

MEMO

TO Jo Frances, Team Leader, Environmental Regulation

FROM Max Curnow, Resource Advisor (Compliance), Environmental Regulation

DATE 14 August 2020

FILE NUMBER WGN180065

Request for approval of Erosion and Sediment Control Plan; Phase-Specific Erosion and Sediment Control Plan; and Flocculation Management Plan for Omaroro Reservoir under WGN180065 [35008] [35009] [35010]

On 16 February 2018, Wellington City Council was granted water permit WGN180065 [35008], discharge permit WGN180065 [35009] and land use consent WGN180065 [35010] for activities associated with the construction of a water supply reservoir at Prince of Wales Park, within the Wellington Town Belt, Mount Cook, Wellington.

Site preparation is scheduled to commence the week starting 17 August 2020. Earthworks other than those associated with the establishment of erosion and sediment controls are not scheduled to commence until post winter 2020.

This approval request relates to the following management plans:

- Under condition 8 of WGN180065 [35008] [35009] [35010] the consent holder shall submit a final Erosion and Sediment Control Plan (ESCP) at least 20 working days prior to any works starting onsite.
- Under condition 9 of WGN180065 [35008] [35009] [35010] the consent holder shall submit a Phase-Specific Erosion and Sediment Control Plan (ESCP) at least 20 working days prior to any works starting onsite.
- Under condition 10 of WGN180065 [35008] [35009] [35010] the consent holder shall submit a Flocculation Management Plan (FMP) at least 20 working days prior to any works starting onsite.

Erosion and Sediment Control Plan

8. *The consent holder shall prepare, in consultation with the contractor(s) and engineer(s) undertaking the works, a final **Erosion and Sediment Control Plan (ESCP)**. The ESCP shall be submitted to the Manager for approval at least 20 working days prior to any works starting onsite.*

The final ESCP shall as a minimum be prepared in general accordance with the current Erosion and Sediment Control Guidelines for the Wellington Region, and shall include, but not be limited to, the following:

- a) *Identification of appropriately experienced staff responsible for the implementation, operation, management and maintenance of all erosion and sediment control structures, including their roles, responsibilities and contact details;*
- b) *A detailed description of the works proposed, construction methodology and timetable;*
- c) *Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control and minimise the potential for the discharge of sediment-laden water from the site;*
- d) *The design criteria and dimensions of all erosion and sediment control measures and devices;*
- e) *Plan(s) of an appropriate scale clearly identifying:*
 - i. *The locations of waterways and stormwater drains;*
 - ii. *Staging sequence of erosion and sediment control measures and devices;*
 - iii. *Areas and cross sections of cut and fill and the inclusion of staged stripping of vegetation and cutting to ensure erosion and sediment control measures and devices are not overloaded;*
 - iv. *The extent of soil disturbance and vegetation removal;*
 - v. *Any “no go” and/or buffer areas to be maintained undisturbed, including minimum buffer strips of riparian vegetation to be retained;*
 - vi. *Locations of all stockpiles, stabilised access roads and stabilised construction entrances;*
 - vii. *All erosion and sediment control measures, including diversion channels;*
 - viii. *The boundaries and area of catchments contributing to all stormwater impoundment structures;*
 - ix. *The locations of all specific points of discharge to the environment, including to the stormwater network;*
 - x. *Civil infrastructure to be constructed in relation to completed bulk earthworks areas; and*
 - xi. *Any other relevant site information;*
- f) *Timetable and nature of progressive site rehabilitation and re-vegetation proposed;*
- g) *Maintenance, monitoring and reporting procedures and frequency;*
- h) *Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall events and/or the failure of any key erosion and sediment control measures or devices;*
- i) *Procedures and timing for review and/or amendment to the ESCP;*
- j) *Decommissioning methodology for all erosion and sediment control measures and devices including the procedure for obtaining the Manager’s prior approval;*

- k) *Procedures for re-instating erosion and sediment control measures and devices at the end of each working day, where applicable; and*
- l) *Reasons for any variance to the current Erosion and Sediment Control Guidelines for the Wellington Region.*

The ESCP shall be to the satisfaction of the Manager prior to any works authorised by this consent commencing. Construction shall not commence until the consent holder has received the Manager's written certification of the ESCP.

Any amendments proposed to the approved ESCP shall be confirmed in writing by the consent holder and be to the satisfaction of the Manager, prior to the implementation of any amendments proposed.

Phase-Specific Erosion and Sediment Control Plan

- 9. *At least 20 working days prior to the commencement of works on site, the consent holder shall submit a **phase-specific ESCP** to the Manager for certification. The phase-specific ESCP shall be consistent with the final ESCP submitted in accordance with condition (8).*

Where a minor change to a phase-specific ESCP is required, the consent holder shall notify the Manager in writing within two working days of implementing the change. For the purposes of this condition, a minor change includes:

- a) *Implementation or repositioning of silt fences and super silt fences;*
- b) *Implementing or repositioning of diversion bunds, check dams, or inlet protection; and*
- c) *Any other minor changes as defined in the ESCP or as otherwise agreed with the Manager*

Note: The first phase-specific ESCP may be submitted to the Manager for approval at the same time as the final ESCP required by condition (8) of this consent.

Flocculation Management Plan

- 10. *The consent holder shall prepare, in consultation with a suitably qualified and experienced flocculant professional, a final **Flocculation Management Plan (FMP)**. The FMP shall be submitted to the Manager for approval at least 20 working days prior to the commencement of earthworks.*

The FMP shall include, but not be limited to:

- a) *Confirmation of the flocculant to be used and the dosing method of flocculation to be used;*
- b) *Details of how the flocculation dosage will be triggered;*
- c) *Confirmation of the constructed shape and size of the SRP(s) and demonstration that the SRP(s) size and shape is appropriate for the relevant catchment;*

- d) *Confirmation of the optimum dosage rate calculated from the soils in the ponds catchment, including calculation details and bench testing results;*
- e) *An assessment of alternative flocculants and dosing methods and an explanation as to why the flocculant system was chosen, including discussion on ensuring accurate dosing/reducing overdosing, automated systems, flow-activated dosing, theoretical SRP volume/rain-activated dosing;*
- f) *Procedures for changing the flocculant method if the proposed method is found to be ineffective after use onsite (including timeframes for making the change between methods);*
- g) *Location plan and procedures for the storage of flocculation chemical(s) onsite;*
- h) *A flocculation chemical spill contingency plan including onsite roles and responsibilities;*
- i) *Identification of pH, dissolved aluminium, NTU and/or TSS trigger levels and procedures to be undertaken if the trigger levels are exceeded;*
- j) *Details of the monitoring programme in accordance with conditions (35) to (38) including location of water quality monitoring points, frequency of monitoring, reporting of results, and testing of the following parameters:*
 - i. *pH*
 - ii. *Temperature (°C)*
 - iii. *Turbidity (NTU)*
 - iv. *Dissolved aluminium (g/m³) if PAC to be used; and*
 - v. *Suspended solids (g/m³)*
- k) *Details of rainfall event based monitoring in accordance with condition (35);*
- l) *Methods, roles and responsibilities for monitoring and maintenance of the flocculation system by the onsite contractor(s) and engineer(s) including contact details of the relevant persons;*
- m) *Identification of a SQEP and their specific responsibilities for ensuring the operation, monitoring and maintenance of the chemical flocculation system to ensure that it is operating as outlined in the FMP; and*
- n) *A plan for the decommissioning of flocculated sediment retention ponds.*

Use of flocculant on site shall not commence prior to receiving written confirmation that the FMP is to the satisfaction of the Manager.

Note 1: There shall only be one point of inflow to a SRP and that must be via the dirty water diversion which conveys flows to the SRP.

Note 2: For large multi-stage projects FMP's must be reviewed prior to commencing each new stage or as a minimum on a seasonal basis. Reviews must reference monitoring data and/or further bench testing results to determine the effectiveness of the FMP and whether it needs to be amended to ensure on-going optimal performance.

Application and Assessment

On 4 May 2020, James Lake (Project Manager, HEB Construction Limited) submitted a draft combined ESCP, Phase-Specific ESCP, and FMP on behalf of Wellington City Council. This application was titled *Erosion & Sediment Control Plan, Prince of Wales/Omāroro Reservoir, Wellington Water Contract Ref: 771.00040, Revision 1* and dated 14 April 2020.

On 14 May 2020, I completed my review of the drafts and emailed my comments to the project.

On 18 June 2020, Gregor McLean (Southern Skies Environmental Limited) completed his review of the drafts and emailed his comments directly to the project.

On 4 June 2020, James Lake submitted an amended draft combined ESCP, Phase-Specific ESCP and FMP on behalf of Wellington City Council. This application was titled *Erosion & Sediment Control Plan, Prince of Wales/Omāroro Reservoir, Wellington Water Contract Ref: 771.00040, Revision 2* and dated 28 May 2020

On 10 June 2020, Gregor McLean completed his review of the amended drafts. I completed my own review and emailed both of our comments to the project.

In early July 2020, HEB Construction Limited provided the amended draft combined ESCP, Phase-Specific ESCP and FMP to the Community Reference Group (CRG) for comment.

On 22 July 2020, Mark O'Hare (Project Engineer, HEB Construction Limited) shared with me a Dropbox link for the post CRG review management plans.

On 4 August 2020, Gregor McLean and I undertook a risk assessment and pre-construction meeting at the site.

On 11 August 2020, James Lake called me and confirmed the shared combined ESCP, Phase-Specific ESCP and FMP were ready for certification. This application was titled *Erosion & Sediment Control Plan, Prince of Wales/Omāroro Reservoir, Wellington Water Contract Ref: 771.00040, Revision 3* and dated 10 June 2020.

On 14 August 2020, Gregor McLean (Southern Skies Environmental Limited) completed his review of the final plans and advised that "*HEB have addressed the comments I had on the ESCP and in this regard I have no further comments on that document other than issues raised at the pre-construction meeting*". Both Gregor and I are concerned about potential discharges of sediment laden water during enabling works. Gregor has advised "*the construction of the SRP's will require interim ESC to be installed (silt fences), as it is not only the excavation but the placement of that excavated material onsite*".

The final combined ESCP, Phase-Specific ESCP, FMP and appendices:

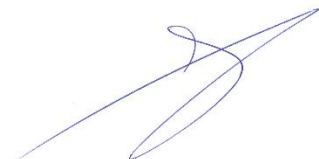
<http://ourspace.gw.govt.nz/ws/WGN180065/layouts/15/DocIdRedir.aspx?ID=WGN180065-1383380101-105>

Recommendation

I recommend this final combined ESCP, Phase-Specific ESCP and FMP for Omaroro Reservoir be **approved** under WGN180065 [35008] [35009] [35010] conditions 8-10, providing all run-off from disturbed areas is contained. This recommendation is based on the following:

- Gregor McLean has reviewed the final combined ESCP, Phase-Specific ESCP, FMP and considers his comments to be addressed other than issues raised at the pre-construction meeting.
- I believe the concerns Gregor and I have regarding enabling works can be addressed by requiring all run-off from disturbed areas be contained.
- I have reviewed the final combined ESCP, Phase-Specific ESCP, FMP and consider this to meet the requirements of WGN180065 [35008] [35009] [35010] conditions 8-10.
- HEB Construction Limited is committed to an adaptive management approach and amendments to combined final ESCP, Phase-Specific ESCP, FMP must be approved to the satisfaction of the manager under WGN180065 [35008] [35009] [35010] conditions 8-10.

Recommended:



Max Curnow

Resource Advisor (compliance)
Environmental Regulation

Approved:



Jo Frances

Team Leader
Environmental Regulation