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CITY OF BUCKLEY
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APPENDIX B

SHORELINE CRITICAL AREA REGULATIONS

For Shorelines in the City of Buckley: White River

City of Buckley
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Contents:

Appendix Section B.1, General Provisions....Page 3
Appendix Section B.2, Wetlands....Page 18
Appendix Section B.3, Aquifer Recharge Areas....Page 25
Appendix Section B.4, Frequently Flooded Areas....Page 30
Appendix Section B.5, Geologically Hazardous Areas....Page 35
Appendix Section B.6, Fish and Wildlife Habitat Conservation Areas....Page 43

Table 1 Trail Types....Page 7
Table 2 Buffer Widths, Based Upon Category and Land Use Intensity,....Page 20
Table 3 Measures to Minimize Impacts to Wetlands....Page 23
Table 4 Category and Type of Wetland Impact....Page 24
Table 5 Statutes, Regulations, and Guidance Pertaining to Ground Water Impacting Activities....Page 28
Table 6 Riparian Habitat Areas....Page 48
Table 7 Class A – C Washington State Noxious Weeds....Page 49
Table 8 Threatened, Endangered and Candidate Species....Page 54

Appendix Section B.1
CRITICAL AREAS – GENERAL PROVISIONS
Subsections:

B.1.1 Purpose.
B.1.2 Jurisdiction – critical areas.
B.1.3 Protection of critical areas.
B.1.4 Best available science.
B.1.5 Allowed activities.
B.1.6 Subdivisions and short subdivisions in critical areas.
B.1.7 City review process.
B.1.8 Critical areas report – requirements.
B.1.9 Critical areas report – modifications to requirements.
B.1.10 Mitigation requirements.
B.1.11 Mitigation sequencing.
B.1.12 Mitigation plan requirements.
B.1.13 Innovative mitigation.
B.1.14 Review criteria.
B.1.15 Completion of the critical areas review.
B.1.16 Unauthorized critical area alterations and enforcement.
B.1.17 Critical area markers and signs.
B.1.18 Notice on title.
B.1.19 Native growth protection areas.
B.1.20 Critical area tracts.
B.1.21 Building setbacks.
B.1.22 Bonds to ensure mitigation, maintenance, and monitoring.
B.1.23 Critical area inspections.

B.1.1 Purpose.

A. The purpose of this SMP Appendix is to designate and classify ecologically sensitive and hazardous areas, and to protect these areas and their functions and values while also allowing for reasonable use of private property.

B. The regulations of the SMP and this SMP Appendix are intended to protect critical areas in accordance with the Growth Management Act, the Shoreline Management Act, and through the application of best available science, as determined according to WAC 365-195-900 through 365-195-925, and in consultation with state and federal agencies and other qualified professionals. This SMP Appendix also is to implement the goals, policies, guidelines, and requirements of the aforementioned documents.

C. The city finds that critical areas provide a variety of valuable and beneficial biological and physical functions that benefit the city and its residents, and/or may pose a threat to human safety or to public and private property. The beneficial functions and values provided by critical areas include but are not limited to water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, ground water recharge and discharge, erosion control, wave attenuation, protection from hazards, historical and archaeological and aesthetic value protection, and recreation. These beneficial functions are not listed in order of priority.

D. Goals. By limiting development and alteration of critical areas, the SMP and this SMP Appendix seek to:

1. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides and steep slope failures, erosion, seismic events, volcanic eruptions, or flooding;
2. Protect unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, and fish and wildlife and their habitats;
3. Direct activities not dependent on critical area resources to less ecologically sensitive sites and mitigate unavoidable impacts to critical areas by

regulating alterations in and adjacent to critical areas;

4. Prevent cumulative adverse environmental impacts to water quality, wetlands, and fish and wildlife habitat, frequently flooded areas and habitat conservation areas; and
5. Implement the primary goal of achieving no net loss of wetland area, wetland functions and values, including lost time when the wetland doesn't perform its function,.

E. The city's enactment or enforcement of the SMP and this SMP Appendix shall not be construed for the benefit of any individual person or group of persons other than the general public

B.1.2 Jurisdiction – critical areas.

A. The city shall regulate all uses, activities, and developments within shoreline jurisdiction, consistent with best available science and the provisions of the SMP and this SMP Appendix.

B. Critical areas regulated by the SMP include:
   1. Wetlands as designated in Appendix Section B.2, Wetlands;
   2. Aquifer recharge areas as designated in Appendix Section B.3, Aquifer Recharge Areas;
   3. Frequently flooded areas as designated in Appendix Section B.4, Frequently Flooded Areas;
   4. Geologically hazardous areas as designated in Appendix Section B.5, Geologically Hazardous Areas; and
   5. Fish and wildlife habitat conservation areas as designated in Appendix Section B.6, Fish and Wildlife Habitat Conservation Areas.

C. All areas within the city shoreline that meet the definition of one or more critical areas, regardless of any formal identification, are hereby designated as potential critical areas and are subject to the provisions of the SMP and this SMP Appendix.

D. Mapping. The approximate location and extent of all known and/or suspected critical areas to include wetlands, aquifer recharge areas, frequently flooded areas, geologically hazardous areas and fish and wildlife habitat conservation areas may be depicted on the SMP maps, and are incorporated by reference:
   1. National Wetlands Inventory;
   2. Department of Fish and Wildlife priority habitat and species maps;
   3. Department of Natural Resources official water type reference maps, as amended;
   4. Department of Natural Resources shorezone inventory;
   5. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors Reports published by the Washington Conservation Commission;
   6. Department of Natural Resources state natural area preserves and natural resource conservation area maps;
   7. U.S. Geological Survey landslide hazard, seismic hazard and volcano hazard maps;
   8. Department of Natural Resources seismic hazard maps for Western Washington;
   9. Department of Natural Resources slope stability maps;
   10. Federal Emergency Management Administration flood insurance maps;
   11. City of Buckley water system map;
   12. Locally adopted maps.

E. Additionally, soil maps produced by the United States Department of Agriculture National Resources Conservation Service may be useful in helping to identify potential critical areas. The above-referenced maps are to be used as a guide for the city, project applicants and/or property owners, and may be periodically

updated as new critical areas are identified. They are a reference only and shall not be used to determine whether a parcel of land has or has not existing critical areas within its boundaries. The city will attempt to maintain a current inventory of the above-referenced maps.

B.1.3 Protection of critical areas.
Any action taken pursuant to the SMP or this SMP Appendix shall result in equivalent or greater functions and values of the critical areas associated with the proposed action, as determined by the best available science. All actions and developments shall be designed and constructed in accordance with SMP **5.7.3.E.**1, and/or SMP Appendix Section B.1.13, Innovative mitigation, to minimize and mitigate all adverse impacts.

B.1.4 Best available science.

A. Protection for Functions and Values and Anadromous Fish. Critical areas report and decisions to alter critical areas shall include the best available science in order to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish and their habitat, such as salmon and bull trout.

B. Best Available Science to Be Used Must Be Consistent with Criteria. The best available science is that scientific information applicable to the critical area prepared by local, state or federal natural resource agencies, or a qualified scientific expert or team of qualified scientific experts that is consistent with criteria established in WAC 365-195-900 through 365-195-925.

   Whether a person is a qualified scientific expert with expertise appropriate to the relevant critical areas is determined by the person's professional credentials and/or certification, any advanced degrees earned in the pertinent scientific discipline from a recognized university, the number of years of experience in the pertinent scientific discipline, recognized leadership in the discipline of interest, formal training in the specific area of expertise, and field and/or laboratory experience with evidence of the ability to produce peer-reviewed publications or other professional literature. No one factor is determinative in deciding whether a person is a qualified scientific expert. Where pertinent scientific information implicates multiple scientific disciplines, cities are encouraged to consult a team of qualified scientific experts representing the various disciplines to ensure the identification and inclusion of the best available science.

C. Characteristics of a Valid Scientific Process. In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions, and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. To determine whether information received during the permit review process is reliable scientific information, the city shall determine whether the source of the information displays the characteristics of a valid scientific process. Such characteristics are as follows:

   1. Peer Review. The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline. The proponents of the information have addressed the criticism of the peer reviewers. Publication in a referenced scientific journal usually indicates that the information has been appropriately peer-reviewed;

2. Methods. The methods used to obtain the information are clearly stated and replicated. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity;
3. Logical Conclusions and Reasonable Inferences. The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented. Any gaps in information and inconsistencies with other pertinent scientific information are adequately explained;
4. Quantitative Analysis. The data have been analyzed using appropriate statistical or quantitative methods;
5. Context. The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge; and
6. References. The assumptions, analytical techniques, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

D. Nonscientific Information. Nonscientific information may supplement scientific information, but it is not an adequate substitute for valid and available scientific information. Common sources of nonscientific information include the following:
1. Anecdotal Information. One or more observations that are not part of an organized scientific effort (for example, "I saw a grizzly bear in that area while I was hiking.");
2. Non-expert Opinion. Opinion of a person who is not a qualified scientific expert in a pertinent scientific discipline (for example, "I do not believe there are grizzly bears in that area."); and
3. Hearsay. Information repeated from communication with others (for example, "At a lecture last week, Dr. Smith said there were no grizzly bears in that area.").

B.1.5 Allowed activities.

A. Required Use of Best Management Practices.
1. All allowed activities shall be conducted using the best management practices, adopted pursuant to the SMP and Chapter 14.30 BMC, Stormwater management, that result in the least amount of impact to the critical areas.
2. Best management practices shall be used for tree and vegetation protection, construction management, erosion and sedimentation control, water quality protection, and regulation of chemical applications.
3. The city shall observe the use of best management practices to ensure that the activity does not result in degradation to the critical area.
4. Any incidental damage to, or alteration of, a critical area shall be restored, rehabilitated, or replaced in accordance with the SMP restoration plan at the responsible party's expense.

B. Allowed Activities. The following activities are allowed unless prohibited in the SMP:
1. Permit Requests Subsequent to Previous Critical Areas Review. Development permits and approvals that involve both discretionary land use approvals (such as subdivisions, rezones, or conditional use permits), and construction approvals (such as

building permits) if all of the following conditions have been met:

a. The provisions of the SMP and this SMP Appendix are adequately addressed as part of another approval;
b. No material changes are proposed in the potential impact to the critical area or buffer since the prior review;
c. No new information is available that is applicable to any critical areas review of the site or particular critical area;
d. The permit or approval is not expired; and
e. Compliance with any standards or conditions placed upon the prior permit or approval was achieved or secured;

C. Activities within the Improved Right-of-Way. Replacement, modification, installation, or construction of utility facilities, lines, pipes, mains, equipment, or appurtenances, not including substations, when such facilities are located within the improved portion of the public right-of-way or a city-authorized private roadway except those activities that alter a wetland or watercourse, such as culverts or bridges, or result in the transport of sediment or increased stormwater and are not prohibited by the SMP.

D. Pedestrian Trails. Pedestrian trails, subject to the following:

1. Private trails shall be limited to a maximum width of six feet and shall be surfaced with a pervious material such as bark, gravel, or a form of pervious concrete;
2. Public trails shall be limited to the following maximum widths and construction standards:

Table 1

Trail Type	Max. Surface Width	Surface Material
Regional trails (i.e., Foothills Trail)	12 feet	Any, to include asphalt
Public pedestrian	8 feet	Any, to include asphalt
Interpretive trails	6 feet	Pervious or raised boardwalk

3. Impervious trails are to be placed in the outer quarter of the wetland buffer. Critical area and/or buffer widths shall be increased, where possible, equal to the width of the trail corridor, including disturbed areas; and
4. Trails proposed to be located in landslide or erosion hazard areas shall be constructed in a manner that does not increase the risk of landslide or erosion and in accordance with the SMP and an approved geotechnical report.

E. Select Vegetation Removal Activities. The following vegetation removal activities, provided the removal is in accordance with SMP 5.5 and no vegetation shall be removed from a critical area or its buffer without approval from the city:

1. Removal of the following vegetation with hand labor and light equipment is allowed with a shoreline exemption unless the work does not meet the definition of an exemption:
   a. Invasive weeds;
   b. Himalayan blackberry (Rubus discolor, R. procerus); and
   c. Evergreen blackberry (Rubus laciniatus).

2. The removal of trees that are hazardous, posing a threat to public safety, or posing an imminent risk of damage to private property, from critical areas and buffers, provided that:
   a. Tree cutting shall be limited to limbing, unless otherwise justified. Where limbing is not sufficient to address the hazard, trees should be either felled or if dead or dying, topped at no less than 30 feet to remove the hazard and leave the trunk for habitat;
   b. All vegetation cut (tree stems, branches, tops, etc.) shall be left within the critical area or buffer unless removal is warranted because of potential disease transmittal to other healthy vegetation;
   c. The landowner shall replace any trees that are felled with new trees at a ratio of one replacement tree for each tree felled or topped (1:1) within one year in accordance with a restoration plan developed in accordance with the SMP. Replacement trees shall be a minimum of two inches in caliper and be a coniferous species such as fir, cedar, spruce, etc;
   d. If a tree to be removed provides critical habitat, such as an eagle perch, a qualified wildlife biologist shall be consulted to determine timing and methods of removal that will minimize impacts; and
   e. Hazard trees determined to pose an imminent threat or danger to public health or safety, or to public or private property, or serious environmental degradation may be removed prior to receiving written approval from the city, provided that within 14 days following such action the landowner shall submit a restoration plan that demonstrates compliance with the provisions of the SMP and this SMP Appendix.

F. Measures to control a fire or halt the spread of disease or damaging insects consistent with the State Forest Practices Act, Chapter 76.09 RCW; provided, that the removed vegetation shall be replaced in-kind or with similar native species within one year in accordance with an approved restoration plan. Unless otherwise provided or as a necessary part of an approved alteration, removal of any vegetation or woody debris from a habitat conservation area or wetland shall be prohibited.

G. Chemical Applications. The application of herbicides, pesticides or other hazardous substances in accordance with the SMP for reasons of public health and safety.

H. Minor Site Investigative Work. Work necessary for land use submittals, such as surveys, soil logs, percolation tests, and other related activities, where such activities do not require construction of new roads or excavation. In every case, impacts to the critical area shall be minimized and disturbed areas shall be immediately restored.

I. Navigational Aids and Boundary Markers. Construction or modification of navigational aids and boundary markers in accordance with the SMP.

J. Environmental Preservation. Conservation or preservation of soil, water, vegetation, fish, shellfish, and other wildlife in accordance with the SMP and that does not entail changing the structure or functions of the existing wetland.

K. Harvesting Wild Crops. The harvesting of wild crops in accordance with the SMP and in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require tilling of soil, planting of crops, or

alteration of the wetland by changing existing topography, water conditions or water sources.

B.1.6 Subdivisions and short subdivisions in critical areas.

A. Subdivision and short subdivisions for residential uses are prohibited in the shoreline jurisdiction.

B. Non-residential subdivision or short subdivision to transfer land ownership or to streamline non-residential uses shall be subject to the following:

1. New lot lines may not be placed in the following locations:
   a. Within a wetland.
   b. Within an erosion or landslide hazard area.
   c. Within a mine hazard area.
2. Each new lot and/or parcel created through the subdivision or short subdivision process shall:
   a. Maintain a minimum lot area not including a the critical area or its buffer of at least 75 percent of the minimum lot size area for the zoning district in which it is located.
   b. Contain sufficient buildable area in each resultant lot outside of, and not affecting, the critical area or its buffer.
   c. Contain uninterrupted habitat conservation areas and their buffers, except that pedestrian access ways may interrupt habitat conservation areas.
3. Subdivisions and short subdivisions shall be designed to minimize or eliminate flood damage:
   a. Public utilities and facilities that are installed as part of a subdivision or short subdivision shall be located and constructed to minimize flood damage.
   b. Subdivisions and short subdivisions should be designed using natural features of the landscape, and shall not incorporate "flood protection" topographic changes.
4. Subdivisions and short subdivisions shall have adequate natural surface water drainage in accordance with Chapter 14.30 BMC to reduce exposure to flood hazards.
5. In addition to other permit requirements in the SMP and subdivision ordinance, subdivisions and short subdivisions shall show the 100-year floodplain, floodway, channel migration zone, and base flood elevation data on the preliminary and final plat or short plat maps.
6. Access roads and utilities serving the proposed non-residential subdivision may be permitted conditionally within shoreline jurisdiction only if the city determines that no other feasible alternative exists and is consistent with the SMP and SMA.

B.1.7 City review process.

A. All associated wetlands are subject to review under the Shoreline Master Program.

B. All areas mapped as a possible associated wetland shall require a critical areas report and survey to verify the actual location of the wetland.

C. Any area that is determined not to be wetland shall be classified as within or outside the shoreline buffer in accordance with the SMP.

B.1.8 Critical areas report – requirements.

A. Prepared by Qualified Professional. If a shoreline use or development may affect a critical area, the applicant shall submit a critical areas report prepared by a qualified professional.

B. Incorporating Best Available Science. The critical areas report shall use scientifically valid methods and studies in the analysis of critical area data and field reconnaissance and reference the source of science used. The critical areas report shall evaluate the proposal and all probable impacts to critical areas in accordance with the provisions of the SMP and this SMP Appendix.

A. Minimum Report Contents. At a minimum, in addition to any information required by the SMP, the report shall contain the following:
   1. The name and contact information of the applicant, a description of the proposal, and identification of the permit requested;
   2. A copy of the site plan for the development proposal showing:
      a. Identified critical areas, buffers, and the development proposal with dimensions;
      b. Limits of any areas to be cleared; and
      c. A description of the proposed stormwater management plan for the development and consideration of impacts to drainage alterations.
   3. The dates and names of the persons preparing the report and documentation of any fieldwork performed on the site;
   4. Identification and characterization of all critical areas, wetlands, water bodies, and buffers adjacent to the proposed project area;
   5. A statement specifying the accuracy of the report, and all assumptions made and relied upon;
   6. An assessment of the probable cumulative impacts to critical areas resulting from development of the site and the proposed development;
   7. A description of reasonable efforts made to apply mitigation sequencing pursuant to SMP **5.7.3.E.**1 to avoid, minimize, and mitigate impacts to critical areas;
   8. Plans for adequate mitigation, as needed, to offset any impacts, in accordance with the SMP 5.7, SMP Appendix C, and Appendix Subsections B.1.12 and B.1.13, including but not limited to:
      1. The impacts of any proposed development within or adjacent to a critical area or buffer on the critical area; and
      2. The impacts of any proposed alteration of a critical area or buffer on the development proposal, other properties and the environment.
   9. A discussion of the performance standards applicable to the critical area and proposed activity;
   10. Financial guarantees to ensure compliance; and
   11. Any additional information required for the critical area as specified in the corresponding requirements:

Wetlands	B.2.2
Aquifer Recharge Areas	B.3.5
Frequently Flooded Areas	B.4.2
Geologically Hazardous Areas	B.5.6
Fish & Wildlife Habitat Conservation Areas	B.6.2

B. Unless otherwise provided, a critical areas report may be supplemented by or composed, in whole or in part, of any reports or studies required by other laws and regulations or previously prepared for and applicable to the development proposal site, as approved by the city.

B.1.9 Critical areas report – modifications to requirements.

A. Limitations to Study Area. The city may limit the required geographic area of the critical areas report as appropriate if:
   1. The applicant, with assistance from the city, cannot obtain permission to access

properties adjacent to the project area; or

2. The proposed activity will affect only a limited part of the subject site.

B. Modifications to Required Contents. The applicant may consult with the city prior to or during preparation of the critical areas report to obtain city approval of modifications to the required contents of the report where, in the judgment of a qualified professional, more or less information is required to adequately address the potential critical area impacts and required mitigation.

C. Additional Information May Be Required. The city may require additional information to be included in the critical areas report when determined to be necessary to the review of the proposed activity in accordance with the SMP or this SMP Appendix. Additional information that may be required includes, but is not limited to:

1. Historical data, including original and subsequent mapping, aerial photographs, data compilations and summaries, and available reports and records relating to the site or past operations at the site;
2. Grading and drainage plans; and
3. Information specific to the type, location, and nature of the critical area.

B.1.10 Mitigation requirements.

A. The applicant shall avoid and/or mitigate all impacts that degrade the functions and values of a critical area or areas. Unless otherwise provided in the SMP or this SMP Appendix, if alteration to the critical area is unavoidable, all adverse impacts to or from critical areas and buffers resulting from a development proposal or alteration shall be mitigated in accordance with an approved critical areas report, the SMP, SMP Appendix C, and SEPA documents.

B. Mitigation shall be in-kind and on-site, when possible, and sufficient to maintain the functions and values of the critical area, and to prevent risk from a hazard posed by a critical area.

C. Mitigation plans shall not affect adjacent properties by increasing wetland buffer widths or wetland classifications on the adjacent site.

D. Mitigation shall not be implemented until after city approval of a critical areas report and shoreline permit that includes a mitigation plan, and mitigation shall be in accordance with the provisions of the SMP, the shoreline permit, and the approved critical areas report.

E. Mitigation shall result in no net loss of shoreline functions and values.

B.1.11 Mitigation sequencing.

Applicants shall demonstrate that reasonable efforts have been examined with the intent to minimize impacts to critical areas. When an alteration to a critical area is proposed, such alteration shall be avoided, minimized, in accordance with SMP **5.7.3.E.1.**

B.1.12 Mitigation plan requirements.

When critical area mitigation is required, the applicant shall submit for approval by the city a mitigation plan as part of the permit application and/or critical areas report. The mitigation plan shall be prepared by a qualified professional and in addition to any other requirement of the SMP and/or Appendix C and shall include:

A. Environmental Goals and Objectives. The mitigation plan shall include a written report identifying environmental goals and objectives of the compensation proposed and include:

1. A description of the anticipated impacts to the critical areas and the mitigating actions proposed and the purposes of the compensation measures, including the site selection

criteria; identification of compensation goals; identification of resource functions; proposed dates for beginning and completion of site compensation construction activities. The goals and objectives shall be related to the functions and values of the impacted critical area;

2. A review of the best available science supporting the proposed mitigation and a description of the report author's experience to date in restoring or creating the type of critical area proposed; and
3. An analysis of the likelihood of success of the compensation project.

B. Performance Standards. The mitigation plan shall include measurable specific criteria for evaluating whether or not the goals and objectives of the mitigation project have been successfully attained and whether or not the requirements of SMP are met.

C. Detailed Construction Plans. The mitigation plan shall include written specifications and descriptions of the mitigation proposed, such as:

1. The proposed construction sequence, timing, and duration;
2. Existing and proposed critical area acreage;
3. Vegetative, faunal, and hydrologic conditions;
4. Relationship within watershed and to existing water bodies;
5. Soil and substrate conditions, topographic elevations;
6. Existing and proposed adjacent site conditions;
7. Required critical area buffers;
8. Property ownership;
9. Grading and excavation details;
10. Erosion and sediment control features;
11. A planting plan specifying plant species, quantities, locations, size, spacing, and density; and
12. Measures to protect and maintain plants until established.

These written specifications shall be accompanied by detailed site diagrams, scaled cross-sectional drawings, topographic maps showing slope percentage and final grade elevations, and any other drawings appropriate to show construction techniques or anticipated final outcome.

D. Monitoring Program. The mitigation plan shall include a program for monitoring construction of the compensation project, and for assessing a completed project. Monitoring programs prepared in order to comply with this section shall include the following:

1. Procedures using quantitative and qualitative analysis for establishing the success or failure of the project;
2. For vegetation determinations, permanent sampling points shall be established;
3. Vegetative success shall equal 85 percent survival per year for planted trees, shrubs and/or cover of desirable under-story or emergent species;
4. The applicant shall submit a monitoring report on the current status of the mitigation project to the city pursuant to the following schedule: upon immediate completion of the submitted planting plan; at the end of the first growing season after implementation of the planting plan; and annually thereafter at the end of each growing season for a period of five years; and
5. If necessary, correct for failures by replacing dead or undesirable vegetation with appropriate plantings, repair damage caused by erosion, settling, or other geomorphologic processes or redesigning project.

Correction procedures shall be approved by a qualified professional.

E. Contingency Plan. The mitigation plan shall include identification of potential courses of action, and any corrective measures to be taken if monitoring or evaluation indicates project performance standards are not being met.

F. Financial Guarantees. The mitigation plan shall include financial guarantees to ensure that the mitigation plan is fully implemented. Financial guarantees ensuring fulfillment of the compensation project, monitoring program, and any contingency measures shall be required pursuant to Appendix Subsection B.1.22.

B.1.13 Innovative mitigation.

A. The city may encourage, facilitate, and approve innovative mitigation projects for Class III and Class IV wetlands. Class II wetlands may be considered after review and approval through a shoreline conditional use permit. Advance mitigation or mitigation banking are examples of alternative mitigation projects allowed under the provisions of this section in which one or more applicants, or an organization with demonstrated capability, may undertake a mitigation project together if it is demonstrated that in addition to any requirement of the SMP or SMP Appendix C all of the following circumstances exist:
   1. Creation or enhancement of a larger system of critical areas and open space is preferable to the preservation of many individual habitat areas;
   2. The applicant(s) demonstrates the organizational and fiscal capability to act cooperatively;
   3. The applicant(s) demonstrates that long-term management of the habitat area will be provided; and
   4. There is a clear potential for success of the proposed mitigation at the identified mitigation site.

B. Conducting mitigation as part of a cooperative process does not reduce or eliminate the required replacement ratios.

C. Any innovative mitigation project being considered under this section shall be required to satisfy the mitigation plan and monitoring requirements of Appendix Subsection B.1.12 and SMP Appendix C.

B.1.14 Review criteria.

A. Any alteration to a critical area, unless otherwise provided for in the SMP, shall be reviewed and approved, approved with conditions, or denied based on the proposal's ability to comply with all of the following criteria:
   1. The proposal minimizes the impact on critical areas in accordance with SMP **5.7.3.E.**1 or complies with Appendix Subsection B.1.13, Innovative mitigation;
   2. The proposal does not pose an unreasonable threat to the public health, safety, or welfare on or off the development proposal site;
   3. The proposal is consistent with the general purposes of the SMP and the public interest;
   4. Any alterations permitted to the critical area are mitigated in accordance with Appendix Subsection B.1.10, Mitigation requirements;
   5. The proposal protects the critical area functions and values consistent with the best available science; and
   6. The proposal is consistent with other applicable regulations and standards.

B. The city may condition the proposed activity as necessary to mitigate impacts to critical areas and to conform to the standards required by the SMP and provide for no net loss of shoreline functions and values.

C. Except as provided for by the SMP, any project that cannot adequately mitigate its impacts to critical areas shall be denied.

B.1.15 Completion of the critical areas review.

The city's determination regarding critical areas pursuant to the SMP shall be final concurrent with the final decision to approve, condition, or deny the development proposal or other activity involved.

B.1.16 Unauthorized critical area alterations and enforcement.

A. When a critical area or its buffer is altered in violation of the SMP or its appendixes, all ongoing development work shall stop and the critical area shall be restored. The city shall have the authority to issue a stop work order to cease all ongoing development work, and order restoration, rehabilitation or replacement measures at the owner's or other responsible party's expense to compensate for violation of provisions of the SMP.

B. Restoration Plan Required. All development work shall remain stopped until a restoration plan in accordance with the SMP and its appendixes is prepared and approved by the appropriate decision maker. Such a plan shall be prepared by a qualified professional and shall describe how the actions proposed meet the minimum requirements described in subsection B.1.16.C below. The city may, at the violator's expense, seek expert advice in determining the adequacy of the plan. Inadequate plans shall be returned to the applicant or violator for revision and resubmittal.

C. Minimum Performance Standards for Restoration.

1. In addition to any requirement of the SMP or state laws, for alterations to aquifer recharge areas, frequently flooded areas, wetlands, and habitat conservation areas, the following minimum performance standards shall be met for the restoration of a critical area; provided, that if the violator can demonstrate that greater functional and habitat values can be obtained, these standards may be modified:
   a. The historic structural and functional values shall be restored, including water quality and habitat functions;
   b. The historic soil types and configuration shall be replicated;
   c. The critical area and buffers shall be replanted with native vegetation that replicates the vegetation historically found on the site in species types, sizes, and densities; and
   d. The historic functions and values should be replicated at the location of the alteration.
2. In addition to other requirements of the SMP or state laws, for alterations to flood and geological hazards, the following minimum performance standards shall be met for the restoration of a critical area; provided, that if the violator can demonstrate that greater safety can be obtained, these standards may be modified:
   a. The hazard shall be reduced to a level equal to, or less than, the predevelopment hazard;
   b. Any risk of personal injury resulting from the alteration shall be eliminated or minimized; and
   c. The hazard area and buffers shall be replanted with native vegetation sufficient to minimize the hazard.

D. Site Investigations. The city or designee is authorized to make site inspections and take such actions as are necessary to enforce the SMP. Any applicant as a condition of permit review shall grant to the city unlimited right of entry to the work

site for the purposes of making inspections to determine compliance with the requirements and conditions of the review and/or issuance of said permit.

E. Penalties. Any person who violates any of the provisions of the SMP shall be guilty of a civil offense and subject to enforcement and penalty provisions of Chapter 1.12 BMC. For permits requested after the development is performed, or for restoration work that is required because a permit was not first requested before the work was done, the fee shall be triple that which is ordinarily charged, which will continue after the initial application is made (the hourly charge fees shall also be triple).

B.1.17 Critical area markers and signs.

A. The boundary at the outer edge of critical area tracts and easements shall be delineated with permanent survey stakes, using iron or concrete markers as established by local survey standards.

B. The boundary at the outer edge of the critical area or buffer shall be identified with temporary signs prior to any site alteration. Such temporary signs shall be replaced with permanent signs prior to occupancy or use of the site.

B.1.18 Notice on title.

A. In order to inform subsequent purchasers of real property of the existence of critical areas, the owner of any property containing a critical area or buffer on which a development proposal (e.g., short plat, long plat, subdivision, boundary line adjustment or other action that requires a land use permit) is submitted shall file a notice with the county according to the direction of the city. The notice shall state the presence of the critical area on the property, of the application of the SMP to the property, and the fact that limitations on actions in or affecting the critical area may exist. The notice shall run with the land.

B. The applicant shall submit proof that the notice is filed for public record before construction or use of the property or, in the case of subdivisions, short subdivisions, planned unit developments, and binding site plans, at or before recording.

B.1.19 Native growth protection areas.

A. Unless otherwise required in the SMP, native growth protection areas (NGPA) shall delineate and protect those contiguous critical areas and buffers listed below:
   1. All landslide hazard areas and buffers;
   2. All wetlands and buffers;
   3. All habitat conservation areas; and
   4. All other lands to be protected from alterations as conditioned by project approval.

B. Upon permit approval and/or development, native growth protection areas shall be recorded on all documents of title of record for all affected lots.

C. Native growth protection areas shall be designated on the face of any plat or recorded drawing in a format approved by the city. The designation shall include the following restrictions:
   1. An assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including but not limited to controlling surface water runoff and erosion, maintaining slope stability, buffering, and protecting plants, fish, and animal habitat; and
   2. The right of the city to enforce the terms of the restriction.

B.1.20 Critical area tracts.

A. Critical area tracts shall be used in development proposals to delineate and

protect those contiguous critical areas and buffers listed below:

1. All landslide hazard areas and buffers;
2. All wetlands and buffers;
3. All habitat conservation areas; and
4. All other lands to be protected from alterations as conditioned by project approval.

B. Critical area tracts shall be recorded on all documents of title of record for all affected lots.

C. Critical area tracts shall be designated on the face of the plat or recorded drawing in a format approved by the city. The designation shall include the following restriction:

1. An assurance that native vegetation will be preserved for the purpose of preventing harm to property and the environment, including, but not limited to, controlling surface water runoff and erosion, maintaining slope stability, buffering, and protecting plants, fish, and animal habitat; and
2. The right of the city to enforce the terms of the restriction.

D. The city may require that any required critical area tract be dedicated to the city, held in an undivided interest by each owner of a building lot within the development with the ownership interest passing with the ownership of the lot, or held by an incorporated homeowner's association or other legal entity (such as a land trust, which assures the ownership, maintenance, and protection of the tract).

B.1.21 Building setbacks.

Unless otherwise provided, buildings shall be set back a distance of 15 feet from the edges of all critical area buffers or from the edges of all critical areas, if no buffers are required. The following may be allowed in the building setback area:

A. Landscaping, provided the plant material is not an invasive species per the Washington State Noxious Weed Control Board or Washington State Department of Agriculture (a list of class A through C noxious weeds is a brochure from the Washington State Noxious Weed Control Board and is included in Table 8 at the end of Appendix B).

B. Building overhangs if such overhangs do not extend more than 18 inches into the setback area.

B.1.22 Bonds to ensure mitigation, maintenance, and monitoring.

A. When mitigation is required for a development permit, the city shall require the applicant to post a performance bond or other security in a form and amount deemed acceptable by the city. If the development proposal is subject to mitigation, the applicant shall post a mitigation/maintenance bond or other security in a form and amount deemed acceptable by the city to ensure mitigation is fully functional.

B. The performance bond shall be in the amount of 125 percent of the estimated cost of the uncompleted actions or the estimated cost of restoring the functions and values of the critical area that are at risk, whichever is greater. Upon satisfactory completion of the project, the performance bond shall be released and replaced with a required maintenance bond in the amount of 50 percent of the estimated cost of the completed project.

C. All bonds shall be in the form of a surety bond, performance bond, assignment of savings account, or an irrevocable letter of credit guaranteed by an acceptable financial institution with terms and conditions acceptable to the city attorney.

D. Bonds or other security authorized by this section shall remain in effect until the city determines in writing that the standards bonded for have been met. Maintenance bonds or other security shall be held by the

city for a minimum of three years after project acceptance by the city to ensure that the required mitigation has been fully implemented and demonstrated to function, and may be held for longer periods when necessary.

E. Depletion, failure, or collection of bond funds shall not discharge the obligation of an applicant or violator to complete required mitigation, maintenance, monitoring, or restoration.

F. Public development proposals shall be relieved from having to comply with the bonding requirements of this section if public funds have previously been committed for mitigation, maintenance, monitoring, or restoration.

G. Any failure to satisfy critical area requirements established by law or condition, including but not limited to the failure to provide a monitoring report within 30 days after it is due, or comply with other provisions of an approved mitigation plan, shall constitute a default and the city may demand payment of any financial guarantees or require other action authorized by the city code or any other law.

H. Any funds recovered pursuant to this section shall be used to complete the required mitigation.

B.1.23 Critical area inspections.
Reasonable access to the site shall be provided to the city, state, and federal agency review staff for the purpose of inspections during any proposal review, restoration, emergency action, or monitoring period.

Appendix Section B.2
WETLANDS

Subsections:
B.2.1 Designation, rating and mapping wetlands.
B.2.2 Critical areas report – Additional requirements for wetlands.
B.2.3 Performance standards – General requirements.
B.2.4 Performance standards – Mitigation requirements.

B.2.1 Designation, rating and mapping wetlands.

A. Designating Wetlands. Wetlands are those areas, designated in accordance with the Environmental Laboratory (1987) "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS and U.S. Army Corps of Engineers, 21, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble, ERDC/EL TR-10-3, Vicksburg, MS: U.S. Army Engineer Research and Development Center.

B. Wetland Ratings. Wetlands shall be rated according to the Department of Ecology wetland rating system found in the Hruby et al, 2004, Washington State Wetland Rating System for Western Washington – Revised, Washington State Department of Ecology Publication # 04-06-025. These documents contain the definitions and methods for determining wetland categories and attributes.

C. Mapping of Wetlands. The approximate location and extent of wetlands are shown on the adopted critical area maps as referenced in Appendix Subsections B.1, 2, 4. and 5. The identification, classification, extent and location of any wetland shall be

determined through the performance of a field investigation by a qualified consultant/professional applying the Washington State Wetlands Identification and Delineation Manual as required by Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS. And the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0),* ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center as amended.

B.2.2 Critical areas report – Additional requirements for wetlands.

In addition to the general critical areas report requirements of Appendix Subsection B.1.8, critical areas report for wetlands must meet the requirements of this section. Critical areas report for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Wetland Analysis. In addition to the minimum required contents of Appendix Subsection B.1.8, Critical areas report – Requirements, a critical areas report for wetlands shall contain an analysis of the wetlands including the following site-related and proposal-related information at a minimum:
   1. A written assessment and accompanying maps of the wetlands and buffers within 300 feet of the project area, including the following information at a minimum:
      a. The project area of the proposed activity;
      b. Wetland delineation and required buffers;
      c. Existing wetland acreage;
      d. Wetland category; vegetative, faunal, and hydrologic characteristics;
      e. Soil and substrate conditions; and
      f. Topographic elevations, at five-foot contours.
   2. Proposed mitigation including a written assessment and accompanying maps of the mitigation area, including the information detailed in Appendix Subsection B.1.12, Mitigation plan requirements.

B. Additional Information May Be Required. When appropriate, the city may also require the critical areas report to include an evaluation by the Department of Ecology or an independent qualified expert regarding the applicant's analysis and the effectiveness of any proposed mitigating measures or programs, and to include any recommendations as appropriate.

B.2.3 Performance standards – General requirements.

A. Activities may only be permitted in a wetland or wetland buffer if the applicant can show that the proposed activity will have no net loss to the functions and values of the wetland and other critical areas.

B. Activities and uses shall be prohibited from wetlands and wetland buffers, except as provided for in this SMP Appendix.

C. Category I Wetlands. Activities and uses shall be prohibited from Category I, except as provided in the city's SMP for trail development.

D. Category II. With respect to activities proposed in Category II wetlands, the following standards shall apply:
   1. The basic project purpose cannot reasonably be accomplished and successfully avoid, or result in no net loss on a wetland, functions and values or on another site or sites in the general region; and
   2. All alternative designs of the project as proposed, that would avoid or result in

less of an adverse impact on a wetland or its buffer, such as a reduction in the size, scope, configuration, or density of the project, are not feasible.

E. Category III and IV Wetlands. Activities and uses that result in unavoidable and necessary impacts may be permitted if the proposal demonstrates mitigation sequencing is followed.

F. Wetland Buffers.

1. Standard Buffer Widths. The standard buffer widths presume the existence of a relatively intact native vegetation community in the buffer zone adequate to protect the wetland functions and values at the time of the proposed activity. If the vegetation is inadequate then the buffer should be planted to maintain the standard width. Required standard wetland buffers, based on wetland category and land use intensity, are as follows:

Table 2

Alternative 2 Buffer Widths, Based Upon Category and Land Use Intensity		
Category (2004 Wrn. WA Rating System)	**Total Points in Rating System**	**Alternative 2 Buffer Category + Land Use Intensity (lo/mod/hi)***
I	**>70**	**lo 150, mod 225, hi 300**
II	**51 – 69**	**lo 150, mod 225, hi 300**
III	**30 – 50**	**lo 75, mod 110, hi 150**
IV	<30	**lo 25, mod 40, hi 50**

* For use in this table, the terms "lo," "med," and "hi" shall mean as follows:

Low Land Use Intensity (lo) includes passive open space (e.g. hiking or bird watching), natural resource preservation areas, unpaved trails, or utility corridors without a maintenance road and little-to-no vegetation management required.

Moderate Land Use Intensity (mod) includes paved trails, utility corridor or rights-of-way shared by several utilities and including access/maintenance road(s), or moderate-intensity open space (e.g. parks with biking or jogging)

High Land Use Intensity (hi) includes high intensity recreation (e.g. golf courses or ball fields), industry, institutions, or conversion to high-intensity agriculture (e.g. dairies, nurseries, or greenhouses).

2. Measurement of Wetland Buffers. All buffers shall be measured from the wetland boundary as surveyed in the field. The width of the wetland buffer shall be determined according to the wetland category and the proposed land use. The buffer for a wetland created, restored, or enhanced as compensation for approved wetland alterations shall be the same as the buffer required for the category of the created, restored, or enhanced wetland.

3. Wetland Buffer Width Modifications. Permission will be in the form of an administrative variance for one of the following types of buffer width modification:

a. The city may allow averaging of the outer 25 percent of the standard buffer width in accordance with an approved critical areas report and the best available science on a case-by-case basis. Averaging of buffer widths may only be allowed where

the decision-maker determines that a qualified wetlands professional demonstrated:

i. It will not reduce wetland functions or values;
ii. The wetland contains variations in sensitivity because of existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
iii. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer;
iv. The buffer width is not reduced to less than 75 percent of the standard width; and
v. Buffer width averaging is being conducted and/or implemented within or on the property where the averaging is being requested.

b. The city may reduce the outer 25 percent of buffer widths if the above criteria and the wetland or its buffer is rehabilitated or enhanced in accordance with Table 4.
c. Averaging to improve wetland protection may be permitted when all of the following conditions are met:
   i. The wetland has significant differences in characteristics that affect its habitat functions, such as a wetland with a forested component adjacent to a degraded emergent component or a "dual-rated" wetland with a Category I area adjacent to a lower-rated area;
   ii. The buffer is increased adjacent to the higher-functioning area of habitat or more sensitive portion of the wetland and decreased adjacent to the lower-functioning or less sensitive portion;
   iii. The total area of the buffer after averaging is equal to the area required without averaging; and
   iv. The buffer at its narrowest point is never less than three-fourths of the required width.
d. Averaging to allow reasonable use of a parcel may be permitted when all of the following are met:
   i. No feasible alternatives to the site design exist that could be accomplished without buffer averaging;
   ii. The averaged buffer will not result in degradation of the wetland's functions and values as demonstrated by a report from a qualified wetland professional;
   iii. The total buffer area after averaging is equal to the area required without averaging; and
   iv. The buffer at its narrowest point is never less than three-fourths of the required width.

4. Buffer Uses. In addition to those allowed uses listed within the SMP and Appendix Section B.1.5, the following uses may be permitted within a wetland buffer in accordance with the review procedures of the SMP, provided they are not prohibited by any other applicable law and they are conducted in a manner so as to have no net impact on the buffer and adjacent wetland:
   a. Conservation and Restoration Activities. Conservation or restoration activities aimed at

protecting the soil, water, vegetation, or wildlife;

b. Passive Recreation. Passive recreation facilities designed and in accordance with an approved critical areas report and in the outer 25 percent of the wetland buffer, including:

i. Walkways and trails, pursuant to Appendix Subsections B.1.5.D, and B.3.4;

ii. Wildlife viewing structures; and

iii. Fishing access areas.

c. Stormwater Management Facilities. Stormwater management facilities, limited to stormwater dispersion outfalls, detention facilities and bioswales, may be allowed; provided, that:

i. Alternate locations were considered and shown to not be feasible as defined in the SMP;

ii. The location of such facilities will not affect the net functions or values of the wetland; and

iii. Stormwater detention facilities are not allowed in buffers of Category I or II wetlands.

G. Signs and Fencing of Wetlands.

1. Temporary Markers. The outer perimeter of the wetland or buffer and the limits of those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field in such a way as to ensure that no unauthorized intrusion will occur, and inspected by the city prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction, and shall not be removed until permanent signs, if required, are in place.

2. Permanent Signs. As a condition of any permit or authorization issued pursuant to the SMP, the city shall require the applicant to install permanent interpretative or educational signs along the boundary of a wetland or buffer in addition to wetland boundary signs.

a. Permanent signs shall be made of a metal face and attached to a metal post, or another material of equal durability.

b. Signs must be posted at a reasonable interval or of one per lot, and must be maintained by the property owner in perpetuity.

c. Wetland boundary signs shall be worded as follows or with alternative language approved by the city:

> Protected Wetland Area
> Do Not Disturb
> Contact the City of Buckley
> Regarding Uses and
> Restriction

d. Interpretative or educational signs shall be approved by the decision maker before approval of any permit.

3. Fencing.

a. The decision maker may require the applicant to install a permanent fence at the edge of the wetland buffer when fencing will prevent future impacts to the wetland.

b. The applicant shall install a permanent fence around the wetland or buffer when domestic grazing animals are present or may be introduced on-site.

c. Fencing installed as part of a proposed activity or as required in this subsection shall be designed so as to not interfere with species

migration, including fish runs, and shall be constructed in a manner that does not affect wetland and associated habitat.

4. The table that follows shows examples of measures to minimize impacts to wetlands from proposed changes in land use that have high impacts. (This is not a complete list of measures.

Table 3

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	▪ Parking lots ▪ Trails	▪ Direct lights away from wetland
Noise	▪ Recreation	▪ Locate activity that generates noise away from wetland
Toxic runoff*	▪ Parking lots ▪ Roads ▪ Landscaping ▪ Application of agricultural pesticides	▪ Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered ▪ Establish covenants limiting use of pesticides within 150 feet of wetland ▪ Apply integrated pest management
Storm water runoff	▪ Parking lots ▪ Roads ▪ Commercial ▪ Landscaping ▪ Impervious trails	▪ Retrofit storm water detention and treatment for roads and existing adjacent development ▪ Prevent channelized flow from lawns or flat areas that directly enters the buffer
Change in water regime	▪ Impermeable surfaces ▪ Lawns ▪ Tilling ▪ Parks	▪ Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human disturbance	▪ Trails ▪ Parks	▪ Use privacy fencing ▪ Plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the eco-region ▪ Place wetland and its buffer in separate tract
Dust	▪ Tilled fields ▪ Sports fields	▪ Use best management practices to control dust
* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.		

B.2.4 Performance standards – Mitigation requirements.

A. Mitigation shall achieve equivalent or greater biological functions. Mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions and be in accordance with the SMP, this SMP Appendix, and the SMP restoration plan.

B. Mitigation shall result in no net loss. Wetland mitigation actions shall not result in a net loss of wetland area or functions and values and:
   1. The mitigation area results in a net gain in wetland functions as determined by a site-specific function assessment; or
   2. The mitigation area provides greater benefits to the functioning of the watershed, such as riparian habitat restoration and enhancement.

C. Preference of Mitigation Actions. Mitigation actions that require compensation by replacing, enhancing, or substitution shall occur in the following order of preference:
   1. Enhance on-site degraded wetlands.
   2. Restore wetlands on upland sites that were formerly wetlands and/or have been degraded.
   3. Create wetlands on disturbed upland sites such as those with a vegetative cover of primarily exotic or non-native species.

D. Mitigation Ratios.
   1. Acreage Replacement Ratios. The following ratios shall apply to creation or restoration that is in-kind, on-site, the same category, timed prior to or concurrent with alteration, and has a high probability of success. The first number specifies the acreage of replacement wetlands and the second specifies the acreage of wetlands altered. (Also see #5 below for a sample on reading this table.)

Table 4

Category and type of wetland impact	Re-establishment or creation	Rehabilitation only	Re-establishment or creation (R/C) and Rehabilitation (RH)	Re-establishment or Creation (R/C) and Enhancement 5.	Enhancement only
All Category IV	1.5:1	3:1	1:1 R/C and 1:1 RH	1:1 R/C and 2:1 E	6:1
All Category III	2:1	4:1	1:1 R/C and 2:1 RH	1:1 R/C and 4:1 E	8:1
Category II Estuarine	Case-by-case	4:1 Rehabilitation of an estuarine wetland	Case-by-case	Case-by-case	Case-by-case
All other Category II	3:1	6:1	1:1 R/C and 4:1 RH	1:1 R/C and 8:1 E	12:1
Category I forested	6:1	12:1	1:1 R/C and 10:1 RH	1:1 R/C and 10:1 E	24:1
Category I – based on four functions	4:1	8:1	1:1 R/C and 6:1 RH	1:1 R/C and 12:1 E	16:1
Category I natural heritage site	Not considered possible	6:1 rehabilitation of a natural heritage site	R/C not considered possible	R/C not considered possible	Case-by-case
Category I Bog	Not considered possible	6:1 Rehabilitation of a bog	R/C not considered possible	R/C not considered possible	Case-by-case

Category and type of wetland impact	Re-establishment or creation	Rehabilitation only	Re-establishment or creation (R/C) and Rehabilitation (RH)	Re-establishment or Creation (R/C) and Enhancement 5.	Enhancement only
Category I Estuarine	Case-by-case	6:1 Rehabilitation of an estuarine wetland	Case-by-case	Case-by-case	Case-by-case

E. Combining different types of compensation.

1. Establishing a mitigation ratio is straightforward when compensation projects involve one type of compensation and replace the wetland area lost (e.g. re-establishment or creation). When a proposal for compensation includes re-establishment or creation along with enhancement, two ratios are used to determine the total amount of compensation required. The fourth and fifth columns in Table 4 list the ratios required when these types of compensation are used in conjunction. Ratios are provided for each wetland category and type. When using these ratios, both the re-establishment/creation and the enhancement ratios listed are per area (acre) of impact.
2. As an example, when the column lists the ratios as "1:1 R/C and 8:1 E" it means that for every acre of impact an applicant would be required to provide 1 acre of re-establishment or creation and 8 acres of enhancement. For a 3-acre impact to a Category II categorized as "all other," the amount of compensation necessary would be three acres of creation/re-establishment plus 24 acres of enhanced wetland for a total area of 27 acres. Alternatively, in this scenario, the application could provide nine acres of re-establishment or creation (3:1 from column 2) to offset the three-acre loss.

F. Wetlands Enhancement as Mitigation.

1. Impacts to wetlands may be mitigated by enhancement of existing significantly degraded wetlands. Applicants proposing to enhance wetlands must produce a critical areas report that identifies how enhancement will increase the functions of the degraded wetland and how this increase will adequately mitigate for the loss of wetland area and function at the impact site. An enhancement proposal must also show whether existing wetland functions will be reduced by the enhancement actions.

Appendix Section B.3
AQUIFER RECHARGE AREAS

Subsections:

B.3.1 **Aquifer recharge areas designation.**
B.3.2 **Aquifer recharge area susceptibility ratings.**
B.3.3 **Mapping of aquifer recharge areas.**
B.3.4 **Activities allowed in aquifer recharge areas.**
B.3.5 **Critical areas report – Additional requirements for aquifer recharge areas.**
B.3.6 **Performance standards – General requirements.**
B.3.7 **Performance standards – Specific uses.**
B.3.8 **Uses prohibited from aquifer recharge areas.**

B.3.1 Aquifer recharge areas designation.

Aquifer recharge areas are those areas with a recharging effect on aquifers used for potable water as defined by WAC 365-190-32. Aquifer recharge areas have prevailing geologic conditions associated with infiltration rates that create a high potential for contamination of ground water resources or contribute significantly to the replenishment of ground water. These areas include the following:

A. Wellhead Protection Areas. Wellhead protection areas may be defined by the boundaries of the 10-year time of ground water travel, or boundaries established using alternate criteria approved by the Department of Health in those settings where ground water time of travel is not a reasonable delineation criterion, in accordance with WAC 246-290-135.
B. Sole Source Aquifers. Sole source aquifers are areas that have been designated by the U.S. Environmental Protection Agency pursuant to the Federal Safe Drinking Water Act.
C. Susceptible Ground Water Management Areas. Susceptible ground water management areas are areas that have been designated as moderately or highly vulnerable or susceptible in an adopted ground water management program developed pursuant to Chapter 173-100 WAC.
D. Special Protection Areas. Special protection areas are those areas defined by WAC 173-200-090.

B.3.2 Aquifer recharge area susceptibility ratings.

Aquifer recharge areas shall be rated as having high, moderate, or low susceptibility based on soil permeability, geologic matrix, infiltration, and depth to water as determined by the criteria established by the State Department of Ecology.

B.3.3 Mapping of aquifer recharge areas.

The approximate location and extent of aquifer recharge areas are shown on the adopted critical area maps as referenced in Appendix Subsections B.1.2 D. and E.

A. Aquifer recharge areas are delineated on the water system map for source locations and WAC 246-290-135 shall be used to define the radius around them as the recharge area.

B.3.4 Activities allowed in aquifer recharge areas.

In addition to those allowed activities listed in Appendix Subsection B.1.5, the following activities are allowed in aquifer recharge areas:

A. Pervious and impervious trails

B.3.5 Critical areas report – Additional requirements for aquifer recharge areas.

In addition to the general critical areas report requirements of Appendix Subsection B.1.8, critical areas report for aquifer recharge areas must meet the requirements of this section. Critical areas report for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Prepared by a Qualified Professional. An aquifer recharge area critical areas report shall be prepared by a qualified professional who is a hydrogeologist, geologist, or engineer, who is licensed in the State of Washington and has experience in preparing hydrogeologic assessments.

B. Hydrogeologic Assessment Required. For all proposed activities to be located in a aquifer recharge area, a critical areas report shall contain a level one hydrogeologic assessment. A level two hydrogeologic assessment shall be required for any of the following proposed activities:
   1. Activities that result in 5 percent or more impervious site area;
   2. Activities that divert, alter, or reduce the flow of surface or ground waters, or otherwise reduce the recharging of the aquifer;
   3. The use of hazardous substances, other than pesticides or herbicides approved by the Department of Ecology;
   4. The use of injection wells, including on-site septic systems; or
   5. Any other activity determined by the city likely to have an adverse impact on ground water quality or quantity, or on the recharge of the aquifer.

C. Level One Hydrogeologic Assessment. A level one hydrogeologic assessment shall include the following site-related and proposal-related information at a minimum:
   1. Available information regarding geologic and hydrogeologic characteristics of the site, including the surface location of all aquifer recharge areas located on-site or immediately adjacent to the site, and permeability of the unsaturated zone;
   2. Ground water depth, flow direction and gradient based on available information;
   3. Currently available data on wells and springs within 1,300 feet of the project area;
   4. Location of other critical areas, including surface waters, within 1,300 feet of the project area;
   5. Available historic water quality data for the area to be affected by the proposed activity; and
   6. Best management practices proposed to be utilized.

D. Level Two Hydrogeologic Assessment. A level two hydrogeologic assessment shall include the following site-related and proposal-related information at a minimum, in addition to the requirements for a level one hydrogeologic assessment:
   1. Historic water quality data for the area to be affected by the proposed activity compiled for at least the previous five-year period;
   2. Ground water monitoring plan provisions;
   3. Discussion of the effects of the proposed project on the ground water quality and quantity, including:
      1. Predictive evaluation of ground water withdrawal effects on nearby wells and surface water features; and
      2. Predictive evaluation of contaminant transport based on potential releases to ground water.
   4. A spill plan that identifies equipment and/or structures that could fail, resulting in an impact. Spill plans shall

include provisions for regular inspection, repair, and replacement of structures and equipment that could fail.

B.3.6 Performance standards – General requirements.

A. Activities may only be permitted in a aquifer recharge area if the applicant can show that the proposed activity will not cause contaminants to enter the aquifer and that the proposed activity will not adversely affect the recharging of the aquifer.

B. The proposed activity must comply with the water source protection requirements and recommendations of the Federal Environmental Protection Agency, State Department of Health, and the local health district.

C. The proposed activity must be designed and constructed in accordance with Chapters 14.04 and 14.30 BMC and the City of Buckley Water Comprehensive Plan.

B.3.7 Performance standards – Specific uses.

A. Storage Tanks. All storage tanks proposed to be located in a aquifer recharge area must comply with local building code requirements and must conform to the following requirements:

1. Underground Tanks. All new underground storage facilities shall be designed and constructed so as to:
   a. Prevent releases from corrosion or structural failure for the operational life of the tank;
   b. Be protected against corrosion, constructed of non-corrosive material, steel clad with a non-corrosive material, or designed to include a secondary containment system to prevent the release or threatened release of any stored substances; and
   c. Use material in the construction or lining of the tank that is compatible with the substance to be stored.

B. Above-ground Tanks. All new above-ground storage facilities proposed for use shall be designed and constructed so as to:
   1. Not allow the release to the ground, ground waters, or surface waters; Primary containment area enclosing or underlying the tank or part thereof; and
   2. A secondary containment system built into the tank structure.

C. Use of Pesticides and Nutrients. Application of pesticides, herbicides, and fertilizers shall be in accordance with Department of Ecology regulation or guidance documents. At a minimum, a shoreline exemption should be obtained from the city.

D. Spreading or Injection of Reclaimed Water. Water reuse projects for reclaimed water must be in accordance with the adopted water or sewer comprehensive plans that have been approved by the Departments of Ecology and Health.
   1. Surface spreading must meet the ground water recharge criteria given in RCW 90.46.8 and 90.46.1(10).
   2. Direct injection must be in accordance with the standards developed by authority of RCW 90.46.042.

E. State and Federal Regulations. The uses listed In Table 5 shall be conditioned as necessary to protect aquifer recharge areas in accordance with the applicable state and federal regulations.

Table 5

Statutes, Regulations, and Guidance Pertaining to Ground Water Impacting Activities	
Activity	**Statute – Regulation – Guidance**
Above-ground storage tanks	WAC 173-303-640
Animal feedlots	Chapters 173-216 and 173-220 WAC
Automobile washers	Chapter 173-216 WAC; Best Management Practices for Vehicle and Equipment Discharges (WDOE WQ-R-95-56)
Below-ground storage tanks	Chapter 173-18 WAC
Chemical treatment storage and disposal facilities	WAC 173-303-182
Hazardous waste generator (boat repair shops, biological research facility, dry cleaners, furniture stripping, motor vehicle service garages, photographic processing, printing and publishing shops, etc.)	Chapter 173-303 WAC
Injection wells	Federal 40 CFR Parts 144 and 146; Chapter 173-218 WAC
Junk yards and salvage yards	Chapter 173-304 WAC; Best Management Practices to Prevent Stormwater Pollution at Vehicles Recycler Facilities (WDOE 94-146)
Oil and gas drilling	WAC 332-12-450, Chapter 173-218 WAC
On-site sewage systems (large-scale)	Chapter 173-240 WAC
On-site sewage systems (< 14,500 gal/day)	Chapter 246-272 WAC; local health ordinances
Pesticide storage and use	Chapters 15.54 and 17.21 RCW
Sawmills	Chapters 173-303 and 173-304 WAC; Best Management Practices to Prevent Stormwater Pollution at Log Yards (WDOE 95-53)
Solid waste handling and recycling facilities	Chapter 173-304 WAC
Surface mining	WAC 332-18-015
Wastewater application to land surface	Chapters 173-216 and 173-200 WAC; WDOE Land Application Guidelines, Best Management Practices for Irrigated Agriculture

B.3.8 Uses prohibited from aquifer recharge areas.

The following activities and uses are prohibited in aquifer recharge areas:

A. Landfills. Landfills, including hazardous or dangerous waste, municipal solid waste, special waste, wood waste, and inert and demolition waste landfills;

B. Underground Injection Wells. Class I, III, and IV wells are prohibited; Class V injection wells may be permitted subject to the following:

1. The application for the Class V injection well has undergone a review and received approval from the Washington State Department of Ecology and Pierce County

Department of Health and has gone through and received approval through the variance process;

C. Wood Treatment Facilities. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces (both natural and manmade);

D. Storage, processing, or disposal of radioactive substances. Facilities that store, process, or dispose of radioactive substances; and

E. Other.
   1. Activities that would significantly reduce the recharge to aquifers currently or potentially used as a potable water source;
   2. Activities that would significantly reduce the recharge to aquifers that are a source of significant base flow to a regulated stream; or
   3. Activities that are not connected to an available sanitary sewer system are prohibited from aquifer recharge areas associated with sole source aquifers.

F. State and Federal Regulations. The uses listed in Table 5 shall be conditioned as necessary to protect aquifer recharge areas in accordance with the applicable state and federal regulations.

Appendix Section B.4
FREQUENTLY FLOODED AREAS

Subsections:

B.4.1 Designation of frequently flooded areas.
B.4.2 Critical areas report – Additional requirements.
B.4.3 Warning and disclaimer of liability.
B.4.4 Performance standards – General requirements.
B.4.5 Performance standards – Specific uses.
B.4.6 Performance standards – Areas of shallow flooding.
B.4.7 Uses and activities prohibited from frequently flooded areas.

B.4.1 Designation of frequently flooded areas.

Frequently Flooded Areas. Frequently flooded areas shall include:

A. Areas Identified on the Flood Insurance Map(s). Those areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the City of Buckley, Pierce County, Washington, dated November 1979," with an accompanying flood insurance map(s), and any revisions thereto. The flood insurance study and accompanying map(s) are hereby adopted by reference, declared part of the SMP, and are available for public review at the city.

B. Areas Identified by the city. Those areas of special flood hazard identified by the city based on review of base flood elevation and floodway data available from federal, state, Pierce County or other valid sources when base flood elevation data has not been provided from the Federal Insurance Administration (A and V zones of the flood insurance map(s)).

C. Use of Additional Information. The city may use additional flood information that is more restrictive or detailed than that provided in the flood insurance study conducted by the Federal Emergency Management Agency (FEMA) to designate frequently flooded areas, including data on channel migration, historical data, high water marks, photographs of past flooding, location of restrictive floodways, maps showing future build-out conditions, maps that show riparian habitat areas, or similar information.

D. Flood Elevation Data. When base flood elevation data is not available (A and V zones), the city shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source in order to administer this section .

E. Designations. The flood insurance maps are to be used as a guide for the city, project applicants and/or property owners, and the public, and should be considered a minimum designation of frequently flooded areas. As flood insurance maps may be continuously updated as areas are reexamined or new areas are identified, newer and more restrictive information for flood hazard area identification shall be the basis for regulation.

F. Maintenance of Records. The city shall obtain and record the as-built elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement. The city shall also maintain for public inspection all records of floodplain hazards, certificates of floodproofing, and flood elevation data.

B.4.2 Critical areas report – Additional requirements.

In addition to the general critical areas report requirements of the SMP 5.3 and Appendix Subsection B.1.8, critical areas report for frequently flooded areas must meet the requirements of this section. Critical areas report for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Prepared by a Qualified Professional. A frequently flooded areas report shall be prepared by a qualified professional who is a hydrologist, or engineer, who is licensed in the State of Washington with experience in preparing flood hazard assessments.

B. Area Addressed in Critical Areas Report. The following areas shall be addressed in a critical areas report for frequently flooded areas:
   1. The site area of the proposed activity;
   2. All areas of a special flood hazard area, as indicated on the flood insurance map(s) within 200 feet of the project area; and
   3. All other flood areas indicated on the flood insurance map(s) within 200 feet of the project area.

C. Flood Hazard Assessment Required. A critical areas report for a proposed activity within a frequently flooded area shall contain a flood hazard assessment including the following site-related and proposal-related information at a minimum:
   1. Site and Construction Plans. A copy of the site and construction plans for the development proposal showing:
      a. Floodplain (100-year flood elevation), 10-year and 50-year flood elevations, floodway, other critical areas, buffers, and shoreline areas;
      b. Proposed development, including the location of existing and proposed structures, fill, storage of materials, and drainage facilities, with dimensions indicating distances to the floodplain;
      c. Clearing limits; and
      d. Elevation of the lowest floor (including basement) of all structures, and the level to which any nonresidential structure has been floodproofed;
   2. Watercourse Alteration. When watercourse alteration is proposed, the critical areas report shall include:
      a. Extent of Watercourse Alteration. A description of and plan showing the extent to which a watercourse

will be altered or relocated as a result of the proposal;

b. Maintenance Program Required for Watercourse Alterations. A maintenance program that provides maintenance practices for the altered or relocated portion of the watercourse to ensure that the flood carrying capacity is not diminished;

c. Compliance Documentation. Information describing and documenting how the proposed water course alteration complies with the requirements of Appendix Section B.6, Fish and Wildlife Habitat Conservation Areas, the SMP, and other applicable state or federal permit requirements; and

d. Information Regarding Other Critical Areas. Potential impacts to wetlands, fish and wildlife habitat, and other critical areas shall be addressed in accordance with the applicable sections of the SMP and this SMP Appendix-.

B.4.3 Warning and disclaimer of liability.

The degree of flood protection required is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. These regulations do not imply that land outside frequently flooded areas or uses permitted within such areas will be free from flooding or flood damages. These regulations shall not create liability on the part of the city, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on these regulations or any administrative decision lawfully made hereunder.

B.4.4 Performance standards – General requirements.

The following standards shall be adhered to in all frequently flooded areas, except as otherwise provide for in the SMP (e.g. SMP 5.3):

A. Development Permit Required. A shoreline permit shall be obtained before land is altered or a new use is commenced within a frequently flooded area. Development shall include storage of equipment or materials within the area of special flood hazard.

B. All Necessary Permits Shall Be Obtained. All necessary permits must be obtained from those governmental agencies from which prior approval is required by federal, state, or local law, including Section 404 of the Federal Water Pollution Control Act Amendment of 1972 and the Endangered Species Act of 1973.

C. Before Regulatory Floodway. In areas where the base flood elevation is provided, but where a regulatory floodway has not been designated, new construction, substantial improvements, or other development, including fill, shall not be permitted within zones A1 – 30 and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

D. Areas without Base Flood Elevation Data. Where base flood elevation data is not available (A and V zones), and there is insufficient data available from federal, state, or other sources, the city shall determine the base flood elevation using FEMA-approved engineering methods, and historical data, high water marks, photographs of past flooding, and other available information. If there is

insufficient data available for the city to make a determination of the base flood elevation, and standards requiring a base flood elevation cannot be implemented, the city shall require measures that assure the proposed structures will be reasonably safe from flooding. At a minimum, the base flood elevation shall be set at least two feet above the highest adjacent grade.

E. Construction Materials and Methods.
   1. Methods That Minimize Flood Damage. All new construction and substantial improvements shall be constructed using flood-resistant materials and utility equipment, and with methods and practices that minimize flood damage.
   2. Structures shall be located outside the floodplain. All structures, utilities and other improvements located within the floodplain are required to go through the variance process for review and approval.
   3. Utilities Shall Be Protected. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

F. Elevation Certificate Required Following Construction. Following construction of a structure within the floodplain where the base flood elevation is provided, the applicant shall obtain an elevation certificate that records the elevation of the lowest floor. The elevation certificate shall be completed on a form provided by FEMA by a surveyor or engineer licensed in the State of Washington and shall be submitted to the city and Pierce County for recording.

G. Anchoring. All new construction and substantial improvements within the floodplain shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

H. Fill and Grading. Fill and grading within the floodplain shall only occur upon a determination from a qualified professional that the fill or grading will not block side channels, inhibit channel migration, increase flood hazards to others, or be placed within a channel migration zone, whether or not the city has delineated such zones as of the time of the application. (Also please see SMP 6.10)

B.4.5 Performance standards – Specific uses.

Specific uses shall adhere to the following relevant standards, in addition to the general standards of Appendix Subsection B.4.4, Performance standards – General requirements.

A. Recreational Vehicles. Recreational vehicles are required to:
   1. Be on the site for fewer than 180 consecutive days;
   2. Be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; and/or
   3. Must obtain a development permit and meet the requirements, including elevation and anchoring, for manufactured homes.

B. Nonresidential Construction.
   1. Must Be Above Base Flood Elevation. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more above the base flood elevation, or, together with attendant utility and sanitary facilities, shall:
      a. Be floodproofed so that below one foot or more above the base flood

level the structure is watertight with walls substantially impermeable to the passage of water;

b. Have structural components that shall be capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Following construction of the structure, certifications shall be submitted to the city and Pierce County that record the actual (as-built) elevation to which the structure was floodproofed; and

d. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (for example, a building floodproofed to the base flood level will be rated as one foot below).

2. Areas Below the Lowest Floor. Fully enclosed areas below the lowest floor that are not floodproofed shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or must meet or exceed the following minimum criteria:

a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

b. The bottom of all openings shall be no higher than one foot above grade; and

c. Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

C. Utilities.

1. Shall Be Designed to Minimize Infiltration of Floodwaters. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems.

2. Sanitary Sewage Systems. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

3. On-Site Waste Disposal Systems. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. New on-site sewage disposal systems are prohibited pursuant to Appendix Section B.4.7, Uses and activities prohibited from frequently flooded areas.

D. Alteration of Watercourses.

1. Shall Be in Accordance with Habitat Regulations. Watercourse alterations shall only be allowed in accordance with the SMP and Appendix Section B.6, Fish and Wildlife Habitat Conservation Areas.

2. Shall Not Result in Blockage. Watercourse alteration projects shall not result in blockage of side channels.

3. Notification Required. The city shall notify adjacent communities, the State Department of Ecology, and the Federal Insurance Administration of

the proposed watercourse alteration at least 30 days prior to permit issuance.

4. Maintenance of Alterations. The applicant shall maintain the altered or relocated portion of the watercourse to ensure that the flood carrying capacity is not diminished. Maintenance shall be bonded for a period of five years, and be in accordance with an approved maintenance program.

B.4.6 Performance standards – Areas of shallow flooding.

A. Uses in areas of shallow flooding shall adhere to the following standards, in addition to the general standards of the SMP and Appendix Subsection B.4.4, Performance standards – General requirements, and relevant specific standards of Appendix Subsection B.4.5, Performance standards – Specific uses.

B. Nonresidential Structures. New construction and substantial improvements of nonresidential structures within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the flood insurance map or at least two feet if no depth number is specified; or
2. Together with attendant utility and sanitary facilities, be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Following construction of the structure, certifications shall be submitted to the city and Pierce County that record the actual (as-built) elevation to which the structure was floodproofed.

C. Drainage Paths. All development shall include adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

D. Recreational Vehicles. Recreational vehicles placed on sites within AO zones on the flood insurance map(s) shall meet the requirements of this section.

B.4.7 Uses and activities prohibited from frequently flooded areas.

A. Critical Facilities. Critical facilities are prohibited from frequently flooded areas.

B. Wells Used for Potable Water. Water wells used for potable water are prohibited from the floodway.

C. On-Site Sewage Disposal Systems. On-site sewage disposal systems are prohibited.

D. Construction in Floodways.

1. New Construction Requires Certification by an Engineer. Encroachments, including new construction, substantial improvements, fill, and other development, are prohibited within designated floodways unless certified by a registered professional engineer. Such certification shall demonstrate through hydrologic and hydraulic analyses, performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels during the occurrence of the base flood discharge.

2, Small projects that are solely to protect or create fish habitat and designed by a qualified professional may be allowed without certification if the city determines that the project will not obstruct flood flows.

Appendix Section B.5
GEOLOGICALLY HAZARDOUS AREAS

Subsections:

B.5.1 Designation of geologically hazardous areas.
B.5.2 Designation of specific hazard areas.
B.5.3 Classification of geologically hazardous areas.
B.5.4 Mapping of geologically hazardous areas.
B.5.5 Activities allowed in geologically hazardous areas.
B.5.6 Critical areas report – Additional requirements for geologically hazardous areas.
B.5.7 Critical areas report – Additional requirements for specific hazards.
B.5.8 Performance standards – General requirements.
B.5.9 Performance standards – Specific hazards.

B.5.1 Designation of geologically hazardous areas.

Geologically hazardous areas include areas susceptible to erosion, sliding, earthquake, or other geological events. They pose a threat to the health and safety of citizens when incompatible development is sited in areas of significant hazard. Such incompatible development may not only place itself at risk, but also may increase the hazard to surrounding development and use. Areas susceptible to one or more of the following types of hazards shall be designated as geologically hazardous areas:

A. Erosion hazard;
B. Landslide hazard;
C. Seismic hazard;
D. Mine hazard;
E. Volcanic hazard; and
F. Other geological events including tsunamis, mass wasting, debris flows, rock falls, and differential settlement.

B.5.2 Designation of specific hazard areas.

A. Erosion Hazard Areas. Erosion hazard areas are at least those areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "moderate to severe," "severe," or "very severe" rill and inter-rill erosion hazard.
B. Landslide Hazard Areas. Landslide hazard areas are areas potentially subject to landslides based on a combination of geologic, topographic, and hydrologic factors. They include areas susceptible because of any combination of bedrock, soil, slope (gradient), slope aspect, structure, hydrology, or other factors. Examples of these may include but are not limited to, the following:
   1. Areas of historic failures, such as:
      a. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" limitation for building site development;
      b. Those areas mapped by the Department of Ecology (Coastal Zone Atlas) or the Department of Natural Resources (slope stability mapping) as unstable ("U" or class 3), unstable old slides ("UOS" or class 4), or unstable recent slides ("URS" or class 5); or
      c. Areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps

published by the U.S. Geological Survey or Department of Natural Resources.

2. Areas with all three of the following characteristics:
   a. Slopes steeper than 15 percent;
   b. Hillsides intersecting geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
   c. Springs or ground water seepage.
3. Areas that have shown movement during the Holocene epoch (from 10,000 years ago to the present) or that are underlain or covered by mass wastage debris of that epoch;
4. Slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;
5. Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting by wave action; and/or
6. Any area with a slope of 40 percent or steeper and with a vertical relief of 10 or more feet except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least 10 feet of vertical relief.

C. Seismic Hazard Areas. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential for future earthquake damage is a record of earthquake damage in the past. Ground shaking is the primary cause of earthquake damage in Washington.

D. Mine Hazard Areas. Mine hazard areas are those areas underlain by, or affected by, mine workings such as adits, gangways, tunnels, drifts, or airshafts, and those areas of probable sink holes, gas releases, or subsidence due to mine workings. Factors that should be considered include: proximity to development, depth from ground surface to the mine working, and geologic material.

E. Volcanic Hazard Areas. Volcanic hazard areas are areas subject to pyroclastic flows, lava flows, debris avalanche, inundation by debris flows, lahars, mudflows, or related flooding resulting from volcanic activity.

F. Other Hazard Areas. Geologically hazardous areas shall also include areas determined by the city to be susceptible to other geological events including mass wasting, debris flows, rock falls, and differential settlement.

B.5.3 Classification of geologically hazardous areas.

All geologic hazard areas should be classified according to the following categories for each geologic hazard type:

A. Classification
B. Documentation and Data Sources
C. Known or Suspected Risk
D. Documentation or projection of the hazard by a qualified professional exists.
E. Risk Unknown
F. Documentation or projection of the lack of hazard by a qualified professional exists, or data are not available to determine the presence or absence of a geologic hazard.

B.5.4 Mapping of geologically hazardous areas.

The approximate location and extent of geologically hazardous areas are shown on the adopted critical areas maps as referenced in Appendix Subsections B.1.2.D and E.

B.5.5 Activities allowed in geologically hazardous areas.

The following activities are allowed in geologically hazardous areas pursuant to

Appendix Subsection B.1.5, Allowed activities, and do not require submission of a critical areas report:

A. Erosion and Landslide Hazard Areas. Except as otherwise provided for in the SMP, only those activities approved and permitted consistent with an approved critical areas report in accordance with the SMP shall be allowed in erosion or landslide hazard areas.

B. All Other Hazard Areas to Include Seismic, Mine, Volcanic and Other Hazard Areas. The following activities are allowed within all other hazard areas:
   1. Construction of new buildings with less than 2,500 square feet of floor area or roof area, whichever is greater, and which are not residential structures or used as places of employment or public assembly;
   2. Additions to existing single-story residences that are 250 square feet or less; and
   3. Installation of fences.

B.5.6 Critical areas report – Additional requirements for geologically hazardous areas.

A. Prepared by a Qualified Professional. A critical areas report for a geologically hazardous area shall be prepared by a geotechnical engineer or geologist, licensed in the State of Washington, with experience analyzing geologic, hydrologic, and ground water flow systems; or by a geologist who earns his or her livelihood from the field of geology and/or geotechnical analysis, with experience analyzing geologic, hydrologic and ground water flow systems, who has experience preparing reports for the relevant type of hazard.

B. Area Addressed in Critical Areas Report. The following areas shall be addressed in a critical areas report for geologically hazardous areas:
   1. The project area of the proposed activity; and
   2. All geologically hazardous areas within 200 feet of the project area or that have potential to be affected by the proposal.

C. Geotechnical Assessment. A critical areas report for a geologically hazardous area shall contain an assessment of geological hazards including the following site-related and proposal-related information at a minimum:
   1. Site and Construction Plans. The report shall include a copy of the site plans for the proposal showing:
      a. The type and extent of geologic hazard areas, and any other critical areas and buffers on, adjacent to, within 200 feet of, or that are likely to impact the proposal;
      b. Proposed development, including the location of existing and proposed structures, fill, storage of materials, and drainage facilities, with dimensions indicating distances to the floodplain;
      c. The topography, in two-foot contours, of the project area and all hazard areas addressed in the report; and
      d. Clearing limits.
   2. Assessment of Geological Characteristics. The report shall include an assessment of the geologic characteristics and engineering properties of the soils, sediments, and/or rock of the project area and potentially affected adjacent properties, and a review of the site history regarding landslides, erosion, and prior grading. Soils analysis shall be accomplished in accordance with accepted taxonomic classification systems in use in the region. The assessment shall include but not be limited to:

a. A description of the surface and subsurface geology, hydrology, soils, and vegetation found in the project area and in all hazard areas addressed in the report;
b. A detailed overview of the field investigations, published data and references; data and conclusions from past assessments of the site; and site-specific measurements, test, investigations, or studies that support the identification of geologically hazardous areas; and
c. A description of the vulnerability of the site to seismic and other geologic events.

3. Analysis of Proposal. The report shall contain a geotechnical analysis including a detailed description of the project, its relationship to the geologic hazard(s), and its potential impact upon the hazard area, the subject property and affected adjacent properties; and
4. Minimum Buffer and Building Setback. The report shall make a recommendation for the minimum no-disturbance buffer and minimum building setback from any geologic hazard based upon the geotechnical analysis.

D. Incorporation of Previous Study. Where a valid geotechnical report has been prepared within the last five years for a specific site, and where the proposed land use activity and surrounding site conditions are unchanged, said report may be incorporated into the required critical areas report. The applicant shall submit a geotechnical assessment detailing any changed environmental conditions associated with the site.

E. Mitigation of Long-Term Impacts. When hazard mitigation is required, the mitigation plan shall specifically address how the activity maintains or reduces the preexisting level of risk to the site and adjacent properties on a long-term basis (equal to or exceeding the projected lifespan of the activity or occupation). Proposed mitigation techniques shall be considered to provide long-term hazard reduction only if they do not require regular maintenance or other actions to maintain their function. Mitigation may also be required to avoid any increase in risk above the preexisting conditions following abandonment of the activity.

B.5.7 Critical areas report – Additional requirements for specific hazards.

In addition to the general critical areas report requirements of Appendix Subsection B.1.8, critical areas report for geologically hazardous areas, of this SMP Appendix, must meet the requirements of this section. Critical areas report for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Erosion and Landslide Hazard Areas. In addition to the basic critical areas report requirements, a critical areas report for an erosion hazard or landslide hazard area shall include the following information at a minimum:

1. Site Plan. The report shall include a copy of the site plan for the proposal showing:

a. The height of slope, slope gradient, and cross-section of the project area;
b. The location of springs, seeps, or other surface expressions of ground water on or within 200 feet of the project area or that have potential to be affected by the proposal; and
c. The location and description of surface water runoff.

2. Geotechnical Analysis. The geotechnical analysis shall specifically include:

a. A description of the extent and type of vegetative cover;

b. An estimate of load capacity including surface and ground water conditions, public and private sewage disposal systems, fills and excavations and all structural development;
c. An estimate of slope stability and the effect construction and placement of structures will have on the slope over the estimated life of the structure;
d. An estimate of the bluff retreat rate that recognizes and reflects potential catastrophic events such as seismic activity or a 100-year storm event;
e. Consideration of the run-out hazard of landslide debris and/or the impacts of landslide run-out on downslope properties;
f. A study of slope stability including an analysis of proposed angles of cut and fill and site grading;
g. Recommendations for building limitations, structural foundations, and an estimate of foundation settlement; and
h. An analysis of proposed surface and subsurface drainage, and the vulnerability of the site to erosion.

3. Erosion and Sediment Control Plan. The erosion and sediment control plan shall be prepared in compliance with requirements set forth in Chapter 14.30 BMC.
4. Drainage Plan. The report shall include a drainage plan for the collection, transport, treatment, discharge and/or recycling of water prepared in accordance with Chapter 14.30 BMC and the SMP. The drainage plan should consider neighboring septic system disposal volumes where the additional volume will affect the erosion or landslide hazard area.
5. Mitigation Plans. Hazard and environmental mitigation plans for erosion and landslide hazard areas shall be in accordance with the SMP and include the location and methods of drainage, surface water management, locations and methods of erosion control, a vegetation management and/or replanting plan and/or other means for maintaining long-term soil stability.
6. Monitoring Surface Waters. If the city determines that there is a significant risk of damage to downstream receiving waters due to potential erosion from the site, based on the size of the project, the proximity to the receiving waters, or the sensitivity of the receiving waters, the critical areas report shall include a plan to monitor the surface water discharge from the site. The monitoring plan shall include a recommended schedule for submitting monitoring reports to the city.

B. Seismic Hazard Areas. In addition to the basic report requirements, a critical areas report for a seismic hazard area shall also meet the following requirements:
1. The site map shall show all known and mapped faults within 200 feet of the project area or that have potential to be affected by the proposal; and
2. The geotechnical analysis shall include a complete discussion of the potential impacts of seismic activity on the site (for example, forces generated and fault displacement).

C. Mine Hazard Areas. In addition to the basic report requirements, a critical areas report for a mine hazard critical area shall also meet the following requirements:
1. Site Plan. The site plan shall delineate the following found within 200 feet of or directly underlying the project area,

or that have potential to be affected by the proposal:

a. The existence of mines, including all significant mine features, such as mine entries, portals, adits, mine shafts, air shafts, and timber shafts;
b. The location of any nearby mines that may impact or be affected by the proposed activities;
c. The location of any known sinkholes, significant surface depressions, trough subsidence features, coal mine spoil piles and other mine-related surface features; and
d. The location of any prior site improvements that have been carried out to mitigate abandoned coal mine features.

2. Geotechnical Analysis. The geotechnical analysis shall include a discussion of the potential for subsidence on the site and classify all mine hazard areas within 200 feet of the project area, or that have potential to be affected by the proposal, as either moderate or severe.

D. Volcanic Hazard Areas. In addition to the basic report requirements, a critical areas report for a volcanic hazard area shall also meet the following requirements:

1. Site Plan. The site plan shall show all areas within 200 feet of the project area that have the potential to be affected by pyroclastic flows, lahars, or mud and debris flows derived from volcanic events;
2. Geotechnical Analysis. The geotechnical analysis shall include a complete discussion of the potential impacts of volcanic activity on the site (for example, inundation by mud flows resulting from volcanic activity); and
3. Emergency Management Plan. The emergency management plan shall include plans for emergency building exit routes, site evacuation routes, emergency training, notification of local emergency management officials, and an emergency warning system.

E. Other Geologically Hazardous Areas. In addition to the basic report requirements, the city may require additional information to be included in the critical areas report when determined to be necessary to the review of the proposed activity and the subject hazard.

B.5.8 Performance standards – General requirements.

A. Alterations of geologically hazardous areas or associated buffers may only occur for activities that:

1. Will not increase the threat of the geological hazard to adjacent properties beyond predevelopment conditions;
2. Will not adversely impact other critical areas;
3. Are designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than predevelopment conditions; and
4. Are certified as safe as designed and under anticipated conditions by a qualified engineer or geologist licensed in the State of Washington.

B. Critical Facilities Prohibited. Critical facilities shall not be sited within geologically hazardous areas unless there is no other practical alternative.

B.5.9 Performance standards – Specific hazards.

A. Erosion and Landslide Hazard Areas. Activities on sites containing erosion or landslide hazards shall meet the following requirements:

1. Buffer Required. A minimum buffer of 25 feet shall be established from all edges of erosion or landslide hazard areas.

a. Increased Buffer. The city may increase the buffer requirement up to a distance equal to the height of the slope in order to minimize the risk of property damage, death or injury resulting from erosion and landslides caused in whole or part by the development, based upon review of and concurrence with a critical areas report prepared by a qualified professional.
b. Buffer Reduction. The buffer may be reduced to a minimum of 10 feet from the top or toe of a slope when a qualified professional demonstrates to the city's satisfaction that the reduction will adequately protect the proposed development, adjacent developments and uses and the subject critical area.

2. Alterations. Alterations of an erosion or landslide hazard area and/or buffer may only occur for activities for which a geotechnical analysis is submitted and certifies that:
   a. The development will not increase surface water discharge or sedimentation to adjacent properties beyond predevelopment conditions;
   b. The development will not decrease slope stability on adjacent properties; and
   c. Such alterations will not adversely impact other critical areas.
3. Design Standards. Development within an erosion or landslide hazard area and/or buffer shall be designed to meet the following basic requirements unless it can be demonstrated that an alternative design that deviates from one or more of these standards provides greater long-term slope stability while meeting all other provisions of the SMP. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function. The basic development design standards are:
   a. The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the Uniform Building Code;
   b. Structures and improvements shall be clustered to avoid geologically hazardous areas and other critical areas;
   c. Structures and improvements shall minimize alterations to the natural contour of the slope and foundations shall be tiered where possible to conform to existing topography;
   d. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;
   e. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;
   f. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes; and
   g. Development shall be designed to minimize impervious lot coverage.
4. Vegetation Shall Be Retained. Unless otherwise provided or as part of an approved alteration, removal of vegetation from an erosion or landslide hazard area or related buffer shall be prohibited.

5. Seasonal Restriction. Clearing shall be allowed only from May 1st to October 1st of each year; provided, that the city may extend or shorten the dry season on a case-by-case basis depending on actual weather conditions, except that timber harvest, not including brush clearing or stump removal, may be allowed pursuant to an approved forest practice permit issued by the city or the Department of Natural Resources.
6. Utility Lines and Pipes. Utility lines and pipes shall be permitted in erosion and landslide hazard areas only when the applicant demonstrates that no other practical alternative is available. The line or pipe shall be properly anchored and/or designed so that it will continue to function in the event of an underlying slide. Stormwater conveyance shall be allowed only through a high-density polyethylene pipe with fuse-welded joints, or a similar product that is technically equal to or superior.
7. Point Discharges. Point discharges from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area shall be prohibited except as follows:
   a. Dispersed discharge upslope of the steep slope onto a low-gradient undisturbed buffer demonstrated to be adequate to infiltrate all surface and stormwater runoff, and where it can be demonstrated that such discharge will not increase the saturation of the slope; or both of the following:
   b. Conveyed via continuous storm pipe downslope to a point where there are no erosion hazard areas downstream from the discharge; and
   c. Discharged at flow durations matching predeveloped conditions, with adequate energy dissipation, into existing channels that previously conveyed stormwater runoff in the predeveloped state; or
   c.
8. Subdivisions. The division of land in erosion and landslide hazard areas and associated buffers is subject to the following:
   a. Land that is located wholly within an erosion or landslide hazard area or its buffer may not be subdivided. Land that is located partially within an erosion or landslide hazard area or its buffer may be divided; provided, that each resulting lot has sufficient buildable area outside of, and will not affect, the erosion or landslide hazard or its buffer. Adequate building space means that each newly created lot shall maintain a minimum buildable lot area outside of the erosion or landslide hazard area which totals 75 percent of the minimum lot size area for the zoning district where located; and
   b. Access roads and utilities may be permitted within the erosion or landslide hazard area and associated buffers if the city determines that no other feasible alternative exists.
9. Prohibited Development. On-site sewage disposal systems, including drain fields, shall be prohibited within erosion and landslide hazard areas and related buffers.

B. Seismic Hazard Areas. Activities proposed to be located in seismic hazard areas shall meet the standards of Appendix Subsection B.5.8, Performance standards – General requirements.

C. Mine Hazard Areas.

1. Subdivisions. The division of land in mine hazard areas and associated buffers is subject to the following:
   a. Land that is located wholly within a mine hazard area or its buffer may not be subdivided. Land that is located partially within a mine hazard area or its buffer may be divided; provided, that each resulting lot has sufficient buildable area outside of, and will not affect, the mine hazard or its buffer. Adequate building space means that each newly created lot shall maintain a minimum buildable lot area outside of the mine hazard area which totals 75 percent of the minimum lot size area for the zoning district where located; and
   b. Access roads and utilities may be permitted within the mine hazard area and associated buffers if the city determines that no other feasible alternative exists.
2. Reclamation Activities. For all reclamation activities, including grading, filling, and stockpile removal, as-built drawings shall be submitted to the city in a format specified by the city.

D. Volcanic Hazard Areas. Activities on sites containing areas susceptible to inundation due to volcanic hazards shall require an evacuation and emergency management plan.

E. Other Hazard Areas. Activities on sites containing or adjacent to volcanic or other geologically hazardous areas shall meet the standards of Appendix Section B.5.8, Performance standards – General requirements.

Appendix Section B.6
FISH AND WILDLIFE HABITAT CONSERVATION AREAS

Subsections:

B.6.1 **Designation of fish and wildlife habitat conservation areas.**

B.6.2 **Critical areas report – Additional requirements for habitat conservation areas.**

B.6.3 **Performance standards – General requirements.**

B.6.4 **Performance standards – Specific habitats.**

Table 8 **Threatened, endangered and candidate species. (Located at end of document)**

B.6.1 Designation of fish and wildlife habitat conservation areas.

A. Fish and wildlife habitat conservation areas include:

1. Areas with which State or Federally Designated Endangered, Threatened, and Sensitive Species Have a Primary Association.
   a. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service shall be consulted as necessary for current listing status.
   b. State-designated endangered, threatened, and sensitive species are periodically recorded in WAC 232-12-014 (state endangered species), and WAC 232-12-011 (state threatened and sensitive species). The State Department of Fish and Wildlife maintains the most current listing and shall be consulted as necessary for current listing status.

      Note: A combined list of federally and state identified species

is included in Table 9 at the end of this SMP Appendix and is to be used as a reference only and may not be the most up-to-date listing.

2. All area within shoreline jurisdiction is a habitat conservation area.

B. Mapping of Habitat Conservation Areas. The approximate location and extent of habitat conservation areas are shown on the adopted critical area maps as referenced in Appendix Subsections B.1.2.D and E.

B.6.2 Critical areas report – Additional requirements for habitat conservation areas.

In addition to the general critical areas report requirements of SMP **5.7.3.E.**1, and Section B.1.8 of this SMP Appendix, critical areas report for habitat conservation areas must meet the requirements of this section. Critical areas report for two or more types of critical areas must meet the report requirements for each relevant type of critical area.

A. Prepared by a Qualified Professional. A critical areas report for a habitat conservation area shall be prepared by a qualified professional who is a biologist with experience preparing reports for the relevant type of habitat.

B. Area Addressed in Critical Areas Report. The following areas shall be addressed in a critical areas report for habitat conservation areas:
   1. The project area of the proposed activity;
   2. All habitat conservation areas and recommended buffers within 100 feet of the project area; and
   3. All shoreline environments, floodplains, and other critical areas, and related buffers within 100 feet of the project area.

C. Habitat Assessment. A habitat assessment is an investigation of the project area to evaluate the presence or absence of a potential critical fish or wildlife species or habitat. A critical areas report for a habitat conservation area shall contain an assessment of habitats including the following site-related and proposal-related information at a minimum:
   1. Detailed description of vegetation on and adjacent to the project area;
   2. Identification of any species of local importance, priority species, or endangered, threatened, sensitive or candidate species that have a primary association with habitat on or adjacent to the project area, and assessment of potential project impacts to the use of the site by the species;
   3. A discussion of any federal, state, or local special management recommendations, including Department of Fish and Wildlife habitat management recommendations, that have been developed for species or habitats located on or adjacent to the project area;
   4. A detailed discussion of the potential impacts on habitat by the project, including potential impacts to water quality;
   5. A discussion of measures, including avoidance, minimization and mitigation, proposed to preserve existing habitats and restore any habitat that was degraded prior to the current proposed land use activity and to be conducted in accordance with SMP **5.7.3.E.**1, and/or Appendix Section B.1.13, Innovative mitigation; and
   6. A discussion of ongoing management practices that will protect habitat after the project site is developed, including proposed monitoring and maintenance programs.

D. Additional Information May Be Required. When appropriate due to the type of habitat or species present or the project area conditions, the city may also require the habitat management plan to include:
   1. An evaluation by an independent qualified professional regarding the applicant's analysis and the effectiveness of any proposed mitigating measures or programs, to include any recommendations as appropriate;
   2. A request for consultation with the Department of Fish and Wildlife or the local Native American Indian tribe; and/or
   3. Detailed surface and subsurface hydrologic features both on and adjacent to the site.

B.6.3 Performance standards – General requirements.

A. Alterations Shall Not Degrade the Functions and Values of Habitat. A habitat conservation area may be altered only if the proposed alteration of the habitat or the mitigation proposed does not degrade the quantitative and qualitative functions and values of the habitat, and results in no net loss to the functions and values of the shoreline area. All new structures and land alterations shall be prohibited from habitat conservation areas, except in accordance with the SMP.

B. Nonindigenous Species Shall Not Be Introduced. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area unless authorized by a state or federal permit or approval.

C. Mitigation Shall Result in Contiguous Corridors. Mitigation sites shall be located to achieve contiguous wildlife habitat corridors in accordance with a mitigation plan that is part of an approved critical areas report to minimize the isolating effects of development on habitat areas, so long as mitigation of aquatic habitat is located within the same aquatic ecosystem as the area disturbed.

D. Approvals of Activities May Be Conditioned. The city shall condition approvals of activities allowed within or adjacent to a habitat conservation area or its buffers, as necessary to minimize or mitigate any potential adverse impacts. Conditions may include but are not limited to, the following:
   1. Establishment of buffer zones;
   2. Preservation of critically important vegetation;
   3. Limitation of access to the habitat area, including fencing to deter unauthorized access;
   4. Seasonal restriction of construction activities;
   5. Establishment of a duration and timetable for periodic review of mitigation activities; and
   6. Requirement of a performance bond, when necessary, to ensure completion and success of proposed mitigation.

E. Mitigation Shall Achieve Equivalent or Greater Biological Functions. Mitigation of alterations to habitat conservation areas shall achieve equivalent or greater biologic functions and shall include mitigation for adverse impacts upstream or downstream of the development proposal site. Mitigation shall address each function affected by the alteration to achieve functional equivalency or improvement on a per function basis.

F. Approvals shall be supported by the best available science.

G. Buffers.
   1. Establishment of Buffers. The city shall require the establishment of buffer areas for activities in, or adjacent to, habitat conservation areas when needed to protect habitat conservation areas. Buffers shall

consist of an undisturbed area of native vegetation, or areas identified for restoration, established to protect the integrity, functions and values of the affected habitat. Required buffer widths shall reflect the sensitivity of the habitat and the type and intensity of human activity proposed to be conducted nearby, and shall be consistent with SMP 6.18 and Appendix Subsection B.1.4 of this SMP Appendix. Habitat conservation areas and their buffers shall be preserved in perpetuity through the use of native growth protection areas and critical area tracts in accordance with Appendix Subsection B.1.19 and B.1.20.

2. Seasonal Restrictions. When a species is more susceptible to adverse impacts during specific periods of the year, seasonal restrictions may apply. Larger buffers may be required and activities may be further restricted during the specified season.
3. Habitat Buffer Averaging. The city may allow the recommended habitat area buffer width to be reduced in accordance with a critical areas report, the best available science, and the management recommendations issued by the State Department of Fish and Wildlife, only if:
    1. It will not reduce stream or habitat functions;
    2. It will not adversely affect salmonid habitat;
    3. It will provide additional natural resource protection, such as buffer enhancement;
    4. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and
    5. The buffer area width is not reduced by more than 25 percent in any location.

H. Signs and Fencing of Habitat Conservation Areas.

1. Temporary Markers. The outer perimeter of the habitat conservation area or buffer and the limits of those areas to be disturbed pursuant to an approved permit or authorization shall be marked in the field in such a way as to ensure that no unauthorized intrusion will occur, and verified by the city prior to the commencement of permitted activities. This temporary marking shall be maintained throughout construction and shall not be removed until permanent signs, if required, are in place.
2. Permanent Signs. As a condition of any permit or authorization issued pursuant to the SMP, the city shall require the applicant to install permanent signs along the boundary of a habitat conservation area or buffer.

    Permanent signs shall be made of a metal face and attached to a metal post, or another material of equal durability. Signs must be posted at an interval of one per lot or every 100 feet, whichever is less, and must be maintained by the property owner in perpetuity. The sign shall be worded as follows or with alternative language approved by the director:

Habitat Conservation Area Do Not Disturb Contact the City of Buckley Regarding Uses and Restriction

3. Fencing.

a. The city shall condition any permit or authorization issued pursuant to the SMP to require the applicant to install a permanent fence at the edge of the habitat conservation area or buffer when fencing will prevent future impacts to the habitat conservation area.
b. The applicant shall be required to install a permanent fence around the habitat conservation area or buffer when domestic grazing animals are present or may be introduced on-site.
c. Fencing installed as part of a proposed activity or as required in this subsection shall be designed so as to not interfere with species migration, including fish runs, and shall be constructed in a manner that minimizes habitat impacts.

B.6.4 Performance standards – Specific habitats.

A. Endangered, Threatened, and Sensitive Species.

1. No development except public trail development that is allowed through the SMP shall be allowed within a habitat conservation area or buffer with which state or federal endangered, threatened, or sensitive species have a primary association.
2. Whenever activities are proposed on lands that contain or are adjacent to a habitat conservation area with which state or federally endangered, threatened, or sensitive species have a primary association, such area shall be protected through the application of protection measures in accordance with a critical areas report prepared by a qualified professional and approved by the City. (Also see Appendix Subsection B.1.8.) Approval for alteration of land adjacent to the habitat conservation area or its buffer shall not occur prior to consultation with the Department of Fish and Wildlife and the appropriate federal agency.
3. Bald eagle habitat shall be protected pursuant to the Washington State Bald Eagle Protection Rules (WAC 232-12-292). Whenever activities are proposed on lands containing or adjacent to a verified nest territory or communal roost, a habitat management plan shall be developed by a qualified professional.

B. Anadromous Fish.

1. All activities, uses, and alterations proposed to be located in water bodies used by anadromous fish or in areas that affect such water bodies shall give special consideration to the preservation and enhancement of anadromous fish habitat, including but not limited to adhering to the following standards:
   a. Activities shall be timed to occur only during the allowable work window as designated by the Department of Fish and Wildlife for the applicable species;
   b. An alternative alignment or location for the activity is not feasible;
   c. The activity is designed so that it will not degrade the functions or values of the fish habitat or other critical areas; and
   d. Any impacts to the functions or values of the habitat conservation area are mitigated in accordance with an approved critical areas report.
2. Structures that prevent the migration of salmonids shall not be allowed in the portion of water bodies currently or historically used by anadromous fish. Fish bypass facilities shall be provided that allow the upstream migration of

adult fish and shall prevent fry and juveniles migrating downstream from being trapped or harmed.

3. Fills, when authorized by the SMP, shall not adversely impact anadromous fish or their habitat or shall mitigate any unavoidable impacts, and shall only be allowed for a water-dependent use.

C. Wetland Habitats. All proposed activities within or adjacent to habitat conservation areas containing wetlands shall conform to the wetland development performance standards set forth in this SMP Appendix. If non-wetlands habitat and wetlands are present at the same location, the provisions of the SMP and this SMP Appendix, or recommendations from state or federal agencies, whichever provides greater protection to the habitat, apply.

D. Riparian Habitat Areas (RHAs). Unless otherwise allowed in this SMP Appendix, all structures and activities shall be located outside of the riparian habitat area.

1. Establishment of Riparian Habitat Areas. Riparian habitat areas shall be established for habitats that include aquatic and terrestrial ecosystems that mutually benefit each other, and that are located adjacent to rivers, perennial or intermittent streams, seeps, and springs.

2. Riparian Habitat Area Widths. Recommended riparian habitat area widths are shown in the table below. A riparian habitat area shall have the width recommended, unless a greater width is required pursuant to Subsection B.6.4.D.3, or a lesser width is allowed pursuant to Subsection B.6.4.D.4. Widths shall be measured outward in each direction, on the horizontal plane, from the ordinary high water mark or from the top of bank if the ordinary high water mark cannot be identified. Riparian areas should be sufficiently wide to achieve the full range of riparian and aquatic ecosystem functions, which include but are not limited to protection of in-stream fish habitat through control of temperature and sedimentation in streams, preservation of fish and wildlife habitat, and connection of riparian wildlife habitat to other habitats.

Table 6

Riparian Habitat Areas

Stream Type	Recommended RHA Widths
Type I	150 feet
Type II	100 feet
Type III	50 feet
Type IV and V	25 feet

3. Increased Riparian Habitat Area Widths. The recommended riparian habitat area widths shall be increased, as follows:

a. When the city determines on the basis of a report by a qualified professional that the recommended width is insufficient to prevent habitat degradation and no net loss of habitat functions and values, and to protect the structure.

b. When the frequently flooded area exceeds the recommended riparian habitat area width, the riparian habitat area shall extend to the outer edge of the frequently flooded area.

c. When the channel migration zone exceeds the recommended riparian habitat area width, the riparian habitat area shall extend to the outer edge of the channel migration zone.

d. When the habitat area is within an erosion or landslide hazard area, or buffer, the riparian habitat area shall be the recommended distance,

or the erosion or landslide hazard area or buffer, whichever is greater.

4. Riparian Habitat Area Width Averaging. The city may allow the recommended riparian habitat area width to be reduced in accordance with a critical areas report only if:
   a. The width reduction will not reduce stream or habitat functions;
   b. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer;
   c. The buffer width is not reduced to less than 25 percent of the standard width or 50 feet, whichever is greater, except for buffers in Class IV and V streams which are prohibited from averaging;
   d. Buffer width averaging is being conducted and/or implemented within or on the property where the averaging is being requested;
   e. The width reduction will not be located within another critical area or associated buffer; and
   f. The reduced riparian habitat area width is supported by best available science.
5. Riparian Habitat Mitigation. Mitigation of adverse impacts to riparian habitat areas shall result in equivalent functions and values on a per function basis, be located as near the alteration as feasible, and be located in the same subdrainage basin as the habitat impacted.
6. Alternative Mitigation for Riparian Habitat Areas. The performance standards set forth in this subsection may be modified at the city's discretion if the applicant demonstrates that greater habitat functions, on a per function basis, can be obtained in the affected sub-drainage basin as a result of alternative mitigation measures.

E. Aquatic Habitat. Grading, clearing, and activities may be permitted by the SMP if the activity complies with the provisions set forth in the city's SMP and subject to the standards of this SMP Appendix. In the case of any inconsistency or conflict, the standards that provide the most protection to protected habitat and species shall apply.
   1. Clearing and Grading. When clearing and grading is permitted as part of an authorized activity or as otherwise allowed in these standards, the activity will meet the requirements of SMP 5.5, Vegetation Conservation.

Table 7 Class A – C Washington State Noxious Weeds

Class A – C Washington State Noxious Weeds		
Common Name	**Latin Name**	**Class**
Velvetleaf	Abutilon theophrasti	A
Russian knapweed	Acroptilon repens	B
Jointed goatgrass	Aegilops cylindrica	C
Camelthorn	Alhagi maurorum	B
Garlic mustard	Alliaria petiolata	A
Blackgrass	Alopecurus myosuroides	B
Indigobush	Amorpha fruticosa	B
Annual bugloss	Anchusa arvensis	B
Common bugloss	Anchusa officinalis	B
Wild chervil	Anthriscus sylvestris	B
Absinth wormwood	Artemisia absinthium	C
Hoary alyssum	Berteroa incana	B
White bryony	Bryonia alba	B
Butterfly bush	Buddleia davidii	C
Fanwort	Cabomba caroliniana	B
Hoary cress	Cardaria draba	C
Hairy whitetop	Cardaria pubescens	C
Plumeless thistle	Carduus acanthoides	B
Musk thistle	Carduus nutans	B
Italian thistle	Carduus pycnocephalus	A
Slenderflower thistle	Carduus tenuiflorus	A
Longspine sandbur	Cenchrus longispinus	B
Spotted knapweed	Centaurea biebersteinii	B
Purple starthistle	Centaurea calcitrapa	A
Diffuse knapweed	Centaurea diffusa	B
Brown knapweed	Centaurea jacea	B
Bighead knapweed	Centaurea macrocephala	A
Black knapweed	Centaurea nigra	B
Vochin knapweed	Centaurea nigrescens	A
Meadow knapweed	Centaurea pratensis	B
Yellow starthistle	Centaurea solstitialis	B

Class A – C Washington State Noxious Weeds		
Rush skeletonweed	Chondrilla juncea	B
Canada thistle	Cirsium arvense	C
Bull thistle	Cirsium vulgare	C
Old man's beard	Clematis vitalba	C
Poison-hemlock	Conium maculatum	C
Field bindweed	Convolvulus arvensis	C
Common crupina	Crupina vulgaris	A
Dodder	Cuscuta approximata	C
Houndstongue	Cynoglossum officinale	B
Yellow nutsedge	Cyperus esculentus	B
Scotch broom	Cytisus scoparius	B
Wild carrot	Daucus carota	B
Blueweed	Echium vulgare	B
Brazilian elodea	Egeria densa	B
Hairy willow-herb	Epilobium hirsutum	C
Leafy spurge	Euphorbia esula	B
Myrtle spurge	Euphorbia myrsinites	B
Eggleaf spurge	Euphorbia oblongata	A
Goatsrue	Galega officinalis	A
Herb-robert	Geranium robertianum	B
Babysbreath	Gypsophila paniculata	C
English ivy	Hedera helix `Baltica'	C
English ivy	Hedera helix `Pittsburgh'	C
English ivy	Hedera helix `Star'	C
English ivy	Hedera hibernica `Hibernicia'	C
Texas blueweed	Helianthus ciliaris	A
Spikeweed	Hemizonia pungens	C
Giant hogweed	Heracleum mantegazzianum	A
Polar hawkweed	Hieracium atratum	B
Yellow hawkweed	Hieracium caespitosum	B
Yellow devil hawkweed	Hieracium floribundum	A
Queendevil hawkweed	Hieracium glomeratum	B

Class A – C Washington State Noxious Weeds		
Smooth hawkweed	Hieracium laevigatum	B
Mouseear hawkweed	Hieracium pilosella	B
Orange hawkweed	Hieracium aurantiacum	B
Hawkweed, spp	Hieracium Nonnative species except those listed as class A or B	C
Hydrilla	Hydrilla verticillata	A
Black henbane	Hyoscyamus niger	C
St. Johnswort	Hypericum perforatum	C
Common catsear	Hypochaeris radicata	B
Policeman's helmet	Impatiens glandulifera	B
Yellow flag iris	Iris pseudocorus	C
Dyers woad	Isatis tinctoria	A
Kochia	Kochia scoparia	B
Perennial pepperweed	Lepidium latifolium	B
Lepyrodiclis	Lepyrodiclis holosteoides	B
Oxeye daisy	Leucanthemum vulgare	B
Dalmatian toadflax	Linaria dalmatica ssp. Dalmatica	B
Yellow toadflax	Linaria vulgaris	C
Water primrose	Ludwigia hexapetala	B
Garden loosestrife	Lysimachia vulgaris	B
Purple loosestrife	Lythrum salicaria	B
Wand loosestrife	Lythrum virgatum	B
Scentless mayweed	Matricaria perforata	C
Wild four o' clock	Mirabilis nyctaginea	A
Eurasian watermilfoil	Myriophyllum spicatum	B
Parrotfeather	Myriophyllum aquaticum	B
Fragrant water lily	Nymphaea odorata	C
Yellow floating heart	Nymphoides peltata	B
Scotch thistle	Onopordum acanthium	B
Reed canarygrass	Phalaris arundinacea	C
Common reed (nonnative genotypes)	Phragmites australis	C
Oxtongue hawkweed	Picris hieracioides	B
Bohemian knotweed	Polygonum bohemicum	B

Class A – C Washington State Noxious Weeds		
Japanese knotweed	Polygonum cuspidatum	B
Himalayan knotweed	Polygonum polystachyum	B
Giant knotweed	Polygonum sachalinense	B
Curly-leaf pondweed	Potamogeton crispus	C
Sulfur cinquefoil	Potentilla recta	B
Kudzu	Pueraria montana var. lobata	A
Austrian fieldcress	Rorippa austriaca	B
Grass-leaved arrowhead	Sagittaria graminea	B
Mediterranean sage	Salvia aethiopis	A
Meadow clary	Salvia pratensis	A
Clary sage	Salvia sclarea	A
Cereal rye	Secale cereale	C
Tansy ragwort	Senecio jacobaea	B
Common groundsel	Senecio vulgaris	C
White cockle	Silene latifolia ssp. alba	C
Milk thistle	Silybum marianum	A
Silverleaf nightshade	Solanum elaeagnifolium	A
Buffalobur	Solanum rostratum	A
Lawnweed	Soliva sessilis	A
Perennial sowthistle	Sonchus arvensis	B
Johnsongrass	Sorghum halepense	A
Smooth cordgrass	Spartina alterniflora	B
Common cordgrass	Spartina anglica	B
Denseflower cordgrass	Spartina densiflora	A
Salt meadow cordgrass	Spartina patens	A
Spanish broom	Spartium junceum	A
Swainsonpea	Sphaerophysa salsula	B
Saltcedar	Tamarix ramosissima	B
Common tansy	Tanacetum vulgare	C
Spurge flax	Thymelaea passerina	A
Hedgeparsley	Torilis arvensis	B
Puncturevine	Tribulus terrestris	B

Class A – C Washington State Noxious Weeds		
Gorse	Ulex europaeus	B
Spiny cocklebur	Xanthium spinosum	C
Syrian bean-caper	Zygophyllum fabago	A

Table 8

Threatened, Endangered and Candidate Species				
COMMON NAME	**SCIENTIFIC NAME**	**STATE STATUS**	**FEDERAL STATUS**	**CATEGORY**
Brown pelican	Pelecanus occidentalis	E	E	Birds
Black right whale	Balaena glacialis	E	E	Mammals
Blue whale	Balaenoptera musculus	E	E	Mammals
Columbian white-tailed deer	Odocoileus virginianus leucurus	E	E	Mammals
Fin whale	Baleonoptera physalus	E	E	Mammals
Gray wolf	Canis lupus	E	E	Mammals
Humpback whale	Megaptera novaeangliae	E	E	Mammals
Sei whale	Balaenoptera borealis	E	E	Mammals
Sperm whale	Physeter macrocephalus	E	E	Mammals
Woodland caribou	Rangifer tarandus	E	E	Mammals
Leatherback sea turtle	Dermochelys coriacea	E	E	Reptiles
Bald eagle	Haliaeetus leucocephalus	T	T	Birds
Marbled murrelet	Brachyramphus marmoratus	T	T	Birds
Snowy plover	Charadrius alexandrinus	E	T	Birds
Spotted owl	Strix occidentalis	E	T	Birds
Oregon silverspot butterfly	Speyeria zerene hippolyta	E	T	Butterflies
Bull trout	Salvelinus confluentus	C	T	Fish
Chinook salmon (Lower Columbia)	Oncorhynchus tshawytscha	C	T	Fish
Chinook salmon (Puget Sound)	Oncorhynchus tshawytscha	C	T	Fish
Chinook salmon (Snake R. Fall)	Oncorhynchus tshawytscha	C	T	Fish
Chinook salmon (Snake R. Sp/Su)	Oncorhynchus tshawytscha	C	T	Fish
Chum salmon (Hood Canal Su)	Oncorhynchus keta	C	T	Fish
Chinook salmon (Upper Columbia Sp)	Oncorhynchus tshawytscha	C	E	Fish
Chum salmon (Lower Columbia)	Oncorhynchus keta	C	T	Fish
Sockeye salmon (Lake Ozette)	Oncorhynchus nerka	C	T	Fish

Threatened, Endangered and Candidate Species				
COMMON NAME	SCIENTIFIC NAME	STATE STATUS	FEDERAL STATUS	CATEGORY
Sockeye salmon (Snake R.)	Oncorhynchus nerka	C	E	Fish
Steelhead (Lower Columbia)	Oncorhynchus mykiss	C	T	Fish
Steelhead (Middle Columbia)	Oncorhynchus mykiss	C	T	Fish
Steelhead (Upper Columbia)	Oncorhynchus mykiss	C	E	Fish
Steelhead (Snake River)	Oncorhynchus mykiss	C	T	Fish
Grizzly bear	Ursus arctos	E	T	Mammals
Lynx	Lynx canadensis	T	T	Mammals
Steller sea lion	Eumetopias jubatus	T	T	Mammals
Green sea turtle	Chelonia mydas	T	T	Reptiles
Loggerhead sea turtle	Caretta caretta	T	T	Reptiles
Olive Ridley sea turtle	Lepidochelys olivacea		T	Reptiles
Oregon spotted frog	Rana pretiosa	E	C	Amphibians
Sage grouse	Centrocercus urophasianus	T	C	Birds
Mardon skipper	Polites mardon	E	C	Butterflies
Larch mountain salamander	Plethodon larselli	S	SC	Amphibians
Aleutian Canada goose	Branta canadensis leucopareia	T	SC	Birds
Ferruginous hawk	Buteo regalis	T	SC	Birds
Peregrine falcon	Falco peregrinus	E	SC	Birds
Sharp-tailed grouse	Tympanuchus phasianellus	T	SC	Birds
Margined sculpin	Cottus marginatus	S	SC	Fish
Fisher	Martes pennanti	E	SC	Mammals
Pygmy rabbit	Brachylagus idahoensis	E	SC	Mammals
Western gray squirrel	Sciurus griseus	T	SC	Mammals
Western pond turtle	Clemmys marmorata	E	SC	Reptiles
Northern leopard frog	Rana pipiens	E		Amphibians
American white pelican	Pelecanus erythrorhynchos	E		Birds
Common loon	Gavia immer	S		Birds
Sandhill crane	Grus canadensis	E		Birds
Upland sandpiper	Bartramia longicauda	E		Birds
Olympic mudminnow	Novumbra hubbsi	S		Fish

Threatened, Endangered and Candidate Species				
COMMON NAME	**SCIENTIFIC NAME**	**STATE STATUS**	**FEDERAL STATUS**	**CATEGORY**
Pygmy whitefish	Prosopium coulteri	S		Fish
Gray whale	Eschrichtius robustus	S		Mammals
Sea otter	Enhydra lutris	E		Mammals
As of October 2001, the combined list of federally and state-identified species included:				
Federal Status				
E = Endangered				
T = Threatened				
SC = Species of concern				
State Status				
E = Endangered				
C = Candidate				
S = Sensitive				