

Memorandum

To	John Stokes	From	Thomas Cheung Amy Hodgson
Copy	Xenia Meier William Hung	Reference	521290-064
Date	2025-07-29	Pages (including this page)	2
Subject	Summary of Spoil Volumes Memorandum		

1 Purpose

This memorandum provides the summary of spoil volumes for pipe jacking option as presented in the construction statement memo (doc. No. 521290-W00064-MEM-WA-0003) for the proposed Western Isthmus Water Quality Improvement Programme (WIWQIP) Motions Catchment Improvement Project (the Motions Project).

- Pipe jacking Option (pipe internal diameter up to 2.4 m, DN 2400)

And there are two alignment options:

- Option A1 + B1: Same alignment as the DN 1800 pipe jacking option nominated in the Concept Design; maintain the alignment stepping at SH04 and SH02 which is a shallower alignment.
- Option A2 + B2: SH08 location is shifted to the existing Central Interceptor shaft by 5 m to reduce the tunnel length; remove the alignment stepping at SH04 and SH02 which is a deeper alignment with a deeper shaft ~ 45 m deep at the upstream end.

2 Summary of Spoil Volume

The spoil volume for the pipe jacking options has been estimated based on the selected pipe size and shaft diameter, applying a bulk factor of 1.8 to account for the swell of excavated material once removed from in-situ conditions. Spoil volumes from each proposed shaft site (generated from shaft construction and pipejacking) have been calculated according to the tunnelling excavation direction outlined in the Constructability Report (Revision 1) prepared by McConnell Dowell for this project. These estimates are provided for reference only and are subject to refinement during the Detailed Design stage.

Table 1 Summary of Spoil Volume

Shaft No.	Option A1 + B1	Option A2 + B2
SH01	1,300	2,450
SH02	21,750	22,950
SH03	900	1,350
SH04	14,400	14,400
SH05	800	800
SH06	1,200	1,200
SH07	14,150	14,150

Shaft No.	Option A1 + B1	Option A2 + B2
SH07a	400	400
SH08	9,350	9,350
SH09	450	450
SH10	250	250
SH11	1,650	1,650
SH12	350	350
SH12a	1,000	1,000
SH13	400	400
SH14	950	950
SH15	300	300
Total	69,600	72,400
Notes:		
1) The spoil volume has not included the new manhole at Fourth/Kingsland Avenues.		