



PORT of
vancouver

Vancouver Fraser
Port Authority

Project and Environmental Review Guidelines

Demolition

January 31, 2022

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1. Introduction

These guidelines are intended to assist project permit applicants in the preparation of an application that includes the demolition of a building or portion of a building located on land and water within the Vancouver Fraser Port Authority's ("port authority") jurisdiction.

These guidelines do not apply to the decommissioning of utilities, or the demolition of marine installations that are located in-water (such as piles, dolphins, docks, or floats) or over-water (e.g., bridges). Additional studies and documents (e.g., a Construction Environmental Management Plan) may be required to support the permit application. Applicants are encouraged to discuss a potential demolition with the port authority prior to submitting a project permit application.

2. Objectives

Guideline objectives are as follows:

- Promote safety of people and property
- Conform to the National Building Code of Canada (NBC), and the National Fire Code of Canada (NFC), as applicable
- Follow best practices (e.g., WorkSafeBC, Occupational Health and Safety Guidelines)
- Avoid and mitigate potential disruptions to adjacent properties, port operations and surrounding communities
- Avoid or mitigate potential environmental impacts
- Encourage the proper handling of waste materials throughout the course of a demolition

3. Applicability and building permits

A project permit is required prior to demolition of all or portions of buildings or installations on lands and waters managed by the port authority unless the installations or buildings are included in the port authority's Works and Activities Exclusion List. These guidelines are also applicable where a demolition is proposed as a component of larger project. Further, a building permit may be required where a demolition is considered to be reviewable under the National Building Code of Canada. Please refer to the port authority's Building Code Review Guidelines for building permit application information.

4. Guidelines for preparing a project permit application involving demolition works

4.1. Demolition methodology description

A demolition methodology description will be required as part of a complete project permit application. This will allow the port authority to assess the potential impacts and proposed mitigation measures of the project. A demolition methodology description will generally include the following:

- Project rationale and general scope statement
- Demolition sequence plan with protective measures that promotes fire and life safety and environmental protection (e.g., air, soil and water) prepared and sealed by a qualified professional engineer registered in British Columbia
- Construction safety plan that demonstrates conformance to Part 8 of Division B of the NBC (as amended)
- Method of demolition, including depth of excavation, if any

- Proposed demolition period (start and end date)
- Proposed hours of work (e.g., times and days of the week)
- Site survey that includes existing and any proposed changes to utilities
- Confirmation from appropriate utilities and authorities such as BC Hydro, Fortis BC, and the port authority, that relevant utilities have been or will be disconnected or capped (e.g., water, sewer, gas, electrical)
- Mitigation strategies (e.g., wheel wash station, silt fencing, noise monitoring) for potential impacts to the environment and community (e.g., dust, noise, and traffic), resulting from proposed demolition works
- Description of waste materials, percentage of waste materials being reused or recycled, destinations for waste materials, identification of whether the materials will be sorted on site or comingled

4.2. Hazardous materials inspection report and survey

Applicants are required to submit a hazardous materials inspection report and survey, prepared by a qualified registered professional as part of a complete project permit application for projects that include demolition. Proper removal and disposal of hazardous material is necessary to safeguard working conditions, property and the environment. Any buildings and installations to be demolished must be surveyed for hazardous materials.

The Hazardous Materials Inspection Report and Survey should clearly follow the methodology outlined within:

- Appendix A “Hazardous Material Inspection Report and Survey”
- Appendix B “Hazardous Materials Field Survey Report Form”

A hazardous materials inspection report and survey may not be required if a qualified registered professional provides a letter of assurance that confirms no hazardous material is present within the project area. Should an unforeseen hazardous material be discovered during demolition, a hazardous materials inspection report and survey will be required from a qualified registered professional.

4.3. General considerations

- The applicant should contact the port authority for information related to existing utility connections at the site of the proposed demolition
- The applicant should contact utility providers and BC One Call to confirm the location of utility infrastructure (e.g., water, gas, electrical, sewer) that may be impacted by the proposed demolition works
- A surveyed site plan is required that includes:
 - Property boundaries and lease boundaries
 - Existing buildings, equipment, and structures
 - Proposed buildings, equipment, and structures to be demolished
 - Utility infrastructure
 - Waterbodies
 - Environmentally sensitive habitat
 - Easements and rights-of-way
- Any building foundation or other structural elements (e.g., vaults, machine pads), underground utilities (e.g., storm and sanitary pipes) should be removed as part of the demolition works
- The port authority expects applicants and demolition contractors to recycle construction materials such as asphalt, cardboard, cement and concrete, clean fill and soil, gypsum/drywall, and green waste (landscaping debris). Remaining materials should be transported and disposed of in an

appropriate manner unless they can be reused or recycled. Details of any additional waste reduction measures that will be employed on the job site are encouraged to be shared.

- Where fill material is required to be placed in conjunction with demolition works, only clean material will be permitted for use on projects within the port authority jurisdiction. As use of certain materials can have an impact on the receiving environment, the applicant should provide information to the port authority during the preliminary project inquiry phase to confirm if the proposed fill material is suitable for the intended use.

5. Definitions

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

Demolition means the act of demolishing, deconstructing or decommissioning.

Decommission means to deactivate and remove from service.

Hazardous material means a hazardous substance, or material containing a hazardous substance, that may be handled, disturbed or removed in the course of the demolition or salvage of machinery, equipment, a building or a structure, or the renovation of a building, including:

- (A) Asbestos-containing material
- (B) Lead or any other heavy metal
- (C) Toxic, flammable, or explosive material

Qualified registered professional for the purposes of these guidelines means a person registered with an accredited professional body who has, through education and training, knowledge of the management and control of hazardous materials on or in buildings or structures, and has experience in the management and control of those hazardous materials.

6. Contact information

Please contact the Planning and Development department if you have questions regarding the preparation of your application.

Phone: 604.655.9047 General Project and Environmental Review line

Email: PER@portvancouver.com

7. Updates

These guidelines are available for viewing and downloading from our website (portvancouver.com). Please reference the guideline version date clearly indicated on the front page to help track the use current documents.

8. Other sources of best practice

The following sources provide useful guidance when preparing and conducting demolition or removal activities:

- WorkSafeBC, Occupational Health and Safety Guidelines
- Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities prepared for Environment Canada (Cheminfo Services Inc. March 2005)
- Fisheries and Oceans Canada (DFO) Land Development Guidelines for the Protection of Aquatic Habitat

- National Building Code of Canada
- National Fire Code of Canada
- U.S. Department of Labor - Occupational Safety and Health Administration, Demolition Guidance Documents

9. Notes/links to other documents

These guidelines should be reviewed in conjunction with the following:

- Vancouver Fraser Port Authority's Project and Environmental Review Application Guide
- *Canada Labour Code*, Canada Occupational Health and Safety Regulations
- *Canadian Environmental Protection Act, 1999 (CEPA)*
- CEPA Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulations
- Transportation of Dangerous Goods Regulations

Appendix A: Hazardous material inspection report and survey

A.1 General

Conduct a hazardous material inspection to collect and document samples for analysis of suspect hazardous materials for the purpose of confirming and identifying them within the project area and to provide an inventory of hazardous materials as detailed in the Hazardous Materials Field Survey Report form in Appendix B.

Samples will be taken from common areas where multiple layers regularly occur (e.g., flooring, drywall, etc.).

Only a qualified registered professional should undertake the hazardous material inspection to identify the hazardous materials.

A.2 Field assessment

In conducting an inspection and identifying any hazardous materials, the qualified registered professional should:

- Collect representative samples of the material that may be hazardous material
- Identify each sample and determine whether it is hazardous material
- Determine the location of each of the hazardous materials identified by using drawings, plans, or specifications
- Provide a description of the methods used to identify the hazardous material
- Provide the approximate quantity of each of the hazardous materials identified

The inspection for asbestos containing materials and lead-based paint must involve the collection of samples to identify these hazardous materials. All other hazardous materials may be visually inspected and identified where applicable. The following hazardous materials must be included in a Hazardous Materials Inspection Report and Survey where applicable:

- Animal droppings and carcasses
- Asbestos building materials
- Heavy Metals, toxic, flammable, explosive, or controlled products
- Lead-Based paint (LBP) and other lead products
- Mercury
- Mould identification of significant quantities (i.e., greater than 0.1m² of each growth area/location)
- Needles and sharps
- Ozone depleting substances (ODSs)
- Polychlorinated biphenyls (PCBs)
- Radioactive materials

A.3 Sample collection and analysis

In order to determine the presence or absence (including amounts, levels, concentrations, percentages etc.) of hazardous materials, collection of samples requiring analysis must be submitted to an accredited laboratory for analysis.

Laboratories selected by the qualified registered professional must use appropriate and necessary methodologies to analyze the samples for hazardous materials. The qualified registered professional should select laboratories that use appropriate published analytical methods consistent with the National Institute for Occupational Safety and Health (NIOSH), U.S. Environmental Protection Agency (EPA) and

Occupational Safety and Health Administration (OSHA). The methods must be consistent with current WorkSafeBC exposure guidelines.

A.4 Hazardous materials inspection report structure

The hazardous materials inspection report should consist of the following:

- **Executive summary:** including the basic information regarding the site (e.g., site location, date of field work) and briefly discuss all results, conclusions and recommendations
- **Introduction:** explain the location of the building or installation, the name of the qualified registered professionals who performed the survey, and the dates of the site work
- **Scope of work:** lists all the hazardous materials that were included in the survey, the extent of the survey and any additional instructions or expectations included in the scope of work
- **Survey Limitations:** notes all the areas of the buildings or installation that were not inspected and the reasons why the area(s) were not inspected
- **Methodology:** includes contents outlined in section A.5 Methodology
- **Facility description:** descriptions of buildings and installation should include the following details:
 - Construction or manufacture date
 - Aggregate floor area (m²), and number of storeys where applicable
 - A brief description of the major building systems (e.g., structure, exterior cladding, heating and cooling, the roofing system and interior/exterior finishes)
 - The description should be brief and use standard construction terminology
 - Photographs to clearly show where samples were collected
 - Simple plans to visually identify the location of samples collected for materials containing asbestos and lead based paint within a building, structure, equipment or machinery
- **References:** reference applicable legislation and guidelines followed
- **Recommendations:** recommendations are prepared by the qualified registered professional, describing procedures and controls to be followed for the reuse, removal, recycling, abatement and disposal of the hazardous materials. Any recommendations must be consistent with best practices outlined within WorkSafeBC guidelines.
- **Signature:** of the qualified registered professional who conducted the Hazardous Materials Inspection Report and Survey

A.5 Methodology

Describe in detail the methodologies used to collect information and samples for each specific hazardous material included in the scope of work, and include:

- Sample collection strategy
- Method of collection
- Frequency of sampling
- Rational for observations and extrapolations
- Basis of conclusions

Analytical methods should follow current industry or WorkSafeBC standards, and provide the following information:

- Name and location of the laboratory
- Analytical method used
- Accreditation status of the laboratory

Summarize the principal locations and types of hazardous materials present. List all of the findings from the laboratory analysis and site observations for each individual hazardous material within the scope of work.

The following information must be included with each specific material:

- Sample and/or visual observation location(s)
- Extrapolation of sample results and observations to other areas of the property
- Approximate quantity of the material(s)
- Condition of the material(s)

Appendix B: Hazardous materials field survey report form

This form must be completed by a qualified registered professional, and submitted with the hazardous materials inspection report and survey as part of a complete application.

1. Project information

Project permit application number:

Date of application:

Site address:

Building/Installation equipment type:

Industrial Residential Commercial Other

2. Applicant information

Applicant information:

Applicant's name:

Applicant's civic address:

Telephone number:

Alternate number:

Email:

Hazardous material inspector:

Consultant's name:

Company name:

AHERA certification:

Telephone number:

Alternate number:

Email:

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3. Hazardous materials identified

Animal carcasses Yes No Location:

Animal droppings Yes No Location:

Explosive materials Yes No Location:

Flammable materials Yes No Location:

Household chemicals Yes No Location:

Heavy metals Yes No Location:

Lead based paints Yes No Location:

Other lead products Yes No Location:

Other heavy metals Yes No Location:

Mercury Yes No Location:

Moulds Yes No Location:

Needles and sharps Yes No Location:

Ozone depleting substances Yes No Location:

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PCBs

Yes No Location:

Radioactive materials

Yes No Location:

Silica

Yes No Location:

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Asbestos containing materials (ACMs)					
Sample ID#	Material type	% Asbestos	Location	Surface area m ²	Volume m ³

4. Additional information

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5. Certification

I, _____, certify that the information provided on this form is consistent with the findings of the attached Hazardous Materials Inspection Report Survey and supporting documentation.

Signature: _____

Date: _____

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