

WAC 173-204-550 Remedial investigation and feasibility study.

(1) **Purpose.** The purpose of a remedial investigation/feasibility study is to collect, develop, and evaluate sufficient information regarding a site or sediment cleanup unit for the department to establish sediment cleanup standards and select a cleanup action under this part.

(2) **Scope.** The scope of a remedial investigation/feasibility study depends on many factors, including the nature and extent of contamination, the exposure pathways of concern, the natural resources potentially impacted by the contamination, the characteristics of the site or sediment cleanup unit, and the type of cleanup action alternatives likely to be evaluated under WAC 173-204-570 through 173-204-575. In all cases, sufficient information must be collected, developed, and evaluated to enable the department to establish sediment cleanup standards and select cleanup actions under this part.

(3) **Administrative requirements.**

(a) Unless otherwise directed by the department, a remedial investigation/feasibility study must be completed before a cleanup action is selected under WAC 173-204-570 and 173-204-575.

(b) Before conducting a remedial investigation, a work plan must be submitted to and approved by the department.

(c) As directed by the department, a remedial investigation and a feasibility study may be conducted as separate steps in the cleanup process and submitted as separate reports or combined into a single step and report.

(d) Remedial investigation and feasibility study reports must be submitted to the department for review and approval.

(4) **Remedial investigation work plan.** The remedial investigation work plan shall include the following:

(a) Public participation plan;

(b) A summary of available information regarding the site and data gaps needing to be addressed by the remedial investigation;

(c) A conceptual site model, including current and potential human and ecological receptors and exposure pathways;

(d) Cleanup action alternatives that are likely to be considered in the feasibility study;

(e) Sampling plan and recordkeeping in compliance with WAC 173-204-600 through 173-204-610. Analytical methods and limits shall be sufficiently sensitive to measure concentrations at levels of potential regulatory concern. Proposed sampling locations should consider the movement and deposition patterns of sediments;

(f) Site safety plan to meet the requirements of the Occupational Safety and Health Act of 1970 (29 U.S.C. Sec. 651 et seq.) and the Washington Industrial Safety and Health Act (chapter 49.17 RCW), and regulations promulgated pursuant thereto. These requirements are subject to enforcement by the designated federal and state agencies. Actions taken by the department under this part do not constitute an exercise of statutory authority within the meaning of section (4)(b)(1) of the Occupational Safety and Health Act;

(g) A proposed schedule for completion of the remedial investigation/feasibility study; and

(h) Other information as required by the department.

(5) **Public participation plan requirements.** The public participation plan shall encourage early, coordinated, and effective public involvement commensurate with the nature of the proposed cleanup action, the level of public concern, and the existence of, or potential for, adverse effects on biological resources and/or a threat to human

health. The plan shall be consistent with WAC 173-340-600 and include the following information:

(a) When public notice will occur, the length of the comment periods accompanying each notice, the potentially affected vicinity, and any other areas to be provided notice;

(b) Where public information will be located to provide information about the site;

(c) Methods for identifying the public's concerns such as interviews, questionnaires, and community group meetings;

(d) Methods for providing information to the public such as press releases, public meetings, fact sheets, and listservs;

(e) Coordination of public participation requirements mandated by other applicable laws;

(f) Amendments to the planned public involvement activities; and

(g) Any other information required by the department.

(6) **Remedial investigation report.** The remedial investigation report shall include the following as appropriate:

(a) General site information. General information, including: Project title; name, address, and phone number of project coordinator; legal description of the cleanup site; area and volume dimensions of the site; present and past owners and operators; present owners and operators of contaminant source discharges to the site and their respective operational history; and other pertinent information required by the department;

(b) Sediment cleanup unit. If applicable, the proposed sediment cleanup unit boundary and basis for the boundary;

(c) Sediment cleanup standards. For each contaminant, identify the following and the basis for the proposed values:

(i) The proposed sediment cleanup objective;

(ii) The proposed cleanup screening level;

(iii) The proposed sediment cleanup standard including the sediment cleanup level and point of compliance;

(d) Site conditions map. An existing site conditions map which illustrates site features as follows:

(i) Property boundaries;

(ii) The site boundary as defined by the individual contaminants exceeding the proposed sediment cleanup standards as specified in WAC 173-204-560. Delineations shall be made at the point where the concentration of the contaminants would meet the criteria in (c) of this subsection;

(iii) Proposed sediment cleanup unit boundary, if applicable;

(iv) Surface and subsurface structures topography;

(v) Utility lines;

(vi) Navigation lanes; and

(vii) Other pertinent information determined by the department;

(e) Investigation. Sufficient investigation to characterize the distribution of sediment contamination and the threat or potential threat to human health and the environment. Where applicable, these investigations shall address the following:

(i) Surface water and sediments. Investigations of sediment, surface water hydrodynamics, and sediment transport mechanisms to characterize significant hydrologic features such as:

(A) Surface water drainage patterns, quantities and flow rates;

(B) Areas of sediment erosion and deposition including estimates of sedimentation rates;

(C) Contaminant migration routes;

(D) Areal and vertical distribution and concentrations of contaminants in sediment; and

(E) Recontamination potential of sediments which are likely to influence the type and rate of contaminant migration, or are likely to affect the ability to implement alternative cleanup actions;

(ii) Geology and groundwater system characteristics. Investigations of the geology and hydrogeology to characterize the physical properties and distribution of sediment types, and the characteristics of groundwater flow rate, groundwater gradient, groundwater discharge areas, and groundwater quality data which may affect cleanup action alternatives evaluations;

(iii) Climate. Information regarding local and regional climatological characteristics which are likely to affect surface water hydrodynamics, groundwater flow characteristics, and migration of sediment contaminants such as: Seasonal patterns of rainfall; the magnitude and frequency of significant storm events; and prevailing wind direction and velocity;

(iv) Land use. Information characterizing human populations exposed or potentially exposed to sediment contaminants, the present and proposed uses of the land, zoning for contiguous shoreline areas, and the aquatic state land use classification under chapter 332-30 WAC; and

(v) Natural resources and habitat. Information to determine the impact or potential impact of sediment contaminants on ecological receptors, natural resources and sensitive habitat of the area such as spawning areas, nursery grounds, shellfish or eelgrass beds and other plant and animal species;

(f) Confirmed and suspected contaminant sources. A description of the confirmed and suspected sources, including the location and quantity, as well as any active and inactive waste disposal facilities. Where determined relevant by the department, the following information shall be obtained by the department from the responsible discharger:

(i) The physical and chemical characteristics and the biological effects of sediment contaminant sources;

(ii) The status of source control actions for permitted and unpermitted contaminant sources; and

(iii) Existing compliance time frames for permitted contaminant sources which affect or potentially affect implementation of the timing and scope of the cleanup action alternatives;

(g) Human health risk assessment. The current and potential significant threats to human health posed by sediment contamination shall be evaluated under WAC 173-204-561; and

(h) Any other information required by the department.

(7) **Feasibility study report.** The feasibility study report shall include the following as appropriate:

(a) If the feasibility study is not combined with the remedial investigation in one report, a summary of the remedial investigation results including:

(i) Conceptual site model to provide the basis from which cleanup action alternatives are developed and evaluated;

(ii) If applicable, the proposed sediment cleanup unit boundary and the basis for the boundary;

(iii) The proposed biologically active zone and the basis for the zone;

(iv) For each contaminant, the proposed sediment cleanup standard, including sediment cleanup level and point of compliance, and basis for the standard; and

(v) Maps, cross-sections, and calculations illustrating the location, estimated amount and concentration distribution of contaminants above proposed sediment cleanup levels and the proposed sediment cleanup objectives and cleanup screening levels;

(b) Results of any additional investigations or technology evaluations conducted after completion of the remedial investigation report;

(c) Each feasibility study shall include an evaluation of alternative cleanup actions that protect human health and the environment by eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. The number and types of alternatives to be evaluated shall take into account the characteristics and complexity of the site and be evaluated using the requirements in WAC 173-204-570;

(d) Identification and evaluation of a reasonable number and type of alternatives;

(e) Identification of alternatives eliminated that do not meet the requirements in WAC 173-204-570;

(f) Documentation of the alternatives evaluation process. For each alternative evaluated include the following:

(i) The location and estimated amount of each contaminant to be removed or treated by the alternative and the estimated time frame in which removal or treatment will occur; and

(ii) The location, estimated amount, and projected concentration distribution of each contaminant remaining above proposed sediment cleanup levels after implementation of the alternative;

(g) The preferred remedy and the basis for selection;

(h) Applicable laws specific to the proposed preferred remedy, including a description of permit/approval conditions identified in consultation with the permitting agencies;

(i) Identification of any proposed sediment recovery zone and justification for this zone under WAC 173-204-590;

(j) Proposed monitoring plan during and after cleanup consistent with the provisions in WAC 173-204-600;

(k) Environmental impact. Sufficient information shall be provided to fulfill the requirements of chapter 43.21C RCW, the State Environmental Policy Act, for the proposed preferred remedy. Discussions of significant short-term and long-term environmental impacts, significant irrevocable commitments of natural resources, significant alternatives including mitigation measures, and significant environmental impacts which cannot be mitigated shall be included; and

(l) Any other information required by the department.

(8) Sampling access. In cases where the person(s) responsible for cleanup is not able to secure access to sample sediment on lands subject to a remedial investigation and feasibility study required by the department, the department may facilitate negotiations or other proceedings to secure access to the lands. Requests for department facilitation of land access for sampling shall be submitted to the department in writing by the person(s) responsible for the remedial investigation and feasibility study.

[Statutory Authority: Chapter 70.105D RCW. WSR 13-06-014 (Order 08-07), amended and recodified as § 173-204-550, filed 2/25/13, effective 9/1/13. Statutory Authority: RCW 90.48.220. WSR 96-02-058, § 173-204-560, filed 12/29/95, effective 1/29/96. Statutory Authority: Chapters 43.21C, 70.105D, 90.48, 90.52, 90.54 and 90.70 RCW. WSR

91-08-019 (Order 90-41), § 173-204-560, filed 3/27/91, effective
4/27/91.]