

# Washington State Department of Transportation

## Design-Build Professional Liability: Assessment of Project Risk Level Guidance

*July 2021*

### **Purpose:**

As part of the Design Build (DB) project delivery method, Washington Department of Transportation (WSDOT) advances the project's design to a conceptual level of completion. The procured DB team (a paired contractor and design consultant) takes over the preliminary design from WSDOT and develops the final design for the project. As such, the majority of the responsibility and risk for the design and construction is allocated to the selected DB team.

Due to the inherent risk associated with design related activities, WSDOT obligates the DB team to obtain Professional Liability Insurance for all design consultants and Subconsultants of any tier to cover any potential claim. The professional liability insurance (PLI) coverage protects against any negligent act, error or omission arising out of the design or engineering activities, including but not limited to Release For Construction drawings, working and shop drawing approvals, associated with the subject project.

Establishing the appropriate level of PLI for any given project is advantageous to both WSDOT and our DB team partners as it can be a critical factor that can influence a project's potential best product/outcome. Excessive PLI coverage can have a disproportionately adverse effect on or be overly burdensome for small and minority businesses associated with the DB team. Therefore, the following guidance shall be used by WSDOT design teams to help establish the appropriate level of PLI for any given project based on that project's complexity and inherent level of design risk.

### **Introduction:**

This document provides guidance to help complete the "Design-Build Professional Liability: Assessment of Project Risk Level" spreadsheet which is an assessment tool that helps determine the relative level of risk for any given project. This identification of relative level of risk is only the first step in a larger process to formally determine and assign various considerations associated with PLI. As such, this guidance and associated assessment tool does not assign or identify the specific monetary amount of liability coverage, identify the coverage period, nor identify deductible amounts.

To access the level of risk, all DB projects are required to complete the "Design-Build Professional Liability: Assessment of Project Risk Level" spreadsheet. The spreadsheet asks whether various common areas of risk or "Considerations" are associated with the project and then solicits the potential level of impact of a possible design error, omission or negligent act conducted by the DB design consultant associated with those risks.

The "Design-Build Professional Liability: Assessment of Project Risk Level" spreadsheet is to be completed by the procurement PE with concurrence from the construction PE and collectively presented to the

Project Development Engineer/Engineering Manager, Assistant State Design Engineer (ASDE) and Assistant State Construction Engineer (ASCE) for endorsement. Once endorsed, the design team sends the completed spreadsheet to WSDOT Risk Management for final determination and assignment of monetary level and type of PLI, coverage period, and deductible amounts for the project. After which, said information will be included as appropriate in the project’s bidding documents.

**Timing of Assessment:**

The “Design-Build Professional Liability: Assessment of Project Risk Level” spreadsheet should be completed prior to completing the project’s Request for Qualifications documents. This will help ensure sufficient information is known to accurately quantify and articulate the apparent level of risk for any given design element.

**Assessment of Project Risk Level:**

As previously acknowledged, the “Design-Build Professional Liability: Assessment of Project Risk Level” spreadsheet is an assessment tool that helps determine the relative level of risk for any given project. The spreadsheet asks whether various common risks are applicable and the potential magnitude impacts for each applicable risks to be rated. Based on responses, a score for each risk is generated. The project’s “Total Score” then indicates the project’s risk level.

The spreadsheet contains several tabs some of which contain cells that will auto-populate when various information is provided in designated cells. Also included are example projects within the spreadsheet that have been successfully completed. The following is a step-by-step instructions (inside the green box) to completing the spreadsheet:

**General Project Information**

- Start with the blue “PLI” tab
  - At the top, use the green cells to fill out the general project information and provide a brief project description. See Figure 1.0 - General Project Information and Brief Project Description

**Washington State Department of Transportation**

*Determination of Professional Liability*

Provide requested information in the Green cells

<b>Project Title:</b>		US 395/NSC Spokane River to Columbia - Shared Use Path					<b>Date:</b>		10/20/2020
<b>CN Cost Est:</b>		\$11,583,891					<b>WIN:</b>		F00015F
							<b>PIN</b>		600015F
SR	395	<b>Begin MP</b>	159.04	<b>End MP</b>	161.16	<b>Length:</b>	2.12	miles	
SR		<b>Begin MP</b>		<b>End MP</b>		<b>Length:</b>	0	miles	
SR		<b>Begin MP</b>		<b>End MP</b>		<b>Length:</b>	0	miles	

Use numbers (no abbreviations)

**Brief Project Description:**

Provide a brief description

This project is a portion of the North Spokane Corridor (NSC) series of projects. This project will build a 12 foot wide paved, multi-use path between Carlisle Avenue and the current southern termination of the trail near Columbia Avenue in Hillyard; this Work includes the construction three pedestrian bridges, one each at: Wellesley Avenue, Garland Avenue, and Euclid Avenue. This project will also construct reinforced concrete retaining walls, fencing and various safety systems, and other amenities determined in conjunction with Eastern Washington University and community outreach.

**Figure 1.0** – Completing the General Project Information and Brief Project Description Section.

## Considerations

As previously stated, the considerations are risks that may be inherent to the project. The assessment spreadsheet has 15 areas of common risk. This assessment tool is not meant to address every possible aspect of risk, and will be continuously improved through a lessons learned process.

- For each consideration, determine if it is applicable to the subject project and use the drop-down list in the “Yes/No” column to answer “Yes” or “No”
  - If you answer “Yes” for any question, then use the drop-down list in the “Impact” column to assess the impact. See **Impact Section** below for more information regarding assessment of impact.
  - If you answer “No” for any question, move on the next question.
  - Provide additional details when prompted and appropriate.
- See Figure 2.0 – Completing the Considerations Section.

Considerations		Yes/No	Impact*	Score
1	Is the Engineer's Estimate greater than or equal to \$100 million?	No	NA	0
2	<b>Project Location</b>			
2a	Is the project in an urban area?	Yes	NA	2
2b	Is the project on an interstate corridor? If yes, skip 2c.	Yes	NA	0
2c	If 2b is no, is the project on a highway with high ADT (i.e. >25,000)?	No	NA	0
2d	Within Local agency jurisdiction and require a City Permit, Detour and/or Turnback Agreement?	Yes	Low	2
3	Do the materials/components/tools/equipment pose any challenges?	Yes		
4	Duration of project (i.e. number of construction seasons, etc)?			
4a	Less than or Equal to 1 construction Season	No		0
4b	Greater than 1 construction Season	Yes	Low	4

Figure 2.0 – Completing the Considerations Section.

## Assessment of Impact

One of the more challenging aspects of the spreadsheet is the assessment of potential impact(s) associated with any given area of risk. The magnitude of “impact” is established by assessing the costs to correct an error, omission or negligent act by the DB design consultant or sub consultant relative to the project’s total engineering estimate (i.e. how much will it cost to correct the issue relative to the project’s engineer’s estimate). These potential costs include any collateral project impacts and associated cost’s (e.g. schedule delay, office overhead, repairs to new and existing facilities including local agency and third party, etc.). For any given risk, a negative outcome could result in a range of possible impacts (e.g. an impact could result in between \$10,000 to \$100,000 in additional costs). When assigned the how “impactful” any given question or risk is, identify the most likely approximate cost. Table 1.0 – Assessment of Impact, provides a description and associated cost range for each level or magnitude of impact (e.g. “very low”, “low”, “medium”, etc.).

As you conducted the assessment, **keep in mind the “impact” is the total additional costs caused as a result of design errors, omissions and/or negligent acts conducted by the DB team design consultant or Subcontant on any tier.** This would include the final design and other designs for construction like working drawings, shoring plans, falsework etc. **This does not include any liability or costs that WSDOT may be responsible for.**

Assessment of Impact		
Magnitude of Impact	Description	Cost relative to Total Eng. Est.
Very Low	Very minor impacts with very limited or no collateral contract issues that may result in very minor cost to correct	\$ ≤ 0.5%
Low	Minor impacts with some collateral contract issues that results in minor costs to correct.	0.5% < \$ ≤ 2%
Medium	Moderate impacts with collateral contract issues that results in costs to correct.	2% < \$ ≤ 5%
High	Notable impacts with collateral contract issues that results in sizable costs to correct.	5% < \$ ≤ 10%
Very High	Significant impacts with extensive collateral contract issues that result in substantial costs to correct.	\$ > 10%

**Table 1.0** – Assessment of Impact

When completing the “Design-Build Professional Liability: Assessment of Project Risk Level”, for each consideration:

- Use the drop-down list in the yellow “Impact” column to assess the impact of an error, omission or negligent act conducted by the DB design consultant or Subconsultant. These are rated as very low, low, medium, high, very high.
  - Use the red “Impact” tab, as shown in Figure 4.0, to help determine the level of impact.

**Use the drop-down list to answer. See red “Impact” tab for more information.**

<b>6</b>	<b>Bodies of water and/or buildings in close proximity</b>			
<b>6a</b>	Does the project include in-water work?	Yes	Medium	3
<b>6b</b>	If 6a is yes, is there concern regarding the allocated in-water work window?	Yes	Medium	3
<b>6c</b>	Does the project include flow bypass work?	Yes	Low	2
<b>6d</b>	Does the project include dewatering to facilitate in-water work (e.g. dewatering portion of stream)?	Yes	Very Low	2
<b>6e</b>	Are their private structures (e.g. homes, building) in close proximity affect by dewatering elements (e.g. dewatering causes settlement)?	No	Low	0

**Figure 3.0** – Completing the Assessment of Impact Section.

**The blue “Score” column will auto-populate based on the risk level**

# Washington State Department of Transportation

## Assessment of Impact

<b>Project Title:</b>	US 395/NSC Spokane River to Columbia - Shared Use Path		
<b>CN Cost Est:</b>	\$11,583,891		
<b>Date:</b>	44124	<b>Information from pulled from 'PLI' tab</b>	<b>Cost range information auto-populates based on the project's cost</b>
<b>WIN:</b>	F00015F		

  

Assessment of Impact			
Magnitude of Impact	Description	Cost relative to Total Eng. Est.	Project Specific Range
Very Low	Very minor impacts with very limited or no collateral contract issues that may result in very minor cost to correct	\$ ≤ 0.5%	\$ ≤ \$57,919
Low	Minor impacts with some collateral contract issues that results in minor costs to correct.	0.5% < \$ ≤ 2%	\$57,919 < \$ ≤ \$231,678
Medium	Moderate impacts with collateral contract issues that results in costs to correct.	2% < \$ ≤ 5%	\$231,678 < \$ ≤ \$579,195
High	Notable impacts with collateral contract issues that results in sizable costs to correct.	5% < \$ ≤ 10%	\$579,195 < \$ ≤ \$1,158,389
Very High	Significant impacts with extensive collateral contract issues that result in substantial costs to correct.	\$ > 10%	\$ > \$1,158,389

**Figure 4.0** – Assessment of Impact: Screen shot of the red “Impact” tab.

### Total Score

As you complete the impact assessment for each pertinent consideration, the “Score” column will automatically populate with a risk score (see Figure 3.0). Once all Considerations and Impacts have been addressed, the spreadsheet creates a “Total Score” which is the summation of all the individual scores and indicates what the project’s risk level. That Total Score is then compared the Project Risk Level Table, see Figure 5.0 – Total Score and Project Risk Level Table.

14 Does the number of stakeholders exceed 5?	Yes	Medium	3
15 Are there any other potential problems (What do YOU see as risks related to this project). If yes, explain: The possible impact that the community will have on approving the proposal put forth to them, as well as the continued interactions with stakeholders, in the confines of a very aesthetically driven project, poses significant challenges, conceivably ones never-before-seen in prior WSDOT projects.	Yes	High	4
<b>Total Score =</b>			<b>30</b>

  

Final Project Risk Level Concurrence		Project Risk Level	
	Signature:	Score	Level
PDE/EM		0 to 30	Low
ASDE		31 to 60	Medium
ASCE		61 to 100	High
		101 or greater	Very High

**Figure 5.0** – Total Score and Project Risk Level Table

## **Next Steps:**

Once the Project Development Engineer/Engineering Manager, Assistant State Design Engineer (ASDE) and Assistant State Construction Engineer (ASCE) concur with the project's level of risk and sign the PLI spreadsheet accordingly, the design team sends the signed "Design-Build Professional Liability: Assessment of Project Risk Level" spreadsheet to WSDOT Risk Management. After sending the spreadsheet, schedule a meeting with WSDOT Risk Management to initiate final determination and assignment of monetary level and type of PLI, coverage period, and deductible amounts for the project. This information will be included in the project's bidding documents, as appropriate.