with Duane and informed him that the water is going into the overflow and is flowing good.		
2469	Monday, February 22, 2016 1:45:00 PM	Service Request	3201 S 192nd St	Fire Fighting activities performed by Kent RFA resulted in a firefighting runnoff being discharged to the MS4. Kent RFA Battalion Chief Brian Dodge reported the incident to the Spill Hot Line on the morning of February 20th. Less than 1% of the discharge was fire suppression foam.	By ROBINETT, DON: 2/22/2016 1:51:43 PMOn 2/22/1, I collected all the pertinent information from Kent RFA staff and submitted a G3 notification to Ecology. No clean up efforts were possible as discharge was washed away by subsequent storm events.	1279250.17	160396.94
2472	Tuesday, February 23, 2016 10:19:00 AM	Service Request	angle lake	David called about the level of the lake and its draining systems. He reported that the West end was draining properly but the drain in the north arm was not. Debb told him that per another request we already had someone out looking at it and could report back.	By POTTER, DEBB: 2/23/2016 10:21:31 AMSean and Lau have photos of the NE drain (the only one) and the water is currently at a level where is is draining through the side grills. Maintenance is forwarding this to Don Robinett to follow up with the citizen as he is currently handling these concerns.		
2480	Monday, February 29, 2016 1:14:00 PM	Service Request		Pipe running north-south from CB 1954 has missing sections of pipe. Marked by locate service.	By SIVA, LAU: 3/3/2016 7:44:06 AMReplace six feet of missing pipe (Storm crew)	1282792.07	168549.81
2506	Thursday, March 17, 2016 4:14:00 PM	Service Request	18118 44TH AVE S	see attached e-mail for drainage complaint on home owners property.	By KENNEDY, CARY: 3/17/2016 4:19:31 PMCalled Mr. Glover to let him know that we received his request.By KENNEDY, CARY: 3/17/2016 4:25:36 PMI told Mr. Glover that the City would contract him no later than Wed 3-23-16. Please let me know if this is a problem and i will contact him.	1282731.39	164058.05
2512	Monday, March 21, 2016 4:46:00 PM	Service Request		On 3/18/16 around a11 AM City received call from Kent RFA requesting assistance with a fire in s storm drain line North of the library.	By ROBINETT, DON: 3/21/2016 4:54:02 PMJon and Adam provided assistance with video equipment to determine extent of the fire. Maintenance staff assisted RFA staff with fire suppression by water jetting the line. The fire appeared to set using up to 5-7 gallons of oil and gas. No discharges were observed leaving the City's MS4. Staff thinks gas and oil were incinerated before they left the system.Conducted temporary emergency into the night on 3/18/16. Filed G3 Notice to Ecology on 3/21/	1284151.78	165075.77
2525	Tuesday, March 29, 2016 1:27:00 PM	Service Request	32ND AVE S & S 182ND ST	Received call from Jim Reed in Bow Lake Park. City drainage ditch in open space tract is clogged and overflowing onto Bow Lake Mobile Home Lots. Please maintain ditch.	By ROBINETT, DON: 3/29/2016 1:29:50 PMDispatched to ParksBy FITZPATRICK, MIKE: 8/4/2016 8:12:36 AMDispatched to PW Maintenance	1279545.41	163869.18
2564	Tuesday, April 19, 2016 2:20:00 PM	Service Request	4419 S 188th St	I was notified by Don Robinett on the morning of 4/19/2016 that I needed to go out to 4419 S 188th St to run field screening on Angle Lake.	By MCFAYDEN, ADAM: 4/19/2016 2:24:34 PM4/19/2016: I was notified by Don Robinett on the morning of 4/19/2016 to go to 4419 S 188th St and run field screening tests on Angle Lake. All test results were negative.	1282375.84	161348.53
2606	Tuesday, May 10, 2016 7:18:00 AM	Service Request	22017 Military RD S	Home owner requested review of stormwater entering his property from Military Road culvert. Visited site and discovered property is lower than culvert so stormwater is following natural course across property. Also noticed a drywell installed on property that appeared to be installed to infiltrate water coming onto the site. Suggested homeowner clean area of leaves and debris, clean and test the drywell with water and regrade the infiltration area to drain to drywell.	By KULJU, JON: 5/10/2016 7:19:01 AMSpoke with Miguel Michel and his son Miguel. By KULJU, JON: 5/10/2016 7:23:36 AMResolved issue with homeowner. He will attempt maintenance on his drywell system.	1279625.44	150847.91
2619	Monday, May 16, 2016 2:07:00 PM	Service Request	S 188TH ST & 28TH AVE S	heading east on S 188th on the right as you emerge from the tunnel a catch basin grate is damaged and needing replacement.	By SIVA, LAU: 5/17/2016 7:23:34 AMReplaced broken lid	1277949.81	161965.88
2647	Sunday, June 05, 2016 4:50:00 PM	Service Request		plastic sheeting has been in the retention pond on 24th for quite awhile. Please get it out of there !! Thank you.	By WEBFORM, WEBFORM: 6/5/2016 4:50:31 PMCitizen request response via email: lily_wolf1021@yahoo.comBy SIVA, LAU: 6/7/2016 11:23:22 AMRemoved plastic out the pond		
2652	Monday, June 06, 2016 4:04:00 PM	Service Request	3815 S 179TH ST	My neighbor has a leaking diesel truck. It is an oily substance and it runs into my yard.Is this a fire hazard?I have a bag of oily dirt I don't know where to dump it	By WEBFORM, WEBFORM: 6/6/2016 4:04:10 PMCitizen request response via email: virginiaols@comcast.netBy PILCHER, STEVE: 6/7/2016 9:27:13 AMREFERRED TO STORMWATER FOR FOLLOW-UP. NO CODE VIOLATIONS INVOLVED.	1281675.23	164513.54
2671	Wednesday, June 15, 2016 1:51:00 PM	Service Request	3731 S 194th St	Description: Broken chain on control structureCitySourced Id: 244277Device Type: AppleDevice Model: iPhone 5C (CDMA)Nearest Address (Est.): 3731 S 194th St, Seattle, WA 98188, USALat/Lng Coordinates: 47.429749, -122.286072AttachedMediaCount: 1InitialBoundaryName: SeaTac, WA	By CLICKNREQUEST, CLICKNREQUEST: 6/15/2016 1:51:29 PMImage File: http://s3.citysourced.com.s3.amazonaws.com/FileStorage/2016-06/b3688a80ac5e454185b0155f2416c7f5.pngBy SIVA, LAU: 6/22/2016 2:01:37 PMReplace it with new chain.	1280852.27	160154.07
2672	Wednesday, June 15, 2016 2:13:00 PM	Service Request	3749 S 194th St	Description: Broken chain in control structureCitySourced Id: 244281Device Type: AppleDevice Model: iPhone 5C (CDMA)Nearest Address (Est.): 3749 S 194th St, SeaTac, WA 98188, USALat/Lng Coordinates: 47.429657, -122.285187AttachedMediaCount: 1InitialBoundaryName: SeaTac, WA	By CLICKNREQUEST, CLICKNREQUEST: 6/15/2016 2:13:27 PMImage File: http://s3.citysourced.com.s3.amazonaws.com/FileStorage/2016-06/7123e108b10d443d8884e8b98826c464.pngBy SIVA, LAU: 6/22/2016 2:03:13 PMRepair chain	1281070.66	160116.39
2709	Thursday, June 30, 2016 8:34:00 AM	Service Request	4236 S 172ND ST	Resident Kara is reporting that heropen ditch on S 172nd is eroding. They would like to discuss putting crushed rock or other type of repair/improvement. She is asking for a phone call at 3pm today. She gets off work at 2:30pm.	By SIVA, LAU: 7/5/2016 7:51:46 AMNothing wrong with the ditch. She like to spoke with Nothing wrong with the ditch.	1282588.52	167410.34
2736	Thursday, July 14, 2016 1:29:00 PM	Service Request	3714 S 189th Pl	Receved ERTS report # 666142 on 7/13/16 Michael Kovacs, property owner at 3714 S1890th PL expressed concerns regarding stormwater runoff from his neigbor (3725 S188th Pl).	By ROBINETT, DON: 7/14/2016 1:37:03 PM7/13/16 Investigated site that afternoon and spoke with MR. Kovacs. I explained that since there was no water quality issues and the work performed by the neighbor did not require any permits its a civil matter between property owners.	1280869.43	161421.5
2762	Monday, August 01, 2016 2:15:00 PM	Service Request	3306 S 170TH ST	Caller reported possible stormwater violation. Property owner attempted to patch asphalt parking lot with asphalt roof cement and gravel. Cars and pedestrians are tracking asphalt onto street and sidewalk.	By KULJU, JON: 8/1/2016 2:15:18 PMVisited the site and observed the tracking of the asphalt that caller reported. Material tracking did not pose threat to storm system. Will contact owner to discuss issues.By KULJU, JON: 8/22/2016 8:25:24 AMEric and I visited the site on 8/1 and advised the manager that the material was not suited for the repair. Eric followed up with the owner and was told that proper repairs were planned.	1280039.43	168064.97
2810	Wednesday, September 07, 2016 11:29:00 AM	Service Request	16623 51ST AVE S	Cement around storm drain is cracked in front of residence at 16623 51st Ave S	By SIVA, LAU: 9/8/2016 12:32:59 PMRepair cracked concrete around the pipe.	1284772.1	168841.19
2853	Thursday, October 06, 2016 7:58:00 AM	Service Request	20822 32ND LN S	Manager called to report water streaming down hillside onto property.	By KULJU, JON: 10/6/2016 7:58:07 AMCall went to Florendo originally who passed info along to Jon KuljuBy KULJU, JON: 10/6/2016 8:00:33 AMFollowed up with manager to investigate. Appears to be groundwater seeping down hillside. Lot is vegetated slope with no development activities. Neighbor property has constant water flowing onto their property.	1279423.02	154497.26
2862	Monday, October 17, 2016 2:03:00 PM	Service Request	2237 S 134TH ST		By SIVA, LAU: 10/21/2016 7:01:39 AM10/19/16 Install berm in front of driveway keep the water off the property.	1276963.04	179672.81
2868	Thursday, October 20, 2016 11:18:00 AM	Service Request	S 152ND ST & MILITARY RD S	Water over road way on Military Rd S between S 148th and S 152nd Streets. Lau verified catch basins are clean, but unable to deal with the unusually large amount of rain fall.	By SIVA, LAU: 10/21/2016 7:04:32 AMPut out water over the road way signs	1280440	173739.15
2873	Tuesday, October 25, 2016 9:54:00 AM	Service Request	2000 S 136TH ST	Dump truck leaked about 1 gallon of Hydraulic fluid at the shop.	By SIVA, LAU: 10/28/2016 7:50:27 AMWe spread absorbal over oil and swept the area, some oil get into catch basin, we put pads and boom in cb to contain oil in the cb. we use vac truck to clean it out and disposal at Mar Vac.	1276042.92	179244.75
2881	Monday, October 31, 2016 9:11:00 AM	Service Request	3726 S 180TH ST	Water on S 180th in front of Hunt Club Apartments	By SIVA, LAU: 11/7/2016 8:58:23 AMHunt Club Apt. maintenance staff was keeping the catch basin clean.	1280908.37	164578.78
2883	Monday, October 31, 2016 3:13:00 PM	Service Request	S 188TH ST & INTERNATIONAL BLVD	Water coming from the Jack and the Box on the corner of S 188th & International Blvd is flooding S 188th St. Lau investigated and could not locate a catch basin in the parking lot. We are forwarding the issue to storm water compliance.	By KULJU, JON: 11/2/2016 7:46:18 AMConnection to City system is clogged. Met with Maintenance on site and cleared pipe of debris. Need to clear roots in RW side of drain.By ROBINETT, DON: 11/7/2016 1:18:47 PMService request has been reassigned to PW Maintenance as the clogged storm line is in the ROW. Vactor crew is continuing to work on removing the roots clogging the line.	1278516.34	161947.8
2900	Tuesday, November 08, 2016 2:42:00 PM	Service Request	21402 35TH AVE S	Culvert in front of 21402 35th Ave is overgrown and filling with water when it rains. Resident Virginia would like to be contacted about having it cleaned out.	By SIVA, LAU: 11/16/2016 11:57:05 AMWe clean the ditch and unclogged the pipe	1280349.25	152863.26
2911	Wednesday, November 16, 2016 9:11:00 AM	Service Request	4439 S 170TH ST	the ROW in front of Lois' house floods every year due to a sunken area. She would like some one to come a look at it to see if anything can be done. Please call her at 206.244.1338 prior to coming out so she can discuss it in person.	By SIVA, LAU: 11/30/2016 8:20:49 AMWe clean out the 4" pipe in front her house causing the flood. The pipe it in ROW running from her house, the home owner install the pipe long time ago, its a 4" pipe running from the house to small catch basin in the ROW and from cb a 4" pipe connected to the 12" pipe. 11/17/16	1283232.69	167848.33
2912	Wednesday, November 16, 2016 4:36:00 PM	Service Request	2301 S 200th St	Description: This is on the Des Mounes bike trail inside the Des Mounes city boundary. About 1 mile from South 200th Street parking lot. Dangerous to bike riders, skate borders and pedestrians.CitySourced Id: 292812Device Type: AppleDevice Model: iPhone 6Nearest Address (Est.): 2301 S 200th St, Seattle, WA 98198Lat/Lng Coordinates: 47.422745, -122.305641AttachedMediaCount: 1InitialBoundaryName: SeaTac, WA	By CLICKNREQUEST, CLICKNREQUEST: 11/16/2016 4:38:47 PMVideo File: http://s3.citysourced.com.s3.amazonaws.com/FileStorage/2016-11/e84fcd5b532e4e0dbbfdcc0f0339dee7.m4vBy KULJU, JON: 11/17/2016 11:36:45 AMVisited the site and it falls within the City of Des Moines. Don and I called Tyler Beekley to notify him of the issue.	1275960.5	157691.77
2934	Friday, December 02, 2016 1:44:00 PM	Service Request	S 188TH ST & 42ND AVE S	KC dispatch called in a spill from an accident at S 188th & 42nd Ave. John and Mike went out and found about a quart of oil and antifreeze and cleaned it with 1 1/2 bags of absorbal. No liquid got into the storm water system.		1281974.81	161831.32
2964	Friday, December 30, 2016 3:52:00 PM	Service Request	19540 International Blvd	12-30-2016Received notification of a sewage spill at 19530 at 10:00am from Yvonne at Alaska Airlines via spill hotline. Arrived on scene determined spill location was 19540 IB Investigation determined sewage entered storm system. Did ammonia test on CB #5216 and results were negative.	By GEORGE, TOM: 12/30/2016 4:02:15 PMAct: Arrived on scene determined spill location was 19540 IB Investigation determined sewage entered storm system. Did ammonia test on CB #5216 (last CB before Angle Lake) and results were negative. Identified responsible Party; Mike Roberts with Air service security/ABM Office number 206-878-3009Tested CB #5213 for ammonia and results were positive. Advised Mike he was responsible for clean up and he agreed to voluntarily comply.	1278696.78	159242.5

City of SeaTac 2017 Cityworks Spreadsheet

Request	Date Initiated	Description	Address	Details	Comments	X Coordinate	Y Coordinate
2982	Tuesday, January 10, 2017 2:24:00 PM	Service Request	S 154TH ST & 24TH AVE S	Oil leak on S 154th from 24th Ave S to 32nd Ave S. URS Midwest Inc truck hit the median when exiting 518 onto 154th St. Lau, Mike, John and Eric put 35 bags of absorbal down and spent about an hour cleaning the spill. No oil got in the catch basins.		1277061.42	173132.06
2995	Friday, January 13, 2017 12:59:00 PM	Service Request	S 200TH ST & INTERNATIONAL BLVD		By GEORGE, TOM: 1/13/2017 1:18:17 PM1/12/2017Jon Kulju received notice from the spill hotline around 9am of a spill at the Chevron located at 200th and International Blvd. Arriving on scene noticed a Recology garbage truck in the parking lot being repaired for a broken radiator hose.Spoke with Kevin from Recology about the spill he informed us that a sweeper was on the way to clean up any fluid that had spilled on the road. Jon and I walked International Blvd to the beginning of the spil	1278231.32	157633.62
3003	Tuesday, January 24, 2017 1:55:00 PM	Service Request	3204 S. 173rd St		By GEORGE, TOM: 1/24/2017 2:12:54 PM1/23/2017Don R. and I investigated a possible Illicit Discharge due to vehicles parked on unpaved surfaces. We arrived at 3204 S 173rd St at 3:40pm and noticed an area of mud and a puddle of water on the cities right of way in front of the property. We also noticed vehicles parked on unpaved surfaces on the property causing it to become unstable muddy. See attached photos. During the next rain event this could potentially cause an Illicit Discharge into	1279606.88	166874.62
3016	Monday, January 30, 2017 11:43:00 AM	Service Request	2932 S 152ND ST		By SIVA, LAU: 2/2/2017 12:09:15 PMRepair pipe and filled the hole with gravel. TA/MK	1279325.97	173849
3027	Thursday, February 09, 2017 10:07:00 AM	Service Request	2424 S 139TH ST	Resident has extreme flooding in their basement. Neighbors are experiencing similar issues. Aaron was dispatched to confirm storm drains are operational.	By WISEMAN, AARON: 2/13/2017 7:15:37 AMSpoke with Randy and explained that there was nothing we could do about the basement flooding. The water was coming up from their floor drain that is not connected to our storm system. I explained that with snow melt and heavy rains, it was common.	1277441.84	178184.9
3028	Thursday, February 09, 2017 10:22:00 AM	Service Request	3726 S 180TH ST	Large pond in entrance of the Hunt Club. Lau will dispatch someone to verify city drains are operational.	By WISEMAN, AARON: 2/13/2017 7:25:11 AMSpoke with manager about situation and explained that the ditch (cause of problem & private property) could not take the amount of snow melt and rain. She stated she understood the situation and would let the residents know	1280908.37	164578.78
3049	Monday, February 13, 2017 10:28:00 AM	Service Request	2625 S 150th St	CB in West property line is over flowing - causing localized flooding on Mr Suckie and adjacent properties both south and west of his address.	By ROBINETT, DON: 2/13/2017 10:35:04 AMReceived call from Alexander Suckie on 2/9/16 and conducted site visit with Eric Proctor. Site investigation revealed that CD that was flooding over is fed by a seasonal stream that flows south under S 15oth then onto Mr Suckie's property. I advised my Suckie that I would conduct a records search to determine if an easement or ownership of the piped stream corridor has bee established. I also advised him that if there was no record of ownership for t	1277918.34	174346.17
3051	Monday, February 13, 2017 2:28:00 PM	Service Request	19704 38th Pl S	On 2/10/17 staff received call from Fran Esmond expressing concerns regarding stormwater from neighbors property flow to her propety and flooding her basement.	By ROBINETT, DON: 2/13/2017 2:44:36 PMOn 2/10/17, at Ms Esmond's request Eric Proctor and myself conducted a site visit to assess the drainage issue. Based on the depositional patterns of the sediments it appear the stormater runoff from 39th PL S left the private road (39th PL S) and entered Ms Esdmond's property updhill of her foundation. We also spoke with adjectent property owners on 39th PL S and advised them of the stormwater as a common enemy doctrine and advised them that it would	1281037.74	158679.7
3059	Wednesday, February 15, 2017 10:50:00 AM	Service Request	2613 S 150TH ST	Marion left a message on the shop phone 2/15 at 9:49 about flooding on her property. She saw 2 guys out yesterday but hadn't hear anything. I looked it up on our map viewer and it looks like her neighbor at 2625 has some drains and called Don Robinette. He confirmed they were out there and took Marion's phone number to call her back.		1277858.11	174372.97
3062	Thursday, February 16, 2017 3:07:00 PM	Service Request	14055 MILITARY RD S	Resident says the ditch in front of her house is still full of water and would like someone to take a look. Please call her with findings.	By SIVA, LAU: 2/21/2017 7:34:26 AMI explain to the home owner there nothing wrong with the ditch but I'll keep eye on it when rain again.	1279533.34	177187.15
3063	Friday, February 17, 2017 8:30:00 AM	Service Request	S 208TH ST & MILITARY RD S	Flooding at base of 208th St by Military Rd S	By SIVA, LAU: 2/21/2017 7:21:04 AMJohn clean out the ditch	1280297.22	154931.18
3115	Friday, March 10, 2017 12:46:00 PM	Service Request	18769-18773 46th Ave S	Description: Catch basin inlet protection is still in place and appears to be full of sediment/pluggedCitySourced Id: 329826Device Type: AndroidDevice Model: SM-G930VNearest Address (Est.): 18769-18773 46th Ave S, SeaTac, WA 98188Lat/Lng Coordinates: 47.434175, -122.276391AttachedMediaCount: 1InitialBoundaryName: SeaTac, WA	By CLICKNREQUEST, CLICKNREQUEST: 3/10/2017 12:47:52 PMImage File: http://s3.citysourced.com.s3.amazonaws.com/FileStorage/2017-03/6c54ef2aef854a3bbaea0c08405f297a.pngBy SIVA, LAU: 3/15/2017 9:08:08 AMRemoved cb bag and cleaned catch basin 3-13-17 JL	1283278.4	161723.17
3118	Monday, March 13, 2017 9:38:00 AM	Service Request	S 209TH ST & MILITARY RD S	The berm on the north side of S 3404 209th St has washed away and street run off in washing into residents yard.	By SIVA, LAU: 3/15/2017 9:35:05 AMWe use sand bags to fix the berm for now, waiting for better weather to repair the berm. JL talk to the home about it	1280231.74	154611.37
3121	Tuesday, March 14, 2017 1:21:00 PM	Service Request	16TH AVE S & S 192ND ST	Catch Basin not draining on 16th Ave S in the southbound lane just north of S 192nd.	By SIVA, LAU: 3/15/2017 10:03:07 AMWe use a Vac truck to unclogged the pipe. JL	1273894.91	160803.06
3131	Thursday, March 16, 2017 1:44:00 PM	Service Request	21245 31ST AVE S		By POTTER, DEBB: 3/16/2017 1:44:57 PMI would like to request a burm put in front of my house. The is one in at the end of my driveway. I bought my house in 07 and over the years the water is washing down beside and into my driveway creating a lot of mud with the dirt and gravel and creating a problem.	1278712.12	153021.32
3137	Friday, March 17, 2017 4:35:00 PM	Service Request	2626 S148th St	The resident has observed runoff from S148th St entering his yard and requests that a water bar be installed to divert the water.	By SIVA, LAU: 3/27/2017 12:32:48 PMInstall 50' berm JL/BB/RR	1278008.44	175195.65
3138	Friday, March 17, 2017 4:52:00 PM	Service Request	3020 S 148TH ST	Property owner says stormwater runds down S 148th Street directly onto his property. He would like a stop bar of some type.	By SIVA, LAU: 3/21/2017 2:20:59 PMInstall berm in front of the driveway. JL/LS	1279237.54	175122.21
3195	Monday, April 10, 2017 10:13:00 AM	Service Request	S 182ND ST & MILITARY RD S	Accident at S 182nd & Military left oil in the intersection. John cleaned it with absorbal		1284393.9	163715.88
3249	Wednesday, May 03, 2017 8:39:00 AM	Service Request	3771 S 194TH ST	Water bubbling out of storm drain. Lau went to location, water was no longer bubbling out and called Highline Water Dist and verified drain flushing had occured.		1281257.5	159873.94
3316	Sunday, June 11, 2017 7:00:00 PM	Service Request	16619 MILITARY RD S	Description: Manhole cover is loose and rattling every time a car runs over it. Bolts seem missing. Should be secured so it is not loose.CitySourced Id: 360377Device Type: AppleDevice Model: iPhone SENearest Address (Est.): 16619 Military Rd S, SeaTac, WA 98188Lat/Lng Coordinates: 47.45409, -122.280518AttachedMediaCount: 1InitialBoundaryName: SeaTac, WA	By SIVA, LAU: 6/23/2017 9:09:09 AMReplaced two frame and grate. 6/20/17 MK/TA	1282297.13	168955.17
3438	Thursday, August 10, 2017 9:59:00 AM	Service Request	S 166TH ST & 32ND AVE S	Shopping cart in the ditch on S 166th, between 32nd Ave & 34th Ave	By SIVA, LAU: 8/11/2017 10:23:16 AMRemoved shopping cart out the ditch 8/10/17	1279602.97	169256.64
3474	Friday, September 01, 2017 1:42:00 PM	Service Request	48th Pl S & 186th	9/1/2017 Received an ERTS about watered down paint leaking from Recology truck on 8/30/2017 only on roadway.	By GEORGE, TOM: 9/1/2017 1:53:09 PM9/1/2017 investigated ERTS #675488 saw no evidence of a spill or illicit discharge of watered down paint on roadway. Spill was cleaned up prior to investigating and receiving the ERTS.	1284247.54	162237.76
3521	Monday, September 25, 2017 9:42:00 AM	Service Request	4832 S 172ND ST	Drainage ditch in front of residents home is filled with debris.	By WISEMAN, AARON: 9/25/2017 1:48:02 PMJohn removed debris from pipe and issue has been resolved	1284509.24	167356.84
3549	Thursday, October 12, 2017 8:45:00 AM	Service Request	35TH AVE S & 37TH PL S	Accident large oil spill in roadway.	By SIVA, LAU: 10/12/2017 12:07:42 PMLau and Aaron clean up oil spill. No oil run in to catch basin.	1280355.33	153419.68
3556	Friday, October 13, 2017 7:15:00 AM	Service Request	14055 MILITARY RD S	Ditch in front of home needs to be cleaned out before heavy rain.	By SIVA, LAU: 10/16/2017 3:50:33 PMTom and Tony cleaned out ditch	1279533.34	177187.15
3594	Monday, October 23, 2017 3:04:00 PM	Service Request	4041 S 170TH ST	Water is not flowing properly through rain drainage and stays around for a long time. Caller checked drain said it seems clear but maybe something deeper inside is clogging it.	By WISEMAN, AARON: 10/25/2017 9:45:25 AM10-24-2017 Mike and Tom went to jet line and Said approached them to speak about the problem. The problem is actually a yard drain and Mike explained that there is nothing we can do for him as far as that goes, however we would keep an eye on our ROW to make sure there are no issues	1282184.72	167849.42
3595	Monday, October 23, 2017 3:15:00 PM	Service Request	19245 33RD AVE S	Drain ditch has overgrown debris in it. Last year same thing and it overflowed on to resident's property. Need someone to clear up debris to avoid repeat issue.		1279463.9	160117.84
3601	Wednesday, October 25, 2017 12:21:00 PM	Service Request	Catch basin on S 130th Pl	Yesterday afternoon, I was making a field inspection of a wetland replanting project completed as part of Valley View's sewer project in the north end. A neighbor approached and discussed a number of concerns regarding the project but in particular, claimed that a catch basin located in the southwest corner of the cul-de-sac hasn't been maintained in years. I told him I would pass this on to Public Works. Let me know anything you find out, as this citizen is likely to call me for an update.	By POTTER, DEBB: 10/30/2017 8:00:57 AMSee attachment (email from Steve Pilcher) regarding location By SIVA, LAU: 11/2/2017 1:04:55 PMCatch basin on private property		

List of Known Problem Areas for LID Infeasibility Mapping

City of SeaTac

Project/Site Name	Address/Cross Street or Parcel #	Description of Drainage Problem	Staff Providing Data	SR #	Notes
Bow Lake sites					
Hilton	17620 International Blvd	Shallow water table	Don Robinett		
Hilton	3117 S176th St.	Shallow water table	Don Robinett		
Wally Park	17808 Intl Blvd	Shallow water table	Don Robinett		
SeaTac Office Park	17900 Intl Blvd	Shallow water table/ flooding issues	Don Robinett		
SeaTac Office Park	17930 Intl Blvd	Shallow water table/ flooding issues	Don Robinett		
SeaTac Office Park	1800 Intl Blvd	Shallow water table/ flooding issues	Don Robinett		
Radisson Hotel	18118 Intl Blvd	Shallow water table/ flooding issues	Don Robinett		
Doubletree by Hilton Hotel	18740 Intl Blvd	Shallow water table/ flooding issues	Don Robinett		
Bow Lake Mobile Home Park	32nd/181st to 184th	Shallow water table/ flooding issues	Don Robinett		
Parkhurst	Parcel # 6663000010 NW Corner of 208th and 24th Ave	Contains areas of reoccuring flooding and drains to steep/unstable slopes	Don Robinett		
Parkhurst Parcel B	Parcel # 6663000102 West of Parkhurst	Contains areas of reoccuring flooding and drains to steep/unstable slopes	Don Robinett		
Des Moines Creek Park	S of S200th St	Contains Shallow Water Tables, and drains to Steep/unstable slopes	Don Robinett		
SFR	18023 Military Road	Shallow Water Table drains to known crawlspace flooding issue	Don Robinett		
SFR	18029 Military Road	Shallow Water Table drains to known crawlspace flooding issue	Don Robinett		
SFR (Carol Trail)	18035 Military Rd	Shallow Water Table drains to known crawlspace flooding issue	Don Robinett		
SFR	18041 Military Road	Shallow Water Table drains to known crawlspace flooding issue	Don Robinett		
SFR	17968 48th Ave S	Drains to known crawlspace flooding issue	Don Robinett		
SFR	17960 48th Ave S	Drains to known crawlspace flooding issue	Don Robinett		
SFR	17954 48th Ave S	Drains to known crawlspace flooding issue	Don Robinett		
SFR	21245 31st St	Yard flood during heay rains - shallow water table	Don Robinett		
SFR	21239 31st St	Shallow water table	Don Robinett		
SFR	21231 31st St	Shallow water table	Don Robinett		
City Hall	4800 S 188th St	Shallow water table - water seep out through cracks in parking lots	Don Robinett		
Filipo SFR	4405 S 168th St	Localized flooding	Don Robinett	2402 & 2460	Include areas that drain to these parcel(s)
SFR	18129 44th Ave S	Flooding Crawl Space - Shallow water table	Jon Kulju	2399	Include areas that drain to these parcel(s)
Kovacs SFR	3714 S 189th Pl	Flooding Backyard	Don Robinett	2394 & 2736	Include areas that drain to these parcel(s)
SFR	3725 S 188th Ln	Runoff from site floods Kovacs	Don Robinett	2394	Include areas that drain to these parcel(s)

List of Known Problem Areas for LID Infeasibility Mapping

City of SeaTac

Project/Site Name	Address/Cross Street or Parcel #	Description of Drainage Problem	Staff Providing Data	SR #	Notes
Nelson SFR	19810 Des Moines Memorial Dr	Water in Basement - Shallow water table	Lau (Service request)	2375	Include areas that drain to these parcel(s)
Des Moines Creek Park	2151 S. 200th St.	Periodic landslide activity along creek bank	Mike Fitzpatrick		Include areas that drain to these parcel(s)
Sunset Park	13659 18th Ave S.	Shallow water table/ flooding issues-old ballfields #3 & #4	Mike Fitzpatrick		Include areas that drain to these parcel(s)
North SeaTac Park	6404600190 & 6040400035	Shallow Water Table/frequently flooded areas	Don Robinett		Include areas that drain to these parcel(s)
Coast Gateway Hotel & Roasters Restaurant	18415 Intl Blvd	Shallow water table - water seep out through cracks in parking lots	Adam McFayden	1828	Include areas that drain to these parcel(s)
BBQ Schact	19231 DMMD	Shallow Water table/Parking lot requestly floods	Adam McFayden	1776	Include areas that drain to these parcel(s)
SFR	18214 44th Ave S	Garage frequently floods/ shallow water tables	Lau (Service request)	1710	Include areas that drain to these parcel(s)
SFR	4848 S 170th St	Shallow Water Table/frequently flooded areas	Lau (Service request)	1401	Include areas that drain to these parcel(s)
City ROW	S 150th / Military Rd	Frequent flooding	Lau (Service request)	1115 & 551	
Landzillion SFR	3421 S 190th St	Shallow Water Table/frequently flooded areas	Lau (Service request)	1162	Include areas that drain to these parcel(s)
Magellson SFR	3774 S 189th St	Frequently Flooded	David Carnes	1173	Include areas that drain to these parcel(s)
Algeria SFR	17029 51st Ave S	Frequently Flooded	Don Robinett	1199	Include areas that drain to these parcel(s)
Wednafrash SFR	18214 44th Ave S	Frequent flooding of Garage	Lau (Service request)	1096 & 252	Include areas that drain to these parcel(s)
Canon SFR	17011 34th Ave S	Frequent flooding of front yard	David Carnes	576	Include areas that drain to these parcel(s)
Meyers SFR	2661 S 138th St	Shallow water table/seep	Lau (Service request)	571	Include areas that drain to these parcel(s)
Gebrehedhin SFR	12825 26th Ave S	Flooding basement/shallow water table	Lau (Service request)	569	Include areas that drain to these parcel(s)
Ruiz SFR	18628 8th Ave S	Flooding of garage	Lau (Service request)	555	Include areas that drain to these parcel(s)
Rassasombath SFR	20612 12th Pl S	Shallow Water Table/frequently flooded garage/yard & septic	David Carnes	310	Include areas that drain to these parcel(s)
Parkers SFR	5122 S170th St	Seep/Shallow water table	Don Robinett	2914	Include areas that drain to these parcel(s)
ROW	Military Road between 148th and 152nd St	Frequent flooding	Lau (Service request)	2868	
Sitterly SFR	3718 S 164th St	Shallow groundwater - retaining wall seeps & floods front yard	Don Robinett		Include areas that drain to these parcel(s)
Colonial Commons Appts	20822 32nd Ln S	Hillside seep & frequent flooding	Jon Kulju	2853	Include areas that drain to these parcel(s)
Angle Lake	Properties abbutting Angle Lake	Seasonal flooding of shorelines and structures	Don Robinett	2472 & 2465	

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City of SeaTac

Project/Site Name	Address/Cross Street or Parcel #	Description of Drainage Problem	Staff Providing Data	SR #	Notes
SFR	2633 S148th St	Shallow Water Table / Flooding of Basement	Don Robinett/Jon Kulju	3127	Include areas that drain to these parcel(s)
Single Family Parcel	Parcel # 2123049017	Shallow water table/fequently flooding	Don Robinett	3133	Include areas that drain to these parcel(s)
Segale Property	Parcel #3523049033	Drains to and contains steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600180	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600185	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600190	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600195	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600200	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600205	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	7681600210	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049022	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049046	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049076	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049043	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049020	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
Segale Property	3523049012	Drains to steep/unstable slopes	Don Robinett		Known seeps and landslide areas downhill of property
SFR	18430 Military Road S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18424 Military Road S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18418 Military Road S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18410 Military Road S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18402 Military Road S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18244 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18240 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW

List of Known Problem Areas for LID Infeasibility Mapping

City of SeaTac

Project/Site Name	Address/Cross Street or Parcel #	Description of Drainage Problem	Staff Providing Data	SR #	Notes
SFR	18234 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18228 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18220 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18212 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18206 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18136 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18130 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18124 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18118 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18112 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18106 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18028 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18020 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18012 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	18004 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17948 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17940 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17924 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17916 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17908 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17828 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17820 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	17812 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW

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City of SeaTac

Project/Site Name	Address/Cross Street or Parcel #	Description of Drainage Problem	Staff Providing Data	SR #	Notes
SFR	17804 51st Ave S	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	5129 S 178th St	Drains to steep slopes with known seeps	Don Robinett		Steep slopes and seeps in WSDOT ROW
SFR	5126 S 178th St	Drains to steep slopes	Don Robinett		
SFR	5118 S 178th St	Drains to steep slopes	Don Robinett		
SFR	5114 S 178th St	Drains to steep slopes	Don Robinett		
SFR	5112 S 178th St	Drains to steep slopes	Don Robinett		
SFR	5106 S 178th St	Drains to steep slopes	Don Robinett		
Bow Lake Park	3423049327	Drains to steep slopes	Don Robinett		