APPENDIX J

I-405 Corridor Program
Corridor Environmental Program (CEP)

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APPENDIX J:
I-405 CORRIDOR ENVIRONMENTAL PROGRAM (CEP)

The Corridor Environmental Program (CEP) for the Interstate 405 (I-405) Corridor Program is intended to meet the mitigation concept requirement of the Reinventing NEPA process.

PURPOSE OF THE CORRIDOR ENVIRONMENTAL PROGRAM

The CEP defines an environmental program that complements and becomes an integral part of the I-405 Corridor transportation program. The I-405 Corridor Program is one of the largest transportation projects in Washington State history. The program offers an unprecedented opportunity to address transportation needs and, at the same time, address impacts to the natural and built environments in a comprehensive manner within the corridor. The primary focus of the CEP is to clearly present the goals and objectives of the environmental program and to outline strategies for addressing impacts of the corridor program to the natural and built environment.

The CEP conforms to the purpose and need for the I-405 Corridor Program, by:

1) Maintaining or enhancing community livability within the corridor; and
2) Maintaining, protecting or enhancing the integrity of the region's natural environment.

To address those elements of the program, the CEP describes mitigation at a level commensurate with the programmatic decision being made now and contains the following:

- Goals and objectives for the natural and built environment
- A strategy for mitigating impacts to the natural and built environments through early action and project-level measures

The CEP is a component of the I-405 Corridor Program Preferred Alternative and Mitigation Concept and will provide guidance for development of the environmental portions of a Memorandum of Understanding among the project- level implementing and regulatory agencies and jurisdictions.

Background

I-405 is a major transportation corridor serving people and goods moving north and south on the east side of Lake Washington. While originally developed as a bypass route for Seattle, I-405 now serves as the transportation backbone for an area that is home to nearly 20 percent of the Puget Sound region's population. The I-405 corridor population and employment growth is expected to increase by over 35 percent during the next 20 years. By 2020, an additional 144,000 people are forecasted to be employed within the study area, while the population is expected to reach approximately 765,000, an increase of more than 200,000 people from 1997. This growth is projected to increase the number of person trips in the corridor by about 56 percent (1995-2020).

Through a three-year process, a general consensus emerged around a multi-modal transportation alternative that included road construction, a bus rapid transit system, demand management strategies, and related improvements. Over the course of this process, the three committees approved the purpose, goals, and objectives for the I-405 Corridor Program. Members of these committees resolved that the alternatives selected for I-405 will:

- Improve mobility;
- Reduce congestion;
- Improve livability;
- Be environmentally responsive; and
- Provide solutions that can be implemented.

THE CEP GOALS AND OBJECTIVES

The following three goals and associated objectives will guide development of future project-level environmental programs and supporting early actions. The first two goals address the natural environment and the third addresses the built environment.

Goals:

1. Integrate transportation and environmental investments in a way that improves critical natural resources and supporting habitat.
2. Use a watershed-based approach to mitigation to ensure transportation-related environmental funds are spent on the greatest environmental benefit.
3. Implement the Program in a manner that supports the Growth Management Act goals.

The following objectives are measures aimed at protecting and where possible enhancing the environment as the I-405 Corridor Program is implemented. The objectives are proposed as actions to be undertaken by project implementers that will be taken to address environmental mitigation and enhancement opportunities. The objectives will form the foundation of project decisions and permits as the corridor program is implemented. The objectives are commensurate with the level of detail available at the time of the I-405 Corridor Program FEIS issuance and will become more explicit as project implementation moves forward.

The first step in providing more detail for the mitigation concept is the development of a Corridor Mitigation Plan. Prior to project level permitting, WSDOT will develop a mitigation plan for the I-405 corridor for resources protected and regulated by federal, state, and local jurisdictions. The plan will be developed consistent with the proposed early-action environmental impact mitigation decision-making process presented here as part of the CEP. The plan will be based upon a 5 percent design level planned for the corridor. It will include a more detailed analysis of project impacts and an analysis of mitigation opportunities, first on-site, second within the same sub-basin, and third within the same watershed (i.e. water resource inventory area, or WRIA) in order to find the most appropriate or best mitigation opportunity for each impact. Off-site and out-of-kind mitigation opportunities will be evaluated in accordance

with the Alternative Mitigation Policy Guidance Interagency Implementation Agreement adopted on February 14, 2000 by WSDOT, the Department of Ecology, and the state Department of Fish and Wildlife to supplement in-kind, on-site opportunities.

WSDOT anticipates that it may not be possible nor the most beneficial to the natural environment to mitigate all project impacts within the same sub-basin where the impact occurs. While the mitigation will be analyzed at various levels, it will be implemented at the most appropriate level to maximize environmental benefit in a cost-effective manner. For example, WSDOT may mitigate for lost wetland function and acreage through a combination of opportunities that involve on-site, in-kind mitigation within the sub-basin of impact and off-site mitigation in other sub-basins within the same watershed.

Natural Environment Objectives

- Avoid and minimize impacts to fish and wildlife and their habitat to the extent practicable and compensate for unavoidable impacts.
- Maintain, protect, and enhance the functions of fish and wildlife habitat, wetlands, and other waters of the state and seek a net gain in those functions through preservation, restoration, creation, and enhancement.
- Adaptively manage mitigation sites. Design, implement, monitor, evaluate, and adjust mitigation sites to ensure that defined standards are met.
- Establish and integrate into an agreement among project proponents and local, state and federal regulatory agencies an innovative mitigation strategy and schedule to protect environmental resources while ensuring transportation project delivery.
- Maintain, protect, and improve air quality in the corridor and the region during construction and operation through:
    - Innovative project design;
    - Mitigation of construction-related emissions; and
    - Measures such as congestion reduction, transportation demand management, and fuel and technology improvements that reduce transportation related emissions of ozone precursors, particulate matter (PM_{10} &$PM_{2.5}$), toxic air pollutants, and carbon monoxide.
- Provide treatment for water quality and quantity for new impervious areas and as appropriate, retrofit existing stormwater outfalls, and participate in watershed-based stormwater mitigation projects that would result in net improvements in the water quality and hydrology baselines in the affected watersheds.
- Protect sole-source aquifers and minimize impacts to groundwater quality and quantity.
- Result in no net loss of wetland area and function or floodplain area and function.
- Design and implement appropriate mitigation projects in advance of transportation project construction activities.

Built Environment Objectives

- Avoid or minimize right-of-way and noise impacts to residences and businesses by incorporating appropriate design/technologies. Use advance mitigation to reduce the impacts of construction activities on mobility and the communities.
- Use adaptive management techniques to monitor and adjust transportation improvements and schedules to achieve maximum benefits at lowest environmental and social costs. Locate and design transportation facilities to promote compact development and provide flexibility to serve future inter-modal needs.
- Develop a project implementation program that will include as early actions:
  - Transportation Demand Management
  - Transit investments necessary to provide alternative means and routes for travel in the impacted sections
  - Environmental mitigation
  - Targeted arterial investments

THE CEP MITIGATION STRATEGY

EARLY ACTION

Based upon the CEP goals and objectives the program will identify early actions that the implementing agencies can take to address project impacts to both the Natural and Built Environments. These early action strategies will be developed and completed prior to permits being issued for construction.

Natural Environment

The CEP includes a process by which implementing and regulatory agencies will jointly make decisions on early-action mitigation for impacts to water resources, wetlands, floodplains, protected aquatic and upland species, and habitat (Proposed Early Action Environmental Impact Mitigation Decision Making Process, WSDOT, 2002).

The process involves two general phases:

- Prior to transportation project permitting, develop and implement early-action mitigation project(s) to compensate for environmental functions that are likely to be impacted by the program; and
- During transportation project permitting and construction, identify avoidance, minimization, on-site/in-kind, and early-action or off-site compensatory mitigation measures best suited to address project-level impacts.

This evaluation will include avoidance, minimization, and on- and off-site compensatory mitigation opportunities. The off-site mitigation opportunities will rely heavily, but not exclusively, on information provided in the Water Resource Inventory Area (WRIA) 8 and 9

programs and public planning documents. Those agencies with jurisdiction/authority over the impacted resource will help define the best compensation opportunities. The area in the vicinity of the I-405 and SR 167 interchange may be used as an example to demonstrate this approach (I-405 Corridor Program Example Project Environmental Analysis, DEA, 2002).

Should this strategy prove successful, it could become a template for the entire I-405 corridor and other urban projects.

Built Environment

The I-405 Corridor Program's impacts to the built environment include right-of-way , noise, mobility (during construction), and social impacts. Avoidance and minimization of these impacts will be addressed prior to individual project construction. An implementation program is being developed and will include early development of selected Transportation Demand Management (TDM), transit investments necessary to provide alternative means and routes for travel in the impacted sections, and targeted arterial investments. A parallel effort is also being done to look at creative ways to reduce noise impacts of freeway facilities.

PROJECT LEVEL

The level of detail necessary to make project-level impact mitigation decisions was not provided in the programmatic I-405 Corridor Program Environmental Impact Statement. However, project-level environmental review, as well as construction and operational impact mitigation identification and implementation, will proceed following the issuance of the I-405 Corridor Program FEIS and Record of Decision (ROD).

The CEP will guide project-level mitigation decisions. For example, authorities responsible for project design and environmental mitigation will ensure that a transportation project does not result in a net loss to wetland area or function. Furthermore, the Proposed Early-Action Environmental Impact Mitigation Decision-Making Process (WSDOT, 2002) can be used during the project permitting phase as it identifies a process for specifying how impacts can be avoided, minimized, or best compensated for through on-site, in-kind compensatory mitigation or early-action mitigation credits.

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Proposed Early-Action Environmental Impact Mitigation Decision-Making Process

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Proposed Early-Action Environmental Impact Mitigation Decision-Making Process

TABLE OF CONTENTS

INTRODUCTION

The Washington State Department of Transportation (WSDOT) is committed to pursuing early-action environmental impact mitigation for some of the unavoidable natural resource impacts of various major transportation improvement projects in the four-county Puget Sound region because such mitigation has a better chance of achieving a greater net environmental benefit than traditional compensatory mitigation.[1] However, no process exists for making decisions on such early-action mitigation, so WSDOT has developed the proposed process presented in this report for making such decisions. WSDOT is requesting agreement on the process by various agencies with jurisdiction over WSDOT projects, and it will apply whatever process is agreed to and develop an early-action environmental impact mitigation proposal for the I-405 corridor program as a first-case use of the process. By doing so, WSDOT expects to achieve another commitment to improve the condition of the natural environment in the watersheds affected by the I-405 Corridor Program over what the conditions would otherwise be when project construction begins.

BACKGROUND

Interstate 405 (I-405) is a major transportation corridor serving vehicles traveling north and south on the east side of Lake Washington. While originally developed as a bypass route for Seattle, I-405 now serves as the backbone transportation system for nearly 20 percent of the Puget Sound Region's population. The I-405 corridor population and employment growth will increase by over 35 percent during the next 20 years. By 2020, an additional 144,000 people are forecast to be employed within the study area, while the population is expected to reach approximately 765,000, an increase of more than 200,000 people from 1997. This growth will result in an increase of 56 percent in person trips (1995-2020).

The State Legislature's request for the State to find and implement mobility improvements in the I-405 corridor has strong support from individuals, businesses, interest groups, Eastside communities, and state and local elected officials. Three committees were created to provide direction, assure community feedback, and promote regional consensus for the project. In addition, a wide-ranging public involvement program was established to gain input from people. The Executive, Steering, and Citizen committees approved the purpose, goals, and objectives for the I-405 Corridor Program. Members of the three committees were resolved that the alternatives selected for the I-405 Corridor Program would: improve mobility, reduce congestion, improve livability, be environmentally responsive, and provide solutions that can be implemented.

[1] As shown in the glossary of key terms provided in Appendix A, "mitigation" means sequentially avoiding impacts, minimizing impacts, or compensating for remaining unavoidable impacts. "Early-action environmental impact mitigation" means any restoration, creation, enhancement, or preservation activities undertaken, or proposed to be undertaken, in advance of a project's planned environmental impacts as compensation for impacts that are likely to be unavoidable and would not be adequately, practicably, or as effectively mitigated through minimization or on-site in-kind compensatory mitigation undertaken concurrent with project construction. "Compensatory mitigation" means the restoration, creation, enhancement, or preservation of uplands, wetlands, or other aquatic resources for the purposes of compensating for unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.

Planning for a variety of multi-modal improvements in the corridor has now progressed to the point where a preferred alternative that avoids or minimizes many of the potential environmental impacts and best meets all of the above-listed criteria has been selected, and many of the environmental impacts of this alternative have been identified. The environmental impacts of all of the various projects that make up the preferred alternative and various possible mitigation measures are discussed in more detail in the I-405 Corridor Program Final Environmental Impact Statement (FEIS).[2]

WSDOT also wants to show how any unavoidable impacts of the Preferred Alternative can be compensated for, even to the point of improving the environment for certain critical natural resources, especially if the agency can use early-action environmental impact mitigation. Early-action environmental impact mitigation includes, but is not limited to, "mitigation banking", which can be allowed for certain types of environmental impacts according to the Alternative Mitigation Policy Guidance Interagency Implementation Agreement (herein referred to as the "Alternative Mitigation Agreement") adopted by the Washington State departments of Ecology, Fish and Wildlife, and Transportation in February 2000. By using early-action environmental impact mitigation, and aligning WSDOT mitigation needs with various watershed and salmonid recovery needs, WSDOT can focus its impact mitigation activities where they will provide the greatest net environmental benefits, and in some cases demonstrate the likely success of those activities before project construction occurs.

The Alternative Mitigation Agreement provides useful guidance on alternative mitigation priorities, but it does not define a process for making decisions on alternative mitigation, including mitigation banking or other forms of early-action environmental impact mitigation. This report proposes a process for making decisions on such mitigation for I-405, which may also serve as a model for other transportation projects in urban areas. However, if there are conflicts between the Alternative Mitigation Agreement and the I-405 Corridor Environmental Program, including this Proposed Early-Action Environmental Impact Decision-Making Process, Program, the latter takes precedence. Furthermore, the WSDOT also considers the proposed process a working model that may need to be refined before it can be applied.

Finally, because the Alternative Mitigation Agreement indicates that mitigation banking may be an acceptable form of mitigation for wetland, floodplain, habitat, and/or stream bank impacts, the proposed process only deals with early-action mitigation for the following types of environmental impacts dealt with in the I-405 Final EIS: water resources (i.e., water quality and quantity), wetlands, floodplains, protected aquatic species and habitat, and protected upland species and habitat. Furthermore, the proposed process as it applies to stormwater and water quality will be more fully developed.

PROGRAMMATIC APPROACHES TO MITIGATION

WSDOT has made sound environmental stewardship part of its mission, and the department is fully committed to complying with all environmental laws and regulations, including any that require mitigation for significant environmental impacts of a transportation improvement project.

[2] A summary of the impacts on water resources, wetlands, floodplains, protected aquatic species and habitat, and protected upland species and habitat and possible mitigation measures for those impacts are shown in Appendices B and C.

Therefore, the agency continues to improve and expand its environmental management system so that it embraces all agency program functions. It actively applies mitigation sequencing in the planning, design, and development of any transportation improvement project by first avoiding impacts, second minimizing impacts, and third compensating for any unavoidable impacts that cannot be effectively mitigated through minimization or on-site, in-kind compensatory mitigation. However, WSDOT also recognizes that many transportation improvement projects, especially in urban areas, will inevitably have various unavoidable environmental impacts that cannot be fully mitigated through minimization. Therefore, compensatory mitigation will be required, and the agency is committed to pursuing the best opportunities for such mitigation as early in the planning process as possible so the public's investment in any transportation improvement and mitigation is wisely spent and is not reduced through costly delays in the permit process.

For these reasons, WSDOT has developed an environmental investment strategy that utilizes watershed-planning principles and consists of a variety of programmatic approaches to mitigation (including this one for early-action mitigation). These approaches are described here because they relate to, or can be applied in, the process of developing and implementing an early-action environmental impact mitigation proposal.

Environmental Investment Strategy: WSDOT's environmental investment strategy is an approach to environmental impact mitigation that is intended to ensure that transportation projects have an overall benefit to environmental quality in the watersheds where they occur, while reducing costs to the taxpayer. The strategy accomplishes this by a comprehensive use of watershed-based data, an inventory of identified environmental needs, careful review of transportation mitigation obligations, and funding partnerships with local groups such as watershed planning units and salmon recovery groups. In addressing potential environmental impacts, WSDOT embraces the concept of mitigation sequencing. Environmental protection begins with avoidance of impacts, and then proceeds through minimization of impacts, then to compensatory forms of mitigation. By connecting compensatory mitigation needs with watershed restoration needs, we can achieve both enhanced project delivery and environmental benefits. This strategic approach results in net benefit to the environment and net cost savings when compared to traditional (on-site, concurrent) mitigation.

Alternative Mitigation Policy Guidance Interagency Implementation Agreement: This agreement (adopted in response to RCW 77.85.100), describes how to evaluate possible mitigation alternatives on a watershed basis, including off-site, out-of-kind, and conservation mitigation projects. The ability to use alternative mitigation gives state agencies the flexibility to choose projects that will benefit an entire watershed rather than a single site. Often, the alternative brings a greater benefit to the site as well as the surrounding watershed than an in-kind, on-site mitigation effort.

Advance Environmental Mitigation Revolving Account (AEMRA): This account established by the Legislature through RCW 47.12.340 provides a reimbursable fund for mitigation projects (including mitigation banks) for wetlands, fish habitat, fish passage, and flood management. AEMRA allows WSDOT to finance the acquisition and development of mitigation sites in areas where future transportation projects will have an effect on environmental resources. AEMRA allows WSDOT to consider the effects of mitigation on the watershed as a whole. This account

gives WSDOT the ability to do this work before the transportation project impacts occur. The revolving fund is replenished as the transportation projects are constructed.

Watershed Planning: Chapter 90.82 RCW provides a watershed-based framework for addressing water resources (water quality and quantity) and salmon habitat needs. Local governments are encouraged to create watershed committees in each Water Resource Inventory Area (WRIA) to facilitate watershed planning at a grass-roots level. Regional WSDOT representatives participate on these local committees, providing technical expertise and input into the watershed planning process and allowing WSDOT to use the locally determined priorities in identifying potential mitigation sites.

The State Agencies' Action Plan for Salmon Recovery: The Action Plan identifies specific salmon recovery activities that state agencies undertake. This document, published in 2000 by the Governor's Salmon Recovery Office, has 18 elements with major WSDOT participation. Several of these elements are closely tied to watershed efforts, including a basin-wide integrated flood hazard reduction pilot study, and the development and implementation of integrated stream corridor guidelines.

Fish Passage Barrier Removal Program: WSDOT and the Washington State Department of Fish and Wildlife (WDFW) have been conducting a cooperative fish passage barrier removal program since 1991 using WDFW criteria to inventory, assess, prioritize, and correct fish passage barriers on the Washington State highway system. Fifty-nine of 614 barrier culverts have been fixed. WSDOT has also been involved in a joint program with WDFW to grant funds to local governments, tribal entities, and private non-profit organizations for the correction of other fish barrier problems.

Generic Hydraulic Project Approvals: The state hydraulic code provides for the issuance of five-year general hydraulic project approvals (HPAs) for specific activities in a defined geographic area. Transportation activities currently covered by such generic HPAs include debris removal, pier construction, and beaver dam removal.

Programmatic Biological Assessment: To meet the requirements of the Endangered Species Act (ESA) Section 7 (c), as amended, WSDOT is streamlining the consultation process through the creation of programmatic Biological Assessments (PBAs) with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). One PBA has been approved by the USFWS for WSDOT's Olympic Region and is currently being used. Over 55 preservation and improvement projects of various types have utilized this streamlined consultation approach. Three other PBAs are under negotiation with the USFWS and NMFS.

Wetlands Compensation Banking Agreement: In 1994, WSDOT and various other state and federal agencies finalized the Washington State Department of Transportation Wetland Compensation Bank Program Memorandum of Agreement, which establishes the principles and procedures that all signatories to the agreement will adhere to in establishing, implementing, and maintaining a Washington State Department of Transportation Wetland Compensation Bank Program. Since that time, three wetland mitigation bank- sites have been acquired and are being developed. Two banks, the Tietzel and Greenhill, are located in Lewis County and are being developed to provide compensatory mitigation for the proposed I-5 corridor enhancements. The third bank is located in the city of Moses Lake and was developed to provide compensation for

unavoidable wetland impacts in the Columbia Basin. If WSDOT proposes any additional wetland mitigation banks, as expected for early-action mitigation, it will do so in coordination with the Bank Oversight Committee and establish consensus by all participating federal, state, and local agencies when recommendations are made to WSDOT and permit agencies regarding establishment of a wetland mitigation bank or the use of credits from a bank.

Puget Sound Action Plan: The Puget Sound Action Plan, most recently updated in 2000, describes actions necessary to protect water quality and biological resources in the Puget Sound basin. WSDOT participates in the planning process and carries out actions required by the plan. Details are identified in a biennial work plan.

Partnering Workshops: WSDOT staff have conducted partnering workshops for two years. The purpose of the workshops is to provide an opportunity to exchange information and to form partnerships between the Department of Transportation and persons/agencies involved in environmental mitigation, restoration, and enhancement projects.

Uniform Environmental Project Reporting System (UEPRS): The concept for this tool is derived from Substitute House Bill (SHB) 1204. This bill was passed to promote coordination among state agencies that fund or conduct environmental protection, restoration, enhancement, and mitigation activities. UEPRS is a web-based computer application that gives agencies the ability to share pertinent project information, supporting a statewide view of projects that affect the environment. If further funding is made available, UEPRS will be expanded to provide the capability for all state agencies, local governments, tribes, and non-government organizations to work together in forming partnerships to fund projects that benefit the environment. UEPRS can also help WSDOT identify unfunded needs for environmental projects.

Geographic Information Systems (GIS): GIS are databases keyed to geographic coordinates, allowing data (such as environmental information) to be mapped. GIS can provide key information needed to apply a watershed approach. Maps and GIS data layers help transportation planners and policy makers consider environmental data throughout a watershed – or even statewide – prior to beginning projects or revising policies.

Environmental Early Detection. WSDOT is required by state law to identify and document potentially affected environmental resources related to implementation of the Washington Transportation Plan (WTP). Toward this end, the agency is developing an environmental early detection tool. The ultimate goal of this tool is to help make early/long-range policy and planning decisions. It will enable WSDOT regions and Regional Transportation Planning Organizations to use various sources and processes, including a GIS-based analysis process, to obtain the best environmental information available and develop more accurate planning-level cost estimates for use in the WTP. With this tool, WSDOT regional planning offices will have the capability to identify projects with potentially significant environmental concerns earlier in the process than was possible in the past. This tool will provide automated analysis of environmental sensitivities associated with each conceptual solution in the Highway Systems Plan, resulting in a relative environmental ranking (e.g., high, medium, or low) for each project. It will also enable planners to obtain rankings and data for individual environmental disciplines (e.g., wetlands, water quality, fish habitat, etc.), as well as an overall, cumulative assessment of potential environmental concerns for each proposed project.

PROPOSED PROCESS

The early action mitigation will be developed well in advance of project impacts. The intent is to address resources of which WSDOT expects mitigation will be needed (such as water resources, wetlands, floodplains, protected aquatic species and habitat and protected upland species and habitat). This is driven primarily by the regulations and laws guiding the protection of natural resources in the project area. If a species or habitat has protective regulations which would likely trigger mitigation for unavoidable impacts, WSDOT's goal is to be working on this in advance to do the very best job and to help streamline the process of permitting when the time comes.

There are important species and habitats that do not have mitigation requirements specifically outlined by regulations. While there may not be a regulatory driver there, WSDOT does not want to imply that the planning and environmental process will ignore these needs. While priority species and habitats do not as a category have protective regulations requiring mitigation, WSDOT would typically use information on these species as an indicator of high quality habitat and factor that concern into the design of projects and into the approaches taken for project mitigation. WSDOT would seek opportunities where mitigation that is required for one regulation may be accomplished in a way to benefit other resources in addition.

WSDOT has been very progressive protecting rare species and in the last two years, WSDOT has supported research (much or it through WDFW) on lynx, bull trout, spotted frog, mardon skipper, and showy stickseed, to better understand their ecology. WSDOT wants to work closely with resource agencies to identify and responsibly address the environmental effects of transportation project actions.

The proposed process for making decisions on early-action environmental impact mitigation, as presented in this section of the report, builds upon the guidance provided in the Alternative Mitigation Agreement mentioned above, which was developed in response to RCW 77.85.100. According to the agreement, alternative mitigation tools will only be used where they are the best choice for mitigating unavoidable impacts and they are agreed to by the Washington State departments of Ecology, Fish and Wildlife, and Transportation. For this reason, the proposed process is designed to focus on any impacts that may remain after project planning that are likely to be unavoidable and would not be adequately, practicably, or as effectively mitigated through minimization or on-site, in-kind compensatory mitigation, which is typically conceived during the project design and permitting process.[3] Therefore, the proposed process includes steps for determining whether any early-action mitigation will have a greater net environmental benefit than minimization or on-site, in-kind compensatory mitigation and be the best choice for mitigating the unavoidable impacts. The proposed process is also designed to fulfill the goal of the Alternative Mitigation Agreement, which is "to maintain, protect, and enhance the functions of fish and wildlife habitat, wetlands and other waters of the state and to seek a net gain in those functions through restoration, creation, and enhancement." (Although the word "preservation" is omitted here, the agreement also allows preservation, particularly if it is used in combination with the other forms of compensation at the preservation site, or at a separate location.)

[3] WSDOT uses avoidance and minimization during project planning when it cooperates with other agencies in the process of selecting project sites or alternatives to consider, and in the process of deciding between such sites or alternatives for funding and construction, so it is appropriate to think of the impacts as remaining impacts. Also, whether any impacts can actually be avoided, or adequately, practicably, or as effectively mitigated through minimization or on-site, in-kind compensatory mitigation will ultimately be determined in the permit process.

The proposed process also includes a step for obtaining agency agreement on any early-action mitigation, including mitigation banking, and it includes steps for monitoring and determining whether any early-action mitigation has adequately compensated for all of the impacts for which mitigation is required or advisable. In this way, additional mitigation can be identified and proposed for any remaining impacts during the permit process, when WSDOT will again coordinate with these same agencies to develop a mitigation proposal that meets the needs of the agencies and WSDOT.

Finally, state and federal laws require that any proposed discharge of a pollutant not cause or contribute to a violation of state water quality standards for that pollutant at the point of discharge. Therefore, the use of early-action mitigation for water quality impacts is limited to on-site or off-site options that will result in reduced loadings of the pollutant of concern at the point of discharge, and WSDOT intends to limit its use of early-action mitigation for water quality impacts to situations that meet these criteria and satisfy the "Compensatory Mitigation Requirements" for stormwater specified in subsection IV.D.7 of the Alternative Mitigation Policy Guidance Interagency Implementation Agreement (developed in response to RCW 77.85.110). While the proposed early-action mitigation process goes a long way in addressing habitat and wetland issues, it does not go far enough in addressing stormwater and water quality. The early-action mitigation process will be more fully developed to demonstrate under what circumstances it would apply to stormwater and water quality.

The proposed process (which is also shown graphically in Appendix D in the context of an example transportation project development process) will be done in coordination with the resource agencies and involves the following steps:

Phase 1 (before transportation project permitting):

1. Identify the mitigation requirements of all affected agencies with jurisdiction in the project area that pertain to water resources, wetlands, floodplains, protected aquatic species and habitat, and protected upland species and habitat. For I-405, the mitigation requirements and/or review authorities of each agency are (or will be) identified in Appendix E.

2. Identify the reasonable worst-case scenario impacts of the preferred alternative on those resources for which mitigation is required or advisable. (Although mitigation is not required for impacts to ESA-listed species, it may be advisable to limit the degradation of baseline conditions in certain situations to reduce the likelihood of "take" and minimize the risk of "jeopardy", and such actions can contribute to the eventual recovery of listed species.) For the I-405 Corridor Program Preferred Alternative, Appendices B and C summarize the reasonable worst-case scenario impacts on water resources, wetlands, floodplains, protected aquatic species and habitat, and protected upland species and habitat. The first column of the table in Appendix F will be used to identify the specific reasonable worst-case scenario impacts of the Preferred Alternative on those resources for which mitigation would be required or advisable. WSDOT also intends to analyze these impacts in greater detail by using the following methods (listed by resource type) to identify the existing baseline conditions in the area of impact (or a larger area) and the impacts of the proposed projects on the various watershed conditions and resource functions in each watershed:

Resource	Method
Water Resources:	NMFS' Matrix of Pathways and Indicators (MPI)[4] and modeling (the latter to identify specific impacts on project-affected stream segments before mitigation).
Wetlands:	Ecology's Wetland Rating System and WSDOT's Wetland Functions Characterization Tool for Linear Projects
Floodplains:	Estimate flood storage and base flood elevation conditions and impacts using an adopted FEMA method.
Protected Aquatic Species and Habitat:	NMFS' Matrix of Pathways and Indicators (MPI)[4] and analysis of aerial photos, maps, and applicable databases (e.g. priority habitats and species, Integrated Streambank Protection Guidelines, etc.), and other future methods.
Protected Upland Species and Habitat:	Analysis of aerial photos, maps, and applicable databases(e.g. priority habitats and species, Integrated Streambank Protection Guidelines, etc.), and other future methods.

3. Estimate the amount of compensatory mitigation that may be needed in each Water Resource Inventory Area (WRIA) to mitigate the reasonable worst-case scenario impacts that are likely to be unavoidable and would not be adequately, practicably, or as effectively mitigated through minimization or on-site, in-kind compensatory mitigation. For I-405, Appendix F will be used for this purpose. In some cases, the amount of compensatory mitigation needed will exceed the amount lost through impacts of the project, especially if any agencies with jurisdiction have mitigation ratios for compensatory mitigation that exceed one-to-one (1:1). When considering bank instruments, WSDOT will use the 1994 Washington State Department of Transportation Wetland Compensation Bank Program Memorandum of Agreement as guidance for wetland banking and develop bank agreements under the guidance and approval of the Bank Oversight Committee.

4. Identify the best practicable restoration, creation, enhancement, and/or preservation activities that can be undertaken to provide the needed amount of compensatory mitigation in a manner that will meet the requirements of each agency with jurisdiction and serve watershed and salmonid recovery needs where appropriate. For I-405, a wide variety of watershed and salmonid recovery projects identified by various groups (some through watershed analyses) are listed in section 3.8 of the FEIS. These projects (along with any other priority projects

[4] U.S. National Marine Fisheries Service, Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale, August 1996.

and/or habitat limiting factors information identified in consultation with the WRIA 8 and 9 planning groups and resource agencies) will be considered in the process of identifying the best function targets and practicable restoration, creation, enhancement, and/or preservation activities that should be undertaken to provide the needed amount of compensatory mitigation.

5. Prepare a draft early-action mitigation proposal in the form of one or more mitigation plans or bank instruments. This document, or these documents, will meet the requirements for mitigation plans specified in the Alternative Mitigation Agreement and identify (and provide a rationale for) any site-specific actions to be taken and state the objectives to be achieved. When considering bank instruments, WSDOT will use the 1994 Washington State Department of Transportation Wetland Compensation Bank Program Memorandum of Agreement as guidance for wetland banking and develop bank agreements under the guidance and approval of the Bank Oversight Committee. For the I-405 Corridor Program, various objectives for early-action and project-level mitigation were developed in cooperation with members of the I-405 Steering Committee, and are listed in the I-405 Corridor Environmental Program (WSDOT, March 2002).

6. Seek agreement on, and permits for, the early-action mitigation proposal, including the level of credit to be available if successful. For the I-405 Corridor Program, WSDOT would seek agreement and/or permits from any agencies that require compensation and/or permits for compensation for any impacts dealt with in the mitigation proposal, or have reviewing authority under the federal Fish and Wildlife Coordination Act. These agencies are identified in Appendix E.

7. Implement the early-action mitigation proposal in accordance with permits.

8. Monitor success of the early-action mitigation and establish the level of credit available.

Phase 2 (during transportation project permitting and construction):

1. Complete any additional environmental analysis that may be required and apply for transportation project permits.

2. Identify the project-level environmental impacts and specify how these impacts will be avoided, minimized, or best compensated for through on-site, in-kind compensatory mitigation or early-action mitigation credits. For the I-405 Corridor Program, Appendix G can be used to identify particular impacts and mitigation measures as shown in the hypothetical analysis of mitigation opportunities presented in Appendix H. Also, any determinations as to whether any off-site compensatory mitigation will have a greater environmental benefit than minimization or on-site, in-kind compensatory mitigation can be made after considering the compensatory mitigation requirements specified in the Alternative Mitigation Agreement and applying best professional judgment.

3. Implement any additional mitigation required by agencies with jurisdiction that is not provided through the use of early-action mitigation credits authorized in permits.

4. Construct the transportation project(s) in accordance with permits.

5. Monitor impacts and apply adaptive management. Monitor impacts and apply adaptive management in accordance with adopted procedures.

NEXT STEPS

WSDOT has requested that the I-405 Corridor Program Steering Committee concur with the "mitigation concept" that has been developed. That concept (also known as the "Corridor Environmental Program") includes the proposed early-action environmental impact mitigation decision-making process described in this report, which is included in the FEIS for the overall Corridor Program. After concurrence is obtained, WSDOT plans to seek agreement on the proposed process from all of the state and federal agencies with jurisdiction over the types of impacts dealt with in the report. WSDOT will use the agreed-upon process to develop an early-action mitigation proposal to mitigate various unavoidable impacts of the preferred alternative in advance of project permitting and construction. The process and methods described in this appendix will evolve and be refined as WSDOT continues to consult with local, state, and federal agencies on appropriate compensatory mitigation.

Appendices for Appendix J

A - Glossary of Key Terms

B - Summary of I-405 Corridor Program Preferred Alternative Impacts

C - Possible Mitigation

D - Proposed Early-Action Environmental Impact Mitigation Decision-Making Process Flowchart

E - Agency Mitigation Requirements

F - Compensatory Mitigation Needs Per WRIA

G - Opportunities to Avoid, Minimize or Otherwise Mitigate Impacts

H - Hypothetical Analysis of Opportunities to Avoid, Minimize or Otherwise Mitigate Impacts

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APPENDIX A OF APPENDIX J. GLOSSARY OF KEY TERMS

"**Alternative mitigation**" means any off-site, in-kind; on-site, out-of-kind; or off-site, out-of-kind compensatory mitigation, including but not limited to mitigation banking and in-lieu trading of mitigation credits. This may involve restoring an environmental condition through actions at another location (e.g., upstream) or replacing one type of resource or function with another (e.g., mitigating impacts to a scrub-shrub wetland by creating riparian habitat).

"**Avoidance**" means avoiding the impact altogether by not taking a certain action or parts of an action. [Alternative Mitigation Agreement adopted pursuant to RCW 77.85.100]

"**Compensation**" or "**compensatory mitigation**" means the restoration, creation, enhancement, or preservation of uplands, wetlands, or other aquatic resources for the purposes of compensating for unavoidable adverse impacts that remain after all appropriate and practicable avoidance and minimization have been achieved. "Compensatory mitigation" includes mitigation that:

(a) Occurs at the same time as, or in advance of, a project's planned environmental impacts;

(b) Is located in a site either on, near, or distant from the project's impacts; and

(c) Provides either the same or different biological functions and values as the functions and values impacted by the project. [RCW 90.74.010(2)]

"**Early-action environmental impact mitigation**" means any restoration, creation, enhancement, or preservation activities undertaken, or proposed to be undertaken, in advance of a project's planned environmental impacts as compensation for impacts that are likely to be unavoidable and would not be adequately, practicably, or as effectively mitigated through minimization or on-site, in-kind compensatory mitigation undertaken concurrent with project construction.

"**In-kind mitigation**" means replacing the same species, habitat type, and function as those affected. [Alternative Mitigation Agreement adopted pursuant to RCW 77.85.100]

"**Minimization**" means minimizing impacts by limiting the degree or magnitude of the action and its implementation. [Alternative Mitigation Agreement adopted pursuant to RCW 77.85.100]

"**Mitigation**" means sequentially avoiding impacts, minimizing impacts, or compensating for remaining unavoidable impacts. [RCW 90.74.010(1)]

"**Mitigation banking**" means compensatory mitigation that has been assigned credit in advance of any permits authorizing project impacts.

"**Mitigation plan**" means a document or set of documents developed through joint discussions between a project proponent and environmental regulatory agencies that describe the unavoidable wetland or aquatic resource impacts of the proposed infrastructure development and the proposed compensatory mitigation for those impacts. [RCW 90.74.010(4)]

"**No net-loss**" means no overall reduction in the acreage or function of uplands, wetlands, or other aquatic resources of a particular type.

"No significant impact" means no reasonable likelihood of more than a moderate adverse impact on environmental quality. [reverse of "significant" as defined in WAC 197-11-794]

"**Off-site**" means outside of the area from where the impact has occurred. [Alternative Mitigation Agreement adopted pursuant to RCW 77.85.100]

"**On-site**" means on or adjacent to the impact site or in the same stream reach based on resource needs. It is not limited to property ownership or city/county boundaries that do not restrict the needs and uses of the resources. [Alternative Mitigation Agreement adopted pursuant to RCW 77.85.100]

"**Out-of-kind**" means species, habitat types, and/or functions that are different than those at the impact site. [Alternative Mitigation Agreement, adopted pursuant to RCW 77.85.100]

"**Practicable**" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. [40 CFR 230.3(q) and RCW 90.84.010(7)]

"**Protected**" means afforded protection by federal, state, or local laws or regulations."**Water Resource Inventory Area**" or "**WRIA**" means a water resource inventory area established in chapter 173-500 WAC as it existed on January 1, 1997. [RCW 77.85.010(10) and RCW 90.82.020(4)]

"**Watershed**" means a water resource inventory area. [RCW 47.060C.020(10)]

APPENDIX B OF APPENDIX J.
SUMMARY OF IMPACTS OF THE I-405 CORRIDOR PROGRAM PREFERRED ALTERNATIVE ON WATER RESOURCES, WETLANDS, FLOODPLAINS, PROTECTED AQUATIC SPECIES AND HABITAT, AND PROTECTED UPLAND SPECIES AND HABITAT

Element / Type of Impact	Impacts of the Preferred Alternative[1]
Water resources:	
Potential to degrade water quality during construction	Potential serious, short-term degradation of surface water quality
Acres of new impervious area	974
Loss of groundwater recharge area (in acres)	487
Potential for operational impacts to surface water	Potential for substantial adverse impacts to surface water resources
Potential for operational impacts to groundwater	Potential for impacts to quality or supply is low and not substantial
Wetlands:	
# of wetlands potentially affected	150 unique; 85 composite
# of high priority wetlands potentially affected	79 unique; 36 composite
Wetland area potentially affected (acres)	~ 25 acres
Floodplains:	
Flood storage loss	Not determined
100-year floodplains affected	Approximately 14
100-year floodway crossings	Approximately 45
Lineal feet of floodplain impact	Approximately 50,000
Protected aquatic species and habitat:	
Riparian encroachments	330
Acres of new impervious area (# of basins affected)	974 (18 of 19 sub-basins in the study area)
Protected upland species and habitat:	
Lineal feet of bald eagle territory impacted	60,880
Lineal feet of urban natural open space affected	49,020
Lineal feet of riparian habitat affected	13,560

[1] Impacts listed for the Preferred Alternative include those of the No Action Alternative. The No Action Alternative includes committed or funded capital improvement projects belonging to cities, counties, Sound Transit and WSDOT. Therefore, mitigation associated with the No Action Alternative impacts may not be implemented by WSDOT as part of the I-405 Corridor Program.

APPENDIX C OF APPENDIX J. POSSIBLE MITIGATION FOR IMPACTS OF THE I-405 PREFERRED ALTERNATIVE ON WATER RESOURCES, WETLANDS, FLOODPLAINS, PROTECTED AQUATIC SPECIES AND HABITAT, AND PROTECTED UPLAND SPECIES AND HABITAT

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
Section 3.5 Water Resources No Action Alternative	The projects proposed under the No Action Alternative would have the potential to temporarily degrade water quality during construction. One of the basins could suffer serious short-term water quality degradation due to a combination of its sloping nature and the relatively high number of projects proposed for construction (five or more) within its boundaries. The No Action Alternative would result in 173 acres of new impervious surface within the study area, a 0.1 percent increase across the entire study area. The proposed road projects under this alternative would result in an increase in runoff to local drainage systems and streams. The No Action Alternative is estimated to eliminate 104 acres of groundwater recharge area. The potential for operational impacts to degrade groundwater quality or to decrease groundwater supply under normal conditions is low and not substantial, with the exception of a traffic accident spilling hazardous pollutants, in which case impacts to groundwater quality could be substantial.	Note: Impacts of the action alternatives include those of the No Action Alternative. The No Action Alternative includes committed or funded capital improvement projects belonging to cities, counties, Sound Transit, and WSDOT. Therefore, mitigation for the No Action Alternative impacts may not be implemented by WSDOT as part of the I-405 Corridor Program. For those that are implemented by WSDOT, see mitigation for the action alternatives.
Alternative 1	Alternative 1 projects would have the potential to temporarily degrade water quality during construction. Eight of the stream basins would potentially suffer serious, short-term water quality degradation due to a combination of their sloping nature and the relatively high number of projects proposed for construction. Alternative 1 would result in 478 acres of new impervious surface within the study area, a 0.4 percent increase. Alternative 1 is estimated to eliminate 215 acres of groundwater recharge area. Additional long-term traffic through sensitive areas would increase the potential for groundwater contamination via the spill and leak mechanisms. Additional impervious surface area would also increase the potential for contamination because more rainfall runoff may pick up contaminants and reach permeable soils if runoff water is not contained. The potential for Alternative 1 operational activities to adversely impact groundwater quality is therefore rated as moderate. Although some potential exists for operational activities to impact groundwater quality and quantity, the impacts that may occur are not substantial under normal operating conditions. However, in the event a traffic accident occurred which spilled hazardous pollutants, impacts to groundwater quality could be substantial.	The following possible mitigations measures generally apply to all of the alternatives. Best management practices such as installing fencing, landscaping, erosion matting, hydro mulching, soil imprinting, hay bales, detention/sediment trap basins, and vegetated fringes will be used as appropriate. WSDOT would use the most current criteria and standards to mitigate stormwater quantity and quality impacts of the selected alternative. These standards will be presented in a WSDOT stormwater or highway runoff manual that will be functionally equivalent to Ecology's stormwater manual. These revisions are expected to address specific issues related to fish, especially chinook salmon. Construction disturbance will be limited to the smallest area practical. Clearing activities will be staged such that construction areas are cleared no more than one week ahead of the start of construction. If this is impractical, cleared areas will be mulched, covered with plastic, or otherwise stabilized. For projects constructed within 300 feet of a lake or stream, or

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		where concentrated construction site discharge may flow directly to surface waters, all site grading and initial stabilization could be scheduled to occur only during the dry season, May 1 through September 30. Where construction must occur within stream channels, such construction will occur "in the dry," whereby streamflow is temporarily diverted around the work site, where practicable, to prevent turbidity. If other construction activities occur during the wet season, such as subgrade or pavement installation, utilities placement, or curbs and sidewalks, a plan will be developed that: • Limits disturbed area activities to a maximum of 48 hours at any single location. • Has provisions for temporarily ceasing construction and quickly stabilizing a site when rainfall greater than one-half inch in a 12-hour period is measured at the site. • Uses alternative means for treating construction site runoff such as spray application or overland flow across a vegetated surface, or use of coagulants in the sediment ponds. If coagulants are used, then a nontoxic compound will be used, such as an ionic acrylamide. Grassed road embankments and biofiltration swales will be utilized wherever practical to maximize treatment of road runoff. Where new stream crossings are proposed, the design will consider opportunities to minimize the number of crossings by measures such as co-siting on-ramps and off-ramps. Planning for all major road upgrade projects would consider the practicality of retrofitting existing impervious road surface areas for runoff detention and treatment. Where determined to be practicable, retrofit measures will be budgeted into the road upgrade project. Any new road crossings of streams will be via a bridge spanning the 100-year floodplain unless a hydraulic analysis demonstrates that infringing abutments and/or bridge piers would not substantially change local high-water depths or velocities. Where practical, disturbed riparian areas within road right-of-way will be planted with native vegetation for a minimum width of 100 feet from each stream bank.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		Opportunities to increase the "perviousness" of impacted stream basins will be explored in cooperation with local agencies; these include replacing low-intensity-use paved areas (parking lots, sidewalks, walking-bicycle paths, etc.) with porous pavement and/or underground retention systems. Deep-tillage of playfields, parks, lawns, and other landscape surfaces with amended soils can also be effective in reducing runoff. Pervious portions of the study area will be treated with soil amendments, mulch, and vegetation to help absorb stormwater rather than discharge stormwater to surface waters. All stormwater management facilities will be located outside of stream, steep slope, and wetland buffer areas. The I-405 Corridor Program will continue to work closely with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), the Washington State Department of Fish and Wildlife (WDFW), Ecology, the Tribes, local municipalities, and basin stakeholders to develop a program of support for both local and regional stream enhancement projects. Groundwater: Mitigation measures to decrease the potential for groundwater contamination in the sensitive areas are based on minimizing the use of hazardous materials in the areas. During construction, mitigation measures include: • Re-fueling and maintenance of construction vehicles will not occur within 100 feet from the edge of any sensitive areas. More restrictive measures may be required where ESA species would be impacted. Refueling will follow the Guidelines for Mobile Fueling of Vehicles and Heavy Equipment in Chapter III of the 2001 Ecology Stormwater Manual or functionally equivalent stormwater guidance. • Hazardous materials will not be stored closer than 300 feet to any stream, wetland, or other sensitive area at the project site. Where hazardous materials must be temporarily stored at the project site, secondary containment will be provided. • A project staging area will be located outside of the sensitive areas for vehicle fueling and storage of construction-related hazardous materials. The area will be

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		designed to capture all runoff and/or spills. • Runoff from construction areas will be collected and treated and/or discharged consistent with Ecology's Stormwater Manual or functionally equivalent stormwater guidance. Measures to protect Renton's Aquifer Protection Area from infiltration of project runoff will be implemented. • A plan for hazardous material spill response will be developed. • Fill will not contain hazardous materials or materials that could adversely affect upland and/or aquatic species due to leaching or bioaccumulation. Measures for mitigation of operational impacts to groundwater quality are also based on preventing hazardous materials from reaching soil and infiltrating into groundwater. These measures include: • Runoff from construction areas will be collected and treated and/or discharged consistent with Ecology's Stormwater Manual or functionally equivalent stormwater guidance. Measures to protect Renton's Aquifer Protection Area from infiltration of project runoff will be implemented. • Spill prevention, control, and countermeasure plans will be developed and will include local, state, and federal emergency contact information. • Barriers will be placed at the sides of roads within WHPAs, SSAs, and high CARAs to prevent spills from reaching soils. The last two measures may be applied specifically to address the substantial potential for groundwater contamination that could occur under the rare traffic accident chemical spill scenario. To mitigate the potential decrease in groundwater recharge in CARAs and other potential recharge areas during construction, stormwater that might have been collected and conveyed to areas outside the CARAs can be re-infiltrated. In this scenario, the mitigation measures will include some form of treatment to ensure that groundwater quality is not adversely affected, such as the use of bioswales or infiltration ponds. Other measures for mitigating long-term loss of recharge to aquifers include:

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		• Decreasing slopes of areas not covered with impervious surfaces. • Planting vegetation in cleared areas. • Providing adjacent infiltration areas where large areas of impervious surfaces are unavoidable; in other words, interspersing pervious areas among the impervious areas to allow recharge via infiltration of rainwater. Runoff from construction areas will be collected and treated and/or discharged consistent with Ecology's Stormwater Manual (2001) or functionally equivalent stormwater guidance. Measures to protect Renton's Aquifer Protection Area from infiltration of project runoff will be implemented. Additional mitigation measures may be achieved by following the design guidelines in the local sensitive area ordinances (such as measures to prevent erosion) and local erosion codes, such as Renton's dealing with Aquifer Protection Areas. To mitigate the depletion of groundwater supplies via construction dewatering or pump testing, the groundwater that is removed may be re-infiltrated, provided programs are in place to test for and/or treat the groundwater to remove hazardous materials that may have come in contact with the groundwater. The eastern extension of the HCT to Issaquah lies within the Lake Sammamish Basin. Projects constructed within this basin would require special stormwater treatment to reduce phosphorus.
Alternative 2	Alternative 2 projects would have the potential to temporarily degrade water quality during construction. Under Alternative 2, 11 of the stream basins would potentially suffer serious, short-term water quality degradation due to a combination of their sloping nature and the relatively high number of projects proposed for construction. Six basins could experience long-term impacts to base flow and one basin would suffer water quality impacts. Alternative 2 would result in 820 acres of new impervious surface within the study area, a 0.6 percent increase across the entire study area.	See Alternative 1.The eastern extension of the HCT to Issaquah lies within the Lake Sammamish Basin. Projects constructed within this basin would require special stormwater treatment to reduce phosphorus. A WRIA-wide approach to mitigation of the program hydrologic impacts should be considered as a means to address base flow impacts in a more ecologically beneficial and cost-effective manner.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
	Alternative 2 is estimated to eliminate 410 acres of groundwater recharge area. The potential for Alternative 2 operational activities to adversely impact groundwater quality is rated moderate, but the relative extent of impacts is higher than for Alternative 1 and the No Action Alternative. Although some potential exists for operational activities to impact groundwater quality and quantity, the impacts that may occur to groundwater quality and quantity are not substantial under normal operating conditions. However, in the traffic accident scenario, impacts to groundwater could be substantial.	Groundwater: Same as Alternative 1.
Alternative 3	Alternative 3 projects would have the potential to temporarily degrade water quality during construction. Under Alternative 3, 10 of the stream basins would potentially suffer serious, short-term water quality degradation due to a combination of their sloping nature and the relatively high number of projects proposed for construction. Three basins could experience long-term impacts to base flow. Alternative 3 would result in 773 acres of new impervious surface within the study area, a 0.6 percent increase. Alternative 3 is estimated to eliminate 387 acres of groundwater recharge area. The potential for Alternative 3 operational activities to adversely groundwater quality is rated moderate, with the relative extent of impact approximately equal to that for Alternative 2. Although some potential exists for operational activities to impact groundwater quality and quantity, the impacts that may occur to groundwater quality and quantity are not substantial under normal operating conditions. However, in the traffic accident scenario, impacts to groundwater could be substantial.	Stormwater: See Alternative 1. Wherever soil tests and site conditions demonstrate the practicability, infiltration of treated stormwater will be utilized. This mitigation is particularly applicable to South Kelsey and North Creek Basins. In addition, where practicable WSDOT and the affected municipalities would commit to projects benefiting the hydrology and habitat of these streams as measures to compensate for potential reductions in stream base flow resulting from proposed road improvements. In addition, a WRIA-wide approach to mitigation of the program hydrologic impacts will be considered as a means to address base flow impacts in a more ecologically beneficial and cost-effective manner. Groundwater: Same as Alternative 1.
Alternative 4	Alternative 4 projects would have the potential to temporarily degrade water quality during construction. Under Alternative 4, 10 of the stream basins would potentially suffer serious, short-term water quality degradation due to a combination of their sloping nature and the relatively high number of projects proposed for construction. Seven basins could experience long-term impacts to base flow and one basin would suffer water quality impacts. Alternative 4 would result in 1,061 acres of new impervious surface within the study area, a 0.8 percent increase across the entire study area. Alternative 4 is estimated to eliminate 531 acres of groundwater recharge area. The potential for Alternative 4 operational activities to adversely impact groundwater quality is rated moderate. The extent of impacts would be similar to those for Alternative 3, with a slightly shifted distribution. Although some potential exists for operational activities to impact groundwater quality and quantity, the impacts that may occur to groundwater quality and quantity are not substantial under normal operating conditions. However, in the traffic accident scenario, impacts to groundwater could be substantial.	Stormwater: See Alternative 1. Projects constructed within the Lake Sammamish Basin would require special stormwater treatment to reduce phosphorus. Wherever soil tests and site conditions demonstrate the practicability, infiltration of treated stormwater will be utilized. This mitigation is particularly applicable to those basins which may otherwise experience depletion of base flows: Springbrook, South Kelsey, East Lake Washington, Forbes, Juanita, and North Creek. In addition, where practicable WSDOT and the affected municipalities would commit to projects benefiting the hydrology and habitat of these streams as measures to compensate for potential reductions in stream base flow resulting from proposed road improvements. In addition, a WRIA-wide approach to mitigation of the program hydrologic impacts will be considered as a means to address base flow impacts in a more ecologically beneficial and cost-effective manner.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		Groundwater: Same as Alternative 1.
Preferred Alternative	Preferred Alternative projects would have the potential to temporarily degrade water quality during construction. Under the Preferred Alternative, 13 of the stream basins would potentially suffer serious, short-term water quality degradation due to a combination of their sloping nature and the relatively high number of projects proposed for construction. Six basins could experience long-term impacts to base flow and one basin would suffer water quality impacts. The Preferred Alternative would result in 974 acres of new impervious surface within the study area - a 0.7 percent increase. The Preferred Alternative is estimated to eliminate 487 acres of groundwater recharge area. The potential for the Preferred Alternative operational activities to adversely impact groundwater quality is rated moderate, with the relative impact between Alternatives 3 and 4.	Stormwater: See Alternatives 1 and 3. The mitigation measures presented for Alternative 4 would be applicable for the Preferred Alternative. Infiltration of treated stormwater will be emphasized in the following basins as a measure to mitigate depletion of base flow: East Lake Washington, Juanita, Springbrook, South Kelsey, and North Creeks. Groundwater: Same as Alternative 1.
Section 3.6 Wetlands No Action Alternative	The No Action Alternative would potentially impact 25 wetland complexes, including 9 High Priority (HP) wetland complexes, totaling approximately 3 acres of encroachment. This is the lowest number of HP wetland complexes and the least area affected of any alternative. Most No Action Alternative improvements near HP wetlands occur in Redmond, Woodinville, and Renton. Committed arterial projects would impact the greatest number of wetlands of all project types in this alternative. Arterial committed projects would affect 14 wetland complexes, 6 of which are HP wetlands. No new roads are proposed in this alternative; therefore, the potential for this alternative to fragment wetland habitat is low. This alternative also results in the lowest increase in impervious surface of all the alternatives. Pollutant loading and overall impacts to wetlands from the improvements were judged to be below the threshold of significance. Retrofitting of existing stormwater facilities could occur in conjunction with many of the projects.	The following mitigation measures generally apply to all alternatives. Because wetland functions generally vary between HP and LP wetlands, mitigation needs also vary. HP wetlands generally require higher mitigation ratios than LP wetlands. Implementing mitigation prior to wetland disturbance may help minimize temporary losses of wetland functions, although it may take 10 or more years for wetlands to mature enough to fully replace lost functions. While impacted wetlands within the study area may not provide all of their historic functions, they remain a valuable and sometimes irreplaceable resource. Because of this, the focus during project design and any early-action mitigation will be to implement the following steps for all wetlands regardless of a wetland's priority status (HP or LP): The sequential steps generally taken in the wetland mitigation process are: • Avoiding impacts. • Minimizing impacts.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		• Restoring the impacted environment. • Reducing impacts over the life of the project using preservation and maintenance operations. • Compensating for unavoidable adverse impacts by replacing the affected environment or providing substitute resources. • Monitoring the impacted environment and taking appropriate corrective measures as needed. Project-level design or early-action mitigation will consider these factors to assure that the appropriate mitigation approach is implemented. Mitigation will be implemented prior to wetland impacts where feasible, to reduce temporary losses of wetland functions (Appendix J). Sufficient property is anticipated to be available within the study area for mitigation. In some highly developed watersheds, suitable vacant parcels available for mitigation may be rare. Identification of available parcels for mitigation will be dependent upon specific real estate conditions and will be undertaken during project-level analysis. Mitigation sites should provide connectivity with the remaining wetlands within the basin whenever possible, although isolated wetlands in highly developed areas are not without value, as they provide habitat for urban wildlife. Finding non-wetland property in proximity to a suitable hydrologic source will be increasingly difficult under increased development pressure. In some instances, out-of-kind watershed restoration may provide adequate or even higher levels of wetland/watershed functions than in-kind wetland replacement. While out-of-kind restoration is a potential option for each alternative being analyzed, its value would be assessed on a case-by-case basis. Mitigation banking will be an option where on-site mitigation is not possible or is less environmentally beneficial. Mitigation banking would allow acquisition of credits, which go toward enhancing, creating, or restoring wetlands at a designated site. Once the wetland is created and functioning, these credits would compensate for unavoidable wetland impacts. The bank creators, or sponsors, assume responsibility for maintaining the wetlands in perpetuity or they could sell the site to another

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		owner, who would then assume responsibility. Banking may only occur if the wetland impacts could not be avoided or minimized to an acceptable level on-site. Regional wetland mitigation facilities may have the potential to improve many wetland functions, particularly fish-rearing habitat, peak flow attenuation, large habitat areas with limited disturbance and edge area, and low flow augmentation. Because of the typically large number of oftentimes-small wetland impacts associated with linear transportation projects, there may exist the opportunity for regional wetland restoration or enhancement. However, the specific functions appropriate for restoration and/or enhancement would depend upon the particular mix of transportation elements and projects chosen as the preferred alternative. Combining such impacts into a few regional restoration projects may not be practicable. Opportunities for restoration are highly site-specific, depending greatly upon the functions provided by the existing watershed conditions, and thus specific parcels for wetland restoration or mitigation have not been identified. This early analysis assumes that avoiding wetlands altogether is the first step in the mitigation process. Project-level impact analysis will evaluate how some operational impacts will be mitigated. For instance, road impacts to wetlands may be avoided or minimized by using methods other than widening at the surface (e.g., stacking lanes or tunneling) where practicable to increase capacity in the vicinity of environmentally sensitive or important areas. Measures to avoid and minimize increases in impervious surfaces and increased stormwater runoff so as to not alter wetland hydrology in downstream reaches will be incorporated through project-level design where practicable. Some typical avoidance measures to be contemplated include: • Using or lengthening bridges to cross streams and their associated riparian corridors and wetlands; • Using retaining walls to reduce or eliminate lateral extensions of road embankment slopes into wetlands; • Using guardrails to increase the grade of embankments and avoid wetland fill;

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		• Stacking or constructing viaducts; and • Constructing tunnels. Best management practices (BMPs) will be utilized to minimize sedimentation, and contamination. These practices will include procedures such as sediment fences, check dams, temporary seeding, mulching, jute netting, phased construction, and construction during less sensitive seasons where appropriate. Stormwater treatment facilities will be designed consistent with the Ecology stormwater manual or functionally equivalent stormwater guidance, such as WSDOT's highway runoff manual. Mitigation locations and concepts will be identified during the permitting for specific projects and during possible early-action mitigation activities (See Appendix J of this EIS). WSDOT has met and will continue to meet with state and local agencies to identify mitigation priorities and options, and to discuss opportunities for on-site mitigation and mitigation banking. Another option that could be utilized on a case-by-case basis is replacing lower value roadside emergent wetlands with high value streamside wetlands. Although roadside wetlands provide water quality, groundwater recharge, and stormwater retention functions, replacing them at high ratios would not always be advantageous. Many of these roadside wetlands are dominated by invasive species such as reed canarygrass and can successfully and quickly be replaced (unlike forested wetlands). Since the availability of streamside wetlands that provide refugia for salmonids is often a limiting factor in Puget Sound Lowland streams, shifting part of the mitigation ratio to high value wetlands that provide other critical functions may be a viable option in some cases. An example of such a scenario is if 1 acre of roadside emergent wetlands were to be filled and the mitigation ratio were 2.5:1. Under this scenario, 2.5 acres of new roadside emergent wetlands could be required to mitigate for the impacts. However, the roadside emergent wetland could be replaced at a 1:1 ratio, with the remaining 1.5 acres of mitigation going toward addressing other basin needs. In this scenario 1.5 acres of streamside wetlands could also be created. WSDOT is currently working on an *Early-Action*

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		Environmental Impact Mitigation Decision-Making Process that will help guide the mitigation process and align WSDOT mitigation needs with various watershed and salmonid recovery needs (Appendix J; Smith, 2002). **ation** Specific mitigation can not be defined at the programmatic level of analysis. This is a result of uncertainties in the actual amount and type of wetland impacts, amount and type of required mitigation, variation in existing opportunities for mitigation in each basin, and early stage of coordination with affected jurisdictions. Furthermore, impact reduction measures to be developed during the project design phase will reduce the amount of required mitigation. See additional language in Section 3.6.5.1.
Alternative 1	Alternative 1 would potentially impact 76 wetland complexes, including 30 High Priority wetlands, totaling approximately 29 acres of fill. This is the lowest number of High Priority wetlands and least area affected of the action alternatives except the Preferred Alternative. Approximately 17 acres of wetland impacts are associated with the HCT improvements. While some part of the HCT system proposed under this alternative may fragment wetlands, much of the new construction presents opportunities to avoid wetlands. The potential for this alternative to fragment wetland habitat is consequently low to moderate. The amount of construction required for this alternative, while greater than that required for the No Action Alternative, would be considerably less than for the other action alternatives except for the Preferred Alternative.	See No Action Alternative.
Alternative 2	Alternative 2 would potentially impact 110 wetland complexes, 38 of which are High Priority wetlands, totaling approximately 56 acres of fill. This is the highest number of High Priority wetland complexes impacted of any alternative. Widening SR 167 from I-405 to the study area boundary has the most potential to substantially alter wetlands/wetland buffers, and could impact approximately 22 acres of wetlands. As was the case in Alternative 1, Alternative 2 could impacted an additional 17 acres of wetlands as a result of HCT improvements. Some impacts associated with riparian wetland crossings (e.g., the North Creek, Black River, or the Sammamish River) would likely be unavoidable. The potential for this alternative to fragment wetland habitat is high in comparison to the other action alternatives. Impervious surface area is nearly twice that of Alternative 1. Many of the impacts associated with Alternative 2 would be unavoidable, as they are expansions or additions to existing roads and realignment would not be practical.	See No Action Alternative.
Alternative 3	Alternative 3 would potentially impact 96 wetland complexes, including 34 High Priority wetlands, totaling 40 acres of fill. This is the second lowest number of High Priority wetlands impacted of the action alternatives, but the second highest area affected by fill due to widening of SR 167 from I-405	See No Action Alternative.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
	to the study area boundary. Potential for this alternative to fragment wetland habitat is moderate to high, while opportunities to avoid wetlands by realigning proposed roads would be few.	
Alternative 4	Alternative 4 is similar to Alternative 3 in that it would also potentially impact 96 wetland complexes, including 36 High Priority wetlands, totaling 39 acres of wetland area filled. This is the second highest number of High Priority wetlands impacted but identical to the Preferred Alternative, and the second greatest area affected of any alternative due to the widening of SR 167 from I-405 to the study area boundary. Thus there is great potential for wetlands fragmentation, coupled with little opportunity to avoid wetlands by altering proposed alignments. The greatest area of impervious surface would be added in this alternative.	See No Action Alternative.
Preferred Alternative	The Preferred Alternative would potentially impact 85 wetland complexes, including 36 High Priority wetlands, totaling 25 acres of wetland area filled. The number of High Priority wetland complexes impacted is the same as Alternative 4, but the lowest acreage affected of any action alternative due to the absence of HCT improvements and reduction in length of widening of SR 167. Thus there is less potential for wetlands fragmentation than other alternatives. The second greatest area of impervious surface would be added in this alternative.	See No Action Alternative.
Section 3.7 Wildlife, Habitat, and Upland Threatened and Endangered Species No Action Alternative	For all alternatives, priority habitats identified within the analysis area include freshwater wetlands, riparian zones, bald eagle territory, great blue heron habitat, pileated woodpecker habitat, waterfowl concentration areas, and urban natural open space. Much of the urbanized portion of the study area is inhabited by species typical of developed areas. The prevalence of development and landscape maintenance activities in these areas has resulted in the predominance of species adapted to degraded and disturbed habitats. The WDFW (2000) identifies five bald eagle territories, five patches of pileated woodpecker habitat, one occurrence of osprey habitat (a state Monitor species) one area for western pond turtles (State Endangered, Federal Species of Concern), and great blue heron (a WDFW Priority species) rookery. Most of the habitat area encountered falls within right-of-way. These areas typically have low habitat value to wildlife and are generally highly disturbed. Wildlife could occasionally occupy these areas; however, such occurrence is likely to be short-term. For the No Action Alternative, the alternative could affect up to 3,600 linear feet of habitat located within bald eagle territories and 12,200 linear feet of urban natural open space, and no riparian habitat. The No Action Alternative is not expected to have substantial adverse impacts on upland vegetation, habitat, wildlife, or endangered/threatened species. Most of the corridor is at or near	The following mitigation measures generally apply to all alternatives where appropriate to the project. Measures for mitigating impacts may include: • Implementing timing restrictions on construction could be implemented to protect bald eagle nesting habitats; • For projects located within 0.25 mile of any bald eagle nests or roosts or within 800 feet of any great blue heron rookeries, WSDOT will work with WDFW to develop management plans to avoid and minimize impacts which may occur during construction and operation of the project. (Typical avoidance and minimization strategies may include timing restrictions during construction, installation of noise barriers, protection of perch trees, and installation or establishment of visual barriers.);

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
	buildout and the opportunity for future development is limited.	• Providing wildlife access corridors under roadways as a measure to reduce the affects of habitat fragmentation by maintaining connectivity between habitats; and • Revegetating roadsides and construction zones with native plants to offset loss of habitat from construction. Other construction mitigation measures will also be employed. Needs and measures will be evaluated at the project level.
Alternative 1	Alternative 1 could affect 43,100 linear feet of urban natural open space resulting in habitat loss from the installation of the HCT system and disturbance to the periphery of habitats. The alternative could impact 40,100 linear feet[a] of bald eagle territory and 12,340 linear feet of riparian area, and construction would occur within 0.3 mile of one bald eagle nest.	Same as No Action Alternative.
Alternative 2	Alternative 2 would encounter 48,960 linear feet of urban natural open space could affect 54,160 linear feet[a] of habitat within bald eagle territories, and would impinge on 20,900 linear feet of riparian habitat.	Same as No Action Alternative.
Alternative 3	Alternative 3 could affect 52,300 linear feet of urban natural open space and 41,260 linear feet[a] of bald eagle territory (one bald eagle nest could experience increased noise disturbance), and could encroach on 13,560 linear feet[a] of riparian habitat.	Same as No Action Alternative.
Alternative 4	Alternative 4 encounters 33,900 linear feet of urban natural open space and 50,460 linear feet[a] of bald eagle territory, and could encroach on 11,120 linear feet[a] of riparian habitat.	Same as No Action Alternative.
Preferred Alternative	The Preferred Alternative encounters 49,020 linear feet of urban natural open space and 60,880 linear feet[a] of bald eagle territory and could encroach on 13,560 linear feet[a] of riparian habitat.	Same as No Action Alternative.
Section 3.8 Fish and Aquatic Habitat No Action Alternative	The I-405 corridor study area lies entirely within two major watersheds: mostly within the Cedar River/Lake Washington (200 square miles and hundreds of tributaries) and a small portion within the Green Watershed. The Puget Sound chinook salmon and bull trout are listed as "threatened" under ESA and occur in both watersheds. Bull trout migrate through the study area, but bull trout spawning has been documented only in locations far upstream. Coho salmon, a "candidate" species for federal listing is present in the major streams of the study area. The No Action Alternative would create 74 new riparian encroachments, which is less than one-third	Note: The No Action Alternative includes committed or funded capital improvement projects belonging to cities, counties, Sound Transit and WSDOT as part of the I-405 Corridor Program. For those that are implemented by WSDOT, see mitigation for the action alternatives. The following mitigation measures generally apply to all

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
	the number of any of the action alternatives. Fifty-one of these would occur in the Sammamish Basin and no more than six would occur in any of the other basins. The No Action Alternative would increase impervious surface in the study area basins by 0.1 percent. This percentage represents 173 acres of new impervious surface. The greatest increase would occur in the North Creek Basin, followed by the Sammamish River, Little Bear Creek, Mercer Slough, Cedar River, Swamp Creek, and Juanita Creek basins. No increase is expected for the Bear Creek, Forbes Creek, Kelsey Creek, Lower Green River, and North Lake Washington basins. The *I-405 Corridor Program Draft Surface Water Resources Expertise Report* (CH2M HILL, 2001) concluded that no substantial direct effects on hydrology or water quality are expected under this alternative.	alternatives where appropriate.
Alternative 1	Alternative 1 would result in 261 riparian encroachments, substantially fewer riparian encroachments than other action alternatives. This indicates substantially less potential for direct construction impacts to fish habitats and populations. Alternative 1 would add 478 acres of new impervious area to the study area basins for a 0.3 percent increase above the No Action Alternative. The Black River, Mercer Slough, Sammamish River, East Lake Washington, and North Creek basins would experience the greatest increases. For the West Lake Sammamish Basin, this alternative would create the most impervious surface of any alternative. No substantial effects on hydrology or water quality are expected under this alternative. Overall, Alternative 1 has the least potential impact on fish populations and habitats, including threatened species, of any action alternative.	Impact avoidance and minimization measures include, but are not limited to , the following: • Redirecting proposed improvements through developed uplands where practicable; • Reducing project foot-print where practicable; • Spanning waterways with bridges outside of the active floodplain where practicable; and • Utilizing best available science to document, avoid, and then mitigate for potential impacts. Compensatory fish and habitat mitigation measures can be divided into three categories: 1) on-site/in-kind, 2) sub-basin, and 3) watershed level. It is WSDOT policy, at a minimum, to control and treat stormwater runoff that could impact fish and habitat such that downstream flood damage and/or serious water quality problems are not increased as a result of new road projects. This could require on-site/in-kind mitigation. This mitigation type replicates as closely as possible specific lost environmental functions (such as suitable spawning habitat for a specific fish species). On-site/in-kind mitigation is applicable to the I-405 Corridor Program at the project-level, as the specific impacts of each project are assessed. Mitigation can then be incorporated into project design, or mitigation opportunities can be identified in the immediate vicinity. It is not always feasible to provide suitable mitigation near a project site, particularly in a highly developed, mostly urban area such as the I-405 corridor. Some regulatory agencies suggest that advanced watershed-based mitigation may involve efforts such as preservation of higher-quality habitat in locations upstream of the study area. In addition, mitigation

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		could be provided outside the project area to address cumulative impacts associated with changes in transportation capacity on I-405. It must be noted that assigning credit for advanced watershed-based mitigation to project-specific impacts will likely require extensive analysis and negotiation. The State of Washington has developed interagency policy guidance for evaluating aquatic mitigation. In making regulatory decisions, the agencies are instructed to "consider whether the mitigation plan provides equal or better functions and values, compared to existing condition, for the target resources and species." <u>Impact Avoidance Measures</u> A number of best management practices (BMPs) will be employed during construction of each specific project to reduce the potential for adverse stream impacts during construction of various projects. The following bullets describe the types of mitigation measures that will be implemented for appropriate projects; however, use of alternate, equally effective BMPs or negotiated mitigation may be developed in the future. • Construction disturbances will be limited to the smallest area practical. When feasible, clearing activities will be staged such that construction areas are cleared no earlier than one week ahead of the start of construction. • Seasonal in-stream work "windows" as established by the WDFW, USFWS, and NMFS, will be observed. Major clearing and grading will be limited to the dry season: usually May 1 through September 1, where reasonable and feasible to avoid construction impacts. If other construction activities are to take place during the wet season, an erosion and sediment control plan will be prepared detailing measures required to provide adequate control and treatment of construction site runoff during wet season conditions. These measures could include shortened intervals for ground-disturbing activities; ceasing of construction activities and rapid stabilization measures during and following storms greater than one-half inch in 24 hours; and additional treatment to remove suspended solids and turbidity from collected project site runoff prior to discharge

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		(CH2M HILL, 2001b). • Exposed bare soil will be covered as soon as possible after grading to minimize erosion potential using typical techniques such as hydroseeding, mulching, or matting. • Erosion on slopes will be minimized by using techniques such as roughening, terracing, or contouring slopes before seeding. • Sediment transport off-site or into drainage features/facilities will be avoided, using techniques such as filter fabric fence installed downstream of all exposed slopes, around existing drainage inlets, and along river, stream, and drainage channels in the vicinity of work areas. • Toxic pollution will be controlled, by requiring that all equipment be maintained and refueled where potential spills and stormwater runoff can be contained. A toxic spill response plan will be designed to contain any spills that occur. Water quality monitoring programs may be required by jurisdictional agencies to sample above and below construction areas, before, during and after project construction. Specific construction techniques will be designed at the project phase to reduce the potential of adverse stream impacts. For example, bridge construction methods that avoid temporary work bridges will be considered, and any temporary stream structures will avoid the use of chemically treated wood materials such as creosote or chemonite. Creosote treated woods will not be used for any in-stream structures. **Compensatory Measures** On-site/in-kind mitigation is most effective in avoiding construction impacts, but direct displacement of habitat may require compensation. For example, riparian areas cleared for construction staging or access will be revegetated with native plant species. If in-stream habitat is unavoidably displaced by new structures, on-site opportunities for creating additional habitat will be investigated. Habitat enhancement will compensate for the habitat functions that were lost, specific to fish species and life-stage. **Operational Impact Mitigation**

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
		Impact Avoidance Measures The I-405 Corridor Program alternatives presently identify projects only at a conceptual level; no detailed project design has been completed. The most effective mitigation for operational impacts will be to design individual projects for impact avoidance or minimization. Examples of the types of mitigation that will be implemented include: • Designing stream crossings to be passable for migrating fish. • Stormwater runoff quantity: Detaining runoff from new impervious surfaces in accordance with Washington State Department of Ecology's (Ecology) current stormwater drainage manual, or functionally equivalent stormwater guidance, and infiltrate to groundwater where feasible. • Stormwater runoff quality: Treating collected stormwater runoff from new impervious surface in accordance with the Ecology drainage manual or functionally equivalent stormwater guidance using sedimentation ponds, filter systems, wetponds, vegetated swales, and filtering devices. **Compensatory Measures** One compensatory measure for operational impacts will be retrofitting of existing impervious surface for stormwater runoff quantity and quality. WSDOT will consider non-engineering solutions, such as removal of existing impervious surfaces and conversion into naturally vegetated habitat, where practicable and permittable. Sub-Basin Level Mitigation A number of mitigation projects have been previously identified by local jurisdictions to meet existing habitat enhancement/protection needs throughout sub-basins in the I-405 Corridor Program study area. As mitigation for the I-405 Corridor Program improvements, WSDOT will consider participating in some of these projects to gain mitigation credit for project-level impacts while contributing toward overall restoration of sub-basins and watersheds. Mitigation opportunities identified by each local jurisdiction are summarized in the EIS section.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
Alternative 2	Alternative 2 would result in 421 riparian encroachments, the highest of any alternative in 13 of the 19 basins and would have the highest potential for construction impacts of all the action alternatives. This alternative would create 820 acres of new impervious surface. The potential for operational impacts to degrade groundwater quality or to decrease groundwater supply is low and not substantial, with the exception of a traffic accident spilling hazardous pollutants, in which impacts to groundwater quality could be substantial.	Same as Alternative 1.
Alternative 3	Alternative 3 would result in 325 riparian encroachments and would create 773 acres of new impervious surface. The potential for operational impacts to degrade groundwater quality or to decrease groundwater supply is low and not substantial, with the exception of a traffic accident spilling hazardous pollutants, in which impacts to groundwater quality could be substantial.	Same as Alternative 1.
Alternative 4	Alternative 4 would result in 354 new riparian encroachments, the highest of any alternative for 2 of 19 basins. Alternative 4 would result in 1,061 acres of new impervious surface The potential for operational impacts to degrade groundwater quality or to decrease groundwater supply is low and not substantial, with the exception of a traffic accident spilling hazardous pollutants, in which impacts to groundwater quality could be substantial. It would create substantially more new impervious cover than other action alternatives. In addition, Alternative 4 includes the only proposed activity outside the UGA, in the Sammamish River basin on Highway 202 north of 128th Street in Redmond.	Same as Alternative 1.
Preferred Alternative	The Preferred Alternative would result in 330 new riparian encroachments. The Preferred Alternative would result in 974 acres of new impervious surface. It would create more new impervious cover than Alternative 3, but not as much as Alternative 4. The potential for operational impacts to degrade groundwater quality or to decrease groundwater supply is low and not substantial, with the exception of a traffic accident spilling hazardous pollutants, in which impacts to groundwater quality could be substantial.	Same as Alternative 1.
Section 3.10 Floodplains No Action Alternative	Within the project study area there are 18 floodplains that are either crossed or are adjacent to I-405, potential high-capacity corridors, and arterials. The evaluation of the action alternatives assumes that all of the No Action Alternative projects would be built. Under the No Action Alternative there are 6 projects that would potentially impact 5 floodplains. This includes 5 culvert or bridge crossings of the floodway. The potential length of floodplain impact is 13,950 feet.	In situations where the floodway area of the floodplain is crossed, the floodway will be spanned or bridged so that flows are not impeded. All roadways will cross major rivers (Duwamish River, Green River, Cedar River, and Sammamish River) on bridges with few or no piers in the floodway.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
Alternative 1	Under Alternative 1, 23 projects would either enter or cross 14 different 100-year floodplains. 22 floodway crossings by culverts or bridges would be lengthened or replaced, with a potential for 31,650 linear feet of floodplain impacts. The potential impact on floodplains would be relatively low. No operational impacts are anticipated, since the roadway can be designed to avoid the floodway and structural design requirements would result in a zero increase in flood elevation.	The amount of fill in floodplains will be limited by building walls or steep engineered fill slopes adjacent to the floodplain rather than standard fill slopes where practicable. When crossing a river, a longer bridge span could be used. Other possible mitigation measures include widening existing bridges, increasing existing culvert sizes, or replacing existing culverts with bridges. Mitigation anywhere along the stream system, including purchase of development rights, can reduce flood flows and limit the rise in the floodplain. Design and specifications will be prepared in conjunction with biologists to reduce impacts on the natural stream bed and, when appropriate to the given project, impacts will be mitigated by placing gravel in the culverts, planting riparian trees, and using other natural features such as log weirs, boulders, and other types of woody debris. Construction will be done during low flow periods that are least likely to harm fish and other wildlife in accordance with WDFW requirements. Maintenance of stream crossing structures will be reduced by selecting materials with longevity and low maintenance requirements and by selecting larger sizes of culverts or bridges with more clearance. Maintenance will be accomplished during low flow with the least obtrusion.
Alternative 2	Under Alternative 2, 37 projects would either enter or cross 14 different 100-year floodplains. 41 floodways would be crossed by culverts or bridges that would be lengthened or replaced, with a potential for 48,025 linear feet of floodplain impacts. The potential impact on floodplains would be moderate. During construction, no impacts to the floodplain storage are anticipated. There may be impacts to floodplain ecological functions. No operational impacts are anticipated, since roadways can be designed to avoid the floodway and structural design requirements would result in a zero increase in flood elevation.	Same as Alternative 1.
Alternative 3	Under Alternative 3, 36 projects would either enter or cross 14 different 100-year floodplains. 40 floodways would be crossed by culverts or bridges that would be lengthened or replaced, with a potential for 48,125 linear feet of floodplain impacts. The potential impact on floodplains adjacent to I-405 would be high.	Same as Alternative 1.

Summary of Potential Impacts and Possible Mitigation Measures		
Summary of Findings		
Element	**Environmental Consequences**	**Summary of Mitigation**
	During construction, no impacts to the floodplain storage are anticipated. There may be impacts to floodplain ecological functions. Same construction and operational impacts as Alternative 2.	
Alternative 4	Under Alternative 4, 36 projects would either enter or cross 14 different 100-year floodplains. 41 floodways would be crossed by culverts or bridges that would be lengthened or replaced, with a potential for 39,175 linear feet of floodplain impacts. The potential impact on floodplains adjacent to I-405 would be high, especially Springbrook Creek and North Creek. During construction, no impacts to the floodplain storage are anticipated. There may be impacts to floodplain ecological functions. Same construction and operational impacts as Alternative 2.	Same as Alternative 1.
Preferred Alternative	Under the Preferred Alternative, approximately 43 projects would either enter or cross 14 different 100-year floodplains. Approximately 45 floodways would be crossed by culverts or bridges that would be lengthened or replaced, with a potential for slightly more than 48,125 linear feet of floodplain impacts. The potential impact on floodplains adjacent to I-405 would be high. During construction, no impacts to the floodplain storage are anticipated. There may be impacts to floodplain ecological functions. Same construction and operational impacts as Alternative 2.	Same as Alternative 1.

APPENDIX D OF APPENDIX J.

PROPOSED EARLY-ACTION ENVIRONMENTAL IMPACT MITIGATION DECISION-MAKING PROCESS

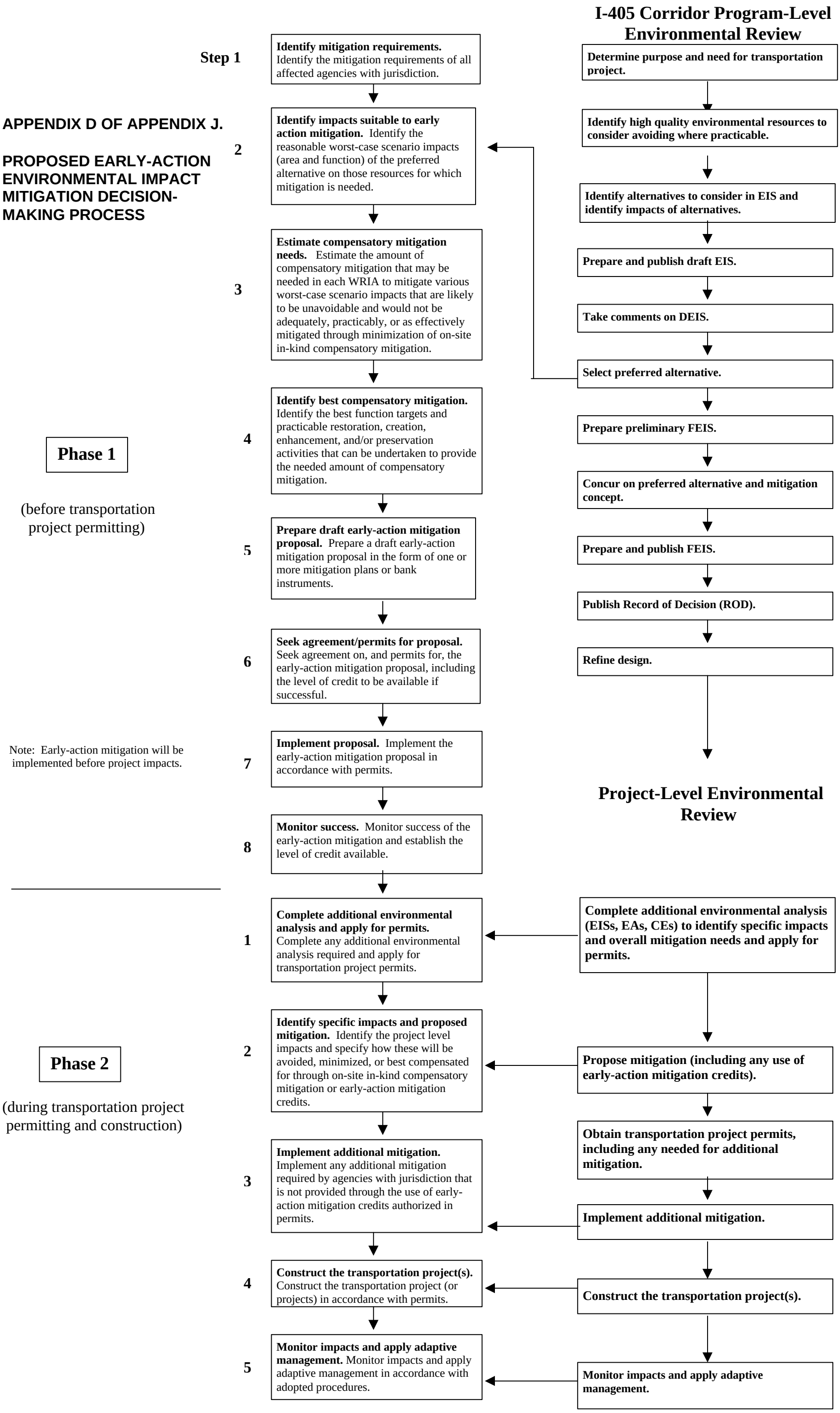
Phase 1

(before transportation project permitting)

Note: Early-action mitigation will be implemented before project impacts.

Phase 2

(during transportation project permitting and construction)



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APPENDIX E OF APPENDIX J. MITIGATION REQUIREMENTS OF AGENCIES WITH JURISDICTION IN THE I-405 CORRIDOR PROGRAM STUDY AREA THAT PERTAIN TO WATER RESOURCES, WETLANDS, FLOODPLAINS, PROTECTED AQUATIC SPECIES AND HABITAT, AND PROTECTED UPLAND SPECIES AND HABITAT*

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
Federal:					
U.S. Army Corps of Engineers (ACOE)	Trigger(s): Discharge of dredged or fill material within the ordinary high water mark of waters of the U.S.; Structures or work in or affecting navigable waters of the U.S. Authorities: Section 404, federal Clean Water Act; Section 10, River and Harbor Act; National Environmental Policy Act (NEPA); federal Clean Water Act; Coastal Zone Management Act (CZMA); Fish and Wildlife Act of 1956; Migratory Marine Game-Fish Act; Fish and Wildlife Coordination Act; Endangered Species Act (ESA); Marine Mammal Protection Act; Wild and Scenic Rivers Act. Regulation(s): Guidelines for Specification of Disposal Sites for Dredged or Fill Material [40 CFR 230, i.e. 404(b)(1) Guidelines]. Requirement(s): For Section 404 permit applications, mitigation is required to ensure compliance with 40 CFR 230. Discharge or activity must meet state water quality standards. Policy/Guidance: Several, including a Regulatory Guidance Letter regarding Compensatory Mitigation, 31 October 2001. (See data sheet). Compensation ratio(s): Case-by-case. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Allowed in conjunction with, and to augment the functions of, an established, restored, rehabilitated, or enhanced aquatic resource. Banking: Not specified.	Trigger(s): Discharge of dredged or fill material within the ordinary high water mark of waters of the U.S.; Structures or work in or affecting navigable waters of the U.S. Authorities: Section 404, federal Clean Water Act; Section 10, River and Harbor Act; National Environmental Policy Act (NEPA); federal Clean Water Act; Coastal Zone Management Act (CZMA); Fish and Wildlife Act of 1956; Migratory Marine Game-Fish Act; Fish and Wildlife Coordination Act; Endangered Species Act (ESA); Marine Mammal Protection Act; Wild and Scenic Rivers Act; Executive Order 11990. Regulation(s): Guidelines for Specification of Disposal Sites for Dredged or Fill Material [40 CFR 230, i.e. 404(b)(1) Guidelines]. Requirement(s): For Section 404 permit applications, mitigation is required to ensure compliance with 40 CFR 230. Discharge or activity must meet state water quality standards. Policy/Guidance: Several, including a Regulatory Guidance Letter regarding Compensatory Mitigation, 31 October 2001. (See data sheet). Compensation ratio(s): Case-by- case (1:1 minimum, generally 2:1). Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Allowed in conjunction with, and to augment the functions of, an established, restored, rehabilitated, or enhanced aquatic resource. Banking: Allowed.	Trigger(s): Carrying out responsibilities for various specified activities within the ordinary high water mark of waters of the U.S. in a floodplain. Authorities: Executive Order 11988 of May 24, 1977. Regulation(s): Requirement(s): Any agency carrying out any of the specified activities must avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative. Policy/Guidance: Compensation ratio(s): Case-by-case. Off-site: Allowed (first priority is on-site mitigation). Out of-kind: Not prohibited. Preservation: Allowed in conjunction with, and to augment the functions of, an established, restored, rehabilitated, or enhanced aquatic resource. Banking: Not prohibited.	Trigger(s): Discharge of dredged or fill material within the ordinary high water mark of waters of the U.S.; Structures or work in or affecting navigable waters of the U.S. Authorities: Section 404, federal Clean Water Act; Section 10, River and Harbor Act; National Environmental Policy Act (NEPA); federal Clean Water Act; Coastal Zone Management Act (CZMA); Fish and Wildlife Act of 1956; Migratory Marine Game-Fish Act; Fish and Wildlife Coordination Act; Endangered Species Act (ESA); Marine Mammal Protection Act; Wild and Scenic Rivers Act. Regulation(s): Guidelines for Specification of Disposal Sites for Dredged or Fill Material [40 CFR 230, i.e. 404(b)(1) Guidelines]. Requirement(s): For Section 404 permit applications, mitigation is required to ensure compliance with 40 CFR 230. Policy/Guidance: Several, including a Regulatory Guidance Letter regarding Compensatory Mitigation, 31 October 2001. (See data sheet). Compensation ratio(s): Case-by-case. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Allowed in conjunction with, and to augment the functions of, an established, restored, rehabilitated, or enhanced aquatic resource. Banking: Allowed.	
U.S. Environmental Protection Agency (EPA)	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S. in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants at federal facilities or on tribal lands. Authorities: Sections 401 and 402, federal Clean Water Act; Safe Drinking Water Act; NEPA. Regulation(s): Federal Water Quality Standards, 33 CFR 131. Requirement(s): The discharge must comply with	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S. in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants at federal facilities or on tribal lands. Authorities: Sections 401 and 402, federal Clean Water Act; NEPA. Regulation(s): Federal Water Quality Standards, 33 CFR 131. Requirement(s): The discharge must comply with	Trigger(s): Carrying out responsibilities for various specified activities in a floodplain. Authority: Executive Order 11988 of May 24, 1977. Regulation(s): Requirement(s): Any agency carrying out any of the specified activities must avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative.	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S. in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants at federal facilities or on tribal lands. Authority: Sections 401 and 402, federal Clean Water Act; Safe Drinking Water Act; NEPA. Regulation(s): Federal Water Quality Standards, 33 CFR 131. Requirement(s): The discharge must comply with	

* The information provided in this table is still being compiled. However, where cells are empty, it is assumed that there are no impacts of the type specified or there is no statutory authority for the agency to require mitigation for such impacts. Also, for more detailed information on the requirements of each agency for mitigating the specified types of impact, please see the individual data sheets held by WSDOT's Environmental Affairs Office.

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
	the applicable effluent standards and water quality standards. Policy/Guidance: Several, including an EPA Region 10, 404 Mitigation Policy and a MOA with the Department of the Army concerning the determination of mitigation under the 404(b)(1) Guidelines (see data sheet). Compensation ratio(s): Case-by-case. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Banking: Not specified.	the applicable effluent standards and water quality standards. Policy/Guidance: Several, including an EPA Region 10, 404 Mitigation Policy, an MOA with the Department of the Army concerning the determination of mitigation under the 404(b)(1) Guidelines, and a wetland compensation banking agreement with WSDOT and others (see data sheet). Compensation ratio(s): Case-by- case (1:1 minimum, generally 2:1). Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Banking: Allowed.	Policy/Guidance: Compensation ratio(s): Off-site: Out of-kind: Preservation: Banking:	the applicable effluent standards and water quality standards. Policy/Guidance: Several, including an EPA Region 10, 404 Mitigation Policy and a MOA with the Department of the Army concerning the determination of mitigation under the 404(b)(1) Guidelines (See data sheet). Compensation ratio(s): Case-by- case. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Banking: Allowed.	
U.S. Fish and Wildlife Service (USFWS)		Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA). Regulation(s): Requirement(s): No requirements for mitigation, but under the FWCA, any department or agency proposing or authorizing the impounding, diverting, or controlling of the waters of any stream or water body must consult with the USFWS about the wildlife resources (including birds, fishes, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent), and the USFWS may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Policy/Guidance: U.S. Fish and Wildlife Service Mitigation Policy. Off-site: Allowed on a case-by-case basis if net benefit. Out-of-kind: Allowed on a case-by-case basis if net benefit. Preservation: Banking: Not specified.		Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA). Regulation(s): Requirement(s): No requirements for mitigation, but under the FWCA, any department or agency proposing or authorizing the impounding, diverting, or controlling of the waters of any stream or waterbody must consult with the USFWS about the wildlife resources (including birds, fishes, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent), and the USFWS may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Also, under the Endangered Species Act, federal agencies are prohibited from taking any action that is likely (in the opinion of the USFWS) to jeopardize the continued existence of any listed (endangered and threatened) terrestrial or freshwater species, so project proponents are encouraged to propose "conservation measures", and everyone is prohibited from the "take" of such species without a special permit crafted to minimize impacts. Policy/Guidance: U.S. Fish and Wildlife Service Mitigation Policy. Off-site: Allowed on a case-by-case basis if net benefit. Out-of-kind: Allowed on a case-by-case basis if	Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA). Regulation(s): Requirement(s): No requirements for mitigation, but under the FWCA, any department or agency proposing or authorizing the impounding, diverting, or controlling of the waters of any stream or waterbody must consult with the USFWS about the wildlife resources (including birds, fishes, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent), and the USFWS may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Also, under the Endangered Species Act, federal agencies are prohibited from taking any action that is likely (in the opinion of the USFWS) to jeopardize the continued existence of any listed (endangered and threatened) terrestrial or freshwater species, so project proponents are encouraged to propose "conservation measures", and everyone is prohibited from the "take" of such species without a special permit crafted to minimize impacts. Policy/Guidance: U.S. Fish and Wildlife Service Mitigation Policy. Off-site: Allowed on a case-by-case basis if net benefit. Out-of-kind: Allowed on a case-by-case basis if

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
				net benefit. Preservation: Banking: Not specified.	net benefit. Preservation: Banking: Not specified.
U.S. National Marine Fisheries Service (NMFS)	(See information for NMFS under "Impacts on: Protected Aquatic Species and Habitat")	Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Fish and Wildlife Coordination Act (FWCA). Regulation(s): Requirement(s): No requirements for mitigation, but under the FWCA, any department or agency proposing or authorizing the impounding, diverting, or controlling of the waters of any stream or water body must consult with NMFS about the wildlife resources (including birds, fishes, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent), and NMFS may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed on a case-by-case basis if net benefit. Out-of-kind: Allowed on a case-by-case basis if net benefit. Preservation: Banking: Not specified.		Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Fish and Wildlife Coordination Act (FWCA); Magnuson-Stevens Fisheries Conservation and Management Act. Regulation(s): Requirement(s): No requirements for mitigation, but under the FWCA, any department or agency proposing or authorizing the impounding, diverting, or controlling of the waters of any stream or water body must consult with NMFS about the wildlife resources (including birds, fishes, mammals, and all other classes of wild animals and all types of vegetation upon which wildlife is dependent), and NMFS may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Also, under the Endangered Species Act, federal agencies are prohibited from taking any action that is likely (in the opinion of NMFS) to jeopardize the continued existence of any listed (endangered and threatened) marine species, so project proponents are encouraged to propose "conservation measures", and everyone is prohibited from the "take" of such species with-out a special permit crafted to minimize impacts. Also, under the Magnuson-Stevens Act, NMFS can recommend conservation measures for any federal agency actions that may adversely affect essential fish habitat, and the action agency must respond with a description of proposed mitigation (and adequate justification if the agency is not following NMFS recommendation). Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed on a case-by-case basis if net benefit. Out-of-kind: Allowed on a case-by-case basis if net benefit. Preservation: Banking: Not specified.	

Agency:	Impacts on: Water Resources	Wetlands	Floodplains	Protected Aquatic Species and Habitat	Protected Upland Species and Habitat
State:					
Washington State Department of Ecology (Ecology)	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S., except in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants, except at federal facilities or on tribal lands. Authorities: Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77. 85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA). Regulation(s): Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC. Requirement(s): Water quality and quantity impacts must be mitigated to the maxi-mum extent practicable by using all known, available, and reasonable methods of prevention, control, and treatment (AKART). Policy/Guidance: Several, including Ecology Stormwater Manual and an Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW (see data sheet). Compensation ratio(s): Not specified. Off-site: Allowed for certain pollutants if within same stream basin. Out-of-kind: Case-by-case (if net benefit and no other alternative). Preservation: Banking: Not specified.	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S., except in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants, except at federal facilities or on tribal lands. Authorities: Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77. 85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA). Regulation(s): Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC; Protection of Wet-lands, Governor Executive Order EO 89-10; Governor Executive Order EO 90-04. Requirement(s): Water quality and quantity impacts must be mitigated to the maxi-mum extent practicable by using all known, available, and reasonable methods of prevention, control, and treatment (AKART). Policy/Guidance: Several, including an Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW (see data sheet). Compensation ratio(s): (Guidance) Category I – 6:1 Category II/III(PFO) – 3:1 Category II/III(PSS) – 2:1 Category II/III(PEM) – 1.5:1 Category IV – 1.25:1 Off-site: Allowed if net benefit and replacement of lost functions. Out-of-kind: Allowed if net benefit and replacement of lost functions. Preservation: Allowed in combination with other forms of compensation at the preservation site, or at a separate location. Banking: Allowed.	Trigger(s): Any structure or works, public or private, to be erected or built or to be reconstructed or modified upon the banks or in or over the channel or over and across the floodway of any stream or body of water in the state; carrying out responsibilities for various specified activities in a floodplain. Authorities: Floodplain Management Act, Chapter 86.16 RCW; National Flood Insurance Program (NFIP); Shoreline Management Act, Chapter 90.58 RCW; Flood Control Assistance Account, Chapter 86.26 RCW; Executive Order 11988 of May 24, 1977. Regulation(s): Flood Plain Management, Chapter 173-158 WAC. Requirement(s): Zero (0) rise in any designated floodway. Ecology can enforce this requirement of the NFIP in situations where a local agency has not chosen to participate in the NFIP, or if they are participating but fail to enforce it. Policy/Guidance: Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW; Comprehensive Planning for Flood Hazard Areas, Ecology, 1991. Compensation ratio(s): Off-site: Out-of-kind: Preservation: Allowed in combination with other forms of compensation at the preservation site, or at a separate location. Banking: Allowed.	Trigger(s): Any federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the U.S., except in national parks or on tribal lands; any discharge of a pollutant or combination of pollutants, except at federal facilities or on tribal lands. Authorities: Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77. 85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA). Regulation(s): Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC. Requirement(s): Water quality and quantity impacts must be mitigated to the maxi-mum extent practicable by using all known, available, and reasonable methods of prevention, control, and treatment (AKART). Policy/Guidance: Several, including Ecology Stormwater Manual and an Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW (see data sheet). Compensation ratio(s): Not specified. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Allowed in combination with other forms of compensation at the preservation site, or at a separate location. Banking: Allowed.	
Washington State Department of Fish and Wildlife (WDFW)		Trigger(s): Any hydraulic project or work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state		Trigger(s): Any hydraulic project or work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state	Trigger(s): Federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
	(See information for WDFW under "Impacts on: Protected Aquatic Species and Habitat")	[which requires a hydraulic project approval (HPA)]; federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Construction Projects in State Waters, Chapter 77.55 RCW; Salmon Recovery Act, Chapter 77.85 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW. Regulation(s): Hydraulic Code Rules, Chapter 220-110 WAC; WDFW SEPA Rules, Chapter 232-19 WAC. Requirement(s): A mitigation agreement may be required prior to approval of an HPA. Replacement mitigation may be required to be established and functional prior to project construction. Projects that will result in direct or indirect harm to fish life must be denied unless adequate mitigation can be assured. Various types of projects must incorporate mitigation measures as necessary to achieve no-net-loss of productive capacity of fish and shellfish habitat. Also, under the FWCA, the involved agency must consult with WDFW about the wildlife resources (including all classes of wild animals and all types of vegetation upon which wildlife is dependent), and WDFW may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Policy/Guidance: Several, including WDFW Mitigation Policy M5002 and an Alternative Mitigation Policy Guidance Agreement with WSDOT and Ecology (see data sheet). Compensation ratio(s): 2:1 minimum for HPA projects. Off-site: Allowed if net benefit. Out-of-kind: Allowed if equal or better biological functions and values are provided. Preservation: Allowed in combination with other forms of compensation at the preservation site, or at a separate location. Banking: Allowed.		[which requires a hydraulic project approval (HPA)]; federal undertakings and non-federal actions needing a federal permit or license to control or modify a body of water, including wetlands. Authorities: Construction Projects in State Waters, Chapter 77.55 RCW; Salmon Recovery Act, Chapter 77.85 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW. Regulation(s): Hydraulic Code Rules, Chapter 220-110 WAC; WDFW SEPA Rules, Chapter 232-19 WAC. Requirement(s): A mitigation agreement may be required prior to approval of an HPA. Replacement mitigation may be required to be established and functional prior to project construction. Projects that will result in direct or indirect harm to fish life must be denied unless adequate mitigation can be assured. Various types of projects must incorporate mitigation measures as necessary to achieve no-net-loss of productive capacity of fish and shellfish habitat. Also, under the FWCA, the involved agency must consult with WDFW about the wildlife resources (including all classes of wild animals and all types of vegetation upon which wildlife is dependent), and WDFW may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Policy/Guidance: Several, including WDFW Mitigation Policy M5002 and an Alternative Mitigation Policy Guidance Agreement with WSDOT and Ecology (see data sheet). Compensation ratio(s): Greater than 1:1 to compensate for temporal loss, uncertainty of performance, and differences in functions and values. Off-site: Allowed if net benefit. Out-of-kind: Allowed where equal or better biological functions and values are provided, but only for priority habitats and species if priority habitat and species at greater risk are substituted for the impacted priority habitats and species. Preservation: Allowed in combination with other forms of compensation at the preservation site, or	wetlands; impacts to priority habitats and species. Authorities: Fish and Wildlife Coordination Act (FWCA); Fish and Wildlife Laws, Title 77 RCW; Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW. Regulation(s): Bald Eagle Protection Rules, WAC 232-12-292. Requirement(s): No requirements for mitigation, but under the FWCA, the involved agency must consult with WDFW about the wildlife resources (including all classes of wild animals and all types of vegetation upon which wildlife is dependent), and WDFW may provide comments including recommended means and measures that should be adopted to prevent the loss of or damage to the wildlife resources, which must be included in any report to the entity having authority to authorize the undertaking or action and be given full consideration by that authority. Policy/Guidance: Several, including WDFW Mitigation Policy M5002 and an Alternative Mitigation Policy Guidance Agreement with WSDOT and Ecology (see data sheet). Compensation ratio(s): Greater than 1:1 to compensate for temporal loss, uncertainty of performance, and differences in functions and values. Off-site: Allowed if net benefit. Out-of-kind: Allowed where equal or better biological functions and values are provided, but only for priority habitats and species if priority habitat and species at greater risk are substituted for the impacted priority habitats and species. Preservation: Allowed in combination with other forms of compensation at the preservation site, or at a separate location. Banking: Allowed.

Agency:	Impacts on: Water Resources	Wetlands	Floodplains	Protected Aquatic Species and Habitat	Protected Upland Species and Habitat
				at a separate location. Banking: Allowed.	
Local:					
King County	Trigger(s): Any "development activity" as defined by King County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Title 9, KCC. Requirement(s): Several (see data sheet). Policy/Guidance: King County Stormwater Manual. Compensation ratio(s): Not specified. Off-site: For stormwater, must be within the same stream basin; for stream mitigation, decided on a case-by-case basis. Out-of-kind: For stormwater, not allowed; for stream mitigation, decided on a case-by-case basis. Preservation: Banking: Not specified.	Trigger(s): Any "development activity" as defined by King County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Chapter 21A.24, KCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Class I/II = 2:1 Class III = 1:1 Off-site: Allowed if no other alternatives (within sub-basin) Out-of-kind: Not allowed Preservation: Banking: Allowed.	Trigger(s): Any "development activity" as defined by King County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA); Flood Plain Management Act. Ordinance(s): Chapter 21A.24, KCC. Requirement(s): Must compensate for any loss of flood storage volume in the floodplain. Policy/Guidance: Compensation ratio(s): 1:1, no net loss of storage capacity. Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not allowed. Preservation: Banking: Not specified.	Trigger(s): Any "development activity" as defined by King County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Chapter 21A.24, KCC. Requirement(s): Several (see data sheet). Policy/Guidance: King County Stormwater Manual Compensation ratio(s): No net loss of functions. Off-site: Allowed if no other alternatives (Net Benefit). Out-of-kind: Not allowed. Preservation: Banking: Allowed.	No requirements for mitigation, except case-by-case based on the substantive effect authority of SEPA and comprehensive plan policies.
Snohomish County	Trigger(s): Any "development activity" as defined by Snohomish County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Chapter 24.10 SCC. Requirement(s): Mitigation required as specified in any permit, approved plan, or review conducted. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if net benefit. If Chinook sub-population involved, then must be within same stream basin. Out-of-kind: Allowed if net benefit. Banking: Not specified.	Trigger(s): Any "development activity" as defined by Snohomish County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Chapter 32.10 SCC. Requirement(s): Mitigation required for loss of area or functions and values of wetlands, streams, and buffers. Policy/Guidance: Compensation ratio(s): 1:1 minimum, equal or greater function. Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not specified. Banking: Allowed.	Trigger(s): Any "development activity" as defined by Snohomish County Code requiring a flood hazard permit. Authorities: Growth Management Act; State Environmental Policy Act (SEPA); Flood Plain Management Act. Ordinance(s): Title 27, SCC. Requirement(s): Permitted uses must not cause a cumulative increase in the base flood elevation of more than one foot. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives. Out-of-kind: Not allowed. Banking: Not specified.	Trigger(s): Any "development activity" as defined by Snohomish County Code requiring development approval. Authorities: Growth Management Act; State Environmental Policy Act (SEPA). Ordinance(s): Chapter 32.10 SCC. Requirement(s): Two options (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1 minimum, no loss of function. Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not allowed. Banking: Not specified.	No requirements for mitigation, except case-by-case based on the substantive effect authority of SEPA and comprehensive plan policies.
City of Bellevue	Trigger(s): Modifying drainage patterns, constructing or relocating facilities for the treatment, detention, or conveyance of drainage. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Part 24.06 BCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if approved by the utility (regional runoff-control or runoff treatment facilities). Out-of-kind: Case-by-case. Preservation: Banking:	Trigger(s): Development within a riparian corridor or riparian corridor setback. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Part 20.25H BCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Replacement - Type A – 2:1 Type B – 1.5:1 Off-site: Allowed if no other alternatives (within basin). Out-of-kind: Allowed if no other alternatives. Preservation:	Trigger(s): Development within a 100-year flood area. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Part 20.25H BCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1, no increase in water surface elevation of the base flood. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking:	Trigger(s): Alterations in or near sensitive areas. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Part 20.25H BCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): No loss of function. Off-site: Allowed if no other alternatives (within basin). Out-of-kind: Allowed if no other alternatives (net benefit). Preservation: Banking: Not allowed.	Trigger(s): Alterations in or near sensitive areas. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Part 20.25H BCC. Requirement(s): Mitigation required for habitat and protected species. Policy/Guidance: Compensation ratio(s): N/A. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking:

Agency:	Impacts on: Water Resources	Wetlands	Floodplains	Protected Aquatic Species and Habitat	Protected Upland Species and Habitat
		Banking: Not allowed.			
City of Bothell	Trigger(s): Development having the potential to increase or alter surface and stormwater drainage. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 18.04 BMC. Requirement(s): Provide drainage plan and obtain permits for on-site stormwater system. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not allowed. Preservation: Banking:	Trigger(s): Alteration to wetlands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.04 BMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Replacement – Category I – 2:1 Category II – 1.5:1 Category III – 1.25:1 Off-site: Allowed if net benefit (within sub-basin). Out-of-kind: Allowed if no other alternatives. Preservation: Banking: Allowed.	Trigger: Work within the 100-year floodplain. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.04 BMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1, no increase in water surface elevation of the base flood. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking:	Trigger(s): Development within designated fish and wildlife conservation areas or sensitive habitat. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.04 BMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed of no other alternatives (net benefit). Preservation: Banking: [waiting to hear from City]	Trigger(s): Development within designated fish and wildlife conservation areas or sensitive habitat. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.04 BMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): N/A. Off-site: Allowed if net benefit. Out-of-kind: Allowed if net benefit. Preservation: Banking:
City of Brier					
City of Clyde Hill					
City of Kenmore					
City of Kent	Trigger(s): Modifying drainage patterns, constructing or relocating facilities for the treatment, detention, or conveyance of storm or surface water drainage. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 7.07 KCC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): No net increase in surface water discharge rates Off-site: Allowed if potential impacts to downstream properties are identified Out-of-kind: Case by case, must approved by the Director of Public Works. Preservation: Banking:	Trigger(s): All activities occurring in a wetland or wetland buffer. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 11.05 KCC. Requirement(s): Restoration, creation, or enhancement required. Policy/Guidance: Compensation ratio(s): Replacement – Category I – 3:1 Category II – 1.5:1 Category III – 1.5:1 Enhancement – The city will allow lower replacement ratios if Category II/III wetlands are enhanced at 3:1. Off-site: Allowed if no other alternatives, net benefit (within watershed). Out-of-kind: Allowed if net benefit and meets regional goals. Preservation: Banking: Allowed.	Trigger(s): Development within a special flood hazard area. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.09 KCC. Requirement(s): Not specified; determined by Department of Public Works. Policy/Guidance: Compensation ratio(s): 1:1, no net loss in flood storage capacity. Off-site: Case-by-case. Out-of-kind: Case-by-case. Preservation: Banking:	***NO DATA AVAILABLE***	No data available
City of Kirkland	Trigger(s): Any proposed project subject to a city development permit or approval if it would add or replace impervious surface. Authorities: Growth Management Act; State	Trigger(s): Any development activity requiring a development approval and impacting wetlands. Authorities: Growth Management Act; State Environmental Policy Act.	Trigger(s): Any development activity requiring a development approval and impacting floodplains. Authorities: Growth Management Act; State Environmental Policy Act.	Trigger(s): Any development activity requiring a development approval and impacting fish and aquatic habitat. Authorities: Growth Management Act; State	

Agency:	Impacts on: Water Resources	Wetlands	Floodplains	Protected Aquatic Species and Habitat	Protected Upland Species and Habitat
	Environmental Policy Act. Ordinance(s): Chapter 15.52 KMC. Requirement(s): Compliance with the Ecology Stormwater Manual and its subsequent revisions or functionally equivalent stormwater guidance. Policy/Guidance: Ecology Stormwater Manual or functionally equivalent stormwater guidance. Compensation ratio(s): Not specified. Off-site: Not specified. Out-of-kind: Not specified. Preservation: Banking: Not specified.	Ordinance(s): Chapter 90 KMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Not specified. Out-of-kind: Not specified. Preservation: Banking: Not specified.	Ordinance(s): Chapter 90 KMC. Requirement(s): Minimize flood hazards as determined through PUD or variance process. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Not specified. Out-of-kind: Not specified. Preservation: Banking: Not specified.	Environmental Policy Act. Ordinance(s): Chapter 90 KMC. Requirement(s): Mitigation as determined through PUD or variance process. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Not specified. Out-of-kind: Not specified. Preservation: Banking: Not specified.	
City of Medina					
City of Mercer Island	Trigger(s): Development affecting surface and storm water runoff. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapters 15.09 and 19.07 MICC. Requirement(s): Several (see data sheet). Policy/Guidance: Ecology Stormwater Manual or functionally equivalent stormwater guidance. Compensation ratio(s): Not specified. Off-site: Allowed if no net increase to erosion. Out-of-kind: Allowed if no other alternatives (pay a fee). Preservation: Banking:	Trigger(s): Alteration and development adjacent to wetlands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 19.07.040 MICC. Requirement(s): Wetlands of less than one acre, unless specifically exempted, may be altered if the wetland will be restored, enhanced, or replaced with a wetland area of equivalent or greater size, biologic functions, and value. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if net benefit and no other alternatives (same sub-basin). Out-of-kind: Allowed if no other alternatives (financial contribution). Preservation: Banking: Allowed.	Trigger(s): Alterations in or near critical areas. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 19.07 MICC. Requirement(s): Use best available construction, design, and development techniques which result in the least adverse impact on the water course corridor. Policy/Guidance: Compensation ratio(s): 1:1, no reduction in flood storage capacity. Off-site: Allowed if net benefit. Out-of-kind: Allowed if no other alternatives (net benefit). Preservation: Banking:	Trigger(s): Development adjacent to a watercourse area. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 19.07 MICC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): No net loss of function. Off-site: Allowed if no alternatives and net benefit (same sub-basin). Out-of-kind: Allowed if no alternatives. Preservation: Banking: Allowed.	Trigger(s): Alterations in or near critical lands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 19.07 MICC. Requirement(s): Priority habitat and species study recommending appropriate protections, and any other mitigation measures considered appropriate. Policy/Guidance: Compensation ratio(s): N/A. Off-site: Allowed if no other alternatives (same sub-basin). Out-of-kind: Allowed if no other alternatives (net benefit). Preservation: Banking:
City of Newcastle	Trigger(s): Any proposed project subject to a city development permit or approval that would add or replace 5,000 square feet or more of impervious surface. Authorities: Growth Management Act; SEPA. Ordinance(s): Chapters 13.10 NMC. Requirement(s): Compliance with King County Stormwater manual with some modification (see data sheet). Policy/Guidance: King County Stormwater Manual. Compensation ratio(s): Not specified. Off-site: Allowed if no net increase to erosion. Out-of-kind: Allowed if no other alternatives (pay a fee). Preservation: Banking:	Trigger(s): Any proposed project subject to a city development permit or approval and impacting wetlands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 18.24 NMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Replacement – Category I – 6:1 Category II/III(PFO) – 3:1 Category II/III(PSS) – 2:1 Category II/III(PEM) – 2:1 Category IV – 1.25:1 Enhancement – Category I – 12:1 Category II/III(PFO) – 6:1 Category II/III(PSS) – 4:1 Category II/III(PEM) – 4:1 Category IV – 2.5:1	Trigger(s): Any proposed project subject to a city development permit or approval and impacting frequently flooded areas (floodplains). Authorities: Growth Management Act; State Environmental Policy Act. Ordinance: Chapter 18.24 NMC. Requirement(s): Prevent loss of the effective base flood storage volume or compensate for the loss. Policy/Guidance: Compensation ratio(s): No reduction in flood storage capacity. Off-site: Allowed if no other alternatives. Out-of-kind: Not allowed. Preservation: Banking:	Trigger(s): Any development activity requiring development approval and impacting streams. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 18.24 NMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1 functions replacement. Class I = 2:1 Class II/III = 1.5:1 Off-site: Allowed if no other alternatives. Class I = 3:1 Class II/III = 2:1 Out-of-kind: Not allowed Preservation: Banking: Not allowed.	Trigger(s): Development activities requiring SEPA review which impact species and habitat identified in the Newcastle Comprehensive Plan. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 18.16 and 18.24 NMC. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1 Tree Replacement. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Jurisdictional trigger through SEPA, compensatory mitigation based on comprehensive plan policies. Preservation: Banking:

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
		Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking: Allowed.			
City of Redmond	Trigger(s): Any proposed project subject to a city development permit or approval that would add or replace 5,000 sq. ft. or more of impervious surface. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 20E.90 Redmond Community Development Guide. Requirement(s): Compliance with 1992 Ecology Stormwater Manual and subsequent updates or functionally equivalent stormwater guidance. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if no other alternatives. Preservation: Banking:	Trigger(s): Any development activity as defined by Redmond Code requiring a development approval and impacting wetlands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 20D.140 Redmond Community Development Guide. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Type I Replacement – 6:1 Type I Enhancement – 2:1 Type II Replacement – 2:1 Type II Enhancement – 1:1 Type III Replacement – 2:1 Type III Enhancement – 1:1 Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking: Allowed.	Trigger(s): Any development activity as defined by Redmond Code requiring a development approval and impacting floodplains. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 20D.140 Redmond Community Development Guide. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1, no reduction in flood storage capacity. Off-site: Allowed if no other alternatives. Out-of-kind: Not allowed. Preservation: Banking:	Trigger(s): Any development activity as defined by Redmond Code requiring a development approval and impacting fish and aquatic habitat. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 20D.140 Redmond Community Development Guide. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): Equal or greater function. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Banking: Not allowed.	Trigger(s): Any development activity as defined by Redmond Code requiring a development approval and impacting upland species and habitat. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapters 20.80.20 and 20D.140 Redmond Community Development Guide. Requirement(s): Several (see data sheet). Policy/Guidance: Compensation ratio(s): 1:1 Tree Replacement. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Jurisdictional trigger through SEPA, compensatory mitigation based on comprehensive plan policies. Preservation: Banking:
City of Renton	Trigger(s): Development that alters storm water or surface drainage. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): RMC 4-6-030. Requirement(s): Provide a drainage plan for surface water flows. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if no other alternatives. Preservation: Banking:	Trigger(s): Development within or affecting wetlands. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): RMC 4-3-050. Requirement(s): No loss of wetland function, create, restore, and/or enhance a wetland so there is no reduction in wetland acreage and/or function. Policy/Guidance: Compensation ratio(s): Replacement – Category I (PFO) – 6:1 Category I (PSS) – 3:1 Category I (PEM) – 2:1 Category II (PFO) – 3:1 Category II (PSS) – 2:1 Category II (PEM) – 1.5:1 Category III (ALL) – 1.5:1 Off-site: Allowed if no other alternatives (same basin). Out-of-kind: Allowed if net benefit and meets regional goals. Preservation: Banking: Allowed.	Trigger(s): Development potentially leading to an increase in flood levels. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): RMC 4-3-050.I. Requirement(s): If grading or other activity will reduce the effective base flood storage volume, compensatory storage shall be constructed on the site. Policy/Guidance: Compensation ratio(s): 1:1, no reduction in flood storage capacity. Off-site: Allowed if no other alternatives (storage volume will be preserved over time). Out-of-kind: Not allowed. Preservation: Banking:	Trigger(s): Fish and aquatic habitat impacts. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): RMC 4-3-050. Requirement(s): Compliance with the drainage and habitat conservation standards of the RMC. Policy/Guidance: Compensation ratio(s): No net loss of function. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if net benefit. Preservation: Banking: Allowed.	Trigger(s): Protected upland species and habitat impacts. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): RMC 4-3-050K. Requirement(s): Mitigation (in addition to any required for wetland impacts) may be required on the basis of a required consultant report, peer reviewed applicant's report, or state or federal agency information. Policy/Guidance: Compensation ratio(s): N/A. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if net benefit. Preservation: Banking:
City of Tukwila	Trigger(s): Development that poses storm drainage activities or landuse/development activities that require a drainage review.	Trigger(s): Dredging, filling, alterations and relocation of wetland habitat. Authorities: Growth Management Act; State	Trigger(s): Development within a flood hazard area. Authorities: Growth Management Act; State	Trigger(s): Development within or near watercourses. Authorities: Growth Management Act; State	Trigger(s): Protected upland species and habitat impacts. Authorities: Growth Management Act; State

	Impacts on:				
Agency:	**Water Resources**	**Wetlands**	**Floodplains**	**Protected Aquatic Species and Habitat**	**Protected Upland Species and Habitat**
	Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 14.30 TMC. Requirement(s): Creation of a storm water detention facility and water quality treatment facilities. Policy/Guidance: Compensation ratio(s): Not specified. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if no other alternatives. Preservation: Banking:	Environmental Policy Act. Ordinance(s): Chapter 18.45 TMC. Requirement(s): No net loss of wetland functions and acreage; alterations will require restoration, enhancement, or creation to compensate for impacts. Policy/Guidance: Compensation ratio(s): Replacement – Category I (PFO) – 6:1 Category I (PSS) – 3:1 Category I (PEM) – 2:1 Category II (PFO) – 3:1 Category II (PSS) – 2:1 Category II (PEM) – 1.5:1 Category III (ALL) – 1.5:1 Off-site: Allowed if no other alternatives (same basin). Out-of-kind: Allowed if net benefit and meets regional goals. Preservation: Banking: Allowed.	Environmental Policy Act. Ordinance(s): Chapter 16.52 TMC. Requirement(s): The cumulative effect of any proposed development shall not increase the water surface elevation of the base flood more that 2/10th's of a foot at any point along the river course. Policy/Guidance: Compensation ratio(s): 1:1, no reduction in flood storage capacity. Off-site: Allowed if no other alternatives (storage volume will be preserved over time). Out-of-kind: Not allowed. Preservation: Banking:	Environmental Policy Act. Ordinance(s): Chapter 18.45 TMC. Requirement(s): Mitigation plans must show how water quality, treatment, erosion control, pollution reduction, wildlife and fish habitat, and general watercourse quality will be maintained or improved. Policy/Guidance: Compensation ratio(s): No net loss of function. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if net benefit. Preservation: Banking: Allowed.	Environmental Policy Act. Ordinance(s): Chapter 18.45 TMC. Requirement(s): Mitigation plans must show how water quality, treatment, erosion control, pollution reduction, wildlife and fish habitat, and general watercourse quality will be maintained or improved. Policy/Guidance: Compensation ratio(s): N/A. Off-site: Allowed if no other alternatives (net benefit). Out-of-kind: Allowed if net benefit. Preservation: Banking:
City of Woodinville		Trigger(s): Wetland alterations. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 21.24 WMC. Requirement(s): All alterations of wetlands shall be replaced or enhanced on-site with equivalent or greater biological functions and equivalent hydrologic functions including, but not limited to, storage capacity. Policy/Guidance: Compensation ratio(s): Class I/II = 2:1 Class III = 1:1 Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not allowed. Preservation: Banking: Allowed.	Trigger(s): Grading or other development activity. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 21.24 WMC. Requirement(s): Shall not reduce the effective base flood storage volume unless effective compensatory storage that will be preserved over time is created. Policy/Guidance: Compensation ratio(s): 1:1 No net loss of flood storage capacity. Off-site: Allowed if no other alternatives (within sub-basin). Out-of-kind: Not allowed. Preservation: Banking:	Trigger(s): Fish and aquatic habitat alterations. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 21.24 WMC. Requirement(s): No net loss of stream functions on-site and no impact on stream functions above or below the site due to approved alterations. Policy/Guidance: Compensation ratio(s): No net loss Off-site: Allowed if no other alternatives (Net benefit). Out-of-kind: Not allowed. Preservation: Banking: Allowed.	Trigger(s): Protected upland species and habitat alterations. Authorities: Growth Management Act; State Environmental Policy Act. Ordinance(s): Chapter 21.16 WMC. Requirement(s): Preservation preferred; tree replacement allowed. Policy/Guidance: Compensation ratio(s): Tree replacement. Off-site: Allowed if no other alternatives. Out-of-kind: Allowed if no other alternatives. Preservation: Allowed. Banking:
Hunts Point					
Yarrow Point					
Tribal:					
Muckleshoot Tribe	Awaiting response.	Awaiting response.	Awaiting response.	Awaiting response.	Awaiting response.

APPENDIX F OF APPENDIX J. ESTIMATE OF THE AMOUNT OF COMPENSATION THAT MAY BE NEEDED IN EACH WATER RESOURCE INVENTORY AREA (WRIA) TO MITIGATE VARIOUS IMPACTS THAT ARE LIKELY TO BE UNAVOIDABLE AND WOULD NOT BE ADEQUATELY (OR AS EFFECTIVELY) MITIGATED THROUGH MINIMIZATION OR ON-SITE, IN-KIND MITIGATION

	WRIA 8										WRIA 9		
Impacts of the I-405 preferred alternative	**King County**	**Snohomish County**	**City of Bellevue**	**City of Bothell**	**City of Kirkland**	**City of Newcastle**	**City of Redmond**	**City of Renton**	**City of Woodinville**	**WRIA 8 Total**	**King County**	**City of Tukwila**	**WRIA 9 Total**
Water resources:													
	[quantity of compensation needed]	[Etc.]											
	[Etc.]												
Wetlands:													
	[quantity of compensation needed]	[Etc.]											
	[Etc.]												
Floodplains:													
	[quantity of compensation needed]	[Etc.]											
	[Etc.]												
Protected aquatic species and habitat:													
	[quantity of compensation needed]	[Etc.]											
	[Etc.]												
Protected upland species and habitat:													
	[quantity of compensation needed]	[Etc.]											
	[Etc.]												

APPENDIX G OF APPENDIX J. ANALYSIS OF OPPORTUNITIES TO AVOID, MINIMIZE OR OTHERWISE MITIGATE IMPACTS OF THE I-405 PREFERRED ALTERNATIVE ON WATER RESOURCES, WETLANDS, FLOODPLAINS, PROTECTED AQUATIC SPECIES AND HABITAT, AND PROTECTED UPLAND SPECIES AND HABITAT

Impacts of the I-405 preferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Water resources:										
Wetlands:										
Floodplains:										
Protected aquatic species and habitat:										
Protected upland species and habitat:										

[1] According to the Alternative Mitigation Policy Guidance Agreement adopted by Ecology, WDFW, and WSDOT, "avoidance" means avoiding the impact altogether by not taking a certain action or parts of an action.

APPENDIX H OF APPENDIX J. HYPOTHETICAL ANALYSIS TO AVOID, MINIMIZE OR OTHERWISE MITIGATE IMPACTS OF THE I-405 PREFERRED ALTERNATIVE ON WATER RESOURCES, WETLANDS, FLOODPLAINS, PROTECTED AQUATIC SPECIES AND HABITAT, AND PROTECTED UPLAND SPECIES AND HABITAT

Impacts of the I-405 pre-ferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Water resources:										
Potential to degrade water quality during construction:										
ACOE/Ecology:										
Entire project area		X[2]	X[3]		N/A	N/A	N/A	N/A	N/A	
Acres of new impervious area (# of basins affected):										
ACOE/Ecology:										
WRIA 8:										
(acres/# of basins)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
WRIA 9:										
(acres/# of basins)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Loss of groundwater recharge area (in acres):										
ACOE/Ecology:										
WRIA 8:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
WRIA 9:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Potential for operational impacts to groundwater:										
ACOE/Ecology:										
Entire project area		X[2]	?		N/A	N/A	N/A	N/A	X	
Wetlands:										
Acres of wetlands potentially affected:										
ACOE/Ecology/King Co.:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X	X		X		X	
(Etc.)										
ACOE/Ecology/Snoh. Co.:										
Location 1:										
(acres)		X[2]	X[5]							

[1] According to the Alternative Mitigation Policy Guidance Agreement adopted by Ecology, WDFW, and WSDOT, "avoidance" means avoiding the impact altogether by not taking a certain action or parts of an action.

[2] These impacts have been avoided to the extent possible through project design and selection of a preferred alternative that best meets all planning level criteria, including an "environmentally responsive" criteria.

[3] Through the application of BMPs and/or off-site supplemental treatment.

[4] Through project design and proposed conservation measures, including maintaining baseline conditions within the watershed through treatment of stormwater, minimizing the creation of impervious surfaces, preservation and replanting of riparian corridors, etc.

[5] Through project design features (including stacking, bridging, retaining walls, steeper embankments, etc.) and the use of BMPs.

Impacts of the I-405 pre-ferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Location 2:										
(acres)		X[2]		X	X			X	X	
(Etc.)										
ACOE/Ecology/Bellevue:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X		X	X		X	
ACOE/Ecology/Bothell:										
(Etc.)										
ACOE/Ecology/Kirkland:										
(Etc.)										
ACOE/Ecology/Newcastle:										
(Etc.)										
ACOE/Ecology/Redmond:										
(Etc.)										
ACOE/Ecology/Renton:										
(Etc.)										
ACOE/Ecology/Tukwila:										
(Etc.)										
ACOE/Ecology/Woodin-ville:										
(Etc.)										
Acres of high priority wet-lands potentially affected:										
ACOE/Ecology/King Co.:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X	X		X		X	
(Etc.)										
ACOE/Ecology/Snoh. Co.:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X		X	X		X	
(Etc.)										
ACOE/Ecology/Bellevue:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X	X			X		X
(Etc.)										
(Etc.)										
Acres of fill:										
ACOE/Ecology/King Co.:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X		X	X		X	
(Etc.)										
ACOE/Ecology/Snoh. Co.:										
Location 1:										
(acres)		X[2]	X[5]							
Location 2:										
(acres)		X[2]		X	X		X		X	
(Etc.)										
ACOE/Ecology/Bellevue:										
Location 1:										
(acres)		X[2]	X[5]							

Impacts of the I-405 pre-ferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Location 2:										
(acres)		X[2]		X		X	X		X	
(Etc.)										
(Etc.)										
Floodplains:										
Flood storage loss:										
King County:										
Location 1:										
(acres)	X[6]									
Location 2:										
(acres)	X[6]									
(Etc.)										
Snohomish County:										
Location 1:										
(acres)	X[6]									
Location 2:										
(acres)	X[6]									
(Etc.)										
Protected aquatic species and habitat:										
Riparian encroachments:										
WRIA 8:										
NMFS/USFWS/Ecology/ King Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Snohomish Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Bellevue:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
(Etc.)										
WRIA 9:										
NMFS/USFWS/Ecology/ King Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Tukwila:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										

[6] Through project design. All structures and fill will be located above the 100-year floodplain.

Impacts of the I-405 pre-ferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
(Etc.)										
Acres of new impervious area (# of basins affected):										
WRIA 8:										
NMFS/USFWS/Ecology/ King Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Snohomish Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Bellevue:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
(Etc.)										
WRIA 9:										
NMFS/USFWS/Ecology/ King Co.:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
NMFS/USFWS/Ecology/ Tukwila:										
Location 1:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
Location 2:										
(acres)		X[2]	X[4]		N/A	N/A	N/A	N/A	X	
(Etc.)										
(Etc.)										
Protected upland species and habitat:										
Lineal feet of bald eagle territory impacted:										
USFWS/Snohomish Co.:										
Location 1:										
(Lineal feet)		X[2]	X		N/A	N/A	N/A	N/A	X	
Location 2:										
(Lineal feet)		X[2]	?		N/A	N/A	N/A	N/A		
(Etc.)										
USFWS (except Snoh. Co.):										
Location 1:										
(Lineal feet)		X[2]	X		N/A	N/A	N/A	N/A	X	
Location 2:										
(Lineal feet)		X[2]	?		N/A	N/A	N/A	N/A		
(Etc.)										
Lineal feet of urban natural open										

Impacts of the I-405 pre-ferred alternative that must be avoided, minimized, or otherwise mitigated	Capable of being totally avoided[1]?		Capable of being fully mitigated to the point of no net-loss or no significant impact through practicable minimization measures?		All remaining impacts capable of being fully mitigated to the point of no net-loss or no significant impact through practicable on-site, in-kind compensation measures?		Does the already implemented early-action mitigation have a greater environmental benefit?		Suitable for use of early-action mitigation credits?	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
space affected:										
King Co.:										
Location 1:										
(Lineal feet)		X[2]	X							
Location 2:										
(Lineal feet)		X[2]		X	X		X		X	
(Etc.)										
Snohomish Co.:										
Location 1:										
(Lineal feet)		X[2]	X							
Location 2:										
(Lineal feet)		X[2]		X	X		X		X	
(Etc.)										
(Etc.)										
Lineal feet of riparian area affected:										
King Co.:										
Location 1:										
(Lineal feet)		X[2]	X							
Location 2:										
(Lineal feet)		X[2]		X	X		X		X	
(Etc.)										
Snohomish Co.:										
Location 1:										
(Lineal feet)		X[2]	X							
Location 2:										
(Lineal feet)		X[2]		X	X		X		X	
(Etc.)										
(Etc.)										