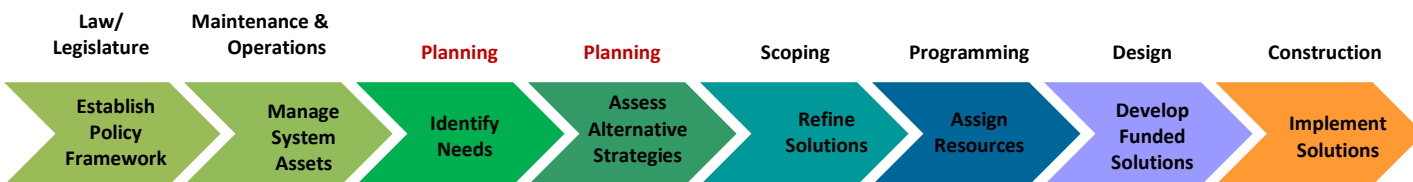


		Planning Phase	Scoping Phase	Preliminary Engineering (PE) Phase						
<p>This document offers “at-a-glance” information about deliverables during design and project development.</p> <p>Check appropriate resources and subject matter experts for details regarding specific deliverables for your project.</p>		Planning corridor sketch strategies	Scoping	Project Management Plan Development (endorse)	geometric design review (design approval)	constructability review	pre-contract re view	Contract documents ready (final review)	Contract ad and award	PE Phase Close Out
					~30%	~60%	~90%	100%		
contents	consult or discuss with									
1	<a href="#">Timeline actions and purpose</a>									
2	<a href="#">Project Management</a>									
3	<a href="#">Cost Estimates</a>									
4	<a href="#">Environmental Review, Permitting, &amp; Documentation</a>									
5	<a href="#">Cost Risk Estimating Management</a>									
6	<a href="#">Value Engineering</a>									
7	<a href="#">Pavement</a>									
8	<a href="#">Utilities and Railroad</a>   <a href="#">Dig once broadband</a>									
9	<a href="#">Access limited/managed</a>									
10	<a href="#">Real Estate Services</a>									
11	<a href="#">Right-Of-Way</a>									
12	<a href="#">Community Engagement</a>									
13	<a href="#">Design Documentation</a>									
14	<a href="#">Roadway Geometrics and Plans</a>									
15	<a href="#">Channelization and Pavement Marking Plans</a>									
16	<a href="#">Hydraulics &amp; Storm water</a>									
17	<a href="#">Survey &amp; Mapping</a>									
18	<a href="#">Structures</a>									
19	<a href="#">Illumination, Signals, and ITS</a>									
20	<a href="#">Geotechnical Recommendations</a>									
21	<a href="#">Work Zone Traffic Control</a>									
22	<a href="#">Traffic Analysis</a>									
23	<a href="#">Safety Analysis</a>									
24	<a href="#">Signing</a>									
25	<a href="#">Temporary Erosion and Sediment Control (TESC)</a>									
26	<a href="#">Specifications</a>									
27	<a href="#">Maintenance</a>									
28	<a href="#">Roadside Restoration &amp; Landscape Architecture</a>									

**LEGEND**

Blue shading = a newer row, added since earlier versions of the deliverable’s expectations matrix
Orange shading = these groups/activities may be involved at these times in your project
Grey = sometimes these activities are happening during this time frame



## Deliverables Expectation Matrix

Communicates typical expectations for project deliverables and helps establish mutual understanding of these expectations.

Provides a “schematic” of the Project Development Process at WSDOT - The matrix is foundational to seasoned project managers, project teams, staff, and our consultant partners. The matrix offers additional value as a guide for staff learning how to complete a WSDOT project.

This tool is used to help plan and execute work for project development. The matrix offers Quality Control, Quality Assurance and Quality Verification benefits. The matrix helps team readiness for project reviews and organizes the project development process as follows:

Planning (corridor sketch strategies)

Scoping

Project Management Plan Development (endorse)

Geometric design review / design approval (~ 30% design level)

Constructability review (~60 design level)

Pre-contract review (~90% design level)

Contract documents ready (~100% design level)

Contract ad and award

PE Phase Close Out

For some projects, a “pre-design” phase may be used if needed to validate the scope.

See: [Project Delivery Memo #19-03 - BOD & Pre-design Implementation](#)

[Deliverables Expectation Matrix](#)

[Master Deliverable List \(MDL\)](#)


[Project Management Guide](#)


**Target Audience for the Deliverables Expectations Matrix includes...**

project teams	new designers	subject matter experts	traffic
consultants	design	design-builders	specialty firms

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out					
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction					
<b>1. Timeline actions and purpose</b>	project profile informs scoping and design start; begin Basis of Design with initial baseline project need	Identify team members <ul style="list-style-type: none"> <li>consultants, wsdot staff, or combination</li> <li>core team members</li> <li>extended team members</li> <li>roles and responsibilities</li> </ul> project endorsement design criteria draft assumptions deliverable requirements project delivery method	design criteria final design decisions design approval Design Manual Ch. 300 Basis of Design complete	major design elements completed underground & overhead conflicts identified resolve conflicts: utilities, drainage, etc. review constructability 3D modeling complete	deliverables substantially complete  document to reviewers	Region PS&E review (typically, 10 weeks).	WSDOT publicly solicits bids from contractors to construct the project.	organized cessation of activities; transition work or staff  Archive required records					
<b>2. Project Management</b>	corridor level vision	<b>Design Manual 305</b> <a href="#">PMP &amp; work plan (DBE goals)</a> <a href="#">Project Kickoff (initiate &amp; align worksheet)</a> Baseline schedule and Budget Risk Management Plan Communication plan Change management plan <a href="#">Quality Management Plan (QA, QC, QV)</a> Endorsement Executing work	<table border="1"> <tr><th>Quality</th></tr> <tr><td><b>Control</b> – actions at the production level to deliver the desired quality and professional services.</td></tr> <tr><td><b>Assurance</b> – actions to ensure prudent quality control procedures are in place.</td></tr> <tr><td><b>Verification</b> – actions to ensure a Quality Management Plan (QMP) was implemented and followed.</td></tr> <tr><th>Constructability</th></tr> <tr><td>Goals of Constructability</td></tr> <tr><td> <ul style="list-style-type: none"> <li>Maximize ease with which a project is constructed while maintaining quality, standards, and meeting expectations.</li> <li>Integrate construction expertise into the design to optimize efficiency during construction.</li> <li>Ensure design is environmentally and socially responsible and continues during construction.</li> </ul> </td></tr> </table>			Quality	<b>Control</b> – actions at the production level to deliver the desired quality and professional services.	<b>Assurance</b> – actions to ensure prudent quality control procedures are in place.	<b>Verification</b> – actions to ensure a Quality Management Plan (QMP) was implemented and followed.	Constructability	Goals of Constructability	<ul style="list-style-type: none"> <li>Maximize ease with which a project is constructed while maintaining quality, standards, and meeting expectations.</li> <li>Integrate construction expertise into the design to optimize efficiency during construction.</li> <li>Ensure design is environmentally and socially responsible and continues during construction.</li> </ul>	Official closure and handoff Lessons learned recognized accomplishments organized end of design activities transition of work or staff documentation per retention requirements
Quality													
<b>Control</b> – actions at the production level to deliver the desired quality and professional services.													
<b>Assurance</b> – actions to ensure prudent quality control procedures are in place.													
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<b>3. Cost Estimates</b>	Basis of Estimate Preliminary cost estimate developed for Project Definition	updated estimate & basis Budget assumptions communicated  Determine if project needs: Value Engineering and/or Risk Assessment updated estimate & basis	Begin item by item Project Estimate (update basis of estimate) R/W Project Funding Estimate completed	Estimate item quantities and unit costs. (update basis of estimate)  updated estimate & basis Pay groups and pay items determined	Check that all items are included and correct. (update basis of estimate)  Cost estimate completed with below the line items. Summary of quantities completed, item prices determined,  lump sum cost detail completed	engineer’s estimate at ad  Verify that all items are included and correct. (final basis of estimate)  Construction estimate finalized							
<b>4. Environmental Review, Permitting, &amp; Documentation</b>	Identify and confirm level of required environmental documentation.		Coordination with agencies	Coordination with agencies	Coordination with agencies	Coordination with agencies							
	Environmental Review Summary completed.	Verify permits and documentation needed  Environmental budget and schedule submittal Agreement on Area of Potential Affect for Section 106 and Action Area for ESA coordination with agencies  Environmental surveys of project footprint  Complete necessary Env docs and permits to complete Geotech work	NEPA/SEPA compliance documentation	NEPA/SEPA Compliance documentation  Environmental Permit Applications	NEPA/SEPA compliance documentation	NEPA/SEPA Compliance documentation  Environmental Permit Applications							

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
<b>5. Cost Risk Estimating Management</b>	Early determination of project needs for project risk assessment: Cost Risk Assessment, CRA or Cost Estimate Validation Process, CEVP.	Project Risk Assessment process steps are built into the project management plan, work schedule and scope of work.  Review the Project Risk Management Guide. milestones for Scope, Schedule and Estimate are used to inform the timing of activities for project risk assessment. This includes updates.  Establish milestones for cost risk assessment prep meetings and activities, workshop(s), and post workshop activities in the project schedule.  Schedule Risk monitoring and control activities.	Status of project risks. Update analysis if needed.	Status of project risks. Update analysis if needed.	Status of project risks. Update analysis if needed.	Prepare summary of project risk status.		Transfer summary of project risk status to construction office.
<b>6. Value Engineering</b>	Early determination of benefit of Value Engineering for the project.	Review the Value Engineering chapter of the Design Manual. Value Engineering is an effective process for ensuring Practical Design. Value Engineering activities are built into the project schedule.	Value Engineering workshop.	Implementation of Value Engineering recommendations.	Follow-up and follow-through of value engineering recommendations.	Prepare summary of value engineering recommendations as implemented into the final design.		
<b>7. Pavement</b>	Scoping Level Pavement Design Report completed, including: o WSPMS/Historical Data/Maintenance Input o Projected Traffic Type/Usage o Existing Conditions/Primary Deterioration o <a href="#">HATS</a> o <a href="#">Pavement Policy</a>	Scoping Level Pavement Design reviewed Region materials Pavement Design Report requested Preliminary Pavement Type Selection Completed  Field and Core Investigation completed  Draft Pavement Design Report completed	Draft Pavement Type Selection completed  Draft Pavement Design Report approved by Region, (sent to Pavement Office for concurrence)	Pavement Type Selection submitted to Pavement Office for Final Approval  Draft Pavement Design Report completed  Final Pavement Design Document stamped by Region and forwarded to Pavement Office for signed concurrence	Final Pavement Design Report with Region stamp and Pavement Office signed concurrence to Region for Plan Review		Pavement Repair quantities and locations reviewed with Construction PEO for verification of field accuracy	

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
<b>8. Utilities and Railroad</b>	Project Engineering Office (PEO) identifies properties that may be impacted within project limits and holds an interdisciplinary project kickoff meeting.	<p>Review accommodations for utilities within existing ROW boundaries. Utilities within the project limits notified, asking for existing easements, determines cost responsibility.</p> <p>Franchise and permit documentation collected.</p> <p>Utility As-Builts requested.</p> <p> It is highly encouraged to avoid impacting utilities outside WSDOT jurisdiction. When performing a project outside WSDOT ROW, cities and utility owners assert that WSDOT has no legal authority to require a relocation at the utility's cost. WSDOT cannot legally use project costs to pay to relocate a utility who occupies the ROW on a franchise. Consult with Region or HQ Utility Office.</p>	<p>PEO begins to Develop utility location "base map" in coordination with Region Utilities.</p> <p>Mark utility locate limits.</p> <p>Request design locates, including potholing.</p> <p>Discuss performing Subsurface Utility Engineering with PEO if necessary.</p> <p>PEO creates utility conflict matrix with consultation with Region Utilities.</p> <p>Retrieves and distributes easement documentation from utility owners to Region RES and PEO.</p> <p>Project Overview meeting w/Utility Owners.</p> <p>Franchise/Permit process initiated; cost recovery accounts initiated.</p>	<p>Determine strategy to address utility conflict*. Options include (in order of preference):</p> <ul style="list-style-type: none"> <li>•Avoid utility conflict through project design or otherwise</li> <li>•Minimize conflict or protect utility in place during project (may require Utility Agreement)</li> <li>•Relocate utility and easement, when feasible</li> </ul> <p>*For utilities with existing property rights (e.g. easements) consult the Real Estate Services/Utility Offices Project Development Coordination Process Roles &amp; Responsibilities matrix.</p> <p>Utility project coordination meetings, ongoing as needed.</p> <p>Develop Utility Relocation (construction) Agreement, if needed. (WSDOT standard form or non-standard).</p> <p>Utility Relocation Plan information and specifications incorporated in PS&amp;E.</p>	<p>Execute Utility Relocation (Construction) Agreement (WSDOT standard form or non-standard) (update basis of PS&amp;E, as needed).</p> <p>Utility relocation and schedule monitored, and coordination completed.</p>	<p>Update WSDOT Utility Franchise documentation, as needed.</p>	<p>Utility relocation work completed, or timeline established.</p>	<p>For utilities with a property right (e.g. easement), the quitclaim-deed documentation must be completed after construction is complete.</p>
<b>Railroad</b>	Potential railroad impacts identified	<p>Railroad issues identified.</p> <p>Railroad Liaison initiates contact with affected railroad. Submits concept of project.</p> <p>Railroad site visits scheduled.</p>	<p>Railroad reviews impact to railroad property per Grade Separation Guide.</p> <p>Railroad Liaison assist with the development of GSPs.</p>	<p>Construction and Maintenance Agreement or permits drafted.</p>	<p>Railroad standard Construction Maintenance Agreement (C&amp;M) or permits obtained.</p>	<p>Washington Utilities Transportation Commission (WUTC) petition for railroad crossings submitted (if needed).</p>	<p>WUTC issue order for construction (if needed).</p>	
<b>Dig once – broadband utilities</b>		<p>Utility expresses interest in a 'dig once' project – 30% cut off</p> <p>HQ Utilities consults with PEO to confirm feasibility</p>	<p>Utility fiber location plans started</p> <p>Utility applies for a Franchise/Permit</p>	<p>Utility fiber location plans finalized</p>	<p>Utility Franchise/Permit issued</p>			<p>Coordinate with Construction Office regarding 'dig once' project</p>

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
<b>9. Access limited/managed</b> DM 520, 530, 540, 550, 1103 M 210 (hearings)	Define existing access status; managed access and/or limited access A choice to change current or planned access is to be consistent with the contextual information, desired performance targets, and modal priorities. DM 1103. Evaluate Access Master plan - determine most appropriate access control. Document in BOD Section 3. Identify general project impacts to access.	Limited access Identify affected abutters for access report and hearings. Determine if an access hearing is required. Evaluate access connections and identify improvements. Limited Access Change Access hearing required or notice of opportunity for a hearing. Access hearing Access Report and Access Report Plan prehearing packet	Access Hearing Plan and hearing process Findings and Order Plan Appeal Period Resume	New Limited Right of Way Limited Access Plan				
		Managed Access Review grandfathered approaches and existing permitted approaches. Evaluate access connections and identify improvements. Is it appropriate to combine or close connections and reduce traffic conflicts?	Managed Access Control Permits in the RAMPS database, reviewed, and updated. RAMPS = Roadway Access Management Permit System	Note: Managed Access connections are <b>not</b> noted on the Right-Of-Way plans. There is no Right-Of-Way plan change unless WSDOT requires Right-Of-Way.				
<b>10. Real Estate Services</b> Right of Way Manual, Ch 3, 6, 12, 17**; DM 510 Heather Lindstrom Kevin Workman	Project identifies property required for public facility, including square footage, access rights, easements, temporary easement, and any property impacts. Project must consider, with RES engagement, significant right of way elements, including Relocation planning, functional replacement if property is publicly owned, 4f, 6f, Railroad, Federal, and State acquisitions. Lack of early engagement tends to result in delays and additional unanticipated expenses.	<u>Early Involvement</u> RES assists in minimizing ROW costs, estimating acquisition schedule, defining route locations and acquisition areas, and determines possible problems, risks, and solutions. <u>Cost and Schedule</u> <u>Required from others:</u> • Draft work limits - Survey/plans/exhibits • Scope of work • Draft schedule <u>Deliverable:</u> • Preliminary acquisition schedule estimate • Pre-scoping cost estimates based on project size, location, known elements & historical costs. <u>Acquire Environmental permits</u> (See Environmental #4) for cultural resources, Geotech, environmental assessments. <u>Required from others:</u> • Property information • Timing • Detail of work being requested <u>Deliverable:</u> • Fully executed and paid permit	<u>Title Reports</u> <u>Required from others:</u> • Request for title reports for identified parcels including project limits and/or draft plans <u>Deliverable:</u> • Title Reports provided to project office and Right of Way Plans office <u>Cost and Schedule</u> <u>Required from others:</u> • Reds/greens from Right of Way Plans office <u>Deliverable:</u> • ROW cost estimates from RES (project funding estimates (PFE)) • Updated acquisition schedule <u>RES activities:</u> • Performs field inspections as appropriate • Relocation Plan completed • Introductory letter to property owners	<u>Acquisition Process Begins</u> <u>Required information from others:</u> 1) Approved Right of Way Plans 2) Final Environmental Documentation 3) RW Phase funded (work order approved) <u>RES activities:</u> • Valuations started. • Written offers to property owners upon receipt of valuations. • Relocation activities	<u>Ongoing Acquisition and Relocation</u> <u>Required information from others:</u> • Allow RES the opportunity to review PS&E package for certification purposes*  Any changes to the property requirements will force the acquisition process to start over resulting in significant delays. This is a legal requirement. The ROW plan will need to be updated, valuations updated, and new written offers will need to be made to the property owner with the negotiation period starting over. Cost and schedule will need to be updated.	<u>ROW Acquisition Complete</u> <u>Deliverable:</u> • Necessary property rights are acquired • Relocation requirements are met and occupants vacated • Vacate inspections completed • Encroachments cleared • Demolition may occur	<u>Certification</u> <u>Required from others:</u> • Project must obtain, utility, railroad, haul road, detour routes, turnback agreements, local agency agreements, and provide copies to RES for certification <u>Deliverable:</u> Right of Way Certification approved (must be completed 30 days prior to ad date)	<u>Property Information Package</u> <u>Deliverable:</u> • Copy of ROW Certification • Copies of property rights documents including deeds, easements, and possession and use agreements • Copies of permits • Copies of construction memorandums

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
			<ul style="list-style-type: none"> <li>Attend open house</li> <li>Attend access hearing</li> <li>Examine title reports</li> </ul>					
<p><b>11. Right-Of-Way</b></p> <p>Right of Way Manual, Chapter 6</p> <p>Design Manual 510</p>	<p>Property required for a public facility, includes square footage, access rights, easements, and any property impacts.</p> <p>Consider significant right of way elements in accordance with the <i>Right of Way Manual</i>.</p>	<p>Real Estate Services assists in minimizing right of way costs, defining route locations and acquisition areas, and determining potential problems and possible solutions.</p> <p>Appraisals and Acquisition information</p>	<p>Plan development: "red line R/W plan"</p> <p>R/W cost estimates made by Real Estate Services.</p> <p>Request title reports for identified right of way parcels.</p> <p>Real Estate Services performs field inspections as appropriate.</p>	<p>Confirm status of right of way acquisition.</p> <ul style="list-style-type: none"> <li>Examine Title reports.</li> <li>Add easements to right of way and limited access plan.</li> <li>Obtain utility, railroad, haul road, detour routes, or other essential agreements. <i>Utilities Manual</i> and the <i>Agreements Manual</i>.</li> <li>Plan right of way acquisition, disposal, and maintenance.</li> <li>Plan easements and obtain permits (to accommodate activities outside of the right of way).</li> </ul>	<p>Right-of-way acquisitions complete.</p>			
<p><b>12. Community Engagement</b></p>	<p>multimodal, multiagency, multidisciplinary engagement concept team launch</p> <p>create stakeholders list</p> <p><i>get input from region communications</i></p>	<p>community engagement plan complete</p> <p>confirm need &amp; context</p> <p>Design controls</p> <p>Alternatives Analysis</p> <p>preferred alternative</p> <p>Elements/Dimensions</p> <p>Identified</p> <p>Dimensioned</p>	<p>Investigate design concepts that</p> <p>Incorporate community feedback</p>	<p>Investigate design concepts that</p> <p>Incorporate community feedback</p>	<p>Community engagement ideas fully implemented into contract plans</p>			

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
<b>13. Design Documentation</b>	<a href="#">Context and Modal Assessment Report (CMAR)</a> complete  BOD initiated	Section 1 and 2 of the BOD complete. Baseline and contextual needs including performance metrics and targets. Context determined. Section 3 and 4 in draft form circulated for concurrence.	All sections of BOD complete and BOD approved	If a separate Design Approval is necessary, it should be completed in this phase.  Design Analysis completed.	Project Development Approval complete or combined Design Approval/Project Development Approval complete.	Design Documentation Package complete		Design documentation transferred to construction project office.
<b>14. Roadway Geometrics and Plans</b>	Project limits identified  Affected alignments identified  New versus existing alignment  Target speed  Preliminary design criteria established	Design criteria and parameters approved Preliminary footprint designed	Typical roadway section(s) completed; station to station roadway geometrics, surfacing type & depth, slope information, guardrail, vertical cut locations, and construction notes  Mainline and major horizontal, & vertical alignments, and superelevations designed	All horizontal & vertical alignments & superelevations completed  Design Analysis approved  DDP updated as required	All geometric plans completed (alignment, profiles, roadway sections, interchange contours, site preparation, road approach plans, etc.)  Design compared to endorsed design criteria/parameters	Final Plans for PS&E contract		
<b>15. Channelization and Pavement Marking Plans</b>		Intersection Control Analysis (ICA) approved (if not already complete in scoping)	Roundabout Geometric Design Peer Review complete.  Intersection Plans for Approval submitted for review.  Signal permits completed.  Striping material selected.	Design Analysis submitted and approved Intersection plans for approval complete	All plans completed Approved Channelization Plan verified for consistency with pavement marking plans and specifications			

	Scoping	project management plan development	geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse	~30%	~60%	~90%	100%	bid letting	transition to construction
<p><b>16. Hydraulics &amp; Storm water</b></p> <p>see Temporary Erosion and Sediment Control (TESC)</p>	<p>Drainage needs identified in accordance with Maintenance and Regional Hydraulics</p>	<p>Stormwater Management requirements identified</p> <p>Design criteria identified</p> <p>Water quality requirements identified</p> <p>Stormwater Retrofit Cost-Effectiveness and Feasibility (RCEF) Phase I Analysis complete</p> <p>Confirm specific criteria for:</p> <ul style="list-style-type: none"> <li>- Fish Passage</li> <li>- Chronic Env Deficiency</li> <li>- Major Drainage</li> <li>- Bridge Scour/ replacement</li> </ul>	<p>Stormwater Management strategies, including locations for treatment and/or flow control, identified (to meet hydraulic and stormwater requirements)</p> <p>Sensitive Area Documentation completed (Water Resource Inventory).</p> <p>Stormwater Management Strategy endorsed by region or HQ hydraulics engineer</p>	<p>60% check-in / Hydraulic Report Checklist</p> <p>TS&amp;L of drainage facilities determined</p> <p>draft Hydraulic Report, - Document needs</p> <ul style="list-style-type: none"> <li>- Existing basins &amp; flows for anticipated Threshold Discharge Areas</li> <li>- Identify Minimum -- Requirements from Highway Runoff Manual (HRM).</li> </ul> <p>Hydraulics Report submitted to region for review and approval</p> <p>Hydraulic Report Submitted</p> <p>Preliminary Stormwater Management options to identify R/W needs completed</p> <p>Preliminary Hydraulics Design, i.e., stream design</p> <p>Stormwater RCEF Phase II Analysis complete</p>	<p>Hydraulic Report Final approved verified for consistency with plans and specifications</p> <p>Stormwater details completed</p> <p>As a result of previous Stormwater RCEF analysis, if applicable, transfer stormwater retrofit funds to the I-4 Subprogram, Stormwater Retrofit Category</p> <p>Final Hydraulic Design, i.e., stream design</p>			
<p><b>17. Survey &amp; Mapping</b></p>	<p>LIDAR or existing aerial photos or other preliminary information.</p>	<p>Project survey requirements finalized, including areas that may be outside roadway corridor improvements.</p> <p>Project survey control completed Cadastral survey performed. Topographic Survey complete.</p>	<p>Design level mapping completed Record of Survey completed and filed Right of Way plan completed and approved Relocation plan completed</p>	<p>Mapping of new roadway features completed Field review of proposed features completed</p>	<p>DNR Permits to Destroy Monuments obtained</p>	<p>Preliminary construction staking data completed</p>		

	Scoping	project management plan development		geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse		~30%	~60%	~90%	100%	bid letting	transition to construction
<p><b>18. Structures</b> (Bridges, Retaining Walls, Noise Walls, high mast lighting, sign structures) Also, refer to <a href="#">“Structural Submittal Expectations Matrix”</a>.</p>	<p>Determine needed structure and/or geotech work.</p> <p>Square footage cost estimates of structures</p>	<p>Structural Input for Environmental Documentation and Permits</p> <p>Begin Coordination: project scope, preservation activities, construction staging, layout and span lengths, design constraints, seismic operational classification</p> <p><u>Submittal:</u> TS&amp;L (when required)</p>	<p>Structural Participation in Agency Coordination</p> <p>Finalize Scope of Work Agreements</p>	<p><a href="#">Refer to Deliverables in the Structural Matrix “Bridge Preliminary Plan”</a></p> <p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>Structure Site Data</b></li> <li>• <b>Preliminary Hydraulic Design (PHD)</b></li> <li>• <b>Geotechnical Information for Bridge Preliminary Plan</b></li> </ul> <p><u>Submittal:</u> Draft Bridge Preliminary Plan</p> <p><u>End of Phase Document:</u> Approved Bridge Preliminary Plan</p>	<p><a href="#">Refer to Deliverables in the Structural Matrix “Constructability Review Set”</a></p> <p><u>Required Information from Others (4 weeks prior to submittal):</u></p> <ul style="list-style-type: none"> <li>• <b>Geotechnical Information for Bridge Substructure Design</b></li> <li>• <b>Draft Bridge Scour Recommendations</b></li> </ul> <p><u>Submittal:</u> Constructability Review Set</p> <p><u>End of Phase Document:</u> Finalized Comment Resolution Form</p>	<p><a href="#">Refer to Deliverables in the Structural Matrix “PS&amp;E Review Set”</a></p> <p><u>Required Information from Others (6 weeks prior to submittal):</u></p> <ul style="list-style-type: none"> <li>• <b>Final Geotechnical Recommendations</b></li> <li>• <b>Final Hydraulics Design (FHD)</b></li> </ul> <p><u>Submittal = End of Phase Document:</u> PS&amp;E Review Set</p>	<p><a href="#">Refer to Deliverables in the Structural Matrix “Signed PS&amp;E Set”</a></p> <p><u>Submittal:</u> Signed PS&amp;E Set (2 weeks prior to End of Phase)</p>		<p><u>Submittal = End of Phase:</u> Bridge Load Rating</p>
<p><b>19. Illumination, Signals, and ITS</b></p>	<p>Establish required light levels (roadway and pedestrian classification).</p> <p>Determine ITS needs and preliminary equipment locations.</p>	<p>Coordinate with signal operations for any proposed new or modified traffic signal systems. Signal operations will develop signal-phasing plan(s) as part of signal system analysis. Start speed study for existing intersections.</p> <p>Begin collection of as-built data for existing locations.</p>	<p>As-built information collected and verified on-site with maintenance.</p> <p>Illumination Light Level Analysis complete.</p> <p>Signal phasing plan complete. Preliminary signal plan approved.</p> <p><b>Pole locations provided to design for coordination of grading and drainage</b></p> <p><b>Confirm lateral bearing pressure design for poles</b></p> <p>Wind load charts for signal standards</p> <p>Contact structural designer for poles mounted on structures.</p> <p>Determine preliminary utility connections (power or communications) and initiate coordination with serving utilities.</p>	<p>Box/vault, cabinet, and conduit layout complete.</p> <p>Wiring / network (fiber) diagram complete.</p> <p>Signal display and detection laid out and identified.</p> <p>Provide data to Bridge and Structures Office for any special design equipment or foundations.</p>	<p>All notes and schedules complete, including review and approval of supporting calculations.</p> <p>Supporting detail plans complete.</p> <p>Provide service agreement requests (power or communications) to utilities office for processing.</p>	<p>Final plans complete.</p> <p>Service agreements complete.</p>			
<p><b>20. Geotechnical Recommendations</b></p>	<p>Scoping level cost estimate for project/workforce planning, based on project size, location, known elements &amp; historical costs.</p>	<p>Support for TS&amp;L</p> <p><u>Submittal:</u> TS&amp;L (when required)</p>	<p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>PMP</b></li> <li>• <b>Work Request</b></li> <li>• <b>Scope of Work Agreement</b></li> <li>• <b>Draft Schedule</b></li> </ul>	<p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>Project Site Data.</b></li> <li>○ <b>Mainline and major horizontal &amp; vertical alignments</b></li> </ul>	<p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>Approved Bridge Preliminary Plan</b></li> <li>• <b>Roadway sections</b></li> <li>• <b>Draft Bridge Scour Recommendations</b></li> </ul>	<p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>Final Hydraulic Design (FHD)</b></li> </ul> <p><u>End of Phase Document:</u></p>	<p><u>Required Information from Others:</u></p> <ul style="list-style-type: none"> <li>• <b>PS&amp;E Review Set</b></li> </ul> <p><u>Submittal:</u></p> <ul style="list-style-type: none"> <li>• <b>PS&amp;E review comments</b></li> </ul>	<p><u>End of Phase Document:</u></p> <ul style="list-style-type: none"> <li>• <b>Decommissioning of wells</b></li> </ul>	<p>Project close out &amp; transition to Construction support</p>

	Scoping	project management plan development		geometric design review	constructability review	pre-contract review	Contract documents ready (final review)	Contract Ad and Award	PE phase Close Out
	corridor sketch / planning study	endorse		~30%	~60%	~90%	100%	bid letting	transition to construction
			<p><u>Submittal:</u> Cost estimate provided, based on project size, location, known elements &amp; historical costs.</p> <p><u>End of Phase Document:</u></p> <ul style="list-style-type: none"> <li>• PMP endorsement</li> <li>• Scope of Work agreements initiated</li> <li>• Draft Schedule</li> </ul>	<ul style="list-style-type: none"> <li>○ Typical roadway section(s)</li> <li>○ TS&amp;L of <u>all</u> Structures</li> <li>○ Wall Site Data</li> <li>○ Hydraulic/Storm water features</li> <li>• Field Exploration Clearances, ROE, and cultural resources.</li> <li>• Preliminary Hydraulic Design (PHD)</li> </ul> <p><u>Submittal:</u></p> <ul style="list-style-type: none"> <li>• Geotechnical Information for Bridge Preliminary Plan</li> <li>• Drilling Exhibit for ESA</li> </ul> <p><u>End of Phase Document:</u></p> <ul style="list-style-type: none"> <li>• Final SOW Agreement</li> <li>• Final Cost estimate &amp; Schedule</li> </ul>	<ul style="list-style-type: none"> <li>• Survey Borehole locations</li> </ul> <p><u>Submittal:</u></p> <ul style="list-style-type: none"> <li>• Field Exploration Plan &amp; utility locates</li> <li>• Soils Data to Hydraulics</li> <li>• Geotechnical Information for Bridge Sub-Structure Design</li> </ul>	<ul style="list-style-type: none"> <li>• Final Geotechnical Recommendations (Report/Memorandum)</li> </ul>	<p><u>End of Phase Document:</u></p> <ul style="list-style-type: none"> <li>• Summary of Geotechnical Conditions</li> </ul>		
<b>21. Work Zone Traffic Control</b>	Basic traffic control strategies & alternatives identified. Projects of significance must have Traffic Management Plan (TMP) scoped.			Preliminary Traffic Management Plan/Traffic Control Plan	TMP showing construction sequence and staging completed	Final TMP completed. Final detour plans completed	TMP, including traffic control plans completed and associated Specials approved		
<b>22. Traffic Analysis</b> Operations Analysis Access Revision Report (ARR)	<ul style="list-style-type: none"> <li>• Scoping level operational analysis complete for alternatives consideration</li> </ul>	<ul style="list-style-type: none"> <li>• Operations analysis scope determined</li> <li>• Traffic data collected</li> <li>• Perform Operations Analysis</li> <li>• Intersection Control Evaluation (ICE) approved (if not already complete in scoping)</li> </ul>	Operations analysis complete. ARR complete (note: the ARR was previously known as the Interchange Justification Report, IJR).	Assumptions and conclusions in Operations Analysis verified for consistency with design.					
<b>23. Safety Analysis</b> Crash Analysis Report (CAR)	Reference Safety Analysis Guide for what will be needed for safety analysis for the funding program.  CAR is complete if funded from the Collision Reduction program.	Gather data necessary for Safety Analysis. Perform Safety Analysis	Safety Analysis complete.	Assumptions and conclusions in Safety Analysis verified for consistency with design.					

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<b>24. Signing</b>		<ul style="list-style-type: none"> <li>Contact Region Traffic Office to discuss scheduling, scope of project, and needed information for sign design</li> <li>Gather and deliver signing information to the Traffic Office</li> </ul>	<ul style="list-style-type: none"> <li>Existing signs to reuse and relocate defined</li> <li>Existing sign inventory complete (include electrical items for sign lighting, flashing beacons, or variable/dynamic message signs)</li> <li>Potential conflicts between light standards, camera poles, and signal poles with signs identified</li> <li>Requests for sign structures submitted to HQ Bridge and Structures</li> <li>Preliminary Guide Sign Plan developed</li> <li>Preliminary Lump Sum Estimate calculated</li> </ul>	<ul style="list-style-type: none"> <li>Visual standards for corridor coordinated with Landscape Architect</li> <li>Signing plans, notes, sign specifications completed</li> <li>Conflicts with illumination, camera poles, and/or signal features, drainage or utilities identified</li> <li>Coordination with luminaires on structures or walls identified and mounting/foundation details completed</li> <li>Updated Lump Sum Estimate</li> <li>Utility Agreement and Utility Relocation Requests submitted</li> <li>Sign layout complete, include overhead signs</li> </ul>	<ul style="list-style-type: none"> <li>Updated Sign Design Plan Sheets (Sign Specification Sheets – Removal, Relocation, &amp; Roadside Sign Structures; Sign Plans; Sign Details)</li> <li>Overhead Sign Structure Plan Sheets completed</li> <li>Update Lump Sum Estimate</li> </ul>			
<b>25. Temporary Erosion and Sediment Control (TESC)</b>	<p>Extent of anticipated ground disturbance identified</p> <p>Need for environmental permits identified (including but not limited to NPDES)</p> <p>Preliminary identification of specific site conditions (sensitive areas, contamination, etc.) and potential environmental commitments</p> <p>Environmental Review Summary (ERS) developed and submitted to Region Environmental for review and comment</p>	<p>Type of TESC plan identified – full TESC Plan vs. Abbreviated TESC Plan/TESC Memo</p> <p>Project timing/duration determined</p>	<p>Locations of disturbance and BMPs identified for TESC Planning</p> <p>Preliminary Grading Plans developed</p> <p>Streams/water bodies and other sensitive areas finalized for Construction Stormwater General Permit (CSWGP) Notice of Intent (NOI) and TESC planning</p>	<p>Preliminary TESC Plan developed and reviewed by Region Environmental &amp; Construction</p> <p>Cut and fill lines identified</p> <p>Clearing limits identified</p>	<p>Preliminary TESC Plan finalized and accepted</p> <p>Bid items, Special provisions identified</p> <p>CSWGP NOI submitted</p>	<p>Preliminary TESC Plan, partially completed Transfer of Coverage (TOC) forms, and CSWGP added to contract and sent to Contract Ad &amp; Award</p>	<p>Contractor signs TOC and sends back to WSDOT</p> <p>WSDOT State Construction Engineer signs TOC form</p> <p>Contract Administration and Payments Section (CAPS) adds “Specific Date of Transfer” and mails final TOC form to Ecology</p> <p>Contractor either accepts TESC Plan (and modifies) or develops their own</p> <p>Contractor develops S Spill Prevention, Control, and Countermeasure (SPCC) Plan as a Type 2 working drawing and submits to WSDOT for review/acceptance</p>	Temporary Erosion and Sediment Control (TESC)

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<b>26. Specifications</b>			Start writing specials for non-standard bid items.	Specifications preliminary run list completed	Specifications run list completed  All special provisions submitted for review and approval.  Specialty groups specifications and special provisions completed Pay groups and pay items determined	Approved Specifications included in PS&E		
<b>27. Maintenance</b>	Ensure maintainability. Consider M&O costs. Discuss Pavement, utilities, RW, hydraulics, structures, drainage, safety. Identify effect on existing assets. Determine budgetary impacts to M&O after project completion. See Pavement Policy (section 7.5).	Initial planning consider maintainability, life cycle costs, and accessibility for maintenance operations after project completion.  Ensure that the environmental impacts to Maintenance concerns have been documented and are part of the completed Environmental Review Summary.	Verify guardrail design type considers: <ul style="list-style-type: none"> <li>• maintainability</li> <li>• material costs and accessibility</li> <li>• limit exposure for traffic control</li> </ul>	Review the following with maintenance and operations (M&O) Pavement, Utilities, RW, Hydraulics, Geometrics, Plans, Structures, Drainage, Safety items, Roadside Restoration	Allow Maintenance the opportunity to review the PS&E Package for maintainability to maximize the life cycle of all highway features within the project.	Ensure plan sets are received by all Maintenance offices involved in the process.		<ul style="list-style-type: none"> <li>• <b>Include asset owner's manuals and notes needed for as-builds.</b></li> </ul> <p>Maintenance needs to receive any changes that occurred during design/construction for asset management purposes.</p>
<b>28. Roadside Restoration &amp; Landscape Architecture</b>	Region/HQ Landscape Architect. Consider ecological and societal value of the roadside. Discuss: Extent of impacts Vegetation/ mature trees Level of restoration Jurisdictional limits Community engagement Maintenance concerns Potential new structures Sensitive areas Drainage Safety Resource Conservation Areas Visual quality and aesthetics Complete Streets	Visit the site in preparation to inform the functional analysis.  Ensure the initial planning coincides with a context sensitive solution-based approach.  Document decisions within the Environmental Review Summary as applicable.  Endorse design criteria and parameters  Provide scope of work budget and schedule based on project size, known elements & project needs.  Finalize the functional analysis.	Develop conceptual programmatic restoration plan. For fish passage projects, review, coordinate and incorporate restoration strategies into the preliminary hydraulic report as appropriate. Review other disciplines 30% design and coordinate any concerns to remedy prior to 60%. Review environmental permitting issues and conditions. Coordinate with area maintenance for initial concerns.	Preliminary Roadside Restoration Plan reviewed by Region Landscape Architect and PE Office. Finalize plant and seed selection mixes. Coordinate on: Structures aesthetics, Roadway geometrics, Sight lines, clear zones, Utilities & signage, Clear & grubbing limits Slopes & cut/fill extents, Stormwater BMPs, stream design. Review JARPA plans and environmental commitments. Coordinate with TESC plans for erosion control synergies. Identify site-specific preservation concerns. Prepare preliminary cost estimate and special provisions.	Resolve conflicts with other disciplines. Finalize Preliminary Roadside Restoration Plans. Finalize structural aesthetics, permanent BMPs, special provisions. Include review by Maintenance to finalize any issues.  Refine and finalize cost estimate and bid items. Include any below the line-item costs; plant establishment by contractor or state force, mitigation needs, utility agreements, utility, turnback agreements, etc.  Finalize conceptual restoration plan to incorporate into the final hydraulic report.	Final Plans for PS&E contract  Finalize the task agreement, including the any associated costs for the plant establishment period.	Participate in pre-construction meeting with awarded contractor team. Discuss construction submittal needs: <ul style="list-style-type: none"> <li>• Roadside Work Plan</li> <li>• Weed and Pest Control Plan</li> <li>• Plant Establishment Plan</li> <li>• Any special provision related items</li> <li>• Tree Protection Plan</li> </ul>	Project close out & transition to Construction support.  Ensure any below of the line items are coordinated for the proposed use and future needs.