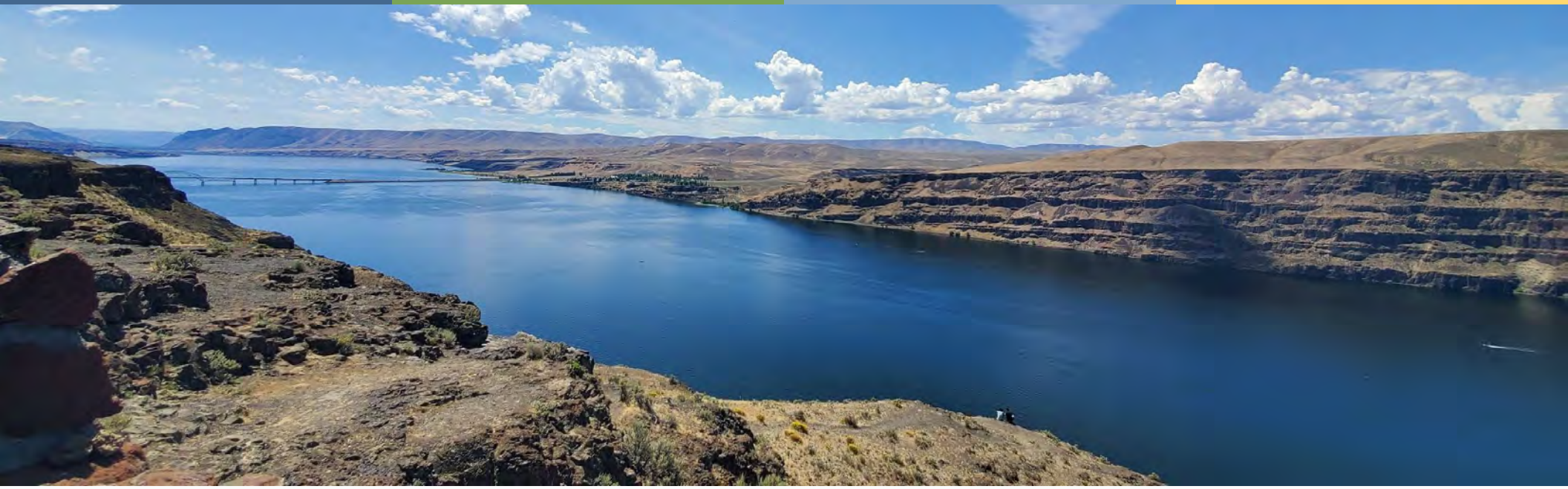

Planning to Construction: Getting Your Wastewater Project Through Ecology Review and Funded

Greg Dobb, PE - Unit Supervisor ERO

Eleanor Ott, PE - SWRO

Date 10/22/2024

DEPARTMENT OF ECOLOGY
State of Washington

Protecting, preserving, and enhancing the environment

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Who we are

We are leaders in **environmental protection and restoration.**

Established in 1970, we were the **first environmental agency in the U.S.** and preceded the EPA.

We invest in communities through grants and loans, technical assistance, and outreach & education.

Ecology's vision and mission

Our Mission

To protect, preserve, and enhance Washington's environment for current and future generations.

Our Vision

Our innovative partnerships protect and sustain healthy land, air, and water in harmony with a strong economy.

Ecology's strategic goals

Support and engage our communities, customers, and employees

Reduce and prepare for climate impacts

Prevent and reduce toxic threats and pollution

Protect and manage our state's waters

Regional Breakdown

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	P.O. Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 West Alder Street Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 North Monroe Spokane, WA 99205	509-329-3400
Headquarters	Statewide	P.O. Box 46700 Olympia, WA 98504	360-407-6000

Why are you undertaking Engineering?

New plant/water discharge to ground or surface waters?

Modifying or expanding an existing treatment plant or collection system?

- Overloaded plant?
- Growth?
- Plant upsets?
- New permit requirements?
- TMDL requirements?
- Preventing Poor Plant Performance by Progressively or Perpetually Planning & Preparing?

To access Ecology funding?

Basis for Review: RCW 90.48.110

Plans and proposed methods of operation and maintenance of sewerage or disposal systems to be submitted to department—Exceptions—Time limitations

(1) Except under subsection (2) of this section, all engineering reports, plans, and specifications for the construction of new sewerage systems, sewage treatment or disposal plants or systems, or for improvements or extensions to existing sewerage systems or sewage treatment or disposal plants, and the proposed method of future operation and maintenance of said facility or facilities, shall be submitted to and be approved by the department, before construction thereof may begin. No approval shall be given until the department is satisfied that said plans and specifications and the methods of operation and maintenance submitted are adequate to protect the quality of the state's waters as provided for in this chapter. Approval under this chapter is not required for large on-site sewage systems permitted by the department of health under chapter 70A.115 RCW or for on-site sewage systems regulated by local health jurisdictions under rules of the state board of health.

(2) To promote efficiency in service delivery and intergovernmental cooperation in protecting the quality of the state's waters, the department may delegate the authority for review and approval of engineering reports, plans, and specifications for the construction of new sewerage systems, sewage treatment or disposal plants or systems, or for improvements or extensions to existing sewerage system or sewage treatment or disposal plants, and the proposed method of future operations and maintenance of said facility or facilities and industrial pretreatment systems, to local units of government requesting such delegation and meeting criteria established by the department.

(3) For any new or revised general sewer plan submitted for review under this section, the department shall review and either approve, conditionally approve, reject, or request amendments within ninety days of the receipt of the submission of the plan. The department may extend this ninety-day time limitation for new submittals by up to an additional ninety days if insufficient time exists to adequately review the general sewer plan. For rejections of plans or extensions of the timeline, the department shall provide in writing to the local government entity the reason for such action. In addition, the governing body of the local government entity and the department may mutually agree to an extension of the deadlines contained in this section.

RCW 90.48.110 - Highlights

Plans and proposed methods of operation and maintenance of sewerage or disposal systems to be submitted to department—Exceptions—Time limitations

(1) Unless delegated, all engineering reports, plans, and specifications shall be submitted to Ecology for approval **BEFORE** construction may begin. Ecology won't approve unless the documents are adequate to protect the quality of the state's waters.

(2) Ecology can delegate engineering review to local units of government

(3) For General Sewer Plans, Ecology has **90 days** to review and approve, conditionally approve, reject, or provide comments. If Ecology cannot do this within the 90 days, another 90 days is afforded. Rejections of General Sewer Plans will be provided with reasons why it was rejected

WAC 173-240-010

Purpose and Scope

The purpose of this chapter is to implement RCW 90.48.110. The department interprets *plans and specifications* as mentioned in RCW 90.48.110 as including *engineering reports, plans and specifications, and general sewer plans*, all as defined in WAC 173-240-020. This chapter also includes provisions for review and approval of proposed methods of operation and maintenance.

WAC 173-240-020

(1) "Approval" means **written** approval.

(2) "Construction quality assurance plan" means a plan describing the methods by which the professional engineer in responsible charge of inspection of the project will determine that the facilities were constructed without significant change from the department approved plans and specifications.

(6) "Engineering report" means a document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130. In the case of a domestic wastewater facility project, the report describes the recommended financing method.

The facility plan described in federal regulation 40 C.F.R. 35 is an "engineering report." This federal regulation describes the Environmental Protection Agency's municipal wastewater construction grants program.

(7) "General sewer plan" means the:

(a) Sewerage general plan adopted by counties under chapter 36.94 RCW; or

(b) Comprehensive plan for a system of sewers adopted by sewer districts under chapter 56.08 RCW; or

(c) Plan for a system of sewerage adopted by cities under chapter 35.67 RCW; or

(d) Comprehensive plan for a system of sewers adopted by water districts under chapter 57.08 RCW; or

(e) Plan for sewer systems adopted by public utility districts under chapter 54.16 RCW and by port districts under chapter 53.08 RCW.

(f) The "general sewer plan" is a comprehensive plan for a system of sewers adopted by a local government entity. The plan includes the items specified in each respective statute. It includes the general location and description of treatment and disposal facilities, trunk and interceptor sewers, pumping stations, monitoring and control facilities, local service areas and a general description of the collection system to serve those areas. The plan also includes preliminary engineering in adequate detail to assure technical feasibility, provides for the method of distributing the cost and expense of the sewer system, and indicates the financial feasibility of plan implementation.

(10) "Owner" means the state, county, city, town, federal agency, corporation, firm, company, institution, person or persons, or any other entity owning a domestic or industrial wastewater facility.

(11) "Plans and specifications" means the detailed drawings and specifications used in the construction or modification of domestic or industrial wastewater facilities. Except as otherwise allowed, plans and specifications are preceded by an approved engineering report. For some industrial facilities final conceptual drawings for all or parts of the system may be substituted for plans and specifications with the permission of the department.

(12) "Sewerage system" means a system of sewers and appurtenances for the collection, transportation, pumping, treatment and disposal of domestic wastewater together with industrial waste that may be present. By definition a sewerage system is a "domestic wastewater facility."

(13) "Sewer line extension" means any pipe added or connected to an existing sewerage system, together with any pump stations: Provided, That the term does not include gravity side sewers that connect individual building or dwelling units to the sewer system when these side sewers are less than one hundred fifty feet in length and not over six inches in diameter.

(15) "Waters of the state" means all lakes, rivers, ponds, streams, inland waters, groundwaters, salt waters, and all other waters and watercourses within the jurisdiction of the state of Washington.

WAC 173-240-030

Submission of Plans and Reports

(1) Before constructing or modifying domestic wastewater facilities, engineering reports and plans and specifications for the project must be submitted to and approved by the department, except as noted in WAC 173-240-030(5).

(2) All reports and plans and specifications must be submitted by the owner or the owner's authorized representative consistent with a compliance schedule issued by the department or at least sixty days before the time approval is desired.

(3) Construction or modification of domestic wastewater facilities shall conform to the following schedule of tasks unless otherwise modified by these rules:

(a) Submission and approval of engineering report;

(b) Submission and approval of plans and specifications;

(c) Submission and approval of construction quality assurance plan;

(d) Submission and approval of draft operation and maintenance manual;

(e) Declaration of completion of construction by the project engineer; and

(f) Submission of complete operation and maintenance manual.

(4) Where two or more years has lapsed since approval of the engineering report or plans and specifications and construction has not begun, it may be necessary to update that document to reflect changed conditions such as: Water quality, services availability, regulatory requirements, or engineering technology.

(5) If the local government entity has received department approval of a general sewer plan and standard design criteria, engineering reports and plans and specifications for sewer line extensions, including pump stations, are not required to be submitted for approval. In this case the entity need only provide a description of the project and written assurance that the extension is in conformance with the general sewer plan. However, in the following situations specific department approval is necessary for sewer line extensions before construction:

(a) The proposed sewers, or pump stations involve installation of overflows or bypasses; or

(b) The proposed sewers, pump or lift stations discharge to an overloaded treatment, collection, or disposal facility.

WAC 173-240-030 - Highlights

Submission of Plans and Reports

(1) Unless you meet part (5), engineering reports, plans and specifications must be **submitted and approved before** construction or modification of the domestic facility can occur.

(2) Reports and plans and specifications must be submitted based on your compliance schedule, or 60 days from when approval is desired

(3) Submission Schedule for construction or modification of domestic system:

- (a) Submission and approval of engineering report;
- (b) Submission and approval of plans and specifications;
- (c) Submission and approval of construction quality assurance plan;
- (d) Submission and approval of draft operation and maintenance manual;
- (e) Declaration of completion of construction by the project engineer; and
- (f) Submission of complete operation and maintenance manual.

(4) If the engineering report or plans and specs are >2 years old and construction hasn't happened, may be required toreview and update for various items and resubmit for approval.

(5) If you have an approved GSP, and Design Standards, for sewer line extension, including pump stations, you do not need to submit an Engineering Report or Plans and Specifications. UNLESS:

- (a) The proposed sewers, or pump stations involve installation of overflows or bypasses; or
- (b) The proposed sewers, pump or lift stations discharge to an overloaded treatment, collection, or disposal facility.

WAC 173-240-040

Review Standards

(1) The department will review general sewer plans, engineering reports, plans and specifications, and operation and maintenance manuals for domestic wastewater facilities to determine whether the proposed facilities will be designed, constructed, operated, and maintained to meet effluent limitations and other requirements of an NPDES or state waste discharge permit, if applicable, and to meet the policies and requirements of chapters 90.48 and 90.54 RCW pertaining to prevention and control of pollution of waters of the state.

(2) In addition to the above, the department will review documents submitted under this chapter to determine whether they are reasonably consistent with the appropriate sections of the state of Washington, "Criteria for sewage works design." Additional references may include, but are not limited to, the following:

(a) Manuals of Practice, Water Pollution Control Federation.

(b) Manuals of Engineering Practice, American Society of Civil Engineering.

(c) Standard Specifications for Municipal Public Works Construction, American Public Works Association.

(d) Considerations for Preparation of Operation and Maintenance Manuals, United States Environmental Protection Agency.

(e) Process Design Manuals, United States Environmental Protection Agency.

(f) Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability, United States Environmental Protection Agency.

(g) Design Manual: Onsite Wastewater Treatment and Disposal Systems, U.S.E.P.A. October 1980.

(h) Guidelines for Larger On-Site Sewage Disposal Systems, Washington State Department of Social and Health Services and Department of Ecology.

WAC 173-240-040 Highlights

Review Standards

(1) Ecology reviews to determine whether the proposed facilities will be designed, constructed, operated, and maintained to meet effluent limitations and other requirements of an NPDES or state waste discharge permit, if applicable, and to chapters 90.48 and 90.54 RCW pertaining to prevention and control of pollution of waters of the state.

(2) Ecology also uses the, "Criteria for sewage works design." Orange Book

Additional references may include, but are not limited to, the following:

(a) Manuals of Practice, Water Pollution Control Federation.

(b) Manuals of Engineering Practice, American Society of Civil Engineering.

(c) Standard Specifications for Municipal Public Works Construction, American Public Works Association.

(d) Considerations for Preparation of Operation and Maintenance Manuals, United States Environmental Protection Agency.

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(g) Design Manual: Onsite Wastewater Treatment and Disposal Systems, U.S.E.P.A. October 1980.

(h) Guidelines for Larger On-Site Sewage Disposal Systems, Washington State Department of Social and Health Services and Department of Ecology.

Traditional Project Steps

Design/Bid/Build Approach

Planning

1 to 3 years

Design

1 to 2 years

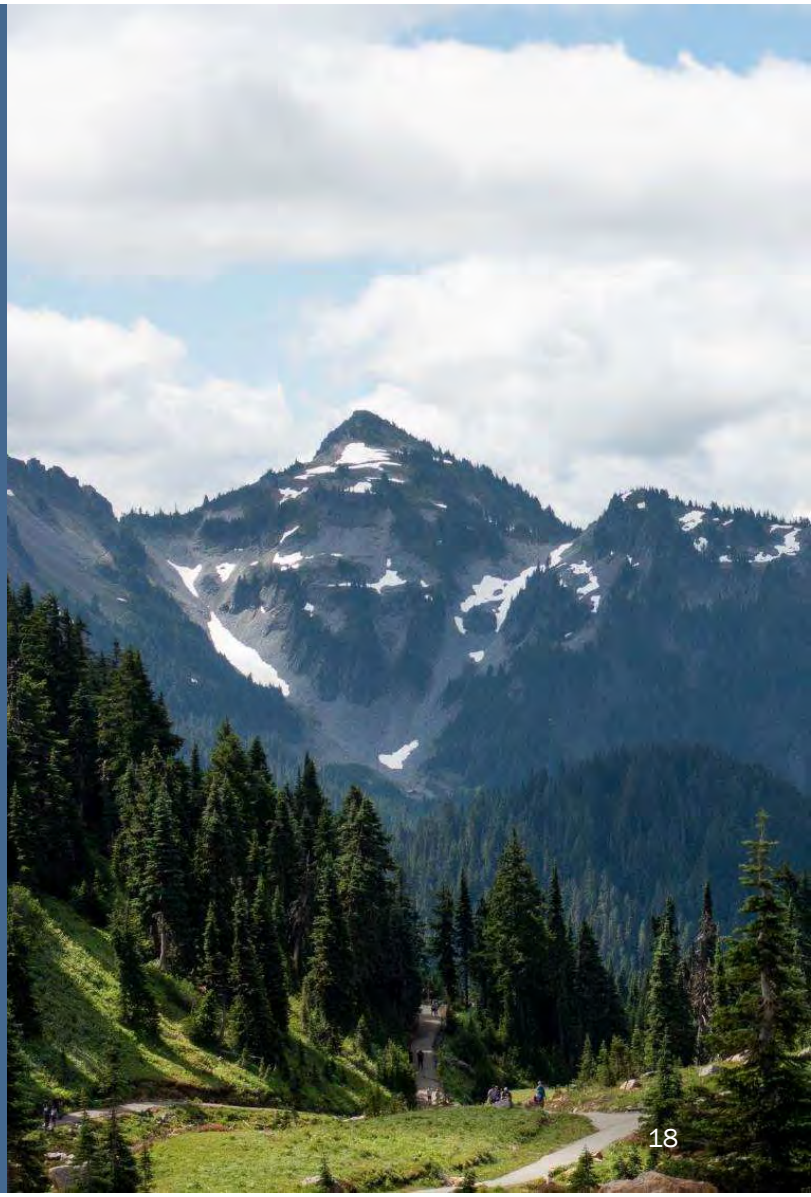
Construction

1 to 3 years

I/O

Planning

Step 1

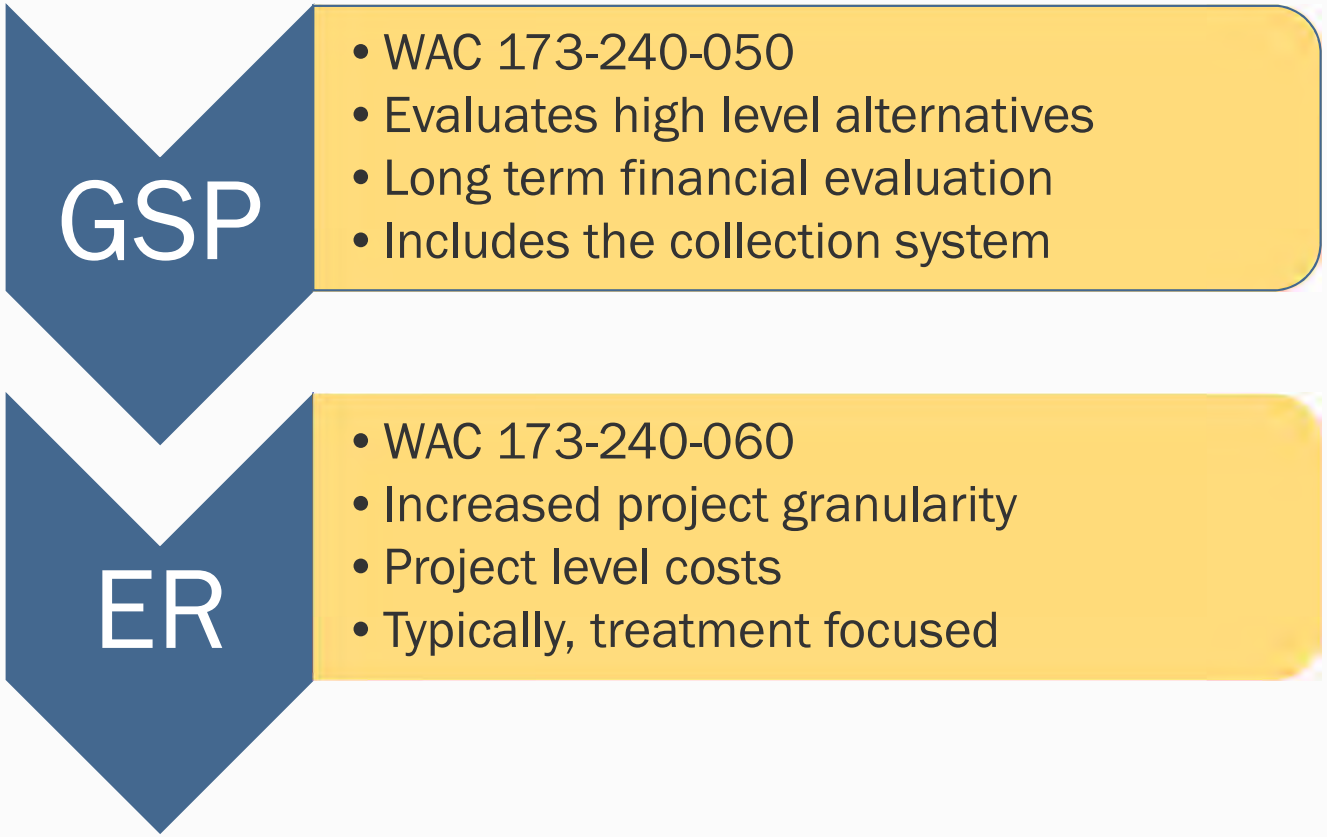


Types of Planning Documents

- WAC 173-240
  - General Sewer Plan (Comprehensive Sewer Plan)
  - Engineering Report

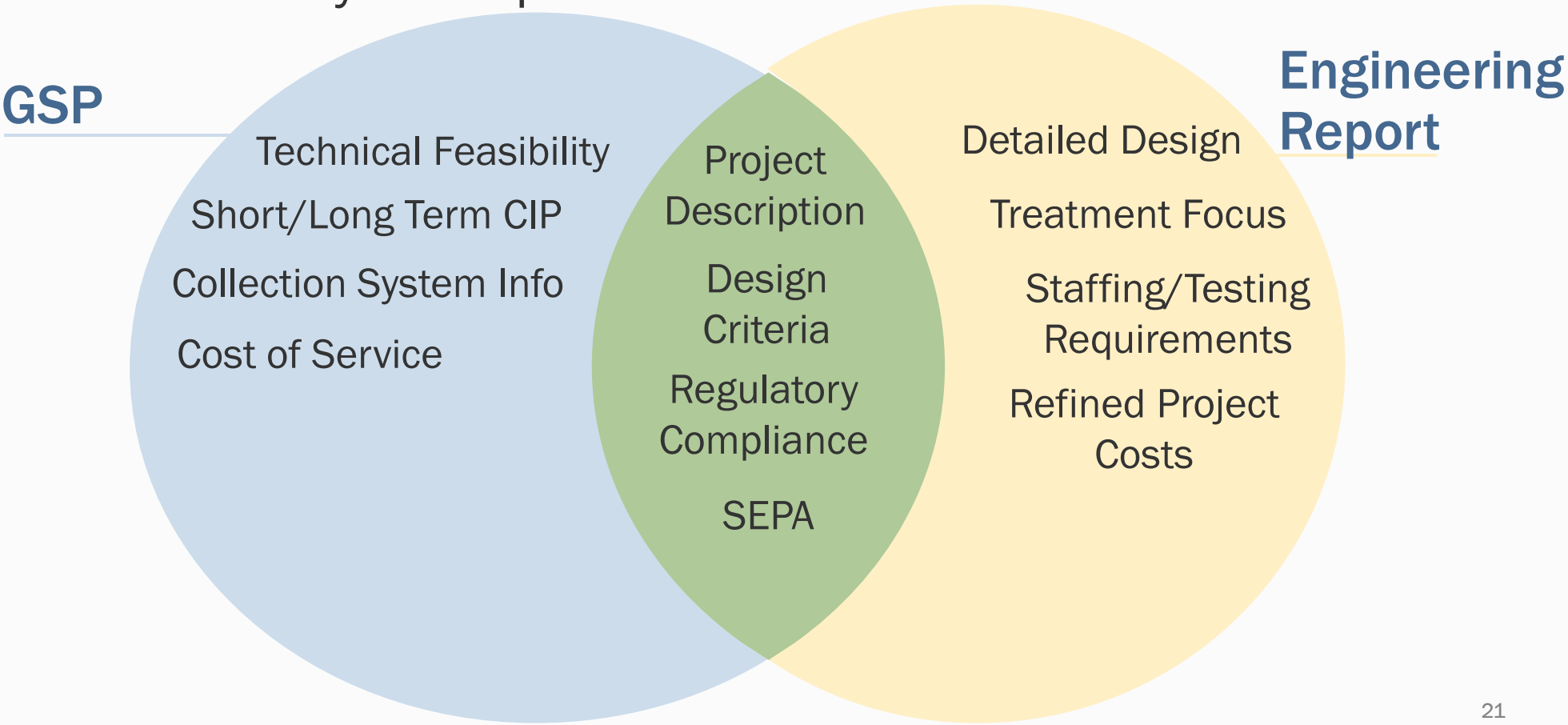
GSPs are not the same as a GMA Comprehensive Plan

Which Plan do I need? When?



GSP and Engineering Report

Where do they overlap?



Do I need Both? Can/Should I Combine Documents?

- It depends!
  - 173-240-060 (1) requires a current GSP on file, if not, the engineering report must include all appropriate elements of the GSP
  - Size and complexity of collection system and treatment is best gauge
    - Smaller systems and communities should consider one document meeting WAC 173-240-050 & 173-240-060
    - Large, complex collection & treatment systems should consider a stand alone GSP and separate engineering reports for planned improvements or challenges
  - Talk to your Region early

When do I need a new Planning Document?

- How old is the existing document?
  - Not based on GMA frequency
  - Provide a 20-year planning horizon

Our document is only 5 years old and our priorities changed, or new challenges are being faced. What do we do?

- Plans change! Knowing your plan and communication are key, especially if seeking funding.
- If the priorities are dramatically changed, a complete new ER may be easiest and least conflicting
  - Addendum
    - Add new information, details, further analysis of alternatives
  - Amendment
    - Change to the existing approved path forward
    - Present new alternatives

We're in a pinch and need to make an upgrade ASAP, can I skip the GSP or Engineering Report and submit a Tech Memo Instead?

- NO
  - Ecology does not have authority to review stand alone tech memos as planning

- Well, when are they appropriate?
  - As a report to the owners
  - Speak with your region
    - Tech memos can be used as addenda to existing planning that met WAC 173-240 requirements
    - More appropriate for Engineering Reports <20 years
    - Shouldn't be considered for a GSP

I know what we need to do for planning, now what?

- WAC 173-240-160 Requirement for a professional engineer.
  - Procurement governed by RCW 39.80
- Reports and Designs are to be prepared under the supervision of a professional engineer.
- Draft submittals should be stamped and dated. Final submittals also need to be signed.
- The Report or Design is still the community's responsibility. Community involvement is critical.

Dos, Don’ts, and Tips GSPs

DO

- Read your existing plans
- Provide clear maps
- Be involved, and provide feedback to consultant
- Address Ecology comments, ask questions or for clarity

Don’t

- Propose facility upgrades in stand alone GSPs (no AKART)
- Reference/direct to old documents without summation in the new
- Scramble last minute for approval

Tips

- Reference the WAC 173-240-050 requirements and provide a key
- Get your consultants on site!
- Real data and real observations in all seasons drives a better plan
- The weakest GSPs are done from a desk with minimal visits, relying on anecdotal information.
- Get an accurate map and model and consider CCTV
- If utilizing information from an older document, repeat it in the new report and cite. Saves review time.
- Peer review your work, Ecology should be approving the content, not document QA/QC
- Sloppy QA/QC suggests sloppy analysis

Dos, Don’ts, and Tips Engineering Reports

DO

- Be consistent with GSP if there is a stand alone
- Present a clear alternatives analysis
- Establish clear, specific design criteria
- Develop a project specific SEPA
- Develop life cycle costs for selecting the cost-effective alternative

Don’t

- Reference/direct to old documents without summation in the new
- Scramble last minute for approval
- Present half-baked ideas

Tips

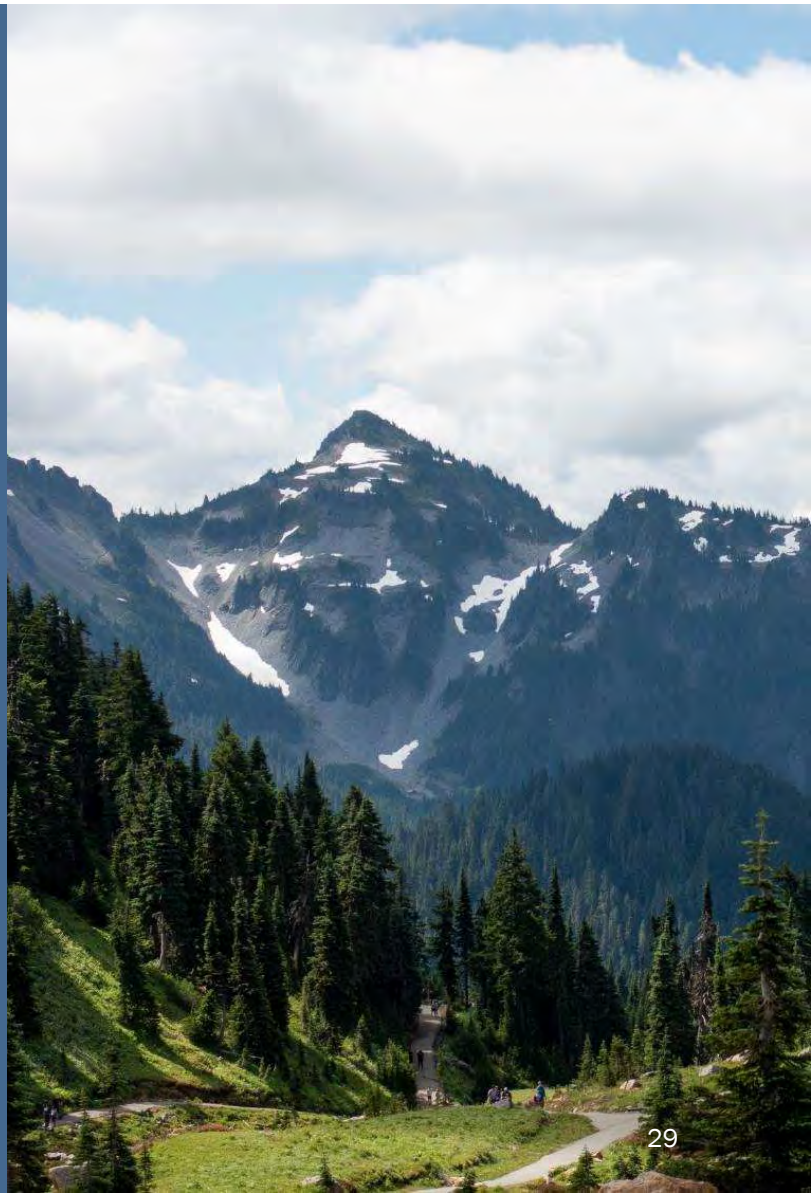
- Dial in the cost estimates
- Ecology is not the editor, polish the report prior to submitting
- There is no crystal ball, you can amend
- Own your document

What about SEPA?

- Project vs Non-Project SEPA
- Who is lead agency?
- We want to see the determination!

Design

Step 2



When should I involve Ecology?

- Early and often!
- Ecology Engineers and Permit Managers are here to help
- The planning should be sufficiently complete that the designs can be completed with minimal Ecology involvement
- The design needs to follow the approved ER or amendment and a SEPA may be required

What does Ecology need for a Review?

Planning

- 60 or 90-days
  - Consider time for revisions due to comments
- 30% design level in an ER
- SEPA Compliance

Plans and Specifications

- 60-days
- 90% complete package for review
- Specification Inserts
- If funded by Ecology, SERP prior to construction, no exception

Dos, Don’ts, and Tips Designs

DO

- Be mindful of review times.
- Submit at 90%
- Present the design criteria & match the engineering report

Don’t

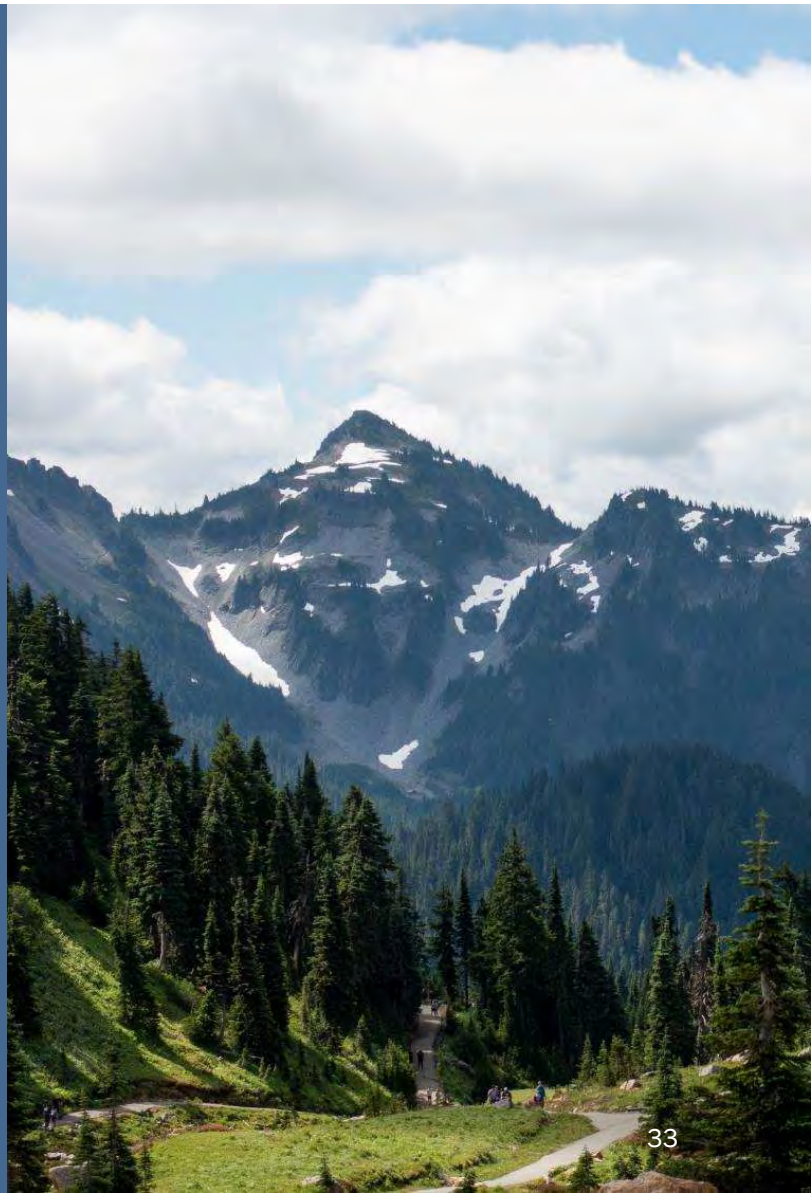
- Submit designs while still designing
- Expect design by review
- Expect quick turn arounds if you haven’t been discussing with Ecology
- Deviate from Engineering Report
- Start construction prior to receiving approval

Tips

- Double check your legends, key notes, and detail references
- Rubber is meeting the road and it takes a while to review hundreds of pages and sheets, be patient and plan ahead
- You can bid before approval, AT YOUR OWN RISK. NOT PREFERRED
- Your emerging deadline is not Ecology’s emerging deadline

Construction

Step 3



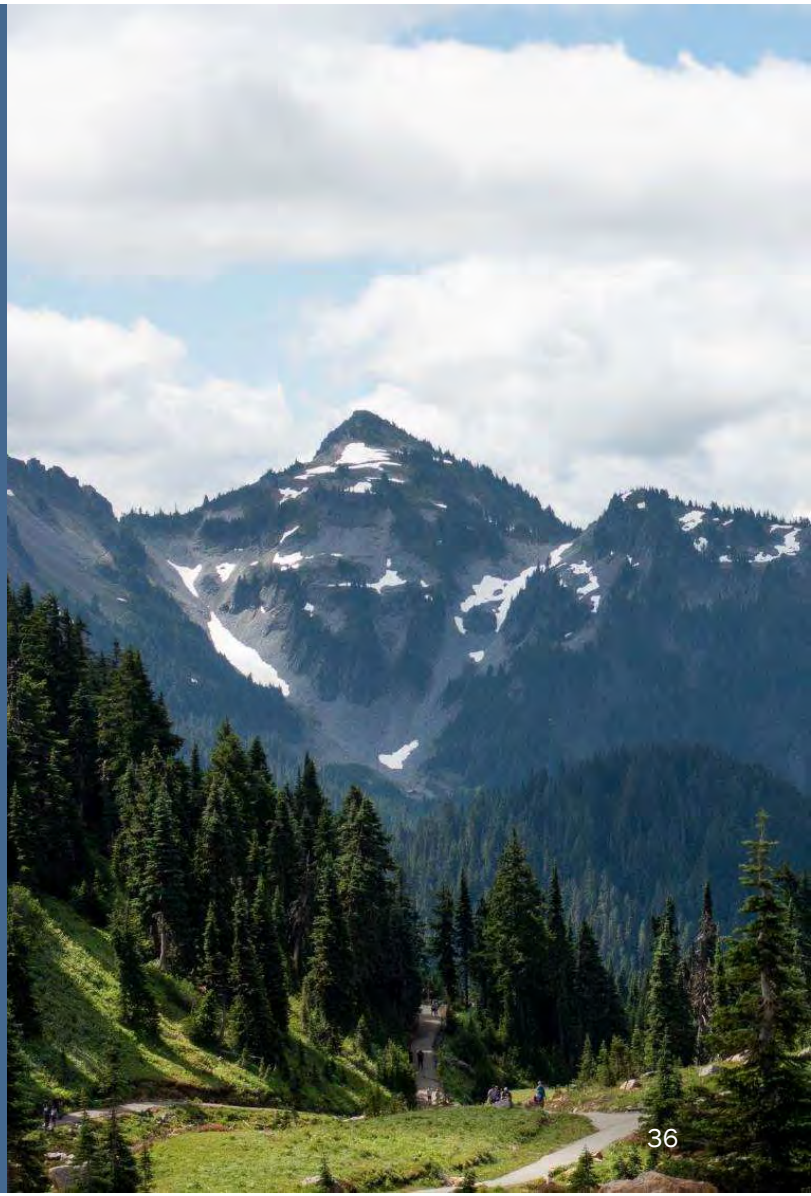
How will Ecology be Involved?

- Review of Construction Quality Assurance Plan
- Review conformance to plan of interim operations
- Participate in pre-construction meetings
  - Mandatory if funded by Ecology
- Construction meetings- as needed
- Change Order review and approval
- Site visits during construction
- O&M Manual review/approval

Change Orders

- We must review all change orders
- Engineering content needs a PE signature and seal
- Significant Change Orders require preapproval
- May be dictated in the funding agreements
- We may provide CWSRF $ up to 5% of the low bid
- Timeline (talk to us early)

Funding



How can I fund planning to construction?

- Many agencies offer funding for wastewater needs from planning to construction
- They are all here, seek them out!
- Tech Teams in the planning phase are a great way to confirm opportunities
- Your planning documents should provide a summary of how to fund proposed projects

*Ecology **DOES NOT** recommend funding projects under the table

So, You Want Ecology Funding?

- Ecology funds planning, design, construction and other activities (see funding guidelines)
- A single application for State Revolving Fund loans and Centennial Grants
- 50/50 forgivable and reduced interest rates for hardship communities
- Approved Planning is the gateway to design funding
- Approved Design is the gateway to construction funding
  - Don’t wait until Oct 1st

How can we write a competitive application?

- Follow the rubric in the funding guidelines (practice scoring your application)
- Applications are reviewed by multidisciplinary, multi-regional teams
  - Don't assume the reviewer knows all the content or status of your planning documents. Discuss it in the application
- Cost Estimates: SHOW YOUR WORK
- Don't include contingency as a separate item
- PAINT THE PICTURE: WHAT IS THE WATER QUALITY BENEFIT?

Application Points and Rating Criteria

place to maintain sufficient staffing levels to complete the project.

- **0-15 points**: The applicant documents successful performance on other funded water quality projects, including Ecology funded projects. Previously constructed projects provided the water quality benefits described in the project application on time and within budget.
- **0-40 points**: Applicant used a complete and well-defined set of criteria to determine the value and feasibly of the proposed project and included the useful life and long-term maintenance costs in their evaluation of the project and project alternatives.
- **0-20 points**: Applicant has provided documentation showing that key stakeholders have been identified and how they will support the project.
- **0-25 points**: The project schedule includes all tasks including pre-project administrative elements such as permitting, MOUs, landowner agreements, etc., and provides sufficient time to complete all elements.
- **0-75 points**: The applicant is ready to start on the proposed scope of work within 10 months of publication of the Final Offer List (a.k.a., readiness to proceed).
- **0-135 points**: Project proposes to reduce or prevent pollution in a waterbody that has been identified as a priority by a local, state or federal agency through the development of a federal, state or local water quality plan.
- **0-150 points**: The proposed project area is directly connected to the water body identified for improvement and applicant has provided sufficient technical justification to show the proposed project will reduce the pollutants of concern in the water body identified for improvement.
- **0-50 points**: Applicant has identified how the project will be evaluated in order to determine success, noted if the measure is quantitative or qualitative, and defined a goal.
- **0-100 points**: The water quality and public health improvements that will be achieved represent a good value.
- **0-50 points**: Applicant has a plan and commitments in place to fund long-term maintenance and sustain the water quality benefits of this project.
- **0-15 points**: How well does the applicant and the project address greenhouse gas emission reductions in accordance with RCW 70.235.070?
- **0 points**: If the applicant does not meet the criteria for wastewater construction hardship.
- **50 points**: If the applicant meets the criteria for wastewater construction hardship.

DEPARTMENT OF ECOLOGY
State of Washington

Protecting, preserving, and enhancing the environment

Questions?

Thank you

For further questions, or recommendations on engineering and review processes,

Please contact your regional engineers.

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	P.O. Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	P.O. Box 330316 Shoreline, WA 98133	206-594-0000
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Headquarters	Statewide	P.O. Box 46700 Olympia, WA 98504	360-407-6000

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ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request an ADA accommodation, contact Ecology by phone at 360-407-6831 or email at ecyadacoordinator@ecy.wa.gov. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's website for more information.