

BORED TUNNEL CONTRACT PACKAGING OPTIONS

Summary of Options and Meeting Minutes April 14, 2009

Option 1A:

<u>Contract¹</u>	<u>Method of Delivery</u>
1. South Portal TBM Launch	Design Bid Build (DBB) or General Contractor / Construction Manager (GCCM)
2. Tunnel Bore / Extraction Pit	Design Build (DB)
3. Tunnel Interior Structure / Systems	DB
4. South Portal Transition + South Vent. Structure	DBB
5. North Portal Build-out + North Vent. Structure	DBB
6. Early Utilities	DBB

Option 1B:

<u>Contract</u>	<u>Method of Delivery</u>
1. South Portal TBM Launch + Tunnel Bore / Extraction Pit	DB
2. Tunnel Interior Structure / Systems	DB
3. South Portal Transition + South Vent. Structure	DBB
4. North Portal Build-out + North Vent. Structure	DBB
5. Early Utilities	DBB

Option 1C:

<u>Contract</u>	<u>Method of Delivery</u>
1. South Portal TBM Launch / Tunnel Bore	DB
2. Tunnel Interior Structure / Systems	DB
3. South Portal Transition + South Vent. Structure	DBB
4. North Portal Build-out + North Vent. Structure + North TBM Extraction Pit	DBB
5. Early Utilities	DBB

Option 2 (Construction Strategies Workshop Report Recommendation):

<u>Contract</u>	<u>Method of Delivery</u>
1. Tunnel Bore / Interior Structure / Systems (Excl. System Runs to Vent. Structures)	DB
2. North TBM Extraction Pit / North Build-out / North Detours	DBB
3. Vent. Structures (North and South)	DBB
4. South Portal TBM Launch	DBB or GCCM
5. South Portal Transition	DBB
6. Early Utilities	DBB

Option 3:

<u>Contract</u>	<u>Method of Delivery</u>
1. Early Utilities	DBB
2. South Portal TBM Launch / Tunnel Bore / Interior Structure	DB
3. Tunnel Systems	DBB
4. North Detour / North TBM Extraction Pit / North Portal Build-out / North Vent. Structure	DBB
5. South Portal Transition / South Vent. Structure	DBB

Note 1: "Vent. Structure" = Structure + System Runs to and Tie-in's with Tunnel Systems (typical for all Options).

Meeting Minutes:

- Open Questions from the Single Bore Tunnel Project Construction Strategies Workshop Report:
 - Should the tunnel systems be included into one large DB contract, or kept separate?
 - Should the South Portal TBM Launch contract be in the tunnel contract, or be held separate?
 - For a large tunnel contract including the tunnel bore, interior structure, and systems, what will be the expected level of bid competition? What will be the legislative changes relevant to bonding that could affect competition?
- Recommendation from Alec Williamson:
 - Have one contract to build the structure envelope (no interior structure or systems included) for the South Portal, tunnel, and the North Portal including TBM extraction. This is closest to an "Option 2" developed separately by Vic Oblas. This approach would involve:
 - Completing the work under the contract mentioned above.

- 2) After this is complete, commence with the build-out of the interior structure and tunnel systems. Start this work in the middle of the tunnel, and then work simultaneously to the south and north ends.
 - 3) In parallel, build-out the South and North Portals.
3. Decisions that WSDOT will control (i.e., will not leave to a DB Contractor):
- A. Fundamental tunnel geometrics (cross section and vertical / horizontal alignment).
 - B. Maintenance of traffic.
 - C. Roadway configuration at North and South Portals.
 - D. Fire Life Safety system performance requirements.
4. Discussion about the contract packaging options:
- A. An advantage of Option 1A is that it limits the scope of the tunnel contract to the bore and extraction pit only. This is more limited in scope than the other options, so would not require as much time to develop the RFP.
 - B. Disadvantage to executing a large-scale turnkey tunnel bore / interior structure / systems contract is that a single contractor with all of that scope could severely jeopardize the project in the event of a claim.
 - C. Is there any advantage in separating the tunnel interior structure from the tunnel systems?
 - D. Would the tunnel “squat” into an oval cross section if the interior structure was not immediately placed into it as the TBM advances? Discussion about this was to the effect that deformation should be minimal. The interior structure should be pre-cast, but include cast-in-place connections to the segment walls that could “take up” any variations in the tunnel cross section that might occur during the tunnel bore.
 - E. Bob Dyer discussed the status of legislative discussion concerning lowering bonding requirements to less than 100% of contract value.
5. Guidance from Susan Everett about RFP schedule activities:

<u>Activity</u>	<u>RFP that Includes Tunnel Systems</u>	<u>RFP that Excludes Tunnel Systems</u>
Kick Off the RFP Development Process	2 months	2 months
Develop / Complete the Technical Content	6 months	4 months
Finalize Content and Review	4 months	3 months
TOTAL	12 months	9 months

6. Direction from Matt Preedy and Susan Everett about next steps:

- A. Hold a meeting on the afternoon of Monday, April 20th, where the following will be presented and reviewed.
 - 1) One “rough cut” schedule and one pro / con matrix each for contract package options:
 - a) 1A
 - b) 1B
 - c) 1C
 - d) 2
 - e) 3
 - 2) Individuals given the action to develop the schedules and pro / con matrices were:
 - a) Don Phelps.
 - b) Vic Oblas.
 - c) Rick Conte.
 - d) Chris Ludington.
 - e) Mike Brunner is available to assist Chris Ludington in developing schedules.
- B. The above schedule / matrix development team is to let Matt and Susan know immediately if any concerns or cautionary issues arise that were not already discussed in today’s meeting.