

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

PROJECT INFORMATION	Project Title:		
	State Route:	SR Milepost(s):	
	City (if applicable):	County:	
	Proponent Name:		
	Proponent is: <input type="checkbox"/> WSDOT <input type="checkbox"/> Developer <input type="checkbox"/> Local Agency <input type="checkbox"/> Tribe <input type="checkbox"/> Other		

PREPARER INFORMATION	Designed by (include name, title, organization, and date):
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PROJECT DESCRIPTION	<p>Provide a brief description of the project and any other pertinent information that would be helpful to the WSDOT staff that will be reviewing this project.</p>
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WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

OLYMPIC REGION PLAN FOR APPROVAL (PFA) REQUIREMENTS

WSDOT's stewardship role includes responsibility for ensuring that geometric channelization changes on state highways are consistent with WSDOT design requirements. Within the Olympic Region this plan is known as the "Plan for Approval" or "PFA". Other WSDOT regions, such as Northwest Region, have a slightly different review process and call it a "Channelization Plan" or "Chan Plan". WSDOT prepared contract plans are known as a "PS&E" package, while developer, local agency, and other non-WSDOT contract plans are usually referred to as a "Full-Package Submittal (FPS)" or "30%, 60%, 90%, and 100% Submittals".

The final Plan for Approval in Olympic Region is a full-size Mylar that is ultimately signature-approved by the Assistant Region Administrator for Project Development. All PFA's will also have a concurrence signature by the Region Traffic Engineer, and for those project reviews led by the Development Services Office, the Development Services Engineer will also concurrence-sign those particular PFA's. PFA approval does not constitute project approval. PFA approval is only one part of a project's overall approval process, albeit a significant step in the review of a project.

Vertical and horizontal designs elements can be integral to preparing a successful PFA. While a PFA represents the two-dimensional channelization approval of the geometric design of a highway improvement, it is also very important to look at the various vertical and horizontal design elements to verify that the design is buildable. For example, the designer needs to verify the project can be built within the available highway right-of-way, or additional right-of-way may need to be acquired. The designer also needs to take into account design elements such as, but not limited to, topography, roadway cross sections and profiles, stormwater design including ditch sections, utilities, clear zone requirements, and sight distance. Vertical and horizontal design elements are generally not required to be submitted with the PFA, but they are required for the PS&E or Full Package Submittals.

A Plan for Approval will not be approved until all design elements meet all applicable WSDOT design requirements. Some references commonly used in the Plan for Approval design process include:

- WSDOT Design Manual
- WSDOT Plans Preparation Manual
- WSDOT Standard Plans
- WSDOT Standard Specifications
- WSDOT LAG Manual
- WSDOT Hydraulic Manual
- WSDOT Traffic Manual
- MUTCD
- AASHTO Green Book

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

Unless agreed to otherwise by Olympic Region, a previously approved Plan for Approval is only valid for three years from the date of signature approval. PFA's and other related documents such as Developer Agreements and Construction Agreements that are older than three years, and construction has not yet started, must be reevaluated for conformance to current design requirements

Other attachments that may be required to be submitted prior to or with the Plan for Approval are:

- Basis of Design (BOD), which is required for most projects: See PFA Checklist No. 2
- Design Parameters: See Design Manual section 1100.10.(4)
- Intersection Control Analysis (ICA), if the intersection control type is changing (e.g. stop control to signal or roundabout): See PFA Checklist No. 3
- Plots from turn simulation software (such as AutoTURN®) to verify that the turn movements for the design vehicle(s) do not have conflicts: See PFA Checklist No. 53
- Design Analysis (formerly referred to as "Design Deviations") if required. A Design Analysis must be approved prior to the PFA approval and is listed on the PFA: See PFA Checklist No. 21 and No. 22.
- Route Development Plan or other approved Corridor Study: If applicable to project and/or for project limits, provide copy with PFA Preliminary Submittal.

This PFA Checklist was created to help the designer prepare a successful PFA in Olympic Region. As such, feedback is appreciated to keep this a successful and up-to-date document. Please provide any feedback to either the Olympic Region Development Services Office or Plans Office.

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DESIGN DATA BOX EXAMPLE

The Design Data Box is required on a Plan for Approval. An example Design Data Box is shown below. If the PFA contains multiple plan sheets for the same project, then only one of the PFA sheets needs to have the Design Data Box, usually the first sheet if possible. In addition, list the applicable design information for all other cross streets, ramps, or other public roadways that are part of the PFA, which could result in additional columns.

If a Design Analysis was required and prepared for the PFA, the Design Analysis shall be listed in a text block below the Design Data Box. Otherwise, the Approved Design Analysis box is *not* shown.

DESIGN DATA FOR NHS ROUTE NON-INTERSTATE I2 SAFETY IMPROVEMENTS		
ROADWAY	SR 420	MAIN STREET
BASIS OF DESIGN	APPROVED ON 12/5/2016	---
INTERSECTION CONTROL TYPE	ICA APPROVED ON 4/2/2017	---
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPLE ARTERIAL	COLLECTOR
ACCESS CONTROL	CLASS 2	---
TERRAIN CLASSIFICATION	LEVEL	LEVEL
DESIGN SPEED	35 MPH	35 MPH
POSTED SPEED	35 MPH	35 MPH
DESIGN VEHICLE	WB-67	WB-67
PERCENT TRUCKS	10% +	10% +

APPROVED DESIGN ANALYSES	DATE APPROVED
<p>RIGHT CORNER DESIGN ANALYSIS: TO USE A RADIUS OF 45' AT THE NORTHWEST CORNER OF THE INTERSECTION.</p> <p><i>NOTE: LIST THE TITLED NAME OF THE DESIGN ANALYSIS AND INCLUDE A BRIEF DESCRIPTION. SEE CHAPTERS 300 AND 1106 FOR INFORMATION ABOUT DESIGN ANALYSIS.</i></p>	4/20/2017

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DESIGN DATA BOX CHECKLIST AND GUIDANCE

#	YES	No	N/A	DESIGN DATA BOX	DESIGNER'S COMMENTS
1				<p>Title of the Design Data Box – The Design Data Box title shall include the following:</p> <ul style="list-style-type: none"> • The type of route - NHS, non-NHS, Interstate or Non-Interstate. • Funding source <i>if a WSDOT project</i> – I1, I2, etc. • Type of improvement <i>if a WSDOT project</i> – Mobility/Urban Mobility, Safety/Collision Reduction, etc. <p>For example, “Design Data for NHS Route, Non-Interstate, I2 Safety/Collision Reduction”. Note that the funding source is typically not required on Development Services-led projects.</p>	
2				<p>Basis of Design – See Design Manual section 1100.10(1). If a Basis of Design (BOD) is required, the BOD must be approved prior to signature approval of the PFA Mylar, and the BOD approval date shall be listed in the Design Data Box. If a Basis of Design is required, please provide with Preliminary PFA Submittal: Please provide even if still just in draft form.</p>	
3				<p>Intersection Control Type – See Design Manual Chapter 1300. If an Intersection Control Analysis (ICA) is required, the ICA signature approval is required prior to signature approval of the PFA Mylar, and the ICA approval date shall be listed in the</p>	

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#	YES	NO	N/A	DESIGN DATA BOX	DESIGNER'S COMMENTS
				Design Data Box. If an Intersection Control Analysis is required, please provide a copy with Preliminary PFA Submittal. See section 1300.05(4) for ICA information about Development Services-led projects: Please provide even if still just in draft form.	
4				Functional Classification such as Interstate, Urban Principal Arterial, etc. may be found in the Olympic Region Highway Log: http://www.wsdot.wa.gov/mapsdata/roadway/olympic_region.htm	
5				Access Control - Limited Access (Full, Partial or Modified) or Managed Access (Class 1, 2, 3, 4, or 5) information may be found in the Design Manual Chapters 520, 530, 540, and section 1103.04. Limited Access may also be found on applicable right-of-way sheets with the title "Plan Showing Access". See also Access Control Tracking System Limited Access and Managed Access Master Plan at: http://www.wsdot.wa.gov/design/accessandhearings/ and http://www.wsdot.wa.gov/Regions/Olympic/Planning/ .	
6				Terrain Classification – Level, Rolling, or Mountainous may be found in the Design Manual section 1103.06 and the Olympic Region Highway Log: http://www.wsdot.wa.gov/mapsdata/roadway/olympic_region.htm	
7				Design Speed (MPH) - Design Manual section 1103.05	
8				Posted Speed (MPH) – May be found via a field review and also in the Olympic Region Highway Log: http://www.wsdot.wa.gov/mapsdata/roadway/olympic_region.htm	
9				Design Vehicle such as WB-67, WB-40, SU-30, P, City-Bus, etc. Information may be determined in the field, by checking with the applicable Local Agency if appropriate, or in a Traffic Impact	

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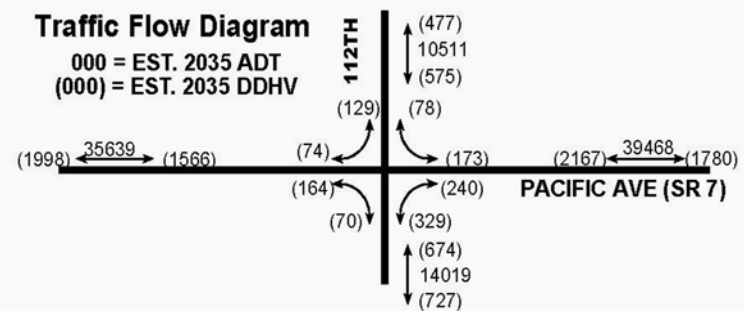
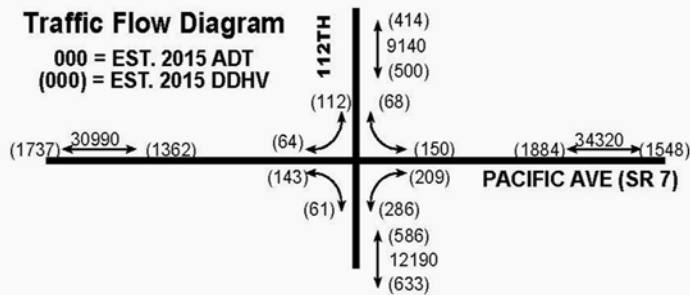
#	YES	NO	N/A	DESIGN DATA BOX	DESIGNER'S COMMENTS
				Analysis (TIA) if one was prepared. More information is in the Design Manual Section 1103.03(4).	
10				<p>Percent Trucks – Information may be determined in the field or from a Traffic Impact Analysis (TIA) if one was prepared. See also Design Manual section 1103.03(4). For internal WSDOT staff, a good source is the Washington State Pavement Management System (WSPMS). Another source open to all is the Traffic Data GeoPortal at:</p> <p>http://www.wsdot.wa.gov/mapsdata/tools/trafficplanningtrends.htm</p>	

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

PFA TRAFFIC DATA DIAGRAM CHECKLIST AND GUIDANCE

A Traffic Data Diagram is needed for all projects. The Traffic Data Diagram shall include the present year base line data and future horizon year data. For WSDOT projects see the Basis of Design to see what year was used as the future “Selected Design Year”. For Development Services-led projects, see the Basis of Design if one was prepared, or use the future horizon year data of when the land-use proposal generating the project will be completed. This is sometimes called the “full build-out year” data.

For more information on the Traffic Data Diagram, check with the Olympic Region Traffic Office or Development Services Office.



11			Directional Design Hourly Volume (DDHV) are shown for each turning and through movement.	
12			Average Daily Traffic (ADT) volumes are shown for the through movements only.	
13			Traffic volumes are balanced.	

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

PLAN FOR APPROVAL GENERAL CHECKLIST AND GUIDANCE

#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
14				The plans shall be in English units and clear and easy to read.	
15				A scale bar and north arrow is shown. Minimum scale for (11" x 17") plan sheet is 1" = 100 ft. Interchange plans may use 1" = 200 ft. if enough detail can be clearly shown. The scale bar shall say "Scale in Feet", not 1" = 50'. Mixing of scales is not allowed, except for bubble out areas to enhance detail.	
16				The final PFA shall be on a 22" X 34" Mylar sheet(s). All final sheets shall be stamped, signed and dated by the Licensed Engineer of Record (i.e. the P.E.). Review submittals may be marked "Preliminary", but need not be stamped or signed.	
17				The plans are clear and legible when reduced to half-size.	
18				The text reads left to right, as viewed from the bottom of the plan sheet or the right side of the plan sheet.	
19				The design meets current WSDOT Design Manual requirements.	
20				The design meets current MUTCD requirements.	
21				If a Design Analysis was required, has it been approved? A PFA will not be approved if the Design Analysis is not yet approved.	
22				If a Design Analysis was required, is the Design Analysis with its approval date listed below the Design Data Box?	
23				The design is compliant with all American with Disabilities Act (ADA) requirements.	
24				Are signature blocks for approval placed within the title block or at the bottom of the plan sheet? They shall include signature lines with a date space for:	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
				<ul style="list-style-type: none"> • “CONCUR: OLYMPIC REGION TRAFFIC ENGINEER” • “APPROVED: ASSISTANT ADMINISTRATOR FOR OLYMPIC REGION PROJECT DEVELOPMENT” <p>And if the project is a Development Services-led project, add as the first signature in the signature block area:</p> <ul style="list-style-type: none"> • “CONCUR: OLYMPIC REGION DEVELOPMENT SERVICES ENGINEER”. <p>Below the signatures include within the block “Geometrics approved within State Highway right-of-way only” or “Geometrics approved” if all channelization is entirely within state highway right-of-way.</p> <p>For PFA MicroStation File for WSDOT personnel, see: http://wwwi.wsdot.wa.gov/Olympic/Plans/CAE-Support.htm and document “ORCAE Technote – PFA Title Block.pdf”</p>	
25				<p>Title block includes:</p> <ul style="list-style-type: none"> • 1st line: State Route Number • 2nd line: Project name or intersection/interchange name • 3rd line: Milepost (MP) 	
26				The name of the plan sheet is “Plan for Approval”.	
27				Match lines if applicable. Carefully check match lines to insure they match. Matched segments on the same sheet oriented differently should have their own separate North arrow.	
28				Township and Range is shown at the top of each sheet.	
29				All section lines are shown and labeled on each sheet.	
30				All centerline alignments and tangent bearings are shown.	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
31				Standard symbols and text, such as the north arrow, match lines, traffic movement arrows, Township and Range numbering, etc. are used as shown in the WSDOT Electronic Engineering Data Standards (EEDS) Manual if at possible: http://www.wsdot.wa.gov/publications/manuals/fulltext/M3028/ElectronicEngDataStandards.pdf	
32				New features are solid. New proposed features and geometry, such as edge lines, centerline, radius's, stop bars, sidewalks, etc. should be shown as solid lines.	
33				Existing features are dashed. Existing features should not be shown within the new construction limits.	
34				Where new construction matches into existing, show a minimum of 100 feet of existing geometry.	
35				Mileposts and equations are shown at the intersection of centerline alignments.	
36				The angles between centerline alignments are shown at intersections if they are both tangent where they intersect.	
37				New or revised alignments for interchanges and intersections shall have roadway sections and profiles with superelevation diagrams. This includes profiles for main line and crossroads. Information should not be placed on the PFA but be submitted on separate sheets as backup material.	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
38				<p>Show street and highway alignments with stationing, names and/or designations. Stationing should have a prefix, with the possible exception of mainline stationing. Stationing must be from left to right, which in some cases will result in the north arrow not pointing up. An example of the desirable tick mark set-up and stationing call out is provided below.</p> <p>Do not start stationing at 0+00. PFA's with multiple alignments in the same proximity should have different station starts such as A 10+00, B 20+00, etc.</p> <div style="text-align: center;"> </div>	
39				<p>A Curve Data Box is required. The box should include:</p> <ul style="list-style-type: none"> • PI station, Delta, Radius, Tangent, Length, % Super. • Curve data for each curve shall appear once in the plans on the sheet where the PI appears. • If the PI is beyond the limits of the job and not shown on any of the plan sheets, but a portion of the curve is shown, place the curve data in the curve data box on the sheet that is nearest to its PI. • If a curve is not superelevated, place a “-“symbol in the box. • Show the P.T. and P.C. in the plan itself. • Show the P.I. in the curve data box only. • Check to insure that the P.T.'s, P.C.s, and bearings shown on the plans match with the Curve Data Box. 	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
40				All lane, shoulder and sidewalk widths are shown. Widths shall be shown at beginning and end of the new construction where they match into existing, at match lines, and at all width changes.	
41				<p>Tapers are adequately shown and labeled. All beginning and ending of tapers must be called out, and should be able to be easily checked from information shown on the PFA. While there are different combinations of information that can be shown to achieve this, the preferred method is to include stations, offsets, widths, and the taper rate as shown below:</p> <p style="text-align: center;">A-LINE</p>	
42				All corner radii at intersections is shown and labeled as measured at the edge of traveled way. See Design Manual Chapter 1310 and section 1310.03(1).	
43				Intersection left-turn turning paths and radii are shown and labeled.	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
44				All applicable pavement markings, stop bars, traffic arrows, traffic lettering and symbols, sidewalk ramps, etc. are shown, but <i>not</i> called out. One exception is any raised traffic curbing shall be called out such as on raised islands or centerline curbing. See the Olympic Region Pavement Marking Policy: http://www.wsdot.wa.gov/NR/rdonlyres/D0868516-0D5A-49A7-AC13-C30F697F5233/0/OlympicRegionPavementMarkingsPolicy81915.pdf	
45				Bus pullout widths, lengths and tapers are shown. See Design Manual Chapter 1430 for more guidance.	
46				The project can be built within the existing right-of-way.	
47				Existing state highway and crossroad right-of-way lines are shown and labeled. Also show and label any additional right-of-way that may be needed. All state highway right-of-way boundary lines (proposed and existing), will be solid lines. Right-of-way lines may be labeled as “ WSDOT Right-of-Way ”, or “ WSDOT ROW ”, and in the case of a Managed Access Highway within an incorporated city or town the right-of-way line shall be labeled as “ State Highway Right-of-Way ” or “ State Highway ROW ” as the city or town owns the right-of-way, not WSDOT.	
48				If a Limited Access highway, limited access hachures are shown.	
49				Turnback lines are shown, if applicable.	
50				Traffic movement arrows, indicating direction of traffic flow at the beginning and end of the project, are shown within the first 100 feet of existing roadway on all roads shown on the PFA. If there are multiple PFA sheets, the traffic movement arrows are optional as to not clutter the other sheets. Traffic movement arrows are not to be confused with pavement arrows.	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
51				Raised islands are shown, if applicable. Include the location and type of curbing used. Define island geometry. If beneficial, provide an enlargement detail (1" = 20') based on a full size plan sheet (22" x 34"). The corresponding scale bar shall say "Scale in Feet", not 1" = 20'.	
52				Plots from turn simulation software (such as AutoTURN®) are included. These plots should not be placed on the PFA but should be submitted on separate sheets as backup material. The plots need to clearly identify the design vehicle wheel tracking for each turning movement, and ensure that each movement can be made without encroaching on curbs, traffic islands, sidewalks, or leaving the pavement. Encroaching on an adjacent lane in the same direction or paved shoulder of the exit leg at signalized intersections for a right-turn corner design may be permissible. See Design Manual Exhibit 1310-6 Note 2.	
53				For projects where proposed roadway shoulders are less than 4 feet, contact the Olympic Region Bicycle/Pedestrian Coordinator to discuss the impacts and possible solutions.	

ITEMS NOT TO BE SHOWN ON THE PLAN FOR APPROVAL: CHECKLIST ITEMS 54 - 64

54				Background topography	
55				Contours	
56				Existing lane/edge stripes within the new construction limits	
57				Illumination	
58				Signing	
59				Street lighting, signal standards or loops	
60				Utilities	

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#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
61				Drainage	
62				Guardrail	
63				Vicinity map	
64				Legends or notes	

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

INTERCHANGE PLAN FOR APPROVAL (PFA) CHECKLIST AND GUIDANCE

When designing an Interchange project, the following *additional* items shall be included.

#	YES	NO	N/A	PLAN FOR APPROVAL ITEM	DESIGNER'S COMMENTS
65				Label gore area radii.	
66				Label median width for divided highways. If there is barrier in the median, insure that it is indicated.	
67				Check pavement widths on structures for design minimums.	
68				Check ramp acceleration and deceleration lengths, which start and stop or they taper onto the mainline, regardless of ramp width.	
69				If there are enforcement areas, length and width are the only measurements to be shown.	

WSDOT Olympic Region PLAN FOR APPROVAL (PFA) CHECKLIST

PLAN FOR APPROVAL REVIEW SUBMITTAL PROCESS

PEO Initiated PFAs

- The PEO shall send 3 half-size copies of the Preliminary PFA, filled out PFA checklist, turning templates, and other attachments to the Plans Office: Concurrently, the PEO shall send 3 copies of these same documents to the Olympic Region Traffic Office.
- The Traffic Office transmits comments back to the Plans Office. The Plans Office reviews the comments from Traffic to resolve conflicts (if any). The Plans office will take the lead to resolve conflicts.
- The Plans Office transmits complete package of comments back to Project Office.

DS and LP Initiated PFAs

- DS-led Developer, Tribal, and Local Agency projects, the proponent shall send 4 half-size sets *and* electronic PDF's of the Preliminary PFA, filled out PFA checklist, turning templates, and any other applicable attachments to the Olympic Region Development Services Office. If allowed by the DS Office, an alternative is sending these electronically only.
- DS will send the PFA package to the Traffic Office and the Plans Office. The DS office will also typically send a set to the PEO assigned to oversee the construction oversight of the project. Typically, each office will be given two weeks to review a PFA package.
- The Traffic Office and Plans office transmit comments back to DS, with the DS office taking the lead to resolve conflicts.
- The DS Office will then forward all applicable review comments to the proponent.