

# Milldale Fast-Track

29/07/2025 – Auckland Council Response

## **Annexure 10:**

## **Regional Earthworks**



## Technical Specialist Memo – Earthworks and Erosion and Sediment Control

To: Dylan Pope – Lead Planner & Carly Hinde - PPL

From: Matthew Byrne - Erosion & Sediment Control Consultant to Earth, Streams and Trees Team

Date: 8 July 2025

### 1.0 APPLICATION DESCRIPTION

#### Application and property details

Fast-Track project name: Milldale

Fast-Track application number: LUC60446762, BUN60446761. FTAA-2503-1038

Site address: Wainui Road, Milldale, Upper Orewa

### 2.0 Executive Summary

Earthworks associated with the Milldale Fast-Track application are proposed over three key areas, being: Stages 10-13, Stage 4C, and a Wastewater Treatment Plant (WWTP) site, with earthworks spanning approximately 71ha, 5.1ha, and 0.75ha respectively. The following assessment evaluates the project's potential environmental effects, the proposed erosion and sediment control (ESC) measures including adaptive management, the earthworks area restrictions, and the proposed timing and staging for completion of the project.

The potential environmental effects of the proposed earthworks are those primarily associated with erosion of exposed surfaces at the site and the subsequent sedimentation of the receiving environment, being two tributaries of the Waterloo Stream or the Waterloo Stream itself. ESC measures designed and constructed in accordance with Auckland Council's GD05 guideline have been proposed to mitigate potential effects.

The assessment concludes that the applicant's proposal is in accordance with industry best practice and provided the ESC measures proposed at each of the three key areas of the site are constructed,



operated, monitored and maintained in accordance with GD05, the resulting potential effects will be appropriately managed.

One condition, in addition to those proposed by the applicant, has been recommended in Section 6 to address what I consider to be an oversight. Notwithstanding this additional recommendation, I support the applicant's earthworks and ESC proposal.

### 3.0 Documents Reviewed

- Volume 1 – Overview Report
- Volume 2 – Stage 10-13 AEE,
- Volume 3 – Stage 4C AEE,
- Volume 4 – WWTP AEE,
- Volume 6 – Conditions of Consent
- Appendix 1H,
- Appendix 2C,
- Appendix 2F,
- Appendix 2K (all parts),
- Appendix 2Q
- Appendix 2S,
- Appendix 2W,
- Appendix 3C (all parts),
- Appendices 3L and 4L.

### 4.0 Additional Reasons for Consent Not included in AEE

N/A

### 5.0 Specialist Assessment

Section 7.4 of the applicant's Overview Report contains a description of the three sites and their surrounding areas that are the subject of this fast-track application. I have accepted and adopted these descriptions in my assessment below.

Potential sediment discharges associated with the proposed earthworks will be either overland or to the existing reticulated system, all of which discharge to either one of two tributaries of the Waterloo Stream, or to the Waterloo Stream itself. The northern tributary, referred to as Stream 21 (formerly stream P9), flows from west to east, generally through the northern stages of the Milldale development. In general, runoff from Stages 10-13 will discharge into stream 21. The central tributary, referred to as stream P5, flows through the central-north portion of the Milldale development. There is potential for a



small portion of runoff from Stage 13 to discharge to stream P5. The third watercourse is the Waterloo Stream which flows along the central-south portion of the Milldale development. Discharges from Stage 4C will enter the Waterloo Stream, which is generally located along the site's southern boundary. Both stream 21 and stream P5 are tributaries of the Waterloo stream and converge at the eastern extent of Stage 10. The WWTP earthworks area is located northeast of the area where the three streams meet, and runoff from this area will be southeast, directly into the Waterloo Stream, which, from the overall sites' (i.e., all three sites) northeastern boundary, flows for approximately 1.2 kms before emptying into the Orewa River.

### **Other matters – Streamworks**

The application documents also include an Ecological Impact Assessment which has identified approximately 2.0ha of wetland, including potential wetland areas, within the overall project site. Earthworks within 100m of some of these freshwater features is proposed as are earthworks within and within 10m of some features.

The proposal also includes earthworks associated with the installation of culverts for access within freshwater streams on site, and the reclamation of natural inland wetlands and former farm ponds on the site. Where appropriate, an assessment of the earthworks within 100m, within 10m, and within natural inland wetlands on the Stages 10-13 site has been completed below, however, a streamworks and wetland works rules assessment of the proposal on these freshwater features, i.e., earthworks aside, has been undertaken by Council's Freshwater Ecology expert under separate cover.

### **Assessment of Effects on the Environment - Earthworks**

The potential environmental effects of the proposed earthworks are those primarily associated with erosion of exposed surfaces at the site and the subsequent sedimentation of the receiving environment, being two tributaries of the Waterloo Stream or the Waterloo Stream itself, which generally flow through the site in an easterly direction.

Sediment can degrade aquatic values such as water quality, smother habitat for aquatic fauna within these receiving environments, and directly impact aquatic fauna by blocking their breathing apparatus. The applicant has stated that the project will utilise erosion and sediment control (ESC) measures, designed in accordance with GD05, to help ensure the earthworks are appropriately managed.

Earthworks in brief:

- For Stages 10-13, approximately 1,683,810m<sup>3</sup> of cut and fill earthworks across approximately 71ha are proposed.
- For Stage 4C, approximately 24,400m<sup>3</sup> of earthworks are proposed over 5.1ha.
- For the WWTP site, approximately 4,800m<sup>3</sup> of earthworks are proposed over 0.75ha.

The application documents include a set of erosion and sediment control plans (ESCPs) for each of the three key areas described above. Each of these plans are in general accordance with Auckland Council guideline document number 5, Erosion and Sediment Control Guide for Land Disturbing Activities in the



Auckland Region, June 2016 (GD05). All ESCPs provided are indicative only and the applicant has proposed the provision of final ESCPs ahead of earthworks commencing at a given stage of the project.

### **Stages 10-13**

The applicant proposes to complete the bulk earthworks associated with Stages 10-13 over three bulk earthworks seasons. As each season of work is completed, areas will be stabilised in accordance with GD05 and made available for a subsequent civil stage of earthworks associated with subdivision. As the ESCPs included in the application documents are indicative only, the applicant has proposed the provision of a finalised ESCP at the beginning of each earthworks season (1 October of any year). I support the applicant's proposal in this regard.

Each main stage will utilise up to five sediment retention ponds (SRPs) and up to seven decanting earth bunds (DEBs) as their main methods of sediment control. Appropriately located clean and dirty water diversion bunding has been proposed to either divert clean water away from an exposed area, or to divert dirty ware runoff to a respective SRP or DEB. Super silt fence (SSF) will be established along the downgradient boundaries of Stages 10 and 11, above the margins of Stream 21. Silt fences have also been proposed within Stage 12 to manage runoff from small areas where it cannot be directed to an SRP or DEB. Stabilised entry and exit points from Lysnar Road, Wainui Road, Argent Lane and from temporary accessways, will be established to help prevent sediment tracking onto the surrounding public road network. Existing construction compound and laydown areas and topsoil stockpiling areas, established under existing consents, will be utilised where possible to avoid any unnecessary and/or additional earthworks. I support the applicant's proposal in this regard.

Indicative ESCPs have been provided for the subsequent civil stages of works for each of the three main stages noted above. In general, these indicative ESCPs propose to utilise where possible, existing SRPs and/or DEBs where these devices have been left in place after bulk earthworks have been completed and are "out of the way" of any necessary infrastructure works. Existing stabilised entry and exit points that remain from bulk earthworks stages will be utilised, and dry basins which have been constructed for stormwater management purposes will be utilised as temporary sediment control devices where possible. Regardless, the applicant has proposed a condition that requires provision of a finalised ESCP, specific to any given sub-stage of civil construction, ahead of earthworks commencing on that civil sub-stage. I support the applicant's proposal in this regard.

Chemical treatment of all SRPs and DEBs utilised during earthworks for Stages 10-13 has been proposed with the provision of a Chemical Treatment Management Plan (ChTMP) to Auckland Council ahead of earthworks commencing. In many cases, an existing, certified ChTMP is already in place. Any existing ChTMPs will be updated as necessary to incorporate new SRPs, DEBs, or any other approved impoundment devices. I support the applicant's proposal in this regard.

Bulk earthworks across the Milldale development have been subject to the requirements of an adaptive management plan (AMP) since the second stage of the development, which commenced in the 2017-2018 Auckland Council earthworks season. As part of this Fast Track application, the applicant has provided an up-to-date AMP that incorporates sampling of the SRPs proposed for construction during the Stages 10-13 earthworks, as well as additional baseline monitoring within stream P21.



I support the applicant's proposal in this regard subject to minor wording changes to the document, and subject to clarification around the timing of site audits on Sundays and public holidays. The applicant has agreed to these minor amendments; **however, I have not sighted the updated AMP document.**

"Bulk" earthworks across the Milldale development have been subject to a 30ha open area restriction, and the applicant has proposed that this area restriction, applicable to bulk earthworks only and not to sub-stage civil construction, be applicable to Stages 10-13. This is considered appropriate as it will help minimise the potential effects of sediment discharges from large, open areas, particularly during significant rain events. It is also consistent with all previous stages of earthworks within the Milldale development. As such, I support the applicant's proposal in this regard.

#### **Stage 4C**

ESCPs for Stage 4C propose three SRPs as the main method of sediment control, one for each sub-stage of Stage 4C. Three stabilised entry and exit points, one from each stage of civil works, have also been proposed, as has appropriately located dirty water diversion bunds to direct runoff to a respective SRP. As the earthworks associated with Stage 4C are civil construction related, the applicant has proposed provision of a finalised ESCP ahead of works commencing. I support the applicant's proposal in this regard.

Chemical treatment of all SRPs for Stage 4C has also been proposed with the provision of a ChTMP to Auckland Council ahead of earthworks commencing. I support the applicant's proposal in this regard.

#### **WWTP**

Earthworks for the temporary WWTP site will be completed over a single stage utilising two DEBs as the main method of sediment control. Appropriately located clean and dirty water diversion bunds have also been proposed as has a stabilised entry and exit point from the WWTP site. As with Stages 10-13 and 4C, the applicant has proposed the provision of a finalised ESCP ahead of earthworks for the WWTP commencing. I support the applicant's proposal in this regard.

Chemical treatment of the two (2) DEBs for the WWTP earthworks has been proposed with the provision of a ChTMP to Auckland Council ahead of earthworks commencing. I support the applicant's proposal in this regard.

#### **All remaining ESC measures, All Stages**

Aside from the main methods of ESC noted above, the applicant has proposed the following ESC measures for all areas / stages of the project with regard to earthworks: Progressive stabilisation of exposed areas as the desired gradients are achieved, and monitoring and maintenance of all erosion and sediment controls throughout the duration of earthworks, in accordance with GD05. I support the applicant's proposals in this regard.

#### **Earthworks within 100m, within 10m, or within a Natural Inland Wetland**

Notwithstanding the ESC measures proposed in any of the indicative ESCPs provided with the application documents, the applicant has stated that specific ESC measures will be installed as



appropriate around the earthworks area to mitigate any potential adverse effects on any adjacent wetlands. Provided any earthworks within 100m or 10m of a natural inland wetland are accompanied by ESC measures installed, monitored and maintained in accordance with GD05, I concur with the applicant's assessment in this regard.

#### **Timing / Seasonal Restriction**

The applicant has stated that the bulk earthworks associated with Stages 10-13 will occur over a period of three (3) years, however, they have sought an expiry date for the earthworks permit of five (5) years. I support the applicant's proposal in this regard.

The applicant has not proposed an expiry date for the earthworks permit associated with the Stage 4C component of the project. They have, however, proposed a lapse date of seven (7) years. I support the applicant's proposal in this regard.

The applicant has proposed a ten (10) year expiry for the WWTP earthworks permit. Given the potential for delays in completing this stage of the project, I support the applicant's proposed expiry date.

The applicant has proposed a condition restricting earthworks to the standard Auckland Council earthworks season, being 1 October – 30 April of any year, for Stages 10-13, and for Stage 4C. **No such restriction has been proposed for the earthworks associated with the WWTP. I believe this is an oversight on the applicant's behalf and that it is their intention to complete the earthworks for the WWTP during the standard Auckland Council earthworks season. I have therefore included an additional recommendation in Section 6 below that is applicable to the earthworks required to complete construction of the WWTP.**

#### **Conclusion**

The three AEEs provided with the application documents and their associated appendices imply that the proposed ESC measures will ensure the proper management of any potential sediment related effects and that any resulting effects will be less than minor. An assessment of the technical aspects of the earthworks and sediment control methodology has been undertaken and provided the earthworks are completed in accordance with the application documents, all supporting information, and on any additional recommendations included in Section 6 below, I concur with the applicant's assessment and consider that the potential effects associated with sediment discharge will be appropriately managed.

## **6.0 Section 67 Information Gap**

**I have identified the following Section 67 information gaps:**

**Awaiting updated AMP** - Change all references to "stream P9" or "stream 21" in the AMP and recommended conditions, to "Milldale Stream" as per the AEE.

Applicant team have confirmed that the AMP will be updated after 29/07 to include:



*The rainfall trigger event site audits will be undertaken as close to the trigger as possible and within 24hrs of the event, excluding Sundays and Public Holidays. Where a trigger event falls on a Sunday or Public holiday, the ESC specialist will visit the site on the next working day to complete the monitoring. This does not negate day-to-day monitoring and maintenance to be completed by the Contractor.*

The relevant condition of consent will also be updated.

## 7.0 Proposed Conditions

Conditions need to refer to “Council” rather than Team Leader Compliance Monitoring North

Conditions that refer to GD05 must refer to amendment 3, not Amendment 2. Or “GD05, including any amendments”.

Proposed conditions 11 and 14 include reference to condition 1. It’s unlikely that they should reference condition 1

The proposed condition that requires provision of an ESCP ahead of works commencing, should state that the ESCP must include reference to any erosion and sediment control measures for any temporary stream diversions necessary to install in-stream structures.

Condition 46 is out of place.

The following additional condition is proposed for the earthworks associated with the WWTP site.

### *19A - Seasonal Restriction*

*No earthworks on the WWTP site must be undertaken between 01 May and 30 September in any year without the submission of a ‘Request for winter works’ to Council. All requests must be renewed prior to the approval expiring and no works must occur until written confirmation has been received from the Council. All winter works will be re-assessed monthly or as required to ensure that adverse effects are not occurring in the receiving environment and may be revoked by Council upon written notice to the Consent Holder.*

## 8.0 Review

Memo prepared by:

Matthew Byrne - Specialist Advisor – Earth, Streams & Trees Team, Specialist Unit, Resource Consents





Date: 8th July 2025

Technical memo reviewed and approved for release by:

Fiona Harte - Team Leader, Earth, Streams and Trees Team, Specialist Unit, Resource Consents



Date: 8th July 2025