Drainage Review Requirements and Process for Single Family Residential Type Projects

These step-by-step instructions are intended to help guide applicants through the requirements and process of drainage review for single family residential type projects, in order to meet the currently adopted 2021 King County Surface Water Design Manual (SWDM). This guide outlines all the required documents that will need to be submitted for the drainage review process, as part of the building permit application. These instructions are intended to be used for the following residential type of projects:

- New residential building permits
- Additions, alterations or remodels to existing residential structures that increase impervious surface coverage on the lot
- New detached structures on residential property
- Additions or replacement of non-structure impervious surfaces (such as patios, driveways or parking areas) on residential property
- Clearing or grading activity on residential property
- Agricultural type projects

Projects that are subject to drainage review, will be required to apply drainage devices or measures called Flow Control Best Management Practices (BMPs) for each of the target surfaces associated with the project (such as the building roof and/or driveway). Flow Control BMPs include devices such as dispersion trenches or infiltration drywells to redistribute the stormwater runoff back into the native vegetation or native soils, to reduce the amount of runoff from the development. Flow Control BMPs also include measures, such as reducing the allowed amount of impervious surface or preserving vegetation on the site. All of the various Flow Control BMPs and the design requirements are listed within Appendix C of the 2021 King County Surface Water Design Manual (SWDM).

Please note that this document is intended to provide a general and summarized description of thresholds and requirements from the SWDM. Any discrepancies between what is stated within this document and the requirements within the SWDM, the SWDM shall take precedence.

RESIDENTIAL DRAINAGE REVIEW STEP BY STEP DIRECTIONS

Step 1: Prepare a Site Plan

Prepare a proposed site plan. See Residential Building Permit, Site Plan Requirements for required information to be shown on the site plans. A site plan is required to be submitted for all projects regardless of whether drainage review is required.

Step 2: Complete the Site Area Worksheet.

Refer to the Site Area Worksheet. The areas noted within the worksheet should match the site plans, architectural building plans, and other documentation such as drainage reports accordingly. A Site Area Worksheet is required to be submitted for all projects regardless of whether drainage review is required.

Step 3: Determine Type of Drainage/Engineering Review

Using the areas determined within the Site Areas Worksheet above and using the Drainage Review Flowcharts included at the end of this document to determine which types of drainage review will be applicable to the project. Also refer to Section 1.1.2 of the SWDM for a complete description of the application requirements and thresholds for each review type. Below is a brief summary of each of the drainage review types applicable to residential type projects.

No Drainage Review – Drainage review will not be required if the proposed project meets all of the following criteria:

- Less than 2,000 square feet of new and or replaced impervious surface AND
- Less than 7,000 square feet of land disturbing activity AND
- Does not propose to construct or modify a drainage pipe/ditch that is 12-inches or more in size/depth, or receives storm water runoff or surface water from a drainage pipe/ditch that is 12 inches or more in size/depth AND
- Does not contain or adjacent to a Flood Hazard Area[1]

Projects that do not require drainage review will still be required to submit a site plan showing the proposed improvements (Step 1), and a Site Areas Worksheet (Step 2), but can skip directly to Step 11.

Simplified Drainage Review – Includes projects that propose between 2,000 square feet and 5,000 square feet of new and or replaced impervious surfaces, or proposes more than 7,000 square feet of land disturbing activity, and meets one of the following criteria:

- Less than 3/4 of an acre (32,670 square feet) of new pervious surface AND
- Meets one of Threshold Criteria #1 through #6 listed within Section 1.1.2.1 of the SWDM

Projects subject to Simplified Drainage Review will be required to implement Flow Control Best Management Practices (BMPs) for the applicable target surfaces requiring mitigation. The required site plans, design of flow control BMPs and the drainage assessment can be prepared by contractors,

[1] Flood Hazard Areas include any lakes, streams, submerged wetlands or closed depressions that are subject to inundation by the base flood. A flood hazard area may consist of the following components: 100-year floodplain, zero-rise flood fringe, zero-rise floodway, FEMA floodway , and channel migration zones.

architects, or homeowners without the involvement of a professional engineer. Refer to Section C.1 of the SWDM for a more detailed description of Simplified Drainage Review.

Directed Drainage Review – Includes projects that propose more than 5,000 square feet of new/replaced impervious surface or more than 3/4 of an acre (32,670 square feet) of new pervious area. Projects that are subject to Directed Drainage Review will require a Civil Engineer to prepare site plans and a Technical Information Report (TIR) to demonstrate that the project complies with all nine core requirements in Section 1.2 of the SWDM and the five special requirements in Section 1.3 of the SWDM. Refer to Section 1.1.2.3 of the SWDM for more detailed information on Directed Drainage Review.

For single family residential projects only, Public Works may waive the requirement for a civil engineer for projects within Directed Drainage Review, provided that all of the target impervious surfaces are addressed using either Full Dispersion BMPs[2] or Full Infiltration BMPs[3]. In these instances, Public Works may allow for a more simplified drainage assessment (as noted within Step 8), in lieu of a providing a full Technical Information Report (TIR).

Targeted Drainage Review – Targeted Drainage Review is an abbreviated evaluation by Public Works review staff of a proposed project's compliance with selected core and special requirements of the SWDM (Refer to Section 1.1.2.2 of the SWDM). Projects subject to this type of drainage review are typically simplified drainage review proposals or other small projects that have site specific or project specific drainage concerns that must be addressed by a civil engineer or Public Works review staff. For projects that are not subject to either simplified drainage review or directed drainage review as determined above but do include one of the following conditions will be subject to Targeted Drainage Review:

- **Projects that contain or are adjacent to a Flood Hazard Area** – These projects will be required to meet Special Requirement #2 of the SWDM, which may require a floodplain/floodway study to be completed as per Section 4.4.2 of the SWDM. The delineation of the floodplain and the base flood elevation shall be shown on the site plan.

- **Projects that propose to construct or modify a drainage pipe/ditch that is 12inches or more in size/depth, or receives storm water runoff or surface water from a drainage pipe/ditch that is 12-inches or more in size/depth** – These projects will be required to meet the core and special requirements listed within Section 1.1.2.2 under TDR Project Category #2 of the SWDM.

In addition, targeted drainage review will be required for projects that are subject to simplified drainage review, and contain the following:

- **The site/project contains or is adjacent to a steep slope hazard area, landslide hazard area, or drains to a landslide hazard area** – These projects will be required to address the discharge requirements listed under Core Requirement #1 of the SWDM, which may require a civil engineer or a geotechnical engineer. In addition, based upon the Flow Control BMPs that are proposed, may require a geotechnical engineer or geologist to evaluate the use of these

[2] All minimum design requirements for Full Dispersion per Section C.2.1.1 of the SWDM must be met in order to waive the requirement for a Civil Engineer. This includes providing the required Native Growth Retention Area within the site.

[3] For projects that propose more than 5,000 square feet of pollution generating impervious surface (PGIS) that is not fully dispersed, which includes driveways and parking areas, will require a Civil Engineer to address water quality treatment requirements, per Section 1.2.8 of the 2021 SWDM.

BMPs based upon the location or setback from the steep slope or landslide hazard area. Refer to the design requirements of each Flow Control BMP per Appendix C of the SWDM.

Step 4: Determine the Applicable Target Impervious Surface Area for BMP Mitigation

If the project is a New Development project[4];

Then target impervious surfaces include **new and replaced impervious** surface plus existing impervious surface added on or after January 8, 2001.

If the project is a Redevelopment project[5] and can meet at least one of the following criteria;

- Net new impervious surface is less than 5,000 square feet OR
- Valuation of improvements is less than 50% of the assessed value of the existing site improvements,

Then target impervious surfaces include only **new impervious** surface plus existing impervious added on or after January 8, 2001.

If the project is a Redevelopment project, but cannot meet one of the conditions listed above, then the target impervious surfaces would include **new and replaced** impervious surface plus existing impervious surface added on or after January 8, 2001.

Step 5: Application of Flow Control BMPs

Flow Control BMPs must be applied to the target impervious surfaces (determined in Step 4 above) as specified by one of the following three sets of BMP requirements, whichever is applicable based on the size of the site/lot, the extent of impervious surface coverage resulting from the project on the site/lot, and the location of the project relative to Urban Growth Area (UGA) boundaries:

- **Small Lot BMP Requirements** – For sites/lots less than 22,000 square feet. Refer to Section C.1.3.1 of the SWDM.
- **Large Lot BMP Requirements** – For sites/lots greater than or equal to 22,000 square feet and either less than 5 acres or inside the UGA. Refer to Section C.1.3.2 of the SWDM.
- **Large Rural Lot BMP Requirements** – For sites/lots greater than or equal to 5 acres and located outside the UGA. Refer to Section C.1.3.3 of the SWDM.

Step 6: Determine the Soil Type for the Site

In order to evaluate whether infiltration BMPs are feasible for the project site, the underlying native soils need to be determined. Typically, for sites that either have an existing onsite septic system or are proposing a new onsite septic system will be able to determine the soils information from the soil logs or test pits provided by the septic designer.

[4] New Development project means a project that proposes to construct new impervious surfaces (driveways, residences or structures) on a vacant or undeveloped property.

[5] Redevelopment project means a project that proposes to add, replace, or modify impervious surface on a site that is already substantially developed in a manner consistent with its current zoning or with a legal non-conforming use or has an existing impervious surface coverage of 35% or more.

In addition to the soil types, the depth to ground water or hardpan/compacted soils needs to be shown on the soil logs. A copy of these soil logs or test pits should be included with the drainage assessment in Step 8 below. For sites that are not on septic systems, or the existing septic soil logs are not available, then additional soil reports or testing will be required, as per Section C.1.3 of the SWDM.

Full Infiltration BMPs – Required soil types include the following; course sands, cobbles, or medium sands (or noted as Soil Type 1A, 1B, 2A or 2B in the Soil Textural Classification system used for onsite septic system design)

Limited Infiltration BMPs – Required soil types include the following; fine sands (Soil Type 3) or loamy sands, sandy loams, and loams (Soil Type 4). Note that silt and clay loams, and cemented till (hardpan) are not suitable for limited infiltration BMPs.

Step 7: Determine Feasible BMPs for Your Site

Follow the applicable BMP requirements based upon Step 5 above, which lists out the order of evaluation of the different Flow Control BMPs for the target surfaces. Full Dispersion is always the first preferred Flow Control BMP that will need to be considered for all the target surfaces (roof and driveways) for any site.

The design requirements for Full Dispersion in Section C.2.1.1 of the SWDM will need to be reviewed to determine whether Full Dispersion can be applied to the various target surfaces within the site, given the site constraints. For example, Full Dispersion typically requires that there is a 100 foot long native vegetated flowpath with slopes of less than 15% located downstream of either the gravel dispersion trench or the edge of driveway. If there is insufficient area onsite to provide the 100 feet between the edge of the driveway and the property line, or the slopes within the flowpath area are greater than 15%, then full dispersion could be considered as infeasible. Note that alternative designs also need to be evaluated, such as collecting the driveway and routing it to a dispersion trench in a flatter portion of the site, if available.

If it is determined that Full Dispersion is not able to be applied to the target surfaces given the site constraints, then the next Flow Control BMP must be evaluated, per the applicable BMP requirement listed in Step 5 above. Once a Flow Control BMP has been determined feasible for the target surface, then it must be applied and shown on the site plans. Any supporting calculations to determine the size or length of the Flow Control BMP must be included within the Drainage Assessment noted in Step 8 below.

Step 8: Prepare a Drainage Assessment or Technical Information Report (TIR)

For projects subject to Simplified Drainage Review, shall prepare a written drainage assessment, as per Section C.4.4 of the SWDM. The drainage assessment is a supporting document to the site plans which typically includes:

- A brief summary of the project,
- Description of the proposed Flow Control BMPs and how they were selected, any supporting calculations to size the Flow Control BMPs,
- A description of how the site soil types were determined and include any supporting documents such as septic soil logs or soil reports.

For projects subject to Directed Drainage Review, will require a Technical Information Report (TIR) prepared by a civil engineer, to demonstrate that the project complies with all nine core requirements in Section 1.2 of the SWDM and the five special requirements in Section 1.3 of the SWDM. As noted earlier in Step 3, if the project proposes Full Dispersion BMPs or Full Infiltration BMPs for all target

impervious the Permitting Division may allow for a more simplified drainage assessment, in lieu of a providing a full Technical Information Report (TIR).

Step 9: Post Construction Soil Management Plan (Optional)

For the pervious areas within the project limits, that have been compacted or had the topsoil or duff layer removed, will need to be restored by amending with compost, importing topsoil, or reapplying stockpiled site topsoil in order to re-establish the soil moisture holding capacity. The soil amendment plan shall meet King County Code, Title16 Building and Construction Standards, Chapter 82 Clearing and Grading, Section 100 Grading Standards, Sub-section (G) Soil Standards (KCC 16.82.100 (G)). Refer to the following King County Handouts;

- Achieving the Post-construction Soil Standard booklet.
- Soil Management Plan Worksheet
- Compost and Topsoil Calculator

Step 10: Prepare a TESC (Temporary Erosion and Sediment Control) Plan

The TESC Site Plan is a separate document from the site plan that was prepared in Step 1. The purpose of the TESC Site Plan is to show how the site will be disturbed and protected from erosion or sediment laden runoff during the construction phase of the project. Items like (but not limited to) clearing limits, construction access, stockpile locations, and silt fencing for the project site shall be shown on the TESC Site Plan template. Refer to SWDM Section C.1.4.1 pages C-20 to C-22, to determine the applicable Temporary Erosion and Sediment Control (TESC) Best Management Practices (BMP). Also refer to Residential Building Permit, Site Plan Requirements for additional required information for TESC site plans.

Step 11: Complete a Residential Drainage Review Checklist

Complete a Residential Drainage Review Checklist form; it will be required for application submittal. The checklist will be used by Public Works to ensure that all required documentation has been provided for a complete review.

Step 12: Submit the Building Permit Application and Required Materials

Refer to the Building Department Submittal Requirements located on the City's website under Building Department. The Single Family Electronic Submittal Checklist for Building Department Submittals is located on the City's website.

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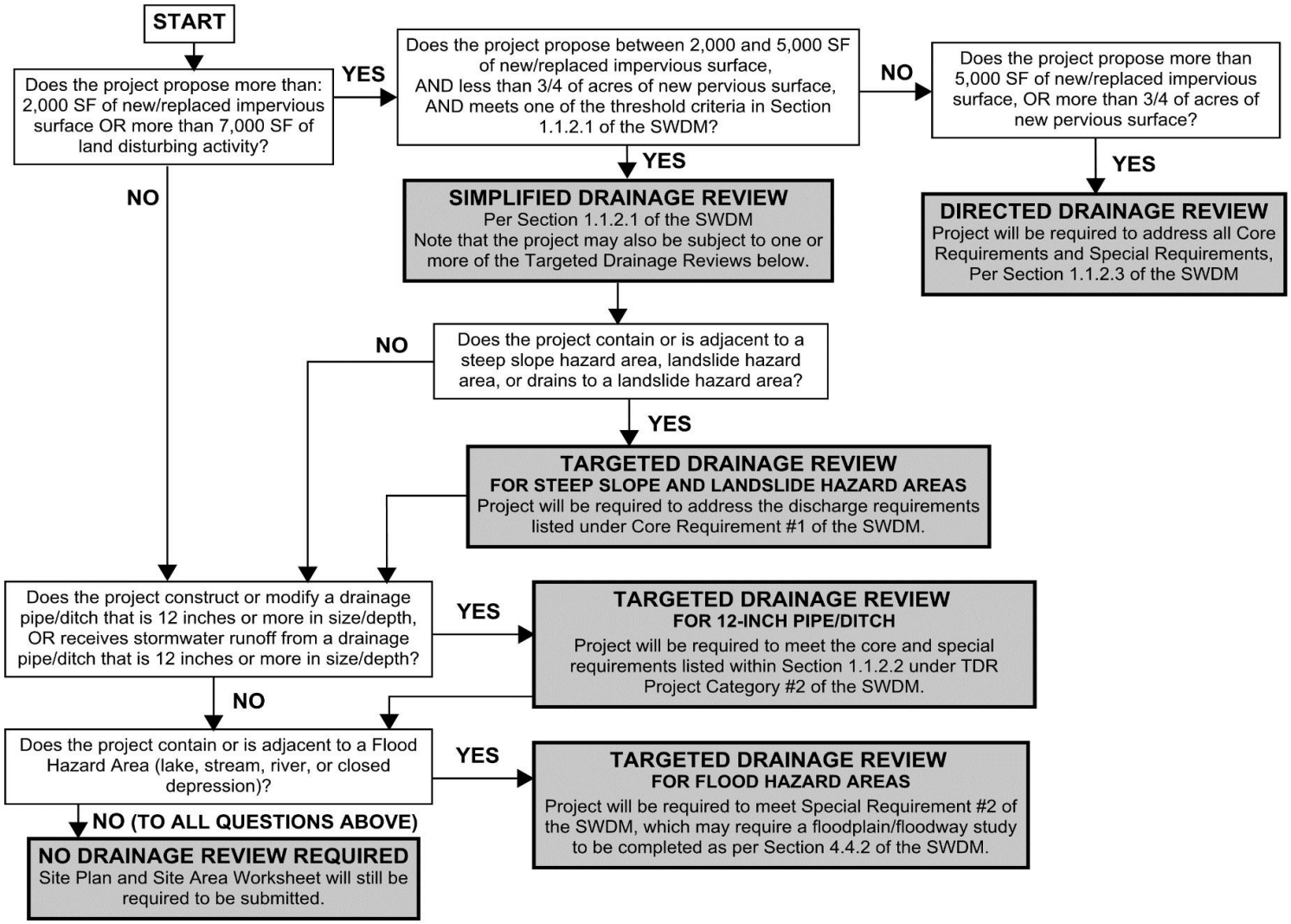
Residential Drainage Review Requirements and Process, continued

Drainage Review Flowchart for Single Family Residential Projects



Residential Building Permit, Site Plan Requirements

Two Site Plans are required for a Residential Building Permit (new construction) application.

- Building, Drainage and Critical Areas Site Plan
- Temporary Erosion and Sedimentation Control (TESC) Site Plan

Provide site plans that clearly depict the site and the site plan required elements. In some cases, it may be necessary to create additional site plans. For example, a site plan rendering for a very large lot will not be able to show sufficient detail of the area to be developed. For large parcels, provide a two or more page site plan, the first page depicting the entire lot at a convenient engineering scale and additional pages depicting developed area(s) at a larger scale (for example 1” = 20’ or 1” = 40’).

Large and Complex v. Small and Simple Site Plans

Permitting recognizes development projects can range in size and complexity, so too will the level and sophistication of site plan submittals. Before preparing the site plans, carefully review the requirements for each review discipline to determine the requirements for with your project. Depending upon the level of review, your project may require licensed professionals to prepare site plans and/or reports.

Site Plan Requirements

The Site Plan Requirements table on the next page outlines the possible site plan requirements. Each project must include all applicable elements, but do not need to include elements that do not pertain to your project.

Site Plan Examples and Templates

Plans must be prepared for submittal as 11” x 17” or 22” x 34” documents. Electronic submittals must be unlocked PDF files. See 2021 KCSWDM Reference Section 7-A for a link to the King County Department of Transportation CADD Standards Manual.

Residential Building Permit, Site Plan Requirements, continued

Residential Building Permit, Site Plan Requirements	**Building, Drainage & Critical Areas**	**Temporary Erosion**
Identification: Project Name/Parcel #/Address/	X	X
Scale	X	X
North arrow and Legend (if needed)	X	X
Location and Dimensions	X	X
Easements and Restrictions	X	X
Existing vs. New Structures	X	X
Parking and Driveways	X	
Sewer Connection **or** On-Site Sewer (Septic) System	X	
Water Connection **or** Well Location with Well Radius	X	
Elevations	X	X
Past Excavation, Filled Areas or Cleared Areas	X	X
Existing and Proposed Contours	X	X
Survey Benchmark Location	X	X
Datum	X	X
Impervious Surface Areas	X	X
Location of Drainage Features	X	X
Critical Areas	X	X
Temporary Erosion and Sediment Control (TESC) Measures	X	X

Residential Building Permit, Site Plan Requirements, continued

Construction Access		X
Proposed Drainage Facilities and Flow Control Best Management Practices (BMP's)	X	X
Driveway/Road Fire Access Improvements	X	

Site Plan Element Descriptions and Definitions Identification – Permit number (if available), parcel number and site address of subject property.

Scale - Engineering scale is required (the standard is 1" = 20'; however any standard engineering scale that will accurately depict the property on the required size of paper is acceptable).

North arrow and legend - Legend to include pertinent linetypes and symbols with descriptions.

Location and dimensions - Show entire parcel with all property lines and building setback distances. Indicate and label any streets abutting the property.

Easements and Restrictions - Show all easements, including critical area tracts, critical area setback areas, or Native Growth Protection Easements. Include any plat or short plat restrictions and easements.

Existing vs. New Structures - Show all structures on the property and clearly indicate existing and new areas. Structures include all buildings, porches, decks, retaining walls, rockeries, and roof overhangs. Also, show all points of entry to the structure, including front or rear doors and garage doors. Identify existing buildings to remain, those scheduled for demolition, and/or those scheduled for removal.

Parking and Driveway(s) - The driveway must be indicated and dimensioned, from the street to the garage or parking area. Also, indicate the surface type of the driveway, such as gravel, asphalt, concrete, etc.

Sewer Connection or On-Site Sewer (Septic) System - For sites that are connecting to a public sewer system, show the routing of the sewage pipe from the residence (or other structures with plumbing) to the connection with the public sewer main.

For sites with onsite septic systems, show the location of the septic tanks, routing of sewer pipes, primary drain field, and reserve drain field areas. The location of septic system elements must be identical to the location approved by the Seattle – King County Public Health Department septic design application. If the site plan does not match the approved septic application, a revised septic design application approval from Public Health will be required.

Water Connection or Well Location with Well Radius – For sites that are connecting to a public water system, show the routing of the water line from the watermain connection to the residence or structure.

For sites that are connecting to either an existing or proposed well, provide the well location and the required protective well radius (standard is 100' well radius, unless otherwise approved by Public Health, Environmental Health Services).

Elevations – Show parcel corner elevations of the property. Specify the finished floor elevation of the first floor of the building, garage finished floor elevation, and if applicable the basement finished floor elevation. For retaining walls or rockeries, provide callouts for both the top and bottom of wall elevations.

Past Excavation, Filled Areas or Cleared Areas - Indicate depth of cut/fill. Show existing and proposed clearing limits.

Existing and Proposed Contours - Show existing and proposed contours at 2-foot intervals. For very flat sites (less than 2% slope), spot grade elevation callouts may be used at the edges of pavement, structures or grading to show how the grade will slope.

For sites with slopes steeper than 15%, 5-foot contour intervals may be used. King County iMap application does provide existing 5-foot contours; however, these contours are a very rough approximation and may not match the actual existing grade of the site. If using iMap, contours should be revised as necessary to match the actual conditions of the site. Note that the proposed contours or grade transitions around buildings shall be shown on the site plans, including slope arrows away from the structure and to drainage features, and must match the building elevation profiles shown within the architectural or foundation building plan set.

Survey Benchmark Location – Location of permanent survey marker indicating elevation and serving as a reference for the topographic survey if provided.

Datum - Provide vertical datum reference used for obtaining elevations, for example: NAVD88.

Impervious Surface Areas – Delineate new, replaced and/or removed impervious areas. Include square feet for each.

Location of Drainage Features - Location of all existing and proposed drainage features and infrastructure, including, but not limited to, ditches, swales, drainage pipes, and other related features.

Critical Areas - Delineation of all steep slope hazard areas, landslide hazard areas, wetlands, streams, rivers, lakes, ponds, areas of saturated ground, wildlife habitat conservation areas and corridors, coal mines hazard areas, and all associated buffers and building setback lines.

Temporary Erosion and Sediment Control (TESC) Measures - Location of silt fences, straw wattles, stockpile areas, and other erosion and sediment control measures required during construction.

Construction Access – Show construction access location to the site, and provide temporary construction entrance as necessary.

Proposed Drainage Facilities and Flow Control Best Management Practices (BMP's) – If required per the King County Surface Water Design Manual (KCSWDM). Show location, and clearly indicate type of Flow Control BMP being used (such as Full Dispersion, or Limited Infiltration, etc.). If Full Dispersion BMPs are proposed, then delineate an area on the overall site plan for the required Native Growth Retention Area (NGRA).

Provide size and/or required volume, length of flowpath segments and the applicable standard details for each of the Flow Control BMPs from the KCSWDM on the site plans. Show proposed downspout locations, catch basins, yard drains and storm drainage pipe that are being routed to each of the Flow Control BMPs.

Driveway/Road Fire Access Improvements – Show any changes to existing driveways and/or roads needed to meet fire access requirements.

References

Property research and maps

Department of Natural Resources and Parks (DNRP)

King County Surface Water Design Manual (KCSWDM)

Seattle & King County Public Health, Environmental Health Services

Wells, Septic, Plumbing, and Gas Piping

On-Site Sewage System (OSS) record drawings

Site Areas Worksheet

The purpose of this Site Areas Worksheet is to provide basic area and earthwork information associated with your proposed project. This information will be used by City staff to review for conformance with zoning code for allowed impervious surface coverage, and to also determine which types of reviews will be required. The Site Areas Worksheet (only Pages 3 and 4) is a required submittal item for all single-family residential, agricultural, or clearing and grading permits, regardless of size.

Note that areas provided within the tables on the following pages, shall be consistent with other submittal material provided with the building permit, such as architectural building plans, site plans or drainage report. Inconsistent surface area calculations may result in rejection of your permit application.

To fill out the Site Areas Worksheet correctly, there are several types of terms used for each of the various impervious surfaces, pervious surfaces and earthwork quantities within the tables. Below is a description of each of the key terms and surface types:

New and Replaced Impervious Surface: Includes all impervious surfaces associated with the proposed project that will be newly constructed or modified. These include but are not limited to, roof areas of new or replaced structures (residences, ADU, detached garage), gravel or paved driveways, parking areas, patios, walkways, and decks. In addition, the conversion from a compacted surface to a more compacted surface, like paving over pre-existing dirt or gravel is considered as a new impervious surface. Permeable pavement, vegetated roofs and under drained lawns/synthetic turf areas are also considered as new impervious surface for the purposes of determining thresholds for drainage review.

Existing Impervious to Remain: Includes any existing impervious surfaces that are currently constructed on the site, such as gravel or paved driveways, parking areas, patios and the roof area of any structures that will not be altered with the proposed project and will remain in place once the proposed project is completed. For remodel/addition projects, if the roof of an existing structure will be removed/modified but the foundation will remain in place, then this portion of the remodeled structure would be considered as existing impervious to remain.

Existing Impervious to be Removed: Includes any structures that will be completely removed down to bare soil, including the foundation, or any paved areas that will be completed removed including base course materials and will be converted to a pervious area (such as lawn or plantings) after the project is complete.

Existing Impervious added since 1/8/2001 without a permit: If the project requires drainage review, per the King County Surface Water Design Manual (KCSWDM) any impervious surface that has been added since January 8, 2001, without an approved permit, will need to be included as a target surface for flow control mitigation. To determine if impervious surfaces have been added since

1/8/2001, the 2002 aerial image from the King County iMap application is used as the baseline. For the purposes of filling out Table 1, please include these surfaces within the existing impervious column, such that it does not affect the new and replaced impervious total amount.

Total Clearing Limits, Site Disturbance / Graded Areas: This is the total area of the proposed project, which includes all the proposed impervious areas and all other pervious areas that will either be cleared, graded, or disturbed by construction activities.

New Pervious Surface: This is equal to the total clearing limits described above, minus the total new and replaced impervious surface. The new pervious areas will include all pervious areas is the amount of pervious surface that will either be created as part of the project, or the existing pervious areas that have been disturbed as part of the proposed project.

Total Onsite Excavation Volume: Includes the total amount of earth material that is to be excavated either permanently or temporarily within the project site. For example, this would include the volume of temporary excavation to construct the building foundation (note that the activity of backfilling the temporary excavation with the onsite excavated material does not need to be counted again in the total excavation volume, only the initial excavation volume). This also includes the volume of onsite native topsoil that is to be stripped and stockpiled onsite for re-use at the end of the project.

Total Material to be Exported from Site: Includes any excess onsite earth material (topsoil, native soil, rocks, or unsuitable soils) that will be permanently exported from the site.

Total Material Imported to Site: Includes all earth material that is imported to the project site from an off-site source, to achieve the final site grades. Typical imported earth materials to include, structural fill, gravel base course, gravel top course, pea gravel, sand, topsoil, and compost.

Additional Resources

King County iMap

Site Areas Worksheet, continued

Parcel Number	

Table 1 – Impervious Surface Once Project is Complete	**New and/or Replaced** *(Square Feet)*	**Existing to Remain**[1] *(Square Feet)*
Primary Residence Structure Roof Area[2] *(Including attached garage, covered patios/decks or covered porch)*		
Accessory Detached ADU/Garage Structure Roof Area *(Detached ADU, garage, shop, etc.)*		
Other Structure Roof Areas *(Barns, Sheds, Carports, etc.)*		
On-site Driveway Area		
Off-site Driveway Area		
Walkways / Sidewalks / Steppingstone Area		
Uncovered Porch, Decks and / or Patios Area		
Other Impervious Areas:		
Other Impervious Areas:		
Totals		
Total Impervious Surface (New and Existing) Once Project is Complete		
Total Clearing Limits, Site Disturbance / Graded Areas *(This area should be shown on the Temporary Erosion and Sedimentation Control (TESC) Plan and shall include Primary Septic Drain Field)*		
Total New Pervious Areas *(Total Clearing Limits minus total New/Replaced Impervious Area)*		

Continued

[1] Include existing impervious surfaces that will remain after project completion, and any existing impervious surfaces that have been added since 1/8/2001 without a permit. Do not include existing impervious surfaces to be removed,

[2] When calculating impervious surface areas for buildings do not list the living/useable space square-footage, instead list the building roof square- footage measured to the outside edge of the eve or gutter.

Site Areas Worksheet, continued

Table 2 – Existing Impervious Surfaces to be Removed or Demolished	*(Square Feet)*
Existing Structures *(House, Garage, Barn, Sheds, etc.)*	
Existing Surfacing *(Gravel, Asphalt, Concrete, etc.)*	
Other Existing Impervious:	
Total Existing Impervious Surface to be Removed	

Table 3 – Total Impervious Surfaces Added since 1/8/2001 Without a Permit *(Square Feet)*	
PROVIDE DESCRIPTION OF AREAS:	

Table 4 – Earthwork Quantities	
Total Onsite Excavation Volume (Cubic Yards)	
Total Material to be Exported from Site (Cubic Yards)	
Total Material to be Imported to Site (Cubic Yards)	
Total Area Cleared and or Graded (Acres)	

Residential Drainage Review Checklist

Parcel Number	Building Permit Number

New and Replaced Impervious Surface: *(from Site Areas Worksheet, square feet)*		
Total Limits of Disturbance: *(from Site Areas Worksheet, square feet)*		
Does the project modify or construct a drainage pipe/ditch that is 12-inch or larger, or receives runoff from a 12-inch or larger drainage pipe/ditch?	☐Yes	☐No
Does the project contain or is adjacent to a Flood Hazard Area?	☐Yes	☐No

See Residential Drainage Review Requirements to determine your drainage review type.

☐ **NO DRAINAGE REVIEW**	☐ **SIMPLIFIED DRAINAGE REVIEW**
Required Submittal Items: ☐Site Plan ☐Site Areas Worksheet	Required Submittal Items: ☐Site Plan and TESC Plan ☐Site Areas Worksheet ☐Drainage Assessment/Letter w/ Soil Logs and/or Soils Report per KCSWDM Sec. C.1.3 ☐City Stormwater Declaration of Covenant
☐ **DIRECTED DRAINAGE REVIEW**	☐ **TARGETED DRAINAGE REVIEW**
Required Submittal Items: ☐Site Plans and TESC Plans ☐Site Areas Worksheet ☐Technical Information Report (TIR) ☐Geotechnical Engineer Evaluation (TIR) ☐Seasonal High Groundwater Monitoring ☐City Stormwater Declaration of Covenant	Required Submittal Items will vary depending upon the type of Targeted Drainage Review(s) that are required, but may include the following: ☐Site Plan ☐Site Areas Worksheet ☐Drainage Assessment or TIR ☐Floodplain/Floodway Study ☐Geotechnical Engineer Evaluation ☐Seasonal High Groundwater Monitoring ☐City Stormwater Declaration of Covenant