

# APPENDIX IA

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## Design Checklist

# I. INTRODUCTION

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This checklist shows the expected level of care and typical deliverables needed to produce a quality pipeline project. It may be useful for other types of SPU engineering design projects. The list is not exhaustive and is not intended to substitute for your engineering judgment.

This document is not a required deliverable for any design phase and is intended only as a guide for engineers during design.

The checklist is organized into six phases:

1. Scoping
2. 30% design
3. 60% design
4. 90% design
5. Bid documents
6. Construction

*Note: On many projects, deliverables listed during 30% design should have started earlier during preliminary engineering.* More detailed follow-up questions and lists are associated with most major checklist questions. Potentially useful contacts/links/documents are noted as Resource(s).

Typical deliverables are shown in **red**.

Coordination points with physical security discipline are shown in **green**.

Coordination points with electrical design are shown in **brown**.

I	Scoping	Yes	N/A	Comments
<b>I.1 Project History</b>				
	Have you reviewed preliminary documents?	<input type="checkbox"/>	<input type="checkbox"/>	
	Service requests	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	PE Study	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Design criteria sheet (criteria for physical security, electrical and I&C)	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Business Case	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Existing service agreements	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Memorandums of Agreement	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Budget	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	SEPA documentation	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Easement documentation	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Permit analysis and correspondence	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>I.2 Objectives</b>				
	Are project objectives clearly defined?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you discussed project with:			Click or tap here to enter text.
	Your supervisor?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	PM?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Project team?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Operations?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	<b>Security Program?</b>	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	USM?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.

I	Scoping	Yes	N/A	Comments
	Other staff with historical knowledge of the project area?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Does the preferred alternative meet the objectives?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Would you recommend value engineering for this project?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>I.3 Schedule</b>				
	Do you agree to the overall project schedule and staffing plan?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Is project team established?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Working days estimate for your time?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Working days estimate for your team?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you identified schedule conflicts for your supervisor?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you arranged access to secured sites?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>I.4 Site Visit</b>				
Have you made a site visit and photographic record checking for:				
<b>ROW Conditions:</b>				
<b>What are street conditions?</b>		Click or tap here to enter text.		
Is it arterial or residential?		Click or tap here to enter text.		
What is pavement type and condition?		Click or tap here to enter text.		
What is the general pattern of concrete panels?		Click or tap here to enter text.		
Is there reflective cracking in asphalt?		Click or tap here to enter text.		
What is the pavement condition around castings?		Click or tap here to enter text.		
	Are there curbs and how high?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Are there sidewalks?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Are there curb ramps to current standard?			Click or tap here to enter text.

I	Scoping	Yes	N/A	Comments
	What is the channelization?			Click or tap here to enter text.
	Are there traffic signals and signal boxes?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	<b>What are major street uses?</b>			
	Traffic? Click or tap here to enter text.			
	Bicycles? Click or tap here to enter text.			
	Bus routes, bus loading zones, trolley wires? Click or tap here to enter text.			
	<b>What other miscellaneous uses are present:</b>			
	Overhead utilities?		<input type="checkbox"/>	<input type="checkbox"/>
	Underground utility vaults and castings?		<input type="checkbox"/>	<input type="checkbox"/>
	Signs?		<input type="checkbox"/>	<input type="checkbox"/>
	Fire hydrants?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Survey monuments?		<input type="checkbox"/>	<input type="checkbox"/>
	Trees?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Planting strip improvements?		<input type="checkbox"/>	<input type="checkbox"/>
	Irrigation?		<input type="checkbox"/>	<input type="checkbox"/>
	Private structures or improvements within ROW? Click or tap here to enter text.			
	Mailboxes?		<input type="checkbox"/>	<input type="checkbox"/>
	Other critical infrastructure? Click or tap here to enter text.			
	<b>Utilities:</b>			
	Have you identified castings?	<input type="checkbox"/>	<input type="checkbox"/>	
	Condition? Click or tap here to enter text.			Click or tap here to enter text.
	Sewer and drainage castings less than 24" diameter?	<input type="checkbox"/>	<input type="checkbox"/>	
	Type of drainage grates?			Click or tap here to enter text.
	Do utility cuts in pavement match utility mapping?	<input type="checkbox"/>	<input type="checkbox"/>	

I Scoping	Yes	N/A	Comments
<b>Local Drainage Patterns:</b>			
Is street crowned or thrown? <small>Click or tap here to enter text.</small>			
What is general topography, including street profile? <small>Click or tap here to enter text.</small>			
Are there inlets, CBs or ditches? <small>Click or tap here to enter text.</small>			
Is there evidence of ponding?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Is there evidence of erosion?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
<b>Construction Issues:</b>			
Have you considered constructability issues, like:			
Access for construction equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Private property excavations and possible tie-backs? <small>Click or tap here to enter text.</small>			
Space for trailers, equipment and materials?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Overhead wire conflicts?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Poles that would need supporting?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Proximity to buildings/structures & type of foundations?	<small>Click or tap here to enter text.</small>		
Tree and tree canopy conflicts?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Options for disposal of trench or pipe dewatering	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Have you considered neighborhood needs, like:			
Access to building entrances?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
Driveways and access to parking lots?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>
<b>Physical Security Issues?</b>			<small>Click or tap here to enter text.</small>
<b>Environmental Issues:</b>			
Are there steep slopes?	<input type="checkbox"/>	<input type="checkbox"/>	<small>Click or tap here to enter text.</small>

I	Scoping	Yes	N/A	Comments
	Are there vegetation issues?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Are wetlands present?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Is the project within 200 feet of a shoreline?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	How far is the project from a water body? Click or tap here to enter text.			Click or tap here to enter text.
<b>I.5 Hydraulics</b>				
	Have you gathered system and hydraulic information from resources?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>Water Infrastructure</b>				
	Have you talked to USM Hydraulic Modeler?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you talked to Water Operations and Control?	<input type="checkbox"/>	<input type="checkbox"/>	
	Checked Pressure Zone Mapping?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Checked Water Valve Mapping?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>Drainage and Wastewater Infrastructure</b>				
	Have you talked to USM Modeling Group?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is there an existing hydraulic model?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you checked system mapping to understand:			
	Basic topography?			Click or tap here to enter text.
	Surrounding system type?	<input type="checkbox"/>	<input type="checkbox"/>	
	Downstream surface waters and outfalls?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Backwater sources, such as:			
	Downstream water body?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Tidal outfall?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.

I	Scoping	Yes	N/A	Comments
	Regulated King County sewer?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Known downstream pipe, ditch, or stream constraints?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Known flooding?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Critical drainage area listing?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>I.6 Environmental Review</b>				
<b>Geology and Soils</b>				
	Have you done a preliminary check for geological and soils information::			Click or tap here to enter text.
	Typical local soil conditions?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Corrosive soils?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Records of contaminated soils?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	High groundwater?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Landfills?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Slopes and landslide prone areas?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Faults?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Resource: <a href="#">Geomap</a>			
	SPU Geotechnical Engineers	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>Stormwater</b>				
	Have you checked <a href="#">stormwater code compliance</a> ?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Where would project stormwater drain to? Click or tap here to enter text.			
	What are the general requirements for this project? Click or tap here to enter text.			
	Resource: SPU Engineering Plan Reviewers			



I	Scoping	Yes	N/A	Comments
	<b>Electrical: Established the need for power supply sources?</b> Checked Electrical Design Checklist (see DSG Chapter 9)?			
<b>I.7</b>	<b>Records Review</b>			
	Have you reviewed records?			
	Resource GIS	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at SPU:	<input type="checkbox"/>	<input type="checkbox"/>	
	PERC	<input type="checkbox"/>	<input type="checkbox"/>	
	Record drawings	<input type="checkbox"/>	<input type="checkbox"/>	
	Existing base mapping	<input type="checkbox"/>	<input type="checkbox"/>	
	Grading plans	<input type="checkbox"/>	<input type="checkbox"/>	
	Utility maps and books	<input type="checkbox"/>	<input type="checkbox"/>	
	Leak history	<input type="checkbox"/>	<input type="checkbox"/>	
	Comprehensive Plans and Studies	<input type="checkbox"/>	<input type="checkbox"/>	
	Science Library	<input type="checkbox"/>	<input type="checkbox"/>	
	Operations/MAXIMO database	<input type="checkbox"/>	<input type="checkbox"/>	
	Customer Service	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at DPD:			
	Sewer cards: Sewer plats	<input type="checkbox"/>	<input type="checkbox"/>	
	Building plans	<input type="checkbox"/>	<input type="checkbox"/>	
	Neighborhood Plans	<input type="checkbox"/>	<input type="checkbox"/>	
	Land Use	<input type="checkbox"/>	<input type="checkbox"/>	
	Private Construction	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at Other Records Vaults:			
	Seattle City Light	<input type="checkbox"/>	<input type="checkbox"/>	
	King County	<input type="checkbox"/>	<input type="checkbox"/>	
	WSDOT	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at SDOT:			
	Franchise Utility Agreements	<input type="checkbox"/>	<input type="checkbox"/>	

I	Scoping	Yes	N/A	Comments
	Inspection Records on permits	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at Department of Neighborhoods:			
	Historic districts	<input type="checkbox"/>	<input type="checkbox"/>	
	Resources at City Clerk's Office: Municipal Codes and Ordinances	<input type="checkbox"/>	<input type="checkbox"/>	
	Memorandums of Agreement			
	Archived photographic records	<input type="checkbox"/>	<input type="checkbox"/>	
<b>1.8</b>	<b>Coordination</b>			
	Have you checked for other infrastructure needs and opportunities, such as:			
	Has the condition of sewers and drains been assessed with CCTV?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are there work orders or CIP listings for sewer and drainage work in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are there spot drainage complaints in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	
	Should SPU consider adding drainage & wastewater elements to project?	<input type="checkbox"/>	<input type="checkbox"/>	
	Has the condition of water mains been assessed?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have or should water mains be potholed?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are there work orders or CIP listings for water main work in project area?	<input type="checkbox"/>	<input type="checkbox"/>	
	Should SPU consider adding a water main element to the project?	<input type="checkbox"/>	<input type="checkbox"/>	
	Does this project overlap with SDOT's transportation's CIP list?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is SDOT Utility Coordinator aware of private utility work planned for area?	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Have electrical and I&amp;C design issues been coordinated?</b>			
	Does the project require coordination for electrical power utilities?			
	<b>Has SPU Security Manager been consulted?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Is there potential for coordination of projects?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>1.9</b>	<b>Signature</b>			
	Have you signed the <b>scope</b> of work?	<input type="checkbox"/>	<input type="checkbox"/>	

2	30% Design	Yes	No	Comments
<b>2.1</b>	<b>Base map</b>			
	Was the base map completed in preliminary engineering?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have you determined the project's standard and special base map needs, such as:			
	Surface features and measure downs?	<input type="checkbox"/>	<input type="checkbox"/>	
	CB outfall inverts?	<input type="checkbox"/>	<input type="checkbox"/>	
	Topographic lines and additional topography for grade matching?	<input type="checkbox"/>	<input type="checkbox"/>	
	Private property information?	<input type="checkbox"/>	<input type="checkbox"/>	
	Easement delineation?	<input type="checkbox"/>	<input type="checkbox"/>	
	Lot lines?	<input type="checkbox"/>	<input type="checkbox"/>	
	Local conversions to other vertical datums?	<input type="checkbox"/>	<input type="checkbox"/>	
	Tie ins to other mapping?	<input type="checkbox"/>	<input type="checkbox"/>	
	Search of vaults beyond SPU's?	<input type="checkbox"/>	<input type="checkbox"/>	
	Search of DPD's private property records?	<input type="checkbox"/>	<input type="checkbox"/>	
	Addresses?	<input type="checkbox"/>	<input type="checkbox"/>	
	Meter numbers?	<input type="checkbox"/>	<input type="checkbox"/>	
	Foundations of bridges and walls?	<input type="checkbox"/>	<input type="checkbox"/>	
	Street channelization with paint records?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have you requested the base map?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are there inconsistent or missing records?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have corrections been sent to GIS when records don't match?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2.2</b>	<b>Flow Analysis</b>			
	Is flow analysis complete and hydraulic grade line set?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are calculations documented, stamped and archived?	<input type="checkbox"/>	<input type="checkbox"/>	
	Who prepared the calculations?			
	Was a model developed?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2.3</b>	<b>Pipe Layout</b>			
	Are pipe layout and preliminary profile shown?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is pipe in <a href="#">standard location</a> ? See Standard Plan #030	<input type="checkbox"/>	<input type="checkbox"/>	

2	30% Design	Yes	No	Comments
	Are <a href="#">standard clearances</a> maintained?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are critical cross sections identified and drawn?	<input type="checkbox"/>	<input type="checkbox"/>	
	Other utility infrastructure improvements identified and design started?	<input type="checkbox"/>	<input type="checkbox"/>	
	Resource: Drafting and plan presentation standards	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2.4</b>	<b>Geotechnical Report</b>			
	Have you requested a geotechnical report? Report done during preliminary engineering?	<input type="checkbox"/>	<input type="checkbox"/>	
	Did the request identify:			
	Pipeline location and depth?	<input type="checkbox"/>	<input type="checkbox"/>	
	Location of any major structures?	<input type="checkbox"/>	<input type="checkbox"/>	
	Geotechnical information needed by other designers?	<input type="checkbox"/>	<input type="checkbox"/>	
	Does the project need additional information, such as:			
	Slope stability calculations and project seismic standards?	<input type="checkbox"/>	<input type="checkbox"/>	
	Seismic risk evaluation? To what standard?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Soil or groundwater contamination testing?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have you requested soil resistivity testing?	<input type="checkbox"/>	<input type="checkbox"/>	
	Resource: SPU Geotechnical Engineers			
<b>2.5</b>	<b>Regulations and Permits</b>			
	Have you reviewed project -related regulations? Have you reviewed list of required permits from preliminary engineering?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have you updated any permit requirements?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are the permit applications started?			
	Resource: <a href="#">City codes, rules and guidelines</a>			
	Resource: WA <a href="#">State Health Department codes and rules</a>			
	Resource: WA State <a href="#">Department of Ecology codes and rules</a>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2.6</b>	<b>Reviews</b>			
	<b>Electrical: Has 30% Electrical Design been developed?</b>			
	Basis of Electrical Design document done? (see DSG Ch 9).			
	Preliminary service load determined?			
	One-line diagram developed?			

<b>2</b>	<b>30% Design</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
	Real property issues and needs identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Customer impacts identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Operations review?	<input type="checkbox"/>	<input type="checkbox"/>	
	Constructability review?	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Physical Security review?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Electrical and I&amp;C review?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Are other agency impacts identified?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>2.7</b>	<b>Are we on the right track?</b>			
	Re-examine the alternative choice and 30% design and consider:			
	Are there alternatives with fewer environmental impacts?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	<b>Are there alternatives with fewer security limits?</b>			Click or tap here to enter text.
	Are there lower cost alternatives?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Are there easier to maintain alternatives?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Is value engineering or further brainstorming warranted?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Have you verified that Asset Management Committee (AMC) approved objectives are met?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
<b>2.8</b>	<b>Completed 30% Design</b>			
	<b>Completed Base map</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Updated cost estimate</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Updated schedule</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>30% Review Comments Log</b>	<input type="checkbox"/>	<input type="checkbox"/>	

3	60% Design	Yes	No	Comments
3.1	<b>30% comments</b>			
	Have the 30% review comments all been addressed?	<input type="checkbox"/>	<input type="checkbox"/>	
3.2	<b>60% plans with final sizes, layout, profile, structures &amp; major details</b>			
	On the plans, are:			
	Major conflicts resolved?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is potholing and survey of critical conflicts needed?	<input type="checkbox"/>	<input type="checkbox"/>	
	Conflicts discussed with other utility owners?	<input type="checkbox"/>	<input type="checkbox"/>	
	Minor conflicts identified?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	All regulatory requirements incorporated?	<input type="checkbox"/>	<input type="checkbox"/>	
	Materials called out?	<input type="checkbox"/>	<input type="checkbox"/>	
	Shoring needs identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Paving/restoration?	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Access points secured w/ Integrated Security System (ISS)?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Electrical and I&amp;C?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Has the design considered:			
	Is trench or pipe <a href="#">dewatering required</a> ?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is a dechlorination plan required?	<input type="checkbox"/>	<input type="checkbox"/>	
	Construction pollution control?	<input type="checkbox"/>	<input type="checkbox"/>	
	Need a <a href="#">permit from Ecology</a> (storm drain discharge) ?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Need a <a href="#">permit King Co. Industrial Waste</a> (sewer discharge)?	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Resource: SPU Plan Reviewers	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
	Sewer or Drainage Bypassing required?	<input type="checkbox"/>	<input type="checkbox"/>	
3.3	<b>Is the geotechnical report complete?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
3.4	<b>Is SEPA DNS complete?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	<b>Are other permit applications submitted?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Resource (See DSG Ch 2 Design for Permitting)			

<b>3</b>	<b>60% Design</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
<b>3.6</b>	<b>Are easement acquisitions started?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Resource Real Property Services	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.7</b>	<b>Is there a draft customer service plan, considering:</b>			
	Critical water services?	<input type="checkbox"/>	<input type="checkbox"/>	
	Water main construction/ shutdown sequence?	<input type="checkbox"/>	<input type="checkbox"/>	
	Fire protection analysis?	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Security Plan?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Electrical?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.8</b>	<b>Reviews</b>			
	Real property issues and needs identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Operations review and crew resources/scheduling identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Preliminary order of work plan	<input type="checkbox"/>	<input type="checkbox"/>	
	Constructability review?	<input type="checkbox"/>	<input type="checkbox"/>	
	Internal and external plan circulation?	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Security elements?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Electrical and I&amp;C elements?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.9</b>	<b>Have preliminary technical specifications been prepared?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.10</b>	<b>On track? Have you verified that AMC approved objectives are met?</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3.11</b>	<b>Completed 60% Design</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Construction cost estimate</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Updated schedule</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>60% Review Comments Log</b>	<input type="checkbox"/>	<input type="checkbox"/>	

4	90% Design	Yes	No	Comments
4.1	<b>60% Comments</b>			
	Have all the 60% review comments been addressed?	<input type="checkbox"/>	<input type="checkbox"/>	
4.2	<b>90% Plans substantially ready for bid</b>	<input type="checkbox"/>	<input type="checkbox"/>	
	Has drafting been checked, for:			
	Standard layer control?	<input type="checkbox"/>	<input type="checkbox"/>	
	Seattle standards?	<input type="checkbox"/>	<input type="checkbox"/>	
	Spelling?	<input type="checkbox"/>	<input type="checkbox"/>	
	Stationing?	<input type="checkbox"/>	<input type="checkbox"/>	
	Cross referencing?	<input type="checkbox"/>	<input type="checkbox"/>	
	Views adequate for construction?	<input type="checkbox"/>	<input type="checkbox"/>	
	Complete details?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have all fittings and connections called out?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are design criteria notes on the plans?	<input type="checkbox"/>	<input type="checkbox"/>	
	Is the hydraulic grade line on the profiles?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are notes clear and complete?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are all materials specified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have easements been identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are boring log locations shown?	<input type="checkbox"/>	<input type="checkbox"/>	
	Has surface restoration been identified for all disturbed areas?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are construction pollution control plans clear?	<input type="checkbox"/>	<input type="checkbox"/>	
	Has all grading information to be supplied by SPU survey or design identified?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have easements been acquired and referenced?	<input type="checkbox"/>	<input type="checkbox"/>	
4.3	<b>Design Calculations</b>			
	Are all structural calcs including pipe loading and blocking complete and stamped?	<input type="checkbox"/>	<input type="checkbox"/>	
	Are all hydraulic calculations complete and stamped?	<input type="checkbox"/>	<input type="checkbox"/>	
4.4	<b>Draft Project Manual</b>			
	Do special provisions include:			
	Non-standard submittals required?	<input type="checkbox"/>	<input type="checkbox"/>	



Chapter I SPU Design Process  
 Appendix IA Design Checklist

Permit conditions?	<input type="checkbox"/>	<input type="checkbox"/>
Traffic Control Plan?	<input type="checkbox"/>	<input type="checkbox"/>
Community commitments?	<input type="checkbox"/>	<input type="checkbox"/>
Access control policies/procedures to secured site?	<input type="checkbox"/>	<input type="checkbox"/>
Other Agency commitments?	<input type="checkbox"/>	<input type="checkbox"/>
Construction Management requirements?	<input type="checkbox"/>	<input type="checkbox"/>
Temporary erosion and sediment control plan?	<input type="checkbox"/>	<input type="checkbox"/>
Pre-bid meeting required?	<input type="checkbox"/>	<input type="checkbox"/>
Have permits been acquired and incorporated into plans and specifications?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Site Security Plan for Construction complete?</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Electrical Design complete?</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.5 Customer service plan?</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.6 Reviews</b>		
Has operations reviewed and crew resources been scheduled?	<input type="checkbox"/>	<input type="checkbox"/>
Constructability review comments been incorporated into plans & specs?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Security review comments?</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Electrical and I&amp;C review comments?</b>	<input type="checkbox"/>	<input type="checkbox"/>
Has the plan been circulated both internally and externally?	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.7 On track? Have you verified that AMC approved objectives are met?</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4.8 Completed 90% Design</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Engineer's Estimate</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Construction Schedule</b>	<input type="checkbox"/>	<input type="checkbox"/>
<b>90% Review Comments Log</b>	<input type="checkbox"/>	<input type="checkbox"/>

5	Bid Documents	Yes	No	Comments
<b>Finalize Plans</b>		<input type="checkbox"/>	<input type="checkbox"/>	
	Have all review comments been addressed?	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Has the Advertised Plan Set been Signed and Stamped?</b>		<input type="checkbox"/>	<input type="checkbox"/>	
<b>Project Manual Support</b>		<input type="checkbox"/>	<input type="checkbox"/>	
<b>Addendum Support</b>		<input type="checkbox"/>	<input type="checkbox"/>	

6	Construction	Yes	No	Comments
<b>Review submittals</b>		<input type="checkbox"/>	<input type="checkbox"/>	
<b>Have all required Permits been issued?</b>				
<b>Schedule any required Preconstruction Conferences with Permit Authority, contractors and city staff.</b>				
<b>Response to RFIs and field design change proposals</b>		<input type="checkbox"/>	<input type="checkbox"/>	
	Support Construction Management in review change of condition claims	<input type="checkbox"/>	<input type="checkbox"/>	
	Support construction manager and resident engineer at progress meetings	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Final inspection and comments</b>		<input type="checkbox"/>	<input type="checkbox"/>	
	Are as-built drawings complete?	<input type="checkbox"/>	<input type="checkbox"/>	
	Have GIS records been updated?	<input type="checkbox"/>	<input type="checkbox"/>	