

Development Review Guidance

What is the Critical Aquifer Recharge Area (CARA) in Vancouver?

Under Vancouver Municipal Code (VMC) Title 14.26 adopted in 2003, the entire City limits is designated as a CARA based on gravelly, well-draining soils, shallow groundwater and surface water springs. Additional requirements are outlined in Special Protection Areas (SPA) near City drinking water wells because the City relies solely on groundwater aquifers for our water supply.

What are the land use limitations in the CARA?

Some types of land use are prohibited inside City limits, which is the CARA. Additionally, if you plan to conduct certain activities that could affect groundwater, site-specific technical information characterizing hydrogeologic susceptibility may be necessary for project approval during the development review process. In consideration of protecting our source waters, some uses may not be permitted.

The purpose of the CARA is to prevent degradation and limit potential contamination to groundwater resources. The CARA is defined by the State of Washington and adopted by the City to meet requirements of the Growth Management Act and Critical Areas Ordinance standards of best available science.

Prohibited Uses

Regardless of the operating status or location, the following uses and activities are not allowed within the City:

1. Hard Chrome Plating Operations
2. Outdoor Wood Preservation Operations
3. Chemical Lagoons and Pits
4. Sewage Disposal Cesspools
5. Hazardous Material Disposal Sites
6. Radioactive Material Disposal Sites
7. Municipal Waste Disposal Sites

When is a Technical Analysis required?

A technical analysis may be required for certain activities including new or replacement onsite sewage systems or septic systems. A technical analysis must address both contaminant loading potential and hydrogeological susceptibility. The following outlines important aspects of an analysis as well as a partial list of technical resources to include:

- Site location- Aquifers, water wells, springs, streams, lakes, topography

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- Characteristics of subsurface- soils, vadose zone depth, overburden properties
- Occurrence and movement of groundwater- depth to groundwater, flow direction, rates of flow and discharge/recharge, yield potential
- How recharge will be maintained or enhanced
- Contaminant loading risk factors- amount of material, chemical properties, handling and use, conveyance or transfer
- Tools to help in analysis: well logs, soil surveys and maps, USGS topographic maps, geologic studies, hydrogeologic studies/maps, site reports, water quality sampling, groundwater modeling, contaminant inventories, zones of contribution models and Wellhead Protection Area maps, Special Protection Area delineations

The analysis must be prepared by a qualified professional, particularly the characterization of aquifers and analysis of fate and transport of potential contaminants. A qualified professional may be a hydrogeologist or professional engineer licensed in the State of Washington. Alternatively, a Level 2 Site Evaluation defined in Clark County Code 40.410.030(C) may be submitted for review in the same process as the primary development application. An owner or permit applicant may seek relief from prohibitions by filing a request with the City.

Frequently Asked Questions

What best management practices prevent pollution?

The Stormwater Management Manual for Western Washington has a library of Source Control practices including structural and operational methods for a wide variety of sites. Additional or “greater” standards are required for certain non-residential “classified” operations in Vancouver that pose a greater risk to water resources based on the volume and type of hazardous material managed on site.

What is a Special Protection Area (SPA)?

Special Protection Areas in Vancouver are defined inside the Critical Aquifer Recharge Area, the city limits, to include sites within 1900’ of any municipal water supply well. There are 13 such sites in the City and a map is available upon request. There are 2 classifications for non-residential operations, depending on the volume of hazardous materials managed on site, with specific minimum standards of pollution prevention that apply to all operations.

Additional designations can include the Sole Source Aquifer (SSA) status by EPA and the Wellhead Protection Area (WHPA) or Sanitary Control Area (SCA) delineated by a public water system to comply with Safe Drinking Water Act requirements. These overlap but do not supersede the SPAs in Vancouver.

Are there land use restrictions in the SPA?

Yes, specific types of both residential and non-residential operations are **prohibited** in Special Protection Areas including:

- New or replacement onsite sewage systems (septic systems)
- Bulk petroleum fuel operations

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- New and replacement heating oil tanks
- New or replacement direct infiltration facilities and
- Underground storage tanks for hazardous materials

An owner or permit application may seek relief from these prohibitions by filing a request with the City accompanied by a technical analysis, outlined above. Alternatively, a Level 2 Site Evaluation defined in Clark County Code 40.410.030(C) may be submitted for review in the same process as the primary development application in addition to any other existing local, state and federal requirements.

How are businesses “classified”?

All operations are subject to the Water Resource Protection Ordinance and the minimum protective standards. No exemptions or mitigation is available for these CARA protections.

Class I operations will do or manage over 220 pounds of hazardous materials. Generally, this is about one 55-gallon drum of material. Hazardous materials include any product, substance or commodity or waste in liquid, solid or gaseous form that presents a risk to water resources. Risk may be due to ignitability, toxicity, reactivity, instability, corrosivity or persistence in the environment. This includes all “dangerous waste” or “hazardous substances” as defined by the State.

Class II operations will do or manage over 2,200 pounds of the hazardous materials including any mixtures of the above items as well as halogenated solvents or petroleum fuels. Fuels include all grades of automotive gasoline, aviation gasoline, diesel, heating oils and kerosene. Generally, this is about one 330-gallon poly tote of hazardous material.

Both Class I and II operations must implement the Greater Standards for pollution prevention outlined in VMC 14.26.130. These standards apply to new operations and shall be adopted when the certificate of occupancy is issued. Existing operations may be required to adopt these standards if the City becomes aware of, or documents, circumstances that indicate the Greater Standards are necessary to protect public health and safety or to reduce risk of contamination or water resources.

SOURCES:

[Critical Areas Assistance Handbook 2007, Washington State Dept of Community, Trade and Economic Development](#)
[Critical Aquifer Recharge Areas Guidance Document January 2021, Washington State Dept of Ecology](#)
 Consolidated List of Chemicals Subject to the Emergency Right to Know Act, Comprehensive Environmental Response, Compensation and Liability Act and Section 112(r) of the Clean Air Act, US EPA March 2015
[Stormwater Management Manual for Western Washington, WA Dept of Ecology 2024](#)
[Vancouver Municipal Code, Chapter 14.26](#)

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