Washington State Department of Transportation

Publications Transmittal

Transmittal Number	Date
PT 14-039	June 2014

Publication Title / Publication Number

Environmental Procedures Manual M 31-11 has been renamed to the *Environmental Manual* M 31-11

Originating Organization

Development Division, Environmental Services Office

Remarks and Instructions

This update completes our efforts to condense our environmental guidance materials by placing policy guidance in the manual and link to "how to" guidance on the web. Formerly known as the *Environmental Procedures Manual* M 31-11, this edition has been renamed the *Environmental Manual* M 31-11 to more accurately reflect its content. Any reference in WSDOT guidance materials or manuals to the *Environmental Procedures Manual* shall constitute reference to the *Environmental Manual* and supporting web pages. In this update Chapters 300 and 400 have been revised to comply with MAP-21 legislation and implementation policy. Chapter 430: Surface Water Quality and Chapter 459: Visual Impacts have been significantly revised. Chapter 447: Hazardous Materials and Problem Waste has been updated to clarify analysis procedures and link to the reorganized Hazardous Materials web pages. Task specific guidance has been moved to the web and linked from the appropriate sections of the manual. We recommend use of the on-line version of this manual for easy access to these supporting web pages.

The complete manual, revision packages, and individual chapters can be accessed at www.wsdot.wa.gov/publications/manuals/m31-11.htm.

For updating printed manuals, page numbers indicating portions of the manual that are to be removed and replaced are shown below.

Please contact Vicki Steigner at 360-705-7493 or steignv@wsdot.wa.gov with comments, questions, or suggestions for improvement to the manual.

To get the latest information, please sign up for email updates for individual publications at www.wsdot.wa.gov/publications/manuals.

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Signature

Washington State
Department of Transportation

Environmental Manual

M 31-11.13

June 2014

Engineering and Regional Operations
Development Division, Environmental Services Office

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Foreword

The *Environmental Manual* M 31-11 is a compilation of environmental procedures and processes that is to be used as a guidance resource for the Washington State Department of Transportation (WSDOT) and its environmental consultants. The *Environmental Manual* outlines WSDOT's legal requirements related to environmental, cultural, historic, and social resources and is a keystone of WSDOT's Environmental Management System (EMS).

The information contained in the *Environmental Manual* supplements the wide range of technical expertise among WSDOT Engineering, Environmental, Highway and Local Programs, and Planning staff, as well as local agencies and consultants. It provides consistent, current, and accurate guidelines for complying with federal and state environmental laws and regulations for all phases of project delivery. The guidance provided by the *Environmental Manual* assists WSDOT project proposals by encouraging early consideration and documentation of environmental issues during project scoping, alternative development, and preliminary design. It also provides guidance on complying with environmental requirements during the construction and maintenance phases of a project as well as addressing utilities and surplus property sales.

This manual includes information from many sources other than WSDOT, including a variety of state and federal agencies. Every effort has been made to make this information as current as possible. However, it is the user's responsibility to ensure that any action taken to comply with the excerpted or referenced material is based on the most current information available from these outside sources.

Updating this manual is a continuing process, due to the ever-changing status of environmental policies. Users are encouraged to submit the Feedback Form on page v to help guide future updates. For convenience, the manual is also available on the WSDOT Environmental Services Office website.

/s/

Megan White, Director
Environmental Services

Feedback Form

We appreciate your suggestions for improving this manual. Please fill out the form and mail or e-mail it to:

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Date	
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Chapter 100 Purpose and Overview

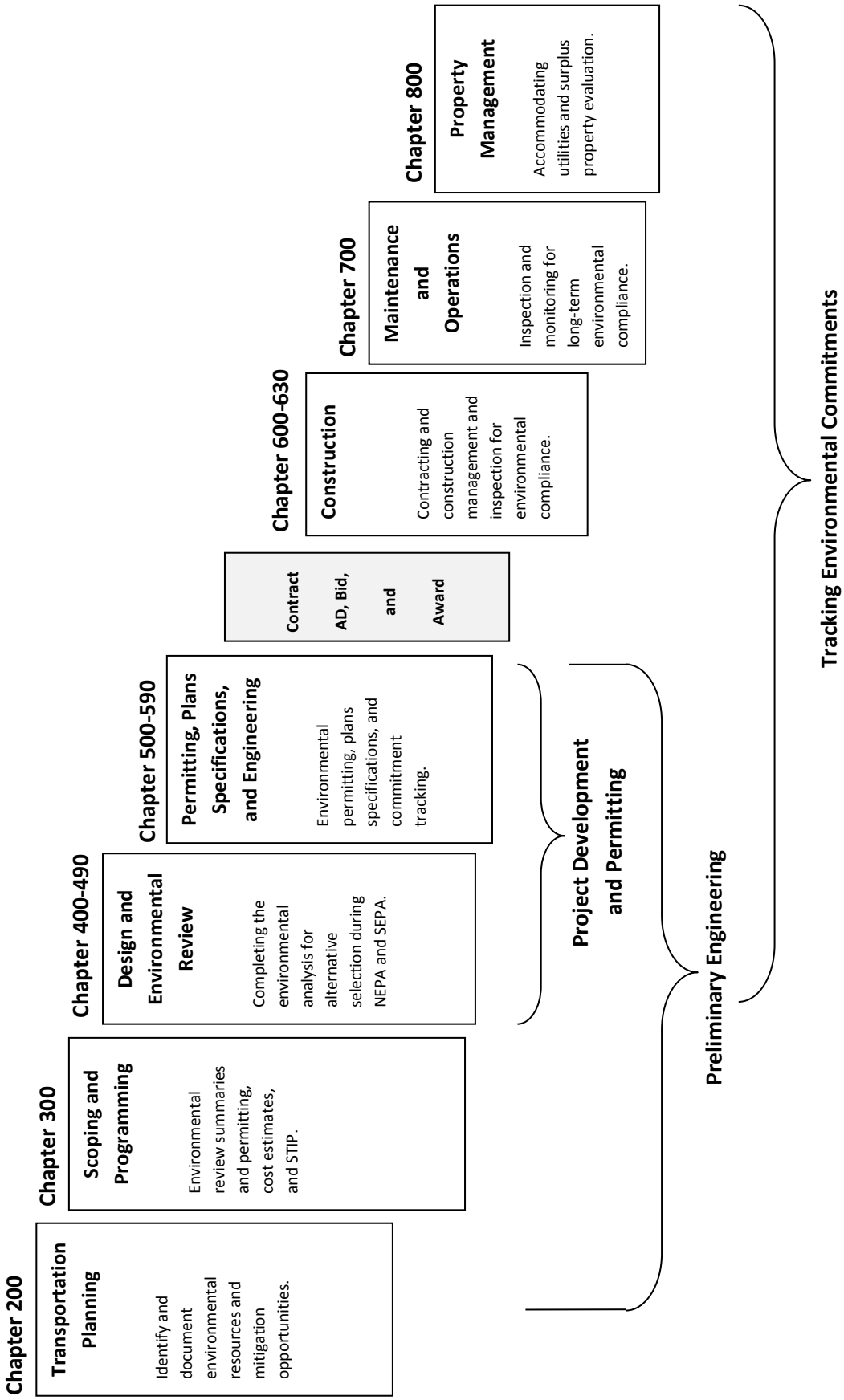
The Washington State Department of Transportation (WSDOT) *Environmental Manual* M 31-11 and the WSDOT Environmental web pages support WSDOT's Environmental Policy Statement and our Stewardship Agreement with FHWA. It also provides guidance for compliance with state and federal environmental laws and regulations for all phases of project delivery.

Figure 100-1 identifies the major planning, engineering, and environmental activities associated with each phase of the project delivery. It shows where information can be found in this manual. Links to the WSDOT Environment Site Index web page are provided in the text as needed.

This manual and the supporting web pages apply to state owned and operated facilities. The intended users are WSDOT staff and consultants working on WSDOT projects. Local governments and transit agencies may also use this guidance in accordance with the WSDOT *Local Agency Guidelines* M 36-63.

This manual and supporting WSDOT web pages replace all previous editions. Updating guidance material is a continuous process due to the ever-changing nature of environmental laws and regulations. It is the user's responsibility to use the most current information available.

Comments and suggestions for improving the manual are welcome. Contact the WSDOT Environmental Procedures Coordinator at 360-705-7493 or use the Feedback Form.



WSDOT Transportation Decision-Making Process and *Environmental Manual* Organization
Figure 100-1

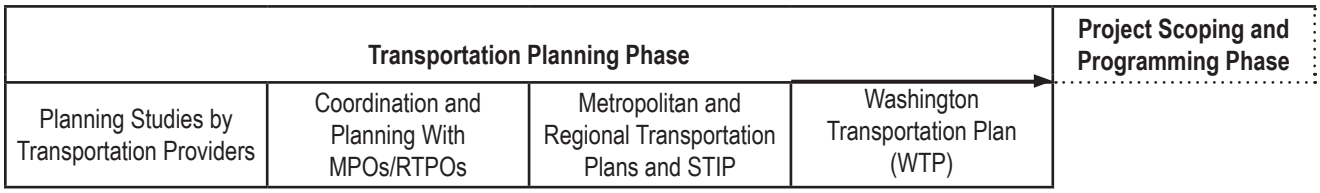
200.01 Introduction
200.02 General Overview of Transportation Planning in Washington
200.03 Environmental Considerations in Transportation Planning
200.04 Legal Requirements for Transportation Planning
200.05 Abbreviations and Acronyms
200.06 Glossary

200.01 Introduction

This chapter is a brief description of transportation planning in Washington State. It describes, in general, how environmental issues are addressed in this phase of the transportation decision making process. More details can be found on the Washington State Department of Transportation's (WSDOT) Transportation Planning web page.

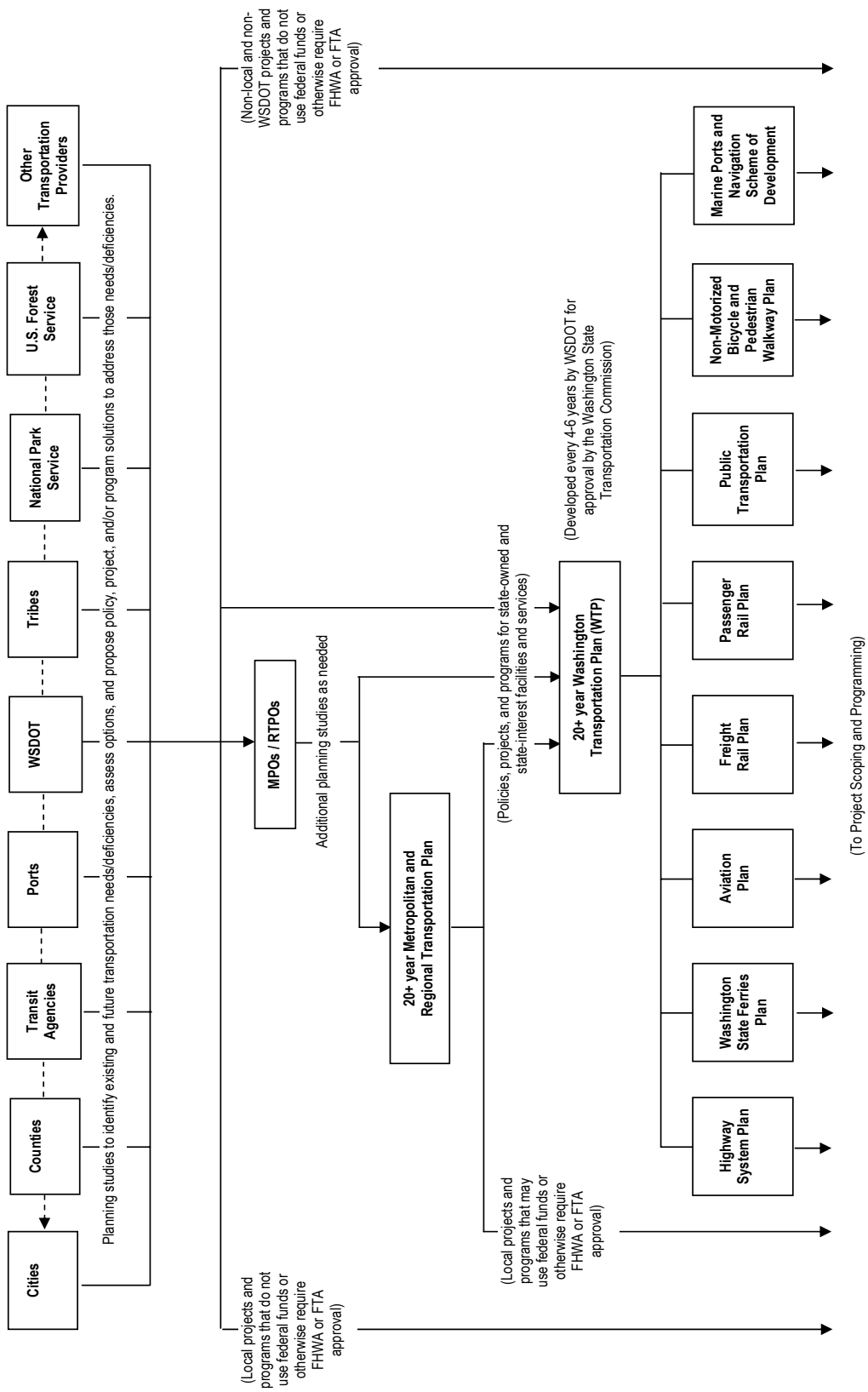
200.02 General Overview of Transportation Planning in Washington

Transportation planning is accomplished in four main phases before a project can be funded by the legislature. The four phases are planning studies, coordination with other transportation system owners and providers, creation of regional transportation plans, and development of the state transportation plan as shown in Figure 200-1.



Transportation Planning Phase
Figure 200-1

The transportation system is owned by many different private and public entities, each with their own funding sources, timelines, and legal requirements. Federal, state, and local officials recognize that coordination at the planning level is essential for the system to function effectively. Resulting legislation requires WSDOT participation in regional and metropolitan planning organizations. It also establishes a process for review and approval of transportation plans and projects before federal funding can be secured. This process is illustrated in Figure 200-2.



Transportation Planning in Washington State
Figure 200-2

Transportation Planning is an ongoing collaborative process to develop a multimodal transportation system that:

- Supports sound transportation investment decisions.
- Supports economic vitality.
- Increases safety and security.
- Increases accessibility and mobility options.
- Protects the environment and improves quality of life.
- Enhances system integration and connectivity.
- Promotes efficient system management and operation.
- Emphasizes system preservation.

WSDOT evaluates the state transportation system by conducting studies to identify current and future needs, assess options, identify environmental impacts, and identify solutions. We also participate in studies conducted by other transportation system owners and providers where the state has an interest in the facility.

WSDOT works with local agencies to ensure state facilities are considered during the development of local comprehensive plans as required by the Growth Management Act (GMA). We are members of the Metropolitan Transportation Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs) and work with these groups to build Regional Transportation Improvement Programs (RTIP). The Region Transportation Planning Offices and Strategic Planning Division conduct this work for the department. Refer to their website for more details on this process.

The Transportation Commission builds the *Washington Transportation Plan* (WTP) from the Regional Transportation Plans. The WTP establishes the strategic direction for future transportation investments. System plans for each of the modes, or modal plans (rail, aviation, transit, ferries, and bicycle/pedestrians), are components of the WTP. These modal plans are used to prioritize projects for legislative consideration for state owned and state interest facilities. The WTP is developed through a collaborative process required by state and federal legislation (RCW 47.06). The WTP is updated every four to six years.

200.03 Environmental Considerations in Transportation Planning

Planning studies may be conducted at any time during the planning process. Planning studies conducted prior to project funding will usually have generalized environmental information intended to map resources, list environmental issues, and identify areas that require further study. WSDOT considers planning studies to be categorically exempt under SEPA as information and research (see WAC 197-11-800(17) and WAC 468-12-800(3)). The department's policy is that detailed environmental documentation will be conducted during the project design phase after funding has been secured. This policy significantly reduces the cost of transportation planning. It also ensures that environmental issues are evaluated and addressed appropriately once the scope and purpose of the project has been established. For a detailed description of the planning study process and requirements, refer to the WSDOT *Planning Studies Guidelines and Criteria*.

A planning study may identify opportunities to avoid or minimize environmental impacts or identify unacceptable environmental consequences. However, WAC 197-11-070 prohibits any action that would limit the choice of reasonable alternatives until after completion of the SEPA process. Therefore, planning studies cannot preclude consideration of any reasonable alternatives during the environmental review and documentation process. However, review of the environmental analysis used in the planning process should be considered during project scoping and project development. This information is particularly helpful in identifying controversial issues and can expedite environmental review and permitting during the Design and Environmental Review stage of the project. For guidance on how information, analysis, and products from the transportation planning studies can be incorporated into the National Environmental Policy Act (NEPA) process, please see the FHWA website.

200.04 Legal Requirements for Transportation Planning

WSDOT must comply with primary planning statutes and regulations to receive state and federal funds. A complete listing of all planning relevant RCWs and CFRs can be found on the WSDOT Transportation Planning web page.

200.05 Abbreviations and Acronyms

CAA	Clean Air Act
CFR	Code of Federal Regulations
FHWA	Federal Highway Administration
GMA	Growth Management Act
HSP	Highway System Plan
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
RCW	Revised Code of Washington
RTIP	Regional Transportation Improvement Program
RTPO	Regional Transportation Planning Organization
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SEPA	State Environmental Policy Act
WTP	Washington Transportation Plan

200.06 Glossary

Categorically Exempt – An action that does not individually or cumulatively have a significant environmental effect. The action is classified as “excluded” under NEPA regulations and “exempt” under SEPA regulation.

300.01 Introduction and Overview
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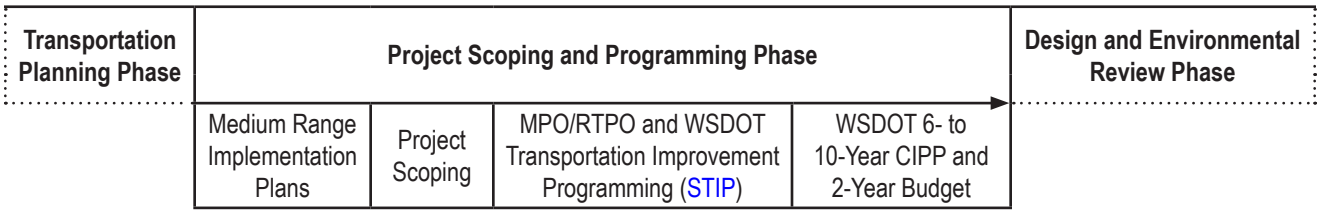
300.11 Glossary

300.01 Introduction and Overview

This chapter covers the Project Scoping and Programming phase of the Washington State Department of Transportation (WSDOT) Transportation Decision-Making Process as shown in Figure 300-1.



Project Scoping and Programming
Figure 300-1

During this phase, WSDOT develops a plan to address transportation facility deficiencies and creates a preliminary budget for consideration by the legislature. The process is required by state law (RCW 47.05.010) and is limited to solving safety, operational, and environmental deficiencies identified in WSDOT's modal plans.

Project scoping defines time and cost of work estimated for each proposed project. It is important that the permitting estimates be as realistic as possible and includes environmental documentation, permitting and compliance monitoring, as well as engineering work.

Programming refines and prioritizes the list of proposed projects. The process is based on the costs and schedule developed during Project Scoping. Through this process:

- WSDOT creates a financially constrained list of projects for consideration by the legislature. The list is based on realistic schedules and cost estimates that include all phases of the work. Projects that solve multiple deficiencies receive a higher priority for funding.

- The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) approve the Statewide Transportation Improvement Program (STIP). A project must be included in the STIP to be eligible for federal funding (Title 23 USC and the Federal Transit Act). For details on this process, see WSDOT's Local Programs website.
- The legislature considers and approves WSDOT's six- to ten-year Capital Improvement and Preservation Program (CIPP) and two-year budget. The approved plan and budget typically includes legislative modifications.

Figure 300-2 illustrates this process. For details, see Transportation Planning Study Guidelines and Criteria M 3033.

300.02 Project Scoping

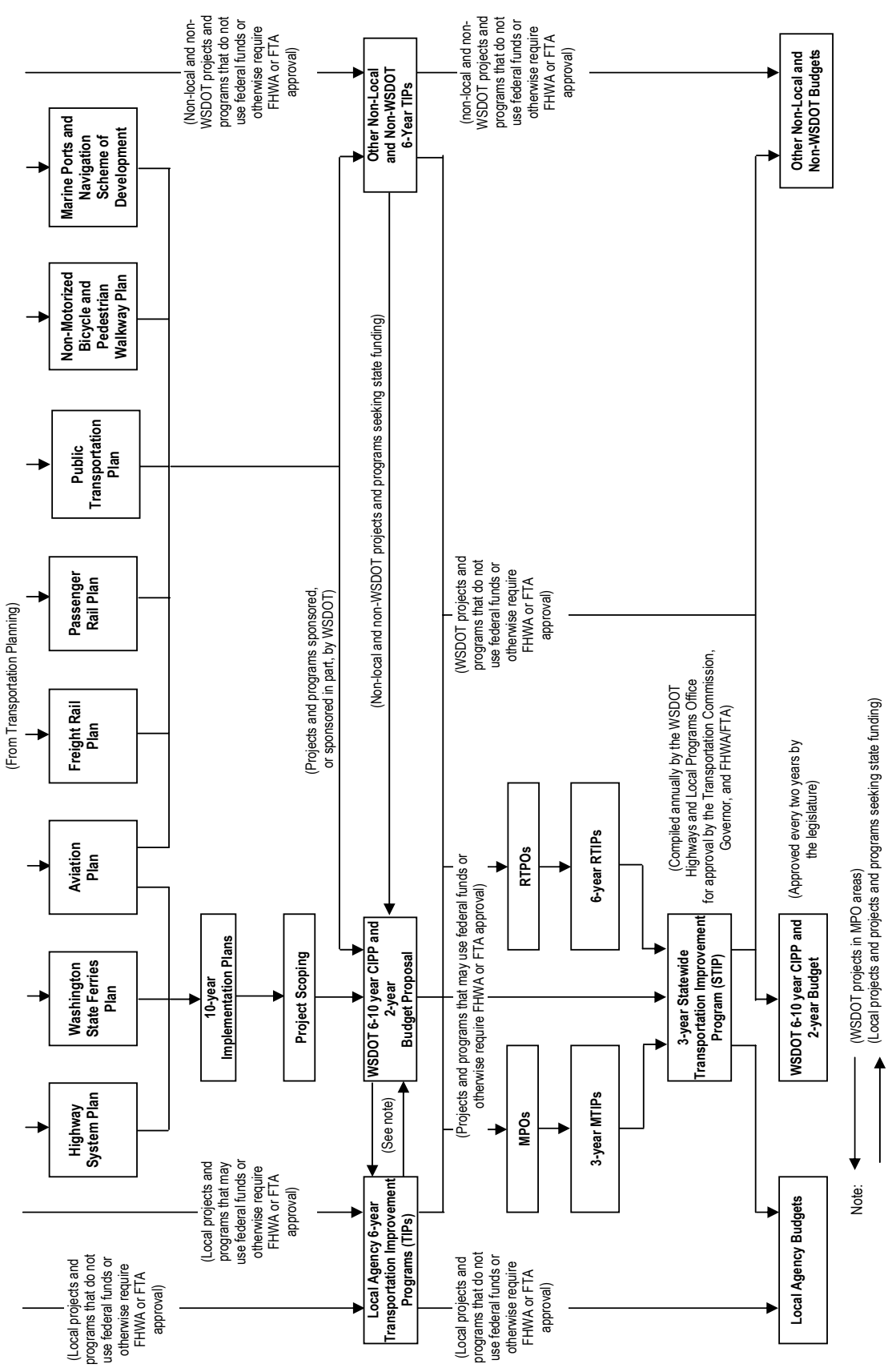
During project scoping, all major costs of the project are used to prepare a realistic schedule and cost estimate. This task is accomplished by completion of the Project Summary Form.

The Project Summary identifies the transportation needs that have generated the project, the purpose or goal of the work, and the recommended solution. It is prepared by WSDOT region staff using the WSDOT Project Summary Database (see *Design Manual* M 22-01 Chapter 300). The database consists of three forms completed by region staff:

- **Project Definition** – Identifies the project purpose and need, proposed solution, estimated cost, and a benefit/cost ratio. The cost includes the estimated cost for environmental review, permitting, and mitigation.
- **Design Decisions** – Documents the project content and design decisions made to prepare project scopes, estimates, and schedules.
- **Environmental Review Summary (ERS)** – Describes the potential environmental impacts, mitigation options, and necessary permits for the project. It establishes the initial environmental classification and documents the known baseline of environmental conditions and concerns at the very start of the project. It also identifies the key environmental elements that will be addressed through the NEPA/SEPA documentation and permitting process. This information is used to establish the schedule and budget for the project.

The completed Project Summary form is used to establish the project Classification (see Section 300.03) and level of environmental documentation (see Chapter 400) for the project. The Region Environmental Manager approves the ERS which enables completion of the Project Summary package and indicates concurrence with the project NEPA and/or SEPA Classification.

For many projects, the WSDOT Geographic Information system (GIS) Workbench coupled with a site visit provides sufficient information to fill out the ERS. The ERS database includes fully integrated help screens that provide detailed guidance. Contact your Regional Environmental Office or Program Management Office to get set up to work in the database. For CE/DCE/PCE level projects, the information in the ERS is exported to the ECS/SEPA Checklist database and become the basis for environmental documentation. See Section 300.04 Class II projects and Section 400.09 for CE documentation.



Project Scoping and Programming
Figure 300-2

300.03 Project Classification

The project classification determines the level of environmental documentation required for a WSDOT project. It is based on the information contained in the Environmental Review Summary. State projects with a federal nexus are subject to NEPA and SEPA. Projects that have only state funding and no federal nexus follow SEPA guidelines. If future funding is undetermined, NEPA guidelines are usually followed so the project can qualify for federal funding in the future.

300.04 NEPA Classifications

Projects subject to NEPA fall into one of the three classifications described below.

1. **NEPA Class I Projects** – Actions that are likely to have significant impact on the environment because of their effects on land use, planned growth, development patterns, traffic volumes, travel patterns, transportation services, or natural resources. They require preparation of an Environmental Impact Statement (EIS) (see Chapter 400) because the action is likely to have significant adverse environmental impacts. Projects that usually require an EIS, as defined in 23 CFR 771.115, are:
   - New controlled-access freeway.
   - Highway project of four or more lanes in a new location.
   - New construction or extension of fixed rail transit facilities (e.g., rapid rail, light rail, commuter rail, automated guideway transit).
   - New construction or extension of a separate roadway for buses or high occupancy vehicles not located within an existing highway facility.

   Although examples are given, it is important to remember that the size and significance of the potential impacts determine the need for an EIS, not the size of the project.

2. **NEPA Class II Projects** – are Categorical Exclusions (CE), or Documented Categorical Exclusions (DCE). These actions are not likely to cause significant adverse environmental impacts, meet the definitions contained in 40 CFR 1508.4, and are excluded from completing an Environmental Assessment or Environmental Impact Statement. The Environmental Classification Summary (ECS) serves as the environmental documentation for these types of projects (see Chapter 400).

   Each federal agency has their own list of actions that qualify as CE/DCEs, although all USDOT agencies agree that Class II projects typically:
   - Do not induce significant impacts to planned growth or land use.
   - Do not require the relocation of significant numbers of people.
   - Do not have a significant impact on any natural, cultural, recreational, historic, or other resource.
   - Do not involve significant air, noise, or water quality impacts.
   - Do not have significant impacts on travel patterns.
   - Do not otherwise, either individually or cumulatively, have any significant environmental impacts.

   FHWA divides Class II projects into three subcategories: Categorical Exclusions (CE), Documented Categorical Exclusions (DCE), and Programmatic Categorical Exclusions (PCE). The subcategory determines the documentation and approval requirements.

a. **FHWA Categorical Exclusions (CE)** – Class II Projects that do not require documentation for FHWA concurrence. Described in 23 CFR 771.117(c), and therefore known as 'c' list, projects, these actions are generally minor actions that have little or no physical impacts. These actions normally do not require further approval or documentation by FHWA. Environmental documentation for CE projects is accomplished by completion of the Environmental Classification Summary (ECS), which are approved by the Regional Environmental Manager. (See Chapter 400.)

b. **FHWA Documented Categorical Exclusions (DCE)** – Class II Projects requiring additional environmental documentation. Described in 23 CFR 771.117(d), therefore known as the 'd' list projects, have the potential for environmental impacts and require FHWA approval before the design file and environmental documentation can be completed.

   Preliminary environmental studies and/or detailed analysis may be required for DCE projects to determine the exact nature of environmental and social impacts. If the study findings are consistent with the DCE classification, environmental documentation is accomplished by completion of the Environmental Classification Summary (ECS). The ECS is signed by the WSDOT Regional Environmental Manager and sent with the federal permits and/or documentation to FHWA for approval. (See Chapter 400.)

c. **FHWA Programmatic Categorical Exclusions (PCE)** – FHWA and WSDOT signed Statewide Categorical Exclusion Programmatic Agreement on March 7, 2013. The agreement provides a list of conditions under which WSDOT can certify to FHWA that a project is categorically excluded from NEPA. (See Chapter 400.)

FTA divides Class II projects into two subcategories: Categorical Exclusions (CE) and Documented Categorical Exclusions (DCE). CEs listed in 23 CFR 771.118(c) describes minor actions that have little or no physical impacts and have been designated as CEs by FTA. These actions do not require further approval or documentation by FTA. FTA has its own process and worksheets for documenting CEs.

Class II Projects requiring additional environmental documentation by FTA (DCEs) are described in 23 CFR 771.118(d). FTA approval must be obtained before the environmental documentation can be approved for these projects.

FRA recognizes only one category of CE projects. They are described in the Federal Register (78 FR 2713 (January 14, 2013). The list of project types can be found in Section III on page 2718. FRA has their own process and worksheets for documenting CEs. Contact the Rail Division Environmental Compliance Manager for assistance.

3. **NEPA Class III Projects** – When the potential environmental impacts of a proposed project is not clearly understood an environmental assessment (EA) is prepared. The EA determines the extent and level of environmental impact.

   An EA may satisfy the requirements for a SEPA DNS, but it does not include sufficient detail to satisfy the requirements of a SEPA EIS.

   The content and complexity of an EA will vary depending on the project. See the WSDOT Environmental Assessment Process web page for details on EA documentation and procedure.

300.05 SEPA Classifications

While all agency actions technically require a SEPA determination, many of the operational and administrative tasks we undertake are exempt from the SEPA process. If an action is not exempt, it is either found to have non-significant or significant impacts.

WSDOT serves as the SEPA lead agency actions undertaken by our agency. As such, we are required to determine the level of environmental review and documentation required for an action. The SEPA determinations fall into one of three broad categories: Determination of Significance (DS), Determination of Non Significance (DNS) and Categorically Exempt (CE).

- **Determination of Significance (DS)** – Issued for actions that are likely to result in a significant adverse environmental impact. An Environmental Impact Statement (EIS) will be completed for these projects.
- **Determination of Non-Significance (DNS)** – Issued for actions that are not likely to have a significant adverse environmental impact. A SEPA checklist is required for these projects.
- **Categorically Exempt (CE)** – Determination is issued for actions that are unlikely to cause significant adverse environmental impacts. The types of projects that qualify as categorically exempt can be found in:
  - WAC 197-11-800 – Categorical exemptions listed in state SEPA rules.
  - WAC 197-11-860 – Nine categorical exemptions specific to WSDOT.
  - WAC 468-12-800 – DOT's SEPA procedures including how WSDOT has interpreted the categorical exclusions listed in state SEPA rules.

NEPA CE (Class II) projects are not always categorically exempt under SEPA. If the project is not exempt under SEPA, WSDOT must consider environmental information for the project and prepare a threshold determination (DS, DNS, or mitigated DNS).

The NEPA EA may be adopted by WSDOT to satisfy the SEPA checklist requirement (WAC 197-11-610). An addendum may be required to assure all elements of the environment, as required by SEPA, are described. In this case, WSDOT is still required to issue the DNS for the project.

300.06 Revision of Project Scope and Classification

See Section 400.06 for details on project re-evaluation and preparation of supplementary environmental documentation.

(1) NEPA Reclassification

FHWA must concur with the NEPA classification. A revised ECS must be processed for any major change in a project classification if the project involves federal funds. Minor changes may be handled informally, if FHWA concurs.

(2) SEPA Reclassification

A significant change in the scope of a state funded project usually requires revision of the ERS. This may include reassessment of the environmental classification. The Regional Environmental Office, in coordination with the Regional Program Management Office, determines if the ERS needs to be revised and the environmental classification changed. Any changes in classification are documented by a note to the file or a follow-up memo.

300.07 Highways Over National Forest Lands

WSDOT and the United States Forest Service (USFS) established procedures for coordination of transportation activities on national Forest lands in 1991 (updated in June 2013). The agreement covers coordination, project programming and planning, pre-construction, rights of way, construction/reconstruction, maintenance, signs, access control, and third party occupancy. The agreement does not apply to local agency projects. Elements that pertain to environmental analysis and documentation include the stipulation that:

- WSDOT and will coordinate with USFS, at project inception, for projects using or affecting National Forest Service lands or intersts.
- WSDOT and USFS will agree on needed environmental documents and lead agency responsibilities. WSDOT will have the primary responsibility for highway related projects.
- WSDOT and USFS will cooperate in development of a single set of environmental documents for each project and jointly seek public involvement when necessary.
- Draft and final environmental documents will be circulated to each agency for review before distribution for public comment.

300.08 Environmental Database Resources

(1) WSDOT's GIS Workbench

WSDOT's GIS Workbench is an internal data system available for use by WSDOT staff in preparing the "Environmental Considerations" portion of the ERS. The Workbench is a user friendly interface covering a wide range of environmental resources gathered from avariety of public agency and WSDOT sources.

The database has over 500 layers of environmental and natural resource management data, in the following major data categories:

- **General Reference** – Transportation routes, political and administrative boundaries, major public lands, geographic reference.
- **Environmental Data** – Air quality, fish and wildlife, priority species and habitats, geology and soils, groundwater and wells, hazardous materials, hydrography, plants, and water quality.

WSDOT users can access these data sets through the WSDOT GIS Workbench web page.

The data provided to WSDOT staff through the GIS Workbench are sufficient for Project Summary's ERS form purposes, for most disciplines. However, wetland data available from the GIS Workbench are not reliable, and may show wetlands as absent when they are present or may show wetlands as present when they are not. Field work by a qualified wetland biologist is necessary to determine the presence or absence of wetlands. Consult Ecology's Facility/Site database to identify potentially contaminated sites Hazardous Materials and Problem Waste sites (i.e. Federal Superfuhnd/NPL sites, SHWS/CSCS, LUST and USTs). (See Chapter 447 for additional guidance.)

(2) Expansion of GIS Workbench

GIS resources for environmental data are expanding rapidly. WSDOT staff works with federal, state, and local agencies to maintain a collection of the best available data for statewide environmental analysis. New data resources are being incorporated into the WSDOT GIS Workbench. To facilitate getting the best data into the system, please contact the ESO Environmental Information Program with information about newly identified data resources.

(3) Citing a GIS Database

The GIS Workbench itself should not be cited as a data source, or reference on paper or digitally. Data source or reference citation should be specific to the exact dataset viewed using the GIS Workbench. Proper form for citations referring to a digital database is evolving, but typically includes the name of the data system, the name of the agency that maintains/updates the database, and date of the data retrieval. If the data comes from an Internet website, the title of the site should be included with the full Uniform Resource Locator (URL). The citation information can be found in the Metadata (Item Description) for each Workbench dataset.

300.09 Applicable Statutes and Regulations

(1) National Environmental Policy Act (NEPA)

President Nixon signed the National Environmental Policy Act (NEPA) in January 1970 as the "national charter for protection of the environment" (PL 91 190, as amended). The intent of NEPA (40 CFR 1500 – 1508) is to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

NEPA implementing regulations applicable to all federally aided projects were developed by the Council on Environmental Quality (CEQ) and are codified as 40 CFR 1500 – 1508. FHWA regulations applicable to federally aided highway projects are codified as 23 CFR 771.

(2) State Environmental Policy Act (SEPA)

Washington's State Environmental Policy Act (SEPA) (RCW 43.21C), adopted in 1971, directs state and local decision makers to consider the environmental consequences of their actions. State SEPA Rules are maintained by the Washington State Department of Ecology (Ecology). The SEPA Rules (WAC 197-11), and Ecology's guidance, the SEPA Handbook, are posted on the Ecology SEPA web page.

WSDOT's Agency SEPA procedures (WAC 468-12, as amended) are located at the Office of the Code Reviser website.

300.10 Abbreviations and Acronyms

CE	Categorical Exclusion (NEPA) or Categorical Exemption (SEPA)
CFR	Code of Federal Regulations
CIPP	Capital Improvement and Preservation Program
DCE	Documented Categorical Exclusion (NEPA)
DNS	Determination of Nonsignificance
DS	Determination of Significance
EA	Environmental Assessment
ECS	Environmental Classification Summary
EIS	Environmental Impact Statement
ERS	Environmental Review Summary
ESO	Environmental Services Office
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
MAP-21	Moving Ahead for Progress in the 21st Century
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
PCE	Programmatic Categorical Exclusion
PS&E	Plans, Specifications, and Estimates
RTPO	Regional Transportation Planning Organization
SEPA	State Environmental Policy Act
STIP	Statewide Transportation Improvement Program
TIP	Transportation Improvement Program

300.11 Glossary

Categorical Exclusion – A NEPA action that does not individually or cumulatively have a significant environmental effect. (See Section 300.04(a).)

Categorical Exemption – A SEPA action that does not individually or cumulatively have a significant environmental effect. (See Section 300.05.)

Documented Categorical Exclusion – A NEPA action that requires additional environmental documentation to qualify as categorically excluded. (See Section 300.04(b).)

Federal Nexus – A project has a federal nexus, and therefore environmental impacts must be evaluated under the NEPA, when there is a connection with the federal government. Federal connections include:

- Federal land within the project area.
- Federal money is used on the project.
- Federal permits or approvals are required.

MAP-21 – The Transportation Authorization Bill passed on July 6, 2012. It guides the nation's surface transportation program, creates a streamlined, performance-based surface transportation program and builds on many of the highway, transit, bike and pedestrian programs established in 1991.

Project Scoping – A phase of the WSDOT Transportation Decision Making Process designed to ensure region staff incorporates all major costs of the project in funding estimates. Engineering and environmental factors must be included to generate a realistic schedule and cost estimate for the legislature's consideration. This work is accomplished in the Project Summary and identifies the key environmental elements that will be addressed through NEPA/SEPA and permitting.

Programmatic Categorical Exemption – A project that qualifies as categorically exempt for NEPA under the FHWA 2013 CE Programmatic Agreement. (See Chapter 400.)

Chapter 400 Environmental Review (NEPA/SEPA) and Transportation Decision Making

400.01 Defining a Transportation Project for Environmental Review
400.02 Roles and Responsibilities
400.03 Identifying the Type of Environmental Document
400.04 NEPA/SEPA Procedures
400.05 Ensuring Environmental Document Quality
400.06 Using Existing Environmental Documents
400.07 Documenting an Environmental Impact Statement (EIS)
400.08 Documenting an Environmental Assessment (EA)
400.09 Documenting Categorical Exclusions/Exemptions (CE)
400.10 Environmental Document Legal Considerations
400.11 Applicable Statutes and Regulations
400.12 Abbreviations and Acronyms
400.13 Glossary

400.01 Defining a Transportation Project for Environmental Review

WSDOT projects transition from the Planning (Chapter 200) and Programming (Chapter 300) phase of the WSDOT Transportation Decision Making Process, to the Environmental Review phase when the project receives federal or state funding. The Environmental Review phase includes:

- Establishing the type of environmental documentation.
- Developing and analyzing alternatives, as appropriate.
- Analyzing and documenting environmental impacts
- Involving the public, tribes, and federal and state resource agencies in the decision making process.
- Selecting an alternative and making environmental commitments (work on permits begins in this phase).
- Finalizing and approving the project.

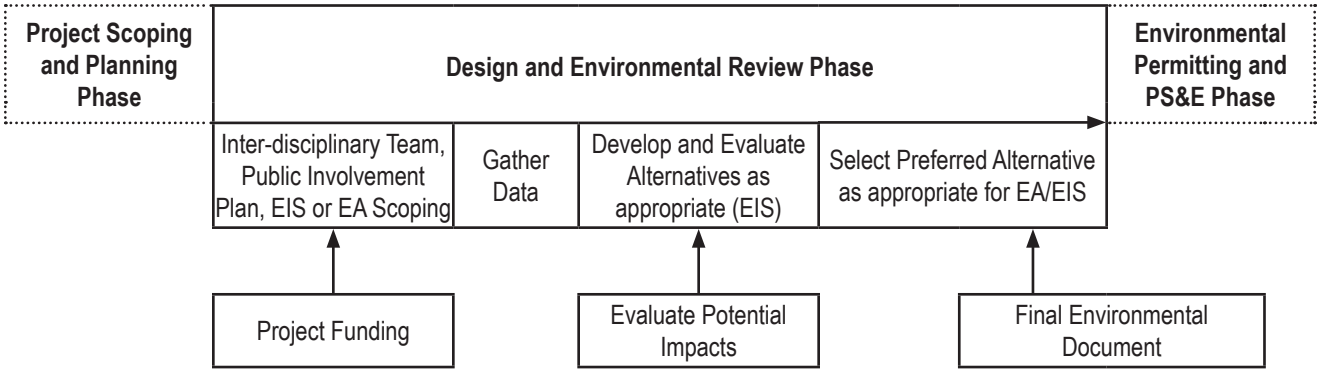
As illustrated in Figure 400-1.

The Environmental Review phase ends with approval of environmental documentation including:

- NEPA/SEPA (Chapter 400)
- Endangered Species Act (Chapter 436)
- Section 106 of the National Historic Preservation Act (Chapter 456)
- Section 4(f) of the Department of Transportation Act (Chapter 457)
- Section 6(f) Outdoor Recreation Resources (Chapter 450)

After the environmental documents are finalized environmental permits can be issued and PS&E can begin. Also, if applicable, FHWA can approve the Interchange Justification Report (IJR) – refer to *Design Manual* M 22-01 Chapter 550 for a description of the required procedures, analysis, and coordination with the environmental documentation process.

WSDOT projects are required to comply with NEPA when those projects involve a federal action. That federal action could be an approval (land, access break, etc.), funding, or a permit. When WSDOT initially scopes a project it determines whether or not a project will require NEPA, and the likely documentation path. This decision is routinely made between the federal lead, Program Management, and the Region/Modal Office.



Environmental Review and Transportation Decision Making
Figure 400-1

400.02 Roles and Responsibilities

(1) Lead Agencies

Federal and state laws require designation of an agency to lead the environmental review process. CEQ 40 CFR 1501.5 lists factors to consider in determining federal lead agency, as well as the process for resolving lead agency disputes. Likewise, guidance for determining lead agency for SEPA is found in WAC 197-11-922. The primary role of the federal NEPA lead agency is to provide guidance and to independently evaluate the adequacy of the environmental document (see 42 USC 4332(2)(D) and 23 CFR 771.123).

Federal NEPA leads are determined by considering a project's federal nexus. A federal nexus involves a major federal action including federal funding, permitting or approval of the proposed action. Most WSDOT projects involve FHWA as the NEPA lead.

Agencies may co-lead the environmental review if the project is funded by more than one federal agency. Other federal agencies may assume lead or co-lead agency status if they have contributed project funding, or have additional approval responsibilities. Potential NEPA co-leads include, but are not limited to:

- Federal Transit Administration (FTA)
- Federal Aviation Administration (FAA)
- Federal Railroad Administration (FRA)
- U.S. Army Corps of Engineers (Corps)
- United States Coast Guard (USCG)
- United States Forest Service (USFS)

Each federal agency has its own unique regulations and processes to implement NEPA. WSDOT staff is advised to contact any federal lead or co-lead agency to understand their NEPA requirements and define the role of each co-lead before settling on a strategy to complete NEPA.

WSDOT, FHWA, and the local government agency share co-lead agency status under NEPA for local agency projects funded by FHWA. Together, the co-lead agencies approve and sign the NEPA environmental document. However, the local agency is the lead agency responsible for SEPA.

WSDOT is the SEPA lead agency (WAC 197-11-926) for transportation projects it identifies on the state system. In accordance with state law, WSDOT has adopted its own rules and procedures for implementing SEPA (WAC 468-12). WSDOT's SEPA responsibilities are based on its authority to site, design, construct and operate state transportation facilities. WSDOT typically prepares, approves and signs its own SEPA documents.

(2) Cooperating/Consulted Agencies

Under NEPA regulations, any federal agency with jurisdiction must be asked to become a cooperating agency. By serving as a cooperating agency, the agency can ensure that any NEPA document needed for the project will be crafted to also satisfy the NEPA requirements for its particular jurisdictional responsibility. WSDOT's policy is to invite non-federal agencies and tribes to be cooperating agencies when they have jurisdiction or special expertise. See Table 400-1 for examples of potential cooperating agencies.

Cooperating agencies participate in "EIS or EA Scoping" to identify potential environmental impacts, alternatives, mitigating measures, and required permits. They review and comment on EA/EIS level projects. They may also prepare special studies or share in the cost of the environmental documentation. The terms and requirements of agency involvement under SEPA are similar to that of NEPA. For regulatory guidance, see CEQ 40 CFR 1501.6, FHWA 23 CFR 771.109 and 771.111, WAC 197-11-408(2)(d), WAC 197-11-410(1)(d), WAC 197-11-724, and WAC 197-11-920.

The lead and the cooperating agencies should define and agree on roles and expectations at the beginning of the project. For NEPA EISs, project teams will define the roles and expectations in an EIS Coordination Plan (see the NEPA/SEPA Guidance web page for additional information on developing an EIS Coordination Plan).

1. **Requesting Cooperation** – According to CEQ regulations, federal agencies with jurisdiction must accept cooperating agency status. The federal NEPA lead can accept an agency's decision to decline cooperating agency status if the agency's written response to the request states that its NEPA regulations do not require an EIS in response to the proposed action.
2. **WSDOT as a Cooperating Agency** – Other agencies may ask WSDOT to become a cooperating agency for actions where WSDOT is not the lead agency. This could occur on projects when a landholding agency, such as the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, or a tribal government, proposes a project that could impact WSDOT facilities. County and municipal transportation organizations could also involve WSDOT as a cooperating agency for SEPA compliance.
3. **Local Agencies** – That receive funds through WSDOT's Local Programs Office can be cooperating agencies as well. More information regarding Local Agencies can be found in the Local Programs Environmental Classification Summary Guidelines.

(3) Participating Agencies

Federal transportation law also allows "participating agency" status. This term is unique to USDOT's compliance with NEPA. The intent of the participating agency is to encourage governmental agencies with an interest in the proposed project to be active participants in the NEPA EIS evaluation. Designation as a participating agency does not indicate project support, but it does give invited agencies new opportunities to provide input at key decision points in the process.

Any federal, state, tribal, regional, and local governmental agencies that may have an interest in the project should be invited to serve as participating agencies. Non-governmental organizations and private entities cannot serve as participating agencies. A participating agency differs from a cooperating agency in the level of involvement that agency has in a project. An agency with jurisdiction by law or special expertise in regards to environmental impacts should be more involved, and therefore invited to be a cooperating agency. An agency with limited interest, or a small action associated with the larger project should be invited to be a participating agency.

Care should be taken when evaluating your list of potential participating agencies. It is not necessary to invite agencies that have only a tangential, speculative, or remote interest in the project. The same agencies listed in Table 400-1 may be asked to be participating agencies.

The roles and responsibilities of participating agencies include but are not limited to:

- Identifying potential environmental or socioeconomic impacts that could substantially delay or prevent an agency from granting a permit or other approval that is needed for the project.
- Participating in the NEPA process, especially with regard to the development of: the purpose and need statement; range of alternatives; methodologies; and, the level of detail for the analysis of alternatives.
- Providing meaningful and timely input on unresolved issues.

Expectations and commitments about agency participation should be addressed in the EIS Coordination Plan (see the NEPA/SEPA Guidance web page). It is appropriate to tailor an agency's participation to its area of interest or jurisdiction.

(4) Tribal Participation

Tribes can be involved in four capacities under NEPA:

- As a cooperating agency (with expertise and/or jurisdiction);
- As a participating agency on EIS projects;
- As a consulted party;
- As an affected community.

See Chapter 530 and the WSDOT Tribal Consultation web page for guidance on when and how to consult with tribes during the NEPA environmental review process on projects.

Agency	Jurisdiction
U.S. Army Corps of Engineers	Section 10 and Section 404 Permits, including wetland fill activities
U.S. Coast Guard	Bridge Permits
Environmental Protection Agency (USEPA)	Sole Source Aquifers Hazardous Waste Site Water Supply, Air Quality
National Park Service	Impacts to properties funded thru the Land and Water conservation Fund Act (Section 6(f)) and review of 4(f) Evaluations
U.S. Fish & Wildlife Service (USFWS)	Areas funded under various fish and wildlife related grant programs or projects affecting endangered species (ESA)
Federal Transit Administration (FTA)	Projects with transit funding
Federal Aviation Administration (FAA)	Airspace, hazardous wildlife, airport facilities, and other air transportation activities
Rural Electrification administration (REA)	Relocation of utilities constructed or assisted with REA loans
Federal Agency Land Manager: National Park Service USFWS Bureau of Land Management U.S. Forest Service Department of Defense General Services Administration	Land transfer from: National Park System National Wildlife Refuge Public Lands National Forest System Military Facilities Federal Buildings
NOAA Fisheries	ESA, fish and wildlife natural habitat, wetlands, stream relocations, estuaries
Federal emergency Management Agency	Regulatory floodway
Tribal Governments	Agency with expertise or jurisdiction
Washington State Agencies: Dept. of Archaeology & Historic Preservation Dept. of Ecology Dept. of Fish and Wildlife Dept. of Natural Resources	Agency with expertise or jurisdiction, Historic, cultural and archaeological sites Wetlands, water quality, stream relocations, estuaries Fish and wildlife natural habitat, wetlands, water quality, stream relocations, estuaries Use of state owned aquatic lands
City/County Governments	Shorelines, floodplains, critical areas ordinances, Growth Management Act issues

Potential Cooperating Agencies
Table 400-1

(5) Public Involvement

Public involvement and a systematic interdisciplinary approach (involving other agencies with jurisdiction/expertise) are essential parts of the transportation project development process (23 CFR 771.105(c)). NEPA and SEPA require notification and circulation of environmental documents (i.e., NEPA EAs, EISs, SEPA DNSs, MDNSs, and EISs) to allow consideration of public input before decisions are made. Lack of public notice can justify an appeal of the procedural aspects of NEPA and SEPA processes.

There are no public notice requirements for NEPA or SEPA CEs, but open houses, newsletters, and other public outreach are encouraged to be done for any transportation projects. The project's complexity and/or level of controversy should be used to judge the right amount of public involvement.

WSDOT's agency guidance on public involvement is detailed in *Design Manual* M 22-01 Exhibits 210-1 through 210-4.

(6) WSDOT Internal Roles and Responsibilities

See the NEPA Documentation Role Summary Table for WSDOT Projects – WSDOT and FHWA Roles summarizing WSDOT and FHWA NEPA/SEPA roles and responsibilities.

Projects with WSDOT as the Lead Agency

1. WSDOT Region Offices and Modes lead the project, manage the process and conduct the analysis.
2. The Environmental Services Office (ESO) supports the regional offices and modes and develops policies, programs, and initiatives to implement the agency's environmental policy and to assist with project delivery. ESO staff assists region and mode staff by ensuring document quality and providing an independent third party review prior to signature.

   The Director of Environmental Services is the Responsible Official for all NEPA EIS/EAs and SEPA EISs in both draft and final format. For all other NEPA and SEPA documents, the Responsible Official is the Regional or Modal Environmental Manager. This applies to all projects where WSDOT is the lead agency, including ferry and rail projects. The Responsible Official is the signatory authority for the document. The Agency Responsible Official:
   - Verifies whether the project has significant impacts and the appropriate level of study needed to describe the impacts.
   - Assures the procedural requirements of NEPA/SEPA have been satisfied, including public involvement (as appropriate), comment and response.
   - Ensures the project has been identified as being fiscally constrained (for example listed on the STIP).
   - Signs environmental documents to verify the document's adequacy and that document quality standards have been met.
3. NEPA EISs, EAs and SEPA EISs prepared by regional offices and modes are reviewed by ESO before they are submitted as final. The ESO Director signs these documents along with FHWA, or other federal oversight agencies for NEPA purposes. The ESO Director signs SEPA EISs as the agency approver.

Projects with a Local Public Agency as the Lead Agency

Local Programs Office oversees the distribution of federal funds to cities and counties. The Local Programs office reviews NEPA environmental documents submitted by local governments for approval by FHWA. The *Local Agency Guidelines* M 36-63 provides more details on NEPA and SEPA procedures for local government projects.

400.03 Identifying the Type of Environmental Document

Projects are classified for environmental review purposes during Project Scoping. This process is documented using WSDOT's Environmental Review Summary for WSDOT led projects. Local agency scoping is handled differently, according to each local jurisdiction's process. Chapter 300 contains a detailed description of the NEPA and SEPA classification systems. The SEPA or NEPA classification reflects the level of potential environmental impact and controls the type of environmental document as shown below.

- Class I projects require an EIS.
- Class II projects are Categorically Excluded from the NEPA process or Categorically Exempt from the SEPA process. For FHWA projects, NEPA Categorical Exclusions are documented with the ERS/ECS – SEPA Checklist database. FTA and FRA use CE worksheets to document their decisions. For local agency projects see the *Local Agency Guidelines* M 36-63. If you need access to the appropriate form to document a NEPA CE please contact your environmental staff.
- Class III projects require a NEPA Environmental Assessment (EA) or a SEPA Environmental Checklist to determine project impacts. Depending on level of impact from these documents, an EA results in a Finding of No Significant Impacts (FONSI) or a Notice of Intent to develop an EIS (if project impacts are found to be significant. Similarly, an Environmental Checklist leads to a Determination of Non-Significance (DNS), a Mitigated DNS (MDNS), if significant impacts can be alleviated through project conditions, or a Determination of Significance (DS) and Scoping Notice to draft an EIS. (WAC 197-11-310).

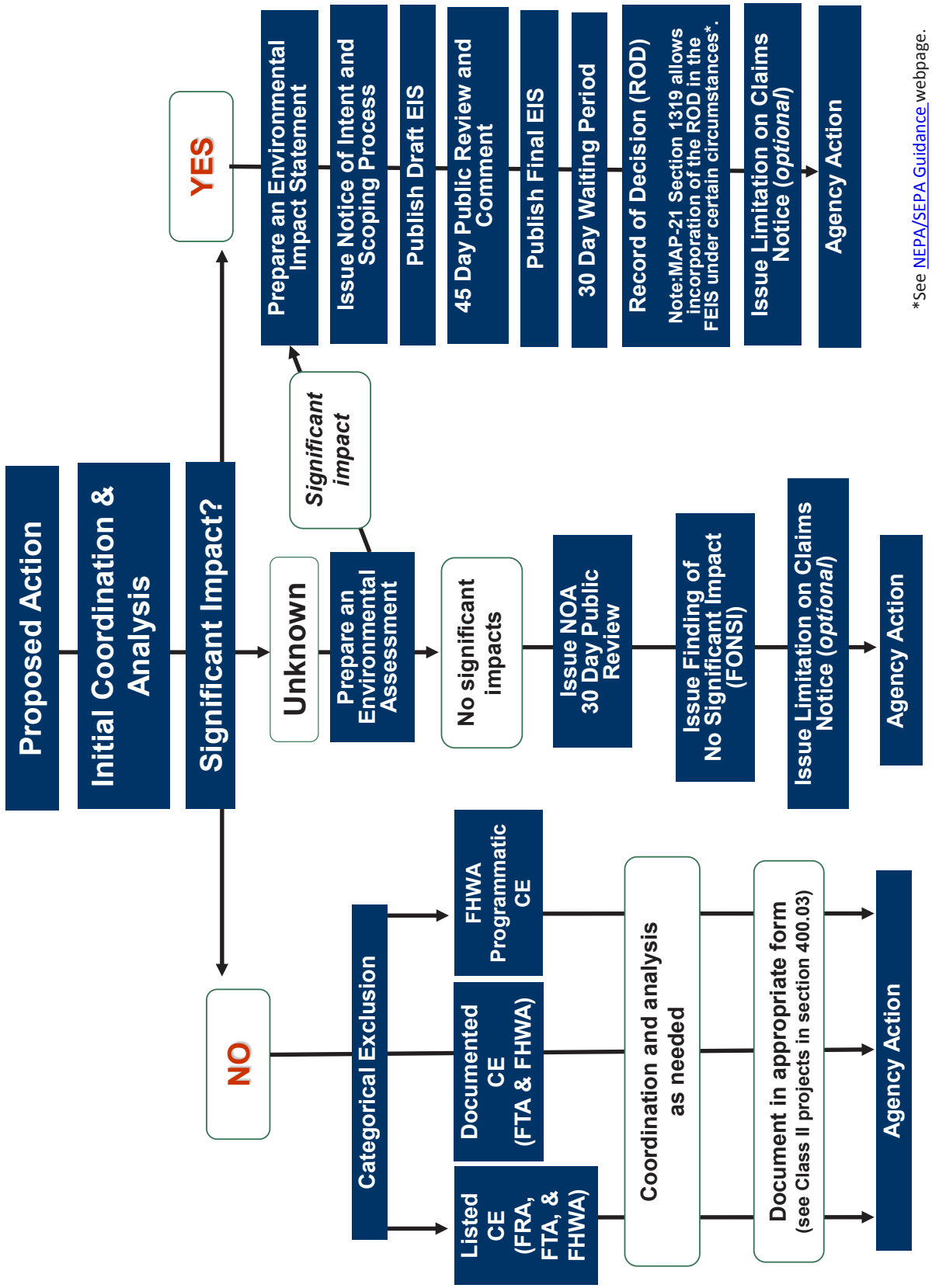
Projects excluded from NEPA review may still require SEPA review (WAC 197-11-660). Likewise, projects categorically exempt under SEPA may require additional documentation for the NEPA process.

Each level of environmental review (CE, EA/DNS, EIS) requires WSDOT and local agencies to comply with a set process and complete a specific type of environmental document. Figure 400-2 shows the NEPA process and document type required for each level of environmental review. Figure 400-3 shows the SEPA process and document type. The time required for environmental review varies for each documentation type.

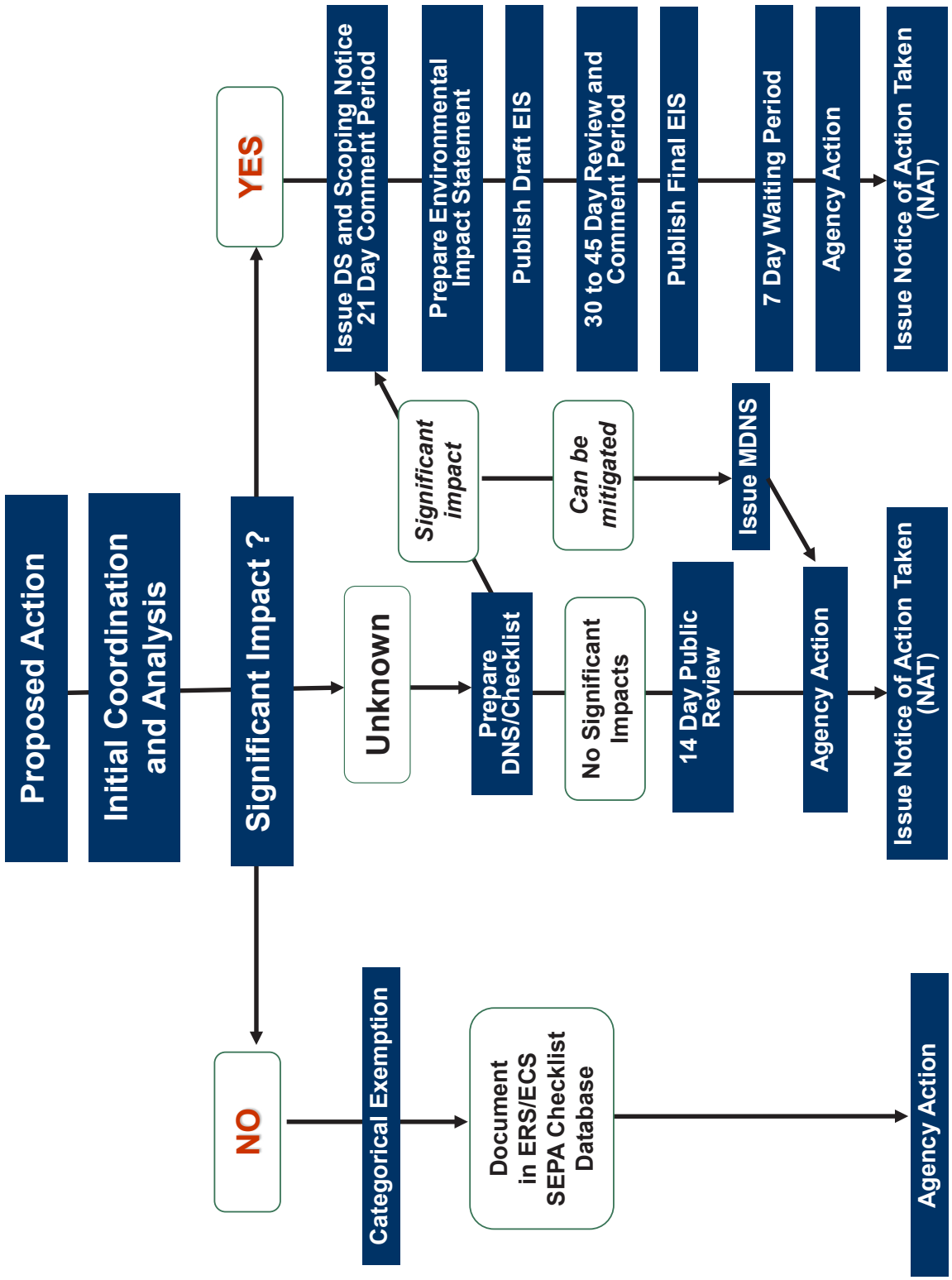
400.04 NEPA/SEPA Procedures

Procedures supporting these policies can be found on the NEPA/SEPA Guidance web page. The web page allows the reader to follow a step by step process for completing NEPA and SEPA documentation. The web page also includes a description of how agency roles to complete the NEPA/SEPA process are carried out.

The following sections include general document requirements, and specific NEPA/SEPA documentation policies. General document requirements include how to ensure document quality and standard messages each document must have.



NEPA Environmental Review Process
Figure 400-2



SEPA Environmental Review Process
Figure 400-3

400.05 Ensuring Environmental Document Quality

Well written documents make it easy for government agencies and interested citizens to understand the project, encourage timely issue resolutions, reduce project costs and help us meet project deadlines.

(1) Document Standards and Plain Talk

WSDOT's environmental documents follow the agency wide standards set in the *Communications Manual* M 3030. WSDOT staff can access that manual on the intranet. Consultants and local agencies may request the manual by contacting 360-705-7075.

Documents that are prepared for external audiences, especially those that circulate to the public and agencies for review and comment, must adhere to the agency wide standards as defined in the *Communications Manual* M 3030.

EISs and EAs should be as concise as possible. Both NEPA and SEPA suggest page limits, which serve as useful reminders that the objective is to summarize the relevant information – not to include every detail. The main body of the document should focus on what is relevant to the decision and include enough information to support the decision without having to refer to additional supporting materials.

The first and most important decision to consider is whether or not a discipline report is needed. Supporting materials for technical and legal reviewers, such as discipline reports, correspondence, public and agency comments, etc., should be provided in the appendices, or incorporated by reference. Guidance for determining when, and procedures for how, to write discipline reports can be found on the NEPA/SEPA Guidance web page.

WSDOT's Reader Friendly Tool Kit provides specific tools for developing EISs and EAs. Discipline reports, intended for specific technical audiences, do not need to adhere to the standard reader friendly format. However, they must be clearly written following the plain language principles. The WSDOT Region and Modal Teams have access to examples of reader friendly environmental documents and can provide those to others upon request.

(2) Publication Standard Messages

Several standard messages must be included in all environmental documents to meet federal requirements. Specific text and information for placement of text in the document is provided on the NEPA/SEPA Guidance web page. Standard messages include:

- Availability and cost of environmental document
- Title VI and ADA compliance
- A statement not to distribute internal/working drafts to the public or agencies that are not cooperating agencies.

In addition, WSDOT does not allow consultant logos in environmental documents because those documents are owned by the agency.

400.06 Using Existing Environmental Documents

NEPA CEQ regulations and SEPA rules allow the use of existing documents to reduce duplication and unnecessary paperwork. If an analysis has already been done for the proposed project or a similar project, use it as long as it is still up to date. Existing documents can be used in any of the following ways:

- Adoption (40 CFR 1506.3 and WAC 197-11-630)
- Addendum (40 CFR 1502.9 and WAC 197-11-625)
- Incorporation by Reference (40 CFR 1502.21 and WAC 197-11-635)
- Supplemental EIS (40 CFR 1502.9 and WAC 197-11-620)

(1) Re-evaluations

1. **NEPA** – WSDOT conducts NEPA re-evaluations when it is necessary to determine whether existing documents adequately address environmental impacts of a project. In compliance with 23 CFR 771.129-130, WSDOT re-evaluates final environmental documents when:
   - There is a substantial change in project scope or proposed action and it is uncertain if a supplemental environmental document is required. Examples include added capacity which is likely to require a review of the traffic, air quality and noise impacts, or shifts in alignment which may require review of other studies. Likewise, changes in ESA listed species that are impacted by the project may create the need to develop a supplemental environmental document.
   - Major steps to advance the project (such as right of way or construction funding authorizations) have not occurred within three years of a ROD, FONSI, or issuance of the environmental document. Factors that may contribute to the need for a re-evaluation include an outdated traffic analysis or wetland delineation. Failure to submit an acceptable FEIS within three years of the date of DEIS circulation will also trigger the need for a NEPA re-evaluation.

   WSDOT or the federal NEPA lead can initiate a NEPA re-evaluation. FHWA will likely re-evaluate environmental documentation at key points of the project development: Final Design, Right of Way Acquisition, and Construction. The FHWA Area Engineer may make an informal inquiry with a note to the project file or request that the project office complete a formal re-evaluation.

   For CEs project changes can typically be documented with a letter to file or a new ECS.

   There is no required format for a written re-evaluation. Check with the federal NEPA lead to ensure you are following their procedures.

   - For FHWA, re-evaluations can be documented with a letter, memo, or in the ERS/ECS database within the Environmental Documentation tab (When printed, Part 2 of the ECS form will identify the document as a re-evaluation.). When determining which method to use, consider how much justification/explanation is needed, how extensive the changes are, and whether or not action has already been taken on the project (e.g. acquisition).

Answers to relevant questions in a NEPA re-evaluation should be brief and to the point. A two to three sentence explanation is usually adequate. However, project teams should incorporate as much additional information as required to explain changes in environmental impacts and support conclusions.

- Federal review and approval of the re-evaluation document is required. See guidance on the EA Process, EIS Process, or CE Process web pages.

A re-evaluation is not a supplemental environmental document. If supplemental information is required by the FHWA Area Engineer, a re-evaluation cannot be used.

2. **SEPA** – Under (WAC 197-11-600(4), 197-11-620, 197-11-625) SEPA requires a re-evaluation if changes occur to a project or its surroundings, or potentially significant, new, or increased adverse environmental impacts are identified during other phases of project development, SEPA has no specific requirements for re-evaluation. The regional office determines if the approved environmental document or exemption designation is still valid:
   - If the project changes, or analysis of new information, would not change the significance of the project's impacts, changes are noted in an addendum to the original environmental documentation or determination. An addendum to an EIS must be circulated to all recipients of the original document. Addenda to other determinations (i.e., on a SEPA DNS or MDNS) may, but are not required to, be circulated.
   - If project changes result in significant adverse environmental impacts, changes are documented with supplemental environmental information (i.e., through an EIS, or Supplemental EIS).
   - The re-evaluation process is not used for CEs. Project changes are documented with a new categorical exemption.

(2) Supplemental Documents

Supplemental documents are drafted when existing environmental documents don't cover the breadth or scope of impacts of a project. Supplemental documents are generally required:

- When there is a substantial change in the project scope.
- If the project's selected alternative changes.
- When a new alternative outside the scope of the ones considered in the original analysis is being considered.
- When impacts or mitigation requirements have substantially changed since issuance of the environmental documents.

The FHWA Area Engineer or other federal lead will determine when a NEPA supplemental document is required. NEPA supplemental documents include a Supplemental DEIS (SDEIS), or a new DEIS. (23 CFR 771.130 and 40 CFR 1502.9).

SEPA supplemental documents include a Supplemental EIS (SEIS), or an addendum to a DEIS or FEIS (WAC 197-11-620). Scoping is not required for a SEPA SEIS or supplementing and adopting an EA. Although scoping may be helpful for a new DEIS.

There is no required format for a supplemental NEPA EIS. Because the process is similar to that of an EIS, there is a Draft and a Final SEIS. However, the FHWA Technical Advisory T 6640.8A on pages 49 and 50 directs that the following information be supplied:

- Sufficient information to briefly describe the proposed action.
- The reason why the SEIS is being prepared.
- Status of a previous DEIS or FEIS.
- Only address changes that required the SEIS to be written and new information that was not available.
- Reference and summarize previous EIS as appropriate.
- Update status of compliance with NEPA and the results of any re-evaluations.

Supplemental environmental documents shall be reviewed and distributed in the same manner as the original DEIS. See the WSDOT NEPA/SEPA Guidance web page for guidance.

(3) Using NEPA Documents for SEPA

All WSDOT projects with federal funding will require NEPA and SEPA documentation. Completing the NEPA and SEPA process concurrently in the same document is preferred when a project requires an EIS. When a NEPA EA is required for a project, it is often easier to adopt the NEPA EA for SEPA purposes. Because the timelines are so different, but the details of analysis required by both laws are so similar, adopting an EA for SEPA and issuing a SEPA determination is much more efficient than running the two processes simultaneously. Just as with an EA, the SEPA determination for an adopted EA can be either a DNS or a DS. If the lead agency determines the information in an EA suggests the project will have significant adverse environmental impacts and therefore issues a DS for the project, the agency will initiate scoping and develop a SEPA EIS.

400.07 Documenting an Environmental Impact Statement (EIS)

An EIS is prepared for projects that are likely to significantly affect the environment or when there is substantial controversy on environmental grounds. EISs are prepared for both NEPA (Figure 400-2) and SEPA (Figure 400-3) projects. The process is very similar as illustrated in Figures 400-2 and 400-3. See the EIS process web page for step by step guidance.

(1) Scoping

Scoping is required for a NEPA EIS (40 CFR 1501.7, 23 CFR 771.105(a-d), 23 CFR 771.119(b), 23 CFR 771.123, WAC 197-11-408). Scoping is not required for a NEPA supplemental EIS; however, the co-lead agencies may decide to hold an open house early in the supplemental EIS process.

The purposes of scoping are:

- To present the project Purpose and Need and solicit comment.
- To present the range of alternatives that will be considered in the environmental document and solicit comments.
- To initiate the public involvement process, invite and solicit comments from affected citizens, businesses, organizations, agencies and tribes.

- To identify potential environmental impacts and benefits of the proposed action.
- Begin documenting the rationale for subsequent decisions.

Guidance for how to design the scoping process is provided on the NEPA/SEPA Guidance web page.

1. **Notice of Intent (NOI)** – NEPA CEQ regulations require that a Notice of Intent (NOI) to prepare an EIS be published in the Federal Register prior to initiating EIS scoping. Project teams may include the scoping notice in the NOI. Once complete, the federal lead sends the notice to be published in the Federal Register.

2. **Purpose and Need Statement** – Explains the importance of the project. It demonstrates problems that exist or will exist if a project is not implemented. The Purpose and Need Statement drives the process for alternative development, analysis, and selection. It should clearly demonstrate that a "need" exists and should define the "need" in terms understandable to the general public such as mobility, safety, or economic development.

   The lead agency makes the final decision on the project's purpose and need. However, they must provide opportunities for participating agencies and the public to comment on the purpose and need and they must consider the input provided by these groups. The opportunity for involvement occurs during EIS scoping.

   FHWA guidance on developing a draft purpose and need statement is found on their Environmental Review Toolkit website.

3. **Alternatives to the Proposal** – The environmental document includes a comparison of impacts for different alternatives to the proposal. An EIS must discuss the no build alternative and should include a reasonable range of build alternatives.

   Although the lead agencies make the final decision on the project's range of alternatives, they must provide opportunities for involvement by participating and cooperating agencies and the public. The opportunity for involvement occurs during EIS scoping. Comments and responses are documented in the scoping process.

   The DEIS evaluates the alternatives to the action and discusses why other alternatives, that may have been initially considered, were eliminated from further study.

   a. **NEPA Criteria for Alternatives** – The No-Build alternative must be included and serves as the baseline condition for comparison of all other alternatives. The No-Build alternative may include improvements that have not been constructed but are already funded in a separate project. Normal maintenance activities (such as safety improvements) that are part of routine operation of an existing roadway also may be included. Typical alternatives may include:
      - Improvements to the existing facility.
      - Multimodal transportation alternatives.
      - Alternative routes and/or locations.
      - A combination of the above alternatives.

      For guidance on alternative development, see FHWA technical guidance TA 6640.8A.

b. **SEPA Criteria for Alternatives** – SEPA Rules (WAC 197-11-440(5)) require an EIS to describe and present the proposal and other reasonable alternative courses of action. The use of the word reasonable is intended to limit the number and range of alternatives and the level of analysis required for each alternative. Reasonable alternatives include:

- Actions that could easily attain or approximate a proposal's objectives at a lower environmental cost, or decreased level of environmental degradation.
- The "no action" alternative, which shall be evaluated and compared to other alternatives.
- Alternatives over which an agency has authority to control impacts, either directly or indirectly, through requirement of mitigation measures.

4. **Evaluate Scoping Comments** – All scoping comments received from the public and other agencies must be evaluated to determine the relevance of each comment. All relevant issues must be addressed in the environmental document.

   Lead agencies are not required to send a written response to every individual comment received. However, to maintain credibility during the environmental process, all scoping comments – whether relevant or not – need to be evaluated and addressed. Consider comments received by email the same as those made in person or by letter.

   Comments may be listed individually, or grouped and summarized under general headings. Responses may be as simple as stating that the issue will be addressed in detail in the environmental document. If an issue raised during scoping will not be addressed in the environmental document, the response should explain the reason why it will not be included.

   Comments received during scoping and responses to those comments may be documented in a scoping report for the project file. Discuss the scoping process and the comments received in the section of the environmental document that describes public and agency participation and comments received. Comments and responses may also be summarized in handouts at public meetings and in newsletters.

   Scoping comments must be taken into consideration before developing the final Purpose and Need Statement and the range of alternatives that will be evaluated in the environmental document.

(2) Draft Environmental Impact Statement (DEIS)

A DEIS identifies project alternatives, which are compared to each other to present an analysis of the alternatives' relative impacts on the environment. It may identify a recommended course of action if one alternative is clearly preferred. The DEIS summarizes the early coordination and EIS scoping process, identifies key issues, and presents pertinent information obtained through these efforts.

1. **Affected Environment** – NEPA regulations (40 CFR 1502.15) require environmental documents to succinctly describe the existing environment of the area(s) to be affected or created by the proposed action. Descriptions should be no longer than is necessary for the reader to understand the relative impacts of the alternatives. Data and analysis should be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced.

It is recommended that the description of the affected environment and the discussion of impacts and mitigation measures be combined in the same chapter of the environmental document.

2. **Analysis of Impacts - Direct, Indirect, and Cumulative** – Under CEQ regulations (40 CFR 1502.16) the discussion of impacts forms the scientific and analytical basis for a comparison of alternatives. The severity of potential impacts and the type, size, and location of the facility will dictate the scope of the impact analysis. Project teams may elect to complete discipline reports if additional information or technical detail is needed to support the analysis presented in the EIS or EA. These reports should be "right sized" to adequately address the issue without over analysis. Guidance for completing a discipline report can be found on the WSDOT Discipline Reports web page.

   The draft EIS should define the issues and provide a clear basis for choice among the alternatives (40 CFR 1502.14). Agencies shall:

   - Rigorously explore and objectively evaluate all reasonable alternatives.
   - Briefly discuss alternatives that were eliminated from detailed study and explain why they were dropped.
   - Devote substantial treatment to each alternative considered in detail, including the proposed action, so reviewers may evaluate their comparative merits.
   - Include a discussion of the no action alternative.
   - Identify the agency's preferred alternative or alternatives.
   - Include appropriate mitigation measures not already included in the proposed action or alternatives.
   - Evaluate all alternatives to a comparable level of detail. The lead agency may choose to develop the preferred alternative to a higher level of detail (23 USC 139(D)) if the preferred alternative has been identified in the document with FHWA/lead federal agency approval.

   FHWA allows flexibility in the level of design detail that can be added to a draft or final EIS. More detailed design may be necessary in order to evaluate impacts, mitigation, or issues raised by agencies or the public (FHWA Technical Advisory T 6640.8A Section V, Part E).

   The environmental document must discuss impacts on both the natural (air, water, wildlife, etc.) and built (historic, cultural, social, etc) environment for each alternative. Both NEPA and SEPA require analysis of direct and indirect impacts, and cumulative effects. See Chapter 412 for guidance on analysis of indirect and cumulative impacts.

   Also, you should discuss Climate change implications of the project as appropriate. Contact the ESO Policy Branch for the most recent climate change guidance.

   Impacts may be temporary, such as the short term impacts associated with the Construction phase of a project, or permanent, such as the long term impact of increasing runoff and contamination from a widened highway. A summary of significant adverse impacts remaining after mitigation should follow the discussion of all impacts.

It's important to also document the project's positive effects and efforts to minimize impacts. It is recommended that the project team keep a list of adverse effects that were avoided or minimized as part of project development. As the team develops the EIS, make sure to document benefits associated with the project and clearly present them in the EIS.

3. **Mitigation of Impacts** – The environmental document must discuss the proposed means to mitigate the identified environmental impacts. Under CEQ regulations (40 CFR 1508.20), mitigation may include:
   - Avoiding the impact altogether.
   - Minimizing impacts by limiting the scale of the action.
   - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
   - Reducing or eliminating the impact over time by preservation and maintenance operations.
   - Compensating for the impact by replacing or providing substitute resources or environments.
4. **Publish and Circulate the DEIS** – For specific information on distributing a DEIS (such as how many copies each agency has requested) instructions on commenting, and how to process and respond to comments, see the Preparing an EIS web page. Circulation of a Draft EIS is required under federal and state regulations (40 CFR 1502.19, WAC 197-11-455 and WAC 468-12-455. All copies sent out during the circulation of the DEIS are free of charge. After initial circulation, a fee may be charged which is not more than the cost of printing.

   The project office must distribute NEPA DEISs before the document is filed with the U.S. Environmental Protection Agency (USEPA) for publication in the Federal Register. To ensure the document is distributed before filing, the documents should be distributed to USEPA at the same time it is distributed to the public and agencies.

   The date of issuance/filing/publication of the DEIS, is the date that the USEPA publishes its Notice of Availability (NOA). The date of the NOA is the date used to track the 45 day comment period.
5. **Public Hearing** – Under NEPA, public hearings are required for all NEPA EIS projects.

   Under SEPA, public hearings are held when (WAC 197-11-502, 197-11-535, 468-12-510):
   - The lead agency determines that a public hearing would assist in meeting its responsibility to implement the purposes and policies of SEPA.
   - When two or more agencies with jurisdiction over a proposal make written requests to the lead agency within 30 days of the issuance of the draft EIS.
   - When 50 or more persons residing within a jurisdiction of the lead agency, or who would be adversely affected by the environmental impacts of the proposal, make written requests to the lead agency within 30 days of issuance of the draft EIS.

   Refer to *Design Manual* M 22-01 Chapter 210 for hearing requirements and procedures.

(3) Final EIS (FEIS)

The FEIS: contains WSDOT's final recommendation and preferred alternative(s); lists or summarizes (by group) the comments received on the DEIS, and WSDOT's response to them; summarizes citizen involvement; and, describes procedures required to ensure that mitigation measures are implemented. The FEIS needs to identify specific mitigation commitments or it needs to describe the process that will be used to finalize the mitigation commitments, why those commitments can't currently be finalized, and the time frame in which they will be finalized. The FEIS also documents compliance with environmental laws and Executive Orders.

The FEIS is prepared after the close of the public comment period for the DEIS. Public and agency comments on the DEIS are evaluated to determine if:

- Document sufficiently identifies and analyzes the impacts and mitigation of a proposed action or whether additional studies are required.
- Impacts of the preferred alternative fall within an envelope of impacts for alternatives described in the DEIS (especially if a modified or hybrid alternative is selected as preferred).

1. **Review and Publication of the FEIS** – The FEIS is reviewed for legal sufficiency (23 CFR 771.125(b)) prior to FHWA formal approval of the document. The review is conducted by FHWA legal staff in San Francisco. Legal counsel has 30 days to review the document, and additional time may be required to address their comments and determine if the revisions are acceptable. The document is reviewed for compliance with FHWA and CEQ NEPA laws and regulations to minimize opportunities for procedural challenges in court. It also provides helpful hints in terms of documentation from a legal perspective. Comments are incorporated into the text and the document is signed by WSDOT. The procedure is described on the Preparing an EIS web page.
2. **Notice of Availability and Distribution of the FEIS** – After approval, the regional office or mode distributes copies of the FEIS or a notice that it is available (40 CFR 1502.19(d), WAC 197-11-460). For procedures see the Preparing an EIS web page.
   - A NEPA FEIS must be distributed before the document is filed with USEPA for publication of the FEIS Notice of Availability in the Federal Register.
   - A SEPA FEIS is issued within 60 days of the end of the comment period of the DEIS, unless the proposal is unusually large in scope, the environmental impact associated with the proposal is unusually complex, or extensive modifications are required to respond to public comments.

(4) Record of Decision (ROD)

Under NEPA, the lead federal agency issues a Record of Decision (ROD) following the FEIS. The ROD explains the reasons for the project decision, summarizes any mitigation measures that will be incorporated in the project, and documents any required Section 4(f) approval (40 CFR 1505.2). The ROD is considered to be an environmental document by CEQ and must be made available to the public with appropriate public notice provided as required by 40 CFR 1506.6(b). However, there is no specific requirement for publication of the ROD itself, either in the Federal Register or elsewhere. It is WSDOT's practice to publish a Notice of Availability for the ROD in the same newspapers previously used for other project notices.

A draft Record of Decision (ROD) is written based on the FEIS. The draft ROD is submitted along with the draft FEIS during the environmental review and approval process. See the NEPA/SEPA Guidance web page for procedures.

400.08 Documenting an Environmental Assessment (EA)

Environmental Assessments are completed for projects when the environmental impacts are unknown, or not clearly understood. (See Chapter 300 for detailed explanation). The purpose of the Environmental Assessment under both NEPA and SEPA is to analyze the environmental impacts and determine if an EIS is warranted. The steps for an EA are similar to those of an EIS, as illustrated in Figure 400-2. See the EA process web page for step by step guidance.

(1) NEPA Environmental Assessments

1. **Prepare the EA** – The purpose of the EA is to determine the extent and severity of environmental impacts. As described for an EIS, the EA should be succinct, describe impacts to both the natural and built environment, and account for direct, indirect and cumulative effects. If the analysis identifies significant environmental impacts, an EIS must be prepared.

   a. **Scoping** – Is recommended, but not required for an EA (40 CFR 1501.7, 23 CFR 771.105(a-d), 23 CFR 71.119(b), 23 CFR 771.123, WAC 197-11-408). Because scoping is optional for an EA, a Notice of Intent (NOI) is not required. Advertisement of the optional scoping meeting in a local newspaper, or on the project website is sufficient.

   b. **Alternatives to the Proposal** – The environmental document includes a comparison of impacts for different alternatives to the proposal. An EA must discuss the no build alternative, but may include only one build alternative.

2. **Issue Notice of Availability (NOA)** – With 30 day public review period – After approval, the regional or mode office distributes copies of the EA or a notice that an EA is available to interested parties (40 CFR 1502.19(d), WAC 197-11-460). For procedures see the WSDOT NEPA/SEPA Guidance web page or contact the Environmental Services NEPA/SEPA Compliance Program for assistance.

   a. A public hearing is required for an EA when:
      - There are identified environmental issues (e.g., heavy traffic volumes on local streets, visual quality), which should be discussed in a public forum. If a request for a hearing is anticipated, planning for a hearing will save time. Rather than waiting until the end of the comment period to start the procedures for the public hearing, start planning the hearing as soon as a public hearing is anticipated.
      - WSDOT has a substantial interest in holding a hearing to further public comment and involvement.
      - An agency with jurisdiction over the proposal (permitting agency) requests a hearing.

3. **Finding of No Significant Impact (FONSI)** – The federal lead issues the FONSI. The FONSI describes why the action does not have a significant impact. It includes or references the EA, and identifies any mitigation commitments on the project. The FONSI includes any decisions or agreements that led to the FONSI.

   The FONSI is issued by sending an NOA to affected resource agencies, tribes and interested public. For procedures and timing considerations see the WSDOT NEPA/SEPA Guidance web page or contact the Environmental Services NEPA/SEPA Compliance Program for assistance.

(2) SEPA Threshold Determination

The SEPA rules require agency responsible officials to make a threshold determination (WAC 197-11-330) based on questions answered in the SEPA environmental checklist. Ecology maintains guidance for completing the checklist on its website. At WSDOT, much of the information needed to complete the environmental checklist can be found on the GIS – Environmental Workbench. Region and modal staff use GIS to answer the checklist questions. Region and mode Environmental Managers review the checklist and make a determination regarding the significance of project impacts. If the project is minor, the region issues a Determination of Non-Significance. If the project is likely to result in significant adverse environmental impacts, the agency issues a Determination of Significance and begins scoping for an EIS (see Section 400.07 above).

Agency procedures for completing SEPA are listed in WAC 468-12. Those procedures, along with WAC 197-11, and RCW 43.21C define the SEPA process.

400.09 Documenting Categorical Exclusions/Exemptions (CE)

CEs are defined as projects that do not individually or cumulatively have a significant environmental effect (See Chapter 300 for descriptions and detailed explanation). Some projects are Categorically Excluded from the NEPA process or Categorically Exempt from the SEPA process. NEPA and SEPA identify that conditions might exist that would otherwise remove an excluded/exempted action from its exempt status.

Agency NEPA environmental procedures (23 CFR 771.117) describe conditions when otherwise excluded activities require further documentation to justify the exclusion. Likewise, Ecology conditions each category of exemption to describe when the exemption does not apply (WAC 197-11-800). Also, SEPA rules do not allow the use of certain exemptions in designated critical areas (WAC 197-11-908).

As detailed below in Section 400.09(1), within WSDOT, authority to sign that a project meets the criteria/category of being a CE rests with the Region/Modal Environmental Manager, and the Local Program Environmental Engineer for H&LP projects. A CE is documented in the ERS/ECS SEPA Checklist database for highway projects. FTA and FRA use CE worksheets to document their decisions. Whereas FHWA has delegated some decisions regarding CEs to WSDOT (as explained below), FTA and FRA have not and must sign the CE as a NEPA document.

(1) NEPA CEs (Categorical Exclusions)

Categorical Exclusions can be a listed CE, a Programmatic CE (PCE), or a Documented CE (DCE). The type of CE and supporting documentation, if applicable, is identified in the ERS/ECS SEPA Checklist database. CEs defined in 23 CFR 771.117(c) are considered "listed" CEs. See ERS/ECS SEPA Checklist guidance on how to appropriately complete documentation on NEPA CEs. If you do not have access to the ERS/ECS Checklist guidance, please contact your environmental staff for assistance.

CEs defined in 23 CFR 771.117(d) may cause impacts and require some additional documentation to verify that a CE is appropriate. Categories of excluded activities that require documentation are known as "d list" or Documented CEs (DCE). A DCE must be supported by subject specific analysis. The analysis should be "right sized" to reflect the level of environmental impact. This can usually be accomplished with a letter to the file, or very short summary of analysis to support the CE status.

Certain CEs have been determined by FHWA to be routine and, under specific conditions as spelled out in a programmatic agreement between FHWA and WSDOT, can be signed by WSDOT without prior review by FHWA. Every two years FHWA audits WSDOT's use of the programmatic agreement in issuing CEs to ensure appropriate use of the interagency agreement. See Appendix B to view the FHWA/WSDOT NEPA Programmatic Categorical Exclusions Agreement (PCE).

(2) SEPA CEs (Categorical Exemptions)

Although there is no requirement to document exemptions in SEPA, Categorical Exemptions can also be documented in the ERS/ECS SEPA Checklist database. SEPA categorical exemptions are listed in SEPA law (RCW 43.21C) in the State SEPA Procedures (WAC 197-11-800), within the State SEPA Procedures under Agency Specific Procedures (WAC 197-11-860), and in WSDOT's Agency SEPA Rules (WAC 468-12-800). The Region or Mode Environmental Manager determines if a project is exempt from SEPA.

400.10 Environmental Document Legal Considerations

(1) Statute of Limitations

1. **Under NEPA** – 23 CFR 771.139 establishes a 180 day statute of limitations (MAP-21 Section 1308 reduces the time period to 150 days) on claims against USDOT and other federal agencies for permits, licenses, or approval actions taken by a federal agency if:
   - The action relates to a highway project funded by FHWA; and
   - A statute of limitations notification was published in the Federal Register announcing the action; and
   - The action is considered to be final under the federal law.

   If no statute of limitations notice is published, the period for filing claims is determined by the applicable Federal law. If no statute of limitations is specified, then a 6 year claims period applies.

It is WSDOT's policy to request that FHWA publish a Statute of Limitations (SOL) notice in the Federal Register where doing so will expedite the resolution of issues affecting transportation projects. Typically, an SOL will be issued for all EISs, and many EAs. Project teams should issue an SOL anytime it identifies controversy that cannot be easily resolved. FHWA guidance on when to issue a statute of limitations to limit claims is provided in Appendix E of FHWA's 2006 SAFETEA-LU Environmental Review Process Guidance.

2. **Under SEPA a Notice of Action (NAT)** – Also referred to as a Notice of Action Taken, is an optional process for the purpose of limiting potential court challenges of an environmental document. Publishing a NAT limits the appeal period to 21 days after the last newspaper publication of the Notice of Action.

   WSDOT's policy is to publish a Notice of Action any time there is reason to believe challenges to the environmental document will be filed. Substantial controversy or known threats of challenges by project opponents are indicators that judicial review is likely. By limiting appeals to a certain time period, project schedules are less likely to be disrupted. The decision to publish a Notice of Action is made by the project office. Normally the Environmental Manager of a region or mode will write and sign the Notice of Action.

   RCW 43.21C.080 describes the process for publishing the NAT. Guidance for preparing the NAT is provided on the WSDOT NEPA/SEPA Guidance web page.

(2) Administrative Record

The administrative record is a formal catalogue documenting the agency's decision-making process for a project. It reflects the project history, environmental evaluation and prior decisions. A good administrative record shows the public and the courts that project decisions were not made in an arbitrary and capricious manner. It is important to include electronic and paper records that support why project decisions were made, as well as agency and public comments and responses to comments to document how opposing views were considered.

It is extremely important that each project team maintains a clear administrative record. In addition, individuals (region, modal and HQ environmental staff) who have participated in and supported decision-making should maintain electronic and paper files appropriately.

You must maintain the records that support your administrative decision before, or at the same time as, the decision. It is not appropriate to reconstruct a record after a decision is made. This section identifies the appropriate content and structure of an administrative record. More procedures and helpful guidance on maintaining an Administrative Record can be found on the NEPA/SEPA Guidance web page.

1. **When to Prepare a Formal Administrative Record** – All projects must be documented to support key decisions. A formal administrative record must be prepared for projects requiring an EIS where substantial controversy exists or in the likelihood of a legal challenge. Formal documentation is optional for other projects.

   Project files on all projects should be kept in an orderly manner throughout the life of the project, whether or not an administrative record is prepared. As decisions are made on the project, they should be recorded and filed.

2. **Who prepares an Administrative Record** – Preparing an administrative record is a collaborative effort between the Attorney General's Office (AGO) and the WSDOT project team. In many cases the Federal Lead agency may also be named in a legal challenge, in which case the State's AG will work with the Federal agency's legal counsel to compile the administrative record. If the Federal agency is named as a defendant, the case will usually be defended by the US Attorney in Federal court. The AGs Office is ultimately responsible for defending our decisions in court. As such, project teams should give the AGO due deference in determining what should go into the record. Once documents are identified and organized by the project team, the AGO will determine the contents of the Administrative Record.

3. **Administrative Record Contents** – An administrative record should contain all federal, state, regional, or local actions. These include corridor approval, corridor adoption, design approval, and region approved transportation master plans or programs. It may also contain other related material.

   Project teams can support the administrative record by:

   - Documenting the decisions on how it approached environmental review and the information that supported those decisions.
   - Including the name of the project in the subject line of emails related to the project.
   - Keeping track of your individual emails and files that show a change in direction for a project – you do not need to save every email about a project if it doesn't add substantive merit to the record (e.g., meeting logistics, side notes tacked onto an email string that aren't relevant to the subject matter of the communication). Although you must keep relevant information, it is okay to clean your email folders of items that are not substantive.
   - Retaining Substantive emails that contain direction on a course of action. These emails are public records – DO NOT DELETE THEM.
   - Realizing the project team is the focal point for retaining project records. (Keep in mind that public record requests are different from the administrative record.)

   The administrative record of an EIS should contain the following elements, as applicable, in chronological order:

   - Table of contents
   - Project prospectus
   - Environmental Classification Summary (ECS)
   - Regional transportation plans or studies
   - Route studies
   - Notice of Intent
   - Minutes of EIS scoping meeting(s)
   - Discipline specific and Interdisciplinary Team meeting minutes and recommendations
   - Agency meeting minutes and phone call summaries
   - Comments from public open houses
   - Public hearing transcript

- Correspondence from agencies or the public and responses to them (both letters and emails)
- Interoffice communications relating to project development
- Discipline reports
- Draft and final EIS
- Copy of all references cited in the DEIS and FEIS
- Official notices
- Record of Decision
- Corridor, design, and access plan approvals
- Affidavit of publication of Notice of Action
- Other relevant evidence such as local zoning or planning reports, government studies, questionnaires, or university studies

The administrative record need not include every item in the project file. Generally, items that do not relate to a major project decision should not be included. Project teams should consult with the Attorney General's Office to determine if the project will need an administrative record. If the AG's Office recommends that an administrative record be prepared, the project team should coordinate closely with our Assistant Attorney General when preparing the record.

400.11 Applicable Statutes and Regulations

(1) National Environmental Policy Act (NEPA)

President Nixon signed the National Environmental Policy Act (NEPA) in January 1970 as the "national charter for protection of the environment" (PL 91 190, as amended). The intent of NEPA (40 CFR 1500 – 1508) is to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.

NEPA implementing regulations applicable to all federally aided projects were developed by the Council on Environmental Quality (CEQ) and are codified as 40 CFR 1500 – 1508. FHWA regulations applicable to federally aided highway projects are codified as 23 CFR 771. It is codified 23 USC 139.

(2) Other Federal Environmental Statutes

In addition to NEPA, there are a number of other federal statutes that govern federal aid highway projects. FHWA/other federal leads require documentation of compliance with the following requirements prior to completing and publishing a FONSI or FEIS for a project.

1. **Endangered Species Act** – Section 7 of the Endangered Species Act requires federal agencies to confer with the U.S. Fish and Wildlife Service or National Marine Fisheries Service. (See Chapter 436 for details.)
2. **Section 106** – Section 106 of the National Historic Preservation Act applies to transportation projects affecting historic property listed on or eligible for listing on the National Register of Historic Places. (See Chapter 456 for details.)

3. **Section 4(f) Evaluation** – Projects requiring funding or approval from a USDOT agency must comply with Section 4(f) or the U.S. Department of Transportation Act of 1966 which established the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites when siting transportation facilities. The law codified in 49 USC 303 and 23 USC 138, is implemented by the Federal Highway Administration (FHWA) through the regulation 23 CFR 774. (See Chapter 457 for details.)
4. **Section 6(f)** – Outdoor Recreation Resources – Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) of 1966 prohibits the conversion of property acquired or developed with LWCFA grant funds to a nonrecreational purpose without the approval of the Department of Interior's National Park Service (NPS). (See Chapters 450 and 457 for details.)

(3) State Environmental Policy Act (SEPA)

Washington's State Environmental Policy Act (SEPA) (RCW 43.21C), adopted in 1971, directs state and local decision makers to consider the environmental consequences of their actions. State SEPA Rules are maintained by the Washington State Department of Ecology (Ecology). The SEPA Rules (WAC 197-11), and Ecology's guidance, the SEPA Handbook, are posted on the Ecology SEPA web page.

The WSDOT's Agency SEPA procedures (WAC 468-12, as amended) are located at the Office of the Code Reviser website.

400.12 Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
CE	Categorical Exclusion (NEPA)or Categorical Exemption (SEPA)
CEQ	Council on Environmental Quality (federal)
CFR	Code of Federal Regulations
DCE	Documented Categorical Exclusion (NEPA)
DEIS	Draft Environmental Impact Statement
DNS	Determination of Non-significance (SEPA)
DS	Determination of Significance (SEPA)
EA	Environmental Assessment
ECS	Environmental Classification Summary
EIS	Environmental Impact Statement
ERS	Environmental Review Summary
ESO	Environmental Services Office
FEIS	Final Environmental Impact Statement
FONSI	Finding of No Significant Impact (NEPA)
MDNS	Mitigated Determination of Non-significance (SEPA)
NAT	Notice of Action (taken) (SEPA)
NEPA	National Environmental Policy Act
NOA	Notice of Availability (of a NEPA document)
NOI	Notice of Intent (to prepare a NEPA EIS)

ROD	Record of Decision (NEPA)
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SDEIS	Supplemental Draft Environmental Impact Statement
SEIS	Supplemental Environmental Impact Statement
SFEIS	Supplemental Final Environmental Impact Statement
SEPA	State Environmental Policy Act
USDOT	United States Department of Transportation

400.13 Glossary

Categorical Exclusion/Exemption – An action that does not individually or cumulatively have a significant environmental effect, as defined in NEPA/SEPA regulations, and is classified as excluded (NEPA) or exempt (SEPA) from requirements to prepare an Environmental Assessment/Checklist or Environmental Impact Statement. See complete list and description in Sections 300.04 and 300.05.

Cumulative Impact/Effect – The impact on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.8).

Direct Impact/Effect – A direct impact (or effect) is caused by the proposed action and occurs at the same time and place. Direct effects may occur during construction or operation of the project. Effects may be ecological, aesthetic, historic, cultural, economic, social, or health related. For example, a highway crossing a stream may directly affect its water quality, though such impacts can be mitigated (40 CFR 1508.8).

Discipline Report – A detailed WSDOT report or memo that may be prepared by region offices or divisions to document the environmental analysis in the rare cases where the environmental impacts are so substantial, the required analysis is so complex, or the pertinent data is so voluminous that the analysis cannot reasonably be included within the environmental document. A discipline report is typically included in the appendix of the environmental document. A discipline report may also be written if the subject specific analysis is needed to support some other permit or approval requirement independent of the NEPA/SEPA process.

Environmental Document – Includes documents prepared in response to state and federal environmental requirements such as: Environmental Impact Statements (NEPA and SEPA), Environmental Assessments (NEPA), SEPA Threshold Determinations (DS, DNS, and MDNS) and associated Environmental Checklists (SEPA), Section 4(f) Evaluations, Section 106 Reports, Environmental Justice Reports and other documents.

Environmental Checklist (SEPA) – A standard form used by all state and local agencies to obtain information about a proposal and to assist them in making a threshold determination. It includes questions about the proposal, its location, possible future activities, and questions about potential impacts of the proposal on each element of the environment. The SEPA rules under WAC 197-11-960 list the information required in an environmental checklist.

Environmental Review – Is the consideration of environmental factors required by NEPA and SEPA. The "environmental review process" is the procedure used by agencies and others to give appropriate consideration to the environment in decision making.

Feasible and Prudent Avoidance Alternative – A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

Federal Nexus – A determination that at least one federal agency is:

- Involved as a proponent of a specified proposal (usually by providing funding or oversight)
- Must issue a federal permit, license, or other entitlement (such as a request to use federal funds or federal land) for the proposal to proceed.

A federal nexus (even on an otherwise non-federal proposal) typically triggers the need for the federal agency or agencies to comply with various federal statutes. These include but are not limited to NEPA, Section 106 of the National Historic Preservation Act, Section 4(f) of the Department of Transportation Act, Section 6(f) of the Land and Water Conservation Fund Act, and Section 7 of the Endangered Species Act.

Indirect Impacts/Effects (NEPA) – Effects or impacts caused by the proposed action or alternative that occur later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include effects related to changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).

Mitigation – NEPA (40 CFR 1508.20) and SEPA (WAC 197-11-768) mitigation means avoiding, minimizing, rectifying, rehabilitating, restoring , reducing or eliminating the environmental impact over time by preservation and maintenance operations during the life of the action. Mitigation can also mean compensating for the impact by replacing or providing substitute resources or environments for those impacted by the project.

Nonproject Action – Governmental actions involving decisions on policies, plans, or programs that contain standards controlling the use or modification of the environment, or that will govern a series of connected actions.

Project Description – A narrative written by the proponent to describe the project proposal. It may include explanations of the existing physical, environmental, social, and economic setting around the proposed project, a legal description of the location, and an explanation of the intended improvements.

Responsible Official – Official of the lead agency who has been delegated responsibility for complying with NEPA and SEPA procedures.

Scoping (public and agency scoping) – A formal process for engaging the public and agencies to comment on the project purpose and need statement, identify the range of alternatives, environmental elements and impacts, and mitigation measures to be analyzed in an environmental impact statement (EIS) or an environmental assessment (EA). It should not be confused with internal scoping to set a project's budget.

Significant Impact – Under NEPA (40 CFR 1500-1508) the determination of a significant impact is a function of both context and intensity, including:

- The type, quality, and sensitivity of the resource involved.
- The location of the proposed project.
- The duration of the effect (short or long term).
- The setting of the proposed action and the surrounding area.

Under SEPA, WAC 197-11-330 specifies a process, including criteria and procedures, for determining whether a proposal is likely to have a significant adverse environmental impact.

Threshold Determination (SEPA) – The threshold determination process is the process used to evaluate the environmental consequences of a proposal and determine whether the proposal is likely to have any "significant adverse environmental impacts." The SEPA lead agency makes this determination and documents it as either a Determination of Non-significance (DNS), or a Determination of Significance (DS). A DS requires preparation of an EIS. State and local agencies use the environmental checklist (see above) to help make a threshold determination.

Tribal Consultation – As defined in WSDOT Executive Order E 1025, tribal consultation means respectful, effective communication in a cooperative process that works towards a consensus, before a decision is made or action is taken … on actions that affect identified tribal rights and interests.

Chapter 412 Indirect and Cumulative Impacts

412.01 Introduction
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412.01 Introduction

This chapter deals with some of the most challenging sections of an environmental document, namely consideration of:

- Indirect (or secondary) impacts.
- Cumulative impacts.
- Climate change as a cumulative effect.

Part of the confusion around indirect and cumulative effects is due to the different definition of the type of actions considered in the National Environmental Policy Act (NEPA) and Endangered Species Act (ESA).

- NEPA requires consideration of the past, present and reasonably foreseeable future actions, regardless of the agency or person undertaking such actions (40 CFR 1508.7).
- ESA requires consideration of future state or private activities that are reasonably foreseeable, but excludes other federal activities (50 CFR 402.02).
- NEPA and ESA share a common threshold for determining whether to consider the potential for the action to change the rate of growth thereby increasing the indirect effects of an action. Therefore, the same causal relationship should be used for writing the NEPA document as for writing the biological opinion for ESA compliance (see Section 436.05).

This chapter provides guidance for addressing indirect and cumulative impacts to comply with the overarching NEPA analysis and complies with the 2008 Joint Guidance issued by WSDOT, EPA, and FHWA.

412.02 Summary of Requirements

NEPA requires that any agency proposing a major federal action, which may significantly affect the environment, consider the environmental impacts of the proposed action, any unavoidable adverse environmental impacts, and the relationship between local short term uses and long term productivity of the environment (42 USC 4332(c)). WSDOT construction projects that are federally funded or require federal approvals must comply with NEPA. SEPA also requires WSDOT, as the state lead agency, to identify and evaluate probable impacts, alternatives and mitigation measures, emphasizing important environmental impacts and alternatives (including cumulative, short-term, long-term, direct, and indirect impacts) (WAC 197-11-060(4)(d-e)).

There are three types or categories of effect (or impact) that must be considered during the NEPA process: direct, indirect, and cumulative (40 CFR 1508.25). Identifying direct effects, which are those effects caused directly by our activities, at the same time, and in the same place, is relatively simple and straightforward. Identifying and analyzing indirect effects, which are effects caused by transportation project activities, that occur later in time, at some distance from the project, and are in the chain of cause-and-effect relationships, can be more complex and generate more confusion. But as complex as indirect effects may be, the cumulative effects analysis generates the most complex and contested issues and is easily the most misunderstood. Table 412-1 provides a summary comparison of direct, indirect and cumulative effects.

Type of Effect	Direct	Indirect	Cumulative
Nature of effect	Typical/inevitable/ predictable	Reasonably foreseeable/ probable	Reasonably foreseeable/ probable
Cause of effect	Project	Project's direct and indirect effects	Project's direct and indirect effects and effects of other activities
Timing of effect	Project construction and implementation	At some future time after direct effects*	Past, present, or in the future
Location of effect	Within project impact area	Within boundaries of systems affected by project	Within boundaries of systems affected by the project

*Indirect could potentially occur before the project is built (i.e., speculators initiating land use actions in anticipation of project construction).

Source: *A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements*, Final Report SPR 327, Oregon DOT and FHWA, April 2001.

Summary of Direct, Indirect, and Cumulative Effects
Table 412-1

1. **When are indirect impacts analyzed?**

   Indirect impacts often relate to changes in land use, such as addition of new impervious surface, filling of wetlands, or modification of habitat. Under the Growth Management Act, land use changes are the direct result of local planning decisions. FHWA and WSDOT do not control this process. However, indirect impacts associated with transportation projects may affect the rate and pattern of development. The potential effect of such indirect effects should be analyzed. For example, if WSDOT constructs a bypass route around a town, restaurants, gas stations and other forms of development may relocate to the bypass in order to get more business from intercity traffic, while development and economic vitality along the original route may decline.

In general, projects in a new location or projects in which there is a dramatic change in travel lanes (e.g., from two to six lanes with grade separations) are more likely to contribute to indirect impacts than projects in areas which are already developed, or involve a smaller increase in capacity.

To evaluate the potential for indirect impacts, you should evaluate the likelihood of development in the project area following project construction. Consider the following:

- Look at population and land use trends in the project area and region or subarea. How has the area developed? How fast is it planned to develop? Will the project affect the rate of development? Are people building in the area? Look at the pattern of zoning. Has it recently changed or is it about to change?
- Review the local comprehensive plans. Are there plans/plats in the project area approved or currently under review? Is the project area within the urban growth boundary or outside it? Is the local jurisdiction considering changes in the urban growth boundary to allow for growth or are they concentrating on infill? Does the transportation element of the plan include the proposed transportation project? Would the transportation project support the local decisions contained within adopted plans? Do the city planners expect the project to support or encourage development?

Use your professional judgment and discussions with the city or county in the project area, as well as any other experts in the area to determine whether or not the proposed WSDOT project is consistent with the local plans. Determine if the project is likely to support changes in the type, rate, or timing of planned growth. Document your conclusion and describe the indirect effects associated with the proposed action.

The process for analyzing indirect effects is further described on the WSDOT Cumulative Effects Analysis web page.

2. **When are cumulative impacts analyzed?**

The CEQ regulations require that all federal agencies consider the cumulative effects of a proposed action. The level of the environmental document being prepared will give you some idea about when and if the analysis should be prepared. In addition, the scope of the cumulative effects analysis should be limited to those resources that are directly affected by the proposed action. **If a project will not impact a resource, it will not contribute to a cumulative impact on the resource.**

- **Categorical Exclusion (CE/PCE/DCE): Generally Not Required** – These projects are by definition minor projects without significant environmental impacts, and as such should not require a cumulative impact analysis. There may be unusual circumstances requiring such an analysis, but this should be very rare.
- **Environmental Assessment (EA): Generally Required** – These are projects in which the significance of environmental impacts is unknown. As one of the primary purposes of the EA is to help decision makers decide whether or not an EIS is needed. You will need to conduct an initial environmental assessment. The degree to which resources may be impacted will determine the extent of the cumulative impact analysis needed. Where direct and indirect effects are found to be present, you will need to complete a cumulative impact analysis. When your project is large, complex, and in an environmentally sensitive area, the cumulative impact analysis should mirror what is done for an EIS.

- **Environmental Impact Statement (EIS): Required** – These are projects in which there are anticipated significant environmental impacts, and a cumulative impact analysis may assist decision makers in making decisions on project scope, design, and location. In general, the cumulative impact analysis should include substantial information about resources, past actions that have contributed to trends and reasonably foreseeable effects. See page 45 in CEQ guidance, *Considering Cumulative Effects Under NEPA*.

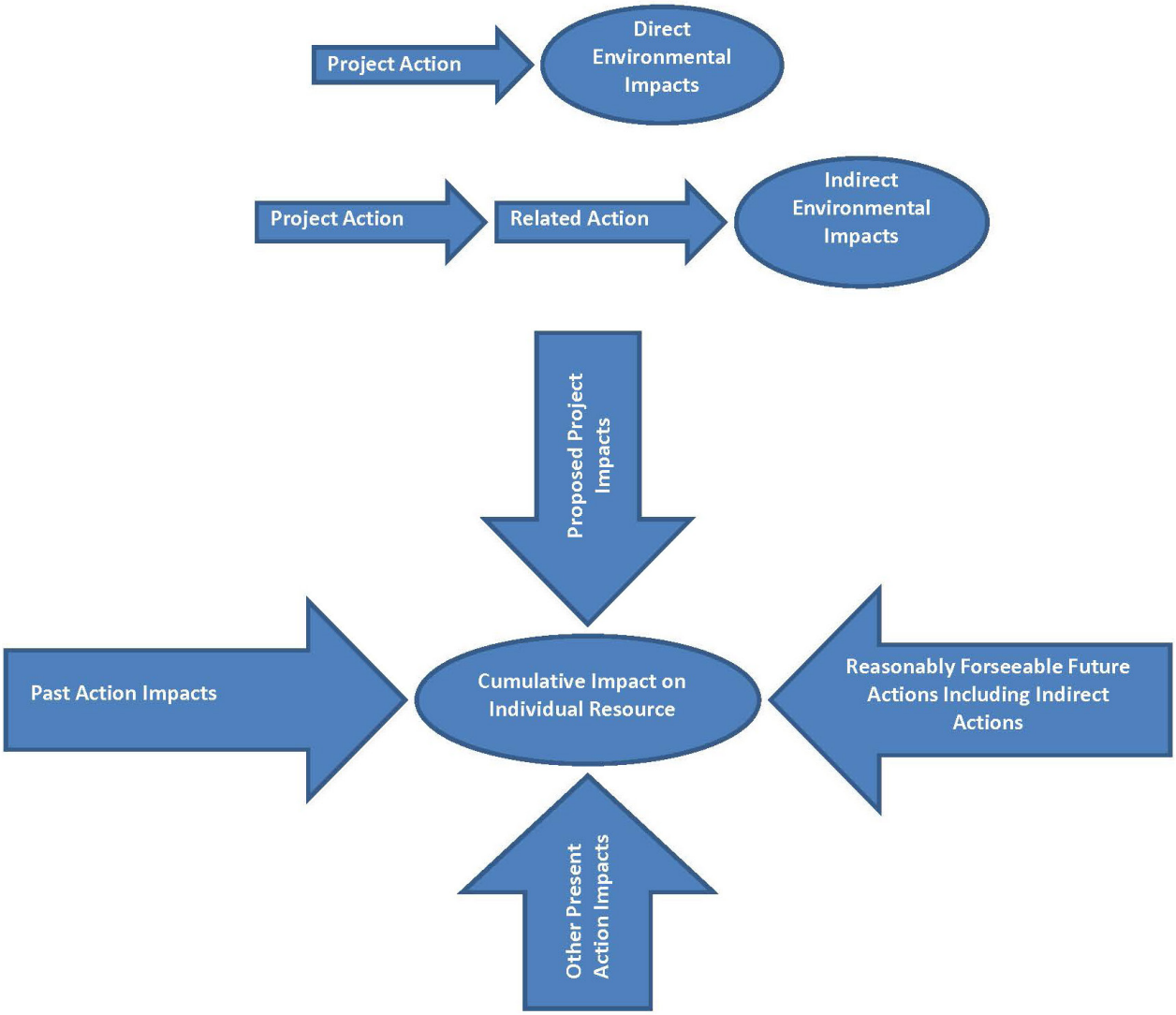
3. **Where should cumulative impacts be discussed in the environmental document?**

   Cumulative impacts can either be discussed in individual sections on each element of the environment, or included in a separate section. A separate section is most appropriate when there are a lot of cumulative impacts that are interrelated across disciplines.

412.03 Type of Impacts Included in the Cumulative Impacts Analysis

Cumulative impacts include direct and indirect impacts resulting from governmental and private actions. The relationships are illustrated in Figure 412-1.

- **Direct impacts** are included in a cumulative impact analysis. This information should be gathered from the sections of the environmental document where the direct impacts of the project are discussed. Impacts may include impacts to wetlands, changes in land use (conversion to transportation use), effects on endangered species, as well as other relevant impacts.
- **Indirect impacts** are included in a cumulative impact analysis. Indirect impacts may include land development occurring after a project is constructed. This could be as a result of access to a previously undeveloped property or as a result of changes in traffic patterns that may change the pattern or rate of planned growth. Other examples of indirect impacts could include changes in wildlife populations due to direct effects on habitat, changes in use of a recreation development or park due to improved access or visibility, or reduced flooding severity downstream due to improved highway runoff flow control.



Source: Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process, FHWA, 2003

Relationship Between Direct, Indirect, and Cumulative Effects
Figure 412-1

412.04 Analyzing Cumulative Impacts

WSDOT, EPA-Region 10, and FHWA-Washington Division have agreed that there is no single formula available for determining the appropriate scope and extent of a cumulative impact analysis based on input received during scoping. Ultimately, the practitioner must determine the methods and extent of the analysis based on the size and type of the project proposed, its location, potential to affect environmental resources, and the health of any potentially affected resource. However, we endorse the eight-step process described on the Joint Guidance and WSDOT Cumulative Effects Analysis web page.

Potential cumulative impacts should be considered as early as possible in the NEPA process. A cumulative impact analysis builds upon information derived from direct and indirect impacts. This makes it tempting to postpone the identification of cumulative impacts until the direct and indirect impact analyses are well under way. However, early

consideration of cumulative impacts may facilitate the design of alternatives to avoid or minimize impacts. Therefore, do not defer the consideration of cumulative impacts. Instead, as you begin to consider a project's potential direct and indirect impacts, start outlining the potential cumulative impacts as well. Once more information about direct and indirect impacts becomes available, use it to further refine the cumulative impact analysis. If you determine that cumulative effects are not an issue, document that decision along with the reasons for the decision.

Unlike direct impacts, quantifying cumulative impacts may be difficult, since a large part of the analysis requires projections about what may happen in a project area. Actions taken by governmental and private entities other than WSDOT need to be considered for a cumulative impact analysis. Partnering with other agencies will make it easier to identify additional information that might be needed.

For the analysis, use information from existing environmental documents and other relevant information, such as local comprehensive plans, existing zoning, recent building permits, and interviews with local government. These may also be good sources for information on past actions.

412.05 Climate Change and Greenhouse Gases

Over the past five years, all of WSDOT's published NEPA Environmental Impact Statements and Environmental Assessments have disclosed project-level Green House Gases (GHG) emissions and described potential climate threats. Prior versions of our guidance combined the topics of GHG and climate impacts. Based on feedback from our project teams, the 2013 guidance is now separated.

1. **Greenhouse Gases** – The emission of greenhouse gases (such as carbon dioxide) and issues related to global climate change should be discussed in environmental assessments and environmental impact statements as a cumulative impact. The discussion should include efforts currently underway in Washington State to reduce GHG emissions and the effects of current projects on GHG emissions (see Chapter 440, *WSDOT Guidance – Project-Level Greenhouse Gas Evaluations under NEPA and SEPA* on the WSDOT Energy web page, or contact WSDOT's Air Quality, Acoustics, and Energy Program.

2. **Climate Change** – Project teams are expected to examine available information about climate trends and to use the results of WSDOT's assessment of vulnerable infrastructure. By doing this, project teams will satisfy WSDOT's directive to consider ways to make their proposed projects more resilient to future climate impacts and severe storm events. Past trends for a specific resource (water, habitat, air) may not be accurate predictions for the future; instead, we need to look at scientifically-based projections of the changing climate as part of our analysis of cumulative effects. WSDOT advises project teams to use the current climate projections available from the University of Washington's Climate Impacts Group in combination with the WSDOT Climate Impacts Vulnerability Assessment (completed November 2011) and WSDOT's *Guidance for Project-Level Climate Change Evaluations* on the WSDOT Adapting to Climate Change web page, or contact WSDOT's Environemtnal Policy Branch Manager.

412.06 Case Law and Cumulative Impacts Analysis

Case law provides some guidance on the standards that must be met with regard to cumulative impacts. NEPA analyses must include useful evaluation of the cumulative impacts of past, present, and future projects. In Carmel-by-the-Sea v. U.S. Department of Transportation, 123 F.3d 1142, 1160 (9th Cir.1997), the Ninth Circuit found that this means the environmental analysis must evaluate the combined effects of past, present and future projects in sufficient detail to be "useful to the decision maker in deciding whether, or how, to alter the program to lessen cumulative impacts." See also Neighbors of Cuddy Mountain v. U.S. Forest Service, 137 F.3d 1372, 1379-80 (9th Cir.1998) ("To 'consider' cumulative effects, some quantified or detailed information is required. . . . General statements about 'possible' effects and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided.").

The Carmel-by-the-Sea court acknowledged that the EIS considered the impacts in the individual resource discussions and in a separate section, but noted that the analyses were "not lengthy, and taken either separately or together" they failed to satisfy NEPA, 123 F.3d at 1160. The critical component missing from the analysis was how the past and future projects interact with the present project to cumulatively impact the area resources.

A cumulative impacts analysis should identify the area in which the effects of the proposed project will be felt; the impacts that are expected in that area from the proposed project; other actions—past, present, and proposed, and reasonably foreseeable—that have or are expected to have impacts in the same area; the impacts or expected impacts from these other actions; and the overall impact that can be expected if the individual impacts are allowed to accumulate. Grand Canyon Trust v. Federal Aviation Administration, 290 F.3d 339 (D.C. Cir 2002); Fritiofson v. Alexander, 772 F.2d 1225 (5th Cir. 1985).

In Fritiofson, the court stated that "the CEQ regulations [indicate] that a meaningful cumulative-effects study must identify: (1) the area in which effects of the proposed project will 'be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions—past, proposed, and reasonably foreseeable—that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate. Fritiofson v. Alexander, 772 F.2d at 1245.

412.07 Additional Resources of Indirect and Cumulative Effects

An excellent reference for analyzing indirect effects is *NCHRP Report 466: Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects*. This 2002 reference handbook includes the results of research, guidance, and a framework to help estimate effects.

The most current information and additional resources can be found in the American Association State Highway and Transportation Officials *Practitioner's Handbook: Assessing Indirect Effects and Cumulative Impacts Under NEPA*.

See also:

- *A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements,* Final Report SPR 327, Oregon Department of Transportation and FHWA, April 2001 and Appendices.
- Executive Order 13274 (on Environmental Stewardship and Transportation Infrastructure Project Reviews) and Indirect and Cumulative Impacts Work Group, Draft Baseline Report, March 15, 2005.
- Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process, FHWA Interim Guidance 2003.
- Considering Cumulative Effects Under the National Environmental Policy Act, Council on Environmental Quality, 1997.

412.08 Applicable Statutes and Regulations

- National Environmental Policy Act (NEPA), 42 USC Section 4321.
- State Environmental Policy Act (SEPA), RCW 43.21C, and RCW 43.21C.031. SEPA implementing regulations are WAC 197-11-792 and WAC 197-11-060(4).
- CEQ Rules – 40 CFR 1508
- FHWA Rules – 23 CFR 771

412.09 Glossary

Effect – See Impact.

Context – "This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant." (40 CFR 1508.27(a))

Cumulative Impact/Effect (NEPA) – The impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Cumulative Effects (ESA) – Effects of future state or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation (50 CFR 402.02).

Direct Impact/Effect – Effect caused by the proposed action and occurring at the same time and place.

Impact – Synonymous with "Effect." Includes ecological impacts (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health impacts, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes the effect will be beneficial.

Indirect Impacts/Effects (NEPA) – Effects which are caused by the action that are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).

Induced Growth or Growth Inducing Effect – Terms used as examples of an indirect effect related to changes in the pattern of land use, population density, or growth rate. (WSDOT discourages the use of these terms because they are vague and confuse the local decisions regarding planned growth under the Washington State Growth Management Act with project-specific effects.)

Irretrievable – Impossible to retrieve or recover.

Irreversible – Impossible to reverse.

Intensity – This refers to the severity of a proposed action's impact on the environment. CEQ NEPA Regulations (40 CFR 1508.27(b)) list several factors to consider. Context and intensity are considered together in determining the significance of an impact (the more sensitive the environmental context, the less intense an impact needs to be to have a potentially significant effect).

Mitigation – According to 40 CFR 1508.20, includes: (a) Avoiding the impact; (b) Minimizing impacts by limiting the degree or magnitude; (c) Rectifying the impact by repairing, rehabilitating, or restoring; (d) Reducing or eliminating the impact over time; and (e) Compensating by replacing or providing substitute resources.

Reasonably Foreseeable – An action is reasonably foreseeable if it is considered "likely to occur" and isn't too "speculative." EPA's Consideration of Cumulative Impacts in EPA Review of NEPA Documents (May, 1999) states that "Court decisions . . . have generally concluded that reasonably foreseeable future actions need to be considered even if they are not specific proposals. The criterion for excluding future actions is whether they are "speculative." The NEPA document should include discussion of future actions to be taken by the action agency. The analysis should also incorporate information based on the planning documents of other federal agencies, and state and local governments. For example, projects included in a 5-year budget cycle might be considered likely to occur while those only occurring in 10-25 year strategic planning would be less likely and perhaps even speculative."

Language from court decisions can be helpful in formulating questions and criteria as practitioners proceed with analysis to determine which actions may be reasonably foreseeable. For example, one court case defined "reasonably foreseeable" as an action that is "sufficiently likely to occur, that a person of ordinary prudence would take it into account in making a decision." Sierra Club v. Marsh, 976 F.2d 763, 767 (1st Cir. 1992) (Sierra Club IV). Courts have also recognized that "An environmental impact is considered 'too speculative' for inclusion in an EIS (Environmental Impact Statement) if it cannot be described at the time the EIS is drafted with sufficient specificity to make its consideration useful to a reasonable decision maker." Dubois v. US. Dept. of Agriculture, 102 F.3d 1273,1286 (1st Cir. 1996).

Factors that indicate whether an action or project is "reasonably foreseeable" for the purposes of cumulative impacts analysis include: whether the project has been federally approved; whether there is funding pending before any agency for the project; and whether there is evidence of active preparation to make a decision on alternatives to the project. Clairton Sportmen's Club v. Pennsylvania Turnpike Commission, 882 F. Supp 455 (W.D. Pa 1995).

Resource – Referred to in NEPA and SEPA implementing regulations as "natural or depletable" resources (CEQ 1502.16, WAC 197-11-440(6)) and renewable or nonrenewable resources (WAC 197-11-444). FHWA Technical Advisory T 6640.8A (October 30, 1987) refers to "natural, physical, human, and fiscal resources" in guidance on irreversible and irretrievable commitments of resources.

Resource Study Area – A Resource Study Area is specific for each resource and focused on the area where cumulative effects on the resource are expected to occur. It may be the same or larger than the study area for direct and indirect effects.

Significance – The significance of a potential impact on the natural or built environment depends upon context, setting, likelihood of occurrence, and severity, intensity, magnitude, or duration of the impact. Almost every transportation project that would be recognized as major federal action, no matter how limited in scope, has some adverse impact on the environment.

Review and consideration of case law can help clarify interpretations of the term "significance." In deciding whether a project will significantly impact the environment, case law suggests that agencies should review the proposed action in light of the extent to which the action will cause adverse environmental effects in excess of those created by existing uses in the affected area and the absolute quantitative adverse environmental effects of the action itself, including the cumulative harm. In any proposed major federal action, the public must have an opportunity to submit factual information on this issue which might bear on the department's threshold decision of significance. Hanley v. Kleindienst, 471 F.2d 823 (2nd Cir. 1972, cert. denied, 412 U.S. 908 (1973). If you are concerned about the role that the level of significance and controversy may have, you should consult your Attorney General's office or other legal counsel.

420.01 Summary of Requirements for Geology and Soils
420.02 Resources for Analyzing Geology and Soils Impacts
430.03 Applicable Statutes and regulations

420.01 Summary of Requirements for Geology and Soils

The National Environmental Policy Act (NEPA) requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations are given due weight in project decision making. The State Environmental Policy Act (SEPA) mandates a similar procedure for state and local actions.

This chapter and its associated web links include information and requirements for:

1. Describing geologic and soil conditions (including hazard areas) in the vicinity of the project area.
2. Identifying potential significant adverse impacts of project alternative on these conditions.
3. Identifying potential impacts of geology and soil conditions on project construction and operation.

At a minimum the general topographic and geologic setting, significant features and landforms, soil types and their properties, and known geologic hazards within the project area should be identified. Geologic hazards include such things as highly erodible soils, landslides, debris flows, seismic hazards (e.g. faults and areas subject to liquefaction), volcanic hazards, subsidence, rockfall and other critical/sensitive areas. Existing and potential material source areas for borrow, aggregate and topsoil should also be identified.

The analysis evaluates the potential for direct construction and operations impacts on identified geologic and soil conditions for all project alternatives, including the "no-build" option. Potential impacts to mineral resources should also be evaluated. The analysis should also describe the potential for identified geologic hazards to impact project alternatives. Mitigation measures, commitments, and monitoring procedures associated with geologic hazards should be described. If no geologic hazards or potential impacts are anticipated, the conclusion should be stated in the environmental documents.

The results of the analysis should be written directly into the project's environmental document (EIS, EA or DCE) with supporting information included in the appendices if needed. In rare cases when warranted by the nature of the project, the analysis can be documented in a separate discipline report which supplements the environmental document. Guidance for completing the Geologic and Soils discipline report can be found on the WSDOT Discipline Report web page.

Information and requirements for describing groundwater resources and identifying potential project impacts on these resources are presented in Chapter 433.

420.02 Resources for Analyzing Geology and Soils Impacts

Information for identifying and locating geologic hazards, soil types and critical/sensitive areas can be found in many locations. Several commonly used resources are listed below.

- WSDOT's GIS Workbench is an internal data system available for use by WSDOT staff. The Workbench has data layers that identify soil types, geologic hazards, critical/sensitive areas, and designated mineral resources.
- Washington Department of Natural Resources Geology and Natural Resource Division publish geologic maps of the state.
- The National Resource Conservation Service County Soil Survey
- Department of Ecology Coastal Zone Atlas of Washington
- Tribes may have geotechnical information for tribal lands. Contact the appropriate WSDOT Tribal Liaison for contact information.
- Contact the WSDOT Geotechnical Services for subject matter experts, published reports, studies and boring logs from past WSDOT projects.
- WSDOT *Geotechnical Design Manual* M 46-03 provides detailed guidance on geotechnical design, construction and maintenance issues.
- The Municipal Research and Services Center (MRSC) of Washington website provides convenient links to critical area ordinances for many local agencies.

420.03 Applicable Statues and Regulations

This section lists the primary statutes and regulations applicable to geology and soils issues.

(1) Federal

- National Environmental Policy Act – 40 CFR 1500-1508, 23 CFR 771, and 23 USC 139.

(2) State and Local

- State Environmental Policy Act – RCW 43.21C, WAC 197-11 and WAC 468-12.
- State Growth Management Act – RCW 36.70A.
- Local Critical Area Ordinances – these ordinances are intended to protect locally designated critical or sensitive areas, which may include geologically hazardous areas identified as being susceptible to erosion, mass wasting (land sliding), earthquake, or other geological events which pose a threat to health and safety when incompatible development is sited in areas of significant hazard. Contact local planning departments to determine the location or descriptive criteria of geologically hazardous areas. See the WSDOT Local Environmental Permits and Approvals web page.
- Other Local Ordinances – Local ordinances also regulate building and clearing/grading. For non-highway project outside the right of way, including development and operation of borrow pits, WSDOT must comply with these ordinances. See the WSDOT Local Environmental Permits and Approvals web page.
- Tribes may also designate critical areas and have their own ordinance and regulations. See the WSDOT Local Environmental Permits and Approvals web page for contact information.

425.01 Air Quality Background
425.02 Documentation and Modeling Requirements
425.03 Air Quality Permits and Approvals
425.04 Multi-Modal and Non-Road Air Quality Requirements
425.05 Air Quality Statutes, Regulations, and Guidance
425.06 Abbreviations and Acronyms
425.07 Glossary

425.01 Air Quality Background

The Washington State Department of Transportation (WSDOT) evaluates the effect of projects on air emissions for the following pollutants:

- Carbon monoxide (CO)
- Course particulate matter (PM_{10})
- Fine particulate matter ($PM_{2.5}$)
- Mobile source air toxics (MSATs)
- Fugitive dust

Analysis for CO, PM_{10}, and $PM_{2.5}$ is done at both the project and region level. Currently, MSATs and fugitive dust are only discussed or analyzed at the project level.

Generally, air quality analysis determines if air pollutant concentrations with our projects will exceed National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA) to protect human health and welfare. Concentrations can increase, as long as the result does not exceed the standard. Mitigation is evaluated for projects that do any of the following:

- Cause or contribute to any new violation of the NAAQS.
- Increase the frequency or severity of existing violation of air quality standards.
- Delay timely attainment of air quality standards.

There are no NAAQS for MSATs, so this analysis evaluates relative differences between project alternatives. Temporary construction emissions are not quantitatively analyzed for most projects. Instead, commitments for incorporating construction best management practices to reduce fugitive dust emissions are documented.

For guidance on greenhouse gas emissions, please see Chapter 440 and related guidance on the WSDOT Energy web page.

425.02 Documentation and Modeling Requirements

Air quality analysis is required for all (1) nonexempt projects within nonattainment or maintenance areas, (2) projects requiring an EIS, and (3) projects that meet the requirements for MSAT analysis.

For each alternative, studies should describe the affected environment, current conformity status, latest planning assumptions (same for project and region level), analysis methodology and results, potential operational and construction impacts, recommended mitigation, and the results of interagency coordination. The Air Quality Analysis Checklist lists all the required information for document approval by WSDOT.

As of December 20, 2012, the EPA MOVES emissions model, combined with either CAL3QHC/-R or AERMOD dispersion models, is required for all project-level analyses. The analysis must use the most current model versions available at the time the environmental document is finalized.

Reminder, per 40 CFR 93.104(d), projects must be implemented (e.g., completion of environmental documents, acquisition of right of way) within three years of the project level conformity determination or a new conformity finding is required.

(1) Exempt Projects

Exempt projects are listed in federal and state regulations (40 CFR 93.126 and WAC 173-420-110). These are mostly projects that maintain existing transportation facilities, improve mass transit, or are considered to have a neutral impact on air quality. Some projects, like park and ride lots, may reduce regional air emissions but increase emissions locally, which is why they are exempt from regional but not project level conformity analysis.

The exempt list includes the category "hazard elimination program" for projects that are normally air quality neutral, like removing rock fallen from the road or replacing guardrails. However, not all projects with hazard elimination program funds are automatically exempt from conformity analysis. For example, if installation of a new traffic signal or re-striping to add new lanes is funded by the program, then conformity analysis is still required.

The metropolitan planning organization (MPO), in consultation with partner agencies, may also determine that a project on the exempt list has the potential for adverse emissions impacts and requires analysis.

(2) Region-Level Analysis

Region-level analysis is required by National and State Environmental Policy Acts (NEPA and SEPA, respectively) and Transportation Conformity Regulations, for all transportation projects that have a federal nexus or are regionally significant within CO and $PM_{(2.5, 10)}$ nonattainment or maintenance areas. Regional conformity analysis is conducted by the MPO for their long-range plan and four-year transportation improvement program (TIP) (see Chapter 200). If design concept or scope changes in a way that could affect region-level emissions, the conformity determination must be updated.

Projects DO NOT conform if any of the following occur:

- Project not in a conforming program.
- Total project not included in the regional analysis and conforming TIP (may still demonstrate conformity through hotspot modeling).
- Project design and scope are significantly different from the conforming TIP.

When a project is within or affecting a nonattainment or maintenance area for CO or $PM_{(2.5, 10)}$, the project sponsor should use one of the following statements to describe the relationship of the project to the air emissions inventory in the State Implementation Plan (SIP):

- The project is in an area where the SIP does not contain transportation control measures so conformity procedures in 23 CFR 770 do not apply to this project.
- The project is in an area with transportation control measures outlined in a SIP that was approved by EPA on date. FHWA determined that the transportation plan and the TIP conform to the SIP. Since the project is included in the TIP (project #), per 23 CFR 770, it also conforms to the SIP.
- When neither statement precisely fits the situation, they can be modified. Also, if the project itself is a SIP Transportation Control Measure (TCM), this should be highlighted to emphasize the project's air quality benefits.

For an EIS on projects not in a nonattainment or maintenance area, the project is exempt from regional conformity. However, the air quality study must still include a discussion on the relationship of the project to regional emissions for NEPA.

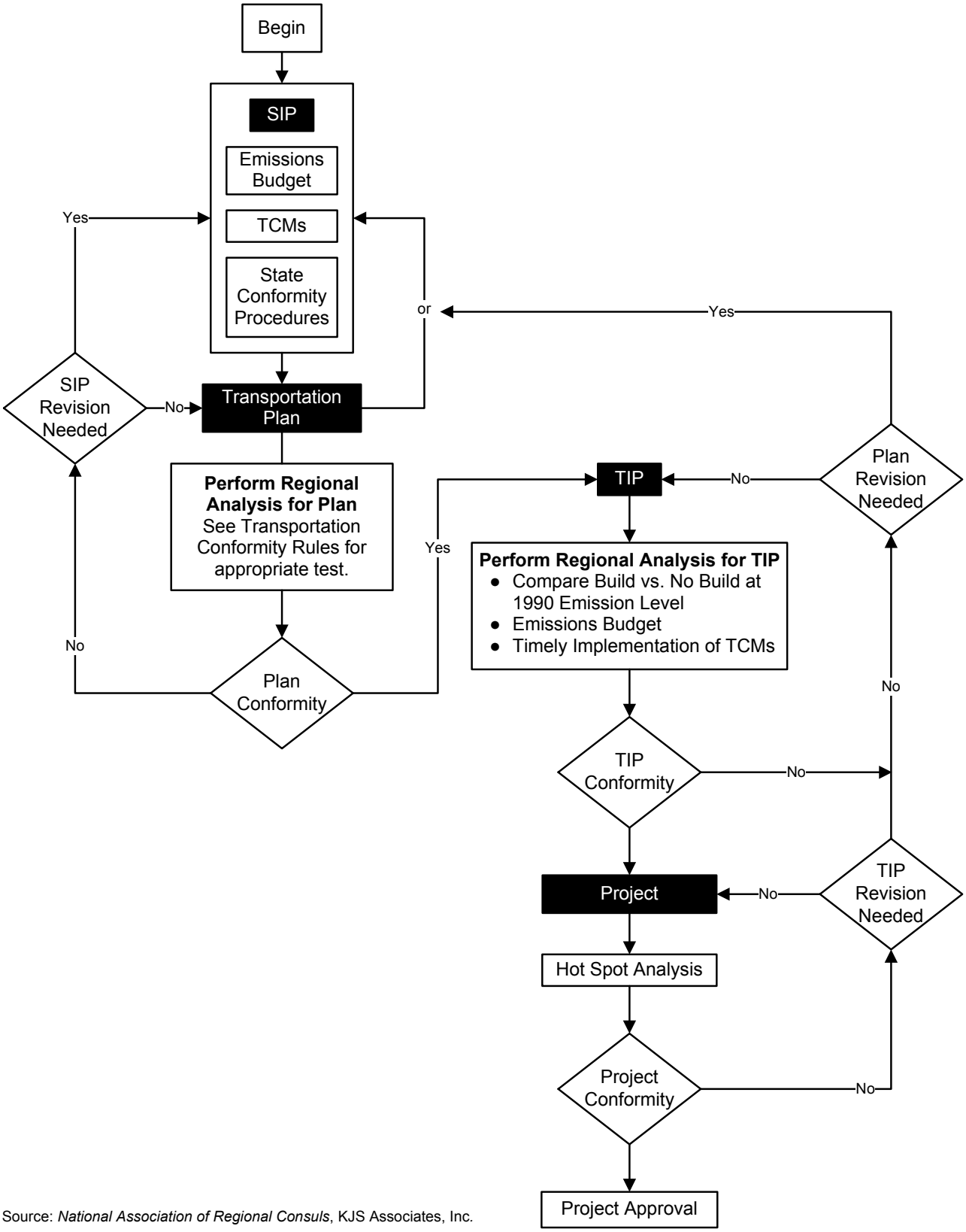
Projects that do not meet the above criteria are normally exempt from region-level analysis and documentation. See WAC 173-420-120 for projects exempt from regional analysis.

(3) Project-Level Analysis

NEPA, SEPA, and *Transportation Conformity Regulations* require project-level quantitative, or "hotspot," analysis for nonexempt projects within CO or $PM_{(2.5, 10)}$ nonattainment or maintenance areas. Exempt projects are listed in 40 CFR 93.126 and 40 CFR 93.128.

For project-level analysis, all project alternatives must be analyzed for the existing year, estimated year of completion, and design year (end year of current transportation plan). Reporting should summarize methodologies and assumptions used, provide total pollutant concentrations (project contribution plus background) at receptors for each alternative, and compare results to applicable state and national standards. A table of the results is the preferred way to display this information.

Figure 425-1 summarizes the air quality analysis process.



Source: *National Association of Regional Consuls*, KJS Associates, Inc.

Conformity Process From Planning to Project-Level Analysis
Figure 425-1

Carbon Monoxide (CO) – *Transportation Conformity Regulations* require analysis of all intersections affected by the project within nonattainment or maintenance areas that are Level of Service (LOS) D, E, or F in the Existing or Design Year. "Affected intersections" have at least a 10 percent increase in volumes or a degradation of LOS to D or worse with the project. Choosing the top three intersections by volume and LOS is no longer an option.

When the total predicted one-hour CO concentrations (standard is 35 ppm) are less than the eight-hour CO standard (9 ppm), no separate eight-hour analysis is necessary. If the preferred alternative would result in violations of either CO standard, reasonable mitigation measures should be developed through coordination with interagency consultation partners. The air quality analysis should discuss proposed mitigation measures and include documentation of the coordination.

For quantitative CO analysis, FHWA has released a Carbon Monoxide Categorical Hotspot Finding (CMCF) that satisfies project-level conformity requirements for eligible projects.

Quantitative CO analysis may not be required where concentrations (project plus background) are known to be well below the one- and eight-hour NAAQS. This decision must be based on (1) analysis from similar projects, (2) general analyses for various classes of projects, or (3) approved "look-up" table evaluations or "categorical findings." Where applicable, a brief statement on the basis for the decision is sufficient.

Particulate Matter (PM) – Quantitative $PM_{(2.5,\ 10)}$ analysis is required for projects of air quality concern (POAQC). POAQs add capacity or re-align roads with more than 125,000 AADT and 8 percent trucks, more than 10,000 truck AADT (8 percent of 125,000), or that contribute to substantial increases or concentrations of diesel exhaust emissions (such as bus terminals and transfer points, designated truck routes, and freight intermodal terminals).

PM_{10} area hotspot analysis must include both direct (exhaust, tire wear, and brake wear) and re-entrained road dust using EPA AP-42 method, unless a local method is specified in the SIP. $PM_{2.5}$ analysis does not need to include re-entrained dust.

For nonexempt projects, the interagency consultation agencies must concur that a project is not of air quality concern. If a nonexempt project is not a POAQC nor listed in 40 CFR 93.123(b)(1), but does meet applicable criteria in 40 CFR 93.109, then a $PM_{2.5}$ project-level conformity determination is required. However, these project types will not require a hotspot analysis. Instead, documentation should clarify that EPA has determined that projects not listed in 40 CFR 93.123(b)(1) meet the Clean Air Act's requirements without a hotspot analysis.

Mobile Source Air Toxics (MSATs) – WSDOT uses the same requirements as the current FHWA interim guidance on MSATs (2012) that bases the level of analysis on the type of project and project facility. Quantitative MSAT emissions analysis is required for projects on facilities with average annual daily traffic (AADT) greater than 140,000 vehicles or where there is potential for the project to substantially increase (10 percent) the number of diesel vehicles using a roadway. Qualitative MSAT evaluations may be required for projects on lower volume facilities.

Temporary Construction Emissions – For most projects, analysis of construction emissions includes a qualitative discussion of best management practices for reducing fugitive dust and a summary of any agreements between the project sponsor and local clean air agency. For some larger projects or those lasting more than five years at one location, a quantitative emissions analysis of construction activities may be recommended. Consult sextont@wsdot.wa.gov for more details.

For requirements on handling and disposing of asbestos. (See Chapter 447.)

Fugitive Dust – Particulate matter suspended in the air by wind or human activity. For projects involving earthwork, construction plans and specifications should be evaluated to identify possible dust producing activities and appropriate Best Management Practices (BMPs). BMPs are required for all WSDOT projects.

BMPs generally prevent or reduce fugitive dust emissions. The four most common methods are outlined in the *Guide to Handling Fugitive Dust From Construction Projects* by the Associated General Contractors (AGC) of Washington and are not mutually exclusive.

- Limit creation or presence of dust-sized particles. Cover exposed surfaces, use dust suppressants, install erosion control, minimize surface disruptions, pave dirt access roads, reschedule "dusty" work on windy days, reduce vehicle speeds, minimize spills.
- Reduce wind speed at ground level.
- Bind dust particles together. Apply flocculating agents, spray water.
- Remove and capture fugitive dust from the source. Filter fabric around catch basin, Street Sweepers, wheel wash, vehicle scrape.

Although water can be one of the main control agents for dust, it is important to plan ahead for water shortages and consider the use of other measures.

425.03 Air Quality Permits and Approvals

Regional clean air agencies may require air quality permits for the following activities:

- Land clearing burns.
- Demolition of structures containing asbestos.
- Asphalt batching, mixing concrete, crushing rock, or other temporary sources (new source construction).

Specific permit requirements are listed on the WSDOT Environmental Permitting web page.

425.04 Multi-Modal and Non-Road Air Quality Requirements

Air quality analysis for rail projects, ferry routes, and air flights requires a different type of conformity analysis (general conformity). Requirements for roadways to/from ferry and aviation facilities are similar to highway projects. Consult sextont@wsdot.wa.gov for more details.

425.05 Air Quality Statutes, Regulations, and Guidance

U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and regional clean air agencies regulate ambient air quality in Washington. Permits and approvals required pursuant to these statutes are listed in Section 425.03.

(1) Federal

- National Environmental Policy Act (NEPA) 42 USC 4321 and federal implementing regulations 23 CFR 771 (FHWA) and 40 CFR 1500.1-1500.8 (CEQ).
- Clean Air Act (CAA) 42 USC 7401-7431 et seq.
- Clean Air Act Amendments (CAAA) of 1990.
- 40 CFR 93 Federal conformity regulations, including exempt projects in 40 CFR 93.126.
- 23 CFR 450 FHWA regulations for statewide and metropolitan transportation planning and programming are defined in Planning Assistance and Standards.
- FHWA Technical Advisory T 6640.8A for NEPA documents.

(2) State

- State Environmental Policy Act (SEPA) and state implementing regulations WAC 197-11 and WAC 468-12.
- Clean Air Washington Act (CAWA) – RCW 70.94.
- WAC 173-420 state conformity regulations, including exempt projects in WAC 173-420-110 and WAC 173-420-120.
- WAC 173-400-040 state fugitive dust regulations.
- *Guidebook for Conformity: Air Quality Analysis Assistance for Nonattainment Areas* (1995).

(3) Regional

- Memorandum of Agreement on Fugitive Dust From Construction Projects (1999) between WSDOT and the Puget Sound Clean Air Agency (PSCAA).

425.06 Abbreviations and Acronyms

AADT	Average Annual Daily Traffic
BMP	Best Management Practices
CAA	Clean Air Act (Federal)
CAAA	Clean Air Act Amendments
CAWA	Clean Air Washington Act
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CO	Carbon Monoxide
EMIT	Easy Mobile Inventory Tool
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
LOS	Level of Service
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxic
MTIP	Metropolitan Transportation Improvement Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOx	Nitrogen Oxides
O_3	Ozone
PM_{10}	Course particulate matter, smaller than 10 micrometers in diameter
$PM_{2.5}$	Fine particulate matter, smaller than 2.5 micrometers in diameter
POAQC	Project of air quality concern
ppm	Parts per million
RTIP	Regional Transportation Improvement Program
RTPO	Regional Transportation Planning Organization
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SEPA	State Environmental Policy Act (for Washington)
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TCM	Transportation Control Measure
TIP	Transportation Improvement Program

425.07 Glossary

Air Quality Analysis – An evaluation of various air pollutants at the project level based on specific project location and type. This evaluation should include discussion of construction phase emissions such as fugitive dust, odors, and asbestos if applicable. This evaluation may include discussion of other air related concerns identified in project development.

Average Annual Daily Traffic (AADT) – The estimated average daily number of vehicles passing a point or on a road segment over the period of one year.

Carbon Monoxide (CO) – A by-product of the burning of fuels in motor vehicle engines. Though this gas has no color or odor, it can be dangerous to human health. Motor vehicles are the main source of carbon monoxide, which is generally a wintertime problem during still, cold conditions.

Conformity – Projects are in conformity when they do not (1) cause or contribute to any new violation of any standards in any area, (2) increase the frequency or severity of any existing violation of any standard in any area, or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

Criteria Pollutants – Carbon monoxide, sulfur dioxide, particulate matter, ground level ozone, lead, and nitrogen dioxide.

Exempt Projects – Listed in federal and state regulations (40 CFR 93.126 and WAC 173-420-110), these are mostly projects outside nonattainment/maintenance areas that maintain existing transportation facilities or are considered to have a neutral impact on air quality. See also WAC 173-420-120 for projects exempt from regional analysis.

Fugitive Dust – Particulate matter that is suspended in the air by wind or human activities and does not come out of an exhaust stack.

Hot Spot Analysis – Estimate of future localized CO and $PM_{(10, 2.5)}$ pollutant concentrations and a comparison of those concentrations to the National Ambient Air Quality Standards. Uses an air quality dispersion model to analyze the effects of emissions on air quality near the project on a scale smaller than the entire nonattainment or maintenance area (e.g., roadway intersections or transit terminal). (See 40 CFR 93.101 and 40 CFR 93.116.)

Maintenance Area (Air Quality) – Area previously in nonattainment now in compliance with NAAQS.

Metropolitan Transportation Improvement Program (MTIP) – A fiscally constrained prioritized listing/program of transportation projects covering a period of four years and formally adopted by an MPO in accordance with 23 CFR 450, as required for all regionally significant projects and projects requesting federal funding.

Mobile Source – Any nonstationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, and locomotives.

Mobile Source Air Toxic (MSAT) – Any one of six priority volatile gases or small particulate compounds coming from the tailpipe of a vehicle. The six compounds are (1) formaldehyde; (2) 1, 3 butadiene; (3) acrolein; (4) naphthalene; (5) benzene; and (6) diesel emissions.

Nonattainment Area – An area that does not meet one or more of the NAAQS for the criteria pollutants designated in the Clean Air Act.

Ozone (O_3) – Ground level ozone forms in the atmosphere as a result of complex sunlight activated chemical transformations between nitrogen oxides (NO_x) and hydrocarbons (i.e., O_3 precursors).

Particulate Matter (PM_{10} and $PM_{2.5}$) – Naturally occurring and artificial particles with a diameter of less than 10 microns or 2.5 microns, respectively. Sources of particulate matter include sea salt, pollen, smoke from forest fires and wood stoves, road dust, industrial emissions, and agricultural dust. These particles are small enough to be drawn deep into the respiratory system where they can contribute to infection and reduced resistance to disease.

Projects of Air Quality Concern (POAQC) – Add capacity or re-align roads with more than 125,000 AADT and 8 percent trucks, more than 10,000 truck AADT (8 percent of 125,000), or that contribute to substantial increases or concentrations of diesel exhaust emissions (such as bus terminals and transfer points, designated truck routes, and freight intermodal terminals).

Regionally Significant Project – A nonexempt transportation project that serves regional transportation needs, major activity centers in the region, major planned developments, or transportation terminals and most terminals themselves. Such projects are normally be included in the modeling of a metropolitan area's transportation network, including, at a minimum, all principal arterial highways and all fixed guide way transit facilities that offer an alternative to regional highway travel (40 CFR 93.101).

Regional Transportation Improvement Program (RTIP) – A fiscally constrained prioritized listing/program of transportation projects for a period of six years that is formally adopted by a Regional Transportation Planning Organization in accordance with RCW 47.80, as required for all regionally significant projects and projects requesting federal funding.

State Implementation Plan (SIP) – Framework for complying with federal law (40 CFR Part 51) requiring that the state take action to quickly reduce air pollution in a nonattainment area and provide controls to keep the area clean for 20 years. WSDOT projects must conform to the SIP before the FHWA and the EPA can approve construction.

Transportation Improvement Program (TIP) – A staged, multiyear intermodal program of transportation projects covering a metropolitan planning area consistent with the state and metropolitan transportation plan and developed pursuant to 23 CFR 450. The entire program must conform to the NAAQS before any federal funding can be used for nonexempt projects.

430.01 Surface Water Quality Requirements
430.02 Analyzing Surface Water Impacts
430.03 303(d) and TMDL Impaired Water Bodies
430.04 Surface Water Interagency Agreements
430.05 Water Quality Permits and Approvals
430.06 Non-Road Project Surface Water Requirements
430.07 Surface Water Quality Resource Materials
430.08 Applicable Statutes and Regulations
430.09 Abbreviations and Acronyms
430.10 Glossary

430.01 Surface Water Quality Requirements

Untreated and uncontrolled stormwater runoff from projects can adversely impact water resources. Water quality and other surface water-related issues that WSDOT must address during project development and design include:

- In-water work
- Interference with stream flows
- Critical areas
- Stormwater runoff discharges
- Herbicide application
- Water rights

WSDOT must comply with all applicable federal, state, and local laws, regulations, policies, and plans. According to these laws, regulations, policies, and plans, WSDOT must evaluate potential stormwater impacts prior to submitting permit applications to resource agencies so project construction can proceed.

Surface water quality obligations emerge through the Clean Water Act (CWA) Section 401 certifications, water quality modifications, and compliance with the standards in RCW 90.48 and WAC 173-201A. Applications for water quality-related permits include the Joint Aquatic Resources Permit Application (JARPA) process, and the National Pollutant Discharge Elimination System (NPDES) permits. Section 430.05 lists permits, certificates, and approvals related to water quality. While this chapter focuses primarily on requirements pertaining to road projects, Section 430.06 describes surface water and water quality requirements specific to ferries, airports, rail, and non-motorized transportation.

Chapter 610 – Preparation for Construction, covers aspects of erosion and sediment control. For other water related issues required under NEPA and SEPA. (See Chapters 431, 432, and 433.)

430.02 Analyzing Surface Water Impacts

WSDOT needs to estimate potential surface water impacts as part of the NEPA and SEPA environmental documentation process. WSDOT does this during the scoping process. The Environmental Review Summary (ERS) documents the potential impacts. If the project may result in adverse impacts to surface water, NEPA and SEPA require a surface water impact analysis to be completed and recorded in the environmental document (see Chapter 400). Surface water impact analysis involves characterizing surface water, groundwater, wellhead protection areas, source water protection areas, soils and topographic features affecting basin hydrology, existing water quality conditions, and land use patterns affecting stormwater runoff conditions. The analysis also includes assessing potential impacts to water quality in a watershed.

1. **Determining the Necessary Level of Effort** – A proposed project generally needs to analyze surface water impacts when the project could affect receiving waters by:
   - Increasing the amount of pollutants discharged to surface waters.
   - Increasing peak runoff flows to surface waters.
   - Presenting a significant risk of eroded sediments or spilled pollutants entering surface waters.
   - Involving construction within surface water bodies, their buffers, or floodplains.

   Situations where build options reduce the amount of pollutants or peak flows to surface waters may also require a surface water impact analysis if significant differences exist in the water quality benefits provided by each of the alternatives. Document the analysis of surface water impacts as part of the environmental document for the project (i.e., ECS, EA, or EIS). In rare cases, when warranted by the nature of the project, the analysis can be documented in a separate discipline report which supplements the environmental document. In these situations, use the Surface Water Discipline Report Checklist to help ensure adequate consideration of all project-related surface water issues in the report.

   In the event uncertainty exists as to whether surface water impacts may occur as a result of the project, perform a preliminary investigation of the impacts from each of the alternatives. Project managers can also contact the regional water quality lead for assistance. Terminate the investigation if it becomes apparent no significant impacts or differences in water quality exist among the alternatives. In the project file, document the rationale for the determination that the project did not need a surface water impact analysis.

2. **Methodology for Analyzing Surface Water Impacts** – Calculate annual pollutant loads to assess potential impacts of a project. The Surface Water Technical Guidance document describes the two appropriate methods to use in the early planning stage of a project. Do not use other pollutant loading methodologies in analyzing surface water impacts (i.e., the Highway Runoff Dilution and Loading Stormwater (HIRUN) model).

3. ***Highway Runoff Manual*** – The *Highway Runoff Manual* M 31-16 (HRM) summarizes stormwater management requirements and describes approved methods of managing stormwater runoff known as Best Management Practices (BMPs). Together, with WSDOT's *Hydraulics Manual* M 23-03, the HRM provides tools for designing effective stormwater collection, conveyance, and treatment systems for highways, ferry terminals, park and ride lots, and other transportation-related facilities.

   The project stormwater designer must first follow HRM Chapter 2 guidelines for integrating the planning and design of stormwater-related project elements into the context of WSDOT's project development process. Then the designer must use Chapter 3 to determine the applicable minimum requirements for a specific project. In most instances, this process will spur the need to design construction and post construction BMPs according to the criteria provided in Chapters 4 and 5. With release of the 2014 HRM, what was formerly HRM Chapter 6 became a separate document titled *Temporary Erosion and Sediment Control Manual* M 3109 (TESCM).

   The TESCM provides WSDOT procedures for meeting the statewide stormwater pollution prevention planning (SWPPP) discharge sampling and reporting requirements in the NPDES Construction Stormwater General Permit (CSWGP). It includes criteria for selecting appropriate erosion and sediment control BMPs, as well guidelines on water quality monitoring for projects required to monitor runoff quality and potential effects to receiving water during construction.

   The Washington State Department of Ecology (Ecology) approved the HRM as equivalent to the Ecology *Stormwater Management Manuals* for Western and Eastern Washington for compliance with Ecology-issued stormwater permits and WAC 173-270).

   Most projects lend themselves to relatively straightforward application of one or more of the BMP options presented in the HRM. See HRM Section 1-4 on who to contact in instances where a site presents a challenge and does not lend itself easily to the approaches prescribed in the manual.

430.03 303(d) and TMDL Impaired Water Bodies

The CWA Section 303(d) requires Washington State to identify polluted water bodies every two years and submit the list to the US Environmental Protection Agency (USEPA). Ecology develops a Total Maximum Daily Load (TMDL) for each water body segment included on the 303(d) list (40 CFR 130.7). TMDL water cleanup plans:

- Identify water pollution problems in the watershed.
- Specify how much pollution needs to be reduced or eliminated.
- Provides targets and strategies to achieve beneficial uses.
- Includes a TMDL effectiveness monitoring plan to verify compliance with those targets.

Once approved by USEPA, TMDL-related obligations can be included as commitments in the Corps Section 404 and 401, or as additional requirements in NPDES 402 stormwater permits.

Ecology may assign specific action items, compliance timelines, and waste load allocations (WLAs) when a TMDL identifies a WSDOT discharge as a source or conveyer of the pollutant of concern. Ecology includes USEPA approved TMDLs that contain WLAs and/or actions for WSDOT in Appendix 3 of WSDOT's NPDES Municipal Stormwater Permit.

For 303(d) and USEPA approved TMDLs that do not specifically identify WSDOT stormwater discharges as a pollutant source, projects should make efforts to not discharge to the impaired water body, if possible, or avoid adverse impacts, where feasible. WSDOT's TMDL web page provides guidance for how to determine if stormwater from a project will discharge to an impaired waterbody and how to determine impacts. For more information on TMDLs or 303(d) listings, contact the Stormwater and Watersheds Program in the Environmental Services Office, or visit Ecology's Water Quality Assessment (303[d]) & Water Quality Improvement website.

430.04 Surface Water Interagency Agreements

Project notification to Ecology occurs through submittal of a JARPA application, or through telephone/email for:

- All new construction projects requiring a CWA Section 401 Water Quality Certification.
- Large or contentious projects, as well as those involving a significant amount of in-water work.
- Any project not expected to, or that does not comply with conditions listed in the agreement.

Surface water quality requirements and BMPs get implemented through the JARPA process, NPDES permits, WSDOT's HRM, actions triggered from Biological Opinions, and project- specific BMPs.

Appendix B contains the following interagency agreements pertaining to surface water:

- **Compliance Implementing Agreement** – State Surface Water Quality Standards (2004). WSDOT and Ecology developed the November 2004 Compliance Implementing Agreement to ensure that WSDOT had a program for meeting state surface water quality laws. This includes compliance with Section 401 Certifications, Section 402 NPDES permits, and other Ecology Orders and approvals. The Implementing Agreement defines the elements needed to increase compliance activities for the agency and WSDOT contractors. (See Chapter 610 for details.)
- **Memorandum of Agreement (MOA) on Hydraulic Project Approvals for Transportation Activities** – In May 2008, WSDOT and Washington Department of Fish and Wildlife (WDFW) signed the "Administration of Hydraulic Project Approvals for Transportation Activities and Implementation of the Fish Passage Retrofit Program and Chronic Deficiency Program" MOA to establish mutual understanding and procedures between the agencies for complying with the Hydraulic Code Rules (WAC 220-110) applicable to transportation projects. (See Chapter 436 for details.)
- **Implementing Agreement Regarding Application of the Highway Runoff Manual** – In February 2009, WSDOT and Ecology signed an implementing agreement committing WSDOT to apply the HRM statewide to direct the planning, design, construction, and maintenance of stormwater facilities. In March 2014 this implementing agreement was amended and revised.

430.05 Water Quality Permits and Approvals

WSDOT must comply with all applicable federal, state, and local laws, regulations; policies, and plans. Consider obligations for each water quality permit or approval listed in this section during design and environmental review.

(1) Federal

- CWA Section 404 Permit – Wetland/Streams
- CWA Section 401 – Water Quality Certification – This certification requires tribal consultation or approval under federal statutes. The Confederated Tribes of the Chehalis Reservation, Kalispel Tribe of Indians, Makah Tribe, Port Gamble S'Klallam Tribe, Puyallup Tribe of Indians, Spokane Tribe of Indians, and Tulalip Tribe have authority to approve Section 401 Water Quality Certifications.
- CWA NPDES Construction Stormwater General Permit
- CWA NPDES Industrial Stormwater General Permit
- CWA NPDES WSDOT Municipal Stormwater General Permit
- CWA NPDES General Permit
- Coastal Zone Management Act Consistency Determination

(2) State

- Hydraulic Project Approval
- Aquatic Lands Use Authorization
- Temporary Exceedance of Water Quality Standards

(3) Local

- Floodplain Development Permit
- Shoreline Permits/Exemptions

430.06 Non-Road Project Surface Water Requirements

(1) Ferries

- **General Permit Requirements** – The ferry system must abide by the same permits as the road system for upland and aquatic projects. The most commonly required road project permits required for ferry projects include the U.S. Army Corps of Engineers Section 10 or Section 404 permits, (including NWPs and Letters of Permission), U.S. Coast Guard (USCG) Section 9, WDFW Hydraulic Project Approval (HPA), and local shoreline permits. Washington State Ferries (WSF) typically obtains these permits through the JARPA process. WSF terminals and facilities falling within the geographic scope of the Phase 1 and Phase 2 NPDES municipal stormwater permits have coverage under WSDOT's NPDES municipal stormwater permit.

  In order to comply with permit requirements, it is important to know the accurate distance from the shoreline to the project. For marine water, measure the distance to the shoreline from the mean higher high water (MHHW). For fresh water, measure the distance from the ordinary high water mark (OHWM) or line.
- **NPDES Industrial Stormwater General Permit** – For WSDOT, this permit governs stormwater discharges associated with industrial activities at the WSF Eagle Harbor vessel maintenance facility.

(2) Airports, Rail, and Nonmotorized Facilities

Airport, rail, and nonmotorized projects are subject to the same water quality policies, procedures, and permits as road projects. Rail projects, railroad fills, including ties, rails, and structures over streams, are all considered pervious. For examples of pervious and impervious pavement, refer to the glossary in the HRM. To prevent materials from falling off trains into waterbodies, enclosed structures must be used to transport materials. A separate stormwater design manual exists for airports, but it has not been amended to meet Ecology's 2012 stormwater manual updates. Contact the aviation division for assistance designing stormwater treatment adjacent to airports.

430.07 Surface Water Quality Resource Materials

1. **GIS Workbench** – The WSDOT GIS Environmental Workbench provides a GIS interface for internal WSDOT users. It has numerous environmental and natural resource management data layers that provide useful information for surface water quality analyses. WSDOT works with federal, state, and local agencies to maintain a collection of the best available data for statewide environmental analysis. Available databases relevant to surface water quality include water resource inventory areas (WRIAs) and sub-basins, major shorelines, CWA Section 303(d) Impaired Waters and TMDLs, and NPDES permit areas and sites.
2. **FHWA Guidance Documents and Resources**
   - FHWA Technical Advisory – FHWA Technical Advisory T 6640.8A (October 30, 1987) provides guidelines for preparing environmental documents.
   - FHWA Environmental Review Toolkit and Guidebook – This online resource contains several guidance documents and federal MOAs on topics related to surface water quality, the CWA, and coastal zone management.
3. **Department of Ecology Resources**
   - Water Quality 305(b) Assessment – The CWA Section 305(b) requires Washington State to prepare a water quality assessment report every five years and submit it to USEPA. In addition, USEPA requires the state to submit certain assessment data annually for compilation in a national report. For access to the data and a description of requirements for ecoregions, stream/river basins, estuaries, and lakes, refer to the *Washington State Water Quality Assessment Section 305(b) Report*.
   - Watershed Basin Reports and Action Plans (Local or State Plans) – Many watershed and basin plans include specific recommended action items on priority environmental issues. The surface water analysis should address the guidance outlined in watershed/basin action plans related to surface waters.

430.08 Applicable Statutes and Regulations

This section identifies the primary statutes and regulations applicable to water quality issues.

(1) Federal

1. **National Environmental Policy Act** – The National Environmental Policy Act (NEPA), *42 USC 4321*, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo environmental planning. This planning ensures that environmental considerations, such as impacts to water quality, receive appropriate consideration during decision making. 23 CFR 771 (FHWA) and 40 CFR 1500–1508 (CEQ) contain Federal implementing regulations. For details on NEPA procedures. (See Chapter 400.)

2. **Clean Water Act** – The Water Pollution Control Act, better known as the Clean Water Act (CWA), 33 USC 1251 et seq., provides federal regulation of water pollution sources. In Washington State, USEPA has delegated administrative authority of the CWA to Ecology except on tribal and Federal lands (and discharges to tribal waters). Implementation requirements for CWA Sections 303(d), 305(b), 401, 402, and 404 are described in Section 430.06.

3. **Endangered Species Act (ESA)** – USFWS and NOAA Fisheries administer this act. A federal nexus triggers formal consultation under the act. These triggers include permits, funding or actions on federal land, and by the potential harm, harassment, or take of listed species or impacts to their habitat. Informal consultation, under Section 10 of the act, requires applicants to comply with the ESA even if a federal nexus does not occur.

   The ESA has relevance to discharges to surface waters with listed aquatic species. The presence of salmonids that are listed under the ESA within a waterbody that is receiving surface water discharges may trigger additional requirements for surface water discharges beyond those required in the HRM or by Ecology. Contact a WSDOT project biologist about any additional requirements due to the presence of ESA listed species in the project-effected watershed.

(2) State

1. **State Environmental Policy Act (SEPA)** – SEPA requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental considerations during decision making, including impacts to surface water quality. WAC 197-11 and WAC 468-12 (WSDOT) describe state implementing regulations. For details on SEPA procedures. (See Chapter 400.)

2. **State Water Quality Laws and Rules** – The Water Pollution Control Act (RCW 90.48) is the primary water pollution law for Washington State. State statute prohibits discharge of pollutants into waters of the state unless authorized. WAC 173-201A identifies and mandates water quality standards pertaining to surface waters. WSDOT must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART) prior to discharge into the state's waters.

With respect to all state highway right-of-way in the Puget Sound basin under WSDOT control, WAC 173-270-030(1) requires WSDOT to use the HRM to direct stormwater management for its existing and new facilities and rights-of-way. Exceptions where more stringent stormwater management requirements may apply are addressed in WAC 173-270-030(3)(b).

3. **Coastal Zone Management (CZM) Act Certification** – Ecology includes a CZM Act Certification consistency response with the CWA Section 401 certification for any work in Washington's 15 coastal counties.

(3) Tribal

Some tribes have adopted specific water quality standards that may be stricter than those required by Ecology. For projects where stormwater is discharging within tribal lands please coordinate with your region's water quality program staff to determine what standards apply.

430.09 Abbreviations and Acronyms

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CSWGP	Construction Stormwater General Permit
CWA	Clean Water Act
CZM	Coastal Zone Management
Ecology	Washington State Department of Ecology
EA	Environmental Assessment
ECS	Environmental Classification Summary
EIS	Environmental Impact Statement
ERS	Environmental Review Summary
ESA	Endangered Species Act
FHWA	Federal Highway Administration
GIS	Geographic Information System
HPA	Hydraulic Project Approval
HIRUN	Highway Runoff Dilution and Loading Stormwater model
HRM	*Highway Runoff Manual* M 31-16
JARPA	Joint Aquatic Resources Permit Application
MHHW	Mean Higher High Water
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act

NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit (U.S. Army Corps of Engineers)
OHWM	Ordinary High Water Mark or line
RCW	Revised Code of Washington State
SEPA	State Environmental Policy Act
SWPPP	Stormwater Pollution Prevention Plan
TESCM	*Temporary Erosion and Sediment Control Manual* M 3109
TMDL	Total Maximum Daily Load
USC	United States Code
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife
WLA	Waste Load Allocation
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries

430.10 Glossary

These definitions provided context for the Stormwater process. Some terms may have other meanings in a different context.

Council on Environmental Quality (CEQ) – Coordinates Federal environmental efforts and works closely with agencies and other White House offices on the development of environmental policies and initiatives.

Coastal Zone Management (CZM) Act Certification – The Act, administered by NOAA's Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation and applies to fifteen coastal counties in WA which are located adjacent to salt water.

Highway Runoff Manual (HRM) – WSDOTs *Highway Runoff Manual* M 31-16 directs the planning and design of stormwater management facilities that meet state and Federal regulations for new and redeveloped Washington state highways, rest areas, park-and-ride lots, ferry terminals, and highway maintenance facilities throughout the state.

National Pollution Discharge Elimination System (NPDES) – Pollution control permits that require point source dischargers to obtain permits. These are issued to WSDOT and other entities, by Ecology, for construction stormwater, municipal separate storm sewer systems, industrial, and sand and gravel operations.

Stormwater – That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body or a constructed infiltration facility. Stormwater runoff is a major transporter of nonpoint source pollutants.

Surface Water – All water naturally open to the atmosphere, such as rivers, lakes, reservoirs, ponds, streams, wetlands, seas, and estuaries.

Total Maximum Daily Load (TMDL) – A requirement of the Clean Water Act, TMDLs consist of a watershed-based pollution control plan developed to address water quality impairment.

Watershed – The land area that drains into a surface waterbody; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common point.

Waters of the State or State Waters – Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses located within the jurisdiction of the state of Washington. (RCW 90.48.020)

431.01 Wetlands and Other Waters
431.02 Assessing Wetlands and Other Waters
431.03 Identifying Impacts to Wetlands and Other Waters
431.04 Mitigating for Impacts to Wetlands and Other Waters
431.05 Policies, Regulations, and Agreements
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431.01 Wetlands and Other Waters

This chapter presents policies to be followed when work is planned in or near wetlands or other waters of the state or of the U.S. It includes information on describing and assessing wetlands and other waters, determining impacts (adverse effects), mitigating for unavoidable impacts, and links to related information.

Washington State Department of Transportation (WSDOT) *Wetlands Protection and Preservation* Policy Statement P 2038 directs employees to protect and preserve wetlands, to ensure no net loss of wetlands is caused by department actions, and to increase the quantity and quality of wetlands in the long term. These activities must be implemented in planning, designing, constructing, and maintaining the state's transportation system. Employees must avoid impacts to wetlands and other waters where practical; minimize impacts where it is not possible to avoid wetlands; provide compensatory mitigation for unavoidable impacts; and protect, preserve, and maintain wetlands under department stewardship.

WSDOT's environmental policy directs employees to protect and preserve state natural resources while providing for cost-effective delivery and operation of transportation systems.

- WSDOT Policy Statement P 2038 *Wetlands Protection and Preservation*
- WSDOT Secretary's Executive Order E 1018 *Environmental Policy Statement*

Transportation project activities that may impact wetlands include:

- Filling wetlands or other waters (aquatic resources).
- Draining wetlands.
- Altering natural drainage patterns.
- Increasing or decreasing water levels.
- Discharging sediment or toxicants in runoff.
- Mechanically removing wetland vegetation.
- Compacting wetland soils.
- Altering wetland or stream buffer areas.

431.02 Assessing Wetlands and Other Waters

WSDOT uses several methods to assess wetlands and aquatic resources depending on the complexity of the project and the stage in the project development process. Qualified wetland biologists have the specialized knowledge and skills that are needed to use the methods listed below. Each method is described below in order of increasing complexity, cost, and time required to complete the work.

WSDOT GIS Workbench – The GIS workbench is a comprehensive collection of GIS datasets that can be used to approximate the location and extent of known wetlands. The workbench contains map data from several sources helpful in determining if wetlands may be present, including the National Wetland Inventory, local wetland inventories, hydric soils, topography, satellite imagery, and infrared and true-color aerial photographs.

The GIS workbench provides general information at a small scale suitable for screening for environmental impacts when projects are in the early stages of planning and scoping. The GIS Workbench does not provide enough information to determine that wetlands are not present for permitting purposes. This office-based activity can be a stand-alone product or the first phase of an inventory or assessment.

Wetland Inventory – A wetland inventory is a reconnaissance-level analysis to confirm the presence or absence of wetlands based on a field visit by a wetland biologist. The report may include a sketch map showing the limits of the study area and the approximate location, size and quality of the wetlands present. The inventory can be used to inform the preliminary design and provide an opportunity to avoid wetland impacts. If a Wetland Inventory Report concludes no wetlands are present in the project area, no further wetland work needs to be done, unless the project area changes. A Wetland Inventory report is not sufficient for wetland permit applications.

Wetland and Stream Assessment – A wetland and stream assessment is a detailed field study of wetlands and other aquatic resources within the project area. An assessment may be conducted instead of a Wetland Inventory if detailed wetland information is needed during early stages of project development. If wetlands or other aquatic resources will be impacted by a transportation project, a Wetland and Stream Assessment Report is required for the Environmental Review process and the JARPA submittal.

A wetland and stream assessment includes delineating the boundaries of wetlands and other aquatic resources and locating the Ordinary High Water Line of streams and lakes. It includes classifying the wetlands using one or more national methods, using the Washington rating system to determine the quality, and using a functional assessment method to analyze the ecosystem functions and societal values the wetlands provide. A Wetland and Stream Assessment Report summarizes the field data and includes a surveyed map of the wetland and stream boundaries. This information is used to determine the impacts and required compensatory mitigation for each alternative and to show how projects avoid impacts where possible.

Ditches that meet wetland criteria are included in the wetland and stream assessment. A Jurisdictional Ditch Memo is prepared by the wetland biologist to evaluate ditches for potential jurisdiction by the US Army Corps of Engineers (Corps) or the Washington State Department of Ecology (Ecology) to include with the JARPA submittal.

The Corps considers wetland delineations valid for five years from the date of the field work. If the project is delayed, the field work and report may need to be updated before the JARPA is submitted.

- Additional information on how WSDOT conducts wetland inventories, wetland assessments, and evaluates ditches is available on the WSDOT Wetland Delineation and Assessment and Wetland Procedures and Tasks web pages.
- WSDOT guidance on ditches is available on the Clean Water Act Ditch Guidance web page and from the Corps CWA Guidance web page.

431.03 Identifying Impacts to Wetlands and Other Waters

Wetland impacts are identified by comparing the surveyed wetland boundaries to the project footprint during environmental review. A short description of wetland impacts may be included directly in the environmental review document. A separate discipline report may be written if the impacts are environmentally controversial or complex.

- Guidance for writing appropriately sized discipline reports and a Wetland Discipline Report Checklist are available on the WSDOT Discipline Report Guidance web page.
- The WSDOT Wetland Procedures and Tasks web page provides additional information on writing wetland discipline reports.

431.04 Mitigating for Impacts to Wetlands and Other Waters

WSDOT's wetland protection and preservation policy is to mitigate for all adverse effects to wetlands in accordance with Governor's Executive Order 90-04. Mitigation emphasizes avoiding impacts as a preference, because avoidance has the greatest reliability and is the simplest and most effective way to preserve and protect wetlands. WSDOT uses the mitigation sequence outlined in state and federal executive orders and state and federal regulations to avoid, minimize and compensate for wetland impacts from transportation projects.

- WSDOT Policy Statement P 2038 *Wetlands Protection and Preservation*
- Additional information is available on the WSDOT Mitigation Sequence web page.
- The Federal Highway Administration (FHWA) Mitigation of Environment Impacts web page summarizes parts of 40 CFR § 1500, 1508, and 23 CFR 771 that pertain to mitigation.

(1) Comparing Alternatives and Required Mitigation

The wetland impact area is used to estimate the amount of mitigation required for each project alternative. The estimates of required mitigation are compared to the available mitigation options.

(2) Selecting a Compensatory Mitigation Option

The 2008 Final Rule on Compensatory Mitigation for Losses of Aquatic Resources expresses a preference for using credit from mitigation banks and in-lieu fee programs over creating permittee-responsible mitigation. Permittee-responsible mitigation has been the most used option in Washington because of the limited availability of other alternatives. During scoping and environmental review, WSDOT considers available mitigation options in the following order:

1. Existing WSDOT Mitigation Value – Using credit from previously completed compensatory mitigation is preferred because the value is developed before impacts to wetlands and waters occur. This reduces many of the risks and uncertainties of mitigation success. As a result, a smaller amount of developed mitigation area may be required to compensate for impacts than for undeveloped mitigation. Credit may be available from one or more of the following sources:
   - Advance mitigation sites at least two years old.
   - Nearby WSDOT mitigation sites constructed for other projects with excess credit. Excess credit is the value that is not needed to compensate for the original project and may be used for other projects.
   - WSDOT certified wetland mitigation bank. WSDOT has three banks with credit available.
2. Purchasing Third-Party Mitigation Credit –. These options have the benefit of transferring all mitigation obligations to the program sponsor with a lump sum payment, and they have the potential to be larger and thus potentially more environmentally valuable than other forms of mitigation.
   - Third-party certified mitigation banks. This option is beneficial because the compensation is provided before project impacts.
   - In-Lieu Fee Programs. The sponsor collects fees, develops, monitors and maintains compensatory mitigation within a defined service area.

   The new procurement reform law (RCW 39.26) must be followed to purchase mitigation credit. For assistance contact the ESO Financial Program Manager Stacy Herrington at herrins@wsdot.wa.gov.
3. Developing New WSDOT Mitigation – WSDOT is responsible for all aspects of compensatory mitigation in these options, including planning, permitting, implementation, performance, monitoring and long-term stewardship of the mitigation site.
   - Advance mitigation is planned and constructed before project impacts. This option provides more value per unit area than concurrent mitigation, and may be cost-effective when there are several programmed projects in proximity. There is risk that the programmed projects will not be constructed and that the type of mitigation may not be appropriate for impacts of future projects.
   - Constructing a new mitigation site concurrently with the project. This option has the benefits of WSDOT's expertise in implementation and management and may provide compensation in close proximity to the impact.

   The selected mitigation option may be included in the environmental review document if the concept is easy to explain. A wetland biologist may need to explain more complex mitigation concepts in a NEPA/SEPA Mitigation Memorandum or Conceptual Mitigation Plan appended to the environmental review document.

   State and federal regulatory agencies evaluate the mitigation concept to determine if it adequately compensates for the projected project impacts. A commitment to the mitigation option must be made during the NEPA process, leaving sufficient time to develop an appropriate mitigation plan and design for the JARPA.

   Additional information is available on WSDOT's Mitigation Options, Mitigation Bank, In-Lieu Fee, and Advance Mitigation web pages.

(3) Developing Detailed Mitigation Plans

A Draft Wetland Mitigation Plan prepared by a wetland biologist documents design decisions to avoid and minimize wetland impacts, describes the project and the remaining unavoidable impacts, and the approach for providing compensatory mitigation. Additional work necessary to develop the mitigation plan for submittal with the JARPA varies depending on the mitigation option chosen:

1. Mitigation Bank and In-Lieu Fee Programs – A mitigation bank credit use plan or an in-lieu fee program use plan must be submitted.
2. Advance Mitigation or Excess Mitigation Credit – An advance mitigation credit use plan briefly explains how the available credit compensates for project impacts and provides a ledger showing the debits and remaining credit value.
3. Permittee-Responsible Mitigation – The Draft Mitigation Plan includes all the information needed for WSDOT to plan appropriate mitigation including the rationale for selecting the site; data describing baseline (pre-construction) conditions; a detailed mitigation plan (including a grading plan and planting plan); and goals, objectives, and performance standards. For sites that include advance mitigation, the Draft Mitigation Plan should identify how the mitigation value will be developed and tracked.

   WSDOT can only use "agricultural lands of long-term commercial significance" for mitigation when there are no other options (RCW 47.01.305). Washington law directs WSDOT to consider public and private lands before using agricultural lands. Every effort must be made to avoid any net loss of commercial agricultural lands.

   A Wetland and Stream Assessment Report is required for permittee-responsible mitigation sites to document existing wetlands and other aquatic resources. The mitigation design team uses the baseline wetland conditions to determine the area available for the various types of compensatory mitigation, e.g., restoration, establishment, enhancement, and preservation. The monitoring team uses the baseline wetland information to evaluate how much of each type of mitigation has been provided after 10 years.

   - Additional information is available on the WSDOT Permittee-Responsible Mitigation web page.
   - WSDOT provides guidance on how to identify agricultural lands that must be protected and how to comply with RCW 47.01.305.

(4) Joint Aquatic Resources Permit Application (JARPA) Submittals

The JARPA can be submitted when further design refinements are not likely to change the wetland impacts. Wetland reports supporting the JARPA may include one or more Wetland and Stream Assessment Reports, and a Draft Wetland and Stream Mitigation Plan. In some cases, a Jurisdictional Ditch Memo may also be included.

431.05 Policies, Regulations, and Agreements

There are many policies, regulations, and agreements that protect wetlands. The purpose of this section is to identify wetland policies, regulations, agreements, and guidance that pertain to the environmental review phase.

(1) Policies

- WSDOT Policy Statement P 2038 *Wetlands Protection and Preservation*
- Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects

(2) Federal Statutes and Regulations

- National Environmental Policy Act (NEPA)
- Clean Water Act (Section 404) (Section 401)
- Coastal Zone Management Act
- Presidential Executive Order 11990 *Protection of Wetlands*
- Rivers and Harbors Act of 1899 (Section 9) (Section 10)
- Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (2008)
- Presidential Wetland Policy 1993

(3) State Statutes and Regulations

- State Environmental Policy Act (SEPA)
- Governor's Executive Order EO 89-10 *Protection of Wetlands*
- Governor's Executive Order EO 90-04 *Protection of Wetlands*
- RCW 90.48 *Water Pollution Control*
- RCW 90.58 *Shoreline Management Act*
- Chapter 173-700 WAC *Wetland Mitigation Banks*

(4) Local Requirements

Growth Management Act (RCW 36.70A and RCW 36.70B). Local governments are required to use Best Available Science for Wetlands when reviewing and revising their policies and regulations on wetlands.

Critical Areas Ordinances includes local requirements providing adequate mitigation for impacts to wetlands.

- The WSDOT Wetland Regulations web page contains additional information.

431.06 Abbreviations and Acronyms

Corps	U.S. Army Corps of Engineers
Ecology	Washington State Department of Ecology
EO	Executive Order
FHWA	Federal Highway Administration
JARPA	Joint Aquatic Resources Permit Application
NEPA	National Environmental Policy Act
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act

431.07 Glossary

This glossary provides reader friendly context for terms in this chapter. The associated links provide technical definitions. These terms may have other meanings in other chapters.

Advance Mitigation – Compensatory mitigation that is accepted by regulatory authorities as being established before an impact occurs. This is a form of permittee-responsible mitigation.

Buffer (33 CFR § 332.2) – An upland, wetland, or riparian area that protects or enhances wetlands or aquatic resource functions from disturbances associated with adjacent land uses.

Compensatory Mitigation (33 CFR § 332.2) – The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, or in certain circumstances preservation of wetlands or other aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Concurrent Mitigation – Compensatory mitigation established at the same time as project impacts. This is a form of permittee-responsible mitigation.

Enhancement (33 CFR § 332.2) – Changing a wetland to improve specific aquatic resource functions. Enhancement results in a gain in aquatic function, but does not result in a gain in wetland area.

Establishment (33 CFR § 332.2) – Converting an upland area to a wetland or other aquatic resource. Establishment results in a gain in wetland area and functions.

Impact (33 CFR § 332.2) – Adverse effect, whether direct, indirect, temporary, or cumulative. Typical adverse effects to wetlands or other waters include filling, draining, altering natural drainage patterns, increasing or decreasing water levels, discharging sediment or toxicants from runoff, mechanically removing wetland vegetation, altering wetland or stream buffers, or compacting wetland soils.

In-Lieu Fee Program (33 CFR § 332.2) – A program administered by a governmental or nonprofit natural resources management entity that provides compensatory mitigation and sells mitigation credits. The obligation to provide compensatory mitigation is transferred from the permittee to the in-lieu fee entity.

Mitigation – Avoiding adverse impacts to wetlands, streams and other aquatic resources, where practical; minimizing unavoidable impacts; and compensating for all remaining unavoidable impacts.

Mitigation Bank (33 CFR § 332.2) – A property developed for the purpose of providing compensatory mitigation in advance of authorized impacts to aquatic resources where wetlands are established, restored, enhanced, or preserved. A mitigation bank may sell credits to, and assume the mitigation obligations of third parties.

Mitigation Sequence – An ordered approach to mitigation that involves analyzing the affected environment, determining the effects of projects, avoiding and minimizing adverse impacts, and compensating for the remaining unavoidable impacts.

Permittee-Responsible Mitigation (33 CFR § 332.2) – Compensatory mitigation for which the permittee retains full responsibility.

Preservation (33 CFR § 332.2) – Removing a threat to, or preventing a decline of aquatic resources by implementing legal or physical mechanisms to provide permanent protection. Preservation does not result in a gain of wetland area or functions.

Restoration (33 CFR § 332.2) – Changing a site so natural or historic functions are returned to a former or degraded wetland. For the purpose of tracking net gains in wetland area, restoration is divided into Re-establishment and Rehabilitation. Re-establishment results in a gain in wetland area; rehabilitation results in a gain in aquatic resource function, but not in area.

Waters of the State – Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington (RCW 90.48.020).

Waters of the United States – Briefly, all waters that are:

1. Used in interstate commerce, including tidally influenced waters.
2. Interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds.
4. Some impoundments.
5. Tributaries of the above.
6. Territorial seas.
7. Wetlands adjacent to waters.
8. Excludes prior converted croplands and waste treatment ponds.

Wetland – In general, wetlands are areas that are normally wet enough to support plants typically adapted for life in saturated soil conditions. Washington State and federal jurisdictional definitions of wetlands are slightly different.

Wetland and Stream Assessment Report – Describes the location, classification, ratings and functional assessment for each wetland based on field work by a qualified wetland biologist and a land survey. The project area for this report should include all potential work areas so the report does not have to be updated unless the project area changes.

Wetland and Stream Mitigation Plan – Describes measures taken to avoid and minimize wetland impacts and the way compensatory mitigation will be accomplished. This plan may have several iterations and levels of detail depending on the stage of design and discussions with regulatory agencies. It is finalized as permits are issued, and often is incorporated into the permit conditions.

Wetland Discipline Report – Uses the wetland boundaries and categories in the Wetland and Stream Assessment Report and the project footprint for each alternative to estimate impacts to wetlands and other waters. It may be updated as design modifications change the adverse impacts.

Wetland Inventory Report – Describes the presence or absence of wetlands based on a brief field visit. The project area for this report should include the potential work areas for all alternatives.

432.01 Summary of Floodplain Requirements
432.02 Applicable Statutes and Regulations
432.03 Governor's Directive on Acquisitions of Agricultural Resource Land
432.04 WDFW Memorandum of Agreement for Transportation Activities
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432.01 Summary of Floodplain Requirements

This chapter addresses the potential impact of WSDOT projects on floodplains. The chapter focuses mainly on road projects. We briefly address ferries, airports, rail, and nonmotorized transport projects in Section 432.11.

The WSDOT Floodplain Discipline Report Checklist includes floodplain issues to be addressed in project development, and sources of information. Other references, documents, MOUs, Interagency Agreements, and permits included in this chapter add relevant details.

The 1998 FHWA Environmental Flowchart on Floodplains (Figure 432-1) gives a general overview of procedures required for floodplain analysis. The flowchart, which supplements the Floodplain Discipline Report, provides information and guidelines for discussing floodplain impacts with regulators.

Always contact maintenance supervisors during the project development phase to obtain input on existing flood hazards.

432.02 Applicable Statutes and Regulations

This section lists the primary statutes and regulations applicable to floodplain issues. Required permits and approvals are listed in Section 432.11.

(1) National Environmental Policy Act/State Environmental Policy Act

The National Environmental Policy Act (NEPA), 42 USC 4321, requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations are given due weight in project decision making. For work in floodplains that requires permit approval, environmental documentation must explain the impacts the project will have on these areas, and on the resources within those areas. The State Environmental Policy Act (SEPA), mandates a similar procedure for state and local actions. Federal implementing regulations are at 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ). State implementing regulations are in WAC 197-11 and WAC 468-12 (WSDOT). (See Chapters 400 and 412 for details.)

(2) Floodplain Management

Presidential Executive Order 11988 *Floodplain Management* (May 24, 1977) directs federal agencies to avoid to the extent possible adverse impacts associated with floodplains and to avoid direct or indirect support of development in the floodplain.

(3) Flood Control Management Act

The Flood Control Management Act of 1935, RCW 89, is the primary statutory authority regulating state flood control jurisdictions, which include flood control districts, counties, and zone districts. The act also regulates flood control management, flood control contributions, cooperation with federal agencies on flood control, and state participation in flood control maintenance. The 1937 RCW 86.09, Flood Control Districts, is the section of the act most relevant to WSDOT projects.

(4) Local Ordinances

Local ordinances are often the key regulatory instrument governing floodplain management. See the WSDOT Local Environmental Permits and Approvals web page for details on obtaining local approvals for work in floodplains. Local ordinances must comply with minimum federal standards; however, local jurisdictions may adopt more stringent regulations.

Many local jurisdictions have adopted so called “zero rise” stipulations in their floodplain ordinances. These stipulations disallow any increase in base flood elevation in excess of 0.05 foot. This is the limit of the precision of the models used for flood level calculations, and thus is effectively “zero rise.”

Some local jurisdictions are also adding “compensatory storage” requirements to their floodplain ordinances. These statutes require the excavation of floodplain storage areas to compensate for fill placed in floodplains. They may also stipulate elevation requirements for the location of the compensatory storage area. Currently King and Lewis counties have compensatory storage requirements; however, other jurisdictions are considering developing them as well.

Determine whether or not the proposed action will encroach upon the base (100-year floodplain.

Identify the geographic area of the floodplain.

- Federal Insurance Administration (FIA) maps and studies, including Flood Insurance Rate Maps (FIRM) and Flood Hazard Boundary Maps (FHBM), must be used, if available.*
- Other maps, US Geological Survey (USGS), Corps of Engineers, Natural Resources Conservation Service (NRCS), Bureau of Land Management, Tennessee Valley Authority (TVA), Forest Service, etc. may be used.
- Approximate maps may be developed by State highway agencies.

Is the proposed action located within the limits of the base floodplain, or would the action support base floodplain development?

No → Document the action taken to support the determination that there is no encroachment.
End

*If the project is not in a Federal Emergency Management Agency (FEMA) identified flood hazard area, FIA maps will not be available and other sources should be used.

New Executive Order Draft Out Fall 1998

Yes →

The study of project alternatives with encroachments, or support of base floodplain development, must include an exhibit which displays alternatives, floodplains, and some discussion of the following, commensurate with the level of impact.

- Risk of, or resulting from, the proposed action.
- Impacts on natural and beneficial floodplain values.
- Degree to which the action provides direct or indirect support for incompatible development in the base floodplain; i.e., the development which is not consistent with the community's floodplain development plan.
- Measures to minimize floodplain impacts associated with each alternative.
- Measures to restore and preserve the natural and beneficial floodplain values that are impacted.

In addition, if a particular alternative encroaches upon a regulatory floodway, the following questions must be addressed: (This usually requires some design studies.)

- Can the highway encroachment be located, designed and/or constructed so that it is consistent with regulatory floodway (RFW)?
- Can the RFW be revised to accommodate the proposed project?; i.e., does the RFW though moved or changed, still meet NFIP standards?
- Can the RFW elevation be exceeded; i.e., is it cost effective to mitigate flood damages associated with a floodway of greater than 1-foot rise?

Yes →

If the preferred alternative encroaches or supports substantial incompatible floodplain development, or requires commitment to a particular structure, size, or type, the project record should include an evaluation of practicable alternatives to avoid or eliminate such involvements or commitments.

No ↓

Does the preferred alternative include a significant encroachment or significant incompatible floodplain development?

- Is there significant potential for flood-related property loss or hazard to human life?
- Is there significant adverse impact on natural and beneficial floodplain values?
- Is there significant potential for interruption or termination of the community's only evacuation route or facility needed for emergency vehicles?

Yes →

No ↓

Documentation of the floodplain assessment should be included in the appropriate environmental document of the project file.
End

The project may not be approved unless the responsible official makes a written finding that the encroachment is the only practicable alternative. The "Only Practicable alternative Finding" must be supported by:

- The reasons why the proposed action must be located in the floodplain.
- The alternatives considered, and why they were not practicable,
- A statement indicating whether the action conforms to applicable State or local floodplain protection standards.

End

Figure 432-1

432.03 Governor's Directive on Acquisitions of Agricultural Resource Land

Governor Gregoire directed WSDOT to notify the Governor's Chief of Staff when WSDOT is seriously considering the use of agricultural properties. The directive, as conveyed in a letter dated May 15, 2007, is available in Appendix A.

For information on how this directive is being implemented, especially on actions to condemn or purchase designated agricultural resource lands for environmental mitigation purposes. (See Section 450.06.)

432.04 WDFW Memorandum of Agreement for Transportation Activities

The purpose of this MOA is to establish and promote mutual agreement on the needs and mandates of the respective agencies, to facilitate the consistent and efficient administration of Hydraulic Project Approvals (HPAs) for transportation projects under RCW 77.55 (Construction Projects in State Waters), and WAC 220-110 (Hydraulic Code Rules); to ensure that fish passage at transportation projects is facilitated through RCW 77.57 (Fishways, Flow, and Screening); and facilitate the implementation of the Chronic Environmental Deficiency Program. This agreement replaces the MOA Concerning Construction of Projects in State Waters, June 2002. (See Chapter 436 for details.)

432.05 Floodplain Discipline Report

A Floodplain Discipline Report must be completed whenever a proposed project intersects with, or is located in, a jurisdictional floodplain, particularly when the placement of new fill, structures, in-water structures (such as barbs or weirs), bridges, channel modifications or re-locations are involved. Further instructions pertaining to Floodplain Discipline Reports can be found on the WSDOT Floodplain Guidance web page.

The WSDOT Floodplain Discipline Report Checklist ensures that floodplain issues are considered in projects. The discipline report should provide the information required for an EIS, EA, or DCE, and for floodplain permits. The extent of analysis should be proportionate to the level of impact without over analyzing or providing unnecessary information.

The checklist includes these sections:

1. Introduction and preliminary drainage survey.
2. Affected environment, shown mainly by mapping.
3. Studies and coordination including flood history and identification of permits required.
4. Summary. The summary should include enough detail so it can be included in an EIS with only minor modification. Further instructions pertaining to the Checklist can be found on the *Environmental Manual* website for this chapter.

The 1998 FHWA Environmental Flowchart on Floodplains (Figure 432-1) provides an overview of floodplain issues.

432.06 FHWA Floodplain Technical Advisory

FHWA Technical Advisory T 6640.8A (October 1987) gives guidelines for preparing environmental documents, including specifically the section on floodplains. For example, an EIS should identify whether proposed alternatives would encroach on 100 year floodplains, preferably demarcated by NFIP maps. Coordination with the Federal Emergency Management Agency (FEMA) and appropriate State and local government agencies should be undertaken for each floodway encroachment. If a floodway revision is necessary, an EIS should include evidence from FEMA and State or local agencies indicating that such a revision would be acceptable.

The NFIP Flood Insurance Rate Maps (FIRMs) are designed for insurance purposes. As such, most are not accurate enough to rely upon for engineering design or land use decision making. The NFIP maps tend to underestimate both the extent and depth of inundation, and this tendency should be taken into account. Some of the drawbacks of the FIRM maps are:

- Many do not have calculated Base Flood Elevations (BFEs) at all (i.e., they show only unnumbered A Zones which have limited utility).
- Many are based on outdated hydrographic and channel cross section data.
- Many are based on inadequate topographic data.
- The delineation of channel migration zones (CMZs) and the relationship between the CMZs and the 100 year floodplain are not well established on the FIRM maps, yet these are extremely important considerations with regard to planning transportation projects in the vicinity of floodplains, particularly those located near the larger, more dynamic rivers.

At a minimum, floodplain maps should contain topographic information accurate to two foot contours or better.

Floodplains should be modeled using current and accurate hydrographic data using current cross sectional data and properly calibrated modeling tools.

In addition to floodplain delineation and base flood elevation calculation, the CMZs should be mapped and overlaid in order to assess the possibility of channel migration or avulsion affecting project longevity.

The floodplain discipline report is structured to meet the requirements of the FHWA technical advisory. However, WSDOT should ensure that all requirements of the FHWA are met by carefully reading the technical advisory, which can be located under floodplain impacts on the FHWA website.

FHWA's online Environmental Guidebook contains several floodplain related documents including guidance for the evaluation of encroachments on floodplains (February 22, 1982).

432.07 FHWA Federal Aid Policy Guide on Floodplains

The Federal Aid Policy Guide (FAPG) of December 7, 1994, contains the FHWA's current policies, regulations, and non-regulatory procedural guidance information related to the federal aid highway program. (The FAPG replaced the *Federal Aid Highway Program Manual* on December 9, 1991.) Regulatory authority for this guidance is found in 23 CFR 650 Subpart A; 42 USC 4001 et seq.; Public Law 92 234, 87 Stat. 975.

The FAPG includes policies and procedures for the location and hydraulic design of highway encroachments on floodplains.

432.08 Flood Emergency Procedures

ESO is coordinating with the WSDOT Maintenance Division to develop guidance for response to flooding and other emergencies. The definition of "emergency" and the appropriate expedited contracting and environmental procedures for responding to emergency are clarified in a memorandum from the Attorney General's Office dated April 19, 2002.

See also the MOA on work in state waters, referenced in Chapter 436, and the WSDOT *Emergency Operations Plan* M 54 11.

Further development of regional emergency project implementation guidance is needed, similar to the strategic plan for emergency flood repair on the Methow, Okanogan, Similkameen, Entiat, and Nooksack Rivers, prepared in May 1999 by Herrera and Associates, Inc. Reach Analyses prepared by WSDOT ESO for projects in problem areas along the Hoh, Nooksack, Naches, Sauk, Snohomish, Yakima, White, and other rivers provide good templates for developing area specific guidance.

Sites with repetitive damage histories (three events in 10 years) should be considered for nomination to the Chronic Environmental Deficiencies (CED) Program, which addresses sites with repetitive damages associated with watercourses. Under the auspices of the CED program, ESO hydrologists and geomorphologists provide technical assistance to regions in preparing Reach Analyses to develop solutions to complex riverine problems, which become the foundation of a CED project.

432.09 Flood Control Assistance Account Program (FCAAP)

The Flood Control Assistance Account Program (FCAAP) is a statewide financial assistance program, established by the legislature in 1984 to help local jurisdictions reduce flood hazards and flood damages (RCW 86.26 and WAC 173-145). Matching grants are available to counties, cities, towns, special districts, and eligible tribes for comprehensive flood hazard management plans, specific projects or studies, and emergency flood related activities. The program is administered by the Washington State Department of Ecology (Ecology). Applicants must participate in the National Flood Insurance Program (NFIP). The Ecology website includes a general introduction to FCAAP grants, guidelines on how to apply for grants, an application form to download, sample grant agreements, invoice forms for grant recipients, progress report forms, and contacts at Ecology for more information and help in preparing or implementing grant agreements.

432.10 Floodplain Permits and Approvals

Projects affecting floodplains may be subject to one or more of the permits listed in Chapter 430, Surface Water. The only permit or approvals relating specifically to floodplains are county or city floodplain development permits. For details, see the WSDOT Local Environmental Permits and Approvals web page.

432.11 Non-Road Project Requirements

Federal agencies maintain their own unique NEPA procedures in CFR. As such each agency may have different documentation and procedural requirements for complying with NEPA. If your project has a federal nexus with more than one federal agency, it is critically important to meet with the federal lead agencies and determine how to proceed. In some cases the federal agencies may agree to co-lead the NEPA process. In others, one agency may serve as lead and the other as a cooperating agency. This decision needs to be made very early in the process to ensure timely approval of your environmental document. The exact requirement will vary depending on the nature of the project, federal permits and approvals required, and individual circumstances. Common examples of projects that require coordination with more than one federal agency are:

- An FHWA funded project that crosses National Forest Lands.
- A project that receives FHWA and FTA funding.
- Any highway project involving FRA or FAA.
- An FHWA funded project that requires an Army Corps of Engineers Individual permit.

432.12 Floodplain Resources

(1) Comprehensive Flood Hazard Management Plans

Ecology's *Comprehensive Planning for Flood Hazard Management* (Ecology Publication #91-44) describes comprehensive flood hazard management plans. Approved plans must meet federal and state requirements for local hazard mitigation plans. Copies may be ordered online using information located on the Ecology website. Other floodplain resources can be found there as well.

(2) Local Floodplain Management

Information on floodplain management with respect to local governments is available online.

The website includes links to floodplain ordinances for a number of Washington cities and counties.

(3) Emergency Relief Procedures Manual M 3014

WSDOT provides this manual to assist in obtaining federal resources for the repair of local federal aid highway facilities damaged and/or destroyed by natural disasters or major catastrophes. It provides the legal and procedural guidelines for WSDOT employees to prepare all necessary documentation to respond to, and recover from, emergencies/disasters that affect the operations of the department.

(4) WSDOT GIS Workbench

The WSDOT GIS Workbench contains much useful information. This tool is a GIS interface for internal WSDOT users only. It has numerous layers of environmental and natural resource management data. WSDOT works with federal, state, and local agencies to maintain a collection of the best available data for statewide environmental analysis. Available data sets include FEMA data and other information necessary to write the floodplain reports. Local jurisdictions can be contacted to find out whether additional local floodplain mapping is available, on GIS or hard copy. WSDOT's GIS staff process requests for access to the workbench and a list of current data sets.

432.13 Abbreviations and Acronyms

BFE	Base Flood Elevation
CMZ	Channel Migration Zone
FAPG	Federal Aid Policy Guide
FCAAP	Flood Control Assistance Account Program
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
NFIP	National Flood Insurance Program

432.14 Glossary

Avulsion—A sudden, dramatic shift of the river into a new course or channel

Base Flood Elevation (BFE) – The calculated or estimated 100 year flood water surface elevation.

Compensatory Storage – A provision of some local floodplain ordinances requiring the excavation of floodplain storage area as compensatory mitigation for fill placed in floodplains. The ordinances may also stipulate elevation requirements for the location of the compensatory storage area.

Flood – A general and temporary condition of partial or complete inundation of normally dry land areas from one of the following four sources:

- Overflow of inland or tidal waters.
- Unusual and rapid accumulation or runoff of surface waters from any source.
- Mudslides or mudflows that are like a river of liquid mud on the surface of normally dry land area, as when earth is carried by a current of water and deposited along the path of the current.
- Collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water.

Floodplain – Any land area susceptible to being inundated by flood waters from any source; usually the flat or nearly flat land on the bottom of a stream valley or tidal area that is covered by water during floods.

Floodplain Boundaries – Lines on flood hazard maps that show the limits of the 100 and 500 year floodplains.

Floodway – The channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively raising the water surface elevation more than a designated height. Normally, the base flood is defined as the 1 percent chance flood and the designated height is one foot above the pre floodway condition.

Special Flood Hazard Area – An area with a one percent chance of being flooded in any given year. You may also hear this called 100 year floodplain. FEMA further defines a variety of zones within special flood hazard areas which describe whether the determination is based on approximate or detailed flood studies, and whether formal BFEs have been established.

Zone A indicates an unnumbered A zone without formal BFEs established. Zone is established through approximation.

Zones AE and A1 A30 indicate that the zone has established BFEs derived from a detailed hydraulic analysis.

Zone AH usually corresponds to areas of ponding with relatively constant surface elevations. Average depths are between one and three ft.

Zone AO corresponds to areas of shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three ft.

Zone AR depicts areas in the floodplain that are protected by flood control structures such as levees that are being restored.

Zone A99 corresponds to areas that will be protected by a Federal flood protection structure or system where construction has reached statutory milestones. No BFEs are depicted in these zones.

Zone D indicates the possible but undetermined presence of flood hazards.

Zone V indicates additional coastal flooding hazards such as storm waves. Study is approximate and no BFEs are shown.

Zone VE indicates additional coastal flooding hazards such as storm waves. Study is detailed and BFEs are shown.

Zones B, C, and X correspond to areas outside of the 1 percent recurrence floodplain with a one percent chance of shallow sheet flow or minor stream flooding with water depths of less than one ft. Studies are approximate and no BFEs are shown for these areas.

Zero Rise (floodplain) – A provision of many local floodplain ordinances that disallows any increase in base flood elevation in excess of 0.05 ft.

433.01 Summary of Requirements for Groundwater
433.02 Groundwater Policy Guidance
433.03 Groundwater Related Interagency Agreements
433.04 Groundwater Technical Guidance
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433.01 Summary of Requirements for Groundwater

The National Environmental Policy Act (NEPA) requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations (including impacts to groundwater) are given due weight in project decision making. The State Environmental Policy Act (SEPA) mandates a similar procedure for state and local actions.

In general, transportation projects must be designed to avoid significant adverse environmental impacts to groundwater resources, and mitigate any unavoidable adverse impacts (e.g., through use of Best Management Practices or BMPs). Impacts to groundwater are considered in the context of overall water quality, and as a drinking water source. Protection of groundwater quality is provided for by the Federal Clean Water Act and related state statutes and regulations. Protection of groundwater and groundwater sources (aquifers) used for drinking is provided for by the federal Safe Drinking Water Act and related state statutes and regulations, as well as the state Growth Management Act and associated local Critical Areas ordinances.

This chapter and its associate web links include information and requirements for describing groundwater resources in the vicinity of the project area, and identifying potential significant adverse environmental impacts of project alternatives on these resources. Other information relevant to this chapter may be found in Chapter 420 Geology and Soils and Chapter 430 Surface Water of this manual.

A full Discipline Report is required when one or more project alternatives may introduce enough stormwater or wastewater into an aquifer or its recharge zone to create a significant adverse environmental impact. The Groundwater Discipline Report should include information on regional and local aquifers underlying and/or proximally down gradient from the project area, and determine whether stormwater or wastewater discharges produced by any project alternatives are likely to enter Sole Source Aquifers (SSA), Critical Aquifer Recharge Areas (CARA), or Wellhead Protection Areas (WPA) in quantities sufficient to produce a significant adverse environmental impact. It should also identify other significant adverse environmental impacts to groundwater, and mitigation options for identified impacts.

433.02 Groundwater Policy Guidance

(1) State Source Water Assessment and Protection Programs Guidance

State Source Water Assessment and Protection (SWAP) Program guidance is required under the Safe Drinking Water Act amendments of 1996 to ensure better quality drinking water. Water assessments will generate information on significant potential contamination sources and will also generate information regarding the susceptibility of systems to contamination. The USEPA is responsible for the review and approval of state SWAPs.

State Source Water Assessment and Protection Programs Final Guidance (USEPA Publication 816 R 97 009) describes USEPA's recommendations for what should be the elements of a State SWAP program, and of the importance of federal, state and public cooperation in developing and implementing SWAP programs.

433.03 Groundwater Related Interagency Agreements

(1) Sole Source Aquifers

A 1988 Memorandum of Understanding between FHWA Region 10, USEPA Region 10 and WSDOT was developed to assure that each highway project that is to receive FHWA financial assistance is designed and constructed in a manner that will prevent the introduction of contaminants into a sole source aquifer (SSA) in quantities that may create a significant hazard to public health.

The MOU includes:

- A list of SSAs as of 1988 (Attachment A) – go to current list
- Excluded projects (Attachment B)
- Projects that should be submitted to USEPA (Attachment C)
- 1987 National Primary Drinking Water Regulations (Attachment D)

To comply with the Sole Source Aquifer MOU:

- Provide USEPA an early opportunity to participate in development and review of environmental documents. USEPA should be contacted before the first draft document is circulated outside WSDOT for general review.
- Immediately transmit to USEPA any agency comments received indicating adverse impacts on the aquifer.
- Respond to USEPA direction.

Technical guidance for implementing the requirements of this MOU is available the WSDOT Groundwater web page.

(2) Drinking Water Well Sanitary Control Areas – Screening Criteria

The purpose of this 2006 agreement is to clarify expectations, establish project screening criteria, and facilitate communication among WSDOT, DOH, and water purveyors when a proposed highway project intersects with the sanitary control area of a public water supply.

Technical guidance for implementing the requirements of this MOU is available the WSDOT Groundwater web page.

433.04 Groundwater Technical Guidance

Technical guidance and support documents related to groundwater resources and impacts are available on the WSDOT Groundwater web page.

433.05 Applicable Statutes and Regulations

This section lists the primary statutes and regulations applicable to groundwater issues.

(1) Federal

National Environmental Policy Act – See Chapter 400 Environmental Review Process Overview for more information.

Safe Drinking Water Act – The Safe Drinking Water Act (SDWA) sets national primary drinking water standards, regulates underground injection of fluids, and allows for designation of Sole Source Aquifers. Implementation of the SDWA is delegated to individual states.

Clean Water Act – See Chapter 430 Surface Water for more information on the Clean Water Act.

(2) State and Local

State Environmental Policy Act – See Chapter 400 Environmental Review Process Overview for more information.

State Water Quality Laws and Administrative Rules – State water quality regulations are mandated by the federal Clean Water Act (CWA). RCW 90.48 Water Pollution Control Act is the primary water pollution law for the state of Washington. The law mandates that all underground water be protected; however, water in the vadose zone (unsaturated zone) is not specifically protected. See Chapter 430 Surface Water for more information on the state Water Pollution Control Act.

WAC 173-200 identifies and mandates groundwater quality standards to maintain the highest quality of the state's groundwater and to protect existing and future beneficial uses of the groundwater through the reduction or elimination of contaminant discharge. Because many citizens drink groundwater and use it in their homes, the state of Washington currently classifies all of its groundwater as a potential source of drinking water. It is not necessary for ground water to be defined as an aquifer (i.e., a saturated permeable geologic formation that can produce a significant quantity of water) in order to be protected. Likewise the standards do not distinguish ground water which is perched, seasonal or artificial.

Drinking Water – Source Water Protection – Protection of drinking water sources (surface and groundwater) is mandated by the federal Safe Drinking Water Act.

In Washington, RCW 43.20.050 designates the State Department of Health (DOH) as lead agency for assuring safe and reliable public drinking water supplies, in cooperation with local health departments and water purveyors. State regulations (WAC 246-290-135 for Group A systems; WAC 246-291-100 for Group B systems) provide for two types of area based controls for source protection of wells and springs serving as sources of public water supplies:

Underground Injection Control – The Underground Injection Control (UIC) Program, authorized by the federal Safe Drinking Water Act, is designed to prevent contamination of underground sources of drinking water from the use of injection wells.

The national UIC Program is administered by EPA under 40 CFR 144. The Washington State Department of Ecology was delegated authority by USEPA to administer the program in Washington State, and operates under RCW 43.21A.445 and RCW 90.48 and WAC 173-218. All new underground control activities must treat the "waste" fluid before injection. Technical guidance on meeting UIC program requirements, including the current minimum acceptable level of treatment for stormwater and on-site sewage, is available here.

Growth Management Act – This statute (RCW 36.70A), combined with Article 11 of the Washington State Constitution, mandates development and adoption by local jurisdictions of ordinances that classify, designate, and regulate land use in order to protect critical areas. Aquifer recharge areas are one type of critical area, and are regulated through local Critical Aquifer Recharge Area (CARA) ordinances. See Section 450.02 for more information on the GMA.

Under the GMA, state agencies must comply with local comprehensive plans and development regulations; likewise, local agencies should coordinate with WSDOT. See the section of Local Critical areas Ordinances below for more information and links.

Local Critical Areas Ordinances – The purpose of Critical Aquifer Recharge Area (CARA) ordinances is to provide cities and counties with a mechanism to classify, designate, and regulate areas deemed necessary to provide adequate recharge and protection to aquifers used as sources of potable (drinking) water. Unless the local laws conflict with state law, WSDOT must meet the requirements of local regulations. Local planning departments should be contacted to determine the location or descriptive criteria of geologically hazardous areas that may impact the project.

Additional information on local implementation of CARAs may be available at websites for the appropriate local jurisdictions (search for "critical areas" or"growth management").

433.06 Abbreviations and Acronyms

AKART	All known, available, and reasonable methods of prevention, control, and treatment
BMPs	Best Management Practices
CARA	Critical Aquifer Recharge Area
DOH	Washington State Department of Health
GIS	Geographical Information System
GMA	Growth Management Act
NPDES	National Pollutant Discharge Elimination System
OSS	On site Sewer
SCA	Sanitary Control Area
SDWA	Safe Drinking Water Act
SSA	Sole Source Aquifer
SWAP	Source Water Assessment and Protection
SWDP	State Waste Discharge Permit
UIC	Underground Injection Control
WPA	Wellhead Protection Area

433.07 Glossary

Critical Aquifer Recharge Area (CARA) – An area designated by a city or county for protection under the Growth Management Act that has a critical recharging effect on aquifers used for potable water.

Groundwater – Water that occurs below the surface of the earth, contained in pore spaces. It is either passing through or standing in the soil and underlying strata and is free to move under the influence of gravity.

Group A water systems regularly serve 15 or more residential connections or 25 or more people/day for 60 or more days per year. All remaining systems are designated **Group B**. Wells serving a single residential connection are not considered public water supplies, but are generally regulated by local ordinances

Injection Well – Any disposal system designed to place fluids, including highway runoff and treated wastewater from on site sewage disposal systems, into the subsurface. Such systems include bored, drilled, or dug holes; for example dry wells, French drains, and drain fields.

Sanitary Control Area (SCA) – An area (minimum radius 100 ft) maintained around a public water source (surface or well) for the purpose of protecting that source from existing and potential sources of contamination. No sources of contamination may be constructed within the sanitary control area without the permission of the Washington Department of Health (DOH) and the water purveyor. DOH guidance identifies stormwater runoff and spills resulting from vehicular accidents on roadways as potential sources of contamination.

Sanitary Control Area (SCA) – An area established and maintained around a well or spring for the purpose of protecting it from existing and potential sources of contamination. The minimum SCA is a 100 ft radius about the source for wells, and 200 ft for springs, unless "engineering justification" supports a smaller area. The well or spring owner is required to have fee simple ownership of the SCA, and must prohibit or exercise direct control over the construction, storage, disposal, or application of existing or potential sources of contamination.

Sole Source Aquifer (SSA) – An aquifer designated by USEPA that (1) supplies 50 percent or more of the drinking water to the population living over the aquifer, (2) has distinct hydrogeological boundaries, and (3) for which there is no economically feasible alternative source of drinking water if it should become contaminated.

Source Water Protection Area – Area protected for drinking water supplies; these include Wellhead Protection Areas and Sanitary Control Areas.

Wellhead Protection Area – Area managed by a community to protect groundwater drinking water supplies.

Wellhead Protection Areas (WPA) – A portion of the zone of contribution for a Group A well or spring, as determined by delineation criteria based on the estimated time of travel for a particle of water from the zone boundary to its eventual arrival at the well. Water purveyors are required to inventory all known and potential groundwater contamination sources within the WHPA and complete a susceptibility assessment every five years. Additional information is available in DOH's *Wellhead Protection Guidance Document*.

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436.01 Fish, Wildlife, and Vegetation Policies and Regulations

Sensitive wildlife, fish, plants, and their habitat require special consideration during project planning and development. Many federal, state, and local regulations apply to projects that may impacts natural resources. The Washington State Department of Transportation's (WSDOT) policy is to follow and comply with all federal and state mandated regulations (RCW 47.04.280). Therefore, WSDOT biologists are involved in all stages of project development, evaluating potential adverse impacts and recommending impact avoidance or minimization measures.

Projects with a federal nexus, meaning they have federal funding, requires a federal permit, or takes place on federal lands, must follow the most prominent laws; the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). All projects, regardless of funding source, must comply with Section 9 of the ESA, the State Environmental Policy Act (SEPA) (RCW 43.21C), Migratory Bird Treaty Act (MBTA), Marine Mammal Protection Act (MMPA), Bald and Golden Eagle Protection Act (BGEPA), and local ordinances.

While the main focus of this chapter is to summarize regulations associated with fish, wildlife, and vegetation resources, this chapter also provides guidance on how to address these regulations for common types of projects.

436.02 Addressing Fish, Wildlife, and Vegetation in the NEPA/SEPA Process

The National Environmental Policy Act (NEPA), 42 USC 4321, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations such as impacts related to fish and wildlife are given due weight in decision making. Federal implementing regulations are at 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ). WSDOT's policy is to follow all guidance and direction provided by the federal lead agency on NEPA related documents. The analysis of impacts to fish, wildlife and vegetation can be recorded directly in the project's environmental document. In rare cases when warranted by the nature of the project, the analysis can be documented in separate Fish, Wildlife, and Vegetation discipline reports. Templates and checklists provide document requirements for WSDOT projects. For additional details on NEPA procedures. (See Chapters 400 and 412.)

436.03 Working With Endangered and Threatened Species

Both the state and federal agencies regulate threatened and endangered species in Washington. WSDOT complies with the ESA, which is administered by the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). The USFWS is primarily responsible for terrestrial and freshwater species, while NMFS responsibilities lie mainly with marine wildlife and anadromous fish. Significant sections of the Act include.

- **Section 4** of the ESA allows for the listing of species as threatened or endangered based on habitat loss or degradation, over utilization, disease or predation, inadequacy of existing regulation mechanisms, or other human caused factors. Section 4(d) allows for the promulgation of regulations to provide for the protection and conservation of listed species. It may allow for "take" of threatened species.
- **Section 6** of the ESA focuses on cooperation with the states and authorizes USFWS and NMFS to provide financial assistance to States that have entered into cooperative agreements supporting the conservation of endangered and threatened species.
- **Section 7** of the ESA requires each federal agency to ensure actions it carries out, authorizes, permits, or funds do not jeopardize the continued existence of any threatened or endangered species. It describes consultation procedures and conservation obligations.
- **Section 8** of the ESA outlines procedures for international cooperation.
- **Section 9** of the ESA prohibits a "take" of listed species. "Take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect or attempt to engage in such conduct" (1532(18)). Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." An exception to the "take" prohibition applies to endangered plants on non-federal lands, unless the taking is "in knowing violation of any law or regulation of any state or in the course of any violation of a state criminal trespass law" (1538(a)(2)(B)). Protection from commercial trade and the effects of federal actions do apply for plants. The NMFS evaluates each threatened species under its jurisdiction on a species by species basis to determine whether or not the "take" prohibition will apply. Section 4(d) of the ESA allows for each service (USFWS and NMFS) to develop special rules (4(d) rules) to conserve species listed as threatened. These protections allow some take of threatened species that does not interfere with survival and recovery.
- **Section 10** of the ESA lays out guidance on permits that may be issued to authorize "take" as defined in Section 9.
  - Section 10(a)1(A) allows permits for take of listed threatened or endangered species for scientific research or purposes of propagation or survival.
  - Section 10(a)1(B) allows permits for incidental take of threatened or endangered species through the development and approval of Habitat Conservation Plan (HCP).

WSDOT has made ESA compliance an agency wide priority. Therefore, all WSDOT projects are required to comply with Section 9 of the ESA (prohibited acts). If the project has a federal nexus, such as federal funding, permitting, or is on federal lands, it is also subject to Section 7 of the ESA. Projects located on lands covered by an HCP must comply with rules defined in the plan. Standard maintenance operations are covered under Section 4(d) Rules for fish species under NMFS jurisdiction.

WSDOT identifies potential impacts to listed or proposed species and critical habitats associated with a proposed action and then attempts to avoid, minimize, or eliminate these impacts. For some actions, WSDOT conducts preliminary environmental reviews to identify likely impacts early in the project design. This approach allows for design adjustments if impacts to listed or proposed species and/or critical habitats are identified.

(1) Maintenance Activities and the ESA Section 4(d) Rule

In July 2000, NMFS adopted a rule under Section 4(d) of the ESA (65 FR 42422), which allows take of threatened fish species. Under this rule, the take prohibition is not applied to threatened species when the take is associated with one of NMFS's 13 approved programs or limits. The 13 limits can be considered exceptions to the 4(d) take prohibition. NMFS has determined that these programs, activities, and criteria contribute to species conservation and therefore it is not necessary to impose take prohibitions. As new fish species are listed, NMFS updates the rule to include the new species. The rule applies to any agency, authority, or private individual subject to U.S. jurisdiction that applies for coverage under the rule. In 2003, WSDOT applied for and received approval as part of the Regional Road Maintenance Program (RRMP)for take exception under the 4(d) rule.

Note: If there is a federal nexus, Section 7 consultation is still required.

WSDOT's routine, unscheduled, and emergency/disaster maintenance activities are covered under the Routine Road Maintenance limit along with 29 other cooperating agencies. The program defines general practices (such as adaptive management, monitoring, and training) and specific Best Management Practices that WSDOT uses to avoid adverse impacts to aquatic environments.

(2) ESA Section 7 Compliance

All projects with a federal nexus are subject to Section 7 of the ESA and an analysis is required to ensure compliance with the ESA. The project biologist – either a WSDOT biologist or a consulting biologist – conducts a preliminary evaluation to determine the level of project impacts on listed species or designated critical habitat. Depending on the level of impacts, preparation of a "no effect" letter and/or a biological assessment (BA) will be required. Templates are required for projects with FHWA as the lead action agency. WSDOT has developed extensive guidance and protocols for ESA Section 7 Compliance.

Consultant biologists on contract with WSDOT must be qualified to write BAs for WSDOT. WSDOT has developed a process for BA preparation for biologists to use (see Figure 436-1). The biologist first prepares a project specific species list. After a detailed species list is developed, the project biologist conducts a site visit with the project engineer. The site visit provides an opportunity to identify suitable habitat presence, possible minimization measures, obtain site photos, and determine if species surveys are necessary.

Once the project biologist has completed the site visit and identified the species potentially impacted by the project, the ESA analysis can occur. Complex projects should be discussed with the Services prior to the preparation of the ESA documentation. To facilitate the discussion, WSDOT holds monthly meetings with NMFS, USFWS, and FHWA where projects can be presented and discussed. At these meetings, project designs and impact analysis are presented and methods to reduce impacts to listed species are discussed with the Services, prior to submittal of the project BA to the Services. These meetings are especially valuable for complicated projects involving in-water work, pile driving or other significant impacts. Large complicated projects may be presented at more than one meeting.

There are three primary types of documentation that can be completed: No Effect Letter or Assessment, Programmatic Biological Assessment, or Individual Biological Assessment. For each listed species evaluated, a BA must arrive at one of three conclusions:

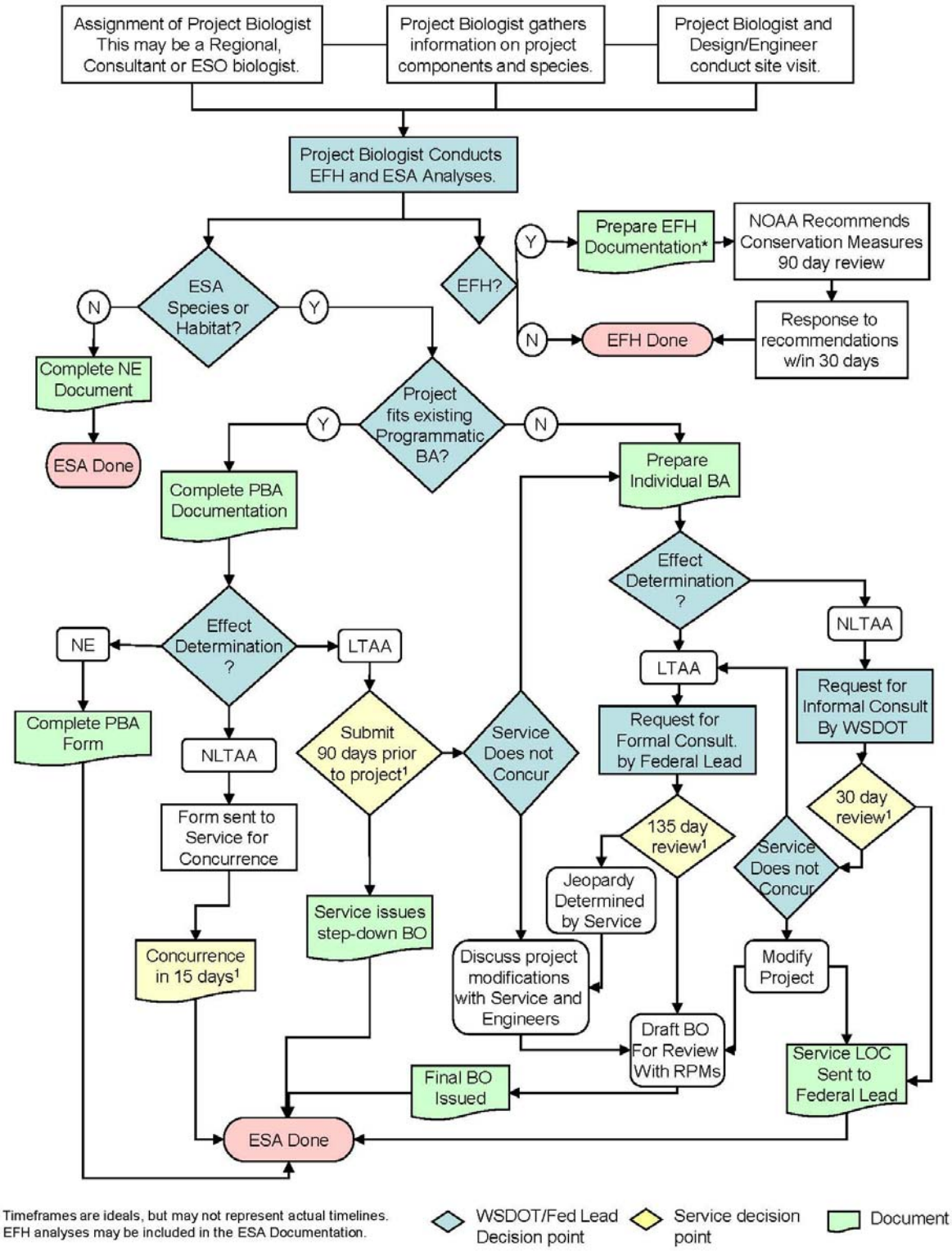
- The action will have "no effect" on the species.
- The action "may affect, not likely to adversely affect" the species.
- The action "may affect, likely to adversely affect" the species.

A BA must also address the effects on any proposed species or proposed critical habitats in the project action area. For proposed species, the BA must determine whether or not the action will "jeopardize the continued existence" of the species. For proposed critical habitat, the BA must determine whether or not the action will "destroy or adversely modify" proposed critical habitats. If a "jeopardy" or "will destroy or adversely modify" determination is made, the project can't go forward as proposed. A conditional effect determination must be made in the BA for each proposed species or critical habitat as well as a jeopardy or adverse modification determination.

BAs prepared for WSDOT must follow specific guidance developed by WSDOT. Guidance documents are developed through cooperative agreements and in collaboration with FHWA, NMFS, and USFWS. The guidance standardizes analyses, improves consistency and facilitates quality control reviews. The guidance is updated regularly and the website should be checked regularly for current guidance. Guidance includes:

- BA Preparation Seminars taught regularly by WSDOT.
- A required methodology for analyzing the effects of stormwater on ESA listed fish species.
- Identifying the extent of aquatic and terrestrial noise impacts.
- Required methodology for analyzing indirect effects of a project.

BAs are submitted to the appropriate Service (USFWS or NMFS) depending on the species addressed. A non-federal agency (such as WSDOT) designated by a federal action agency may submit a BA for informal consultation. During informal consultation, the Service reviews the BA and ascertains if they concur with the effect determination conclusions. If the agency concurs in writing, then no further consultation is needed. The agency may request additional information before giving concurrence and the project biologist should respond to such requests within two weeks. However, if the Service does not concur with the effect determinations, the consultation enters formal consultation at the request of the federal action agency.



WSDOT ESA/EFH Consultation Process Flowchart

Figure 436-1

Formal consultation involves a "may affect, likely to adversely affect" determination for one or more listed species or designated critical habitats. Formal consultation packages are submitted to the Service(s) by the federal action agency (i.e., FHWA, FTA, U.S. Army Corps of Engineers). During formal consultation, NMFS/USFWS may recommend modifications to eliminate or reduce adverse effects. If effects can be reduced to an insignificant or discountable level, then consultation proceeds informally. Formal consultation ends when NMFS/USFWS issues a biological opinion (BO). The ESA mandates that BOs be completed within 135 days, although extensions are possible at the request of the consulting Service. However, formal consultations typically take much longer (averaging 250 days or more) and this timeline should be factored into project schedules. Questions on current consultation timelines can be directed to the Environmental Services Office Fish and Wildlife Program.

(3) ESA Section 9 Compliance

Section 9 of the ESA prohibits take of listed species. Section 4(d) protective rules for threatened species may apply Section 9 take prohibitions to threatened species. There may be an "exception" from the prohibitions if a program adequately protects listed species. In other words, the 4(d) rule can "limit" the situations to which the take prohibitions apply. Many of WSDOT maintenance activities are covered under existing Section 4(d) rules. All projects are required to conduct an ESA review. If during the review it appears that incidental take cannot be avoided, the project will be modified or a federal nexus identified for Section 7 consultation.

436.04 Working on Public Lands

Specific regulations apply to projects located on public lands. These projects may include a federal nexus as described previously, or not. In either case, public land managers (i.e. US Forest Service (USFS), Bureau of Land Management (BLM), Washington State Department of Natural Resources (DNR), National Park Service (NPS), and others) may require additional review to meet their regulatory obligations and mission goals. WSDOT policy encourages coordination and cooperation with public land agencies and adherence to their regulations.

National Forest Management Act (NFMA, 16 USC 1604 (g)(3)(B)) requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. The NFMA applies directly to lands administered by the USFS, but also provides direction for BLM land management plans. The BLM and USFS have integrated NEPA requirements with their land management regulations. In 2008, the USFS implemented new planning rules that offer a more strategic approach to land management plan development, amendment, and revision, as well as expanded public involvement.

The USFS has developed forest specific "forest plans" which identify "species of concern" found within each forest. Species lists are comprised of several categories of species such as federally listed species, USFS sensitive species, survey and manage species, and state listed species. Forest plans can cover a wide range of species (e.g., slugs, lichens, mammals). Individual forest staff or regional foresters decide which designated species to include on its species of concern list. Project requirements are associated with species ranking. However, actions on federal land must always comply with the ESA (436.03).

Northwest Forest Plan (NWFP) is a management plan affecting federal forest lands within the range of the northern spotted owl in western Washington, Oregon, and northern California. The standards and guidelines set forth in this plan supersede any existing forest plans within the range of the spotted owl. All WSDOT projects occurring on federal forest lands within the range of the northern spotted owl must follow the standards and guidelines within the NWFP.

WSDOT projects that involve federal forest lands must comply with regulations under the NFMA and the NWFP. The USFS policy (FSM 2670.32) states that all programs and activities will be reviewed in a Biological Evaluation (BE) to determine the potential effect of such proposed activities on sensitive species. Guidance for developing BEs is located in the USFS Manual or the BLM Policy Manual. In most cases, WSDOT BA formats and programmatic documents can meet USFS and BLM requirements by adding in information on sensitive species. Further, the policy states that impacts of such activities must be avoided or minimized and any permitted activities must not result in a loss of viability or create significant trends towards Federal listing. Similar to the USFS policy, the BLM Manual 6840 describes policy regarding special status species on BLM lands. Lists of special status and sensitive species for USFS and BLM as well as recent policy can be obtained from the Interagency Special Status/Sensitive Species Program.

The regional or state office of the federal agency responsible for the affected federal lands should be contacted to obtain a species of concern (special status or sensitive) list, information on necessary surveys and other guidance on needed documentation. Depending on the federal land ownership, this could include, but is not limited to, coordination with BLM, USFS, or NPS. Before any ground disturbing activity can occur, surveys may be required for each managed species that may be present in the project area.

436.05 Protecting Birds

Two federal regulations administered by the USFWS mandate WSDOT's responsibilities to minimize impacts to protected bird species.

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, import, export, possess, sell, purchase, or barter any migratory bird, with the exception of the taking of game birds during established hunting seasons. The law also applies to feathers, eggs, nests, and products made from migratory birds. This law is of particular concern when birds nest on bridges, buildings, signs, illumination, and ferry dock structures. WSDOT has developed guidance on avoiding active nests during highway construction, bridge maintenance, bridge inspection, and other relevant activities to ensure compliance with the MBTA. See Regional or Headquarters biology staff on how to proceed if guidance is necessary.

The Bald and Golden Eagle Protection Act (BGEPA), similar to the MBTA, makes it unlawful to take, import, export, sell, purchase, or barter any bald or golden eagle, their parts, products, nests, or eggs. "Take" includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles. All WSDOT projects must be in compliance with the BGEPA. To avoid potential disturbance to bald eagles, the National Bald Eagle Management Guidelines (guidelines) provide recommendations that will likely avoid take for a list of activities. WSDOT biologists and consultants address compliance with the BGEPA through a Bald Eagle form that documents compliance with the National Bald Eagle Management Guidelines. If take is unavoidable, contact regional or headquarters biologists on how to proceed.

The State Bald Eagle Protection Act (RCW 77.12.655) was passed in 1984 and requires the establishment of rules defining buffer zones around bald eagle nests and roost sites. The Bald Eagle Protection Rules (WAC 232-12-292), established by the Washington State Wildlife Commission, are designed to protect eagle habitat and thereby maintain the population of the bald eagle in Washington State. WSDOT adheres to this law through compliance with the BGEPA and coordination with WDFW.

State law also requires authorization to handle, kill, or collect wildlife of the state. This law is administered by the Washington State Department of Fish and Wildlife (WDFW) under RCW 77.12.240 and applies to all wildlife. WSDOT must comply with this law. If you believe your project may require take of state wildlife, including birds, amphibians, reptiles, invertebrates, and mammals, contact the Environmental Services Office Fish and Wildlife Program.

436.06 Considering Fisheries Resources

Fishery Conservation and Management Act (Magnuson-Stevens Act) – Under the Fishery Conservation and Management Act of 1976, NMFS was given legislative authority to regulate the fisheries of the United States. In 1996, this Act was amended to emphasize the sustainability of the nation's fisheries and create a new habitat conservation approach called Essential Fish Habitat (EFH). In 1999 and 2000, the Pacific Fishery Management Council (PFMC) added provisions for the protection of EFH to three Fishery Management Plans (Coastal Pelagics, Groundfish, and Pacific Coast Salmon) in the Pacific Northwest. Federal agencies, and agencies working on their behalf, must consult with the NMFS on all activities, or proposed activities, authorized, funded, or undertaken by the agency that have or may have an adverse affect to EFH. The WSDOT *Biological Assessment Preparation Manual* contains a chapter detailing WSDOT procedures for completing EFH consultations with NMFS.

Fish Passage Law – This law (RCW 77.57.030), and implementing regulations (WAC 220-110-070) require that any dam or other obstruction across or in a stream shall be provided with a durable and efficient fishway approved by WDFW. The fishway must be maintained and continuously supplied with sufficient water to freely pass fish. WSDOT is required to comply with all state laws and regulations.

Construction in State Waters – A Memorandum of Agreement (MOA) between WSDOT and WDFW addresses transportation construction work in state waters. The purpose of the MOA is to establish and promote mutual agreement of the needs and mandates of the respective agencies, to facilitate the consistent and efficient administration of Hydraulic Project Approvals (HPAs) for transportation projects under RCW 77.55 (Construction Projects in State Waters), and WAC 220-110 (Hydraulic Code Rules); to ensure that fish passage at transportation projects is facilitated through RCW 77.57 (Fishways, Flow, and Screening); and facilitate the implementation of the WSDOT Chronic Environmental Deficiency Program. As an element of this agreement, the legislature tasked WDFW and WSDOT in 2004 with developing a series of programmatic General Hydraulic Project Approvals (GHPAs) for common maintenance and construction activities.

436.07 Protecting Marine Mammals

The Marine Mammal Protection Act establishes responsibilities for conservation and management to protect marine mammals. It establishes a moratorium on the taking and importation of marine mammals and marine mammal products. The MMPA defines "take" as "to hunt, harass, capture, or kill" any marine mammal or attempt to do so. Exceptions to the moratorium can be made through permitting actions for take incidental to commercial fishing and other nonfishing activities; for scientific research; and for public display at licensed institutions such as aquaria and science centers. WSDOT projects that involve marine waters, as well as the Columbia River up to Bonneville Dam, must consider potential impacts of project activities and operation on marine mammals. If a project will impact marine mammals, a permit request for incidental harassment may be required from NOAA. Contact the Environmental Services Office Fish and Wildlife Program for additional information and guidance.

436.08 Habitat Considerations

WSDOT State Habitat Connectivity Policy – On July 23, 2007, the Secretary of Transportation signed an Executive Order called "Protections and Connections for High Quality Natural Habitats." This WSDOT policy provides guidance on how considerations for ecological sustainability will be built into the long term planning and day to day work of WSDOT transportation professionals. Contact the Environmental Services Office Fish and Wildlife Program for additional information and guidance.

Shoreline Management Acts (SMA) RCW 90.58 – Its purpose is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." The Act establishes a broad policy of shoreline protection, which includes fish and wildlife habitat. The SMA uses a combination of policies, comprehensive planning, and zoning to create a special zoning code overlay for shorelines. Under the SMA, each city and county can adopt a shoreline master program that is based on state guidelines but tailored to the specific geographic, economic and environmental needs of the community. Master programs provide policies and regulations addressing shoreline use and protection as well as a permit system for administering the program. Please refer to Section 450.02 for more details about the SMA and local Shoreline Master Programs.

Local Comprehensive Plans and Critical Area Ordinances (CAO) – Washington's Growth Management Act of 1990 (GMA) requires counties and cities to take a comprehensive, cooperative approach to land use planning. The focus of the GMA is to avoid unplanned growth, and conserve natural resources, while allowing for economic development. Under the GMA, counties, cities, and towns must classify, designate, and regulate critical areas through Critical Areas Ordinances (CAOs). Any of the five types of critical areas may serve as fish, wildlife, or sensitive plant habitat:

- Wetlands
- Aquifer recharge areas
- Frequently flooded areas
- Geologically hazardous areas
- Fish and wildlife habitat conservation areas

All regulated habitat areas should be identified during the project development phase. Some local jurisdictions may have fish and wildlife habitat regulation inventory maps. These maps identify what types of habitat the jurisdiction regulates, indicate where all the inventoried habitat areas are, and identify the regulations relating to the management and development of these areas. If available, these maps, as well as mitigation requirements and wetland reports, should be reviewed to identify critical areas and associated regulatory requirements.

The GMA also requires counties and cities that meet certain population and growth rate criteria to adopt planning policies and comprehensive plans. WDFW makes recommendations for comprehensive plan contents related to fish and wildlife habitat and critical area regulations, but local jurisdictions develop the final plans and regulations. The result is inconsistencies in regulations among jurisdictions. Unless the local laws conflict with state law, WSDOT must be consistent with local critical areas regulations. Local planning departments should be contacted to determine requirements that could affect a project. See Section 450.02 for details on the GMA.

436.09 Coordinating With Tribes on Fish, Wildlife, and Vegetation Resources

Projects on tribal lands may be subject to tribal laws that regulate fish, wildlife, and habitat. Projects not on tribal land could affect treaty reserved resources or species of tribal significance. The appropriate tribal biologist should be contacted to discuss any regulations that may apply to the project. Contact the WSDOT Tribal Liaison for more information or guidance.

436.10 Mitigation and Other Policies

Many WSDOT policies are in development or apply to fish, wildlife, and vegetation resources in obscure ways. This section covers some of the nonstandard regulations that may apply to projects.

Non-Road Project Requirements – Ferry, rail, airport, or nonmotorized transport systems are subject to the same policies, procedures, and permits that apply to road systems, but are generally funded under different authorities such as Federal Transit Administration (FTA), Federal Railway Administration (FRA), or Federal Aviation Administration (FAA). Each of these federal agencies may have slightly different approaches for document preparation, review, and submittal procedures or overall process goals and directives with regard to fish, wildlife, and vegetation resources.

WSF must follow strict guidelines in order to work in near shore environments (see Section 436.06). These guidelines include avoidance of eelgrass and forage fish spawning habitat, restrictions on construction materials, and specific BMPs for removal of creosote treated wood associated with docks, pilings, and piers. In addition, some regulations may be more applicable to non-road projects. For example, ferry projects occur within marine waters and require consideration of regulations under the MMPA and the Shoreline Protection Act.

Public use airports must address specific wildlife hazards on or near airports. These issues are addressed in the Federal Aviation Administration (FAA) Publication, *Hazardous Wildlife Attractants On or Near Airports* (No. 150/5200-33B, August 28, 2007).

436.11 Abbreviations and Acronyms

BA	Biological Assessment
BE	Biological Evaluation
BGEPA	Bald and Golden Eagle Protection Act
BO	Biological Opinion
BMP	Best Management Practice
BLM	Bureau of Land Management
CAO	Critical Area Ordinance
EFH	Essential Fish Habitat
ESA	Endangered Species Act
GHPA	General Hydraulic Project Approval
HCP	Habitat Conservation Plan
HPA	Hydraulic Project Approval
LTAA	Likely to adversely affect
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSA	Magnuson-Stevens Act
NE	No Effect
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act
NOAA	National Oceanic and Atmospheric Administration
NLTAA	Not likely to adversely affect
NWFP	Northwest Forest Plan
NMFS	National Marine Fisheries Service
NWP	Nationwide Permit (U.S. Army Corps of Engineers)
PBA	Programmatic Biological Assessment
PFMC	Pacific Fishery Management Council
RPA	Reasonable and Prudent Alternative
RPM	Reasonable and Prudent Measures
RRMP	Regional Road Maintenance Program
Service(s)	United States Fish and Wildlife Service and/or National Marine Fisheries Service
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WDFW	Washington State Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WNHP	Washington Natural Heritage Program

436.12 Glossary

Candidate Species – Any species of fish, wildlife, or plant considered for possible addition to the list of endangered and threatened species. These are *taxa* for which NMFS or USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions.

Critical Habitat – Under the Endangered Species Act, (1) the specific areas within the geographic area occupied by a federally listed species on which are found physical or biological features essential to conserving the species, and that may require special protection or management considerations; and (2) specific areas outside the geographic area occupied by a federally listed species when it is determined that such areas are essential for the conservation of the species.

Endangered Species – Any species which is in danger of extinction throughout all or a significant portion of its range.

Federal Nexus – A project with a federal nexus either has federal funding, requires federal permits, or takes place on federal lands.

Habitat – The physical or natural environment where a species or population may live.

Incidental Take (ESA) – Take of listed species that results from, but is not the intention of, carrying out an otherwise lawful activity.

Indirect Effects (ESA) – Effects that are caused by the proposed action and are later in time, but are still reasonably certain to occur. (50 CFR 402.02)

Jurisdiction – Governing authority which interprets and applies laws and regulations.

Listed Species – Any species of fish, wildlife, or plant which has been determined to be endangered or threatened under Section 4 of the ESA.

Programmatic Biological Assessment – A biological assessment that establishes conditions allowing multiple actions on a program, regional or other basis to proceed through streamlined consultation processes with the Services.

Proposed Species – Any species of fish, wildlife, or plant that is proposed by NMFS or USFWS for federal listing under Section 4 of the ESA.

Take – Defined under the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct," including modification to a species' habitat.

Threatened Species – Any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Viability – Ability of a population to maintain sufficient size so it persists over time in spite of normal fluctuations in numbers; usually expressed as a probability of maintaining a specific population for a defined period.

Watershed – Basin including all water and land areas that drain to a common body of water.

Chapter 440 Energy

440.01 Energy Background
440.02 Documentation and Modeling Requirements
440.03 Applicable Statutes, Regulations, and Guidance
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440.01 Energy Background

On large-scale projects with potentially substantial energy impacts and/or emissions of greenhouse gasses, usually those which require Environmental Impact Statements (EIS), the Washington State Department of Transportation (WSDOT) analyzes the major direct and/or indirect effects of each project alternative on the energy needs for construction and facility operations and the potential for conservation measures. In some cases, facility operations may include new buildings, such as transit terminals, when constructed as part of the project.

For transportation projects, the major greenhouse gas is carbon dioxide (CO_2) from the combustion of fossil fuels. WSDOT requires a greenhouse gas (GHG) analysis as part of an energy analysis for EISs. For non-EIS level documentation, the potential for impacts, the level of public interest, and the type of data available must all be considered to determine whether a qualitative or quantitative GHG analysis is prepared. The framework for this decision is outlined in the *WSDOT Guidance – Project-Level Greenhouse Gas Evaluations under NEPA and SEPA* that is required for use on all projects where WSDOT is the lead or co-lead agency. Consult with the WSDOT Air Quality, Noise and Energy Policy Manager to determine the appropriate level of effort.

Energy analysis is not typically required for non-EIS level documentation because energy consumption is typically not a key decision-making criterion unless reduction of energy consumption or minimization is a project goal, such as in mass transit or commuter travel enhancement projects. More often, other project benefits like congestion reduction, improved travel time, and improvements in level-of-service (LOS) are project goals and reduction of energy consumption is a collateral benefit.

If your project does not require an energy analysis, GHG analysis should be provided in the context of "cumulative effects." More information on energy is available on the WSDOT Energy web page.

440.02 Documentation and Modeling Requirements

For an EIS, a quantitative GHG analysis is recommended and should be included in the energy analysis. The GHG and energy calculations can be prepared separately then combined in the final energy analysis. When analyzing GHG emissions for an energy analysis, consult with the WSDOT Air Quality, Noise and Energy Policy Manager. The Energy Checklist describes the specific information required when an energy analysis is required. A summary of these requirements follows.

(1) Affected Environment

Describe existing energy consumption from facility operations, where applicable.

(2) Energy Consumption

Operations – Compare the energy used on the project for the existing condition and build and no-build alternatives in the design year. Energy should be described in terms of British Thermal Units (BTU) or quantities of fuel.

- Energy consumed by vehicles operating on the facility; including effects of project on traffic flow, vehicle miles traveled (VMT), induced growth, and identification of pay-back period, where applicable.
- Effect of energy consumed on the facility on regional energy production and consumption.
- Energy needed to maintain the facility, where applicable.
- Project's consistency with the state and/or regional energy plan, where applicable.

Construction – Describe the temporary effects of fuel consumption for construction of the project here and provide this information to the environmental manager for inclusion in the Construction Activity Impacts section of the EIS. The description should include the following:

- Effect of the project on local fuel availability during construction.
- Amount and source of materials and energy needed for project construction, to the extent known.
- Clarify whether additional energy sources need to be developed to support construction.

Overall – Describe overall energy costs or savings by alternative, including the combined energy from project construction and operations for all project alternatives.

(3) Greenhouse Gas Emissions

The process for evaluating GHG emissions associated with an individual transportation project is outlined in *Guidance for Project-Level Climate Change Evaluations*. The guidance outlines the required format for both qualitative and quantitative analysis for operational, construction, embodied, and lifecycle emissions.

Current guidance separates the discussion of climate change and adaptation from the evaluation of GHG emissions on the project. See the WSDOT Adapting to a Changing Climate web page.

(4) Conservation Measures and Mitigation

The analysis should describe any recommended mitigation measures and commitments to stakeholders for the design, construction, and/or post-construction phases. The analysis should also describe whether additional mitigation measures were considered and why these were not included.

440.03 Applicable Statutes, Regulations, and Guidance

(1) Federal

- National Environmental Policy Act (NEPA) 42 USC 4321 and Federal implementing regulations 23 CFR 771 (FHWA) and 40 CFR 1500.1-1500.8 (CEQ).
- President's Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*.
- FHWA Technical Advisory T 6640.8A for NEPA documents.
- U.S. Department of Transportation Guidance on Fuel Consumption and Air Pollution, including USDOT Order 5610.1C, *Energy Requirements for Transportation Systems*, and *Procedure for Estimating Highway User Costs, Fuel Consumption, and Air Pollution.*

(2) State

- State Environmental Policy Act (SEPA) and state implementing regulations WAC 197-11 and WAC 468-12.
- Chapter 39.35D RCW requires that new "major facility projects" achieve the Leadership in Energy and Environmental Design (LEED) silver building rating standard.
- WSDOT Guidance – Project-Level Greenhouse Gas Evaluations under NEPA and SEPA.

440.04 Non-Road Project Requirements

The requirements to address energy requirements for non-road projects are assumed to be the same as for road projects.

440.05 Abbreviations and Acronyms

BTU	British thermal unit
CO_2	carbon dioxide
EIS	environmental impact statement
GHG	greenhouse gases
LOS	level-of-service
NEPA	National Environmental Policy Act
SEPA	State Environmental Policy Act
VMT	vehicle miles traveled

440.06 Glossary

Greenhouse Gases (GHG) – Greenhouse gases absorb and emit radiation within the thermal infrared range. Common GHGs in the Earth's atmosphere include water vapor, carbon dioxide, methane, nitrous oxide, ozone, and chlorofluorocarbons.

Operational GHG Emissions – "Tailpipe" GHG emissions from vehicles using the project facility or nearby facilities affected by the project.

Construction GHG Emissions – Primarily GHG emissions from the fuel used by the equipment that builds the project.

Embodied GHG Emissions – GHG emissions generated from the energy used to extract materials, fabricate them for construction, and transfer them to construction site. Embodied GHG emissions are also referred to as "cradle to site" GHG emissions.

Lifecycle GHG Emissions – Referred to as "cradle to grave emissions" that include embodied GHG emissions and GHG from energy used to demolish and/or dispose of materials after completion of usable life.

Chapter 446 Noise

446.01 Traffic Noise Background
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446.01 Traffic Noise Background

Noise is defined as unwanted sound. Noise levels near roadways depend on six variables:

1. Traffic volume
2. Traffic speed
3. Amount of heavy trucks (as a percent of total traffic)
4. Distance from the roadway
5. Intervening topography
6. Atmospheric conditions

Generally, traffic noise increases with heavier traffic volumes, higher speeds, and more heavy trucks.

WSDOT uses several strategies to control traffic noise at nearby noise sensitive receivers:

- Construct noise barriers (walls or earthen berms)
- Reduce traffic speeds
- Coordinate with local agencies to prevent "noise sensitive" development near highways.
- Preserve existing buffer zones and beneficial topographic features.
- Support local jurisdictions to establish principal routes for buses and trucks.

For detailed information see WSDOT's Noise web page

446.02 Traffic Noise Requirements

Federal regulations 23 CFR 772 (2010) require states to adopt their own state noise policy that have the force of federal law in that state. WSDOT's most current noise policy is the 2011 WSDOT Noise Policy and Procedures, available online at WSDOT's Noise web page.

A traffic noise analysis is required for all projects that:

1. Construct a new highway
2. Significantly realign an existing highway, either horizontal or vertical realignment
3. Increase the number of through traffic lanes on an existing roadway
4. Change near road topography to create new line-of-sight to roadway

When noise impacts are expected, noise abatement that meets WSDOT criteria as feasible, reasonable, and acceptable to the public must be incorporated into the highway improvement project. Criteria are defined in the 2011 WSDOT Noise Policy and Procedures, available online at WSDOT's Noise web page.

Currently, the Federal Highway Administration (FHWA) does not allow WSDOT to use pavement options, or "quieter pavements, as noise abatement. WSDOT began researching quieter pavements in 2005 and continues to evaluate their acoustic performance and physical durability. For additional information on quieter pavements, see the WSDOT Quieter Pavement website.

446.03 Noise Technical and Policy Guidance

(1) WSDOT Guidance

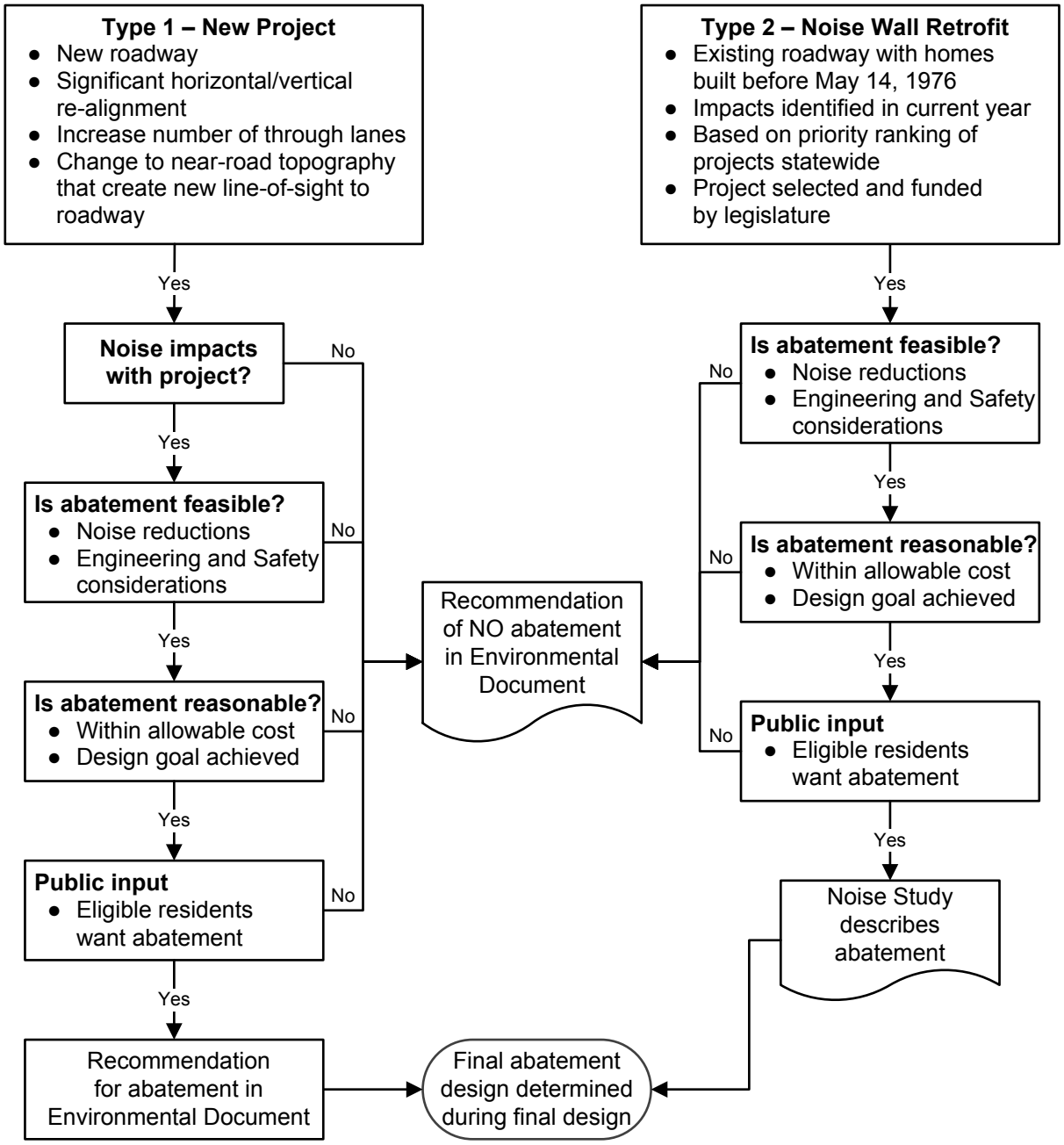
The general policy is to minimize and avoid noise impacts from transportation systems and facilities. Many of the Technical Guidance documents in Section 446.03 also function as Policy Guidance.

Related guidance is available in the following documents.

1. **Noise Policy and Procedures (2011)** – Both technical procedures and policy guidance for addressing roadway traffic and construction noise is included in the document.
2. ***Biological Assessment Manual*** – Evaluation of noise impacts for fish and wildlife is located in the *Biological Assessment Manual*, Part 2: Guidance on Specific Biological Assessment Topics, under Chapter 7: Noise Impact Assessment.
3. ***Roadside Manual* M 25-30** – Chapter 460 Noise Abatement, provides additional information on safety, visual quality, and maintenance that may be useful for designers of noise barriers.
4. ***Development Services Manual* M 3007** – Chapter 3-3 Environmental Issues, gives general guidelines that local jurisdictions and private developers should follow when considering development and noise impacts on state highways.

(2) FHWA Guidance

1. **FHWA Highway Traffic Noise Analysis and Abatement, Policy and Guidance** – The basis for all state noise policies and the accompanying guidance used to support state DOT policy development.
   - Federal Rule 23 CFR 772, July 2010
   - Highway Traffic Noise: Analysis and Abatement Guidance, January 2011
2. **FHWA Guidance on Construction Noise** – FHWA guidance on highway construction noise from the FHWA Special Report Highway Construction Noise: Measurement, Prediction, and Mitigation (May 2, 1977).
3. **FHWA Guidance on Quieter Pavement** – Outlines when states can consider the use of quieter pavements for noise abatement (2005).
4. **FHWA Environmental Guidebook** – contains links to numerous references on highway construction and traffic noise analysis and abatement.



Summarizes the Noise Analysis Process
Exhibit 446-1

446.04 Noise Permits and Approvals

The only permits required for noise are variances or exemptions from state and local noise regulations for construction and maintenance activities during nighttime hours (WAC 173-60). For details, see the WSDOT Federal, State, and Local Permits web page.

446.05 Noise Considerations for Non-Highway Projects

(1) FTA lead/co-lead projects

For many projects involving passenger rail, transit, and/or park and ride facilities, FTA criteria applies as outlined in FTA Transit Noise and Vibration Impact Assessment. Noise studies are also required for these facilities.

An Interagency Agreement for coordinated noise analysis and abatement policy and procedures has been developed by FTA, FHWA, WSDOT, and Sound Transit. The current agreement (as of February 2001) documents an agreed upon noise methodology and criteria for integrated highway and transit projects A copy of the agreement can be requested from the WSDOT Air, Noise, Energy Program.

FTA technical guidance for mass transportation noise analysis is available in Transit Noise and Vibration Impact Assessment, May 2006 (FTA-VA-90-1003-06). The FTA General Noise Assessment Spreadsheet designed as an aid in using the FTA General Noise Assessment Procedures.

(2) FRA Lead/Co-Lead Projects

Evaluation of railroad sound levels is regulated under 42 USC 4916 and WAC 173-58. Rail projects may require a vibration analysis. Rail projects may also require a horn noise analysis if a new rail crossing is created or an existing crossing is modified to introduce new horn warning signals. A process to address train horn noise and establish community quiet zones is now available through the Federal Rail Administration (FRA).

(3) WSF Projects

Ferry projects may require a permit for pile driving. Biological Assessments (BA) should address noise impacts to species listed under the Endangered Species Act. Ferry vessels are regulated for noise under RCW 88.12.

(4) WSDOT Airports

WSDOT airports have noise abatement guidelines.

446.06 Applicable Statutes and Regulations

- National Environmental Policy Act and State Environmental Policy Act
- Federal Noise Control Act (42 USC 4901) and companion legislation (23 USC 109(i))

FHWA Procedures for Abatement of Highway Traffic Noise And Construction Noise (23 CFR 772)

- State Noise Legislation (RCW 70.107) and implementing regulations

The Washington State Department of Ecology (Ecology) is responsible for implementation under the following regulations:

- WAC 173-58 – Establishes standard procedures for measuring sound levels of sources regulated by Ecology, including, but not limited to, environmental noise, motor racing vehicles, construction, float planes, and railroads.
- WAC 173-60 – Establishes the maximum noise levels allowed in different environments and EDNA standards as measured at the property line. Highway traffic is exempt from this regulation, but it does apply to highway construction noise at night from 10 p.m. to 7 a.m.
- WAC 173-62 – Sets noise emission standards for new motor vehicles operating on public highways and provides methods for evaluating motor vehicle noise levels.
- Local Noise Ordinances – Noise from construction or maintenance on transportation facilities during nighttime hours (typically, 10 p.m. to 7 a.m.) are subject to local ordinances and may require a noise variance or exemption.

446.07 Abbreviations and Acronyms

BA	Biological Assessment
CFR	Code of Federal Regulations
EDNA	Environmental Designation for Noise Abatement
dBA	A-weighted decibel
FRA	Federal Rail Administration
FTA	Federal Transit Administration
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
SEPA	State Environmental Policy Act
TNM	Traffic Noise Model
WSF	Washington State Ferries

446.08 Glossary

Abatement – Reduction in degree or intensity.

Background Noise – All noise in an area that is not associated with state highway traffic.

Barrier – A solid wall or earth berm located between the roadway and receiver location that provides noise reduction.

Design Year – The future year used to estimate the probable traffic volume for which a highway is designed, usually 20 years from the beginning of construction for WSDOT projects.

Environmental Designation for Noise Abatement – an area or zone within which maximum permissible noise levels are established.

Existing Noise Level – Modeled traffic noise level(s) based the Existing year traffic data.

Roadway – The entire width between the right of way boundary lines of every publicly maintained travel way when any part thereof is open to the public use for purposes of motorized vehicular travel. May also be referred to as a street, road, or highway.

Impacted Community – Noise sensitive receptor sites (such as schools or neighborhoods) where people would be exposed to substantially increased noise levels or noise levels that approach abatement criteria due to a project.

Noise Abatement Criteria – Noise levels that when approached or exceeded are considered to be traffic noise impacts. NAC vary by activities and/or land use.

Traffic Noise Impacts – When the predicted Design Year traffic noise levels approach (≤ 1 dBA) or exceed the NAC or when the predicted Design Year traffic noise levels substantially exceed (≥ 10 dBA) the Existing Year noise levels.

Type I Project – Construction of a new highway; significant realignment of an existing highway (either horizontal or vertical realignment); increasing the number of through traffic lanes on an existing roadway; or changing the near road topography to create a new line-of-sight from noise sensitive receivers to the roadway.

Type II Project (noise wall retrofit) – Noise abatement on an existing highway targeting residences that existed before 1976 when traffic noise evaluations were first required.

Type III Project – Federal projects that do not require a noise analysis.

Chapter 447 Hazardous Materials (HazMat) and Solid Waste

447.01 Considering HazMat During the Project Lifecycle
447.02 Determining Suitable HazMat Documentation from the ERS
447.03 Writing and Right-Sizing HazMat Analyses
447.04 Identifying Potentially Contaminated Property
447.05 Managing Liability During Real Estate Acquisition
447.06 Planning for Sediment Management
447.07 Using Construction Specifications and Provisions
447.08 Identifying and Reporting HazMat During Construction
447.09 Managing HazMat During Construction
447.10 Reusing or Disposing of Project Waste Materials
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447.01 Considering HazMat During the Project Lifecycle

Hazardous materials (HazMat) will impact a Washington State Department of Transportation (WSDOT) project when encountered. WSDOT has a responsibility to consider HazMat issues early on and throughout the lifecycle of a project in order to:

- Protect public health and safety by ensuring that construction does not spread or contribute to existing contamination.
- Manage HazMat issues in a cost-effective manner to avoid or minimize construction impacts.
- Avoid or manage agency cleanup liability.

WSDOT must abide by numerous federal, state, and local regulations that govern HazMat. The regulations are stringent and take different time frames to comply with. These regulations are found at the end of this chapter. WSDOT projects may also encounter or generate solid waste, which is not hazardous or dangerous. Laws and regulations also govern the handling and disposal of solid waste.

The rest of this chapter describes HazMat specific topics that WSDOT region staff considers for projects. Construction related topics such as identifying, managing, and disposing of HazMat are included in this chapter. Please visit the WSDOT HazMat web page for additional information and procedural guidance on addressing HazMat issues.

447.02 Determining Suitable HazMat Documentation from the ERS

Region staff often determines how to proceed with hazardous materials documentation based on the likelihood that a project will encounter contamination. This is a professional judgment made during project scoping when staff completes the Environmental Review Summary (ERS) in the Project Summary Database (Section 300.02). The ERS asks the following:

1. Discuss any known or potentially contaminated sites within or near the project area.
2. Describe any contamination the project is likely to encounter. If known, how will the project specifically impact these sites?
3. Identify any additional investigations or documentation that would be needed.

Region staff uses the answers to these questions to determine if further investigations will help identify potential HazMat issues at a site or within a corridor. They also use the information to assess potential project impacts (including to the project budget and schedule), mitigations, and required permits or approvals. Types of further investigations will be discussed later in this chapter and include Hazardous Materials Analysis and Phase I and II Environmental Site Assessments.

If during the NEPA/SEPA process a region classifies a project as a Documented Categorical Exclusion, then the ERS is exported into the Environmental Classification Summary/ SEPA Checklist database (ECS) and becomes the hazardous materials documentation for the project (Section 300.04). The ECS is signed by the WSDOT Region Environmental Manager and sent with the federal permits and/or documentation to the Federal Highway Administration for approval. Although both forms ask the same questions, the information and level of detail required in an ECS is greater because the ECS is a final decision document for Federal Highway Administration signature. If staff determines that no documentation is required based on project specifics, they justify the decision on the ERS or ECS. Additional information regarding the ERS/ECS documentation is located at the WSDOT HazMat Investigations and Documentation web page.

447.03 Writing and Right-Sizing HazMat Analysis

A Hazardous Materials Analysis is prepared to satisfy project NEPA/SEPA requirements for environmental documentation. Region staff determines the appropriate level of analysis required when they complete the ERS. The purpose of the analysis is to identify potentially contaminated sites along a project corridor that may:

- Affect the environment during construction.
- Create significant construction impacts.
- Incur cleanup liability for WSDOT.

The HazMat Analysis must document significant unavoidable adverse impacts that WSDOT cannot reasonably mitigate. Whenever possible, include the Analysis directly in the NEPA document. In unusual cases, when warranted by the nature of the project, the Analysis can be documented in a separate discipline report which supplements the environmental document. Factors such as project size and type of construction activities, past and current land use in an area, and acquisition plans help WSDOT staff determine the best approach. WSDOT provides Right Size guidance that describes three levels of reports as well as situations where no documentation may be required. Right-size is a common term used to describe the level of detail necessary to analyze a specific project given the setting and anticipated impacts. The level of detail must be sufficient to allow region staff to make informed decisions regarding the selection of alternatives and mitigation measures. Region staff should be able to use the Analysis to assess budget and schedule impacts and decide when to engage in early coordination with regulatory agencies. The documentation must provide site-specific recommendations for additional investigations needed prior to acquisition and construction. Right-sizing keeps documentation short and concise.

447.04 Identifying Potentially Contaminated Property

The Department of Ecology (Ecology) has regulatory authority over contaminated properties pursuant to the Model Toxics Control Act (MTCA) Cleanup Regulations found in Chapter 173-340 WAC. MTCA holds that any past or present relationship with a contaminated site may result in liability for cleanup. Thus, Ecology can find WSDOT responsible for cleanup of hazardous materials whether the original source is from WSDOT activities, from a tenant, or inherited when WSDOT purchases property.

Cleanup costs for contaminated properties can be extraordinary and cleanup actions can take many years. For this reason, WSDOT seeks to reduce liability by identifying the nature and extent of contamination at properties prior to acquisition and construction. This process is commonly known as completing "due diligence."

As discussed, one way WSDOT identifies potentially contaminated sites is through research and environmental documentation (see Sections 447.02 and 447.03, respectively) completed during the NEPA/SEPA process. Second, WSDOT conducts investigations called Environmental Site Assessments (ESAs). These investigations are performed either independent of, or in conjunction with, the NEPA/SEPA process. They meet the standard of the industry for identifying potentially contaminated property.

WSDOT uses the two ESAs listed below and their associated standards developed by the American Society for Testing and Materials (ASTM). WSDOT staff has access to ASTM standards through an internal web page without a fee.

- Phase I ESA (ASTM E 1527-05)
- Phase II ESA (ASTM E 1903-11)

(1) Phase I Environmental Site Assessment (Phase I ESA)

The purpose of a Phase I ESA is to evaluate the potential for contamination to be present on or adjacent to a single property. WSDOT completes a Phase I ESA prior to acquisition in order to meet "All Appropriate Inquiry" as defined by the USEPA and qualify for one of the defenses under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)—aka the Superfund law—to limit cleanup liability and potentially recover future cleanup costs. WSDOT also uses the information to assess potential impacts on project design and construction.

Phase I ESA Reports follow the American Society for Testing and Materials (ASTM) E 1527-05 Standard Practice to the extent practical. Per the ASTM standard, an Environmental Professional should complete the assessment. Since WSDOT routinely uses the HazMat Analysis in the environmental document to identify potentially contaminated properties, WSDOT does not automatically complete Phase I ESAs for all individual sites. A Phase I ESA in full compliance with the ASTM standard should only be conducted for properties that may be substantially contaminated and require WSDOT acquisition. Additional information regarding a Phase I ESA is available on the WSDOT HazMat Investigations and Documentation web page.

(2) Phase II Environmental Site Assessment (Phase II ESA)

The purpose of a Phase II ESA is to further investigate sites that may have contamination based on the findings of the HazMat Analysis or Phase I ESA. The Phase II ESA is conducted to characterize the nature and extent of potentially contaminated media prior to acquisition and construction. WSDOT uses information obtained in previous reports, planned areas of construction, and acquisition plans when conducting the assessment. A Phase II ESA is limited in scope and will not always identify all the contamination on a site.

Oftentimes a Phase II ESA is not necessary when site specific documentation exists in the Ecology files for the planned acquisition or construction areas. Additional information regarding a Phase II ESA is available on the WSDOT HazMat Investigations and Documentation web page.

Finally, WSDOT may identify or encounter contamination during geotechnical exploration drilling. As described in the *Geotechnical Design Manual* M 46-03, prior to drilling activities crews complete a geotechnical field exploration and an environmental assessment. The manual also provides procedures for planning, storing, and disposing of potentially contaminated material generated during drilling activities. Additional information regarding Geotechnical Soil Boring Procedures is available on the WSDOT HazMat Investigations and Documentation web page.

Identifying the extent of contamination through a Phase II ESA helps WSDOT:

- Select project alternatives and/or mitigation options.
- Prepare real estate transactions and determine fair market property value.
- Determine appropriate property management options.
- Identify construction impacts and associated costs for mitigation and/or disposal of material.
- Consider worker health and safety needs.

WSDOT's policy is to follow the American Society for Testing and Materials (ASTM) E 1903-11 Standard Practice to the extent practical. Per the ASTM standard, field sampling and report writing should be performed only by or under the direct guidance of an Environmental Professional.

447.05 Managing Liability During Real Estate Acquisition

Under current federal and state hazardous waste cleanup statutes, all former, current, and future property owners can be held individually liable for 100% of the cleanup cost for contaminated property. This is referred to as "joint and several liability" and means that when WSDOT acquires contaminated property, it automatically may be held liable for any or all cleanup and restoration costs regardless of the "degree of guilt." WSDOT can also be held liable as a prior owner, thus, selling land does not protect the department from liability.

To avoid potential liability associated with the purchase of contaminated properties, the purchaser must perform "all appropriate inquires" (AAI) prior to obtaining any contaminated properties as required under Section 101(35)(B)(ii) and (iii) of the CERCLA regulations (40 CFR 312). If the inquiry and subsequent site investigation identifies actual soil and/or groundwater contamination, the purchaser may pursue a "private right

of action" with past or current owners of the property. A private right of action is a legal claim authorized by MTCA (RCW 70.105D.080) under which a person may recover costs of remedial action from other persons liable under the Act provided that a cleanup is "substantially equivalent" to a cleanup performed or supervised by Ecology. If the source of contamination is on an adjacent property, the persons liable for the adjacent contamination could be responsible for costs associated with cleanup of a site and costs to repair damages to natural resources.

WSDOT also uses property appraisals performed by the WSDOT Real Estate Services Office as described in the *Right of Way Manual* M 26-01. Chapter 4 of the manual instructs appraisers to document potential HazMat issues on parcels such as odd soil odors or colors, the presence of tanks or drums, and suspected asbestos containing materials. If observed, the manual provides directions on how to proceed with the appraisal.

WSDOT avoids acquiring contaminated property whenever possible. When WSDOT must acquire contaminated property, Real Estate staff follow the steps outlined in *Right of Way Manual* M 26-01 Chapter 6 to identify and mitigate risk as much as possible. Actions may include, but are not limited to, valuing the property as clean and holding funds in escrow for cleanup, including an indemnification clause, or a creating a Prospective Purchaser Agreement. Once the purchase of a contaminated property is complete, the Real Estate Services Office is required to report the information to the Environmental Services Office (ESO).

ESO tracks contaminated properties that WSDOT owns, and their associated cleanup liability, and uses the information to report to the Washington State Office of Financial Management. This reporting is required by the Governmental Accounting Standards Board (GASB) Statement 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*.

447.06 Planning for Sediment Management

Projects that occur in marine or freshwater environments, including ferry terminals and bridge crossings, may need to evaluate and characterize sediment for chemical contamination. WSDOT uses the Sediment Management Standards (Chapter 173-204 WAC), promulgated by Ecology, to sample and evaluate sediments that may be disturbed. The sediment regulations impose a number of specific requirements, including special sampling and laboratory analysis procedures, that make early coordination critical to WSDOT project schedules.

If a project will involve dredging, WSDOT also follows the requirements of the Dredged Material Management Program (DMMP) administered by the U.S. Army Corps of Engineers. The DMMP provides criteria for in-water disposal of dredged sediment. If the sediments are not suitable for open-water disposal, they will need to be disposed of at an appropriate upland disposal facility.

447.07 Using Construction Specifications and Provisions

When WSDOT staff follow the policies in this chapter and the procedures on the HazMat web pages, WSDOT can reasonably anticipate and address HazMat issues prior to the advertisement of a project. During construction, WSDOT may need to have a contractor handle and manage issues such as contaminated soil or water, underground storage tanks, asbestos containing materials (ACM), cementitious material or wastes, lead based paint, potentially hazardous chemicals such as detergents, polymers, dust palliatives, concrete curing compounds, form release oils, or spills. WSDOT relays this information to contractors bidding on the work in four main ways:

- *Standard Specifications* M 41-10, which are standard protocols that are required for all WSDOT projects.
- *General Special Provisions*, which are provisions written to describe specific construction requirements and are available for use on multiple projects.
- *HazMat Special Provisions and Plans Sheets*, which are project-specific amendments that describe the location of, and how to handle, HazMat issues requiring special attention.
- *Hazardous Materials Management Plans*, which supplement a HazMat Special Provision and provide detailed instructions for managing materials.

For complex issues, WSDOT HazMat Specialists are available to assist with writing or reviewing HazMat Project-Specific Special Provisions. Often these provisions define areas with differing types or depths of contaminated soil or water. The Project-Specific Special Provision describes how the Contractor will handle and manage the material, including stockpiling. Information about how WSDOT will characterize the material for disposal is also often included.

Further information about how specifications and provisions address HazMat topics is available on the WSDOT Investigations and Documentation web page.

447.08 Identifying and Reporting HazMat During Construction

WSDOT identifies areas with known or suspected HazMat issues or underground storage tanks (USTs) in the Special Provisions and on Contract Plan Sheets. In these situations, the contractor follows the steps outlined in the Special Provisions for managing and disposing of materials.

Even with advanced planning, it is not possible for WSDOT to know the entire history of every site and unanticipated encounters of HazMat can occur. WSDOT remains prepared for unexpected situations during construction by having policies and procedures in place for the following:

- Encountering unknown USTs.
- Finding releases of unknown HazMat.
- Responding to spills from construction activities.
- Reporting spills caused by the traveling public.

These unexpected situations require rapid response actions to minimize impacts to the environment and the project work. WSDOT staff follows the Environmental Compliance Assurance Procedure (ECAP) as described in *Construction Manual* M 41-01, Section 1-2.2K(1). The ECAP includes steps for notifying WSDOT management and regulatory agencies. The subsections below describe each situation and related reporting requirements in more detail.

Once WSDOT identifies HazMat, WSDOT must appropriately manage the material prior to reuse or disposal at a permitted disposal facility willing to accept the material. Sections 447.09 and 447.10 address these topics. For more information about HazMat during construction, please visit the Hazardous Materials Investigations and Documentation web page.

(1) Encountering Unknown Underground Storage Tanks (USTs)

Due to potential explosion hazards, USTs require special consideration when encountered at a WSDOT site. Usually unknown USTs that a contractor encounters are home heating oil or farm fuel USTs that are not registered with Ecology. When a contractor encounters a UST, WSDOT policy is for the contractor to stop work in the immediate area and notify the WSDOT Project Engineer (PE). The PE will initiate ECAP.

Ecology has the authority for the UST regulations. The main regulation that covers USTs is Chapter 173-360 WAC. If there is a confirmed release from a UST, WAC 173-340-450 will also apply. In the case of a confirmed release, WSDOT must ensure that Ecology receives notification within 24 hours. A status report is then due to Ecology within 20 days.

A certified contractor is required to remove a UST and a certified Site Assessor must be present during removal to sample and document UST closure activities. Thirty days prior to removing a regulated UST, a Notice of Intent is due to Ecology. WSDOT can ask Ecology to waive this requirement if it will cause schedule delays. The HazMat program has certified UST Site Assessors to assist in UST removal.

If there is no contamination discovered during a UST removal, Ecology must receive a Closure and Site Assessment Notice, a Site Check/Site Assessment Checklist, and a Site Assessment Report within 30 days. If there is contamination from a UST, Ecology must receive a Site Characterization Report within 90 days. The reports should contain required information detailed in the 2003 Ecology document *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. For more information, see the Ecology UST web page.

Some USTs are exempt from Ecology regulations but may be regulated by local agencies. WSDOT requires a site assessment be performed even when removing a non-regulated UST.

Local health and fire departments may also require notification of UST site closures.

- Pierce County Health Department Permit
- Pierce County Health Department Process
- King County Health Department

Different counties may have various requirements. A registered UST decommissioner will know local regulations regarding tank removal. Not all USTs are regulated by Ecology.

(2) Finding Releases of Unknown HazMat

When a contractor finds a release of previously unknown HazMat, usually identified by sight or smell, WSDOT policy is for the contractor to stop work in the immediate area and notify the WSDOT PE. The PE initiates ECAP as appropriate. The PE should also coordinate with ESO and the WSDOT Safety Office to assess the health and safety situation at the site to determine whether WSDOT workers can safely continue working.

The PE follows notification procedures established in ECAP to determine internal and external reporting requirements. WSDOT HazMat Specialists will help to coordinate any required regulatory reporting. Per WAC 173-340-300, WSDOT is required to report to Ecology hazardous substances that may be a threat to human health or the environment based on best professional judgment. WSDOT regional offices are required to provide copies of all Ecology letters related to contamination on WSDOT property to ESO within 30 days of receipt. ESO tracks the information and uses it for GASB reporting as discussed in Section 447.05.

(3) Responding to Spills From Construction Activities

Spills caused by WSDOT contractors during project construction are the responsibility of the contractor to clean up, report, and dispose of properly. As a way to prevent and respond to spills on project sites, WSDOT requires contractors to prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan for all projects. The SPCC Plan must address the ten elements identified in Standard Specifications Section 1-07.15(1), including reporting requirements. The contractor may not begin any onsite construction activities until the contractor submits and WSDOT accepts the SPCC Plan. If a spill occurs on a project, WSDOT staff follows ECAP. Visit the WSDOT Spill Prevention Control and Countermeasures web page for additional guidance, resources, and training information. WSDOT has a Spill Reporting Flow Chart (pdf 42 kb) that contractors and staff can use as a quick reference for how to report spills.

(4) Reporting Spills Caused by the Traveling Public

Neither WSDOT nor WSDOT contractors are responsible to clean up spills that result from the traveling public, also referred to as a "3rd party" such as a trucking company. CERCLA Section 9607(b) regulates the responsibility for these cleanups. When WSDOT becomes aware of the spill, staff must immediately notify the Washington State Patrol and Ecology to identify the responsible party. If the spill is an immediate threat to human health or the environment (e.g., tank truck leaking into a water body of the state), WSDOT staff should take reasonable actions to contain the spill until Ecology or the Washington State Patrol arrive on the scene. Reasonable actions will depend upon the expertise of the WSDOT staff at the scene and the materials that are available to them. WSDOT may recover cleanup costs at a later date if and when the state identifies a responsible party.

447.09 Managing HazMat During Construction

WSDOT contractors are responsible for the management of HazMat when encountered at a site, as described by the Special Provisions. If the contract does not address HazMat that is inadvertently discovered, the PE works with a WSDOT HazMat Specialist and the contractor to coordinate the management of these materials. Typical HazMat encountered on construction sites includes contaminated soil, sediment, and water; USTs; ACM; lead-based paint, cementitious material or wastes; potentially hazardous chemicals such as detergents, polymers, dust palliatives, concrete curing compounds, or form release oils.

Working with HazMat requires special training and knowledge. WSDOT policy is that only WSDOT HazMat Specialists or consulting environmental professionals who have the required training and experience are qualified to handle HazMat and collect samples.

The management of HazMat may include any or all of the activities listed below.

Visit the WSDOT HazMat web page for information on each topic.

- Identifying the type, concentration, and extent of the contamination.
- Stockpiling and covering HazMat or otherwise containing liquids.
- Sampling and submitting samples for laboratory analysis.
- Labeling containers and drums.
- Characterizing the material for reuse, or disposal at a permitted disposal facility able to accept the material.
- Submitting information to regulatory agencies.

The contractor is responsible to manage HazMat in a cost-effective manner in accordance with all federal, state, and local laws and regulations.

If project waste materials designate as dangerous waste, WSDOT assumes responsibility as the generator of the waste for reporting purposes. Per Chapter 173-303 WAC, WSDOT must obtain a Resource Conservation and Recovery Act (RCRA) Site ID number from Ecology. WSDOT is required to track and count quantities of all Dangerous Waste generated and disposed. While the RCRA Site ID number remains open in Ecology's system, the PE is required to submit an Annual Report to Ecology due no later than March 1st of each year.

Besides managing and disposing of HazMat generated from an active construction project, the immediate cleanup of contaminated soil or water is not typically required. The PE decides the level of cleanup that is feasible based on the construction schedule and budget, as well as other factors, such as apparent extent of contamination and the intended future use of the site. Where possible, the PE should consider the opportunity to minimize WSDOT's future cleanup liability, to cleanup areas where final construction might prevent or obstruct future cleanup, and to perform cleanup to protect environmentally sensitive areas. Visit the WSDOT HazMat Program web page for more information about cleanup options.

447.10 Reusing or Disposing of Project Waste Materials

WSDOT is ultimately responsible for the reuse and disposal of project waste materials including soils. Disposal of materials can be costly and may impact project schedules. It is for these reasons that WSDOT coordinates the sampling and characterization of HazMat as described above. The decision to reuse or dispose of project waste materials is influenced by the following factors:

- Type and level of contamination (e.g., petroleum product vs. solvents).
- Future site use (e.g., residential vs. industrial, a parking lot or roadway).
- Site access and presence of critical areas.
- Permit requirements and environmental commitments.

WSDOT addresses the reuse and disposal of solid wastes during construction in *Standard Specifications* Section 2-01.2, Section 2-02.3, and Section 2-03.3(7). If a contractor

provides a disposal site, they are required by Section 2-03.3(7)C to provide the PE with the location of the disposal site and copies of required permits and approvals before they transport any waste off the project site. The PE keeps a copy of the disposal documentation in the project file.

When HazMat is addressed in a project Special Provision, WSDOT includes a description of the materials and identifies the type of disposal facility that will accept the materials. As a common practice, WSDOT does not direct contractors where to take materials for disposal. It is required that contractors dispose of waste in accordance with all federal, state, and local regulations.

The WSDOT HazMat web page provides information about and disposal options for the types of waste listed below. Please consult a WSDOT HazMat Specialist with project-specific questions.

- Solid Waste
- Problem Waste
- Dangerous Waste
- Asbestos Containing Materials
- Lead-Based Paint
- Creosote Treated Wood

447.11 Laws and Regulations

Numerous federal, state, and local regulations govern HazMat issues and related topics. Below is a list of the most common federal and state regulations that apply to WSDOT projects.

(1) Federal Laws and Regulations

- All Appropriate Inquiries, 40 CFR Part 312
- Clean Water Act, 33 USC 1251 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601 et seq.
- National Emission Standards for Hazardous Air Pollutants, 40 CFR Parts 61 to 71
- National Environmental Policy Act, 42 USC 4321 et seq.
- Oil Pollution Prevention, 40 CFR Part 112
- Occupational Safety and Health Act, 29 USC 651 et seq.
- Resource Conservation and Recovery Act, 42 USC 6901 et seq.
- Safe Drinking Water Act, 42 USC 300f et seq.
- Toxic Substances Control Act, 15 USC 2601

(2) State Regulations

- Dangerous Waste Regulations, Chapter 173-303 WAC
- General Occupational Health Standards, Chapter 296-62 WAC
- Hazardous Waste Operations, Chapter 296-843 WAC
- Minimum Standards for Construction and Maintenance of Wells, Chapter 173-160 WAC
- Model Toxics Control Act, Chapter 173-340 WAC

- Safety Standards for Construction Work, Chapter 296-155 WAC
- Sediment Management Standards, Chapter 173-204 WAC
- Solid Waste Handling Standards, Chapter 173-350 WAC
- State Environmental Policy Act, Chapter 197-11 WAC
- Underground Storage Tank Regulations, Chapter 173-360 WAC
- Water Quality Standards for Groundwaters of the State of Washington, Chapter 173-200 WAC
- Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC

447.12 Abbreviations and Acronyms

ACM	Asbestos Containing Materials
ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Ecology	Washington State Department of Ecology
ECAP	Environmental Compliance Assurance Procedure
ECS	Environmental Classification Summary
ERS	Environmental Review Summary
ESA	Environmental Site Assessment
ESO	Environmental Services Office
GASB	Governmental Accounting Standards Board
HazMat	Hazardous Materials
MTCA	Model Toxics Control Act
NEPA	National Environmental Policy Act
PE	Project Engineer
RCRA	Resource Conservation and Recovery Act
SEPA	State Environmental Policy Act
SPCC	Spill Prevention Control and Countermeasures
USEPA	United States Environmental Protection Agency
USC	United States Code
UST	Underground Storage Tank
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

447.13 Glossary

WSDOT uses the common term “Hazardous materials” to describe waste materials that require special handling and disposal. The term covers all types of contaminated or hazardous media including dangerous waste, hazardous waste, problem waste, hazardous substances, and petroleum products. The definitions below describe the different terms found in state and federal regulations.

Dangerous Waste – Solid wastes designated in WAC 173-303-070 through 173-303-100 as dangerous or extremely hazardous or mixed waste. Dangerous waste includes all federal hazardous waste, plus certain wastes exhibiting specific characteristics based on toxicity and persistence. The regulatory requirements for disposal of dangerous waste are more complex than the requirements for disposal of problem waste and place additional responsibility both on WSDOT as the generator and on the contractor for safe handling and disposal.

Hazardous Substance – Hazardous substance designated under CERCLA in 42 USC 9601(14) and 40 CFR 116 that pose a threat to public health or the environment. Federal regulation of hazardous substances excludes petroleum, crude oil, natural gas, natural gas liquids or synthetic gas usable for fuel. State regulation of hazardous substances is more stringent and includes petroleum products, as addressed in WAC 173-340-200.

Hazardous Waste – Solid wastes designated in 40 CFR 261 and regulated as hazardous and/or mixed waste by the USEPA. Mixed waste includes both hazardous and radioactive components; waste that is solely radioactive is not regulated as hazardous waste. Hazardous waste includes specific listed waste that is generated from particular processes or activities or exhibits certain reactive, corrosive, toxic, or ignitable characteristics. Hazardous waste is also regulated by Ecology as dangerous waste.

Problem Waste – Pursuant to Chapter 173-304 WAC, problem wastes are defined as soil, sediment, sludge, and liquids (groundwater, surface water, decontamination water, etc.) that are removed during the cleanup of a remedial action site, or other cleanup efforts and actions, that contain hazardous substances but are not designated as dangerous waste pursuant to Chapter 173-303 WAC. Examples of the type of waste streams that may be disposed of under this definition include:

- Contaminated soil, sludge, groundwater, surface water, and construction demolition debris containing any combination of the following compounds: petroleum hydrocarbons, volatile and semivolatile organic compounds, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, heavy metals, herbicides, and pesticides.
- Contaminated dredge spoils (sediments) resulting from the dredging of surface waters of the state where contaminants are present in the dredge spoils at concentrations not suitable for open water disposal and the dredge spoils are not dangerous wastes and are not regulated by Section 404 of the Clean Water Act.
- Asbestos containing material.

Solid Waste – State regulation Chapter 173-350 WAC define solid waste as all putrescible and nonputrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, problem wastes as defined below, and recyclable materials. Federal regulations define solid waste as any garbage, refuse, or sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities. Solid waste includes hazardous and problem wastes.

450.01 Requirements for Land Use Analysis
450.02 Direct and Indirect Land Use Effects
450.03 Coordination With Other Disciplines
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450.01 Requirements for Land Use Analysis

Simple projects that are Categorically Excluded (CE/DCEs as defined in Sections 300.04 and 300.05) typically do not require a land use analysis. Documenting the potential direct project impacts to resource lands (critical areas, shorelines, forest/timber lands, mineral resource lands, farm land, and parks and recreation lands) by completing the appropriate section of the ERS/ECS form and/or a SEPA Checklist is usually sufficient.

The Code of Federal Regulations (40 CFR 1502.16(c)) requires that an Environmental Impact Statement (EIS) and Environmental Assessments (EAs) include a discussion of possible conflicts between the proposed action and the federal, tribal, regional, state, and local land use plans objectives, policies, controls and regulations. The goal of the analysis is to help decision makers understand the effect the transportation project has on land use and development patterns. The analysis must:

- Describe any direct project impacts resulting from the conversion of land to transportation uses.
- Determine if the project is consistent with the existing adopted comprehensive plans and development policies.
- Describe development trends in the study area and any indirect project impacts caused by development occurring in response to the project.
- Evaluate and compare the potential impact for all alternatives, including the no build. The results of this analysis should inform the indirect effects analysis conducted for other disciplines and support the cumulative effects analysis.

In Washington State, land use is controlled by city and county governments through the comprehensive planning process under the Growth Management Act. Washington State Department of Transportation (WSDOT) and local public agencies are required to adhere to countywide planning policies and comply with local comprehensive plans and adopted growth and transportation strategies. The Local Project Review Act of 2001 strengthens this relationship and precludes WSDOT from revisiting land use decisions in the current

adopted comprehensive plan during project review. In order to receive Federal funding, a transportation project must be consistent with local planning. Some of the impacts to land use that must be disclosed are:

- Conversion of land from other uses to transportation use (direct impacts).
- Changes in the timing, intensity, or rate of the planned growth in the study area (indirect impacts).
- Cumulative impacts caused by growth to other resources (see Chapter 412).

Projects classified as Categorical Exclusions (CE/DCE – see Section 300.04) typically do not require analysis for potential land use impacts under 23 CFR 771.117(a) because, by definition, these projects:

- Do not induce significant impacts to planned growth or land use.
- Do not require relocation of significant numbers of people.
- Do not have significant impacts on travel patterns.
- Do not have significant environmental impacts.

450.02 Direct and Indirect Land Use Effects

The Council on Environmental Quality (CEQ) states that direct effects are those "caused by the action and occur at the same time and place" (CEQ 1978). A good example of a direct land use impact of a highway project is acquisition of right of way. The timing, location, probability, and causality of direct effects are well understood and easily described. The analysis should include a discussion of the temporary (construction) impacts and long term (operational) impacts. It is best to include a map showing the existing and proposed right of way lines, existing land use (as described in the adopted comprehensive plan) and acreage to be converted to support the analysis.

Indirect effects are defined as the "reasonably foreseeable effects" caused by the project "later in time or farther removed in distance" and may include project-related changes in land use patterns, population density, or growth rates. An example of indirect land use effects is the claim that a highway project that improves travel time to a central city will cause undeveloped land in the travel shed to be rezoned for residential use. Table 450-1 summarizes these distinctions.

Effect Considerations	Direct Effects	Indirect Effects
Nature of Effect	Typical/Inevitable/Predictable	Reasonably foreseeable/Probable
Cause of Effect	Caused by the project	Linked to project/influenced by project
Timing of Effect	Immediate project construction and implementation	At some future time after direct effects
Location of Effect	At the project location	Within boundaries of the systems affected by the project

Source: TRB Report 403, adapted from the table on page 58.

Direct and Indirect Effects
Table 450-1

The indirect land use effects involve potential development, or redevelopment of buildable lands within the influence of the transportation project. These changes are driven and constrained by social and economic factors beyond WSDOT or the local public agency's control. Such effects are difficult to predict and often controversial. Projects that do not increase capacity, change the level of service, or significantly reduce travel time are unlikely to change land use.

Projects that require an EA/EIS and have the potential to significantly affect Land Use should include a discussion of actions that were taken to avoid, minimize or mitigate direct land use impacts in the environmental document (EA/EIS). Potential or recommended mitigation measures for indirect impacts should also be described. Mitigation measures, such as more restrictive zoning, are unlikely to be under WSDOT control. The discussion should include the party responsible for such mitigation and the likelihood of implementation of such measures.

450.03 Coordination With Other Disciplines

If your project is an EA/EIS, the land use analysis should be done as early as possible in the NEPA process. Changes in land use can substantially affect the function of the transportation network. Therefore, the transportation and land use analysis should be conducted simultaneously.

The results of the land use analysis should be used to inform the indirect effects analysis conducted for the noise, air, social, economic, visual, fish and wildlife, and floodplains. These findings are then used to support the cumulative effects analysis. Coordination with the authors of these discipline analyses is important to eliminate rework and improve internal consistency of the environmental document.

450.04 Right Sizing the Land Use Analysis

Projects that require an EA/EIS must include a discussion of land use impacts. However, the level of effort should be commensurate with the complexity and scope of the project. The results of the analysis may be described directly in the environmental document for most projects. A separate land use discipline report may be needed for complex and/or controversial projects, such as projects:

- With substantial direct effects (positive or negative) on land use despite proposed mitigation (e.g., a project with a large number of right of way acquisitions or displacements).
- With substantial indirect effects (positive or negative) on land use despite proposed mitigation (e.g., a project that would cause sizable changes in planned development within the study area, or a project found to be inconsistent with planned growth).
- In fast growing areas with significant amounts of undeveloped land, where additional analysis is needed to determine probable effects.

The rationale for determining that a Land Use Discipline Report is not needed for an EA/EIS level project should be formally documented in the project file. Formal documentation could be a letter to file. Briefly describe the methodology and process used to reach this conclusion and list the participants in the discussion.

450.05 Non-Road Project Requirements

Federal agencies maintain their own unique NEPA procedures in CFR. Each agency may have different documentation and procedural requirements for complying with NEPA. If your project has a federal nexus with more than one federal agency, it is critically important to meet with the federal lead agencies and determine how to proceed. In some cases the federal agencies may agree to co-lead the NEPA process. In others, one agency may serve as lead and the other as a cooperating agency. This decision needs to be made very early in the process to ensure timely approval of your environmental document. The exact requirement will vary depending on the nature of the project, federal permits and approvals required, and individual circumstances. Common examples of projects that require coordination with more than one federal agency are:

- An FHWA funded project that crosses federally owned or managed lands. (See Section 450.08.)
- A project that receives Federal Highway Administration and Federal Transit Administration funding.
- Any highway project involving Federal Rail Administration or Federal Aviation Administration.
- An FHWA funded project that requires an Army Corps of Engineers Individual permit.

(1) Ferry Facilities

Ferry Terminals are typically located in navigable waters within the corporate limits of cities where harbor lines have been established by the state Harbor Lines Commission. According to the State Constitution, harbor areas are "forever reserved for landings, wharves, streets, and other conveniences of navigation and commerce."

The Washington State Department of Natural Resources manages the use of harbor areas in accordance with the Aquatic Lands Act (RCW 79.105). These areas are also subject to local land use regulations, including shoreline, critical area, and zoning regulations. Washington State Ferries takes proactive steps to minimize land use and navigational conflicts by working with the US Coast Guard, the Department of Natural Resources, local Port Authorities, Tribes, and local jurisdictions.

U.S. Homeland Security regulations (33 CFR 165) impose security zones at ferry terminals and around vessels. A 25 yard separation zone is required when vessels are at the dock, and a 100 yard separation zone is required when the vessel is in route. Potential impacts to these security zones should be addressed in the land use analysis.

Ferry Terminal projects often receive Federal Transit Administration funds, and/or the facilities may have received FTA funding in the past, Ferry's projects may also be subject to Federal Transit Administration requirements. FTA procedures are described on their website and in the policy document: Environmental Impact and Related Procedures (23 CFR 771) Effective April 23, 2009.

(2) Rail Facilities

The 1995 MOU between WSDOT, Federal Railroad Administration and FHWA established agency roles and responsibilities to ensure compliance with NEPA for the Washington State Rail Passenger Program. Freight rail projects are covered by the Surface Transportation Board procedures for implementing environmental law set forth in 49 CFR 1105. Surface Transportation Board regulations require that rail projects be consistent with existing land use plans and applicable coastal zone management plans.

Depending on the project, the federal lead agency may be the Federal Highway Administration, Federal Railroad Administration, or the Surface Transportation Board.

(3) Aviation Facilities

Land use compatibility is a critical issue for airports to ensure safe and efficient use of airspace. The Federal Aviation Administration (FAA) provides guidance on how land use compatibility should be addressed in airport planning and NEPA documents (Federal Aviation Administration Orders 1050.1E and 5050.4B). The guidance addresses:

- The affect of airports on adjacent land use and appropriate environmental documentation of proposed airport actions.
- The affect of land use on airport operations, including recommended zoning and development restriction adjacent to airports for consideration by local government.
- The kinds of information on existing and planned land use that should be provided in an environmental document for highway projects within 3.2 miles of an airport, including "significance thresholds" for various land use related topics.

WSDOT Aviation has developed the Airport Land Use Compatibility guidebook that presents this information in a clear, user friendly manner. Links to the guidebook and other useful technical documents can be found on the WSDOT Aviation System Planning web page.

450.06 Farmland

The Federal Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal activities contribute to the conversion of farmland to nonagricultural uses. 7 CFR 658.2(a) gives general directions that WSDOT has interpreted to mean that soil types not suitable for crops (such as sand dunes), farmland already committed to urban development (land within the adopted Urban Growth Area), and farmland that has already been converted to industrial, commercial, residential, or recreational use is exempt from analysis.

The FPPA requires agencies to examine the impact of their programs and projects before they approve any activity that would convert farmland to other uses. WSDOT complies with this requirement by submitting the appropriate forms to the Natural Resources Conservation Service (NRCS). The procedures for complying with FPPA requirements can be found on the WSDOT Land Use web page.

NRCS recognizes three categories of farmland based on their soil types:

- Prime Farmland.
- Unique Farmland.
- Farmland of statewide or local importance.

Because the rating is based on soil type timber land, vacant land, and open space, which has never been farmed, may be designated as prime farmland. Therefore, the WSDOT project office should complete and submit the form to NRCS for all projects. The NRCS will perform a Land Evaluation and Site Assessment and return a Farmland Conversion Impact Rating (FCIR) score for each alternative described on the form. A score of 160 or greater is considered to be a substantial impact.

If the project is a CE/PCE/DCE, document results in the Resource Lands Section of the ERS/ECS. If an EA/EIS is required, summarize the results of early consultation with the NRCS and appropriate state and local agricultural agencies where farmlands are directly or indirectly impacted by any alternative. Include a copy of the FCIR form and a map showing the location of all farmlands in the project area, the type, and location of impact by alternative. The EA/EIS should discuss alternatives to avoid farmland impacts for any alternative with a score of 160 or greater. If avoidance is not possible, measures to minimize or reduce impacts should be evaluated and included in the proposed action.

(1) Farmland and Mitigation Sites

RCW 47.01.305 directs WSDOT to use public lands before using land designated as agricultural land of long-term commercial significance (as defined in RCW 36.70A) for highway projects. If public lands are unavailable, WSDOT is directed to make every effort to avoid any net loss of agricultural lands.

In an August 2007 letter, Governor Gregoire directed WSDOT to notify the Governor's Chief of Staff when WSDOT is seriously considering using eminent domain for acquiring agricultural resource land pursuant to the Growth Management Act (RCW 36.70A.170(a)) for wetland mitigation purposes. WSDOT's policy is to comply with these directives by avoiding the use of designated agricultural resource lands for mitigation sites whenever possible. If no other suitable sites are available, WSDOT will work with local jurisdictions to avoid conflict with policies and regulations protecting agricultural lands. WSDOT Real Estate Services Office tracks conversions of agricultural resource lands to transportation purposes for WSDOT projects. The WSDOT Director of Environmental Services will ensure that WSDOT provides written notice to the Governor's Office at least two weeks prior to filing any formal action to condemn or purchase designated agricultural resource lands for environmental mitigation purposes as follows:

- For condemnation of designated agricultural lands for wetland mitigation sites, a mandatory notice will be sent to the Governor's Chief of Staff. (This requirement does not apply to local agency projects.)
- For condemnations of designated agricultural lands for other environmental mitigation purposes, a courtesy notice will be sent to the Governor's Office staff. (This requirement does not apply to local agency projects).

(2) State Conservation Commission Memorandum of Understandings

This MOU between the Washington State Conservation Commission and WSDOT (September, 1982) aims to enhance cooperation to preserve agricultural and forest lands. It requires coordination between WSDOT and appropriate Washington State Conservation Commission and Conservation District personnel to assure that roadway projects minimize agricultural land conversions. A copy of the MOU is available in Appendix B.

450.07 Recreational Land Conversions — Section 6(f)

Projects that impact recreational lands require special consideration. Chapter 457 describes USDOT specific requirements (i.e., Section 4(f) of the Department of Transportation Act of 1966) for considering impacts to recreation and resource lands. However, there are a number of federal and state grants given to recreation managers that require some type of compensation when lands are converted and can no longer be used for recreational purposes.

(1) Section 6(f) Reviews

The Land and Water Conservation Fund (1965) is a federal grant program which helps pay for the acquisition of outdoor recreation sites and facilities. Grants are awarded to cities, counties, Native American Tribes, state agencies, and park and school districts. Section 6(f) of the act prohibits the conversion of property acquired or developed with these grants to a nonrecreational purpose without the approval of the Department of Interior's National Park Service (NPS). In Washington State the Recreation and Conservation Office (RCO) oversees many grant programs including the Land and Water Conservation Fund and represents the interests of the National Parks Service to ensure compliance with federal requirements.

If property purchased or improved through LWCF is impacted by a project the property owner (grant sponsor) is responsible for compliance with all 6(f) requirements even if the impact is caused by another party, such as WSDOT. Therefore, conversion of a Section 6(f) property to transportation uses requires early coordination with RCO and the property owner (grant sponsor) to ensure:

- All practical alternatives to property conversion have been evaluated and no reasonable alternative exists to the conversion that would meet the project's purpose and need.
- A mutually acceptable replacement property is found. The replacement property is reasonably equivalent in usefulness and location, and fulfills the same recreational functions as the original property.
- The replacement property has an equal or greater fair market value than the original property.
- The public has been informed of the proposed conversion, been given a minimum of 30 days to comment on the change and their comments have been considered and adequately addressed by RCO/NPS.
- The replacement property is not designated-recreation land owned by another public agency (i.e.; you cannot replace a park with an existing park and thereby reduce the total amount of recreation land available to the community).
- A partial conversion will not adversely affect the recreational function of the remainder. If the remainder is not viable, the whole parcel must be replaced.
- NEPA, ESA, Section 106 and all other Federal approval requirements have been satisfactorily completed for the project as well as the conversion. Remember: the environmental approvals must include review of the portion of the recreation land to be converted and the proposed replacement site (*LWCF State Assistance Program Manual* Section 8(E)(3)(g)).

The Federal regulations stipulate that the environmental review be conducted in a neutral and factual manner and should not include statements that promote or justify the action precipitating the conversion. Coordination with RCO is required as soon as the possibility of conversion is discovered to minimize project delay by ensuring:

- Agreement on the extent of impact caused by the project.
- The replacement property (if proposed) is determined acceptable by RCO prior to expenditure on appraisals or environmental review.

Discovery of an unauthorized conversion requires RCO to notify the project sponsor of the violation. Through RCO's notice it will require that the project cease immediately until the conversion process is satisfactorily completed. The conversion process for unauthorized activities requires additional documentation used by RCO to consider the facts of the conversion. Details could include discussion of alternatives considered and a description of the work that required the use of a Section 6(f) property without prior notification and coordination with RCO. Standard procedures for working with RCO are described in their manual (RCO Manual 7 Section 3 (6)).

Conversion approval is normally done by the Recreation and Conservation Funding Board (RCFB). Scheduling a conversion approval may take time and needs to be considered in the overall timeline of the transportation project. RCO advises that any request for a conversion approval be pursued as soon as a potential conversion is identified. RCO must complete a number of administrative tasks to get a proposal in front of the RCFB. Furthermore, the RCFB meets on a quarterly schedule, and the proposal must be received at least six weeks in advance of a decision by the RCFB. Further details regarding the approval process and document requirements should be sought from an RCO Grant Manager.

Small conversions of less than 5 acres or 10 percent of the Section 6(f) property (whichever is smaller) may be accomplished under a less complex process. To qualify, the conversion must meet specific minimum size and cost requirements. Coordination with RCO is still required for small conversions. Size and cost requirement and the review process are described on RCO's website in Section 3, Manual 7).

Because properties purchased with Land and Water Conservation Funds are to be used for recreation, LWCF properties (Section 6(f) properties) qualify as Section 4(f) properties. Although all Section 6(f) properties are Section 4(f) properties, two different processes are needed to assess a project's impacts to satisfy federal requirements. Here are some things to keep in mind about 4(f) and 6(f) properties:

- Section 6(f) applies only to properties acquired or improved with Land and Water Conservation funds. Section 4(f) applies to all publicly owned parks, recreation areas and wildlife and waterfowl refuges regardless of the funding source.
- Section 6(f) applies to all programs and policies for all federal agencies. Section 4(f) only applies to US DOT programs and policies.
- Mitigation for impacts to Section 6(f) requires replacement with land of equal value, location, usefulness and function as the impaired property. Mitigation for Section 4(f) impacts is much more flexible and may not require replacement.

Table 450-3 summarizes the differences between Section 6(f) and Section 4(f). For more information about Section 4(f) evaluations. (See Chapter 457.)

Different Federal Agencies have different documentation and procedural requirements for complying with NEPA. Conversion of a 6(f) property cannot be accomplished until we have satisfied all of the NEPA, ESA, and Section 106 requirements for both the property proposed to be converted and the proposed replacement property. The exact requirements will vary depending on individual circumstances and the other federal agency involved. Early coordination with RCO, NPS, and any land owning agencies involved is recommended to ensure that our process meets their requirements and eliminate rework.

Law	Section 6(f)	Section 4(f)
Legislative Reference	Land and Water Conservation Fund Act, Section 6(f).	Section 4(f) of DOT Act
Purpose	Preserve, develop and assure the quality and quantity of outdoor parks and recreation areas and refuges for present and future generations.	Avoid use of public parks, waterfowl and wildlife refuges and significant historic sites.
Applies When	All projects that impact recreational lands purchased or improved with land and water conservation funds.	Projects that impact significant public parks, recreation areas, wildlife and waterfowl refuges, and all significant historic sites are "used" for a highway project regardless of funding source.
Final Approval	NPS through RCO	US DOT Agency lead.
Relationship to Each Other	Section 4(f) is not an integral part of the Section 6(f) process.	Section 6(f) may influence the decision making during the consideration of minimization of harm during the Section 4(f) evaluation process, but they are independent processes.

Comparison of Section 6(f) and Section 4(f)
Table 450-3

(2) Other Grant Funded Properties

The Recreation and Conservation Office (RCO) also manages many other state and federal grant programs, aside from the Land and Water Conservation Fund Program. These grants fund public recreation sites and facilities (such as parks, trails, trailheads, boat launches, habitat areas and gun ranges), and habitat improvements. RCO awards grants to counties, cities, nonprofit organizations, lead entities, state and federal agencies and Native American tribes. Decisions on granting and conversion of lands that have received grants occur through one of two funding boards; the Recreation and Conservation Funding Board and the Salmon Recovery Funding Board.

It is important to research potentially impacted trails, parks and habitat areas, etc. to determine if RCO grant funds have been used to purchase and/or support the site. Impacts to these funded sites are handled in a similar manner to what is described in the section above concerning 6(f). Early coordination with RCO and the land owner (grant sponsor) is important to ensure all compliance and conversion policies are followed as outlined in the signed project agreement form, as found in RCO Manual 7 Section 3.

450.08 Wild and Scenic Rivers

The Wild and Scenic Rivers Act (PL 90-542, 16 USC Chapter 28) designates certain rivers (or river segments) for special protection to preserve them in a free-flowing condition for the benefit and enjoyment of present and future generations. The act also identifies various "study rivers" for possible inclusion in the Wild and Scenic Rivers System. Currently, all of the designated Wild and Scenic Rivers in Washington State are administered by the U. S. Forest Service in accordance with 36 CFR 297.

A comprehensive management plan is in place for all designated rivers. The plan describes the use and type of construction allowed in each segment of the river. River segments designated for recreational use, segments in publicly owned public parks, recreation areas, or wildlife and waterfowl refuges, and segments with historic or archeological sites, are subject to Section 4(f). Segments that are privately owned (except for historic and archeological sites on private land) and segments on publicly owned lands not open to the general public (e.g. military bases, Indian Reservations, etc.) and whose primary purpose is not a Section 4(f) use, are not subject to Section 4(f). If the management plan does not identify a specific function for the river segment, then Section 4(f) does not apply.

Close examination of the management plan and coordination with the appropriate U. S. Forest Service office is essential early in the environmental review and design process. Projects in a designated or study wild and scenic river that require a Section 404 permit from the Army Corps of Engineers also require completion of a written ESA Section 7 determination by the U. S. Forest Service.

Federally designated Wild and Scenic Rivers within Washington include:

- Skagit River from the pipeline crossing at Sedro-Wooley upstream to and including the mouth of Bacon Creek and tributaries as listed below:
  - The Cascade River from its mouth to the junction of its North and South Forks.
  - The South Fork to the boundary of the Glacier Peak wilderness Area.
  - The Suiattle River from its mouth to the boundary of the Glacier Peak Wilderness Area at Milk Creek.
  - The Sauk River from its mouth to its junction with Elliot Creek.
  - The North Fork of the Sauk River from its junction with the South Fork of the Saul to the boundary of the Glacier Peak Wilderness Area.
- Klickitat River from Wheeler Creek to the confluence with the Columbia River, classified as a recreational river.
- White Salmon River from the confluence of Gilmer Creek (near the town of BZ Corner) to the confluence with Buck Creek; classified as a part wild and part scenic river.

Federally designated Study Rivers within Washington State include:

- Skagit River from Mount Vernon to and including the mouth of Bacon Creek, plus additional segments of the Sauk, Suiattle, and Cascade tributaries.
- Klickitat River upstream of the confluence of the Little Klickitat River to the Yakama Indian Reservation boundary.
- Snake River from the town of Asotin to the Oregon state line.
- White Salmon River upstream of the confluence with Gilmer Creek.

(1) National Rivers Inventory

The 1979 Presidential Directive requires federal agencies to protect and manage rivers in the Nationwide Rivers Inventory (NRI) that are suitable for inclusion in the Wild and Scenic Rivers System as part of their normal planning and environmental review process. The directive, a listing of NRI rivers in Washington State, and the procedure for consulting on projects that may affect these rivers is available on the National Park Service NRI website.

(2) Washington State Scenic River System

RCW 79A.55 established a scenic river system in Washington State. The system is managed by the State Parks and Recreation Commission to "protect and preserve the natural character of rivers with outstanding natural, scenic, historic, ecological, and recreational values". The protected lands include river and publicly owned or leased lands up to one quarter mile on each side of the river. The State Parks Commission has developed and adopted management policies for the public lands along designated rivers. RCW 79A.55.040 requires that the management policies be integrated into local Shoreline Management Master Plans.

State designated Scenic Rivers include:

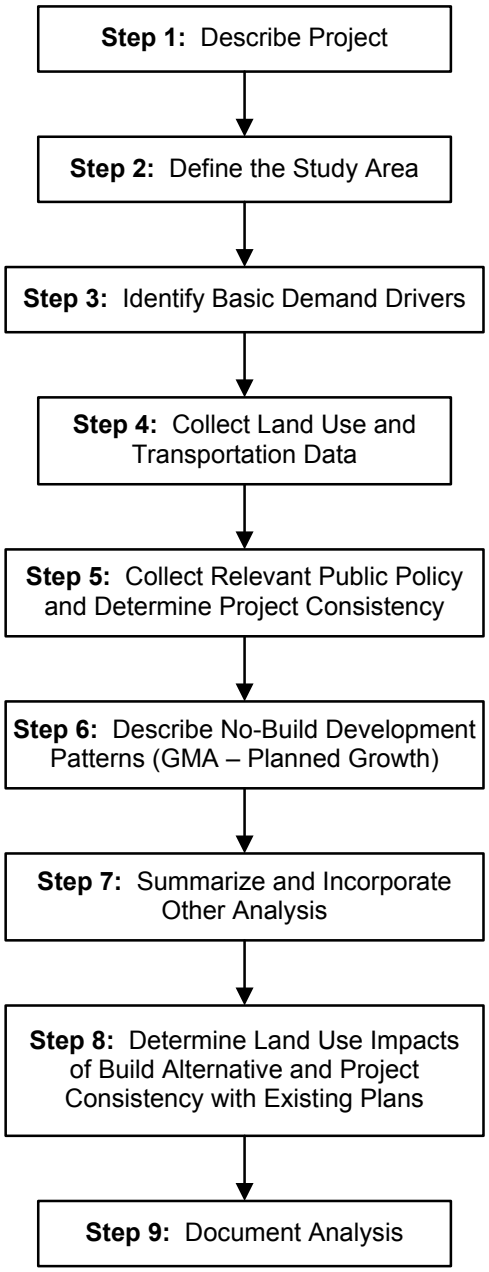
1. The Skykomish River from the junction of the north and south forks of the Skykomish (within the jurisdiction of Snohomish County):
   a. Downstream approximately fourteen miles to the junction of the Sultan River.
   b. Upstream approximately twenty miles on the south fork to the junction of the Tye and Foss rivers (within the jurisdiction of King County).
   c. Upstream approximately eleven miles on the north fork to its junction with Bear Creek (within the jurisdiction of Snohomish County).
2. The Beckler River from its junction with the south fork of the Skykomish River upstream approximately eight miles to its junction with Rapid River (within the jurisdiction of King County).
3. The Tye River from its junction with the south fork of the Skykomish River approximately fourteen miles to Tye Lake (within the jurisdiction of King County).
4. The Little Spokane River from the upstream boundary of the state park boat put in site near Rutter Parkway and downstream to its confluence with the Spokane River (within the jurisdiction of Spokane County).

450.09 Procedures for Completing a Land Use Analysis

Methods analyzing land use impacts vary according to the complexity of the project, available data, and the existence of travel demand and land use models. It is uncommon in Washington State for local agencies to invest in these land use models due to their labor and data needs. WSDOT staff will generally need to rely on GIS data, local area experts, and statistical methods to conduct the analysis. Although local agencies may not maintain land use models, much of the data needed for a land use analysis is kept by local governments. Therefore, coordination with local agency staff is essential to completion of the analysis. The analysis should be scaled to match the geographic scope and potential for land development or redistribution effects. The basic process shown in Figure 450-1. Local agency staff preparing an EA/EIS for federally funded projects should consult with WSDOT Highway and Local Program staff to determine the level and scope of the land use analysis required for their project. If significant land use impacts are anticipated, the analysis process described in Figure 450-1 applies.

The procedures for completing the analysis are available on the WSDOT Land Use web page, including:

- Step by step explanation of the process. Step 2 is described in TSK 450-a, Steps 3-9 are described in TSK 450-b
- Checklists
- Links to resource documents by NCHRP and AASHTO



Basic Land Use Analysis Process
Figure 450-1

450.10 Legal Sufficiency and Documentation

Large, complex, and/or controversial projects will need more robust documentation of the land use analysis. Because the land use analysis influences many other disciplines (transportation, noise, air quality, visual, and social) it is important to thoroughly document the participants, assumptions, methodologies, results, and uncertainties to minimize the risk of a successful legal challenge. This may be done in a technical appendix to the environmental document (per CEQ 40 CFR 1502.18) or in a land use discipline report to ensure this information is included in the project's administrative record.

It is recommended that large or controversial projects consider making a special effort to document four key areas in the administrative record.

1. Identify and explain key underlying assumptions (such as growth rates) and explain how those assumptions were made.
2. Describe the methods used to develop forecast results. Explaining the inherent advantages and limitations in the analysis process and data sources can be especially useful in establishing a "reasoned basis" for the methodology.
3. Summarize and explain the results including, an explanation of patterns in the data, causal relationships, and anomalous or unexpected results.
4. Systematically review assumptions, data and results to ensure internal consistency in the document. Carefully cross check related disciplines to make sure that they do not contradict results of the land use analysis.

450.11 Land Use Statutes and Regulations

Although many federal and state laws regulate land use, they are implemented at the local level through state law:

- RCW 36.70B Local Project Review Act of 2001, which precludes re-evaluation of adopted comprehensive plans during the environmental review process.
- RCW 36.70a Growth Management Act
- RCW 90.58a Shoreline Management Act (SMA) – The goal of Washington's Shoreline Management Act is to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines. The Act establishes a broad policy of shoreline protection. The SMA uses a combination of policies, comprehensive planning, and zoning to create a special zoning code overlay for shorelines. Under the SMA, each city and county can adopt a shoreline master program that is based on state guidelins but tailored to specific geographic, economic, and environmental needs of the community. Refer to the WSDOT Local Environmental Permits and Approvals web page for information about shoreline permits and exemptions.

Many other federal, state, and local laws enacted to protect the environment may lead to limitations in the type of development allowed in an area or additional reviews and approvals, even though land use is not their primary focus. These laws are listed and described in other sections of this manual focused on specific resources, such as fish and wildlife, surface water, or wetlands.

Federal laws that specifically regulate land use include:

- **Rivers and Harbors Act** – Section 10 of the Rivers and Harbors Act (33 USC 410 et seq.). Administered by the Army Corps of Engineers.
- **Farmland Protection Policy Act (FPPA)** – of 1981 **(**7 USC 4201 et seq.**)** Implementing regulations are in 7 CFR 658. Administered by the Natural Resources Conservation Service.
- **Section 6(f)** – Land and Water Conservation Fund Act codified at 16 USC 4601-8(f). In Washington State, the Recreation and Conservation Office administers the fund in accordance with WAC 286-40.
- National Trails System Act 16 USC 1241-1251
- Wilderness Act 16 USC 1131-1136
- Wild and Scenic Rivers Act PL 90-542, 16 USC Chapter 28

Other state laws that affect land use include:

- RCW 79A.55 Scenic River System Act
- RCW 79.105 Aquatic Lands Act. DNRs implementing regulations are in WAC 332-30
- Preservation Executive Order 80-01 Farmland

450.12 Abbreviations and Acronyms

AASHTO	American Association of Highway and Transportation Officials
CEQ	Council for Environmental Quality
CFR	Code of Federal Regulations
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
GMA	Growth Management Act
LOS	Level of Service
MOU	Memorandum of Understanding
NCHRP	National Cooperative Highway Research Program
NRCS	Natural Resources Conservation Service
NPS	National Park Service
USC	United States Code
USFS	United States Forest Service

450.13 Glossary

These definitions provide context for the Land Use analysis. Some terms may have other meanings in a different context.

Concurrency – As defined under GMA, concurrency requires adequate public facilities and services are available when the impacts of development occur, or within a specified time thereafter. For locally owned transportation facilities, the maximum specified time is six years from the time of development.

Essential Public Facilities – As defined under GMA, essential public facilities that are typically difficult to site, including airports, state or regional transportation facilities, and services of statewide significance as defined in RCW 47.06.140 (including improvements to such facilities and services identified in the statewide multimodal plan) and other public facilities that are typically difficult to site.

Farmland of Statewide or Local Importance – As defined in the Farmland Protection Policy Act, farmland of statewide or local importance is land used for the production of food, feed, fiber, forage, or oil seed crops, as determined by the state or local government agency or agencies, using U.S. Department of Agriculture guidelines.

Level of Service – An established minimum capacity of public facilities or services that must be provided per unit of demand or other appropriate measure of need. For transportation facilities and services, level of service may be measured at an intersection, road segment, traffic corridor or zone, and may be based on traffic volume compared to facility capacity, travel time, or multiple variables (e.g., distance traveled, road conditions, or safety hazards). The method for calculating level of service varies depending on the transportation mode. Level of service is usually designated by five letter grades with LOS A representing the best service (free flow conditions of vehicular traffic) and LOS F representing the worst service (stop and go conditions).

Navigable Waters or Navigable Waters of the United States – As defined by the Army Corps of Engineers are those waters of the United States including the territorial seas that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impede or destroy navigable capacity. (33 USC 1362(7) and 33 CFR 329.4)

Federal Nexus – A determination that at least one federal agency is involved as a proponent of a specified proposal and/or as an agency that needs to act on a federal permit, license, or other entitlement (such as a request to use federal funds or federal land) needed to implement the proposal. A federal nexus (even on an otherwise non-federal proposal) typically triggers the need for the federal agency or agencies to comply with various federal statutes include, but not limited to, NEPA, Section 106 of the Historic Preservation Act, Section 4(f) of the Department of Transportation Act, Section 6(f) of the Land and Water Conservation fund Act, and Section 7 of the Endangered Species Act.

Prime Farmland – As defined in the Farmland Protection Policy Act, is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oil seed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Prime farmland includes land that possesses the above characteristics and may include land currently used as cropland, pastureland, rangeland, or forestland. It does not include land already in or committed to urban development or water storage.

Section 6(f) Property – Any property acquired or developed with financial assistance under Section 6(f) of the federal Land and Water Conservation Fund Act.

Unique Farmland – As defined in the Farmland Protection Policy Act, is land other than prime farmland that is used for production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include lentils, nuts, annually cropped white wheat, cranberries, fruits, and vegetables.

Urban Growth Area – as defined in the Growth Management Act, are those areas designated by a county pursuant to the Washington State Growth Management Act, which are planned to support urban type development and densities within the next 20 years.

456.01 Cultural Resources Overview
456.02 Section 106 Review and Compliance: FHWA
456.03 Section 106 Review and Compliance: USFS
456.04 Section 106 Review and Compliance: COE
456.05 Section 106 Review and Compliance: Other Federal Agencies
456.06 Governor's Executive Order 05-05 Review and Compliance
456.07 Bridge Compliance
456.08 Artifact Collection and Disposition (Curation)
456.09 Use of Museums and Information Centers as Potential Mitigation
456.10 Additional Cultural Resources Regulatory Guidance
456.11 Acronyms and Abbreviations
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456.01 Cultural Resources Overview

It is federal and Washington State policy to avoid, minimize, or mitigate adverse impacts to historical, archaeological, and cultural resources. It is Washington State Department of Transportation (WSDOT) policy to avoid adverse effects to such resources in planning, constructing, operating, or maintaining the state's transportation system, or to minimize and mitigate such effects if it is not practical to avoid them.

Cultural resources may include but are not limited to buried and surface archaeological sites and materials; historic structures such as buildings, highways, roads, bridges, culverts, or guardrails 50 or more years old; and sites such as certain natural landscape features considered important or special by native Americans or community groups, such as waterfalls, rock formations, mountains, or ridges. Archaeological sites and materials can be prehistoric or historic with respect to the age of the resources.

Many WSDOT projects and activities may impact cultural resources and are therefore subject to state and federal regulations. There are multiple federal and state laws that regulate cultural resources and how they are treated. These regulations apply to all WSDOT activities, modes and divisions, not just highways.

Compliance requirements for cultural resources follow different regulatory and compliance paths based on project funding, permitting, and/or project location, but all follow the same general process:

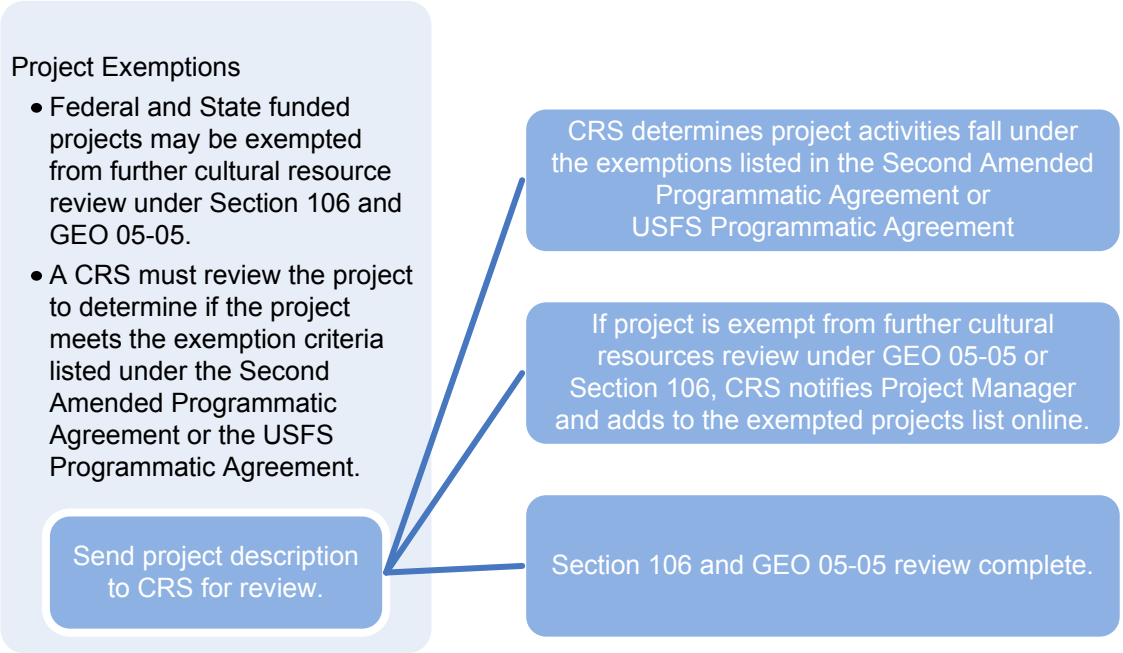
a. Contact the region Cultural Resources Specialist (CRS) early in the project planning stages. If the region or division does not have a CRS, contact the Cultural Resources Program in the Headquarters Environmental Services Office.

b. Provide the CRS information on project location, land ownership, funding, scope of work, and any required permits, and he/she will assist in determining which compliance path and regulations apply.

c. Once the CRS conducts the initial project review, he/she will work with project staff to document that compliance has been completed or to establish the regulatory path and develop a schedule to complete cultural resources compliance.

d. Regardless of which compliance path the project follows, the CRS will initiate consultation with the state Department of Archaeology and Historic Preservation (DAHP), unless the project is exempted from further compliance review under the terms of the Second Amended Programmatic Agreement or the USFS Programmatic Agreement. Figure 456-1 illustrates this process.

1. Only a WSDOT CRS can exempt a project under the terms of the Second Amended Programmatic Agreement and USFS Programmatic Agreement.
2. Undertakings on federal or Indian/tribal lands cannot be exempted per provisions of the Second Amended Programmatic Agreement and the USFS Programmatic Agreement.
3. Undertakings on national forests can be exempted per provisions of the USFS Programmatic Agreement.
4. Certain common post-1945 concrete and steel bridges and culverts can be exempted from review under Section 106 per the FHWA Program Comment for Common Post 1945 Concrete and Steel Bridges (see Section 456.07).
5. Features of the Federal Interstate Highway System of national and exceptional significance cannot be exempted per provisions of the Second Amended Programmatic Agreement or USFS Programmatic Agreement. The Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System is available at www.environment.fhwa.dot.gov/histpres/highways.asp.



Exempting Projects From Further Section 106 or Governor's Executive Order 05-05 Review
Figure 456-1

e. Consultation with DAHP and other stakeholders will continue until the project is determined not to have adverse effects to cultural resources, or agreements are made to avoid, minimize, or mitigate any adverse effects.

456.02 Section 106 Review and Compliance: FHWA

Projects that use federal funds, or require permits from federal agencies, or take place on federal (including Indian/tribal) land, will go through the Section 106 compliance process of the National Historic Preservation Act (NHPA, implemented by 36 CFR 800, see below). The majority of WSDOT projects are subject to Section 106 requirements, either due to funding (e.g., federal aid projects) or permits (e.g., Corps of Engineers permits). For projects that undergo Section 106 review, be aware that:

a. Documentation of compliance with the National Environmental Policy Act (NEPA) may also be required. Note that projects that are categorical exclusions under NEPA are **not** exempt from NHPA and still must comply with Section 106.

b. If the federal nexus involves a federal transportation agency, then Section 4(f) of the Transportation Act applies in addition to Section 106 of the NHPA (see Chapter 457).

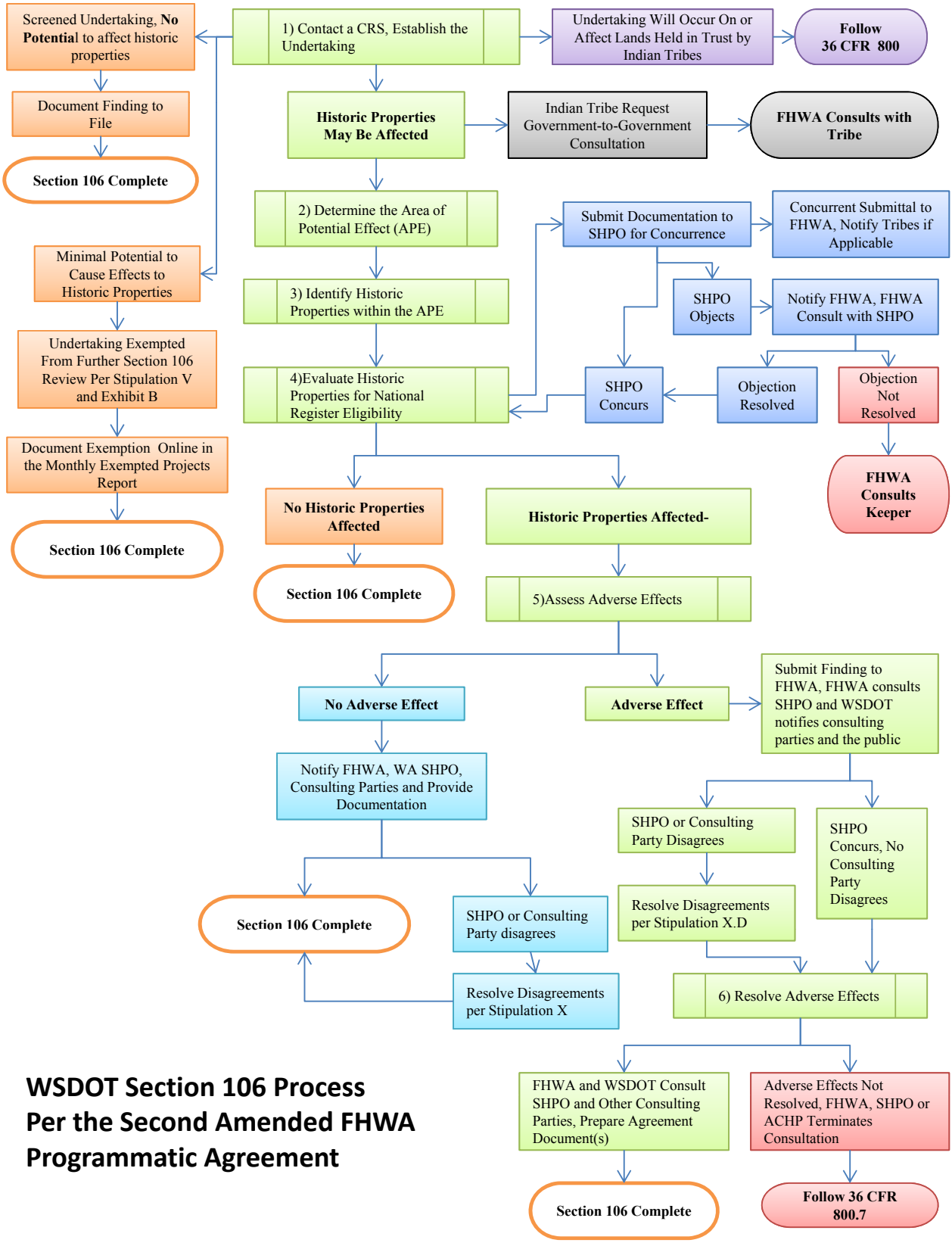
c. Projects that are FHWA funded or permitted use the Section 106 alternative procedures presented in the Second Amended Programmatic Agreement, signed in 2012. The Second Amended Programmatic Agreement supersedes and replaces earlier Programmatic Agreements of 2000 and 2007.

d. Federal highway aid projects on national forest lands follow the Section 106 review process outlined in the USFS Programmatic Agreement with WSDOT, SHPO, ACHP, and FHWA, signed in 2012.

e. Compliance and consultation activities, which WSDOT conducts for federal aid projects, are done so on behalf of FHWA, and pursuant to these two programmatic agreements.

The first step is to contact the assigned CRS as early in the project planning stages as possible, and he/she will determine whether or not the project can be exempted from further review under the Second Amended Programmatic Agreement or USFS Programmatic Agreement.

If the activity cannot be exempted per the stipulations of the Second Amended Programmatic Agreement or USFS Programmatic Agreement, the CRS will work with the project office to determine the Area of Potential Effects (APE) and identify which parties must be consulted with for the project. If the project has FHWA funding or permits, the Second Amended Programmatic Agreement will be followed (Figure 456-2). If the project occurs on a national forest, the USFS Programmatic Agreement will be followed. If the project requires a Corp of Engineers permit (i.e., §10 or 404) and does not have FHWA funding, the Seattle District Corps of Engineers Memorandum for Record will be followed.



Section 106 Process Per the Second Amended FHWA Programmatic Agreement
Figure 456-2

456.03 Section 106 Review and Compliance: USFS

Projects taking place on national forest lands fall under the Section 106 review process, even if they are state funded only. If the project has FHWA funding, the process detailed in the USFS Programmatic Agreement is followed (see Figure 456-3). If the project is state funded, the CRS must work with the project team to provide the USFS Forest Archaeologist with project information to allow the USFS to initiate their Section 106 process. In the case of state funded projects on national forests, the USFS is responsible for Section 106 compliance and does not delegate this responsibility to WSDOT. This is true for maintenance activities as well, unless the region has negotiated an individual maintenance agreement with the national forest. Appropriate time must be built into project schedules to allow for the USFS Section 106 process. Check with the designated WSDOT CRS to get an estimate of how much time is required, depending on project scope and the national forest where the project is located.

In either case, compliance for WSDOT begins with the project team informing their designated CRS about the project scope and schedule, and working with the CRS to inform the USFS Forest Archaeologist about the project.

456.04 Section 106 Review and Compliance: COE

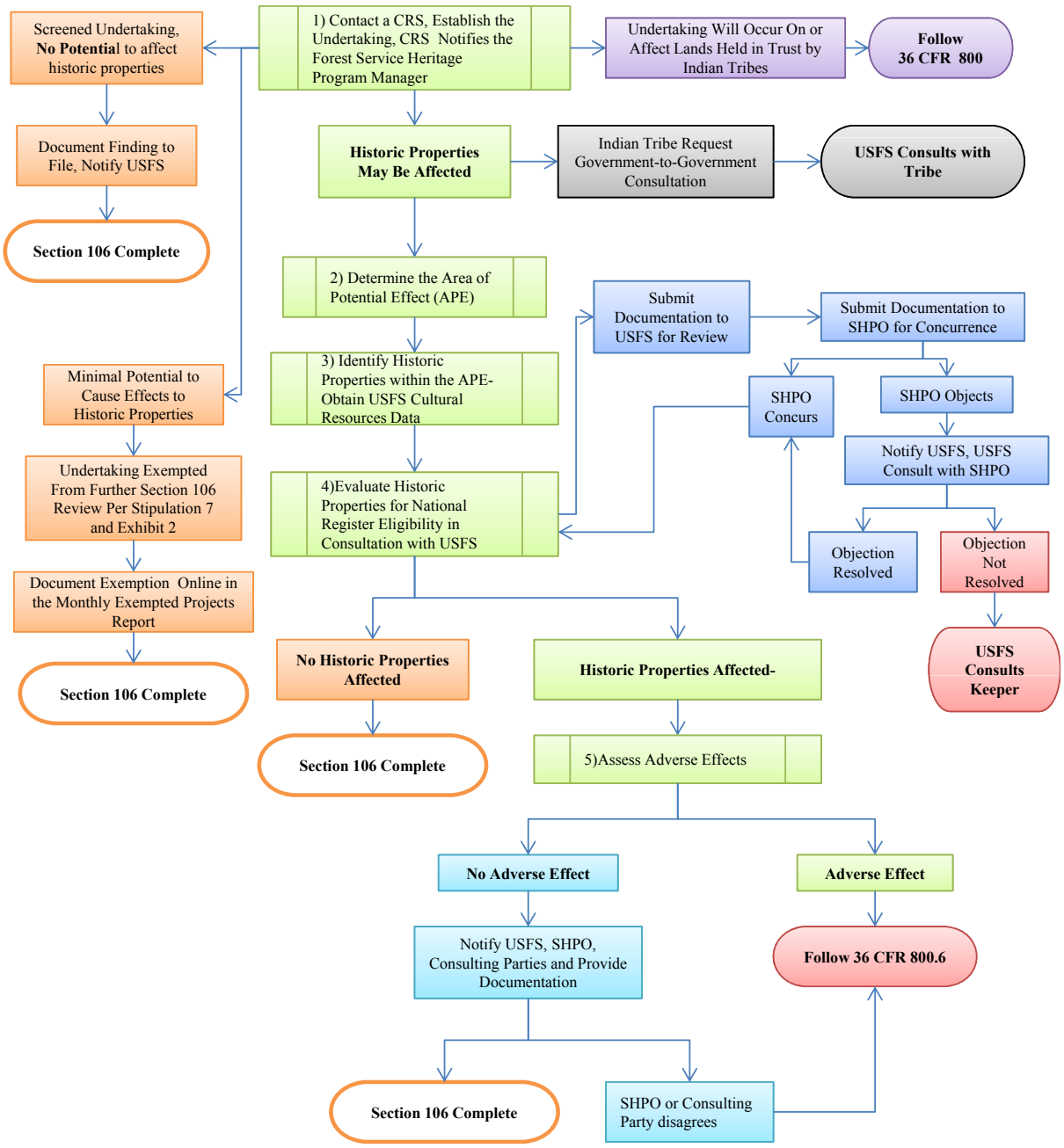
WSDOT and the Seattle District COE utilize a Memorandum for Record signed in 2008 which outlines the process for complying with Section 106 for transportation projects with a COE nexus. This process applies to projects where the COE is the only federal lead agency for Section 106. If other federal agencies are involved (typically, agencies of the U.S. DOT-FHWA, FRA and FTA), the COE typically defers lead agency status to the other federal agency and accepts their Section 106 process. If the other federal agency is FHWA, the MFR designates lead agency status to FHWA.

The MFR requires that a WSDOT CRS review all projects with a COE nexus to determine if the project has the potential to impact cultural resources. If the WSDOT CRS determines that the project is of a scope that will not impact cultural resources, the CRS will document that determination for the record. If the CRS determines the project has the potential to impact cultural resources, the CRS will work with the project team to implement Section 106 compliance per the terms of the MFR.

456.05 Section 106 Review and Compliance: Other Federal Agencies

If a federal agency other than FHWA, USFS, or the COE is involved in funding or permitting the project, that agency's Section 106 process will have to be followed. If FTA, FRA, BLM, or another federal agency is participating in project funding or approval in addition to FHWA, FHWA will need to coordinate with the other federal agency or agencies to see if they will accept FHWA as the Lead Federal Agency per Section 106 and agree to follow FHWA's process.

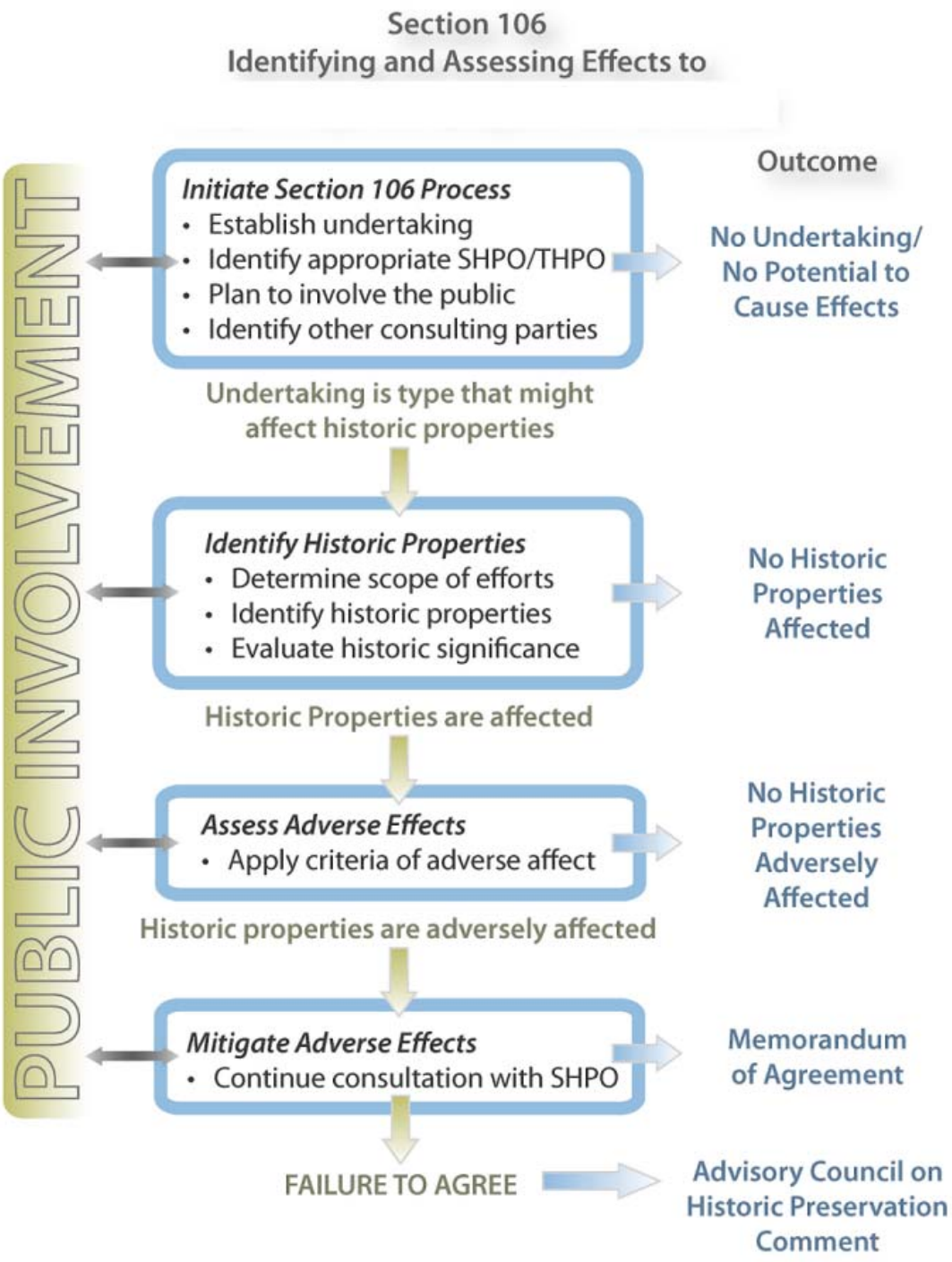
Figure 456-4 illustrates the Section 106 process most federal agencies follow. Section 106 is a federal responsibility, and while federal agencies can delegate some of the tasks required to complete Section 106 to WSDOT, the federal agency remains responsible for Section 106 compliance. Project teams need to be aware that different federal agencies have different schedules and processes for complying with Section 106, and these may have schedule impacts for project planning.



WSDOT Section 106 Process
Per the USFS Programmatic Agreement

**** FHWA shall act as lead federal agency for purpose of compliance with Section 106 of the National Historic Preservation Act (NHPA) for Federal-aid highway program funded projects on USFS land in Washington State.**

Section 106 Process Per the USFS Programmatic Agreement
Figure 456-3



Section 106 Process
Figure 456-4

456.06 Governor's Executive Order 05-05 Review and Compliance

State funded projects go through the Governor's Executive Order 05-05 process and are subject to the requirements of SEPA and state archaeological statutes (RCW 27.34, RCW 27.44, and RCW 27.53) and their implementing regulations (WAC 25-48).

The first step is to contact the assigned CRS as early in the project planning stages as possible, and he/she will determine whether or not the project can be exempted from further review under the terms originally developed for the Second Amended Programmatic Agreement but which can be applied to state funded projects with DAHP approval. If the activity cannot be exempted, the CRS will work with the project office to determine the Area of Potential Effects (APE) and to prepare consultation letters with DAHP and interested tribes.

Consultation with DAHP and other stakeholders will continue until the project is determined not to have adverse effects to cultural resources, or agreements are made to avoid, minimize, or mitigate any adverse effects.

The most current information on cultural resources policy and compliance is available from the designated regional or modal CRS or the WSDOT Cultural Resources Program in the Environmental Services Office. Figure 456-5 illustrates the process.

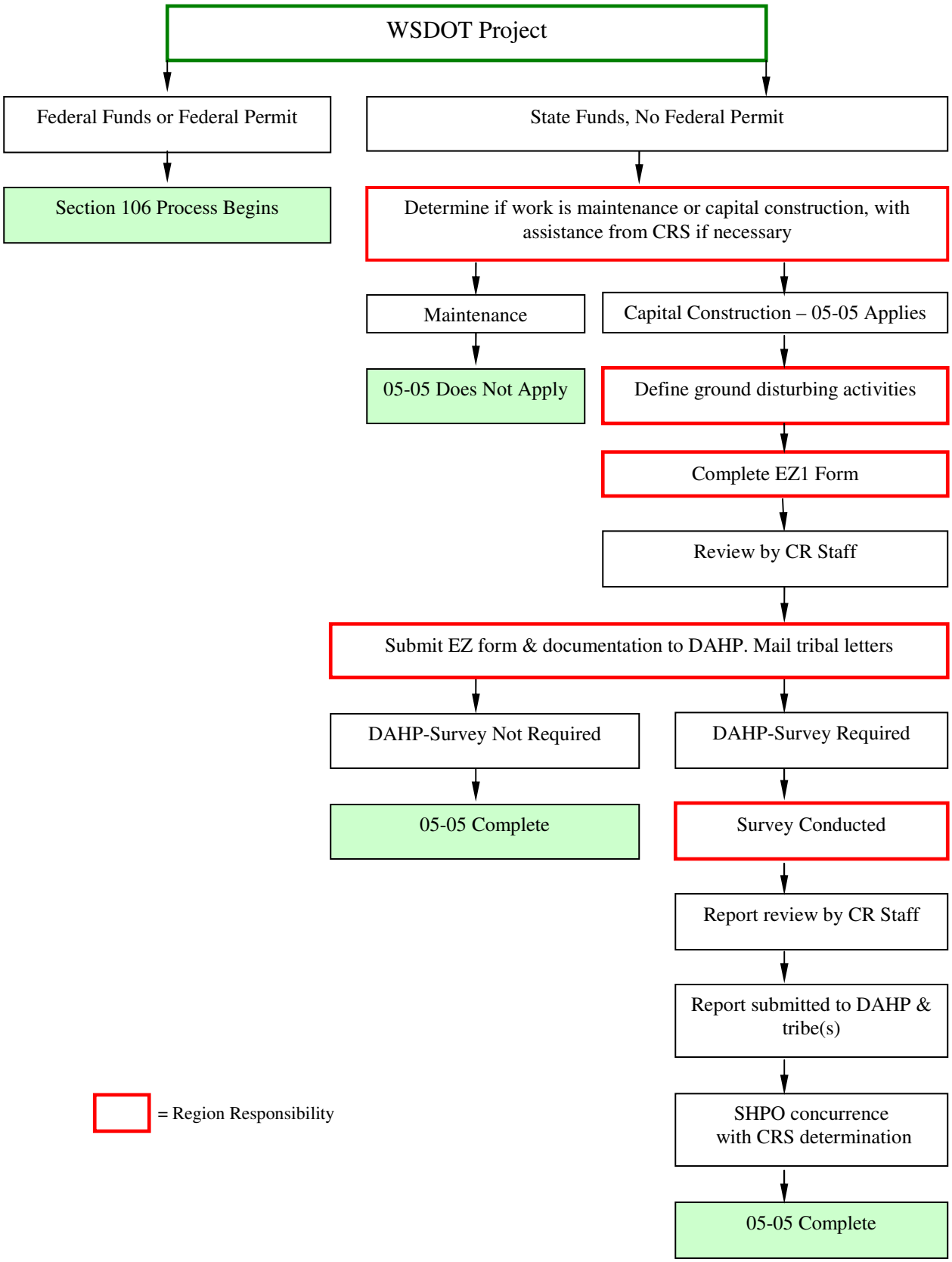
456.07 Bridge Compliance

Bridges built through 1970 have been evaluated for potential NRHP eligibility. Some of those bridges have been listed in or determined eligible for listing in the NRHP; others have been nominated to or recommended eligible for, but have not been listed in, the NRHP. Those bridges appear on the NRHP Washington State Historic Highway Bridges table.

The table linked above is not static. Changes to the table are made frequently, reflecting additions of bridges determined NRHP eligible per compliance with Section 106 of the NHPA or Executive Order 05-05, and deletions of bridges lost to demolition. Bridges previously evaluated occasionally warrant re-evaluation, due to changes in contexts or length of time since the last evaluation. For these reasons, contact a CRS for guidance before proceeding with undertakings affecting bridges 40 years or older.

Undertakings presumed to have minimal potential to affect historic bridges not on federal or Indian land can be exempted per the Second Amended Programmatic Agreement and USFS Programmatic Agreement, unless on federal or Indian land. Those exemptions are also available for undertakings lacking a federal nexus but subject to GEO 05-05 compliance. Contact a CRS to obtain an official project exemption. Common post 1945 concrete and steel bridges meeting FHWA's Program Comment can be exempted by the lead federal agency if the agency chooses to apply the Program Comment. A list of bridges not exempted from review by the Program Comment is available on the FHWA bridge list. A list of nationally and exceptionally significant features of the Federal Interstate Highway System that cannot be exempted from review under Section 106.

Undertakings involving Interstate bridges are usually exempted from Section 106 review unless the bridge is identified on FHWA's List of Nationally and Exceptionally Significance Features of the Federal Interstate System.



Governor's Executive Order 05-05 Process
Figure 456-5

Common types of bridges built after 1945 are exempt from Section 106 and Section 4(f) review unless they appear on the table Common Bridges in Washington Excluded from ACHP's Program Comment for Common Post-1945 Concrete and Steel Bridges Exemption. Common bridge types, as defined by the Program Comment include:

a. **Reinforced Concrete Slab Bridges**

   1. Reinforced concrete cast-in-place slabs.
   2. Reinforced concrete pre-cast slabs.
   3. Pre-stressed concrete slabs.

b. **Reinforced Concrete Beam and Girder Bridges**

   1. Reinforced concrete tee beams.
   2. Reinforced concrete channel beams.
   3. Pre-stressed concrete I-beams and bulb tees.
   4. Pre-stressed concrete box beams.

c. **Steel Multi-Beam or Multi-Girder Bridges**

   1. Steel-rolled multi-beams.
   2. Steel fabricated (built up) girders.

d. **Culverts and Reinforced Concrete Boxes**

   1. Reinforced concrete boxes.
   2. Concrete box culverts.
   3. Concrete pipe culverts.
   4. Steel pipe culverts.

Undertakings with potential to adversely affect historic bridges obligate WSDOT to develop, in consultation with SHPO/THPO and consulting parties, alternatives that could avoid, minimize or mitigate adverse effects (36 CFR 800.6(a)). These alternatives may include preservation in-place, re-purposing the bridge under different ownership, and relocating the bridge to where it could be preserved. Contact a CRS for guidance in developing alternatives and determining appropriate consulting parties before proceeding with undertakings that could adversely affect a historic bridge.

456.08 Artifact Collection and Disposition (Curation)

An archaeological collection is defined as all artifacts, field notes, maps, photographs and other records generated or recovered during an archaeological investigation. Federal regulations establish standards for the preparation and curation of archaeological collections from federal lands, and WSDOT has policy requirements for the curation of artifacts and records recovered during investigations undertaken in compliance with either Section 106 of NHPA or the Washington State Archaeological Resources and Sites Act (RCW 27.53).

(1) Factors in Determining a Curation Facility

In Washington State, there are two factors considered in determining where archaeological collections will be curated: (1) land ownership, as under federal and state law recovered artifacts legally belong to the owner of the property at the time of excavation; and (2) the regulation under which the archaeological collection was made.

Additional factors that can influence the selection of the curation facility include whether the collection contains artifacts from the historic-era, whether there have been previous archaeological investigations at the same site, the volume of the collections, and the location of the curation facility relative to the location of the archaeological site. In some cases, the curation facility has been selected as part of negotiations for a large or complex project that may be subject to negotiated agreements such as a Memorandum of Agreement (MOA) or a Programmatic Agreement (PA).

(2) Disposition of Archaeological Artifacts and Records From State Land, Federal Land, or Tribal Land

When archaeological sites are identified during cultural resource studies for federal aid or state funded projects, WSDOT is responsible for the disposition of the artifacts and records at the conclusion of the project. The status of property ownership at the time of the archaeological excavations will determine whether artifacts are curated in a repository or returned to a private property owner. Archaeological collections are not to be permanently stored at an agency or consultant office. It is the responsibility of the WSDOT Project Engineer with assistance from the CRS to ensure that archaeological collections are curated at a facility that meets the standards of 36 CFR 79 at the conclusion of the project. WSDOT is responsible for including language regarding curation in contracts with cultural resource consultants.

a. **Collections From State Property** – When WSDOT owns fee title to a property at the time archaeological testing is conducted, or when artifacts are recovered from property owned by another state agency, WSDOT will curate the collections at the University of Washington's Burke Museum (per the terms of Participation Agreement GCA-6616), unless otherwise negotiated as a specific mitigation measure.

b. **Collections From Federal Land** – When artifacts are recovered from federal land the collection is the property and responsibility of that federal agency responsible for managing the land. Unless there is an existing programmatic agreement with the federal agency specifying curation requirements*, WSDOT will submit the collection to the federal agency or their designated repository at the conclusion of the project.

c. **Collections From Tribal Land** – When artifacts are recovered from tribal land, the decision on where to curate the collection is made by the tribe. Over a dozen tribes in Washington and in neighboring states have curation facilities. Some tribes without curation facilities have built relationships with third party curation facilities such as the Burke Museum.

d. **Disposition of Collections From Private Property** – When WSDOT will conduct an archaeological investigation on private property, the WSDOT CRS must discuss the issue of archaeological collections and their disposition with the landowner in advance of the fieldwork. This includes temporary easements on private property.

*As of July 2012, the only programmatic agreement WSDOT has entered into with a land owning federal agency is the U.S. Forest Service.

When artifacts could be recovered from privately owned land, the WSDOT CRS will suggest that the landowner donate the artifacts to a facility that complies with the Part 79 standards. If the landowner agrees to donate the artifacts, the WSDOT CRS should ask the owner to sign a letter of intent to donate (if the collections have not been excavated yet) or the selected museum's deed of gift agreement (if the collections have been excavated). The deed of gift agreement allows the museum to acquire legal title to the artifacts.

When property owners express a desire to have artifacts returned to them, the WSDOT CRS should determine whether the owner wishes to retain the entire artifact assemblage or is only interested in certain artifacts. If the owner is only interested in keeping a selection of artifacts, the WSDOT CRS should ask the owner to donate the remainder to a museum that meets Part 79 standards. If the property owner declines to sign a letter of intent to donate or a deed of gift agreement, then the artifacts must be returned to the landowner.

If possible, the artifacts should not be returned until all consultation is completed, the required analyses are completed, and a final report is accepted by WSDOT. It is important to note that records and documentation from the archaeological studies do not belong to the property owner and must be submitted to a curation facility that meets Part 79 Standards. WSDOT will submit the records to the Burke Museum unless a tribal museum meeting Part 79 Standards requests to curate the documentation.

e. **Disposition of Collections Collected Under an MOA or PA** – For large or complex projects, WSDOT will typically enter into an MOA or PA to address cultural resources. Because the consultation process to develop an agreement document must weigh numerous factors, and because addressing curation issues could be a mitigation measure, development of the MOA will be negotiated among consulting parties in order to address specific concerns. Curation should be addressed within the MOA including designating the repository, or creating one, to house the archaeological collections.

(3) Submitting Collections to the Selected Curation Facility

Collections should be submitted to the selected repository as soon as is practical after approval of the final report by WSDOT, unless otherwise stated in an MOA or other formal agreement. It is not acceptable for collections to remain in the care of consultants or WSDOT.

a. **Facility-Specific Curation Guidelines** – Once the curation facility is selected and before data recovery is undertaken, WSDOT will request the facility's curation guidelines for the preparation of an incoming collection. WSDOT or its consultant will prepare the collection to meet these guidelines prior to delivering the collection to the facility.

If the selected facility does not have any specific guidelines for the preparation of incoming collections, WSDOT or its consultant will follow minimum curation guidelines developed by WSDOT that are consistent with Part 79.

b. **Documentation Accompanying the Collection** – WSDOT or its consultant should prepare a packing inventory listing the contents of each box and a collections transmittal form (which will be provided by the repository). The selected repository will also likely have a deed of gift or similar document to transfer title of the collection to the museum.

c. **Payment of Curation Fees** – Curation fees are considered part of the project compliance or mitigation cost and must be included in project budgets.

456.09 Use of Museums and Information Centers as Potential Mitigation

Because Section 106 of the NHPA and NEPA do not provide limits on potential mitigation measures, and because both Section 106 and the Centennial Accord require WSDOT to conduct good-faith consultation and implement effective government-to-government relations with tribes with lands or resources affected by WSDOT's projects, WSDOT must evaluate the appropriateness of mitigation measures on a case-by-case basis.

WSDOT will carefully consider the issues and concerns raised during consultation and develop mitigation measures to address the specific adverse effects of a particular project.

Consistent with Section 106, WSDOT will take into account "the magnitude of the undertaking and the nature of its effects upon historic properties, the likely effects on historic properties, and the relationship of the Federal involvement to the undertaking" (§800.6(a)(4)) when considering appropriate resolution of adverse effects.

(1) Exhibits/Displays

WSDOT may prepare exhibits, displays, and other types of public information such as books and documentaries, on cultural resources, as mitigation for impacts to those cultural resources. In addition, WSDOT will encourage the repositories that hold collections generated during WSDOT projects to exhibit or display those collections as the repository deems appropriate; although decisions on whether to exhibit or display are made by the repository.

(2) Stand-Alone Facilities

In cases where a WSDOT project may have long-term adverse effects on a community or neighborhood, WSDOT will consider development of stand-alone facilities such as information centers as a mitigation measure if this type of measure is identified in the consultation process as an appropriate or necessary component of mitigation. The time that a stand-alone facility is needed will be determined through consultation for each project.

456.10 Additional Cultural Resource Regulatory Guidance

The general policy is to avoid impacts from transportation projects on cultural resources. If impacts cannot be avoided, the policy is to minimize or mitigate the effects of such impacts to cultural resources. Specific guidance depends on the regulatory path the project must follow and the scope of work of the project, and is available from the WSDOT Cultural Resources Program or the region CRS.

(1) Federal

- **National Historic Preservation Act, Section 106** – The Section 106 process is codified in 36 CFR 800.
- **National Environmental Policy Act** – The National Environmental Policy Act (NEPA), 42 USC Section 4321, requires that all major actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations including impacts on historic and cultural resources are given due weight in decision-making. Federal implementing regulations are at 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ). For details on NEPA procedures. (See Chapter 400.)
- **Department of Transportation Act, Section 4(f)** – Protection of certain public lands and National Register eligible or listed historic properties was originally mandated in Section 4(f) of the 1966 Department of Transportation Act. This section was later codified without substantive changes as 49 USC 303. However, it is still referred to as Section 4(f) in the FHWA/FTA regulations dealing with Section 4(f) properties, including Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites (23 CFR 771 and 774). (See Chapter 457 and Chapter 459 for further details.)
- **Archaeological Resources Protection Act** – The Archaeological Resources Protection Act of 1979 (ARPA) (43 CFR 7.6-7.11) applies to archaeological resources on tribal lands and lands under federal jurisdiction. WSDOT consultants must apply for and obtain an ARPA permit when such resources could be impacted by a project.
- **Curation of Federally Owned and Administered Archaeological Collections** – The U.S. Department of the Interior has set minimum standards for the curation of federally owned archaeological collections in 36 CFR 79, and these standards are followed by Washington State for collections from public lands. Artifacts recovered from private lands remain in private ownership until or unless agreement is made with the owner(s) for public curation.
- **Section 106 exemption regarding Effects to the Interstate Highway System** – This exemption effectively excludes the majority of the 46,700-mile Interstate System from consideration as a historic property under Section 106 of the National Historic Preservation Act (NHPA). In addition the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59, Aug. 10, 2005) includes a provision (Section 6007) that exempts the bulk of the Interstate Highway System from consideration as a resource under Section 4(f) of the Department of Transportation Act unless on federal or Inidan land or is affected by a USACOE permit. With these two exemptions in place, federal agencies are no longer required to consider the vast majority of the Interstate Highway System as historic property under Section 106 and Section 4(f) requirements. Excluded from these respective exemptions are elements of the Interstate System that are exceptional in some way or meet a national level of significance under the criteria for the National Register of Historic Places. The Final List of Nationally and Exceptionally Significant Features of the Federal Interstate Highway System identifies those elements that are not covered by the exemptions discussed above and will therefore continue to be subject to consideration under the Section 106 and Section 4(f) processes

- **Related Federal Statutes** – Additional federal statutes relating to historic, cultural, and archaeological resources:
  - American Indian Religious Freedom Act (1978)
  - Antiquities Act of 1906
  - Archaeological and Historic Preservation Act (1974)
  - Native American Graves Protection and Repatriation Act (1990)

(2) State

- **Archaeological Sites and Resources** (RCW 27.53) – Protects archaeological resources, making disturbance of known archaeological sites without a permit obtained from DAHP a misdemeanor. Information on Archaeological Excavation and Removal Permits may be obtained from the WSDOT State Environmental Permits and Approvals web page.
- **State Environmental Policy Act** – Requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental considerations such as impacts on historic and cultural resources are given due weight in decision-making. State implementing regulations are in WAC 197-11 and WAC 468-12 (WSDOT). For details on SEPA procedures. (See Chapter 400.)
- **Governor's Executive Order 05-05** – Executive Order 05-05, *Archaeological and Cultural Resources*.
- **Abandoned and Historic Cemeteries Act** (RCW 68.60) – Protects graves and historic cemeteries, making disturbance of such sites, without a permit, a Class C felony.
- **Indian Graves and Records Act** (RCW 27.44) – Protects Indian graves, cairns, and visual records such as rock art, making disturbance of such sites without a permit a Class C felony.
- **Archaeology and Historic Preservation – Legislative Declaration** (RCW 27.34.200) – The legislature declares it to be the public policy and in the public interest of the state to designate, preserve, protect, enhance, and perpetuate those structures, sites, districts, buildings, and objects which reflect outstanding elements of the state's historic, archaeological, architectural, or cultural heritage, for the inspiration and enrichment of the citizens of the state.

456.11 Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation (federal)
BLM	Bureau of Land Management, U.S. Department of the Interior
Corps or COE	U.S. Army Corps of Engineers
CRS	Cultural Resources Specialist
DAHP	Department of Archaeology and Historic Preservation
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GOIA	Governor's Office of Indian Affairs
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
SHPO	State Historic Preservation Officer
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
USFS	U.S. Forest Service

456.12 Glossary

Adverse Effect – Occurs when an effect on an historic property diminishes the integrity of the property's aspects of integrity (see below). See also Determination of Effect (Criteria of adverse Effect: 36 CFR 800.9(b)).

Advisory Council on Historic Preservation – An independent federal agency, established under the NHPA, which: (1) advises the President and Congress on matters of historic preservation; (2) carries out Section 106 reviews; and (3) provides technical assistance in historic preservation actions.

Affect (Verb) – Action that may change the character of an historic property.

Area of Potential Effect (APE) – The geographic area or areas which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE is three dimentionsal including auditory, visual and ground disturbing activities. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The APE should be defined before historic properties are identified and not on land ownership (36 CFR 800.2(c).

Building – A construction created to shelter any form of human activity, including animal husbandry.

Centennial Accord – The *Centennial Accord Plan* was created in accordance with the 1989 Centennial Accord and the 1999 Centennial Accord Implementation Guidelines. The Centennial Accord mandated that each state agency must have a procedure to implement effective government-to-government relations.

Consulting Party – In the Section 106 process, consulting parties include the State Historic Preservation Officer (SHPO), Indian Tribes, representatives of local governments, applicants for federal assistant or approvals, and organizations and individuals with legal or economic relation to the undertaking, or who have concerns with the undertaking's effect on historic properties.

Criteria for Evaluation (National Register Eligibility Criteria) – Standards used for determining the eligibility of properties for inclusion in the National Register of Historic Places (36 CFR 60.4(a-d)). See *National Register Bulletin 15*, pp. 11-24.

Cultural Resource – A place, object, location or site of an event that is important to a community or region's history, traditions, beliefs, customs, or social institutions.

Cultural Resource Specialist (CRS) – A WSDOT employee meeting the Secretary of the Interior's Professional Qualification Standards (per 36 CFR 61) who advises department staff on policies relating to items of historic/archaeology significance that may be affected by a project and who conducts regulatory compliance procedures.

Cultural Resources Management – The body of laws and regulations pertaining to historic, archaeological, and cultural properties, and the manner in which those directives are implemented.

Department of Archaeology and Historic Preservation (DAHP) – This agency houses the Washington State Historic Preservation Officer (SHPO) who serves as SHPO and director of the agency. SHPO locations in state governments are unique to each state.

Determination of Effect – A finding, by a federal agency in consultation with SHPO and consulting parties, pursuant to compliance with Section 106 (see definition) that a proposed undertaking will have an effect on historic properties. If an effect is identified, the Criteria of Adverse Effect is applied to determine potential Adverse Effect (see definition). Other possibilities are determinations of No Effect and No Adverse Effect.

Determination of Eligibility – Per Section 106 of the NHPA, formal recognition of a property's eligibility for inclusion, but not actual listing, in the National Register of Historic Places. Determinations of Eligibility may be prepared on National Register Registration Forms (NPS 10-900).

District – A significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. May be an archaeological or historic district, or may contain elements of both.

Effect – Occurs when an undertaking may alter characteristics that qualify a property for inclusion in the National Register (Criteria of Effect: 36 CFR 800.9(a)).

Eligible – A property is eligible for inclusion in the National Register of Historic Places if it meets the National Register Criteria (see Criteria for Evaluation).

Historic Preservation – Identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance and reconstruction, or any combination of the foregoing activities relating to historic properties.

Historic Property – A property or cultural resource that is listed in or eligible for listing in the National Register of Historic Places, and, under SEPA, in state and local historic registers, including eligible properties that have not yet been discovered or evaluated (such as archaeological sites). Historic properties may be buildings or other structures, objects, sites, districts, archaeological resources, and traditional cultural properties (landscapes).

Historic Site (Section 4(f)) – Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that are included in, or are eligible for inclusions in, the National Register.

Memorandum of Agreement (MOA) – A formalization of the means of resolving adverse effects agreed upon by the consulting parties, serving to specify mitigation, identify responsibility, render Advisory Council on Historic Preservation comment, and acknowledge effects of the undertaking on historic properties. See also Programmatic Agreement (PA).

Mitigation Measures – Actions required to mitigate adverse effects to historic properties. Usually stipulated in an MOA/PA.

National Register of Historic Places – The nation's official listing of properties significant in national, state and/or local history, meeting one or more criteria for evaluation (36 CFR 60.4). Listing is commemorative, but may require compliance by property owners with federal/state/local laws and regulations. May also provide private property owners with opportunities to take advantage of preservation incentives, such as easements and tax relief.

Nomination – Official request to have a property listed in the National Register. Documentation is placed on a National Register of Historic Places Registration Form (NPS 10-900) and submitted to the CLG (if appropriate), the SHPO, and the Keeper of the National Register (see definitions). See *National Register Bulletin 16A*.

Object – A construction primarily artistic in nature or relatively small in scale.

Programmatic Agreement (PA) – A formal, legally binding agreement typically for a large or complex project or types of undertakings developed under Section 106 that would otherwise require a number of individual actions (i.e., when effects cannot be fully determined prior to project approval). The agreement is between WSDOT and other state and/or federal agencies. Management Plans (see definition) are often stipulated in PAs (36 CFR 800.13(a)). There are two basic kinds of programmatic agreements:

- A PA that describes the actions that will be taken by the parties in order to meet their Section 106 compliance responsibilities for a specific transportation project, called here a project-specific PA.
- A PA that establishes a process through which the parties will meet their Section 106 responsibilities for an agency program, a category of projects, or a particular type of resource, called here a procedural PA.

Site – The location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.

State Historic Preservation Officer (SHPO) – Coordinates cultural resource preservation activities in each state; one SHPO per state, usually appointed by the governor. SHPO is charged with reflecting the interests of the state and its citizens in preserving their cultural heritage, which involves a variety of responsibilities (36 CFR 61.4(b)). In Washington State, the SHPO is a governor appointed position housed in the Department of Archaeology and Historic Preservation (DAHP), which reviews projects for compliance with Section 106 of the National Historic Preservation Act.

Structure – Functional constructions made usually for purposes other than creating shelter.

Traditional Cultural Property – A place eligible for inclusion in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that are (a) rooted in that community's history, and (b) important in maintaining the cultural identity of the community. The concept is based upon the introductory section of the National Historic Preservation Act, which states that "the historical and cultural foundations of the Nation should be preserved as a living part of our community life in order to give a sense of orientation to the American people."

Tribal Historic Preservation Officer (THPO) – Authorized by the 1992 Amendments to the National Historic Preservation Act. When approved by NPS, THPO replaces SHPO in compliance process on "tribal" lands (Section 101(d)(2)).

Undertaking – Any activity that can result in changes in the character or use of historic properties. The activity must be under the direct or indirect jurisdiction of a federal agency or licensed or assisted by a federal agency (36 CFR 800.2(o)).

457.01 Section 4(f) Requirements
457.02 Identifying a Section 4(f) Property
457.03 Individual Section 4(f) Evaluations
457.04 Cultural Resources May Be Protected Under Section 4(f)
457.05 Section 6(f) Conversion May Be Required
457.06 Section 4(f) Requirements May Differ for Other Federal Agencies
457.07 Procedures for Completing Section 4(f) Analysis
457.08 Section 4(f) and Related Statutes
457.09 Abbreviations and Acronyms
457.10 Glossary

457.01 Section 4(f) Requirements

Section 4(f) of the Department of Transportation Act of 1966 declares a national policy to "preserve the natural beauty of the countryside, public park and recreation land, wildlife and waterfowl refuges, and historic sites." It is one of the most stringent and complex environmental laws related to transportation. As a result, Section 4(f) is also one of the most frequently litigated environmental statutes and the most common cause of court injunctions delaying projects (FHWA *Success in Stewardship* Newsletter, March 2008).

WSDOT's policy is to follow the FHWA Section 4(f) guidance provided on their environmental web page. This manual summarizes that guidance for the more common types of projects.

Section 4(f) is a federal requirement and must be considered in any NEPA document involving any USDOT agency (FHWA, FTA, FRA, and FAA (see Section 457.06). This work may be:

- Included in the EIS/EA and supported by appropriate documentation.
- Conducted separately and documented in an Individual Section 4(f) Evaluation.

FHWA and other USDOT agencies may not approve a transportation program or project that uses such properties unless:

- The use will have no more than de minimis impact.
- There is no feasible and prudent alternative and all possible planning has been done to minimize harm.

To secure federal approval and funding for transportation projects that use Section 4(f) properties, WSDOT must demonstrate that:

- There are unique problems or unusual factors that prohibit use of alternatives that avoid these properties.
- The cost of alternatives that avoid these properties is extraordinary.
- The social, economic and environmental impacts or community disruption resulting from an alternative that avoids Section 4(f) properties reach an extraordinary magnitude.

The law also protects Section 4(f) properties from proximity impacts that substantially diminish the use or value of the resource. Substantial proximity impacts are considered to be a "Constructive Use" even though the project does not actually intrude into the protected area. FHWA requires a Section 4(f) Evaluation be completed for proximity impacts. Such impacts may include:

- Noise
- Vibrations
- Aesthetics
- Access

457.02 Identifying a Section 4(f) Property

Section 4(f) applies to significant publicly owned public parks and recreation areas and wildlife and waterfowl refuges. Parks and recreation areas must be open to the public to qualify, but wildlife and waterfowl refuges may restrict access to preserve quality habitat. Privately owned properties may qualify for consideration under Section 4(f) if a government agency has a permanent interest in the land (such as an easement).

Publicly owned parks, recreation areas and wildlife and waterfowl refuges are assumed to be significant unless the public official with jurisdiction concludes that the entire site is not significant. FHWA must conduct an independent evaluation of the property and concur with the official's decision.

Historic sites of national, state or local significance qualify as Section 4(f) properties regardless of ownership or public access. Historic sites must be on or eligible for inclusion on the National Register of Historic Places to be protected.

You are probably dealing with a Section 4(f) property if you impact a property that:

- Is publicly owned.
- Is listed on the National Register of Historic Places.
- Open to the public during normal hours of operation.
- Serves recreation activities (walking, hiking, bird watching, or organized sports) as a major purpose as stated in the area's master plan (consultation with the officials with jurisdiction is required to confirm the property's status).

457.03 Individual Section 4(f) Compliance

WSDOT policy requires Section 4(f) consideration in any NEPA document. However, not all NEPA actions require a full Section 4(f) evaluation. If the proposed project will not use Section 4(f) property, the NEPA document needs to document the research and explain that Section 4(f) does not apply. Right size your document to fit your project. Three approaches are typically used:

- An individual Section 4(f) Evaluation, which can be done as part of a NEPA EIS or separately in support of an EA or DCE.
- A programmatic Section 4(f) Evaluation in support of an EA or DCE.
- A determination is made that the project has de minimis impacts and officials with jurisdiction concur in writing.

The flowchart in Figure 457-1 shows the basic steps for a Section 4(f) Evaluation. Step by step guidance for how to complete this process is provided on the WSDOT Section 4(f) Guidance web page.

(1) De Minimis Section 4(f) Evaluations

In 2005, Section 6009(a) of the SAFETEA-LU Act allowed FHWA to streamline the Section 4(f) evaluation process for projects that have de minimis impacts. De minimis impacts are defined as impacts that will not adversely affect the features, attributes or activities that qualify the parks, recreation areas, or refuges for protection.

Measures to avoid, minimize, or mitigate impacts or enhance the resource should be considered before the de minimis determination is made. FHWA makes the determination based on a review of the project documentation. Detail the work that was done to reach the de minimis determination in the NEPA document. Written concurrence from the officials with jurisdiction must be included in the document. The process for determining a de minimis impact is shown on the flowchart on the WSDOT Section 4(f) Guidance web page.

The public must be informed of the de minimis determination and given an opportunity to comment on the decision. This may be done as part of the NEPA process for and EA or EIS. If your project is a CE or a DCE it can be accomplished in a newsletter, city council meeting or project open house. Standard language must be included in this notice. A template for documenting public involvement at a city council meeting can be found on the WSDOT Section 4(f) Guidance web page.

(2) Programmatic Section 4(f) Evaluations

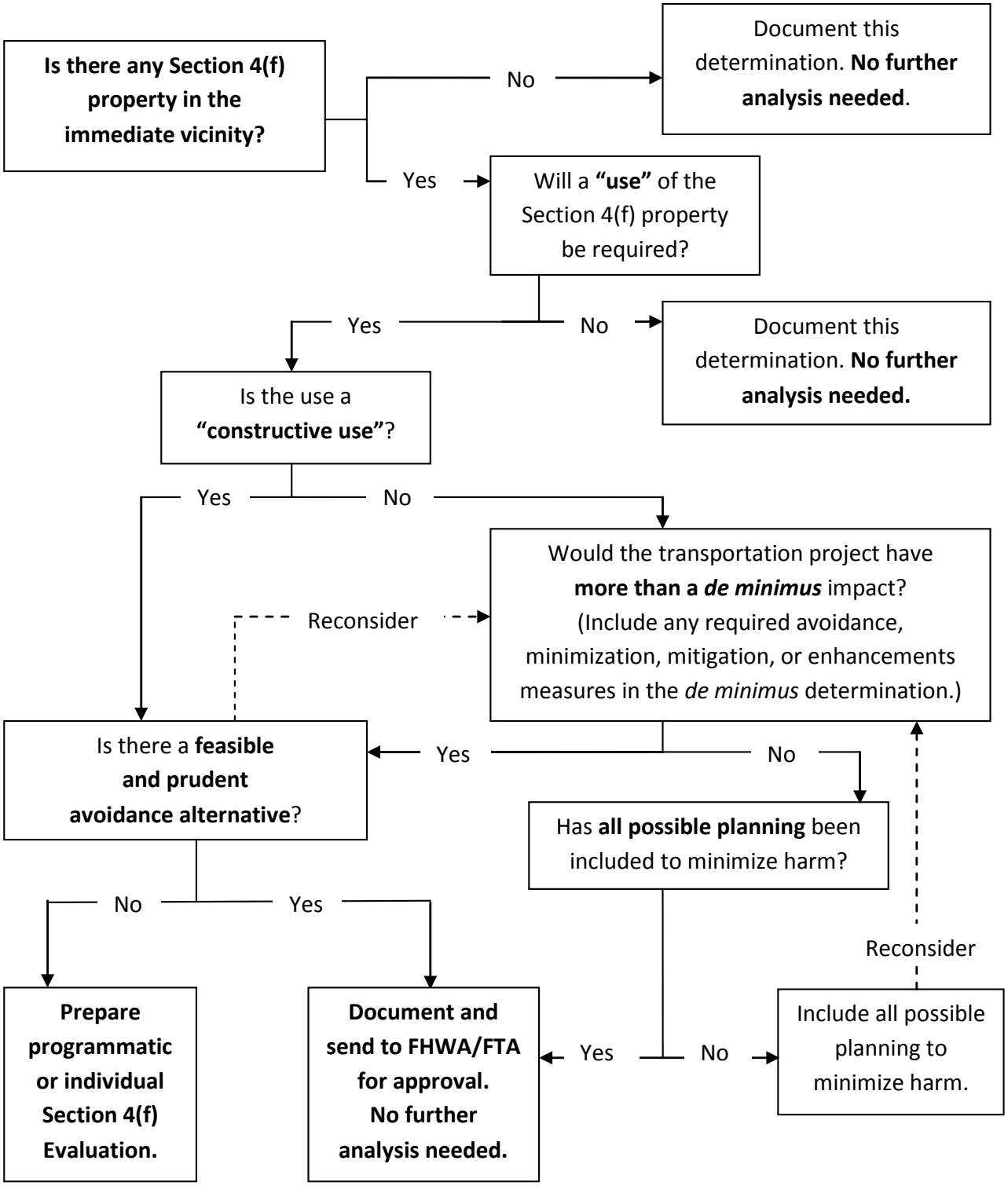
FHWA developed five Programmatic Section 4(f) Evaluations that can be used to streamline the evaluation process. Using programmatics saves time by eliminating circulation of the draft, and by the completion of a legal sufficiency review and coordination with other federal agencies (DOI, USDA, and HUD). Coordination with the Official with Jurisdiction is still required. FHWA provides more detailed explanation of each of the Nationwide Section 4(f) Programmatic Evaluation categories on their web page. If the project impacts a Section 4(f) property and it does not qualify for a programmatic evaluation, then an individual Section 4(f) Evaluation must be completed.

The description and criteria for the five Programmatic Section 4(f) Evaluations are:

1. **Independent Walkway and Bikeways** – Only applies to independent bikeway or walkway projects that impact recreation and park areas for active recreation and open space. The official with jurisdiction over the Section 4(f) property must give his/her approval in writing that the project is acceptable and consistent with the designated use and that all possible planning to minimize harm has been done.

   This programmatic cannot be used if the project would require the use of:

   - Critical habitat of endangered species.
   - Land from a publicly owned wildlife or waterfowl refuge.
   - Land from a historical site of local, state or national significance.
   - Unusual circumstances such as major impacts, adverse effects or controversy.



Determining the Type of Section 4(f) Evaluation
Figure 457-1

2. **Historic Bridges** – Applies to bridges to be replaced or rehabilitated with Federal Funds. The bridge must be on or eligible for the National Register of Historic Places (NRHP). The FHWA Division Administrator concurs with the facts presented in the alternatives, findings and mitigation.

   This programmatic **cannot** be used for construction of a highway in a new location.

3. **Minor Involvement With Historic Sites** – Applies when the project improves the operational characteristics, safety, and/or physical condition of the highway on the existing alignment. The historic site must be located adjacent to the existing highway to qualify for the programmatic. Such projects include:
   - "4 R" work (resurfacing, restoration, rehabilitation and reconstruction).
   - Safety improvements (shoulder widening and correction of substandard curves or intersections).
   - Traffic operation improvements (signalization, channelization, turning and climbing lanes).
   - Bicycle and pedestrian facilities as part of a larger project.
   - Bridge replacements on the same alignment.
   - Construction of additional lanes.

   This programmatic **cannot** be used:
   - For a project including removal or alteration of historic buildings, structures, or objects on the historic site.
   - For a project requiring an EIS, unless the Section 4(f) impact is discovered after approval of the EIS.
   - For a project that requires disturbance or removal of archaeological resources that are important to preserve in place. The State Historic Preservation Officer (SHPO) and/or the Advisory Council on Historic Preservation (ACHP) must concur in the determination.
   - The impacts on the historic attributes of the property must be minor. Minor is narrowly defined as "no effect" or "no adverse effect" under Section 106 of the National Historic Preservation Act and 36 CFR 800. The ACHP must not object to the "no effect" determination.

   The SHPO must agree, in writing, with the impact assessment and the proposed mitigation.

4. **Minor Involvement With Parks, Recreation Areas, and Waterfowl and Wildlife Refuges** – Applies when the project improves the operational characteristics, safety, and/or physical condition of the highway on the existing alignment. The public park, recreation lands, or wildlife and waterfowl refuge must be located adjacent to the state highway. Such projects include:
   - "4 R" work (resurfacing, restoration, rehabilitation and reconstruction).
   - Safety improvements (shoulder widening and correction of substandard curves or intersections).
   - Traffic operation improvements (signalization, channelization, turning and climbing lanes).
   - Bicycle and pedestrian facilities as part of a larger project.
   - Bridge replacements on the same alignment.
   - Construction of additional lanes.

   The total amount of land to be acquired from any site shall not exceed:

Total Size of Section 4(f) Site	Maximum to be Acquired
< 10 acres	10 percent of site
10–100 acres	1 acre
>100 acres	1 percent of site

   This programmatic **cannot** be used:
   - For construction of a highway in a new location.
   - For a project that requires an EIS.
   - For projects that impair the intended use of the remaining Section 4(f) land. The determination includes proximity impacts and is made by FHWA in concurrence with the officials with jurisdiction over the Section 4(f) property.

   Impairment shall be documented. Show the size, use, and nature of the impairment.

   Document noise, air and water pollution, wildlife and habitat effect, aesthetic values, and other impacts deemed relevant.

   Coordinate with the appropriate Federal Agency if the Section 4(f) property is encumbered by a Federal Interest. Ascertain the agency's position on the land conversion or transfer. The programmatic does not apply if the agency objects. Federal Interest includes:
   - Purchase or improvement with federal funds through the Land and Water Conservation Funds Act, Federal Aid in Fish Restoration Act (Dingle-Johnson Act), the Federal Aid in Wildlife Act (Pittman-Robertson Act).
   - Former designation as federal surplus property.

   The officials with jurisdiction over the Section 4(f) lands must agree, in writing, with the impact assessment and the proposed mitigation.

5. **Transportation Projects That Have a Net Benefit to a Section 4(f) Property** – Applies to federally assisted transportation improvement projects on existing or new alignments. The Administration and officials with jurisdiction will make the determination.

457.04 Cultural Resources May Be Protected Under Section 4(f)

A property containing significant cultural resources is considered a Section 4(f) property. Section 106 of the National Historic Preservation Act defines the process for determining the significance of a cultural resource. Therefore, completion of a Section 106 evaluation is an integral part of the Section 4(f) evaluation. Both laws mandate consideration of cultural resources, but here are some key differences you should be aware of:

- Section 4(f) requires a special effort be made to avoid the use of cultural resources by documenting that all possible planning was used to minimize harm. Section 106 requires consideration of the project effects on cultural resources.
- Section 4(f) applies only to agencies of the DOT. Section 106 applies to any federal agency.
- Section 4(f) applies to actual use or occupancy of the site. Section 106 involves assessment of adverse effect on the property. A direct correlation cannot be made between "use" and "effect."
- The Section 106 process is integral to the Section 4(f) process when cultural resources are involved. The Section 4(f) process is not integral to the Section 106 process.
- The Section 4(f) process applies a more stringent analysis with respect to totally avoiding cultural resources than the Section 106 process.
- Archeological resources not considered important for preservation in place are not eligible for protection under Section 4(f).

457.05 Section 6(f) Conversion May Be Required

Section 4(f) properties purchased or improved with money from the Land and Water Conservation Fund (LWCF) require additional work. Coordination with the appropriate federal agency will be required. Section 6(f) of the LWCF Act prohibits the conversion of such properties to non-recreation uses without approval by the National Park Service (NPS) or their state designee. Therefore, a Section 6(f) analysis is an integral part of the Section 4(f) evaluation if the project must use land purchased or improved from the LWCF.

While Section 6(f) and Section 4(f) often apply to the same resources they are parts of different laws and there are some key differences:

- Section 4(f) applies only to programs and policies undertaken by the DOT. Section 6(f) applies to programs and policies of any federal agency.
- Section 4(f) allows more flexible mitigation opportunities. Section 6(f) requires that impacted resources be replaced with lands of equal value, location and usefulness.
- Section 6(f) can apply on fully state funded projects where no federal nexus exists.

More detailed guidance for Section 6(f) conversions may be found in Chapter 450.

457.06 Section 4(f) Requirements May Differ for Other Federal Agencies

Section 4(f) is a federal requirement and must be considered in any NEPA document involving any USDOT agency (FHWA, FTA, FRA, and FAA).

Different federal agencies have different documentation and procedural requirements for NEPA. If your project has a federal nexus with more than one federal agency, it is critically important to meet with your lead agencies and determine how to proceed. In some cases the federal agencies may agree to co-lead the project. In others, one agency may serve as lead and the other as a cooperating agency. The exact requirement will vary depending on the nature of the project and individual circumstances. This decision must be made early in the process to ensure approval of your environmental document. Common examples of projects that require coordination with more than one federal agency are:

- An FHWA funded project that crosses National Forest Lands.
- A project that receives both FHWA and FTA funding.
- Any highway project involving FRA and FAA.

457.07 Procedures for Completing a Section 4(f) Analysis

The procedures and tools that can be found the WSDOT Section 4(f) Guidance web page include:

- A process flowchart.
- Links to FHWA's Technical guidance.
- Discipline Report Checklist.
- How to describe a Section 4(f) Property.
- Required wording for Final Section 4(f) Analysis.
- Document distribution requirements.
- Links to Section 6(f) requirements.

457.08 Section 4(f) and Related Statutes

- Section 4(f) of the Department of Transportation Act 1966
- Section 106 of the National Historic Preservation Act 1966
- Section 6(f) of the Land and Water Conservation Fund Act 1965

457.09 Abbreviations and Acronyms

FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FRA	Federal Railroad Administration
FAA	Federal Aviation Administration
NRHP	National Register of Historic Places
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users
USDOT	United States Department of Transportation
SHPO	State Historic Preservation Officer
THPO	Tribal Historic Preservation Officer

457.10 Glossary

All Possible Planning – All reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects.

Constructive Use – a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

De minimis Impact – For historic sites, de minimis impact means that the appropriate administering agency has determined, in accordance with 36 CFR 800, that no historic property is affected by the project or that the project will have "no adverse effect" on the historic property in question. For parks, recreation areas, and wildlife and waterfowl refuges, a de minimis impact is one that will not adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f).

Feasible and Prudent Avoidance Alternative – A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property.

Historic Site (Section 4(f)) – Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. The term includes properties of traditional religious and cultural importance to an Indian Tribe or Native Hawaiian organization that are included in, or are eligible for inclusion in, the National Register.

Officials With Jurisdiction – As defined in 23 CFR 774.17, officials of the agency that owns or administers the property in question. For historic sites, the SHPO or THPO may serve as the official with jurisdiction.

Programmatic Section 4(f) Evaluations – Can be used in place of individual evaluations for highway projects where uses are considered minor. To date there are five programmatic evaluations that have been approved for use nationwide. See Section 457.03 of this chapter for criteria.

Section 4(f) Property – A publicly owned park, recreation area, or wildlife and water fowl refuge of national, state, or local significance. Also includes historic sites of national, state or local significance.

Use – "Use" of a Section 4(f) property occurs:

- When land is permanently incorporated into a transportation facility.
- When a temporary occupancy of land has an adverse impact on the resource that the park, recreation area, refuge or historic site was created to protect.
- When there is a constructive use of the property.

Chapter 458 Social and Community Effects

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458.01 Social and Community Effects Analysis

The Social and Community Effects analysis examines how the proposed transportation improvement affects the people who live, work and play in the vicinity of the project. The analysis includes economic and demographic considerations. Section 109(h) of the Federal Aid Highway Act requires an assessment of the "social, economic, and environmental impacts" under NEPA. The state SEPA policy, identified the need for agencies to consider how best to "foster and promote the general welfare, … and fulfill the social, economic, and other requirements of present and future generations" when taking actions.

Nondiscrimination requirements of: Title VI of the Civil Rights Act; Americans with Disabilities Act (ADA); and, the Age Discrimination Act require Washington State Department of Transportation (WSDOT) to protect the civil rights of all people affected by our projects by making a concerted effort to engage minority, low income and Limited English Proficient (LEP) populations in the project development process. To retain federal funding we must:

- Assure that project impacts do not discriminate against protected populations.
- Ensure that we have made every effort to provide benefits, services, and access equally to all groups.
- Minimize the hardship of displacement.
- Provide equal access to information and equal opportunity for participation in the decision making process regardless of race, color, sex, income, disability, age, or national origin.
- Provide opportunities for persons with limited English proficiency to participate.
- Submit an annual report assuring compliance with Title VI by documenting inclusive public involvement.

WSDOT's policy is to follow the guidance provided in FHWA's Technical Advisory T 6640.8A. The Social and Community Effects analysis described in this manual summarizes that guidance and examines the effect of transportation improvements on four areas:

- The distribution of benefits and burdens of the project.
- Impacts to the social network.
- Impacts to the local and/or regional economy.
- The effect of residential and commercial relocations.

Public involvement is a critical element of the Social and Community Effects analysis. It is used to scope the social analysis, evaluate the effect of alternatives on the community, and develop mitigation. See Section 458.06 for a detailed discussion. In 2010 the Obama Administration renewed the federal government's commitment to Environmental Justice through an MOU confirming commitments set forth in the 1994 Executive Order (EO 12898). The 2010 MOU requires an increased focus on public involvement and emphasizes the promotion of healthy neighborhoods with environmentally sustainable transportation options. U.S. DOT's strategy for implementing the 2010 MOU confirms the agency's commitment to Environmental Justice (EJ) and stresses public participation in the decision making process.

CEs, PCEs, and some DCEs require a review for equity impacts (Environmental Justice) but do not require a social or economic analysis because, by definition they:

- Do not have any significant environmental impacts.
- Do not change access control or affect traffic patterns.
- Do not require more than minor right of way acquisition or displace residents or businesses.
- Do not require temporary road closures or detours during construction.

The level of environmental documentation required for a Social and Community Effects analysis for an EA/EIS can vary greatly depending on the scale of the project, the severity of the potential impacts and the level of public controversy. Estimate anticipated effects and use Figure 458-1 to determine the appropriate level of environmental documentation for your project.

Potential impacts identified in various studies should be discussed in the social analysis. Once you have determined the level of documentation required, conduct the Social and Community Effects analysis concurrently with, or slightly after, the following discipline studies:

- Air
- Noise
- Transportation
- Public Services
- Utilities
- Cultural Resources
- Section 4(f)
- Hazardous Materials
- Visual Impacts

Answer the questions below to determine how to "right size" your analysis.

1. Does the primary work activity meet one or more of the criteria for projects unlikely to affect social, economic, or Environmental Justice resources?

   ___ Yes: **No further analysis needed**; document in ECS question 7a of the Environmental Considerations tab.

   ___ No: Go to Step 2.

2. Are there protected populations within the project study area?
   - For DCE projects: See TSK 458-b: Collecting Demographic Data.
   - For EA/EIS projects: See TSK 458-a and 458-b.

   ___ Yes: **EJ analysis required.** Go to Step 3.

   ___ No: **No further analysis needed.** Attach census data and school demographic data to ECS or other environmental document.

3. Are there substantial right of way requirements?

   ___ Yes: Acquisitions affect > 10% of the parcels, require whole parcels, require relocations, or are concentrated in a single neighborhood. Go to Steps 4 and 5.

   ___ No: Acquisitions affect < 10% of the parcels, are sliver takes and distributed evenly throughout the project area. **No further analysis needed.** Document limited nature of right of way acquisitions in letter to file.

4. Does the proposed project require any residential relocations?

   ___ Yes: Do residential relocations affect > 25 homes or > 10% of the population within the study area? **Social Analysis required.** If EJ population is present, determine if the social impacts are "disproportionately high and adverse." Go to Step 5.

   ___ No: Go to Step 5.

5. Does the proposed project require any business relocations?

   ___ Yes: Go to Step 6.

   ___ No: **No Economic analysis required.** Document limited nature of relocation in a letter to file.

6. Do business relocations adversely affect major employers in the study area?

   ___ Yes: Economic effects are likely if the project substantially changes access, travel time, or travel patterns; or adversely impacts > 10% of the permanent jobs in the study area (interview local agency planners to determine percentage). Economic analysis is required. If an EJ population is present, determine if the economic effects are "disproportionately high and adverse. Go to Step 7.

   ___ No: **No Economic analysis required.** Document limited nature of economic analysis in a letter to file.

Social and Community Effects Decision Matrix
Figure 458-1

7. Does the proposed project result in short-term adverse effects to:
   a. Noise or vibration impacts to sensitive receptors within the study area? __ Yes, __ No
   b. Air quality impacts? __ Yes, __ No
   c. Changes in access to/from residences or businesses? __ Yes, __ No
   d. Will the project require a detour? __ Yes, __ No
   e. Create utility cuts due to utility relocations? __ Yes, __ No
   f. Reduce community cohesion or access to public services? __ Yes, __ No
   g. Have greater than de minimus Impact Section 4(f) properties? __ Yes, __ No

   If you answered "Yes" to any of questions 7a-g, discuss the short-term social effect of the environmental impacts in the Social analysis. If an EJ population is present, determine if the short-term effects will be "disproportionate, high and adverse."

   If you answered "No" to all questions 7 a-g, document the limited nature of the impacts in the appropriate section of the environmental document.
8. Does the proposed project result in long-term (permanent) adverse environmental effects to:
   a. Noise or vibration to sensitive receptors in the study area? __ Yes, __ No
   b. Air quality impacts? __ Yes, __ No
   c. Changes in access to/from residences or businesses? __ Yes, __ No
   d. Reduce community cohesion or access to public services? __ Yes, __ No
   e. Have greater than de minimus Impact Section 4(f) properties? __ Yes, __ No

   If you answered "Yes" to any of the questions in 8a-e, discuss the long-term Social effects of the environmental impacts in the Social analysis. If an EJ population is present, determine if the long-term effects will be "disproportionate, high and adverse."

   If you answered "No" to all of questions 8a-e, document the limited nature of the impacts in the appropriate section of the environmental document.
9. If you answered "no" to question 1 and "yes" to questions 4, 6, 7, and 8, substantial documentation may be needed to support your conclusions consider writing a Social and Community Effects Discipline report. If, in addition, you also answered "yes" to question 2, the discipline report must include an EJ analysis and determine if there are "disproportionately high and adverse effects."

Social and Community Effects Decision Matrix
Figure 458-1 (continued)

458.02 Equity Effects – Environmental Justice

Equity effects, known as Environmental Justice (EJ), address the distribution of the physical, social, and economic impacts of the project. Protection of the community's civil rights and the fair distribution of a project's burdens and benefits lie at the heart of the issue. WSDOT is required by State and Federal law (see Section 458.10) to consider equity effects. The analysis should include an examination of the equity effects for each alternative, including the No-build.

Conduct an EJ analysis if the demographic analysis shows the presence of a protected social group within the study area. The USDOT Order defines a minority as:

- **Black** – Anyone of the black racial groups of Africa.
- **Hispanic** – Anyone with Spanish cultural origin regardless of race.
- **Asian and Pacific Islander** – Anyone from the Far East, Southeast Asia, Pacific Islands, or the Indian sub-continent and native Hawaiians.
- **American Indian or Alaskan Native** – Anyone of the original peoples of North America who maintains cultural identification through tribal affiliation or community recognition.
- **Minorities** (Black, Hispanic, Asian, Pacific Islander, American Indian, or Alaskan Native).
- **Low-Income** (households below the federally designated poverty level as defined the U.S. Health and Human Services).

When any member of a protected group is likely to be impacted, the environmental document should contain the following information broken down by race, color, and national origin. Also, the environmental document should detail:

- The percent of the population that is transit dependent.
- The percent of the population over 65.
- The percent of the population with disabilities.
- The percent of the population with Limited English Proficiency (LEP).

Environmental documents must include a comparison of the distribution of a project's burdens and benefits by the social groups identified in the demographic analysis. The effects on these groups should be described to the extent these effects can be reasonably predicted. There is no need to be exhaustive with this comparison: discuss impacts to the groups in proportion to the severity of the impacts. Analysis procedures are described on the WSDOT Social and Community Effects and Environmental Justice web pags. The analysis compares the adverse impacts to the EJ population to the adverse impact to the non-EJ population within the study area. The discussion should address:

- Whether minority or low income populations bear a "disproportionately high and adverse impact."
- Possible mitigation measures to avoid or minimize any adverse impacts.
- Special relocation considerations for affected groups and the measures proposed to resolve these relocation concerns.
- Public response to the project and proposed mitigation. Include a discussion of how the project design was changed to address public concerns.

A "disproportionately high and adverse" determination may be made if:

- The severity of the adverse impact is appreciably greater for protected populations than for nonprotected populations.
- More adverse environmental impacts occur in areas with protected populations (regardless of severity) than in areas without protected populations.
- Proposed mitigation is needed to reduce either the level of severity or number of adverse effects for protected populations.
- The project benefits do not effect protected populations to the same degree as other populations.
- The project is controversial and public comment shows that protected populations: do not feel that the project benefits them; or, that the proposed mitigation is inadequate.

458.03 Social and Community Effects

This element evaluates the transportation project's impact on the ability of the community to function as a whole. It describes both positive and negative effects. As detailed in the previous section, the level of discussion should reflect the severity and extent of the impact. If an analysis is required, focus the analysis on issues of greatest interest to the local community. Use information from the public scoping meetings, interviews with local officials and leaders, and the public involvement process to identify focus areas. At a minimum, the analysis should include a discussion of the following issues for each alternative including the no build:

- Changes in community cohesion (splitting or isolating areas, generating new development, and separation from services).
- Changes in travel patterns, travel time and accessibility for all modes.
- Direct and indirect impacts to social services caused by displacing households (school districts, churches, law enforcement, fire protection, and recreation areas).
- Highway and traffic safety, and changes in overall public safety.
- Impacts to human health from traffic noise, air pollution and vibration.
- Project benefits to the community.
- Project effects on elderly, disabled, and transit dependent populations within the study area.

Although some of these elements are measurable and can be drawn directly from analysis of other disciplines (Air, Noise, Transportation, Public Service and Utilities), the analysis requires consideration of the affected community's perception of the severity of the impacts and proposed mitigation measures. Therefore the analysis will, by nature, be qualitative and require early, continuous and meaningful engagement with the community. A robust system for recording and tracking issues is essential for project success.

Procedures for conducting the analysis can be found on the WSDOT Social and Community Effects web page.

458.04 Economic Effects

An economic analysis is required if the transportation project is likely to have a substantial adverse effect on a large segment of the economy, or cause the loss of more than ten percent of the permanent jobs within the study area. Projects with substantial right of way needs that displace homes or businesses and change travel patterns, travel times, parking, land use, and access control will require analysis.

If an economic analysis is required, the analysis must consider:

- Changes in the type of development and its effect on government revenues and expenditures.
- Changes in employment opportunities.
- Changes in business vitality due to retail sales, changes in access, visibility, or competition from new business development resulting from the project (e.g., development of a new shopping mall at a new interchange location).
- Impacts to existing highway related and drive-by businesses in the study area (such as motels, gas stations and convenience stores).
- Compatibility of the project with adopted comprehensive plans and coordination with local officials and business leaders.

WSDOT policy supports economic vitality as a key focus area in the 2011–2017 Strategic Plan. A transportation project that sustains favorable economic investment does not trigger a need for an economic analysis. However, if economic development is listed as a primary goal in the project purpose and need, a robust and detailed economic analysis will be required. Such an analysis must include the following elements in addition to those listed for the basic analysis.

- Overall effect of the project on the regional economy and compatibility with regional economic development and transportation plans.
- Agreements reached for using the transportation investment to support both public and private economic development plans.
- Opportunities to minimize or reduce impacts on established business districts by private or public means.

The economic analysis can be either qualitative or quantitative depending on the scope and complexity of the project. The analysis will require data from local comprehensive plans and the Transportation, Land Use and Visual analysis done for your project. The economic analysis also requires meaningful outreach to members of the affected business community. Professional judgment is required when estimating the severity of economic impact caused by the transportation project in light of larger economic trends.

Procedures for conducting an economic analysis can be found on the WSDOT Social and Community Effects web page.

458.05 Relocation Impacts

Displacement of people and businesses to make room for a transportation project affects both the social network and the economy of a community. WSDOT follows a standard, systematic process for relocation in compliance with the Uniform Relocation Assistance and Real Property Acquisition Polices Act of 1970 as amended. The legal requirements and relocation process are described in *Right of Way Manual* M 26-01 Chapter 12.

WSDOT Real Estate Services can develop generalized relocation data for use during the environmental documentation phase of a project. The information is developed by visual inspection of the study area and from readily available secondary and community sources. Generalized data can include:

- An estimate of the number of households to be displaced and family characteristics (minorities, income levels, age, family size and owner/tenant status).
- An estimate of the divisive or disruptive effect of relocations on the community, such as separation of residences from community facilities or separation of neighborhoods.
- An estimate of the Impact on the likely to receive displaced families.
- An estimate of the number of businesses to be displaced and the general effect of the dislocation on the community's economy.
- A general description of the housing available for sale in the area and the ability of WSDOT to provide replacement housing for the type of families likely to be displaced.
- A general description of special relocation advisory services that will be necessary for identified unusual conditions.
- A description of the actions proposed to remedy insufficient replacement housing, including housing of last resort.
- Results of consultation with local officials, social agencies and community groups regarding the impacts on the affected community.

Parcel specific information, such as the names and addresses of potential displacements, is not available at this stage of the process and should not be included in the environmental document. However, the social and community effects analysis must give the name and location of ethnic niche business that may be impacted by the project. The relocation information should be summarized in sufficient detail to adequately explain the relocation situation, anticipated problems, and proposed solutions (see Relocation Checklist). Aerial exhibits showing the relationship of the proposed alignments and proposed right of way boundaries to parcel boundaries clearly identifies possible impacts. A table identifying parcels, value, and generated tax revenue assist in identifying the magnitude of the impacts. The environmental document must include a statement that the acquisition and relocation program will be:

- Conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.
- Relocation resources are available to all relocates without discrimination in compliance with WSDOT's Limited English Proficiency Plan.

Coordination with local governments, organizations and affected parties to reduce relocation impacts is encouraged by FHWA for large projects with a substantial number of displacements. Record the process used and how participants helped develop options to minimize adverse effects in the environmental document.

458.06 Public Services and Utilities

Public services include schools, churches, community centers, day care facilities, hospitals, nursing homes, medical and dental clinics, fire stations, police stations, cemeteries, and social service providers. Utilities include publicly and privately owned electric power, gas, oil and petroleum products, steam, chemicals, communication, cable television, water, sewage, drainage (other than those used for highway drainage), irrigation, fire or police signal systems, and similar lines.

Transportation projects often impact public services and utilities by increasing the demand outside the capability of service providers, or by disrupting service. In many cases a project impacts a community's access to essential services, which may result in equity impacts. Public services and utilities often benefit from transportation projects through improved access or travel time. Under SEPA, impacts to public services and utilities are considered as part of the analysis of a project's effect on the built environment. Under FHWA's NEPA implementing regulations, impacts to public services and utilities are considered in the Social and Community Effects Analysis.

At a minimum the analysis should identify public services and utilities within one-half mile of the project center line and:

- Document direct impacts due to right of way acquisition.
- Describe anticipated changes in emergency service response times based on changes in travel time or access. Discuss positive and negative effects based on the project's traffic analysis.
- Determine if the anticipated changes in service demand are consistent with adopted comprehensive plans (for public services and utilities) based on the project's anticipated residential and/or commercial relocations.
- Describe potential utility relocations (temporary and permanent) for each alternative and their anticipated short-term and long-term impacts.
- Describe how short-term (construction) impacts will be addressed (public outreach, notification of power cuts, detours, delay of emergency response etc.).

Both long- and short-term impacts should be considered for all of the alternatives including the no-build. These impacts may include relocation or in place accommodation of utility lines, service outages, or delayed response time of emergency services due to detours. If an EJ population has been identified in the study area, access to public services and utilities should be included in the determination of "disproportionately high and adverse impacts."

WSDOT project environmental documentation and permitting may include an analysis and discussion of utility impacts. Inclusion of the utility in the project permitting documentation avoids delays to the project schedule by eliminating difficulties the utility may encounter when acquiring separate environmental permitting. WSDOT *Utilities Manual* M 22-87 Section 600.09(4) provides for guidance, procedure, and a discussion of the advantages and disadvantages of including utility relocation impacts in the project's environmental documentation and permits.

458.07 Public Involvement Requirements – LEP

More than any other discipline, the social analysis relies on interaction with the affected communities. The analysis should focus on issues of the most concern to the people who live, work and play in the vicinity of the project. Public outreach can be used to:

- Collect descriptive information about the community, including identification of EJ issues and LEP populations.
- Identify key issues for analysis to support scope and budget decisions.
- Explain WSDOT efforts to avoid and minimize adverse effect and collect public perception of a project's impact (or lack of impact) to the social network.
- Collect public input on project design and mitigation and demonstrate WSDOT response to community concerns.
- Demonstrate and document compliance with Federal requirements for public input into the decision making process.
- Comply with WSDOT Executive Order E 1028 *Context Sensitive Solutions*.

Presidential Executive Order 12898 and Title VI of the Civil Rights Act of 1964 require WSDOT "to promote nondiscrimination" to the"greatest extent allowed by the law". This includes equal access to information and an equal opportunity to participate in the decision making process. WSDOT tracks its performance with this requirement and submits an annual report to FHWA documenting efforts to engage all citizens, regardless of color, race, gender, age, income, disability, or national origin.

WSDOT Policy E 1028 *Context Sensitive Solutions* requires engagement with affected communities to ensure that transportation objectives are described and discussed. Reciprocal communication is encouraged and community concerns should be addressed during planning and design of the project.

(1) Limited English Proficiency – LEP

The Public Involvement Plan for transportation projects should meet the needs of all of the populations affected by the project. Tailor outreach techniques to reach the EJ, low income and LEP populations in your study area. Document what you did and how public input affected the project design. Detailed guidance for how to write a public involvement plan is available from the WSDOT Communications Office, and is available to WSDOT employees.

WSDOT requires that printed materials be provided if the demographic analysis shows that five percent of the population, or 1,000 individuals within the study area, speak a language other than English. The WSDOT LEP Plan requires project managers to:

- Make every effort to provide services, either through translation or interpreter, prior to scheduled meetings, such as public hearings, or project meetings.
- Make every effort to provide services in a timely manner when a need has been identified.
- Pay for the translation of vital documents and interpreter services including summary newsletters, brochures, public notices for meetings and summary documents for open houses or environmental hearings. Interpreter services should be provided upon request for open houses and hearings.
- Provide translation or interpreter services upon request.

458.08 Coordination With Tribal Governments

Native Americans are designated as a minority population under the Civil Rights Act. They are also protected under the Environmental Justice Executive Order (Presidential Executive Order 12898). Section 4-401 of the executive order requires consideration of the potential human health risks associated with the consumption of pollutant bearing fish or wildlife. In compliance with this requirement, WSDOT policy is to use the tribe's consultation area maps to evaluate a projects potential effect on natural resources. The maps are available on the WSDOT Environmental GIS Workbench.

WSDOT policy requires staff to follow the Model Comprehensive Tribal Consultation Process when working with tribal governments. Contact the WSDOT Tribal Liaison Office for assistance.

458.09 Completing a Social and Community Effects Analysis

The following WSDOT web pages contain tasks, procedures, checklists, resources, and examples to support the policy guidance in this chapter.

- For Social, Economic, and EJ Analysis – Social and Community Effects
- For LEP – Limited English Proficiency

Additional guidance may be found at FHWA Technical Advisory T 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (October 30, 1987).

458.10 Non-Road Project Requirements

Federal agencies maintain their own unique NEPA procedures in CFR. As such each agency may have different documentation and procedural requirements for complying with NEPA. If your project has a federal nexus with more than one federal agency, it is critically important to meet with the federal lead agencies and determine how to proceed. In some cases the federal agencies may agree to co-lead the NEPA process. In others, one agency may serve as lead and the other as a cooperating agency. This decision needs to be made very early in the process to ensure timely approval of your environmental document. The exact requirements will vary depending on the nature of the project, federal permits and approvals required, and individual circumstances. Common examples of projects that require coordination with more than one federal agency are:

- An FHWA funded project that crosses National Forest Lands.
- A project that receives FHWA and FTA funding.
- Any highway project involving FRA or FAA.
- An FHWA funded project that requires an Army Corps of Engineers individual permit.

458.11 Links to Social Analysis Statutes and Regulations

- National Environmental Policy Act (NEPA), 42 USC 4321 and Federal implementing regulations 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ).
- State Environmental Policy Act (SEPA), RCW 43.21C. State SEPA Rules are codified in WAC 197-11. WSDOT's agency SEPA Procedures are in WAC 468-12.
- Title VI of the Civil Rights Act of 1964 as amended in 1987.
- Section 504 of the Rehabilitation Act of 1973.

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended). See 49 CFR 24 for USDOT implementing regulations.
- Title II of the Americans with Disabilities Act (ADA) of 1990.
- The Age Discrimination Act of 1975.
- Environmental Justice Presidential Executive Order 12898.
- Limited English Proficiency Presidential Executive Order 13166.
- Tribal Government Tribal considerations are also addressed under both Section 4(f) 49 USC 303 and Section 106 of National Historic Preservation Act 16 USC 470f.
- RCW 8.26 *Relocation assistance — real property acquisition policy* and WAC 468-100 *Uniform relocation assistance and real property acquisition*.
- Governor's Executive Order 93-07 *Affirming Commitment to Diversity and Equity in the Service Delivery and the Communities of the State* (1993).
- Secretary's Executive Order E 1028 *Context Sensitive Solutions*.

458.12 Abbreviations and Acronyms

Abbreviations and acronyms used in this chapter are listed below.

ADA	Americans with Disabilities Act
CSS	Context Sensitive Solutions
CFR	Code of Federal Regulations
EJ	Environmental Justice
FHWA	Federal Highway Administration
LEP	Limited English Proficiency
RCW	Revised Code of Washington
Title VI	Title VI of the Civil Rights Act of 1964
WAC	Washington Administrative Code

458.13 Glossary

These definitions provide context for the Social, Economic and Environmental Justice process. Some terms may have other meanings in a different context.

Adverse Effects (Environmental Justice) – The totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to:

- Bodily impairment, infirmity, illness, or death caused by air, noise, water pollution, vibration, and soil contamination.
- Destruction or disruption of man-made or natural resources.
- Destruction or diminution of aesthetic values.
- Destruction or disruption of community cohesion or a community's economic vitality; access to public and private facilities and services.
- Adverse employment effects.
- Displacement of persons, businesses, farms, or nonprofit organizations.
- Increased traffic congestion.

- Isolation, exclusion or separation of minority or low income individuals from the broader community.
- Denial of, reduction in, or significant delay in the receipt of benefits of DOT programs, policies, or activities.

Adverse effects are determined by both the individuals affected and the judgment of the analyst.

Community Cohesion – The ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood's ability to function and be recognized as a singular unit.

Context Sensitive Solutions (CSS) – A collaborative, interdisciplinary approach to develop a transportation facility that fits its physical surroundings and is responsive to the community's scenic, aesthetic, social, economic, historic, and environmental values and resources, while maintaining safety and mobility.

Disproportionately High and Adverse Effect – An adverse effect that: (a) is predominantly borne by a minority population and/or a low income population; or (b) is suffered by the minority population and/or low income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low income population. You need to consider cultural differences as one factor of your analysis.

Environmental Justice – Environmental justice seeks to lessen unequal distributions of environmental burdens (pollution, industrial facilities, crime, etc.), equalize benefits and balance access to nutritious food, clean air and water, parks, recreation, health care, education, transportation, safe jobs, etc., in a variety of situations. Self determination and participation in decision making are key pieces of environmental justice. Presidential Executive Order 12898 and USDOT and FHWA implementing orders set the standards for environmental justice for transportation projects.

Environmental justice means minority and low income populations do not suffer disproportionately high and adverse human health or environmental effects from agency programs, policies, and activities.

Limited English Proficient – Individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English. These individuals may be entitled to language assistance with respect to a particular type of service, benefit, or encounter. Federal laws particularly applicable to language access include Title VI of the Civil Rights Act of 1964, and the Title VI regulations, prohibiting discrimination based on national origin, and Executive Order 13166 issued in 2000.

Low Income – A household income that is at or below the federally designated poverty level for a given household size.

Low-Income Population – Any readily identifiable group of low-income persons who live in a geographic area, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed DOT program, policy, or activity.

Minority – A person who is:

- Black (a person having origins in any of the black racial groups of Africa).
- Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race).
- Asian/Pacific Islander (a person having origins in the Far East, Southeast Asia, or the Indian subcontinent).
- Pacific Islander (a person having origins in any of the Pacific Islands).
- American Indian or Alaskan Native (any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition).

Minority Population – Any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy, or activity.

Public Service – Public services include, schools, churches, community centers, day care facilities, hospitals, nursing homes, medical and dental clinics, fire stations, police stations, cemeteries, and social service providers.

Social Effects – Any effect to the social environment including: relocation, environmental justice, community cohesion, community relations, and economic effects.

Utility – Privately publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, cable television, electric power, light, heat, gas, oil, crude products, water, steam, waste, stormwater not connected with highway drainage, and other similar commodities, including fire or police signal systems, street lighting systems, and traffic control systems which directly or indirectly serve the public. See WSDOT *Utilities Manual* M 22-87 Chapter 2.

Utility Relocation – The adjustment or replacement of utility facilities required by a highway project, including removing and installing facilities, acquiring necessary property rights in the new location, moving or rearranging existing facilities, or changing the type of facility to provide any necessary safety and protective measures. See WSDOT *Utilities Accommodation Policy* M 22-86.

459.01 Visual Impacts Analysis Requirements
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459.01 Visual Impacts Analysis Requirements

(1) Why we do visual analysis

Visual perception is an important component of environmental quality that can be impacted through changes created by transportation projects. Visual impacts occur as a result of the relationship between people and the physical environment. Public concern over adverse visual impacts can be a major source of project opposition.

The location, design, and maintenance of highway, ferry, rail, and aviation facilities may adversely or positively affect the visual features of the landscape that are experienced by people. This chapter focuses on highway projects, but the same, or similar, requirements apply to other transportation modes and facilities (see Section 459.02).

Because of the public nature and visual importance of transportation projects, both negative and positive visual impacts must be adequately assessed and considered during project development. Understanding the sensitivity of viewer groups is as important as understanding the physical environment and the proposed project actions.

In discussing and reviewing the visual impacts of a highway project, two views must be considered: the view *from* the road and the view *toward* the road. Research has shown that the view from the road is the basis for much of what people know about the everyday environment and their mental image of their surroundings. Visual cues can also contribute to traffic calming and stress reduction for motorists. However, pleasing vistas for travelers should not be developed at the expense of views from surrounding homes or vantage points. Projects must be carefully planned to ensure the facility blends into the community and its environment. (For related information on historic and cultural resources, (see Chapter 456).

(2) Summary of Requirements

Washington State Department of Transportation (WSDOT) roadside policy is found in the *Roadside Policy Manual* M 3110. It covers the requirements for roadside restoration, which is the baseline that can be assumed for addressing a project's visual impacts within the roadside.

A Visual Impact Assessment (VIA) is intended to provide decision makers with information on both the positive and negative visual quality impacts that may result from a project. The assessment, along with recommendations, provides designers with information on minimizing negative impacts on visual quality, and concepts to enhance existing visual quality and community aesthetics within the scope of the project.

All visual analyses are to be performed and written by, or coordinated through, the Region Landscape Architect, or through the Headquarters (HQ) Roadside and Site Development Section for regions without a Landscape Architect.

WSDOT uses Federal Highway Administration (FHWA) VIA methodology. For more information on VIA methodology and procedures, see the HQ Roadside and Site Development visual quality website. Visual assessments must be sized appropriately to anticipated project impacts. (See Chapter 300 for project classifications.) The following are guidelines for the level of analysis that can be expected:

- For projects that are **Categorically Excluded or Exempt (CE)**, no analysis or documentation is needed. It is assumed that, when projects follow the policies found in the *Roadside Policy Manual* M 3110 or the requirements in environmental permits, there will be no substantial visual impacts.
- For projects that fall under a **Documented Categorical Exclusion (DCE)**, the visual analysis and minor documentation is done within the Environmental Classification Summary (ECS). It is assumed that, when projects follow WSDOT roadside policy and environmental permit conditions, visual impacts will be minimized to an acceptable level.
  - **Exceptions that may require a VIA** – This applies to projects that have sensitive viewers and noticeable changes, such as screening vegetation removed, large cuts or fills, new or larger structures, or new or greatly expanded alignments in the following locations:
    - On a State or National Scenic Byway or an All-American Road
    - Along a designated Wild and Scenic River or within a National Scenic Area
    - On Tribal, U.S. Forest Service, or National Park land
    - Adjacent to a public park, recreation area, wildlife and waterfowl refuge, and public or private historical sites (Section 4(f) or 6(f) area – any visual analysis would be in coordination with the Section 4(f) or Section 6(f) technical study)
    - In a rural community that values its view of stars and the night sky if new or brighter lighting is being proposed

    People viewing from these locations can be especially sensitive to visual changes.

    Documentation must include an analysis of viewer sensitivity and potential impacts, and may be in the form of a memo or short report depending on the degree of impacts found in the analysis.
- For projects that fall under an **Environmental Assessment (EA)** or an **Environmental Impact Statement (EIS)**, a VIA must be completed for projects that change the roadside or facility character. Project examples include:
  - Changes in road alignment
  - Expansion of the roadway
  - New interchanges
  - Changes to historic buildings or other structures
  - Ferry terminal improvements
  - Increased lighting
  - Removal of screening or large areas of vegetation

During project development, visual impacts, including aesthetics, light, glare, and night sky impacts, should be considered for all project alternatives. The views from the road or facility and views toward the road or facility that will be in existence during the construction phase and the operational phase must be evaluated.

The VIA is documented within the EA or EIS after a detailed analysis of potential viewers, their sensitivities and the project area. A photographic log of the affected viewshed is part of that documentation. The documentation must include an analysis of all representative views from and toward the facility throughout the project length.

The number of views needed depends upon the geographic extent of the project; its setting in the landscape; the extent of change or impact to resources expected in a particular location; the effects on the identified viewer groups; and the viewers' sensitivity to changes in the view. If there is more than one landscape unit within the project limits, a minimum of one viewpoint per landscape unit is analyzed.

Project alternatives will need to be sufficiently developed for a complete analysis to occur. The person doing the visual analysis must have an understanding of the changes that each alternative will have on the visual environment. Large cuts or fills, walls, bridges, changes to character due to extensive vegetation removal or addition of structures, and horizontal and vertical alignments must be described and analyzed.

Mitigation measures and opportunities to avoid or minimize visual impacts must be provided in the report. The use of Context Sensitive Design principles during design, and restoration according to the *Roadside Policy Manual* M 3110 are the baseline that can be assumed.

459.02 Non Road Project Requirements

Environmental documentation for aviation, ferry, or rail projects must address aesthetics and visual issues during the environmental review process, including specific details about lighting; height, size, and location of structures; and alignment and use of the facility that might impact viewers.

Federal agencies follow different methodologies, but all include the requirement for a visual assessment. For example, the Federal Rail Administration, The Federal Aviation Administration, the U.S. Forest Service, and the Bureau of Land Management have their own methodologies, which vary slightly from the FHWA methodology. Projects must determine and follow the appropriate methodology for their project type.

459.03 Applicable Statutes and Regulations

This section lists the primary statutes and regulations applicable to visual impacts.

(1) Federal

The federal statutes on visual impacts are codified under several programs, described below.

1. **National Environmental Policy Act** – The National Environmental Policy Act (NEPA), 42 USC 4321, Section 101(b)(2) states that it is the "continuous responsibility" of the federal government to "use all practicable means" to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings." For details on NEPA procedures. (See Chapters 400 and 412.)

Federal implementing regulations are at 23 CFR 771 (FHWA) and 40 CFR 1500-1508 (CEQ). According to the CEQ implementing regulations, environmental analysis is to consider impacts on urban quality, historic and cultural resources, and the design of the built environment" (Section 1502.6). Agencies shall … "identify methods and procedures . . . to insure that presently unquantified environmental amenities and values may be given appropriate consideration" (Section 1507.2).

2. **Highway Beautification Act** – The Highway Beautification Act of 1965 (23 CFR 750) was enacted to provide effective control of outdoor advertising and junkyards, protect public investment, promote the safety and recreational value of public travel, and preserve natural beauty, and provide landscapes and roadside development reasonably necessary to accommodate the traveling public. Implementing procedures are set forth in 23 CFR 750, 751, and 752.
3. **National Historic Preservation Act** – Implementing regulations for Section 106 of the National Historic Preservation Act of 1966 (see Section 456.02), adopted in 1976, define criteria of adverse effect (36 CFR 800.5) to include the "introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features."
4. **DOT Act, Section 4(f)** – This act declares a national policy to make a special effort to preserve the natural beauty of the countryside and public park and recreation sites, wildlife and waterfowl refuges, and historic sites." For details on Section 4(f). (See Chapters 400, 450, and 457.)
5. **Wild and Scenic Rivers Act** – This act, as amended, directs that "each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included, without, insofar as it is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeological, and scientific features." For information on wild and scenic rivers in Washington. (See Chapter 450.)

(2) State

1. **State Environmental Policy Act** – The State Environmental Policy Act (SEPA), requires that all major actions sponsored, funded, permitted, or approved by state and/or local agencies undergo planning to ensure environmental considerations such as impacts related to aesthetics and visual quality are given due weight in decision making. State implementing regulations are in WAC 197-11 and WAC 468-12.
2. **Highway Beautification Act** – Washington's Highway Beautification Act (RCW 47.40.010), adopted in 1961, declared improvement and beautification of any state highway right of way to be a "proper highway purpose." The act specifically mentions the following improvements: "planting and cultivating of any shrubs, trees, hedges or other domestic or native ornamental growth; the improvement of roadside facilities and viewpoints; and the correction of unsightly conditions."

3. **Open Space Land Preservation** – In RCW 84.34, the legislature declared that "it is in the best interest of the state to maintain, preserve, conserve and otherwise continue in existence adequate open space lands for the production of food, fiber and forest crops, and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well being of the state and its citizens." Open space was defined as including any land area that would preserve visual quality along highway, road, and street corridors or scenic vistas. One of the criteria to be used in determining open space classification for current use or conservation futures is whether granting this classification would preserve visual quality along highway, road, and street corridors or scenic vistas (RCW 84.34.037).

459.04 Glossary

Landscape Unit – An area or volume of distinct landscape character that forms a spatially enclosed unit at ground level, differentiated from other areas by its slope and its pattern of land cover. A unique segment of the landscape. Not all projects will have multiple landscape units.

Scenic Byway – Public road having special scenic, historic, recreational, cultural, archaeological, and/or natural qualities that have been recognized as such through legislation or some other official declaration for its scenic, historic, recreational, cultural, archaeological, or natural qualities. Washington State Scenic Byways are designated in RCW 47.39.020.

Viewshed – All the surface areas visible from an observer's viewpoint.

Viewer Group – Classes of viewers differentiated by their activity, awareness, and values.

Viewer Sensitivity – The viewer's variable receptivity to the elements within the environment they are viewing. Sensitivity is affected by viewer activity and awareness, exposure to the project, and cultural and community values. Indication of viewer sensitivity can be found in local zoning codes, planning documents, laws, and advocacy groups such as Scenic Byway organizations.

Visual Function – The component of a transportation project that is designed and experienced primarily from a visual perspective; includes positive guidance and navigation, distraction screening, corridor continuity, roadway and adjacent property buffering, and scenic view preservation.

Visual Quality – Character of the landscape, which generally gives visual value to a setting.

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460.01 Requirements for Transportation Analysis

Transportation projects are designed to improve the overall transportation network for all modes of travel. However the potential effects of projects on transit, pedestrians, bicycles, rail crossings, ferry operations, airport safety zones, parking, and vehicle traffic on adjacent and connecting roadways need to be evaluated and discussed in the environmental document. The effects can be positive or negative, temporary or long-term. Mitigation for unavoidable impacts, especially construction impacts, should also be discussed. Although this chapter is primarily focused on highway projects, ferry, rail and airport improvements may have similar impacts that should be evaluated in the environmental document.

Section 24 of FHWA's Technical Advisory TA 6640.8A requires the analysis to include:

- A review of the local comprehensive transportation and land use plans.
- An evaluation of the proposed project's consistency with traffic requirements generated by planned land use.
- A discussion of how the project's short-term impacts and use of resources contribute to the enhancement of the area's long-term productivity.

In NEPA, the transportation analysis supports the Purpose and Need by providing quantitative measures that demonstrate the effectiveness of the proposed project. It may also provide a method of comparing and contrasting the relative merits of the alternatives. FHWA Technical advisory TA 6640.8A emphasizes the need to consider potential construction and operational impacts to pedestrian and bicycle traffic during the environmental review process.

In SEPA, transportation is considered to be an element of the built environment (WAC 197-11-444). The analysis must consider impacts to:

- Transportation systems
- Vehicular traffic
- Parking
- Safety and traffic hazards
- Waterborne, rail, and air traffic
- Movement/circulation of people or goods

The transportation analysis draws on data generated during the design process see *Design Manual* Chapter 320 for guidance on traffic analysis and modeling. Compliance with FHWA's Interim Guidance on the Application of Travel and Land Use Forecasting in NEPA (March 2010) is recommended, but not required for projects that use a travel demand model.

Projects classified as CEs/DCEs will usually need minimal analysis. Documenting temporary construction impacts and ways to minimize those impacts in the Project Summary (see *Design Manual* Chapter 1010) or completion of the SEPA checklist is usually sufficient If the project has significant construction impacts to traffic, as defined in *Design Manual* Chapter 1010, attach a copy of the Transportation Management Plan to the ECS form. More complex projects may require a more robust analysis and possible completion of a discipline report (see Section 460.06).

460.02 Safety

Improving safety throughout the transportation network one of USDOT's primary goals. FHWA requires consideration of safety for all modes during environmental review. Rigorous analysis may not be reasonable in all cases, but some assessment of safety performance should be included especially if safety is cited in the project purpose and need statement

Empirical evidence demonstrating effectiveness of safety features in each alternative compared to the No-build alternative is preferred. The *Highway Safety Manual* provides specific guidance for estimating future collisions with and without improvements. The safety performance function calculates the change in exposure based on traffic volumes and facility type to predict potential crash reduction factors.

460.03 Vehicular Traffic

The transportation analysis should consider the potential impacts of the proposed project on the adjacent street system to make sure the local system will not be adversely affected by changes in traffic patterns or volumes caused by the project. Use data generated by the traffic analysis prepared during planning or design whenever possible. Consider the following issues:

- Potential creation of new congestion points and congestion points that would be eliminated or reduced.
- Effect of new or revised access points on travel patterns and traffic flow.
- Effect of increased or decreased SOV and HOV volumes.
- Opportunities for Transportation System Management/Transportation Demand Management (TSM/TDM). This includes options such as vanpools/carpools, ramp metering and associated queuing impacts.
- Potential changes in surface street conditions or travel patterns that would affect entering or exiting traffic (of particular concern for Interstate and other limited access facility projects).
- The effect of traffic detours or diversions during construction.
- Potential mitigation for significant adverse effects for both short-term construction impacts and long-term operational impacts.

Refer to the WSDOT *Design Manual* M 22-01 for design options and constraints when developing alternatives and mitigation for significant impacts to the transportation system. See particularly sections on sight distance, roadside safety, traffic barriers, impact attenuation systems, construction work zone traffic control strategies, and safety rest areas.

460.04 Transit

Highway projects have the potential to benefit and impact transit operations by changing traffic flow and travel patterns. Projects may affect travel time, relocate or remove transit stops, or change pedestrian access to transit stops by adding median barriers or relocating of cross walks. The environmental document should discuss:

- Potential benefits and opportunities for greater integration of transit in the corridor. Potential construction impacts, particularly detours and temporary route closures.
- How changes in traffic patterns affect transit operations.
- Proposed mitigation for both construction impacts and operational impacts

The environmental document should include a discussion of potential impacts of the transit improvement on the transportation system. Areas of concern include the effect on existing transit operations (area and frequency of service, travel time, and patronage), changes in traffic distribution, local circulation patterns, and parking. For more information on assessing environmental impacts for transit projects refer to the FTA Transportation Impacts web page.

460.05 Bicycling and Walking

The USDOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure requires that walking and bicycling be considered as equals with other modes of transportation, ensuring that transportation choices exist for people of all ages and abilities. In urban areas, bicycle and pedestrian ways must be established in new construction and reconstruction projects unless one or more of the following conditions are met:

- Bicyclists and pedestrians are prohibited by law from using the roadway. In this instance a greater effort may be necessary to accommodate bicyclists and pedestrians elsewhere within the right of way or within the same transportation corridor.
- The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as costs exceeding 20 percent of the larger transportation project budget.
- Where low population levels.

FHWA Technical Advisory T 6640.8A (October 1987) requires that the environmental document discuss current and anticipated use of the bicycle and pedestrian facility, potential impacts, and measures to avoid or reduce adverse impacts. This requirement applies to formal trails and informal pathways with identified use by bicyclists and pedestrians. If the preferred alternative would sever an existing major route for nonmotorized transportation traffic, the proposed project needs to provide a reasonable alternative route or demonstrate that such a route exists (23 USC 109(m)).

Where new bicycle and pedestrian facilities are proposed as part of a highway project, the environmental document should:

- Include sufficient information to explain the basis for providing the facilities (e.g., proposed bicycle facility is a link in the local plan, or sidewalks will reduce project access impact to the community).
- Identify the facilities to be included in the preferred alternative.

1. **Safe Routes to Schools** – In 2011, the Washington Legislature funded a grant program for Safe Routes to Schools and Safe Routes to Transit. Proposed projects within one mile of a school may impact the Safe Routes to Schools and need to coordinate with the school. Schools are required to identify walking routes, provide a map, and describe identified hazards. Maps of routes are available on the WSDOT Safe Routes to Schools web page. Efforts to avoid, minimize, or mitigate adverse impacts and coordinate with school officials should be discussed in the environmental document.
2. **National Trails System Act** – The National Trails System Act 1968 (16 USC 1241-1251) requires federal agencies that abandon roadways, utility right of way, or other properties suitable for improving or expanding the national trails system to consider the possibility of using the abandoned right of way to extend the national trail system.

460.06 Parking

Parking issues may include elimination or changes to public or private parking adjacent to the highway right of way, and interim impacts such as construction parking, staging, and access. Local jurisdictions, especially those under GMA mandates, take the issue of parking seriously. Consult with local jurisdictions early during project development. The transportation chapter should identify potential impacts and mitigation. The discussion should include:

- Identification of the location and number of parking spaces that would be eliminated, added, or relocated. The discussion should address both permanent and temporary (construction) changes.
- Potential sites for relocation of parking. The number or parking spaces that would be provided in the new location and anticipated timing of the construction. The potential effect of relocating parking on local businesses and/or low income or minority populations should be discussed in Chapter 458.
- Potential relocation or reconfigurations of parking spaces or access to parking lots necessary to address safety concerns.

If a relocation or reconfiguration of parking is necessary to address safety concerns, the accident history and supporting traffic analysis should be included in the environmental document.

460.07 Waterborne Navigation

Road projects typically have little impact on waterborne navigation. However, river crossings may affect shipping routes or access to port facilities. Section 11 of FHWA Technical Advisory TA 6640.8A requires an analysis of potential impacts to waterborne navigation and a discussion of mitigation for adverse impacts. Any project that requires a Section 9 permit must also show evidence of coordination with the U.S. Coast Guard in accordance with the FHWA/U.S. Coast Guard MOA. Where the preferred alternative

requires a Section 9 permit, the NEPA documentation should include an exhibit showing the horizontal and vertical navigational clearances for each permit activity.

Highway projects adjacent to ferry terminals may affect ferry loading and unloading procedures, transit access, or parking. Coordination with WSF terminal operations staff and a discussion of the affects (both beneficial and adverse) to ferry operations should be included in the environmental document. Signal timing, turning movements, access to parking, transit stops, pedestrian flow and bicycle trail connections may be important factors.

The environmental document must evaluate the effect of proposed ferry operations on the adjacent street system for vehicular traffic, pedestrian flow and bicycle access.

460.08 Airports

Any proposed highway construction or alteration in the vicinity of a public or military airport will require early coordination with WSDOT's Aviation Planning Division. Potential issues include height hazards, smoke, glare, electronic signals, runway protection zones, wildlife hazards and approved landscape/vegetation near the designated clear zones and access. Local topography and the level of air traffic control provided may also require evaluation of air port terminal procedures and single engine operative obstacle surfaces. The WSDOT Aviation Division can assist with the obstruction evaluation and compliance with FAA regulations.

Federal statutes require that reconstruction or relocation of any federally funded highway located within a 3.8 mile radius of an airport facility must be coordinated with FAA to ensure that airway highway clearances are adequate for the safe movement of air and highway traffic (23 USC 318 and 23 CFR 620 Subpart A, Highway Improvements in the Vicinity of Airports). See the WSDOT Environmental Permitting web page for FAA public notice requirements.

Review of the WSDOT *Aviation Stormwater Design Manual* M 3041 is recommended to evaluate potential impacts from the construction and operation of stormwater detention facilities in close proximity to airports.

If FAA is the lead federal agency, the environmental document must evaluate the effect of airport expansion or rehabilitation projects on the local transportation network, including effect to parking, transit, vehicle congestion, travel time, and traffic patterns.

460.09 Railroads

When FHWA is the sole lead federal agency the *Design Manual* Chapter 1350 establishes policies and procedures for coordinating highway and rail projects. It also includes requirements for conducting a safety analyses for at-grade crossings and signalized intersections in the vicinity of rail crossings.

If FRA is the federal lead, the EA/EIS must assess the direct, indirect, and cumulative impacts on both passenger and freight transportation, by all modes, including the bicycles and pedestrians. The analysis should address local, regional, national, and international perspectives and include a discussion of construction and long-term impacts on vehicular traffic congestion. For more information on assessing environmental impacts refer to FRA Procedures for Considering Environmental Impacts. To determine if the project qualifies as a CE see FRA's Categorical Exclusion Worksheet guidance.

460.10 Transportation Discipline Report Guidance

The potential transportation impact for most projects can be adequately addressed in the main body of the environmental document. In the rare cases when warranted by the nature of the project, the analysis can be documented in a separate discipline report which supplements the environmental document. A separate transportation discipline report will only be needed for the most complex and environmentally controversial projects as shown in Table 460-1.

In all cases, the level of documentation should be "right sized" to reflect the complexity of the project, the scale of potential *transportation* impacts, and the level of controversy of the project. If modeling is used in the analysis, basic assumptions and a description of the methods used to calibrate and verify the model should be included in the project file, or the appendix of the environmental document.

A copy of the Transportation Discipline Report Checklist can be found on the WSDOT Discipline Report web page. Useful transportation data may be obtained from the WSDOT GIS Workbench, and the WSDOT Statewide Travel and Collision Data web page.

Project Classification	Project Characteristics	Recommended Type of Environmental Documentation
• CE/DCE • Safety Projects	• No controversy. • No construction closures. • No operational transportation impacts and minor construction impacts.** • Very limited number of alternatives.	• ERS/ECS • SEPA Checklist.*
• DCE • EA • EIS	• Low to moderate level of controversy. • Impacts to transportation system/modes minor and can be mitigated.*** • Moderate number of alternatives. • Moderate amount of supporting documentation required.	• SEPA Checklist. • Write to Environmental Document. • Calculations, assumptions, and supporting documentation in appendix of environmental document or letter to file.
• EIS	• High level of controversy focused on mode choice or alternative selection. • Adverse impacts to transportation system/ modes cannot be mitigated. • Wide variety of alternatives with significantly different travel patterns or travel sheds. • Large amount of supporting documentation required.	• Write to Environmental Document. Include supporting documentation in appendix. • Consider writing a Transportation Discipline Report if supporting documentation is extensive and the explanation of assumptions and calculations very technical (e.g., numerous travel demand model runs).

*See Department of Ecology's SEPA Guide for Project Applicants: Guidance for Part B gives direction on how to fill out the SEPA checklist.

**See definition in Chapter 300.

***Includes both temporary constructions impacts and permanent operational impacts. Criteria for determining severity of construction impacts can be found in *Design Manual* Chapter 1010. Attach a copy of the Traffic Management Plan to the ECS form if the project has significant construction impacts to traffic.

Documentation Decision Matrix
Table 460-1

460.11 Transportation Related Statutes and Regulations

(1) Federal

- **National Environmental Policy Act (NEPA)** – PL 91 190, as amended. Federal implementing regulations are at 40 CFR 1500-1508 (CEQ) and 23 CFR 771 (FHWA). SAFETEA-LU (2005) amended the way FHWA implements NEPA. Changes are codified in 23 USC 139. 23 CFR 652 specifically requires that federally aided projects include an analysis of any impacts on bicycle and pedestrian traffic.
- USDOT Bicycle and Pedestrian Policy Statement – Based on the following CFR Title 23 Highways, Title 42 The Public Health and Welfare, Title 49 Transportation.
- **Section 10 of the River and Harbors Act** – (1899) 33 USC 403
- **General Bridge Act** – 33 USC Section 525 (formerly Section 9 of the Rivers and Harbors Act) and implementing regulations 33 CFR Parts 114-115
- **National Trails System Act** – (16 USC 1241-1251)
- **FAA Regulations** – 14 CFR Part 77 (January 1975), 23 USC 318, and 23 CFR 620 Subpart A
- **FRA Regulations** – 64 Fed. Reg. 28545 (May 26, 1999)
- **FTA Regulations** – 40 CFR 1500-1508

(2) State

- **Aviation** – RCW 14.12, RCW 36.70A.510, and RCW 36.70.547
- **Bicycle/Pedestrian Traffic** – RCW 47.30.020 and RCW 47.30.030
- **City Streets as Part of State Highways** – RCW 47.24
- **Design Standards** – WAC 468-18-040
- **State Environmental Policy Act (SEPA)** – WAC 197-11 and WAC 468-12 (WSDOT)
- **Transportation Facilities and Services of Statewide Significance** – RCW 47.06.140
- **Vehicular Traffic** – Essential Public Facilities – (GMA) RCW 36.70A
- **WDNR Easements** – RCW 47.12 grants WSDOT authority to obtain an easement from DNR highway, ferry, rail and other state transportation projects.

(3) Local

If a project provides, removes, or relocates parking, the local jurisdiction's zoning, road standards, and off street parking regulations may apply. Links to appropriate city and county regulations can be found from the MRSC website.

460.12 Abbreviations and Acronyms

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
FAA	Federal Aviation Administration
FRA	Federal Rail Administration
GMA	Growth Management Act
HOV	High Occupant Vehicle
MRSC	Municipal Research and Services Center of Washington
NEPA	National Environmental Policy Act
SEPA	State Environmental Policy Act
SOV	Single Occupant Vehicle
TSM/TDM	Transportation System Management/Transportation Demand Management
USC	United States Code

460.13 Glossary

Essential Public Facility – Public facilities that are typically difficult to site, including airports, state or regional transportation facilities and services of statewide significances as defined in RCW 47.06.140.

Transportation System Management/Transportation Demand Management (TSM/TDM) – Actions that improve the operation and coordination of transportation services and facilities to make the most efficient use of the existing transportation system. Demand management strategies, such as ramp meters, are a type of TSM action.

Transportation Facilities and Services of Statewide Significance – Defined in RCW 47.06.140 to include the interstate highway system, interregional state principal arterials including ferry connections that serve statewide travel, intercity passenger rail services, intercity high-speed ground transportation, major passenger intermodal terminals excluding all airport facilitates and services, the freight railroad system, the Columbia/Snake navigable rifer system, marine port facilities, and services that are related solely to marine activities affecting international and interstate trade, and high capacity transportation systems serving regions as defined in RCW 81.104.015.

Chapter 490 Tracking Environmental Commitments During Design

490.01 Commitments Must Be Tracked
490.02 Identify Environmental Commitments During Environmental Review and Design
490.03 Perform a Constructability Review
490.04 Project Design Must Reflect Environmental Commitments
490.05 Procedures for Tracking Commitments During Design
490.06 Links to Related Statutes
490.07 Abbreviations and Acronyms
490.08 Glossary

490.01 Commitments Must Be Tracked

The Washington State Department of Transportation (WSDOT) *Environmental Policy Statement* E 1018 commits project teams to track all environmental commitments. The WSDOT Commitment Tracking System (CTS) is built specifically for this purpose. WSDOT is expected to clearly communicate all project commitments to the contractor, construction project office staff, and supporting design offices as stated in the 2004 Compliance Implementing Agreement with Washington State Department of Ecology.

Title 23, Part 771.109 of the Code of Federal Regulations requires the Federal Highways Administration (FHWA) to ensure that WSDOT implements commitments as stated in the environmental documents. The FHWA assures this is accomplished as a part of their program management responsibilities, which includes reviews of design, plans, specifications, and estimates (PS&E). This also includes FHWA construction inspections.

490.02 Identify Environmental Commitments During Environmental Review and Design

Identifying commitments early in design increases the chance for compliance. The 2004 Compliance Implementing Agreement requires WSDOT to identify all project commitments resulting from:

- Planning activities.
- Federal review process via the National Environmental Policy Act (NEPA).
- Washington State review process via the State Environmental Policy Act (SEPA).
- Design efforts.
- Permit acquisition.

It is WSDOT policy (*Design Manual* M 22-01 Section 225.05) that a project commitment file be established as soon as NEPA/SEPA documents are completed. This file serves as the repository for all final environmental commitments leading to development of the contract.

WSDOT has a database for tracking project level environmental commitments. Project teams should ensure that all commitments as established in environmental documents, permits, and agreements are entered into and tracked using the WSDOT Commitment Tracking System (CTS). The *CTS User's Manual* contains specific instructions on how to track commitments and is available online.

- Refer to Procedure 490-a to establish a commitment file.
- Refer to Procedure 490-b to identify commitments.
- Refer to Procedure 490-c to learn how commitments are entered into CTS

490.03 Perform a Constructability Review

The WSDOT *Master Deliverables List* (MDL) is a comprehensive list of project deliverables organized by project phases. Section PE.PD.75 of the MDL requires that constructability reviews be performed during design. WSDOT staff should ensure that commitments from NEPA/SEPA documents, Endangered Species Act documents, and permits are constructible.

490.04 Project Design Must Reflect Environmental Commitments

WSDOT requires all aspects of the project design to reflect the commitments from the environmental review process and permits. *Design Manual* M 22-01 Section 220.10 requires that commitments are entered into the Commitment Tracking System (CTS) as soon as they are identified. Alternatively, select key stages of project delivery to enter project commitments into the CTS; perhaps after the NEPA/SEPA documents are complete and again after permitting prior to final PS&E. WSDOT staff can use the CTS to generate a report of project design phase commitments. This tool is helpful to ensure that staff considers the environmental commitments when developing final project designs.

- Refer to Procedure 490-d to verify commitments are incorporated into the final project design.
- Refer to Procedure 490-e to close out the status of commitments incorporated into design.

490.05 Procedures for Tracking Commitments During Design

The following procedures found on the WSDOT Tracking Commitments web page explain how to:

- Establish a commitment file.
- Identify environmental commitments.
- Enter commitments into CTS.
- Verify commitments are incorporated into final project design.
- Close out design commitments using the commitment status feature.

490.06 Links to Related Statutes

23 Code of Federal Regulations; 771.109

490.07 Abbreviations and Acronyms

CTS	Commitment Tracking System
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
PS&E	Plans, Specifications, and Estimates
SEPA	State Environmental Policy Act

490.08 Glossary

These definitions provide context for tracking commitments in design. Some terms may have other meanings in a different context.

Commitment – An obligation that WSDOT makes within an environmental document or agreement for the project; or an expectation imposed upon WSDOT by another agency through a permit or approval for the project. Commitments can be either the agency's or contractor's responsibility to implement.

Commitment Tracking System – The Commitment Tracking System is a WSDOT database that allows you to store commitments in a secure computer network server, plus manage the responsibility (WSDOT or contractor) and implementation method (guidance document or contract) for the commitment. It also allows you to store compliance records, document the status, and report details about commitments from their inception through project delivery and on to maintenance.

Commitment File – This file serves as the repository for all final environmental documents leading to development of the contract.

Chapter 500 Environmental Permitting and PS&E

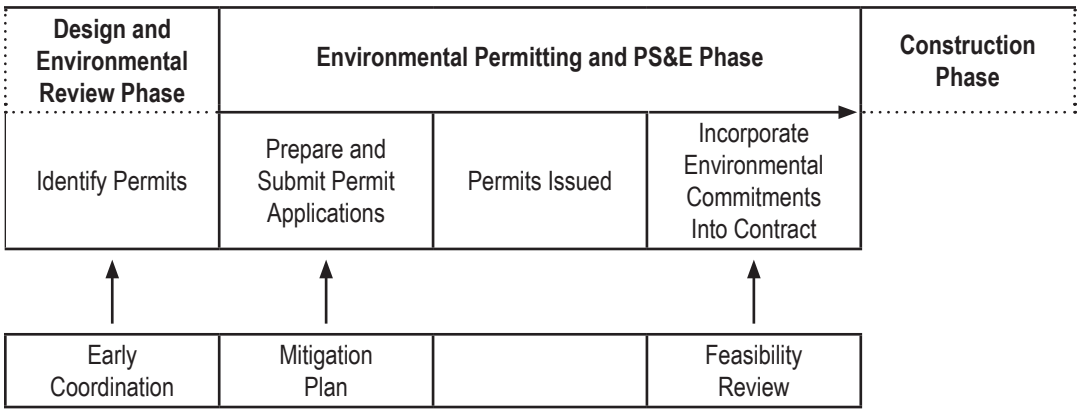
500.01 Introduction
500.02 Permit Overview
500.03 Roles and Responsibilities
500.04 Identify the Required Permits Through Early Coordination
500.05 Seek Permit Streamlining Options and Provide Schedule Input
500.06 Submit a Complete Permit Application and Obtain Permits
500.07 Review and Manage Permits During PS&E
500.08 Manage Permits and Conditions During Construction
500.09 Permitting Procedures
500.10 Links to Permitting Resources
500.11 Abbreviations and Acronyms
500.12 Glossary

500.01 Introduction

The Washington State Department of Transportation (WSDOT) obtains the necessary federal, state, and local environmental permits when building and maintaining our highways. It is through this process we ensure our work will have minimal impacts to the environment and, when needed, provide direction on what needs to be done to offset those impacts.

500.02 Permit Overview

Secretary's Executive Order E 1018 requires WSDOT employees to comply with environmental laws and to protect our state's natural and cultural resources. Obtaining environmental permits is one way we comply with these laws.



Environmental Permitting and PS&E Phase
Figure 500-1

The permit process begins during project scoping (Section 300.02) when the Environmental Review Summary (ERS) is completed. Environmental Coordinators must identify which permits would be required based on the preliminary design and the regulatory requirements. Visit the WSDOT Environmental Permitting web page for a list of permits and approvals typically required for WSDOT projects.

WSDOT must conduct studies and gather information during the environmental review phase (Chapter 400) to satisfy resource agency requirements.

WSDOT often discusses permit requirements through early coordination with the resource agencies. The extent of the coordination should be proportionate to the level of impact a project will have on the environment. Project teams can avoid or reduce the number of environmental permits needed by designing the project to avoid and minimize impacts to the environment.

Resource agencies issue most permits during the final design phase. As the permits are issued, WSDOT reviews the conditions to ensure they can be implemented during construction. During the plans, specifications, and estimates (PS&E) phase, commitments from the permits are incorporated into the contract before advertising the project for bids.

Effective communication between the environmental staff, the design team, and the regulatory agencies is crucial to efficiently permit a project. The roles and responsibilities section below provides general guidance for the major groups involved in the permitting process. Be sure to follow region/mode processes for permitting projects, if applicable.

500.03 Roles and Responsibilities

(1) Regulatory Agencies

- Understand the project(s) they are being asked to permit.
- Help WSDOT determine permitting requirements (e.g., what is needed for a complete application, mitigation requirements).
- Review applications and issue permits.
- Provide technical and regulatory guidance.
- Conduct site visits during construction to verify compliance with permits.

(2) Environmental Manager/Assistant Manager

- Track environmental scope, schedule, and budget.
- Oversee environmental staff.
- Help resolve environmental conflicts as they arise.
- Ensure compliance with federal, state, local, and tribal environmental requirements.
- Foster good relationships with the regulatory agencies.
- Review draft permit applications to ensure they are complete.
- Notify regulatory agencies when required by the permits.
- Record annual usage of general permits and report this annually to the Environmental Services Office (ESO).

(3) Project Environmental Coordinator

- Understand the project(s) they are being asked to permit.
- Determine which permits a project may require.
- Fill out the permitting section of the Environmental Review Summary (ERS) and Environmental Classification Summary (ECS).

- Coordinate with environmental technical experts to determine a project's impact and ensure completion of permit supporting documentation (i.e., wetland delineation, mitigation plan).
- Coordinate early with regulatory agencies to verify permit requirements.
- Work with the design team on schedule and budget.
- Gather information and fill out permit applications.
- Ensure consistency between project designs, environmental documentation, and the permit application.
- Submit a complete and accurate permit application to the agencies.
- Determine if design changes affect permitting requirements.
- Track and assign permit conditions to ensure fulfillment.
- Ensure environmental requirements are reflected in the construction contract.

(4) WSDOT Environmental Technical Experts (Headquarters, Regions, and Modes)

- Identify project impacts on sensitive areas such as wetlands, streams, floodplains, cultural resources, and fish and wildlife habitat.
- Document the impacts in technical reports or memos.
- Develop mitigation options when resource impacts are unavoidable.
- Help environmental coordinators answer technical permitting questions.
- Provide assistance during construction as the need arises.

(5) Design Team

- Provide project definition during scoping phase.
- Provide project design information to help the environmental coordinator determine permitting requirements.
- Design the project to avoid and minimize impacts to environmental resources.
- Communicate design changes to environmental staff.
- Provide information for a complete permit application and drawings.
- Review the permit application to ensure consistency with designs.
- Incorporate environmental commitments into the construction contract.
- Ensure plan sheets show sensitive areas.

(6) ESO Permit Compliance Branch

- Communicate permitting policy and process changes to regions and modes.
- Create interagency agreements with regulatory agencies.
- Develop and maintain permitting guidance.
- Negotiate general permits and report annual usage to the regulatory agencies.
- Review bills from the legislature to determine their potential impact on WSDOT.
- Organize statewide coordinator roundtable meetings to discuss regulatory updates and lessons learned.

(7) Regional Maintenance Environmental Coordinator (RMEC)*

- Implement the Regional Road Maintenance Program to avoid and minimize impacts to fish and aquatic species.
- Use WSDOT general permits for maintenance activities where possible.
- Obtain project-specific environmental permits to ensure compliance with federal, state, local, and tribal environmental requirements.
- Review long-term commitments from construction projects to ensure they can be fulfilled by WSDOT maintenance.
- Communicate environmental requirements to maintenance staff.
- Track usage of general permits.

*RMECs have similar permitting responsibilities as environmental coordinators listed above.

500.04 Identify the Required Permits Through Early Coordination

To successfully identify the permits required for a project, the environmental coordinator must have a good understanding of the funded project scope. The WSDOT Project Summary Database contains a Project Definition, Design Decisions, and an Environmental Review Summary, prepared during the scoping process (Chapter 300). WSDOT uses the ERS form to identify the potential environmental impacts, mitigation options, and permits needed for a project. An Environmental Coordinator shall work closely with the design team to determine if the funded project scope has changed since the ERS form was signed.

Second, the environmental coordinator uses information generated during the Environmental Review Phase (Chapter 400) to verify the permits required for a project. The environmental coordinator needs to know which activities trigger various permits. For example, any work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state requires a Hydraulic Project Approval (HPA) permit (see WAC 220-110-030).

A list of permit triggers, statutory authorities, and guidance for each of the federal, state, and local permits and approvals can be found on the WSDOT Environmental Permitting web page. A procedure for how to identify the permits need for a project is also available on the web page. The ORA *Environmental Permit Handbook* provides additional in-depth information about environmental permits and approvals.

Regulatory agency staff and WSDOT's liaisons are another great resource for permitting questions. Environmental coordinators are encouraged to coordinate early with these staff to discuss project details and to identify information the regulators need in order to process the application. The extent of early coordination should be proportionate to the level of environmental risk a project presents.

WSDOT's liaison program facilitates Early Project Coordination (EPC) meetings. An EPC Meeting is a chance for WSDOT to present a project to the permitting liaisons and to get early technical and regulatory feedback from each resource agency before design is solidified and permit applications are developed. EPC meeting guidance and expectations are available on the WSDOT Liaison Resources and Tools web page.

500.05 Seek Permit Streamlining Options and Provide Schedule Input

Having a clear understanding of permitting timelines will help WSDOT avoid project delays and surprises. WSDOT environmental staff should coordinate closely with project schedulers to ensure the project schedule accurately reflects amount of time it will take to obtain environmental permits and approvals.

Environmental coordinators and designers can reduce the time it takes to obtain permits and approvals by finding ways to avoid and minimize environmental impacts. For example, designers can steepen a road embankment or use retaining walls to avoid direct wetland impacts. Avoiding wetland impacts may prevent WSDOT from having to obtain a permit from the U.S. Army Corps of Engineers (Corps). A procedure titled, Seek Avoidance and Minimization Opportunities, has been developed to provide additional guidance.

State policies and directives require WSDOT to first avoid and then minimize wetland impacts. Visit the WSDOT Mitigation Sequencing web page for additional information.

Environmental coordinators can also check the WSDOT General Permits web page to see if the project activities are covered by existing programmatic permits.

Once an environmental coordinator has determined which permits are needed, the time frame to obtain each permit should be reflected in the project schedule along with any predecessors. This will allow the project team to determine the critical path. The schedule should show environmental permits being obtained at least one month before the project goes to advertisement for bids. This will allow the project team enough time to incorporate environmental commitments into contracts (see Chapter 590).

500.06 Submit a Complete Permit Application and Obtain Permits

WSDOT uses the Joint Aquatic Resource Permit Application (JARPA) to obtain the aquatic permits from federal, state, and local regulatory agencies. JARPA is a single permit application for development activities in or along aquatic environments. Multiple regulatory agencies joined together to create one application that people can use to apply for more than one permit at a time. However, some agencies require use of their application form. A complete permit application Package submittal is comprised of three main parts:

- A completed permit application
- Permit drawings
- Supporting documents

WSDOT can reduce permitting delays by submitting a complete permit application package to the regulatory agencies on their first attempt. To improve our chances, WSDOT worked with the Corps Seattle District, Ecology, and the Washington Department of Fish and Wildlife (WDFW) to develop Complete Permit Application and Drawing Guidance. This guidance identifies the information WSDOT is required to provide in order for the agencies to determine our application is complete. The drawing guidance lists the information that needs to be included in the permit drawings and formatting requirements.

Project teams should perform internal reviews to ensure quality and consistency before submitting permit application materials to the regulatory agencies. Permit applicants are encouraged to use the permit Drawing Reviewer's Form to improve their chances of submitting a complete application the first time around.

Once the agencies notify you that your permit submittal is complete, a "regulatory review clock" starts for some of the regulatory agencies. This term refers to the time an agency has to issue a permit decision to WSDOT. Some agencies have statutory requirements that set a maximum number of days they have to issue a permit decision. The ORA *Environmental Permit Handbook* and Permit Process Schematics provide information regarding how long it takes agencies to issue certain permits.

500.07 Review and Manage Permits During PS&E

Once a permit is obtained, it should be reviewed immediately by WSDOT to ensure its requirements can be implemented. Engineers responsible for the project design and construction should review the environmental commitments. If WSDOT identifies a permit condition that is unclear or is not constructible, the permit decision may need to be appealed. Appeal times vary depending on the agency issuing the permit. The *Complete Permit Application Guidance* lists appeal time frames and provides guidance for each of the major aquatic permits.

WSDOT's construction contracts must reflect the environmental commitments for which the contractor is responsible (see Chapter 590). Procedures for incorporating commitments into contracts can be found on the WSDOT Tracking Commitments web page.

500.08 Manage Permits and Conditions During Construction

As the owner and permit holder, WSDOT is ultimately responsible for ensuring compliance with environmental permits and approvals during construction (see Chapter 600). WSDOT's Secretary's Executive Order E 1018 *Environmental Policy Statement* states that all employees need to understand and uphold the environmental policies associated with their work responsibilities.

WSDOT employees take a role in ensuring that the contractor's work is compliant with the environmental permits by monitoring for compliance during construction and enforcing the contract. Procedures for ensuring compliance are available on the WSDOT Construction Compliance web page.

There are times before or during construction when the scope of a project changes or a request from the contractor may not be covered by the environmental permits or approvals. Examples include:

- Added work (i.e., variable messaging signs).
- Change orders such as a Cost Reduction Incentive Proposals (CRIPs).
- Changed site conditions (i.e., water levels higher than anticipated).
- Project delays (i.e., extending in-water work or a permit expiration date).
- Unexpected discoveries (i.e., cultural resources or contamination).
- Contractor requests (i.e., staging, withdrawing water from a stream, disposal).

These are all legitimate reasons, but the impacts of the change must be evaluated to determine whether WSDOT needs to obtain permit modification or re-evaluate impacts to comply with NEPA/SEPA, ESA, Section 106 of the National Historic Preservation Act, etc. Make sure to notify region Environmental staff immediately when a project modification is proposed. Environmental staff should contact the regulatory agencies to describe the change so they can determine if a permit modification is necessary. If the change requires a permit modification, it must be secured before the contractor is allowed to do the work.

500.09 Permitting Procedures

The following procedures explain how to:

- Identify permits.
- Seek avoidance and minimization opportunities.
- Develop a complete permit application.
- Review permit conditions for feasibility.

500.10 Links to Permitting Resources

- WSDOT Environmental Permitting
- WSDOT Federal Environmental Permit and Approvals
- WSDOT State Permits and Approvals
- WSDOT Local Permits and Approvals
- Tribal Permits
- WSDOT Multi-Agency Permitting Team
- JARPA
- ORA *Environmental Permit Handbook*

500.11 Abbreviations and Acronyms

Corps	U.S. Army Corps of Engineers
CRIP	Cost Reduction Incentive Proposals
ECS	Environmental Classification Summary
EPC	Early Project Coordination
ERS	Environmental Review Summary
ESO	Environmental Services Office
FERC	Federal Energy Regulatory Commission
HPA	Hydraulic Permit Approval
JARPA	Joint Aquatic Resource Permit Application
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit (U.S. Army Corps of Engineers)
PS&E	Plans, Specifications, & Estimates
RMEC	Regional Maintenance Environmental Coordinator

500.12 Glossary

Approval – General term referring to any document other than a permit that needs a signature by someone in authority at the agency having statutory jurisdiction over that activity. The document may be called an approval, certification, concurrence, easement, or license, all of which represent an agency signifying, "Yes we authorize you to conduct this activity as long as you do it in this manner." An approval may specify conditions under which the activity is performed.

Permit – A document required by law and issued by a regulatory agency or tribe that authorizes a specific type of activity under certain conditions.

General Permit – Also referred to as a "Programmatic Permit," a general permit is issued by a federal or state agency to cover a specific type of activity in a certain geographic area (national, statewide, or regional). For certain NPDES general permits, WSDOT must submit a "Notice of Intent" (NOI) to request coverage under the permit for a particular activity; the agency may approve or disapprove coverage.

JARPA – JARPA is a single permit application for development activities in or among aquatic environments. Multiple regulatory agencies (federal, state, and local) created one application that people can use to apply for more than one permit at a time. However, some local agencies may require separate permit applications.

Nationwide Permit – A type of General Permit issued by the U.S. Army Corps of Engineers under Section 404 and/or Section 10.

Programmatic Permit – Also referred to as a "General Permit" a programmatic permit is issued to WSDOT to cover a certain type of activity such as bridge and ferry terminal washing/cleaning, culvert maintenance, or use of insecticides for mosquito control.

Individual Permit – A permit issued to WSDOT by a regulatory agency for a particular activity or project that is not covered by a General Permit; usually needed for more complex or extensive projects.

Army Corps Permits – The U.S. Army Corps of Engineers issues two major permits: the Clean Water Act Section 404 permit for discharge of dredge and fill material into waters of the U.S., and the Rivers and Harbors Act Section 10 permit for work in navigable waters. They are commonly referenced together because similar procedures apply to both and they are often issued as a combined permit. WSDOT usually can obtain coverage under a Nationwide Permit, issued for common activities having minimal impact, but occasionally must obtain an Individual Permit for a project having significant impacts.

Section 401 Water Quality Certification – Applicants receiving a Section 404 Permit from the U.S. Army Corps of Engineers, a Coast Guard permit or a license from the Federal Energy Regulatory Commission (FERC), are required to obtain a Section 401 Water Quality Certification from the Department of Ecology (Ecology). Issuance of a certification means that Ecology anticipates that the applicant's project will comply with state water quality standards and other requirements of state law.

Section 402 or NPDES Permits – Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) to regulate the discharge of pollutants into surface water. USEPA delegated authority to Ecology to administer the program in Washington and does so in conjunction with the State Waste Discharge General Permit program. NPDES permits typically place limits on the quantity and concentration of pollutants that may be discharged. To ensure compliance with these pollutant concentration limits, permits require treatment or impose other operational conditions. In most cases, permits are issued for five years. Following is a list of NPDES permits that WSDOT obtains from Ecology for our projects and activities:

1. NPDES Municipal Stormwater Permit
2. NPDES Construction Stormwater Permit (general and individual)
3. NPDES Waste Discharge Permit (for bridge and ferry terminal washing)
4. NPDES Sand and Gravel General Permit

530.01 WSDOT Policy for Working With Tribes
530.02 Treaty Rights
530.03 Section 401 Water Quality Certification by Tribes
530.04 Section 106 Consultation
530.05 Archaeological Resources Protection Act Permit
530.06 Hydraulic Project Approval
530.07 Tribal Law
530.08 Permit Assistance

530.01 WSDOT Policy for Working With Tribes

The Washington State Department of Transportation (WSDOT) has a unique relationship with tribes due to their legal status, rights reserved through treaties, and cultural interests throughout the state. Tribes retain many sovereign rights that are guaranteed under treaties and federal laws. WSDOT maintains as government-to-government relationship with 35 federally recognized Tribes. We recognize that each federally recognized Tribe is a distinctly sovereign nation. WSDOT employees will consult with Tribes on all decisions that affect their rights and interests. Consultation is independent from the public involvement process. Our goal is to create durable intergovernmental relationships that promote coordinated transportation partnerships in services to all of our citizens. Each reservation in the state constitutes a bordering jurisdiction for state agencies and projects may be subject to various Tribal permits or approvals.

530.02 Treaty Rights

Between 1853 and 1856, treaties were negotiated with tribes in the Washington Territory. In these treaties, tribes reserved a number of rights, including the "right of taking fish, at all usual and accustomed grounds and stations," which was "further secured to said Indians, in common with all citizens of the Territory." This phrase is at the heart of the tribal treaty fishing right, and has given rise to the important concept of "usual and accustomed areas" of the treaty tribes, or the so called "U&A areas." These areas may extend beyond a tribe's reservation land and also apply to landless tribes. Supreme Court decisions and federal law have affirmed the continued validity of treaties. Federal agencies are bound by their trust responsibility and may require a project to address impacts to tribal treaty rights before issuing a permit. Early consultation with affected tribes is recommended to identify and resolve issues and thereby avoid delays in permitting.

It is important to note, however that tribal areas of interest for consultation are not limited U&A areas. Tribal Consultation Area maps are available on the GIS Workbench. A summary of court adjudicated tribal fishing areas is available in the WSDOT Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act.

530.03 Section 401 Water Quality Certification by Tribes

In Washington State, two agencies (EPA and Ecology) and eight tribes have Section 401 certification authority. The EPA has Section 401 certification authority for activities on most Tribal lands and on Federal lands with exclusive jurisdiction within the state of Washington. As of February 2012, the EPA has approved eight tribes' Section 401 certification authority over activities on their respective tribal lands (the Confederated Tribes of the Chehalis Reservation, Confederated Tribes of Colville, Kalispel Tribe of Indians, Lummi Nation, Makah Tribe, Port Gamble S'Klallam Tribe, Puyallup Tribe of Indians, Spokane Tribe of Indians). Ecology is authorized to make Section 401 certification decisions for activities on all other public (non-federal) and private lands in the state. See Chapter 430 for background on surface water quality standards and documentation and the WSDOT Federal, State, and Local Permits web page for Section 401 certification.

Similar to the Department of Ecology, tribes have "Certified," "Certified Subject to Conditions," or "Denied Without Prejudice" activities covered by certain Nationwide permits (NWPs) within their jurisdiction. On their reservations, the Confederated Tribes of Chehalis, Kalispel Tribe of Indians, Makah Tribe, Port Gamble S'Klallam Tribe, and Puyallup Tribe of Indians have denied without prejudice all 401 Certifications of U.S. Army Corps of Engineers regulated discharges of dredged or fill materials on their tribal lands. Individual certification is required for all activities covered under those Nationwide permits under that tribe's jurisdiction. The Spokane Tribe has certified, subject to conditions, discharges of dredged or fill material authorized by NWPs on its tribal lands. The Tribe's 401 general conditions require project proponents to submit their NWP applications to the Tribe for review and approval. Contact the tribe for more information on these permits.

530.04 Section 106 Consultation

Tribes have a consultation role under Section 101 and 106 of the National Historic Preservation Act (NHPA). A Tribal Historic Preservation Office (THPO) can be established by the tribe pursuant to the NHPA and assert jurisdiction otherwise exercised by the SHPO on Indian lands. The following tribes have certified THPOs: Confederated Tribes of Colville, Confederated Tribes of Chehalis, Lummi Nation, Makah Nation, Nooksack Tribe, Port Gamble S'Klallam Tribe, Skokomish Tribe, Spokane Tribe, Squaxin Island Tribe, Suquamish Tribe, Swinomish Tribe, and Yakama Nation.

WSDOT must consult with tribes on projects located within a tribe's Consultation Area. Section 106 consultation usually occurs during the design/environmental review phase of a project; see Chapter 456 for background on Section 106. See the WSDOT Federal, State, and Local Permits web page for information on when Section 106 consultation may be needed during the permitting, PS&E, and construction phases.

530.05 Archaeological Resources Protection Act Permit

Under federal statute, tribal governments approve this permit when the project or activity is on tribal trust land. The Bureau of Indian Affairs issues the permit. See Chapter 456 for background on cultural resources and the WSDOT Federal, State, and Local Permits web page for details on this permit and statutory authority. Contact Bureau of Indian Affairs, Portland Office, and the affected tribe(s) for details on how to apply.

530.06 Hydraulic Project Approval

The Washington State Department of Fish and Wildlife (WDFW) requires a Hydraulic Project Approval (HPA) for all non-tribal entities performing HPA activities on tribal trust lands and reservations. Several Tribes, such as the Yakama Nation, also issue approvals similar to an HPA. If you have a project on tribal trust lands or reservation, contact the Tribe's natural resources office and WDFW's biologist assigned to the project to determine whether an HPA and/or similar tribal approval applies. We recommend you coordinate with WDFW and the Tribe to ensure that any permit conditions are not in conflict with one another. Because of the complicated nuances of state, tribal, and federal law and jurisdiction, we recommend you discuss any questions of jurisdiction with ESO's Assistant Attorney General.

530.07 Tribal Law

On reservation land, tribal laws may require permits and approvals similar to those required by counties and cities. These permits and approval are required when WSDOT works outside of the highway right of way on the adjacent reservation land. In cases where WSDOT has an easement rather than ownership, the tribe may retain jurisdiction to issue permits and approvals. Examples of permits that may apply include Tribal Environmental Policy Act (TEPA) determinations; critical areas approvals; clearing, grading, and building permits; land use approvals; noise variances; and utility permits. Contact the WSDOT Tribal Liaison for assistance in coordinating tribal permits on reservation land.

530.08 Permit Assistance

WSDOT's Tribal Liaison is a central resource for tribal access and problem solving on natural or cultural resource issues relating to tribes for regions and offices that do not have a dedicated Tribal Liaison position. Consultation area maps for tribes are available on the GIS Environmental Workbench. See the WSDOT Tribal Consultation web page for more information on how to consult with tribes during NEPA environmental review.

See the WSDOT Tribal Liaison web page for tribal contacts, links to tribal treaties, relevant statutes, and WSDOT's Centennial Accord Plan and Communication and Consultation Protocols. The WSDOT Centennial Accord Plan includes WSDOT's Executive Order E 1025.01 on Tribal Consultation.

Contact tribal government for assistance with permits or approvals on projects that may affect tribal lands.

Chapter 590 Incorporating Environmental Commitments Into Contracts

590.01 WSDOT's Contracts Must Reflect the Environmental Commitments
590.02 Procedures for Incorporating Commitments Into Contracts
590.03 Glossary

590.01 WSDOT's Contracts Must Reflect the Environmental Commitments

WSDOT Project Delivery Memo #09-01 requires that contract-relevant environmental commitments be communicated to the contractor. If they aren't incorporated into the contract, the contractor is not obligated to implement the commitments WSDOT makes. Constructing the project is conditioned upon environmental commitments from, for example, National Environmental Policy Act documents, Washington State Environmental Policy Act documents, Endangered Species Act documents, interagency agreements, permits, and other environmental approvals.

In addition, WSDOT is required to communicate all project commitments to the contractor as stated in the *2004 Compliance Implementing Agreement* with Ecology. Furthermore, the WSDOT *Environmental Policy Statement* E 1018 directs WSDOT employees to communicate compliance requirements to contractors.

590.02 Procedures for Incorporating Commitments Into Contracts

The following procedures found on the web explain how to:

- Verify the Commitment Tracking System reflects the project Commitment File.
- Assign responsibility to commitments which belong to the contractor.
- Document which commitments are covered by existing contract language.
- Prepare for and convene an Environmental Commitments Meeting.
- Prepare project special provisions.

590.03 Glossary

These definitions provided context for incorporating commitments into contracts. Some terms may have other meanings in a different context.

Commitment – An obligation that WSDOT makes within an environmental document or agreement for the project; or an expectation imposed upon WSDOT by another agency through a permit or approval for the project. Commitments can be either the agency's or contractor's responsibility to implement.

Commitment Tracking System – The Commitment Tracking System is a WSDOT database that allows you to store commitments in a secure computer network server, plus manage the responsibility (WSDOT or contractor) and implementation method (guidance document or contract) for the commitment. It also allows you to store compliance records, document the status, and report details about commitments from their inception through project delivery and on to maintenance.

Environmental Commitments Meeting – A project-level meeting between the Design, Construction, Plans, and Environmental Offices used to incorporate commitments into contracts.

Project Delivery Memo – Project Delivery Memos are design and construction documents used to implement an immediate change in any stage of a project, from design through advertisement and construction.

Exhibit 590-1

Commitment Tracking System "Assign Responsibility" Screen

Washington State Department of Transportation

Traveler Info | Find an Employee | V

News and Resources for WSDO

Intranet Home | Project Delivery | WSDOT A-Z | Employee Center | Data Drawer | Forms

Project

SR 14/Camas Washougal - Add Lanes and Build Interchange

Change Scope
Help
Contact Us

Project

My Projects
Change Project
Add Project
Edit Project
Assign Programmatic Commitments
Assign Corridor Commitments
Copy Project Document(s)

Documents

Change Document
Add Document
Edit Document
Manage Document Location

Commitments

Change Commitment
Add Commitment
Edit Commitment
Manage Commitment Location
Assign Responsibility
Edit Commitment Status

Events

Find/Edit Events
Add Non-Compliant Event

Assign Responsibility

Change Document(s)

Documents and Commitment Responsibility:

Show Responsibility: (•) All ( ) Assigned ( ) Unassigned

Document Type: Implementing Agreement		**Document Title:** 2004 Compliance Implementing Agreement Between WSDOT & Ecology		
Disciplines	**Phases**	**Description**	**Activities**	**Responsibilities**
Water Quality/Surface Water, Wildlife, Fish, and Vegetation, Wetlands	Construction	WSDOT shall track and report non-compliance events for periodic assessment of statewide compliance performance for maintenance, construction, and ferry service operations.	Monitor, Report	Unassigned
All Disciplines	Construction, Maintenance	WSDOT shall assure that all environmental commitments have been achieved prior to the completion of the project, and that WSDOT's Maintenance and Operations staff have received a copy of and understand all long-term compliance expectations, including mitigation site monitoring and maintenance, for the project site.	Prepare, Other	Unassigned
All Disciplines	Construction	WSDOT shall development and implementation of a commitment tracking system to identify all project commitments made during planning, NEPA/SEPA, design, and permitting. All project commitments shall be clearly communicated to the contractor, construction project office staff, and supporting	Prepare, Implement	Unassigned

Exhibit 590-2 Commitment Tracking System "Assign Responsibility Detail" Screen

Washington State Department of Transportation

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News and Resources for WSDO

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Project
SR 14/Camas Washougal - Add Lanes and Build Interchange

Change Scope
Help
Contact Us

Project
My Projects
Change Project
Add Project
Edit Project
Assign Programmatic Commitments
Assign Corridor Commitments
Copy Project Document(s)

Documents
Change Document
Add Document
Edit Document
Manage Document Location

Commitments
Change Commitment
Add Commitment
Edit Commitment
Manage Commitment Location
Assign Responsibility
Edit Commitment Status

Events
Find/Edit Events

Assign Responsibility Detail

Return To Assign Responsibility List

Commitment Description: WSDOT shall assure that all environmental commitments have been achieved prior to the completion of the project, and that WSDOT's Maintenance and Operations staff have received a copy of and understand all long-term compliance expectations, including mitigation site monitoring and maintenance, for the project site.

* - Indicates Required Information

WSDOT Information

Offices:

Users:

Activity: * [Choose If Applicable] Edit Commitment Activities

Guidance Document:

Pick an office or a user to assign the activity to.
To assign multiple offices/people to an activity you must create multiple records.

Office: [Choose If Applicable]

OR

User:

Username:

First Name:

Last Name:

Search

Add Responsibility

Contract Information

Special | Plan Sheet

Washington State Department of Transportation

Contract Document By Project

Project Title: I-205/Mill Plain SB Off Ramp - Add Turn Lane **PIN: 420504A**

Document Type: 404 Nation-Wide
Document Title:Nationwide 27: Wetland and Riparian

Commitment Description	Standard Specifications	General Special Provisions	Special Provision	Standard Plan	Plan Sheet	Responsible Party	Status	Action
Activities authorized by this NWP include, to the extent that a Corps permit is required, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or creation of riffle and pool stream structure.				I-10 Geotextile Encased Check Dam Installation		Contractor	Closed,Closed	Other
Before any reversion activity the permittee or the appropriate Federal or state agency must notify the District Engineer and include the documentation of the prior condition.		010311.FR8 Offsite Stormwater				Contractor	Open,Open	Other
For enhancement, restoration, and creation projects conducted under paragraphs (a)(3), this NWP does not authorize any future discharge of dredged or fill material associated with the reversion of the area to its prior condition. In such cases a separate permit would be required for any reversion.	8- 01.3(14) Temporary Pipe Slope Drain					Contractor	Open,Open	Other
For restoration, enhancement, and creation projects conducted under paragraphs (a)(1) and (a)(2), this NWP also authorizes any future discharge of dredged or fill material associated with the reversion of the area to its documented prior condition and use (i.e., prior to the restoration, enhancement, or creation activities).	2-09.3(3)A Preservation of Channel					Contractor	Open,Open	Other
This NWP also authorizes the reversion of wetlands that were restored, enhanced, or created on prior-converted cropland that has not been abandoned, in accordance with a binding agreement between the landowner and NRCS or FWS (even though the restoration, enhancement, or creation activity did not require a Section 404 permit). The five-year reversion limit does not apply to agreements without time limits reached under paragraph (a)(1).				I-4 Silt Fence		Contractor	Open,Open	Other

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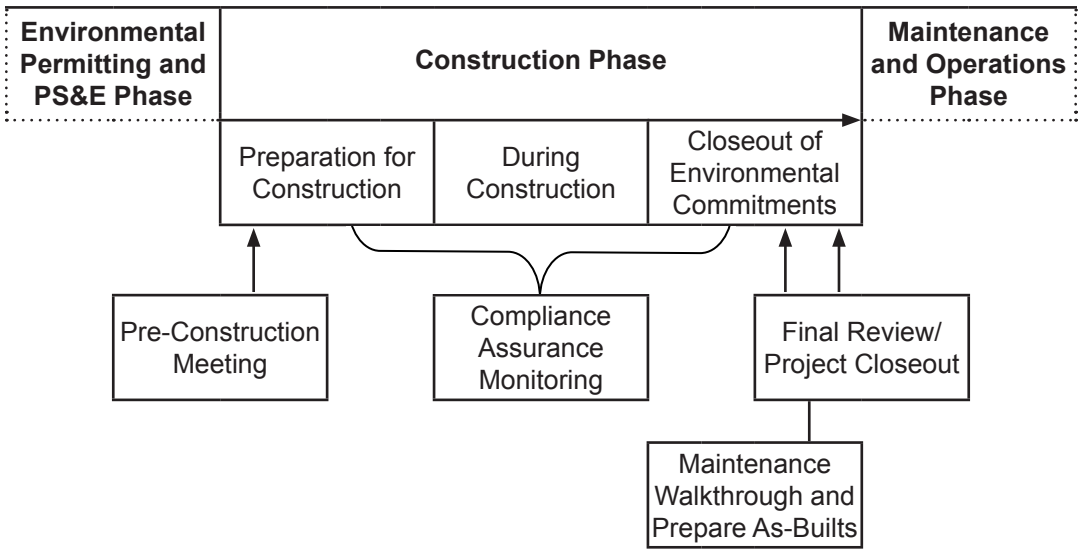
600.01 Construction Overview
600.02 Roles and Responsibilities
600.03 Construction Compliance Expectations
600.04 Procedures for Construction
600.05 Abbreviations and Acronyms
600.06 Glossary

600.01 Construction Overview

After the design phase, a project should have a complete set of environmental documentation, permits, and approvals, in addition to a final set of plans, specifications, and estimates (see Chapters 400 and 500). At this time, the project is publicly advertised and the Washington State Department of Transportation (WSDOT) accepts bids for completion of the work. The contract is awarded and construction begins soon after. Figure 600-1 illustrates the relationship between the preceding and succeeding phases in relation to construction.

Because the contractor is responsible for implementing a substantial amount of environmental commitments WSDOT made during project development, it is crucial to review all environmental documents and permits to ensure contractor relevant permit requirements make it into the contract (see Chapter 590). The WSDOT Project Engineer is responsible for managing the contract and all commitments that are the responsibility of WSDOT.

Chapters 610, 620, and 630 lead to the implementation of commitments during construction. Consistent implementation of commitments is necessary to achieve accountability during construction that leads to good relationships with the public, agencies, and Indian tribes.



Construction Phase
Figure 600-1

600.02 Roles and Responsibilities

WSDOT builds trust and fosters positive relationships with the regulatory agencies, tribes, and the public by implementing the following roles and responsibilities during construction. Some of the tasks may be done by staff other than those identified below depending on how each region or mode is structured.

(1) WSDOT Region Environmental Manager (REM)

- Make sure environmental staff are trained to ensure compliance.
- Establish clear expectations for environmental staff.
- Ensure staff and project offices have the necessary equipment to sample water quality and to ensure compliance with permit requirements.
- Ensure all discharge data and notes about permit required follow-up actions are being entered into the Construction Water Quality Monitoring (CWQM) system in a timely manner.
- Foster good communication with regulatory agencies and the construction team.
- Implement the Environmental Compliance Assurance Procedure (ECAP).
- Work closely with the project engineer to resolve issues as they arise.
- Ensure violations are documented in the Commitment Tracking System (CTS).
- Document and share lessons learned to prevent recurring issues.

(2) WSDOT Construction Project Engineer (PE)

- Discuss environmental topics at the preconstruction meeting and review the environmental contract provisions.
- Establish compliance expectations for the contractor and their subcontractors.
- Stop the contractor when their work violates the contract provisions or environmental requirements and notify the REM and construction engineer.
- Ensure the contractor's Spill Prevention, Control, and Countermeasures (SPCC) Plan meets WSDOT's requirements before accepting it.
- Establish compliance expectations of environmental inspectors related to permit required discharge sampling, monthly data reporting, and BMP adaptive management.
- Communicate with the REM as needed.
- Check with environmental staff about proposed design changes and change orders to make sure it is permitted.
- Implement ECAP when it is triggered.

(3) WSDOT Environmental Coordinator and/or Project Office Inspector

- Review all environmental commitments for the project.
- Determine water quality sampling requirements for the project and develop a strategy or plan to ensure compliance.
- Make sure the project exists within CTS.
- Make sure the project exists within the CWQM system if the project has a National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit (CSWGP).

- Provide advance notifications to regulatory agencies to ensure compliance with environmental requirements.
- Attend the preconstruction meeting and participate in discussing environmental requirements.
- Review the contractor's SPCC Plan and forward any concerns to the PE.
- Create a Site Log Book to comply with the NPDES CSWGP and update it as needed.
- Ensure the contractor installs high visibility fencing (HVF) to protect sensitive areas as a first order of work in accordance with the Plans and Standard Specifications.
- Ensure the contractor installs and maintains all best management practices for erosion and stormwater control as required per the Temporary Erosion and Sediment Control Plan.
- Ensure the contractor's Erosion and Sediment Control (ESC) Lead submits erosion control inspection reports by the end of next working day following their inspection.
- Conduct site visits to verify that the contractor's ESC Lead's inspections are adequate and to ensure issues are resolved.
- Review design modifications and change orders to ensure they comply with environmental requirements.
- Meet with regulatory agency staff when they visit the project site to document their concerns or recommendations.
- Notify the PE when the project is not in compliance – initiate ECAP as necessary.
- Sample site discharges as required per the CSWGP and report all data in the CWQM system by the last day of each month. When benchmark or trigger values are exceeded, always include notes in CWQM about how the CSWGP required follow-up actions, such as BMP adaptive management, were achieved.
- Sample water quality as required per in water work related permits and make sure any in water work samples are sent to the Ecology federal permit lead.
- Request permit modifications if the project footprint increases, impacts to environmental resources change, or work means and methods may violate environmental requirements.

(4) WSDOT Environmental Technical Experts (Regions, Modes, and Headquarters)

- Verify environmentally sensitive areas in the field that need to be protected.
- Review SPCC Plans and provide comments to the PE.
- Review temporary stream diversion plans prepared by the contractor.
- Install fish exclusion best management practices and remove fish from isolated areas prior to work.
- Monitor noise during nighttime work.
- Monitor for cultural and archaeological resources.
- Monitor for marine mammals.

(5) Regulatory Agencies

- Provide technical and regulatory guidance.
- Review project changes and issue permit modifications if necessary.
- Conduct site visits during construction to verify compliance with permits.
- Issue written or verbal corrections if compliance is not achieved.

(6) WSDOT Environmental Services Office (Headquarters)

- Update environmental Standard Specifications, General Special Provisions, and Standard Plans.
- Track noncompliance events to look for trends and to identify lessons learned.
- Ensure the regions record violations in CTS.
- Provide quality control for discharge data and required notation entered by project staff in CWQM prior to electronically submitting the data to Ecology each month per the CSWGP.
- Communicate regulatory changes and lessons learned to the regions.
- Develop and maintain environmental compliance construction procedures.
- Provide environmental compliance training.

600.03 Construction Compliance Expectations

Secretary's Executive Order E 1018 *Environmental Policy Statement* states that all employees need to understand and uphold the environmental policies associated with their work responsibilities. WSDOT employees take a role in ensuring that the contractor's work is compliant with the environmental documents and permits by incorporating environmental permits into contract documents, monitoring for compliance during construction, enforcing the contract, and taking other measures described in these chapters.

600.04 Procedures for Construction

The following chapters identify policy to ensure environmental compliance during construction. Chapter 610 focuses on preparing for construction. This includes all activities leading up to the contractor physically disturbing soil on the project. Chapter 620 summarizes specific environmental requirements during construction for each element of the environment (i.e., earth, air, noise, water). Chapter 630 explains policy for tracking environmental commitments during construction.

600.05 Abbreviations and Acronyms

CESCL	Certified Erosion and Sediment Control Lead
NEPA	National Environmental Policy Act
SEPA	State Environmental Policy Act
TESC	Temporary Erosion and Sediment Control

600.06 Glossary

These definitions provided context to achieving environmental compliance for Chapters 600, 610, 620, and 630. Some terms may have other meanings in a different context.

Commitment – An obligation that WSDOT makes within an environmental document or agreement for the project; or an expectation imposed upon WSDOT by another agency through a permit or approval for the project. Commitments can be either the agency's or contractor's responsibility to implement.

Commitment Status – The status of commitments (opened, closed, cancelled, etc.) in the WSDOT Commitment Tracking System.

Commitment Tracking System – The Commitment Tracking System is a database that allows you to store commitments in a secure computer network server, plus manage the responsibility (WSDOT or contractor) and implementation method (guidance document or contract) for the commitment. It also allows you to store compliance records, document the status, and report details about commitments from their inception through project delivery and on to maintenance.

Highway Runoff Manual **M 31-16** – The WSDOT manual for designing and implementing stormwater management.

610.01 Prepare a Compliance Binder or Notebook for The Project
610.02 Discuss Environmental Compliance at the Preconstruction Meeting
610.03 Verify Contractor and WSDOT Credentials
610.04 Provide Notifications and Submittals to Resource Agencies
610.05 Mark Clearing Limits and Protect Sensitive Areas
610.06 Procedures for Construction
610.07 Abbreviations and Acronyms
610.08 Glossary

610.01 Prepare a Compliance Binder or Notebook for the Project

Compiling all of the environmental requirements, reference materials, and contract information into one place is a useful tool for Project Engineers and their staff. Most Regions prepare an environmental compliance binder or notebook to accomplish this. The binders include, but are not limited to the following information:

- Contacts – WSDOT region environmental contacts and regulatory agency contacts
- Permits
- Environmental notification requirements
- Environmental commitments
- Inspection forms/checklists
- Procedures for inadvertent discovery of archaeological or cultural resources
- Monitoring plans and forms
- Noncompliance notification triggers and reporting requirements
  - Refer to Procedure 610-a for guidance preparing a compliance binder or notebook for a project.

610.02 Discuss Environmental Compliance at the Pre-Construction Meeting

Construction Manual Section 1-2.1C requires the Project Engineer to discuss the project with the Contractor and exchange a variety of information. The most common form of communication is the pre-construction meeting. Use this meeting to establish environmental expectations with the contractor. Alternatively, for projects with complex environmental issues, it may be necessary to hold a separate environmental specific pre-construction meeting. Staff from the Region Environmental Office shall support the Project Engineer at these meetings. Consider discussing the following topics:

- Locations and protection environmentally sensitive areas
- Risky elements of the construction project
- Schedule for earth work and implementing best management practices
- Inspections and documentation
- Submittals of contractor prepared environmental protection plans
  - Refer to Procedure 610-b for preparing environmental topics to discuss at a pre-construction meeting

610.03 Verify Contractor and WSDOT Credentials

Per *Highway Runoff Manual* Section 6.1 staff overseeing implementation of temporary erosion and sediment control (TESC) activities should obtain training to become a Certified Erosion and Sediment Control Lead (CESCL). Projects that have obtained coverage under the Construction Stormwater General Permit are required to have a CESCL on the project site to ensure compliance with this permit. The Project Engineer should use the pre-construction meeting to identify who is the contractor's CESCL and ensure they have the required credentials. The Washington State Department of Ecology maintains an online database of contractors that have current TESC training. People that have obtained their CESCL certification should be able to provide their CESCL number and certification card.

The 2004 Compliance Implementing Agreement with Washington Department of Ecology also requires that WSDOT assign an environmental inspector to projects that are trained in the 401 Water Quality Certification, Construction Stormwater General Permit, mitigation requirements, and compliance procedures. WSDOT keeps track of all staff training in the Learning Management System. Courses in the Learning Management System relevant to environmental compliance during construction include:

- Environmental Compliance for Construction Projects
- Construction Site Erosion and Sediment Control
- Spill Plan Reviewer
- Cultural Resources Policies and Procedures
- WSDOT's Commitment Tracking System
- Introduction to Wetlands
  - Refer to Procedure 610-c to verify CESCL certification
  - Refer to Procedure 610-e to develop a water quality monitoring plan

610.04 Provide Notifications and Submittals to Resource Agencies

Project permits and agreements may require WSDOT to provide notifications to regulatory agencies prior to beginning certain activities. Failure to provide notification can result in violations and possible project delays and monetary penalties. Some examples of activities or situations that trigger notifications include:

- Geotechnical boring
- Well installation or decommissioning
- Underground storage tank removal
- Demolition (especially buildings containing asbestos)
- Pre-construction meeting
- In-water work
- Completion of project work
- Noncompliance with a permit condition or regulation
- Sampling that indicates an exceedance

- Stream restoration/reclamation
- Permitted work within wetlands
- Removal of contaminated soil
- Stream diversions
- Mining (including surface pits)

Sometimes WSDOT must submit plans or reports to regulatory agency staff to comply with their permit conditions. Failure to provide these submittals can result in violations and possible project delays and monetary penalties. Some examples of submittals include:

- Wetland or stream mitigation grading plans
- As-built drawings of project environmental features
- Mitigation monitoring reports

The Project Engineers should work with staff from the Region Environmental Office to determine which notifications and submittals are required for the project.

610.05 Mark Clearing Limits and Protect Sensitive Areas

All WSDOT projects have boundaries that must be marked to keep contractors from clearing land not permitted for impacts. *Construction Manual* Section 2-1.1B provides instructions on marking clearing limits. The *Highway Runoff Manual* M 31-16 requires these limits be marked prior to the start of clearing activities. Flagging, staking, and silt fence, for example, are some appropriate methods to define the project boundary.

The *2004 Compliance Implementing Agreement* and WSDOT Standard Specifications require high visibility fence to be installed as a first order of work. Use high visibility fence to protect sensitive areas and their buffers where impacts are not permitted. The high visibility fence shall be maintained throughout the life of the project. Sensitive areas include, but are not limited to:

- Wetlands and their buffers
- Surface water features and their buffers
- Mitigation areas
- Areas of vegetation to be preserved
- Archaeological and historical features
- Contaminated areas

If the permits or approvals allow impacts to sensitive areas, the WSDOT Project Engineer must notify Washington State Department of Ecology 10 days in advance of starting such work, excluding placement of high visibility fence. The *2004 Compliance Implementing Agreement* also requires the contractor to submit a detailed work plan to the Project Engineer for approval prior to beginning any work in sensitive areas. This plan allows the Project Engineer to ensure the contractor does not violate environmental permits or approvals.

- Refer to Procedure 610-d for guidance on marking clearing and protecting sensitive areas.

610.06 Procedures for Construction

The procedures available for construction on the WSDOT internet include:

- Prepare a compliance binder or notebook for the project
- Prepare environmental topics to discuss at the pre-construction meeting
- Verify contractor has a Certified Erosion and Sediment Control Lead
- Mark clearing limits and protect sensitive areas
- Prepare a water quality monitoring plan (WQMP)

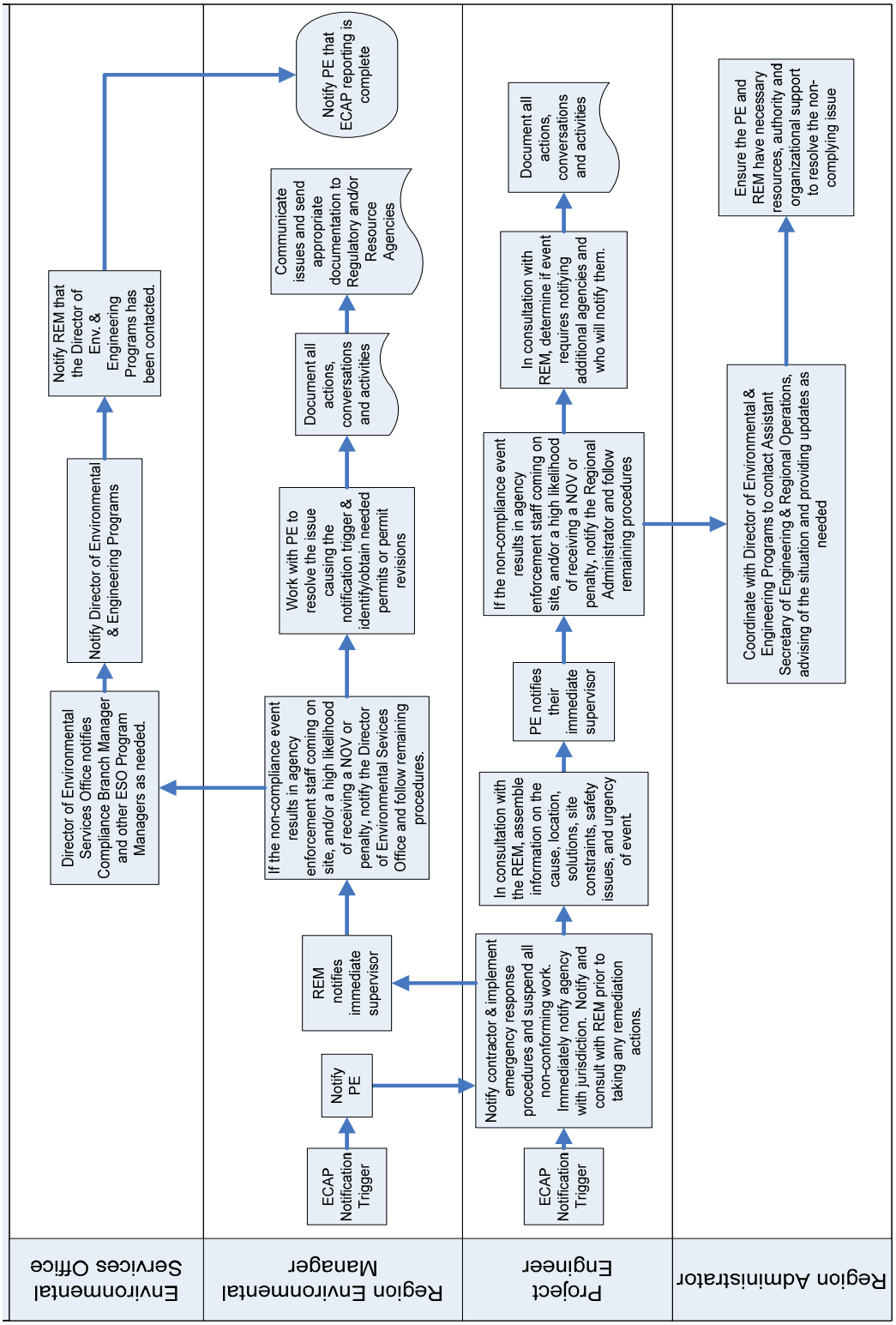
610.07 Abbreviations and Acronyms

Please see Section 600.04 for a list of abbreviations and acronyms.

610.08 Glossary

Please see Section 600.05 for the glossary.

Environmental Compliance Assurance Procedures Flowchart



620.01 Introduction
620.02 Air
620.03 Cultural and Historic
620.04 Earth (Geology and Soils)
620.05 Fish, Wildlife, and Vegetation
620.06 Hazardous Materials (HazMat)
620.07 Noise
620.08 Public Services and Utilities
620.09 Transportation and Traffic
620.10 Water Quality
620.11 Wetlands and Other Waters
620.12 Enforce the Contract During Construction
620.13 Respond to Project Modifications
620.14 Respond to Noncompliance
620.15 Procedures for Construction
620.16 Abbreviations and Acronyms
620.17 Glossary

620.01 Introduction

Specific policies exist to protect the environment during construction. The Washington State Deopartment of Transportation (WSDOT) and the contractor must implement a variety of best management practices (BMPs) to protect the following resources.

620.02 Air

WSDOT's policy is to implement BMPs for preventing pollutants that impact air quality during construction. Local air pollution authorities are concerned with fugitive dust, which is particulate matter suspended by wind or human activities. *Standard Specifications* Section 1-07.5(4) requires the contractor to follow the rules of the local air pollution authority. A list of BMPs to prevent fugitive dust is available from the Associated General Contractors of Washington in the publication, *Guide to Handling Fugitive Dust From Construction Projects*.

WSDOT may include special provisions in their contracts requiring BMPs to minimize emissions (carbon monoxide and nitrogen oxides) from construction equipment. Refer to Chapter 425 for additional guidance. WSDOT has a no idle policy that directs employees to turn off engines when their vehicles are not in motion.

620.03 Cultural and Historic

Construction Manual Section 1-1.9 explains the need to protect archaeological and historical objects during construction. *Standard Specifications* Section 1-07.16(4) provides instructions to the contractor if these resources are encountered unexpectedly.

WSDOT has a different policy if human remains are encountered. Refer to *Standard Specifications* 1-07.16(4)A.

All WSDOT projects that disturb ground must have an Unanticipated Discovery Plan. This plan describes how WSDOT will respond if archaeological or human remains are discovered. A template for the Unanticipated Discovery Plan is available on the web. Contact one of the Regional Cultural Resource Specialists to complete the template.

620.04 Earth (Geology and Soils)

WSDOT minimizes impacts to the environment by limiting vegetation and soil disturbance. WSDOT provides clearing limits to the contractor in the contract plans. *Standard Specifications* Section 1-08.4 requires the contractor to install high visibility construction fence to designate the clearing limits in the field. High visibility fence must be installed as a first order of work. *Standard Specifications* Section 1-07.16(2) defines additional requirements for the contractor to protect vegetation.

WSDOT restricts the amount of soil the contractor can disturb within the clearing limits. Within the clearing limits, contractors are required to install BMPs to prevent disturbed soil from eroding. Refer to *Standard Specifications* Section 8-01.3 for contractor requirements. WSDOT's expectations for controlling erosion are covered in *Construction Manual* Sections 8-0 and 8-01 and *Highway Runoff Manual* Chapter 6.

WSDOT has special design requirements for earthquake and landslide-prone hazard areas. Projects in these areas often require ground improvements to strengthen the soil. Stone columns are a ground improvement technique that combines soil densification and partial replacement of unstable material with crushed rock. The operation includes injection of compressed air or water into the ground as a probe is vibrated to funnel aggregate to the end of the probe. This activity can cause impacts to adjacent water bodies up to 200 feet away. The Washington State Department of Ecology expects WSDOT to implement BMPs to prevent impacts to water bodies when doing stone column ground improvement work. Ecology also expects WSDOT to visually monitor adjacent water bodies for air percolation and perform water quality sampling if turbidity is observed.

620.05 Fish, Wildlife, and Vegetation

WSDOT makes it a priority to protect fish, wildlife, and vegetation during construction. Policies associated with protecting fish, wildlife, and vegetation are described in Chapter 436.

WSDOT includes provisions in their contracts from permits and Endangered Species Act consultations for the contractor to implement. WSDOT also has responsibilities during construction to ensure fish and wildlife is protected. WSDOT's roles and responsibilities should be included in the environmental compliance binder or notebook as described in Section 610.01.

Here are some common things that WSDOT and the contractor do to ensure fish, wildlife, and vegetation are protected during construction:

- Restrict when the contractor can perform work (i.e., timing restrictions or work windows).
- Isolate the work from fish and their habitat.
- Perform fish exclusion and removal prior to in-water work.
- Monitor pile driving activities to avoid driving piles when sensitive species are present.
- Install BMPs to reduce noise and vibration during pile driving activities.
- Remove birds or nests and install bird exclusion netting on structures.
- Install BMPs to protect water quality.
- Require the contractor to prepare a spill prevention plan.
- Set clearing limits to protect vegetation and sensitive areas.
- Replant disturbed areas.

620.06 Hazardous Materials (HazMat)

Please see Chapter 447 for information about hazardous materials (HazMat) throughout the WSDOT project lifecycle. Construction related topics found in Chapter 447 include:

- Identifying and reporting HazMat during construction.
  - Encountering unknown underground storage tanks.
  - Finding releases of unknown HazMat.
  - Responding to spills from construction activities.
  - Reporting spills caused by the traveling public.
- Managing HazMat during construction.
- Reusing or disposing of project waste materials.

Visit the WSDOT Hazardous Materials and Solid Waste Program web page for additional information about WSDOT procedures for HazMat issues.

620.07 Noise

Noise generated during construction affects both people and wildlife. WSDOT's policy is to comply with the local jurisdiction's noise ordinance. If night work is planned, the project may have a noise variance with specific conditions. WSDOT and the contractor must follow all conditions pertaining to the noise variance.

Conditions that protect wildlife from noise originate from consultations for the Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, and Gold and Bald Eagle Protection Act. The contract provisions will contain specific noise requirements that must be followed by the contractor. These typically take the form of timing restrictions and in-water work windows. In some cases, the trained biologists are required to be on site during pile driving in-water.

620.08 Public Services and Utilities

Construction Manual Sections 1-2.3(B) and 1-2.3C describes how WSDOT ensures the contractor minimizes impacts to public services, including but not limited to, public works departments, schools and buses, or police and fire services. *Standard Specifications* Section 1-07.23(1) requires the contractor to conduct all operations with the least possible inconvenience to the public and to provide adequate safeguards to protect the life, health, safety, and property of the public. The contractor must also protect the rights of property owners and businesses adjacent to WSDOT projects.

Impacts to public services vary from project to project, making it difficult to develop standard specifications to address these issues. WSDOT may include special provisions in their contracts to meet the commitments made to local jurisdictions during the environmental review and permitting processes.

WSDOT is committed to a successful partnership with public and private utility companies. *Construction Manual* Section 1-2.2E addresses responsibilities for both the Project Engineer and the contractor to coordinate project work with utility companies when necessary. The *Utilities Manual* M 22-87 explains that utility companies are required to obtain their own permits and are responsible for compliance when working within WSDOT right of way.

620.09 Transportation and Traffic

It is WSDOT's policy to protect pedestrian and the traveling public as they travel through construction projects. *Construction Manual* Section 1-2.2I(5) clarifies the responsibilities for the Project Engineer to accommodate and protect pedestrians during construction. WSDOT must also ensure minimal disruption to existing modes of transportation. Refer to *Construction Manual* Section 1-2.2F for policy related to railroad traffic.

620.10 Water Quality

WSDOT is committed to protecting water bodies during projects that involve in-water work or that discharge stormwater runoff. State law (RCW 90.48) prevents discharges, for example, of turbid water, construction material, garbage, or chemicals to surface waters of the state. Failure to prevent such discharges causes WSDOT to violate the law, leading to possible action from regulatory agencies.

Projects with in-water work must comply with the water quality standards established in WAC 173-201A. Projects that disturb more than an acre of soil and discharge stormwater to surface waters must adhere to the Washington State Department of Ecology's National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. This permit contains water quality benchmarks that differ from the standards established in WAC 173-201A.

Water quality monitoring from stormwater discharges must be conducted in accordance with *Highway Runoff Manual* Section 6-4. This manual also provides guidance on best management practices to meet both water quality standards and benchmarks.

Water quality monitoring data collected during in-water work (projects having a 401 Water Quality Certification) must be directly submitted to Washington Department of Ecology by the WSDOT Project Engineer Office. Monitoring data for projects with an NPDES permit must be entered into WSDOT's Construction Water Quality Monitoring Database. Refer to *Highway Runoff Manual* Section 6-7 for further instructions.

The 2004 Compliance Implementing Agreement requires that WSDOT assign, or make available, an environmental inspector for each project. The inspector must be trained in compliance with conditions for both the 401 Water Quality Certification and the NPDES Construction Stormwater General Permit. This includes, but is not limited to, erosion control planning and preparation of a water quality monitoring plan.

General contract requirements for applying and enforcing water quality standards and benchmarks are available in *Standard Specifications* Sections 1-07.5(3), 1-07.15, and 8-01 as well as *Construction Manual* Section 2-3.4.

WSDOT is committed to protecting ground water during construction. Instructions for managing ground water are provided to the contractor in *Standard Specifications* Section 8-01.3(1)C. Some WSDOT projects are constructed within locally designated wellhead protection areas. WSDOT includes special provisions in contracts to reduce the risk that construction activities contaminate soil or ground water in these areas.

- Refer to Task 620-a to sample construction stormwater runoff.
- Refer to Task 620-b to sample water quality for during in-water-work.
- Refer to Task 620-c to enter water quality monitoring data into the Construction Water Quality Monitoring Database.

620.11 Wetlands and Other Waters

WSDOT Policy P 2038 *Wetlands Protection and Preservation* directs employees to protect wetlands during construction. The contractor is required to restore any fencing damaged or removed throughout the life of the project (see *Standard Specifications* Section 8-01.3(1)). Wetlands that are not permitted for impact must be protected by High Visibility Fencing (see Section 610.05). Maintaining the fence will ensure that contractors don't cause impacts to areas that have not been permitted.

Changes to the limits of work require re-evaluation of wetlands. If the impacts to wetlands change, the project permits and mitigation requirements may also need to change. These changes must be coordinated through the project environmental coordinator and provided to the wetland mitigation design team, so that WSDOT can apply for permit amendments.

620.12 Enforce the Contract During Construction

It is WSDOT policy to (see Project Delivery Memo #09-01 as explained in Chapter 590) fully supplement contracts with environmental commitments. As a result, the best way to obtain compliance with a majority of WSDOT's commitments is to enforce the contract.

The contract is defined in *Standard Specifications* Section 1-04.2 and includes: Addenda, Proposal Form, Special Provisions, Contract Plans, Amendments to the Standard Specifications, Standard Specifications, and Standard Plans. *Standard Specifications* Section 1-05 describes the authority of the engineer, assistant engineers, and inspectors, which is critical to enforcing the contract. Refer to *Construction Manual* Section 1-2.8 for more information about the Project Engineer's authority.

Remember Secretary's Executive Order E 1018 *Environmental Policy Statement* states that all employees need to understand and uphold the environmental policies associated with their work responsibilities. WSDOT employees must make sure the contractor's work is compliant with the environmental documents and permits.

620.13 Respond to Project Modifications

There are times during construction when the scope of the project changes in order to accommodate additional work, save money, shorten project timelines, minimize impacts to traveling public, or for safety. These are all legitimate reasons, but the impacts of the change must be evaluated to determine whether WSDOT needs to obtain permit amendments or re-evaluate impacts to comply with NEPA/SEPA, ESA, and Section 106 of the National Historic Preservation Act. If so, WSDOT must allow extra time to obtain additional permits or approvals. Make sure to coordinate with the Region Environmental Office when a project modification is proposed. Also, ensure that updated or new commitments are entered into the Commitment Tracking System (see Chapter 490).

620.14 Respond to Noncompliance

WSDOT employees are obligated to report noncompliance, whether it is a result of the contractor or WSDOT. The Environmental Compliance Assurance Procedure, as described in the *Construction Manual* M 41-01, provides instructions on how to respond to a noncompliance event.

- Refer to Procedure 620-a to initiate the Environmental Compliance Assurance Procedure.

620.15 Procedures for Construction

The procedures available for construction on the WSDOT internet include:

- Sample water quality benchmarks.
- Sample water for in-water work.
- Enter water quality monitoring data into the Construction Water Quality Monitoring Database.
- Initiate the Environmental Compliance Assurance Procedure.

620.16 Abbreviations and Acronyms

See Section 600.04 for a list of abbreviations and acronyms.

620.17 Glossary

See Section 600.05 for the glossary.

Condition	Specification	Title	Description
Different Site Conditions Than Anticipated *Example:* Unknown contamination or UST.	Section 1-04.7	Differing Site Conditions	This section requires the contractor to notify the WSDOT PE immediately of any changes in materials encountered that differ from that provided in the contract, including the detection of unanticipated contamination. The engineer then determines: • The action to be taken. • If additional monies are due to the contractor to perform the work. • If an extension of time will be granted to perform the work. The contractor and all WSDOT personnel must follow the notification procedures outlined in the *Construction Manual* M 41-01 and summarized in the Section 620.08(3).
Spill Prevention, Control, and Countermeasures Plan *Example:* SPCC plan is not followed.	Section 1-07.15(1)	Spill Prevention, Control, and Countermeasures Plan	The contractor shall prepare a project specific spill prevention, control, and countermeasures (SPCC) plan to be used for the duration of the project. The plan shall be submitted to the PE prior to the commencement of any on site construction activities. The contractor shall maintain a copy of the plan at the work site, including any necessary updates as the work progresses. If hazardous materials are encountered during construction, the contractor shall do everything possible to control and contain the material until appropriate measures can be taken. If preexisting contamination in the project area is described elsewhere in the plans or specifications, the SPCC plan shall indicate measures the contractor will take to conduct work without allowing release or further spreading of the materials.
Contractor is Not Following the Contract Requirements *Example:* Not adhering to SPCC Plan. *Example:* Not storing contaminated soil appropriately.	Section 1-05.1	Authority of the Engineer	This section stipulates that the contractor must follow the direction of the WSDOT PE. If the contractor fails to respond promptly to the requirements of the contract or orders from the PE: • The PE may use contracting agency resources, other contractors, or other means to accomplish the work. • The contracting agency will not be obligated to pay the contractor and will deduct from the contractor's payments any costs that result when any other means are used to carry out the contract requirements or engineer's orders. If the contractor is not adhering to the SPCC Plan and it becomes necessary for the agency to use on call environmental consultants, the agency has the ability to deduct from the contractor's payments any costs resulting from the need to carry out the contract requirements.

Condition	Specification	Title	Description
Leaking Equipment *Example:* N/A	Section 1-05.9	Equipment	This section states that the PE will reject equipment that repeatedly breaks down or fails to produce results within the required tolerances. The contractor shall have no claim for additional payment or for extension of time due to rejection and replacement of any equipment. Over the course of a project, small leaks and drips can cumulatively add up to create a toxic cleanup site subject to Ecology regulations. Contractors should address leaks and drips onto soil in a timely manner so that a rain event does not result in contamination to surface water. In cases where the contractor has not addressed these problems as they occur, the contractor should be held accountable during final cleanup. WSDOT should not be held responsible for performing environmental cleanup because the contractor performed poorly.
Negligent Employees Causing Harm to the Environment *Example:* Intentional spills of hazardous materials.	Section 1-05.13	Superintendents, Labor, and Equipment of Contractor	This section states that, at the PE's written request, the contractor shall immediately remove and replace any incompetent, careless, or negligent employee. Noncompliance with the request shall be grounds for terminating the contract under the terms of Section 1-08.10. Any WSDOT employee that observes a contractor ignoring environmental responsibilities may notify the PE regarding having the contractor removed from the project.
Contractor Not Obeying Regulations *Example:* Disposing of contaminated soil at a nonregulated facility.	Section 1-07.1	Laws to be Observed	This section requires that the contractor shall always comply with all federal, state, or local laws, ordinances, and regulations that affect work under the contract. The contractor shall indemnify, defend, and save harmless the state (including the Commission, the Secretary, and any agents, officers, and employees) against any claims that may arise because the contractor (or any employee of the contractor or subcontractor or material person) violated a legal requirement. If the WSDOT inspector is having difficulty gaining voluntary compliance, it is acceptable to contact the regulatory agency for assistance. In such cases, if Ecology issues a fine, it will likely be issued to the contractor rather than WSDOT.
Improper Treatment of Hazardous Materials *Example:* Spill of hazardous materials into water bodies of the state.	Section 1-07.5(3)	State Department of Ecology	This section requires that the contractor shall dispose of all hazardous materials in ways that will prevent their entry into state waters: • Toxicants (including creosote, oil, cement, concrete, and equipment wash water). • Debris, overburden, and other waste materials. Notify the Ecology department immediately should oil, chemicals, or sewage spill into state waters. The contractor is contractually responsible for contacting Ecology should a spill occur. WSDOT is also legally responsible for ensuring that contact is made.
Damage to Structures *Example:* Damage to a monitoring well.	Section 1-07.13(4)	Repair of Damage	This section states that the contractor shall promptly repair all damage to either temporary or permanent work as directed by the engineer. For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2), or 1-07.13(3), payment will be made in accordance with Section 1-04.4. Payment will be limited to repair of damaged work only. No payment will be made for delay of disruption to the work. The PE may elect to accomplish repair by contracting agency forces or other means.

Condition	Specification	Title	Description
Damage to Employees, Structures, or the Environment *Example:* Contamination caused by the contractor.	Section 1-07.14	Responsibility for Damage	This section states that the contractor, and not WSDOT, is responsible for losses or damages. The state, Commission, Secretary, and all officers and employees of the state, including but not limited to those of WSDOT, will not be responsible in any manner for any loss or damage that may happen to the work or any part, or for damage to the public for any cause which might have been prevented by the contractor, or the workers, or anyone employed by the contractor. The contractor shall be responsible for any liability imposed by law for injuries to, or the death of, any persons or damages to property resulting from any cause whatsoever during the performance of the work, or before final acceptance. The contractor shall also bear sole responsibility for any pollution of rivers, streams, groundwater, or other waters which may occur as a result of construction operations. The contractor shall exercise all necessary precautions throughout the life of the project to prevent pollution, erosion, siltation, and damage to property.
Reasons for Termination of Contract *Example:* N/A	Section 1-08.10(1)	Termination for Default	This section states that the contracting agency may terminate the contract upon the occurrence of any one or more of the following events: • If the contractor fails to supply sufficient skilled workers or suitable materials or equipment (ESC/Spill Lead). • If the contractor disregards laws, ordinances, rules, codes, regulations, orders, or similar requirements of any public entity having jurisdiction. • If the contractor disregards the authority of the contracting agency. • If the contractor performs work which deviates from the contract and neglects or refuses to correct rejected work. • If the contractor otherwise violates in any material way any provisions or requirements of the contract. The contractor shall bear any extra expenses incurred by the contracting agency in completing the work, including all increased costs for completing the work, and all damages sustained, or which may be sustained, by the contracting agency by reason of such refusal, neglect, failure, or discontinuance of work by the contractor.
Unanticipated Work *Example:* Unanticipated contamination.	Section 1-09.4	Equitable Adjustment	This section provides the guidelines for determining equitable adjustment when performing unanticipated work.

Source: Washington State Department of Transportation. 2008. *Standard Specifications for Road, Bridge, and Municipal Construction* M 41-10.

Following is a General Special Provision to be added to contract specifications as indicated. More recent updates may be available via WSDOT's website: www.wsdot.wa.gov/design/projectdev/gspamendments.htm

Select Division 1

Also refer to 2008 *Standard Specifications*, page 1-68.

General Special Provisions Division 1

0716.GR1 – Protection and Restoration of Property

071604.GR1 – Archaeological and Historical Objects (December 6, 2004)

Use in projects when reconnaissance studies indicate that there is the probability of finding cultural remains within the project limits which will require monitoring the project area during clearing, grubbing, or excavation operations. Requires a pay item.

Section 1-07.16(4) is supplemented with the following:

The project area potentially contains archaeological or historical objects that may have significance from a historical or scientific standpoint. To protect these objects from damage or destruction, the contracting agency, at its discretion and expense, may monitor the contractor's operations, conduct various site testing and perform recovery and removal of such objects when necessary.

The contractor may be required to conduct its operations in a manner that will accommodate such activities, including the reserving of portions of the work area for site testing, exploratory operations and recovery, and removal of such objects as directed by the engineer. If such activities are performed by consultants retained by the contracting agency, the contractor shall provide them adequate access to the project site.

Added work necessary to uncover, fence, dewater, or otherwise protect or assist in such testing, exploratory operations and salvaging of the objects as ordered by the engineer shall be paid by force account as provided in Section 1-09.6. If the discovery and salvaging activities require the engineer to suspend the contractor's work, any adjustment in time will be determined by the engineer pursuant to Section 1-08.8.

To provide a common basis for all bidders, the contracting agency has entered an amount for the item "Archaeological and Historical Salvage" in the proposal to become a part of the total bid by the contractor.

Chapter 630 Close Out of Environmental Commitments

630.01 Close Commitments as They Are Completed
630.02 Initiate Post Construction Wetland Mitigation Monitoring
630.03 Prepare As-Built Reports for Wetland and Stream Mitigation Efforts
630.04 Coordinate Long-Term Maintenance
630.05 Procedures for Close Out of Construction Commitments
630.06 Abbreviations and Acronyms
630.07 Glossary

630.01 Close Commitments as They Are Completed

WSDOT's policy is to ensure all environmental commitments are achieved prior to completing the project (see the *2004 Compliance Implementing Agreement*). This is a difficult task considering the volume of commitments. However, WSDOT employees that use the Commitment Tracking System (CTS) can easily close commitments using the "Commitment Status" feature. Instructions for using the status feature are available in the CTS User's Manual, which is available on the web.

- Refer to Procedure 630-a for guidance closing out completed commitments.

630.02 Initiate Post Construction Wetland Mitigation Monitoring

If a wetland mitigation site was constructed for the project, WSDOT is obligated to monitor wetland mitigation sites for up to ten years. As construction nears completion, the Project Engineer must submit information to the Headquarters Wetland Program so monitoring can commence. Use the Monitoring Setup Form to notify the Wetland Program.

630.03 Prepare As-Built Reports for Wetland and Stream Mitigation Efforts

If wetland or stream mitigation was constructed for the project, WSDOT must send as-built reports to the Washington State Department of Ecology and U.S. Army Corps of Engineers. Refer to the project permits for specific as-built report and timing requirements.

- Refer to Procedure 630-c to coordinate preparing wetland/stream mitigation as built reports.

630.04 Coordinate Long-Term Maintenance

The *2004 Compliance Implementing Agreement* establishes an expectation that WSDOT's Maintenance and Operations personnel receive a copy of and understand all long-term compliance expectations, including maintenance for mitigation sites. WSDOT must maintain these sites in perpetuity. Transition from post construction wetland monitoring to maintenance is specifically described in Chapter 700.

- Refer to Procedure 630-d to ensure long-term commitments are maintained.

630.05 Procedures for Close Out of Construction Commitments

The procedures available for construction on the WSDOT internet include:

- Use CTS to close out completed commitments.
- Request mitigation monitoring services of the Wetland Program.
- Coordinate the preparation of wetland/stream mitigation as built reports.
- Ensure Maintenance and Operations receive commitments requiring long-term maintenance.

630.06 Abbreviations and Acronyms

See Section 600.04 for a list of abbreviations and acronyms

630.07 Glossary

See Section 600.05 for the glossary.

Chapter 700 Maintenance and Operations

700.01 Environmental Requirements for Maintenance and Operations
700.02 WSDOT Maintenance and Operation Plans and Policies
700.03 Interagency Agreements for Maintenance Activities
700.04 Permits and Approvals
700.05 WSDOT Manuals
700.06 Abbreviations and Acronyms

700.01 Environmental Requirements for Maintenance and Operations

The purpose of this chapter is to summarize environmental requirements and procedures that apply to the Washington State Department of Transportation (WSDOT) Maintenance and Operations Program.

At WSDOT, highway maintenance includes both maintenance and operations. The maintenance service objective, stated in the State Highway Systems Plan, is to "maintain and operate state highways on a daily basis to ensure safe, reliable, and pleasant movement of people and goods."

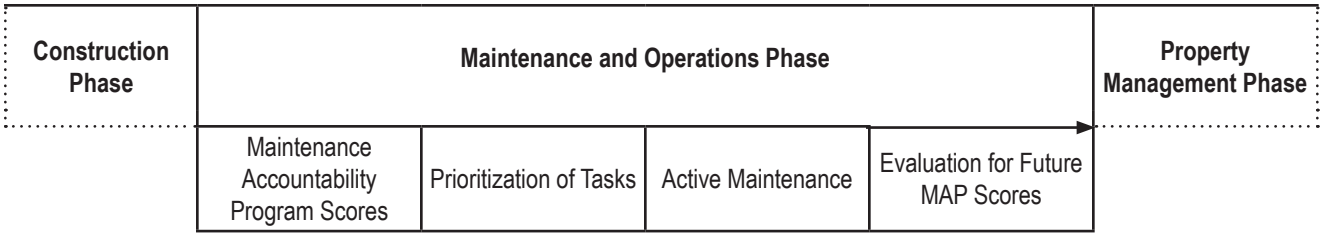
Maintenance work is performed to care for and maintain the highway and associated features so it substantially retains its original intended use and function. Maintenance activities include patching pavement, cleaning ditches and culverts, repairing slopes and streambank stabilization structures, controlling vegetation, and painting stripes on the road surface.

Operations activities provide a direct service to ensure reliable use of the highway system. Activities include operating rest areas, reversible lane gates, highway lighting, traffic signals, snow and ice control, and keeping the roads operational during a disaster.

(1) Project Management Phases and Maintenance

Often environmental commitments made years before during design and environmental review and environmental permitting and PS&E will require ongoing maintenance and attention. Figure 700-1 illustrates the relationship between maintenance and operations and preceding phases of WSDOT's transportation decision making process.

Among the maintenance activities that may impact the environment are painting, sanding, anti icing, applying herbicide, mowing and brush control, restoring native plants, and maintaining drainage facilities. Materials stored and used at maintenance facilities also have the potential to adversely impact the environment. The Maintenance and Operations Office provides environmental support at WSDOT facilities by assessing for the presence of hazardous or contaminated materials; managing disposal of hazardous or problematic waste; and providing basic regulatory awareness to Maintenance and Operations personnel.



Maintenance and Operations Phase
Figure 700-1

700.02 WSDOT Maintenance and Operation Plans and Policies

A WSDOT *Environmental Policy Statement* E 1018 issued by executive order on April 7, 2009 makes it clear that WSDOT will comply with environmental requirements and that it is each individual employee's responsibility to ensure that happens.

In 2003, WSDOT received coverage under the Regional Road Maintenance Program (RRMP) approved by NOAA along with the *Regional Road Maintenance Endangered Species Act Program Guidelines* that include various general practices and specific practices (such as BMPs) that WSDOT will use to avoid and minimize adverse impacts to fish and aquatic habitat. In areas where none of the referenced documents apply, and there is potential for a maintenance activity to harm a fish or aquatic habitat protected under the ESA, BMPs will still be utilized to avoid and minimize adverse impacts.

The organizational structure of the program includes Regional Maintenance Environmental Coordinator (RMEC) positions that are dedicated to support environmental compliance in each of the regions. WSDOT uses statewide Regional Maintenance Environmental Coordinator Meetings to identify and announce any modifications or changes to the RRMP. New technologies are also discussed at these meetings. Modifications are shared with NOAA Fisheries for concurrence to maintain the status of "ESA compliant." Additional forums are utilized or created if needed to adequately include key stakeholders (i.e., federal and state regulatory agencies and additional WSDOT personnel) in changes of applicable environmental protection practices.

The Environmental Compliance Assurance Procedures for the maintenance program were updated in 2010. The purpose is to provide notification information and procedures to prevent noncompliance events or violations. These procedures cover notification for spills, planned in-water work, emergency in-water work, BMP performance, and violations.

Training is an important part of implementing the RRMP. All new maintenance staff are trained on how to apply the program during the annual maintenance academy. Training includes both classroom and field courses to understand how to apply BMPs to achieve environmental outcomes. Training is also provided at the regional level on an as needed basis to ensure field operations are up to date on current compliance expectations.

WSDOT ESO also provides training on Guidance for the Protection of Terrestrial Species protected under ESA. Guidance documents are in place for each of the region maintenance areas. They identify special management areas and BMPs to avoid and minimize impacts to terrestrial species including birds, plants and animals.

WSDOT has developed Roadside Vegetation Management Plans to provide a "how to" guide for managing roadsides at the maintenance area level throughout the state. These plans determine the right tool or combination of tools, for the right plant at the right place and time. Vegetation management plans cover mowing and trimming, selective use of herbicides, improving soils, planting native plants, and the care of wetland mitigation sites. The Wetlands Protection and Preservation Policy P 2038 directs WSDOT employees to protect and preserve wetlands and manage wetland mitigation sites and other department owned wetlands for long-term stewardship.

700.03 Interagency Agreements for Maintenance Activities

The following interagency agreements apply to the maintenance program activities. Appendix B includes an index to all of WSDOT's environmental interagency agreements. Interagency agreements also exist at the regional level. For example, some regions may have agreements with their district USFS office, district WDFW, or local agency environmental departments.

(1) MOA Between WDFW and WSDOT – May 2008

The MOA describes how WSDOT and WDFW will cooperate to ensure that state transportation projects protect fish life and habitats, and ensure consistent and uniform application of RCW 77.55 (construction in state waters) and WAC 220-110 (hydraulic code rules). It includes procedures for emergency/disaster maintenance and repair. Appendix F of the MOA is maintenance guidelines.

(2) Implementing Agreement – Alternative Mitigation Policy Guidance for Aquatic Permitting

In this February 2000 agreement, WSDOT agrees to comply with consensus on mitigation policy among agencies responsible for aquatic resource mitigation. This MOA applies to Ecology and WDFW in issuing or reviewing permits, documents, appeals or compensation agreements under Clean Water Act, Shoreline Management Act, or Hydraulic Code.

Provisions applicable to maintenance and operations:

- Monitoring is required. If mitigation is failing and corrective actions not successful, applicant must contact permitting agencies and use an adaptive management approach to achieve stated performance standards.
- Compliance monitoring may be performed by agencies.
- Mitigation site to be permanently protected.

(3) MOU on Preservation of Agricultural and Forest Lands

This September 1982 agreement between WSDOT and the State Conservation Commission is intended to enhance cooperation in preserving agricultural and forest land, to prevent and treat erosion adjacent to or associated with farmlands and state highways, and maintain drainage ways and reclaim abandon roadways for agricultural purposes.

The agreement commits WSDOT to work with conservation districts through county weed control boards or appropriate county officials to control noxious weeds.

(4) MOU on Highways Over National Forest Lands

This June 2013 MOU establishes procedures for coordinating transportation activities on national forest lands.

Provisions applicable to maintenance and operations:

- WSDOT will coordinate with USFS on maintenance activities that might affect national forest lands, including: removal/disposal of dangerous trees, disposal of slash or other waste, material source or storage, changes to drainage patterns, snow and avalanche control, and rock scaling.
- WSDOT will work with USFS to develop roadside vegetation management plans.
- WSDOT will furnish and maintain all standard highway signs, including guide signs requested by the USFS.
- WSDOT will coordinate with USFS for third party occupancy or use by utility facility installations on WSDOT easements.
- Specifies responsibilities for signage for maintenance or emergency activities.
- Specifies responsibilities for control of access to WSDOT easements by USFS or its permitees.

700.04 Permits and Approvals

As noted under Section 700.02, the RMEC is responsible for coordinating or processing required permits and approvals applicable to WSDOT maintenance activities at the regional level. This may include Federal, State, and Local Permits. Most WSDOT maintenance activities are covered by general or programmatic permits (e.g. NPDES permits and General HPAs). Many of these permits are located on the WSDOT ESO Permit Program web page.

On February 4, 2009 Ecology issued a NPDES Municipal Stormwater Permit to WSDOT. This permit covers the management of WSDOTs stormwater conveyance system. The Maintenance and Operations Office supports management and compliance with the permit.

Additionally, when maintenance activities are carried out on tribal lands, environmental protection measures may be required by the tribal government or the U.S. Environmental Protection Agency (USEPA). Local governments may also have authority to issue permits regulating activities in their jurisdiction.

700.05 WSDOT Manuals

Technical guidance is summarized by reference to the WSDOT manuals described below. Refer to these documents for details. Most manuals can be accessed online from the WSDOT Publications Services web page.

Maintenance Manual **M 51-01 –** This manual covers procedures for highway maintenance. In several chapters maintenance activities have environmental implications: emergency operations (hazardous materials spills), drainage maintenance (aquatic habitat, water quality, wetlands, shorelines), bridge repair, roadside maintenance (integrated vegetation management), snow and ice control, and procuring materials from quarries or pits.

Maintenance Accountability Process Manual – This document is the primary tool used by the Maintenance Office for evaluating program service delivery and identifying budget investment choices.

Roadside Manual **M 25-30 –** This manual provides consistent guidelines for roadside management, and supplements guidelines in the WSDOT *Roadside Policy Manual* M 3110. It is organized around a framework of roadside functions: operational, environmental, visual, and auxiliary. Environmental functions include water quality preservation, protection, and improvement; stormwater detention and retention; wetland and sensitive area protection; noxious weed control; noise control; habitat protection and connectivity; air quality improvement; and erosion control. Sections of the manual offer resources on designated and sensitive areas, wetlands, water quality, wildlife, and noise abatement.

700.06 Abbreviations and Acronyms

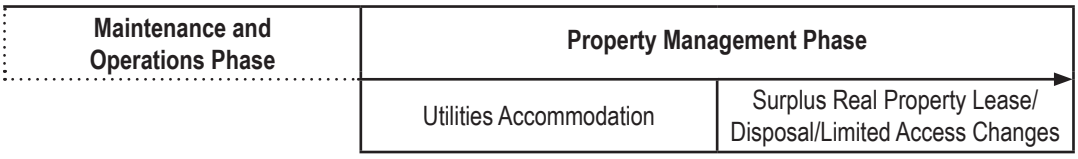
BMP	Best Management Practice
ESA	Endangered Species Act
HPA	Hydraulic Project Approval
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
PS&E	Plans, Specifications, and Estimates
RRMP	Regional Road Maintenance Program
RMEC	Regional Maintenance Environmental Coordinator
USFWS	United States Forest Service
USEPA	United State Environmental Protection Agency

Chapter 800 Property Management and Disposal

800.01 Overview
800.02 Environmental Commitments for Utilities Accommodation
800.03 Environmental Considerations in Surplus Real Property Disposal/Lease
800.04 Environmental Considerations for Limited Access Changes
800.05 Environmental Considerations in Disposal of Pit Sites
800.06 Statutes and Regulations
800.07 Abbreviations and Acronyms
800.08 Glossary

800.01 Overview

The property management phase of the Transportation Decision-Making Process has three major elements: utility accommodation, surplus real property lease/disposal, and changes in limited access as shown in Figure 800-1.



Property Management Phase
Figure 800-1

This chapter describes the environmental policies related to each of these elements and provides links to the appropriate manuals that describe the procedures for accomplishing this work.

800.02 Environmental Commitments for Utilities Accommodation

The WSDOT *Utilities Accommodation Policy* M 22-86 enables the department to allow the installation of public and private utilities within the state right of way provided that they do not interfere with the free and safe flow of traffic, or otherwise impair visual quality. This policy was established in cooperation with the utility industry and complies with state law and the American Association of State Highway and Transportation Officials (AASHTO) guidelines.

Potential impacts to utilities must be disclosed during the environmental documentation phase of a project. Impacts to the built and social environment are considered under Social and Community effects (see Chapter 458). The analysis must also consider potential impacts to the natural and manmade environment caused by relocating utility lines. This may be done as part of the WSDOT project or by the utility company. See Section 458.06 of this manual and WSDOT *Utilities Manual* M 22-87 Section 600.09(4) for guidance.

WSDOT *Design Manual* M 22-01 Chapter 510 describes the region's responsibility to ascertain ownership of all utilities and arrange for necessary adjustment of utilities, including relocation, if necessary. Provisions for relocation or adjustment are included in the PS&E plans, when such items are part of normal construction and:

- When WSDOT is obligated for moving expenses as detailed in the utility franchise, permit, or agreement.
- When the utility requests that relocation be performed by WSDOT and WSDOT accepts that responsibility.

Adjustment or relocation of the utility may require WSDOT to purchase substitute right of way or easements for eventual transfer to the utility. Such right of way or easements must be shown on the Right of Way (ROW) plans with the same engineering detail as for highway right of way. See WSDOT *Plans Preparation Manual* M 22-31 Division 1 and WSDOT *Construction Manual* M 41.01 Chapters 8 and 10 for guidance and requirements.

WSDOT *Utilities Manual* M 22-87 describes general practices, policies, and procedures with respect to agreements, easement, permits, and franchises between WSDOT and other entities using the state highway right of way. It includes detailed procedures and examples for preparing PS&E agreements and construction agreements. It also includes information on approval authority, utility property rights, authorization to proceed, inspection, records, and checklists for utility contracts.

For help with utility easements on WSDOT right of way, contact WSDOT Headquarters Real Estate Services (RES) at 360-705-7237.

800.03 Environmental Considerations in Surplus Real Property Disposal/Lease

WSDOT may determine that a real property owned and under the jurisdiction of WSDOT is no longer required for transportation purposes, or that a non-highway use of WSDOT property should be allowed. If it is in the public interest, WSDOT may lease or dispose of the property by sale or exchange to entities listed in the WSDOT *Right of Way Manual* M 26-01, or as detailed in state law.

The legislature has mandated that WSDOT surplus and sell properties no longer needed for transportation purposes. Region RES offices periodically review the properties they manage and determine if any should be declared surplus. They also periodically receive requests from the public to lease portions of WSDOT right of way. Region RES determines if these actions are appropriate by preparing a lease/disposal review package for circulation through various disciplines of WSDOT, including region Environmental staff. Region Environmental staff reviews the property for consideration of the environmental issues listed below. The HQ Environmental Services Office provides technical assistance upon request. If the region recommends lease or disposal of the property, the region RES office submits the lease/disposal package to HQ RES.

The Region/Modal Environmental Manager determines if property is eligible for lease or disposal. The decision should take into account the environmental effect of the action, including:

- The potential of the property to fulfill a future transportation need such as stormwater treatment, stream enhancement, noise walls, bridge replacement and roadway realignment.
- The potential for the property to provide environmental mitigation. The potential for the proposed land use to adversely impact the safe and proper operations or maintenance of the highway presently or in the foreseeable future.
- The need to comply with NEPA documentation requirements before seeking FHWA approval of the action.

When FHWA approval is required before WSDOT can make a lease or disposal decision, WSDOT's action triggers a federal nexus. If a federal nexus is created, NEPA, NHPA, and ESA documentation must be completed prior to lease or disposal (23 CFR 771.117(d)(6)). Two common real estate decisions requiring FHWA concurrence or approval include:

1. When surplus property being considered for lease or disposal is located on an interstate highway.
2. If a parcel considered for lease or disposal was purchased with federal funding and the parcel will be sold for less than fair market value.

If either of these conditions is met the region RES staff will notify region Environmental staff that NEPA has been triggered. NEPA is not required for non-interstate leases or disposals sold at or above fair market value.

Property is not appropriate for lease or disposal if:

- It is suitable for for a future transportation need such as stormwater treatment, stream enhancement, noise walls, bridge replacement and roadway realignment.
- It is suitable for retention to restore, preserve, or improve the scenic beauty adjacent to the highway.
- It is suitable for inclusion in WSDOT's wetlands inventory.
- It is needed for a park and ride lot, flyer stop, or other programmed or known future highway needs.
- It is suitable for water quality or flow control treatment facility location for future proposed widening or retrofit requirements.
- Hazardous material is present on the site or any necessary cleanup has not been completed.

If none of these environmental uses for the property become evident during the review, the property may be suitable for lease or disposal.

The Region/Modal Environmental Manager will determine the appropriate level of environmental documentation and resources to be expended for each property review. A typical office review of a candidate property includes completion of an Environmental Checklist (DOT Form 220-015 EF). However, in some situations, completion of the checklist may not be necessary due to the size, location, or existing knowledge about the property. In other situations, the checklist may not provide enough information and an Environmental Classification Summary (ECS) form should be completed. The following documentation options may be considered:

- Completion of a memo to file explaining why it was not necessary to complete the Environmental Checklist documenting that there are no endangered species, or historic/cultural concerns associated with the property. At a minimum, the following statement should be included in the explanation: "Complies with NEPA (23 CFR 771.117(d) List), ESA and Section 106 of the NHPA." An explanation should be provided for why no further documentation is needed, such as "the lease/disposal will not lead to construction." Attach a copy of the memo to the STELLENT file.
- Completion of the STELLENT environmental checklist.
- Completion of an H&LP or state ECS. If this option is chosen, the Region/Modal Environmental Office must attach a copy of the ECS to the STELLENT surplus property review package.
- The proposed lease or disposal may be addressed as part of a larger action in an EA/EIS. If this option is selected, the appropriate document must be referenced in the comment section of the STELLENT surplus property review package and a short summary of the environmental issues attached.

The HQ Environmental Services Office will not conduct a separate environmental review of lease and disposal actions unless specifically requested to do so by the Region/Modal Environmental Manager. If the region recommends lease or disposal of the property, the Environmental Checklist or other documentation is submitted to Headquarters by the region RES office.

800.04 Environmental Considerations in Disposal of Pit Sites

WSDOT owns and manages several mineral resources sites across the state commonly referred to as pit sites. Mineral resource sites include gravel pits, rock quarries, or barrow pits developed to produce mineral aggregates for highway projects. If the property to be disposed of is, or was a pit site, the following additional documentation needs to be included in the disposal review package:

- Pit Evaluation Report (DOT Form 350-023 EF).
- Reclamation Plan.
- Hazardous Materials Assessment and Remediation Reports.

Any suspected hazardous materials on WSDOT property should be reported to the Area Maintenance Superintendent (inside the operating right of way), Region RES Manager (outside the operating right of way), and/or Capital Facilities Manager. Areas of responsibility may overlap, but these managers maintain close lines of communications and will make sure the HQ Environmental Services Office and Attorney General's Office are consulted for assessment, remediation, and determination of liability. See Chapter 447 for background and technical guidance on hazardous materials.

800.05 Environmental Considerations for Changes in Limited Access

Environmental impacts and/or benefits resulting from changes in access control must be disclosed during the environmental documentation phase of the project. This is typically done as part of the discussion of impacts to the built environment and can influence land use (Chapter 450), transportation (Chapter 460), or the social and community network (Chapter 458). If a change in limited access control is included in the preferred alternative, you must complete the Environmental Checklist (DOT Form 220-015 EF) and follow the procedure described in WSDOT *Design Manual* M-22.01 Chapter 530.

See WSDOT *Design Manual* Chapter 520 for a general description of the types of access control on state highways, their purpose, and uses. See WSDOT *Design Manual* Chapter 530 for a description of the process and requirements for Modifications to Limited Access.

800.06 Statutes and Regulations

- 23 CFR 645, Accommodating Utility Facilities
- 23 CFR 771.117, Categorical Exclusions
- Chapter 47.44 RCW, *Franchises on State Highways*
- RCW 47.12.120, *Lease of Unused Highway Land or Air Space*
- RCW 47.12.063, *Surplus Real Property Program* (disposal)
- WAC 468-34, *Utility Lines – Franchises and Permits*
- Highways Over National Forest Lands MOU with the United States Forest Service
- Scenic Classification of Highways MOU with the Washington Utility Coordination Council

800.07 Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
CFR	Code of Federal Regulations
EA/EIS	Environmental Assessment/Environmental Impact Statement
ECS	Environmental Classification Summary
ESA	Endangered Species Act
FHWA	Federal Highway Administration
HQ	WSDOT Headquarters
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PS&E	Plans, Specifications, and Estimates
RCW	Revised Code of Washington
RES	Real Estate Services
ROW	Right of Way
WAC	Washington Administrative Code
WUCC	Washington Utility Coordination Council

800.08 Glossary

Franchise – A utility accommodation document that defines utility ownership, type, size, location, construction methods, maintenance, duration, and other information related to the utility installation operating on highway right of way, toll facilities, and the state ferry system.

Utility – Privately, publically, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, cable television, electric power, light, heat, gas, oil, crude products, water, steam, waste, stormwater (not connected to highway drainage) and other similar commodities, including any fire or police signal systems, street light systems, and traffic control system interties, which directly or indirectly serve the public (see WSDOT *Utilities Manual* M 22-87 Chapter 2).

Limited Access – WSDOT controls access to and from the state highway to preserve the safety and efficiency of the facility. Limited access control is accomplished by purchasing the access rights from adjacent property owners. See *Design Manual* M 22-01 Chapter 520 for a policy guidance, implementing regulations, a description of the types of access control, their uses and benefits.

Environmental executive orders issued at the federal and state level can address a variety of policy matters, and they remain active until rescinded. The following are some active executive orders on environmental matters that may affect transportation projects:

Presidential Executive Orders

11514	Protection and enhancement of environmental quality
11988	Floodplain management
11990	Protection of wetlands
12898	Environmental Justice
13006	Locating Federal Facilities on Historic Properties in Our Nation's Central Cities
13007	Indian Sacred Sites
13112	Invasive Species
13166	Improving Access to Services for Persons With Limited English Proficiency
13175	Consultation and Coordination With Indian Tribal Governments
13186	Responsibilities of Federal Agencies To Protect Migratory Birds
13274	Environmental Stewardship and Transportation Infrastructure Project Reviews
13287	Preserve America
13423	Strengthening Federal Environmental, Energy, and Transportation Management

Other Presidential Executive Orders can be found at the National Archives website.

Governor's Executive Orders

80-01	Farmland Preservation
81-18	Review of Federal Environmental Documents
89-10	Protection of Wetlands
90-04	Protection of Wetlands
93-07	Affirming commitment to diversity and equity in service delivery and in the communities of the state
02-03	Sustainable Practices by State Agencies
04-01	Persistent Toxic Chemicals
05-01	Establishing Sustainability and Efficiency Goals for State Operations
05-03	Plain Talk
05-05	Archaeological and Cultural Resources
06-02	Regulatory Improvement
09-05	Washington's Leadership on Climate Change

Governors Directives

Governor's Directive on Acquisition of Agricultural Resource Lands

WSDOT Executive Orders

E 1010	Certification of Documents by Licensed Professionals
E 1018	Environmental Policy Statement
E 1025	Tribal Consultation
E 1028	Context Sensitive Solutions
E 1031	Protections and Connections for High Quality Natural Habitats
E 1032	Project Management
E 1042	Project Management and Reporting

WSDOT Policy Statements

P 2038	Wetlands Protection and Preservation

Over the years, the Washington State Department of Transportation (WSDOT) has entered into agreements with various agencies to clarify how they intend to deal with various environmental matters. These agreements include Memoranda of Understanding (MOUs), Memoranda of Agreement (MOAs), Implementing Agreements (IAs), and other interagency agreements. However, as circumstances change, these agreements (or parts of them) can become obsolete, and the agencies will occasionally void, replace, or amend their agreements. If you have questions about the status of an agreement, please contact the WSDOT Environmental Services Office at 360-705-7483.

WSDOT's current agreements with other agencies on various environmental matters include the following:

Agreement With	Subject/Link to Agreement
Ecology, WDFW	Alternative Mitigation Policy Guidance for Aquatic Permitting
FHWA, NMFS,USFWS	Assessing Stormwater Effects in Biological Assessments
Ecology	Compliance With State Surface Water Quality Standards
CTUIR, FHWA	Coordination and Consultation on State Transportation Activities
Ecology	Coordination and Cooperation on Environmental Issues Under Ecology Jurisdiction
DOH	Drinking Water Well Protection (Sanitary Control Areas)
WSCC	Farmland and Forest Preservation
FHWA	Federal-Aid Highway Program Stewardship and Oversight
PSCAA	Fugitive Dust
USFS	Highways Over National Forest Lands
ACHP, FHWA, SHPOs	Historic Properties (Nationwide)
ACHP, FHWA, WSHPO	Historic Properties (Second Amended Programmatic Agreement Implementing Section 106)
ACHP, FHWA, WSHPO, USFS	Historic Properties (Programmatic Agreement to Implement Section 106 With USFS)
WDFW	Hydraulic Project Approvals Including Fish Passage and Chronic Environmental Deficiencies
FHWA	NEPA Programmatic Categorical Exclusions (PCE)
FHWA, FTA, Sound Transit	Noise Methodology and Criteria
WUCC	Scenic Classification of Highways
FHWA, USEPA	Sole Source Aquifers
WDNR	Utilities on Bridges Over Aquatic Lands
ACOE, Ecology, FHWA, NMFS, USEPA, USFWS, WDFW	Wetland Compensation Bank Program

Washington State
Department of Transportation

Memorandum

December 3, 2009

TO: Keith Metcalf, Eastern Region
Dan Sarles, North Central Region
Lorena Eng, Northwest Region
Kevin Dayton, Olympic Region
Don Whitehouse, South Central Region
Donald Wagner, Southwest Region
Craig Stone, Tolling Division
Ron Paananen, Alaskan Way Viaduct
Julie Meredith, SR 520 Program
Timothy M. Smith, Director of Terminal Engineering

FROM: J.C. Lenzi, Chief Engineer
(360) 705-7032

SUBJECT: **Project Delivery Memo #09-02** – High Visibility Fence Clarifications

Background

Installing High Visibility Fence (HVF) to protect environmentally sensitive areas is crucial to achieve environmental compliance, by visually drawing attention to locations that should be protected from project-related impacts. In 2004, a series of permit violations revealed that WSDOT needed to specifically designate HVF locations in the contract documents. Project Delivery Memo (PDM) #04-04 provided guidance and Regions and Washington State Ferries (WSF) developed specific HVF design and installation methods based on that guidance.

A statewide workgroup recently developed new Standard Specifications to address common permit conditions associated with HVF installation and protection of sensitive areas. The updated contract language meets the construction and material requirements found in the PDM #04-04. However, the new contract language does not address how the HVF should be visually designated on the plan sheets.

The intent of this memorandum is to:
1. Rescind outdated sources of HVF guidance
2. Identify new HVF implementation guidance
3. Communicate expectations

Rescinded Guidance

Project Delivery Memo #04-04, *High Visibility Construction Fencing*, is rescinded.

High Visibility Fence Clarifications – Project Delivery Memo #09-02
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New Guidance

New HVF Standard Specifications became available on August 3, 2009. In addition, PDM #09-02 compliments the Standard Specifications and provides guidance on how to visually designate HVF in the plans.

Action Requested

1. Use HVF Standard Specifications and Standard Plans, plus any subsequent amendments, to protect sensitive areas. These include:
   - Section 1-07.16(2)A *Wetland and Sensitive Area Protection*
   - Section 1-08.4 *Prosecution and Progress*
   - Section 8-01.3 *Construction Requirements*
   - Section 9-14.5(8) *High Visibility Fencing*
   - Standard Plan I-10.10-00 *High Visibility Fencing*

   Note: Projects to be constructed in phases and that have permits allowing phased installation of HVF shall develop a Special Provision supplementing Standard Specification 1-08.4 to address HVF installation.

2. As of August 3, 2009, delete any WSF and Region HVF General Special Provisions (GSP) from Region GSP libraries, which were based on PDM #04-04. If project Special Provisions are needed, modify the appropriate HVF Standard Specifications (referenced in #1 above).

3. As projects are developed, show all sensitive areas on the contract plans along with the locations where HVF shall be installed. Examples include, but are not limited to:

   - Areas where permits allow temporary or permanent wetland impacts;
   - Areas that will be temporarily protected from disturbance until, as part of the scheduled work, they will be accessed to improve environmental features;
   - Areas that are designated within the project where clearing or grading are not allowed; and
   - Areas where temporary impacts are permitted to portions of sensitive areas (e.g. crossing a wetland to access work area).

   For complex projects, WSF and Regions may develop a separate set of plans dedicated to environmentally sensitive areas. These plans identify locations where HVF shall be installed to protect these areas. Less complex projects may depict HVF placement locations in other sets of plans, such as Site Preparation, Grading Sections, Temporary Erosion/Sediment Control, or Alignment/Right of Way.

   Note: Projects with no work beyond the paved surface will be waived from this HVF requirement as long as the contract provisions address the Contactor not leaving existing paved surfaces without approval of the Engineer. Consider supplementing Standard Specification 1-07.16(1) Private/Public Property with such language. Project Engineers are encouraged to consult with Region Environmental Managers in making a decision to waive these requirements.

High Visibility Fence Clarifications – Project Delivery Memo #09-02 (continued)
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4. During construction, the Project Engineer may identify additional areas per Standard Specification 1-07.16 to be protected from damage. These areas shall be fenced at the Engineer's request. Project office staff is encouraged to work with WSF and Region environmental staff to verify sensitive areas prior to start of construction or ground disturbing activities.

5. References to Project Delivery Memo #04-04 (e.g. manuals, training material, web pages) shall be replaced or deleted as appropriate.

JL:sc
KR/EW/MW/JC/CM

cc: Region Project Development Engineers
Region Construction Engineers
Region Environmental Managers
David Moseley
Scott Witt
Chris Christopher
John Sibold
Megan White
Pasco Bakotich
Jeff Carpenter
John White
Kim Henry
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High Visibility Fence Clarifications – Project Delivery Memo #09-02 (continued)
Figure C-1