



21 May 2024

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RE: Assessment of Dewatering Effects - Queen Street Wastewater Diversion Project (Part 3-Part 4 Connector tunnel) – Response to Councils request for further information regarding dewatering effects.

Dear William,

WSP has received an updated dewatering methodology from Fulton Hogan regarding the excavation works at the proposed Greys shaft location. The updated methodology is presented in Attachment C of the s92 response. The updated methodology included (but not limited to) the following relevant adjustments:

- A shift of Greys Shaft location approximately 3 to 4 m to the south.
- A reduction in Greys Shaft dimensions to 3.0 m x 3.0 m.
- A reduction in the required time to dewater Greys Shaft to 9 days total.

The implications of these changes are that because dewatering is less than **10 days**; as such, condition (2) to condition (6) of Standard E7.6.1.6 are now exempt from assessment for permitted activity status.

The updated excavation and construction methodology for Greys Shaft and the connector pipe between Greys Shaft and Mayoral shaft can now be considered a permitted activity and as such require no assessment. The assessment of the Greys Shaft dewatering activity against the permitted activity standards is presented below in Table 1-1 and Table 1-2.

Table 1-1: Assessment Standard E7.6.1.6 – Dewatering or groundwater level control associated with a groundwater diversion permitted under Standard E7.6.1.10, all of the following must be met:

Condition	Complies - Comment
(1) The water take must not be geothermal water;	Yes
(2) The water take must not be for a period of more than 10 days where it occurs in peat soils, or 30 days in other types of soil or rock; and	Yes – Greys shaft will only be dewatered for 7 days.
(3) The water take must only occur during construction.	Yes

Table 1-2: Assessment Standard E7.6.1.10 – Diversion of groundwater caused by any excavation, (including trench) or tunnel.

Condition	Complies – Comment	
	Greys Shaft – Post and Panel	Pipeline – Trenchless
(1) All of the following activities are exempt from the Standards E7.6.1.10(2) – (6):		
(a) pipes, cables or tunnels including associated structures which are drilled or thrust and are up to 1.2 m in external diameter;	NA	Yes – Proposed pipe diameter of DN700.
(b) pipes including associated structures up to 1.5 m in external diameter where a closed faced or earth pressure balanced machine is used;	NA	NA
(c) piles up to 1.5 m in external diameter are exempt from these standards;	NA	NA
(d) diversions for no longer than 10 days; or	Yes – Greys shaft will only be dewatered for 7 days.	NA
(e) diversions for network utilities and road network linear trenching activities that are progressively opened, closed and stabilised where the part of the trench that is open at any given time is no longer than 10 days.	NA	NA
(2) Any excavation that extends below natural groundwater level, must not exceed:		
(a) 1 ha in total area; and	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(b) 6 m depth below the natural ground level.	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(3) The natural groundwater level must not be reduced by more than 2 m on the boundary of any adjoining site.	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(4) Any structure, excluding sheet piling that remains in place for no more than 30 days, that physically impedes the flow of groundwater through the site must not:		
(a) impede the flow of groundwater over a length of more than 20 m; and	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(b) extend more than 2 m below the natural groundwater level.	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(5) The distance to any existing building or structure (excluding timber fences and small structures on the boundary) on an adjoining site from the edge of any:		
(a) trench or open excavation that extends below natural groundwater level must be at least equal to the depth of the excavation;	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(b) tunnel or pipe with an external diameter of 0.2 - 1.5 m that extends below natural groundwater level must be 2 m or greater; or	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(c) a tunnel or pipe with an external diameter of up to 0.2 m	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)

Condition	Complies – Comment	
	Greys Shaft – Post and Panel	Pipeline – Trenchless
that extends below natural groundwater level has no separation requirement.		
<i>(6) The distance from the edge of any excavation that extends below natural groundwater level, must not be less than:</i>		
(a) 50 m from the Wetland Management Areas Overlay;	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(b) 10 m from a scheduled Historic Heritage Overlay; or	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)
(c) 10 m from a lawful groundwater take.	Exempt – as per E7.6.1.10 (1) (a)	Exempt – as per E7.6.1.10 (1) (d)

Regards

Terry Hughes
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