Washington State Department of Transportation

Memorandum

February 6, 2017

TO:	Todd Trepanier, P.E. Regional Administrator
THRU:	Troy Suing, P.E. Assistant Regional Administrator for Planning, Programming and Design
FROM:	Bob Hooker, P.E. /Robert Washabaugh, P.E. Design Project Engineer /Asst. Design Project Engineer
SUBJECT:	XL5065; US 12/Nine Mile Hill to Frenchtown Vic – Build New Highway **Delivery Method Approval**

The purpose of this memorandum is to obtain your approval and Headquarters endorsement to utilize the Design - Build delivery method for the above project. This memo includes documentation that summarizes the considerations and scoring for the Project Delivery Method (PDM) Selection Matrix. Please provide your signature for approval in Part II of the attached Matrix approval form and forward on for endorsement as appropriate.

Project Description

The existing two lane section of US 12 between Nine Mile Hill and Frenchtown experiences congestion and has a history of collisions. This project will reconstruct US 12 as a four lane divided highway to add capacity, reduce the risk of collisions, and improve economic vitality.

Delivery Method Selection Risks/Justifications

The project team completed a probable PDM selection matrix in April 2016 which resulted in an inconclusive delivery method. In January 2017, the project team met and reevaluated the project's goals. A formal PDM Selection Workshop was completed with Region and Headquarters staff to validate goals and establish ratings.

The following are specific risk/advantages in using Design - Build contracting for this project:

- Opportunities for innovation lie in structure design, construction staging, and earthwork.
- Right-of-way acquisition must be managed by WSDOT with the support of the Design - Builder.
- Design - Build delivery will take approximately the same amount of time to design and construct the project as a conventional design-bid-build project. However, opportunities for schedule advancement exist with a Design - Builder and will be further explored.
- Design - Build delivery minimizes peaks in workforce, allowing WSDOT to maintain a stable core workforce.
- Design - Build is a flexible contracting tool which allows risk to be allocated to the party best able to manage risk. For this project, it will be important for the Design - Builder to minimize impacts to private property, provide access for farming equipment, optimize the structural design, and ensure earthwork is balanced.

Conclusion

The PDM Selection Workshop held on January 12, 2017, determined that the Final PDM for the project was Design - Build. With Region approval and Headquarters endorsement on the attached selection matrix, the project will proceed with utilizing the Design - Build delivery method.

If you have any questions or comments, please contact me at 509-577-1760.

BH/RW:jt
Attachment
Project Delivery Selection Matrix
Project Delivery Selection Endorsement Form
Risk Matrix from October QPR
Project Delivery Checklist

cc: file

Project Delivery Method Selection Matrix

Version 02/01/17

Project Name: US 12 - Nine Mile Hill to Frenchtown Vic. - Build New Highway.

☑ **Determining Probable PDM** **Date:** Apr-16

Project Status: ☐ Project Summary ☐ Initiation & Alignment ☐ Planning & Endorsement (≈ 10% Design) ☐ Geometric Review (≈ 30% Design) ☐ Past Geometric Review (> 30% Design)

☑ **Determining Final PDM** **Date:** Jan-17

Project Status: ☐ Project Summary ☐ Initiation & Alignment ☐ Planning & Endorsement (≈ 10% Design) ☐ Geometric Review (≈ 30% Design) ☐ Past Geometric Review (> 30% Design)

See Appendix D for guidance on filling out this matrix.
Begin with the list of generic considerations offered below; modify or add entries as required. Indicate if the entry is a Project Delivery Goal by checking/selecting the Goal box; if not, leave blank.
Weights: Enter numbers indicating the relative priority of each Project Delivery Goal (checked/selected).
Ratings: Numbers from 1 to 10, with 1 lowest and 10 highest; a two point range is provided for the generic entries as given. Select the Rating that best fits the specifics of your Project Delivery Goal. If a Goal is modified or rewritten, confirm that the ratings are appropriate and revise them accordingly. Any new Goals added to the Matrix will need to have ratings provided based on the probability of each PDM to meet the Goal.
Score: Multiply the selected Rating of each method by the priority Weight for each Goal. Total the scores for each method and compare.

		Consideration	Weight	DBB Rating	DBB Score	DB Rating	DB Score
SCHEDULE	☑ Goal	Minimize project delivery time	5	☐ 4 ☑ 5	25	☐ 9 ☑ 10	50
	☐ Goal	Meet a specific critical Milestone or Completion date	Neutral	☐ 4 ☐ 5		☐ 9 ☐ 10	
	☐ Goal	Utilize (federal) funding by a certain date	Neutral	☐ 6 ☐ 7		☐ 9 ☐ 10	
	☑ Goal	Effectively manage weather, environmental and/or other construction windows	6	☐ 6 ☑ 7	42	☐ 9 ☑ 10	60
	☑ Goal	Funding limitations impacts ability to compress the schedule and/or contract all the work early in the process (such as the biennium, grants, etc.)	2	☐ 9 ☑ 10	20	☐ 6 ☑ 7	14
COST/FUNDING	☐ Goal	Minimize project cost (typically considered neutral)	Neutral	☐ 6 ☐ 7		☐ 6 ☐ 7	
	☐ Goal	Complete the project on budget (typically considered neutral)	Neutral	☐ 6 ☐ 7		☐ 6 ☐ 7	
	☐ Goal	Maximize the project scope and improvements within the budget	Neutral	☐ 4 ☐ 5		☐ 8 ☐ 9	
	☑ Goal	Project cost must not exceed a specific amount	10	☐ 6 ☑ 7	70	☐ 8 ☑ 9	90
	☑ Goal	Determine the total project cost as early as possible in the schedule	8	☐ 4 ☑ 5	40	☐ 9 ☑ 10	80
	☐ Goal	Meet 3rd Party requirements with possible impacts in design and construction	Neutral	☐ 6 ☐ 7		☐ 4 ☐ 5	

		Consideration	Weight	DBB Rating	DBB Score	DB Rating	DB Score
STANDARDS	☑ Goal Constraint	Meet or exceed project quality/scope requirements —utilizing opportunities for innovation	4	☐ 6 ☑ 7	28	☐ 9 ☑ 10	40
	☑ Goal	Owner requires control of design to meet specific design and construction constraints and/or standards (such as aesthetics)	2	☐ 8 ☑ 9	18	☐ 5 ☑ 6	12
	☑ Goal	WSDOT maintains control of specific project elements (such as significant ROW or environmental impacts)	2	☐ 8 ☑ 9	18	☐ 5 ☑ 6	12
	☐ Goal			☐ ☐		☐ ☐	
	☐ Goal			☐ ☐		☐ ☐	
FUNCTION/INNOVATION	☑ Goal	Minimize maintenance and operations costs (assume maintenance and operations is not part of DB contract)	2	☐ 9 ☑ 10	20	☐ 5 ☑ 6	12
	☑ Goal	Maximize capacity and mobility of improvements	3	☐ 6 ☑ 7	21	☐ 9 ☑ 10	30
	☑ Goal	Minimize impacts to the public and/or local businesses during construction	4	☐ 6 ☑ 7	28	☐ 9 ☑ 10	40
	☑ Goal	Incorporate opportunities for innovation and efficiencies to meet specific requirements	2	☐ 4 ☑ 5	10	☐ 9 ☑ 10	20
	☑ Goal	Avoid or minimize impacts to the project through risk transfer and innovation (such as environmental risks)	2	☐ 4 ☑ 5	10	☐ 9 ☑ 10	20
	☐ Goal	Minimize project permanent area impact (footprint) (This would be project neutral unless the project is larger and more complex—then use the ratings ranges provided)	Neutral	☐ 6 ☐ 7		☐ 8 ☐ 9	
	☐ Goal			☐ ☐		☐ ☐	
	☐ Goal			☐ ☐		☐ ☐	
				Totals—	350		480

Delivery method indicated →→→ Design-Build

PART I — PROBABLE PROJECT DELIVERY METHOD	
☐ A Probable Delivery Method has been determined ☐ DBB ☐ DB	
Preparer Name and Title:	Authorizing Name and Title:
Preparer Signature:	Authorizing Signature:
State Construction Office Endorsement	ASCE Signature:
State Design Office Endorsement	ASDE Signature:

PART II — FINAL PROJECT DELIVERY METHOD	
☒ A Final Project Delivery Method has been determined through validation or revision of this Checklist ☐ DBB ☒ DB	
Preparer Name and Title: Bob Hooker, P.E., Design Project Engineer	Authorizing Name and Title: Todd Trepanier, P.E., Regional Administrator
Preparer Signature: 2/6/17	Authorizing Signature: 2/9/17
State Construction Office endorsement	ASCE Signature: 2-16-17
State Design Office endorsement	ASDE Signature: 2/15/17

PART III — CHANGE TO APPROVED FINAL PROJECT DELIVERY METHOD	
☐ A Changed Final Project Delivery Method has been determined through validation or revision of this Checklist ☐ DBB ☐ DB	
Preparer Name and Title:	Authorizing Name and Title:
Preparer Signature:	Authorizing Signature:
State Construction Office endorsement	ASCE Signature:
State Design Office endorsement	ASDE Signature:

Attach project information, assumptions and additional justification to Form

Appendix A Worksheets and Forms-A.2: Project Delivery Method Selection Checklist

Project Name	US 12/Nine Mile Hill to Frenchtown Vic. Build New Highway	☒ **Probable PDM** ☒ **Final PDM** ☐ **Change Final PDM**	Date April 5, 2016 Date January 12, 2017 Date_____
Project Status	☐ Project Summary ☐ Initiation & Alignment ☐ Planning & Endorsement (≈10% Design) ☐ Geometric Review (≈30% Design) ☐ Past Geometric Review (Past 30% Design)		

PART I — COST	See Appendix C for guidance on filling out this checklist	
Is the Project Estimate $2 Million or less? *RCW does not allow use of DB for a project contract cost (PE & Construction) less than $2 Million	☐ Yes DBB Only*	☒ No DBB or DB
A **Yes** answer above indicates Design-Bid-Build as the Project Delivery Method		

Probable Project Delivery Method Recommendation

☐ DBB Only ☐ DBB or DB (Go to Part II) ☐ Proposed Exception

If DBB Only is selected, skip Parts II and III and go to Part IV

Final Project Delivery Method Recommendation

☐ DBB Only ☐ DBB or DB (Go to Part II) ☐ Proposed Exception

If DBB Only is selected, skip Part II and III and go to Part V

Change Final Project Delivery Method Recommendation

☐ DBB Only ☐ DBB or DB (Go to Part II) ☐ Proposed Exception

If DBB Only is selected, skip Part II and III and go to Part VI

PART II — RCW 47.20.785 REQUIREMENTS TO USE DESIGN-BUILD		
1. Are construction activities highly specialized?	☐ Yes	☒ No
2. Is a DB approach critical in developing the construction methodology?	☐ Yes	☒ No
3. Does the project provide opportunity for greater innovation and efficiencies between the designer and builder?	☒ Yes	☐ No
4. Would use of DB result in significant reduction to the overall project schedule or critical milestones?	☒ Yes	☐ No

If **Yes** was selected for any of questions 1 through 4 above, Design-Build is a viable PDM option. (Go to Part III)
If **No** was selected for all of the questions 1 through 4 above, it indicates Design-Bid-Build as the PDM.

PART III — PROJECT GOALS	See Appendix C for guidance on filling out this checklist		
Schedule			
A. Are there 3rd party agreements with local government or agencies that require a full design before execution? (Is a significant portion of the project impacted?) Justification:	DBB ☐ Yes	DB ☒ No	☐ Goal
B. Are there long lead, lengthy environmental permits or ROW issues that would delay start of Construction? (Is a significant portion of the project impacted?) Justification:	DBB ☒ Yes	DB ☐ No	☐ Goal
C. Is early obligation of funds necessary? (Such as a deadline to obligate grant funding) Justification:	DBB ☒ No	DB ☐ Yes	☐ Goal
D. Is there time to prepare 100% design? Justification:	DBB ☒ Yes	DB ☐ No	☐ Goal
E. Is there a need to compress the schedule? Justification:	DBB ☒ No	DB ☐ Yes	☐ Goal
F. Do funding limits restrict when the schedule can start? (Such as the Biennium)? Justification:	DBB ☐ Yes	DB ☒ No	☐ Goal

Complexity & Innovation	G. Are there significant risks that could be better managed by others than WSDOT? Justification:	DBB ☐ Yes	DB ☒ No	☐ Goal
	H. Does the project involve specialty engineering or high-tech designs or have other opportunities for innovation? Justification:	DBB ☒ No	DB ☐ Yes	☐ Goal
	I. Does the project require complex phasing and staging with the possibility of high impacts to the public? Justification:	DBB ☒ No	DB ☐ Yes	☐ Goal
	J. Does an existing road or facility need to remain in service? (no options for detour or an alternate facility available and a significant portion of the project is impacted) Justification:	DBB ☐ No	DB ☒ Yes	☐ Goal
	K. Is WSDOT willing to give up control of design and/or construction on this project? Justification:	DBB ☐ No	DB ☒ Yes	☐ Goal
	L. Are critical 3rd party involvement and changes likely during design & construction? Justification:	DBB ☐ Yes	DB ☒ No	☐ Goal
Cost/ Funding	M. Is early certainty of the total project cost important? (Increased certainty of total cost early in the project needed due to funding or project constraints) Justification:	DBB ☐ No	DB ☒ Yes	☐ Goal

The following PDM Options are indicated from the responses to the questions in Part III (Project Goals)

☒ **DBB** ☒ **DB**