

25<sup>th</sup> July 2017

**ocdl**

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Attention: Kirsty van Reenen

Dear Kirsty,

### **T & T LANDFILL, SURFACE STORMWATER DIVERSION WORKS – REVISED PROGRAM**

Further to our previous letter of 17<sup>th</sup> May and the subsequent Abatement Notice issued to our client, T & T Landfills Ltd dated 30<sup>th</sup> June 2017, we have reviewed progress by the various resources on site, reviewed how the program could be refined to achieve completion of the largest catchment (western catchment) as soon as possible, considered contract resources through the remainder of the year and, as a result of these reviews, revised the program for the works over the coming months.

We attach a revised program, dated July 2017, for your information. We also attach a revised staging plan, Figure 1A Revision A that can be read in conjunction with the revised program.

The revised program has addressed the issue of the tasks that were previously expected to be completed by now that have not yet been completed. For example, rock supply has been slower than previously expected due to the inability of the quarries to supply the rock and, due to the change in resources on site with T & T's internal staff being reduced and the delays involved in getting resources from Bryce O'Sullivan Ltd on site, the completion of the Mitchell Street swale was delayed. These tasks have now been re-programmed and are expected to meet the current program.

We have completed the design of the dam structures and these have been issued to the contractor for comment. The revised program shows the western dam being constructed in September/October. It is also programmed to have the western swale completed by the end of October so that the western catchment can be fully commissioned at the end of October.

The revised program shows a target commissioning date for the eastern catchment to be late November. We have revised our design of the eastern catchment swale alignment at the upper end. It was previously a continuous swale along the eastern hillside, with a temporary swale between chainages 340m and 730m. However, upon review of the expected cleanfill operation in this section of the cleanfill we have concluded that a temporary swale could have some difficulties to operate in conjunction with a cleanfill operation in the same area. We have reviewed the design capacities of the western swale to check that it can also cope with the likely design flows from the eastern catchment over the next few years and have confirmed this to be the case. The western swale has been designed to cater for flows from a 100-year return period event with an allowance for climate change over the

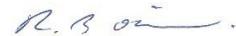
coming decades. This design event has greater flows than the expected flow from the combined catchments in a 50-year event occurring within the next few years. An event exceeding a 50-year event would only result in additional surface sheet flow which would not create any undue risk to the cleanfill structure as there are ponding areas within the cleanfill zone. We are therefore satisfied that the proposed interim cross connection of the eastern swale to the western swale, until about the end of 2019, will provide a better management of surface water.

We will continue to monitor progress on site, review program issues and refine them over the next couple of months as work progresses and endeavour to complete the work to this revised target commissioning date. However, as the works are complex and are affected by adverse weather, we do not want the dates outlined in the Abatement Notice (completion of all works by 31 January 2018) brought forward at this time.

We have not advanced the plugging of the Mitchell Street pond and have programmed this to occur in the latter part of August. The delays in this work are due to the delays in getting the Mitchell Street swale fully completed sufficient that all surface water above the swale is diverted into the swale and thus the remaining water discharged to the Mitchell Street pond is minimized. We have been monitoring the scale of ponding occurring during rainfall events to gain a feel for the likely pumping requirements and will continue to do this over the coming weeks, as programmed.

We trust the revised program provides some confidence that T & T Landfills Ltd are progressing the works with commitment.

Yours faithfully,



Ray O'Callaghan

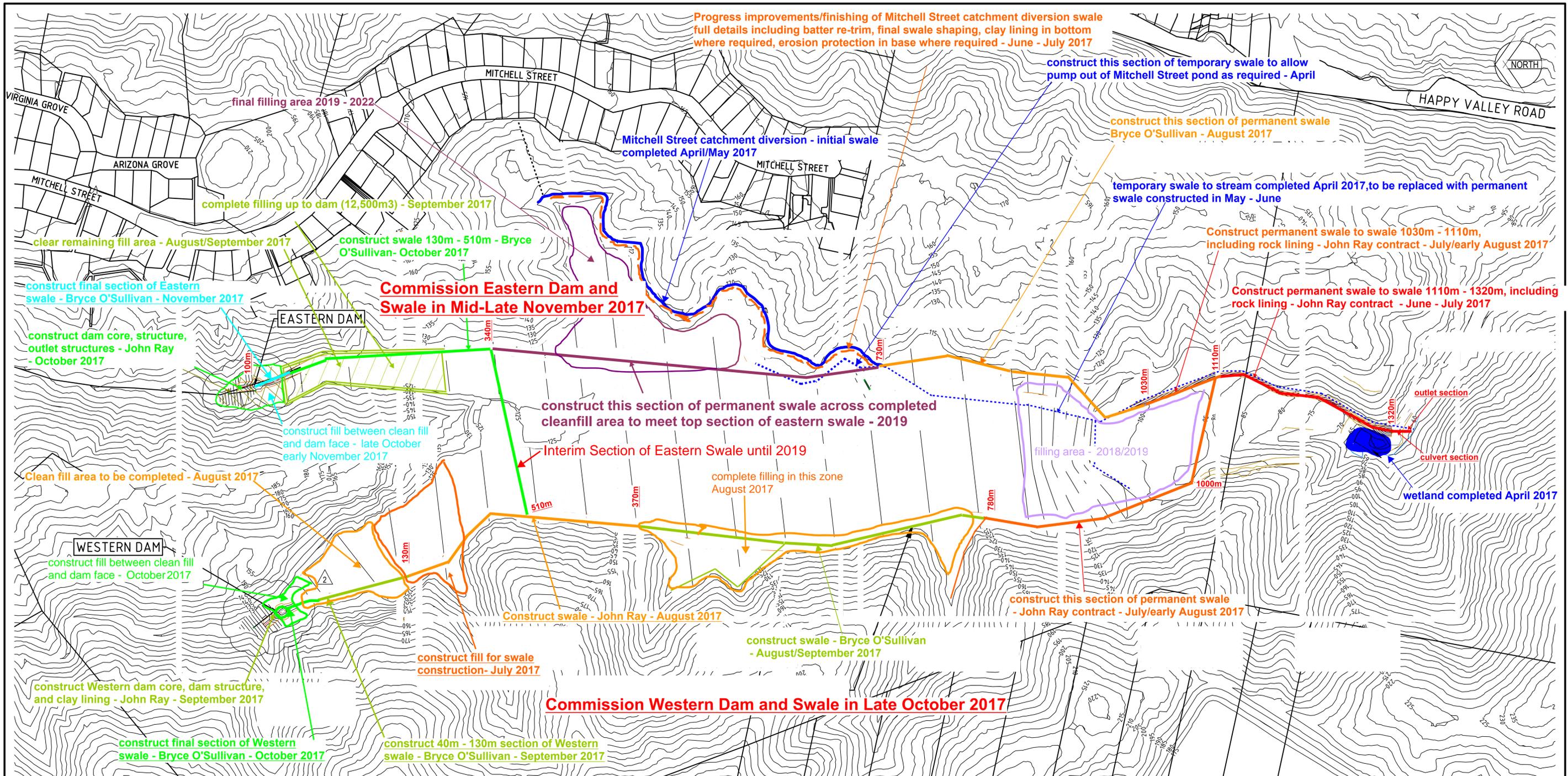
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*Engineering Director*

*O'Callaghan Design Ltd*

Enc. Revised program and Staging Plan





**Colour Legend**

- May and pre- May
- June
- July
- August
- September
- October
- November
- December

Rev.	Date	Description	Des.	Verif.	Appd.
A	14/7/2017	Program amended to reflect progress to date			



**Staging Plan For Construction of Stormwater Swales and Dams in 2017**

Drawn R.O'Callaghan	Date 28-4-2017	Client T & T LANDFILLS LTD	Status
Checked	Date	Project LANDFILL STORMWATER ASSESSMENT HAPPY VALLEY, WELLINGTON	DATUM WGTN1949
Designed	Date	Title <b>2017 Construction Programme</b>	Scale 1:2000
Verified	Date		Size A1
Approved	Date	Drawing Number <b>Figure 1A</b>	Revision <b>A</b>