# EMS0099

# Spring Fed Dam Reclamation Plan

# Borg Manufacturing

124 Lowes Mount Road, Oberon NSW

Borg Manufacturing Pty Ltd

24 August 2022

This document should be read in conjunction with EMS0060 Construction Environment Management Plan, EMS0006 Surface Water Management Plan and EMS0008 Erosion & Sediment Control Plan.

## Revision History

| Rev No. | Revision Date | Author / Position | Comments | Details | Authorised | |
|---|---|---|---|---|---|---|
| | | | | | Name / Position | Signature |
| 0 | 29/03/2019 | Jacqui Blomberg Environment Manager | | Draft | Victor Bendevski Environmental and Regulatory Compliance | |
| 0.1 | 28/05/2019 | Jacqui Blomberg Environment Manager | Following DILW/NRAR review | Draft | Victor Bendevski Environmental and Regulatory Compliance | |
| 1 | 28/05/2019 | Jacqui Blomberg Environment Manager | For issue | | Victor Bendevski Environmental and Regulatory Compliance |  |
| 2 | 24/08/2022 | Andrew Brady Environmental Manager | As per MOD 4 condition B33B | | Victor Bendevski Environmental and Regulatory Compliance |  |

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# 1 INTRODUCTION

## 1.1 Background

Borg Manufacturing operates a Medium Density Fibreboard (MDF) and particleboard manufacturing facility in Oberon, NSW. This facility manufactures a range of Customwood MDF and Custompine particleboard products including:

- Standard MDF;
- Moisture Resistant MDF;
- E0 (Low Formaldehyde Emitting) MDF;
- Ultraprime MDF Mouldings;
- Standard particleboard;
- Moisture resistance particleboard;
- Particleboard flooring products for structural applications;
- Decorative Laminated MDF and particleboard; and
- Treated paper for the lamination of MDF and particleboard.

On 29 May 2017 Development Consent SSD 7016 was granted by the Minister for Planning to construct a particleboard manufacturing facility, modify the existing MDF manufacturing facility and undertake general site works at the existing Borg Manufacturing site located on 124 Lowes Mount Road, Oberon.

On 20 November 2018 modification of Development Consent SSD 7016 MOD 1 was approved by the Director, Industry Assessments as a delegate of the Minister for Planning under section 4.55(1A) of the *Environmental Planning and Assessment Act 1979*. This modification included for the extension of the warehouse at the north-east area of the site which required reclamation of approximately 30% of the manmade spring fed dam to provide suitable structural footing for the building and driveway and allowed sufficient space for the changes to the surface water management system.

On 20 May 2022 modification of SSD 7016 (MOD 4) was approved by the Team Leader, Industry Assessments which included the reclamation of the remaining area of the spring fed dam to enable the increase in size of the hardstand at the north-eastern corner of the site to facilitate the relocation of the existing site mechanic's workshop.

## 1.2 Purpose and Objectives

The purpose of this Plan is to:

- Address the relevant conditions of Development Consent SSD 7016 including modifications and to manage the reclamation of the remaining area of the spring fed dam at the Borg Manufacturing facility.

The objectives of the Plan are to:

- Identify potential impacts to the water resulting from construction activities, specifically the reclamation works;

- Implement appropriate mitigation and management measures as required, ensuring they meet relevant legislative requirements;
- Address comments received concerning the construction works approved in modification 4 to reclaim the remaining portion of the spring fed dam; and
- Define a protocol for reporting environmental incidents.

## 1.3 Structure of this Plan

This Spring Fed Dam Reclamation Plan (the Plan) was initially developed to manage potential impacts to the dam during the reclamation works to a portion of the dam, and to satisfy requirements set out in conditions SSD 7016 C1, C9 and B33A. Those works were complete in 2020.
Borg received approval from DPE on 20 May 2022 to undertake works to reclaim the remainder of the spring dam (MOD 4). Therefore, this Plan is now updated to include for management & mitigation measures for these works as specified in condition B33B.

This is a sub plan to EMS0060 Construction Environmental Management Plan (CEMP) and includes information on the following:

- Section 2 – Legislative and Regulatory Compliance
- Section 3 – Overview
- Section 4 – Environmental Impact Assessment
- Section 5 – Mitigation & Management Measures
- Section 6 – Fill Design
- Section 7 – Inspections & Reporting
- Section 8 – Plan Review

## 1.4 Consultation

Consultation with the NSW EPA, the Department of Planning and Environment (DPE), the Natural Resources Access Regulator (NRAR) and DPE Water was undertaken during the assessment of SSD 7016 modification 4 application.

The Final Plan will be submitted to the Secretary DPE for approval prior to the commencement of construction works associated with the reclamation of the remaining section of the spring fed dam.

## 1.5 Responsibilities

| Name | Title | Responsibility |
|---|---|---|
| Levi Yates | Construction Manager (CM) | • Instruct employees/contractors on how to comply with environmental procedures including this Plan and requirements relevant to their respective work activities<br>• Ensure SS is aware of and complies with the environmental obligations as detailed in this Plan<br>• Evaluate effectiveness of environmental controls associated with the works detailed in this Plan<br>• Implement and support remedial measures as recommended by the EM<br>• Engage with EM and environmental |

| | | |
|---|---|---|
| | | consultants where required to provide support in implementing this Plan<br>• Investigate any environmental incidents or complaints with EM where required, and ensure corrective action is implemented |
| Zac Kay | Site Supervisor (SS) | • Manage employees / contractors and construction activities on a daily basis to ensure the appropriate environmental controls are implemented and maintained<br>• Undertake daily site inspections of environmental controls<br>• Implement actions identified as a result of site inspections or reported environmental issues<br>• Report any environmental management concerns or incidents immediately to the Environmental Manager |
| Andrew Brady | Environmental Manager (EM) | • Train employees/contractors on how to comply with environmental procedures including this Plan<br>• Undertake regular site inspections, documented at least monthly to ensure environmental issues are identified and managed and controls are adequate<br>• General environmental compliance observations and recommend actions where necessary<br>• Investigate any environmental incidents or complaints with CM or SS where required, and ensure corrective action is implemented<br>• Track compliance against the Conditions of Consent for the scope of works detailed in this Plan<br>• Provide necessary support CM/SS<br>• Conduct review as per Section 8 of this Plan |

# 2 Legislative, Regulatory & Licence Compliance

## 2.1 Relevant Legislation

Key environmental legislation for the Existing Development includes:

- *Protection of the Environment Operations Act 1997*; *and*
- *Environmental Planning and Assessment Act 1979.*

Other relevant legislative framework associated with the spring dam reclamation works is the *Water Management Act 2000.* The NSW Aquifer Interference Policy is the governing policy for the licensing and assessment of aquifer interference activities under this Act and therefore is considered for this activity.

## 2.2 Conditions of Consent

The development operations pertaining to this Plan are subject to the conditions contained in Development Consent SSD 7016 MOD 1 approved 20 November 2018 and SSD 7016 MOD 4 approved 20 May 2022.

The specific requirement for a Spring Fed Dam Reclamation Management Plan were first described in Schedule 2, condition B33A of modification 1 as follows:

> *The Applicant must prepare a Spring Fed Dam Reclamation Management Plan for the Project. The plan must form part of the CEMP as required by Condition C1 and be prepared in accordance with Condition C9 and must:*
> - *Be prepared in consultation with DILW;*
> - *Be submitted to the Secretary for approval prior to commencement of the spring fed dam reclamation works;*
> - *Include details of the reclamation materials and reclamation methodology for the spring fed dam reclamation works;*
> - *Detail the management measures to mitigate water quality impacts during the spring fed dam reclamation works; and*
> - *Incorporate the recommendations outlined in Appendix A of Borg Construction Pty Ltd's Letter to Department of Industry, dated 2 August 2018 as described in Modification Assessments.*

This Plan has been updated to include modification 4 condition B33B which states that:

> *Prior to commencement of the construction works associated with SSD-7016-Mod-4, the Applicant must update the Spring Fed Dam Reclamation Management Plan required under Condition B33A, to incorporate the dam reclamation works described under SSD-7016-Mod-4 and its management, to the satisfaction of the Secretary. The updated plan must be prepared in accordance with the requirements of Condition B33A, and must incorporate the following:*
>
> *(a) description of additional infrastructure that would be installed to facilitate permanent groundwater collection and storage of groundwater inflows from the Spring Fed Dam; and*
>
> *(b) details of the measures and procedures to be implemented, including quality testing procedures, to ensure backfill material used for the reclamation works does not contaminate groundwater.*

## 2.3 Water Access Supply Licence

The existing development has approval from Department of Primary Industries Water (DPI) for water supply works under approval 80WA715797 allocating 28 units per financial year to be extracted from the aquifer (spring dam). The Statement of Approval issued under the *Water Management Act 2000* must be referred to during the reclamation works to ensure the conditions of approval are met, including nil exceedance of extraction limits.

If it is determined during design (or similar investigations) that the current water allocation is not sufficient, an application to DPI will be submitted requesting a temporary increase to the approved allocation units for the duration of the reclamation works.

# 3 OVERVIEW

## 3.1 Site Environment

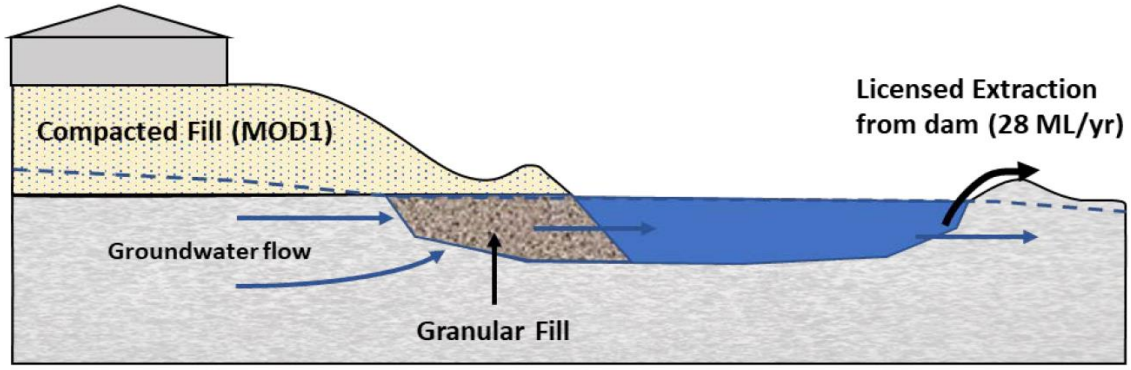
The site is currently developed for the purposes of a manufacturing facility for Medium Density Fibreboard (MDF) and particleboard. This includes:

- A number of large scale industrial buildings which contain various processes involved with the manufacture of MDF and MDF products
- Concrete hard stand areas between the buildings
- A two-story administration/amenity building with associated staff car parking
- Various necessary items of infrastructure including venting, dust collection and wood particle conveyors, other facilities/buildings associated with the use of the land (including maintenance areas, security entry/exit gates and weigh bridges)
- Fencing, landscaping, surface water drainage and other site facilities

The expansion works that have been undertaken under SSD 7016 allowed for the construction of a dedicated particleboard manufacturing line, whilst providing additional infrastructure including within existing buildings, to value add existing products.

Reclamation of a portion of the spring fed dam for extension of the northern warehouse under modification 1 was completed in 2020. Figure 1 illustrates this work.

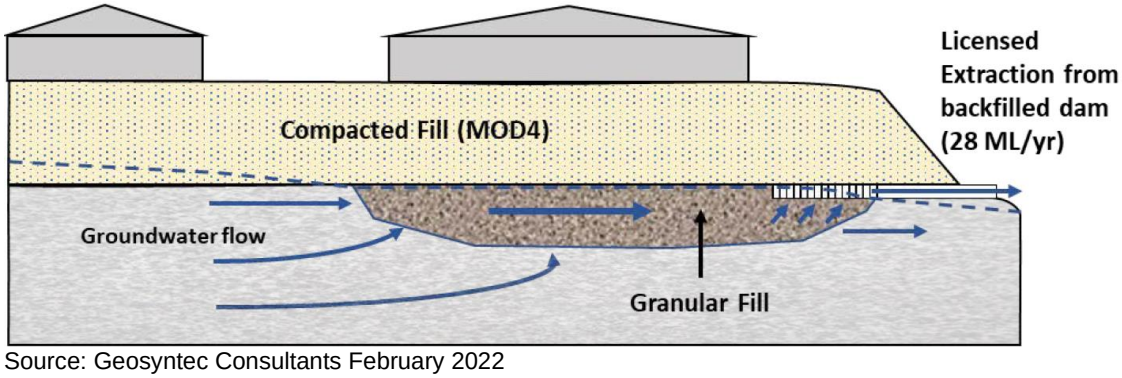
**Figure 1 Spring Fed Dam 30% reclamation with granular fill (MOD1)**




Source: Geosyntec Consultants February 2022

Further extension of the hardstand area at the north-east of the site will reclaim the remainder of the spring dam. Figure 2 shows the remainder of the reclamation works.

**Figure 2 Spring Fed Dam 100% reclamation with granular fill (MOD 4)**




Source: Geosyntec Consultants February 2022

## 3.2 Identification of Issues

Additional works as approved under as per SSD 7016 MOD 4, namely extension of the northern hardstand and relocation and expansion of the existing mechanic's workshop, will affect the spring fed dam.

Potential issues associated with the additional reclamation works include:

- whether material disturbed during construction or material placed for the reclamation may be contaminated;
- will groundwater flow paths change as a result of the reclamation;
- how Borg will retain access to groundwater from the spring fed dam;
- are the works an aquifer interference activity; and
- potential for polluted stormwater runoff to contribute to the water levels in the spring dam.

Borg engaged Edge Geotechnical to review Borg's proposal to reclaim of the remainder of the spring fed dam providing advice on the impact of reclamation on the groundwater (see Appendix A).

Geosyntec Consultants were engaged to review Edge Geotechnical advice and provide hydrological advice regarding the influence of the local groundwater resource of the reclamation, addressing comments raised by DPE and NRAR (see Appendix B).

Fill design was provided by Envirowest Consulting who also provided design advice for part reclamation works undertaken under modification 1 (see Appendix C).

These issues are discussed in section 4 below.

# 4 ENVIRONMENTAL IMPACT ASSESSMENT

## 4.1 Existing Environment

The spring dam was created as a result of an excavation for a source of clean fill during development of the site (by others) in the late 1990s. The source of water in the dam is primarily groundwater inflow from the surrounding shallow aquifer, with a component of precipitation that falls directly on the dam. The spring dam continuously overflows via a spillway located at the eastern end, even when the licensed allocation is extracted. With the exception of direct rainfall, stormwater runoff from the site is captured in a separate stormwater drainage system at the site and is prevented from entering the spring dam by a perimeter bund around the dam. In 2020 approximately 30% of the dam footprint was reclaimed as part of site development works approved under modification 1. The pre reclamation groundwater flow yield was maintained in the remaining portion of the dam, and the dam continued to overflow as it did prior to the partial reclamation.

## 4.2 Potential Impacts

Potential impacts from the activity could occur during both construction and operational phases.

### 4.2.1 Construction

Identified issues during the construction or 'reclamation' phase of works include the following:

1. whether material disturbed during construction or material placed for the reclamation may be contaminated;

2. are the works an aquifer interference activity; and
3. potential for polluted stormwater runoff to contribute to the water levels in the spring dam.

The expansion works requires fill placement plus additional fill for reclamation of the remainder of the spring dam. Similar to the reclamation of the initial 30% portion of the dam, reclamation will be carried out using a granular or crushed rock fill (or blend of both) which has a high permeability thus having minimal impact on local groundwater flow paths, and can be placed below water line and compacted sufficiently when the new surface level is achieved. Any fill material imported for this activity will be suitably verified prior to coming to site to ensure it will be geotechnically suitable and it will not degrade the environmental values of the local groundwater resource. It is not expected that any material will be excavated/removed from the dam for the reclamation works.

With regards to acquire interference, Geosyntec Consultants provided the following advice:

> *With respect to the Aquifer Interference Policy, reclamation of the SFD will not interfere with the local groundwater flow system (as it will be more permeable than the surrounding aquifer), will not degrade the quality of the local groundwater resource, and licensed extraction from the reclaimed SFD (in accordance with the current WAL) will have an equivalent effect to the current extraction from the SFD. Reclamation of the SFD does not directly meet the definitions of a high-risk activity as listed in the NSW Aquifer Interference Policy. A cumulative pressure head decline is not anticipated.*

As discussed above in section 4.1 Existing Environment, stormwater runoff from the site is captured in a separate stormwater drainage system at the site and is prevented from entering the spring dam by a perimeter bund around the dam. Therefore, the potential for polluted stormwater runoff to contribute to the spring dam water is low.

### 4.2.2 Operation

Issues identified that may affect the operational phase of the development include the following:

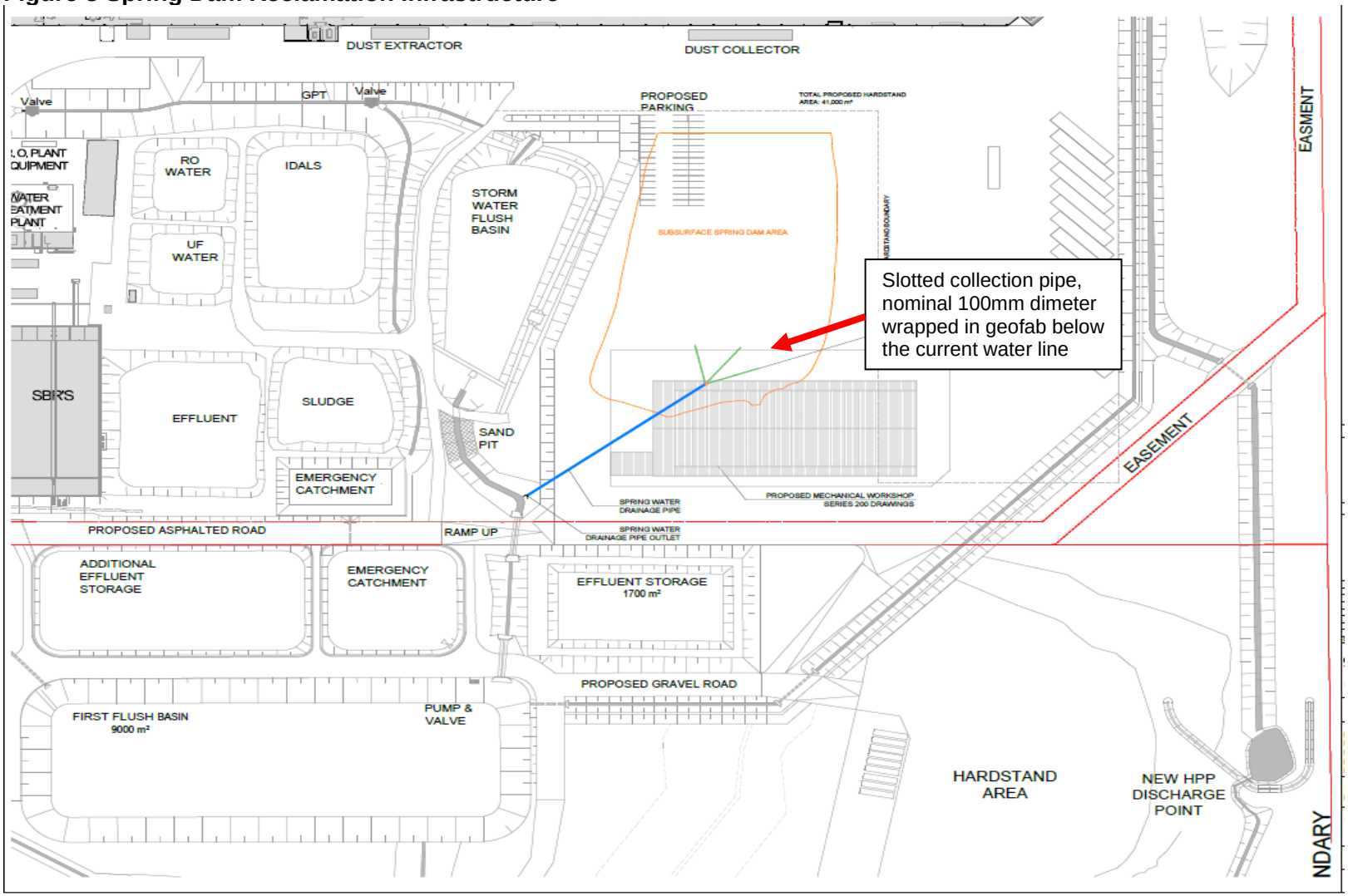
1. will groundwater flow paths change as a result of the reclamation; and
2. how Borg will retain access to groundwater from the spring fed dam.

Figure 2 in section 3.1 Site Environment illustrates the groundwater flow path with 100% of the spring dam reclaimed. Backfilling the dam with course permeable material will result in the dam having a higher permeability than the surrounding formation and act as a preferential flow path for groundwater in the surrounding shallow aquifer. Geosyntec (2022) concluded that it is likely that the reclamation works will have no impact to the closest water supply works (which are located >2km from the spring dam) or to the base water flows of Kings Stockyard Creek. Groundwater in the backfilled dam that is not captured by the collection system (described in the below paragraph) will flow back into a shallow aquifer and continue towards the east, as it currently does from the spring dam.

The infilled dam will serve as a groundwater collection and storage system. The design will include a buried overflow collection pipe network (see Figure 3) at the height of the existing water surface table that will act as a groundwater drain which will facilitate access to the groundwater at the same volume and rate as the current licensed extraction from the spring dam. Gravity will direct water to a pit and pipe system connected to a constructed

embankment to the east of the dam which will allow flows to be pumped to the water treatment plant with overflow being directed into the stormwater drainage system.

**Figure 3 Spring Dam Reclamation Infrastructure**



# 5 MITIGATION & MANAGEMENT MEASURES

The following will be implemented for the spring dam reclamation works:

- Implement the Spring Fed Dam Reclamation Management Plan (this Plan) for the site
- Implement erosion and sediment control measures over the development site whilst construction works are underway as part of CEMP
- Fill imported to site to be suitably certified
- Engage a geotechnical engineer to review subsurface conditions during construction stages and to confirm that subsurface conditions are consistent with design assumptions (see section 6. Fill Design), and provide advice on fill placement methodology
- Ensure flow path for groundwater is maintained
- Daily monitoring to ensure no discharge of dam water off site, pump into the existing stormwater flush basin to be used as site process water
- Follow the fill design (including reclamation materials) provided by Envirowest Consulting and outlined in this Plan in Section 6. Fill Design & Methodology
- Undertake daily site inspection to maintain and ensure ERSED controls are working effectively
- Undertake (at least monthly) environmental inspections using checklist to record site condition, monitor environmental performance of the construction works, and capture required actions to address identified adverse environmental impacts

Provided that a ‘closed site’ approach is adopted during construction to ensure no dam water leaves the site, the risk of causing pollution under the POEO Act will be minimised.

# 6 FILL DESIGN & METHODOLOGY

The remaining section of the spring dam shown in Figure 3 will be filled utilising the same methodology employed for the part reclamation works under MOD 1, Thus permeability of the dam void will be maintained in the filling process. The fill will comprise boulders, ballast, general fill and stabilised fill (Table 1). Geotextile, geogrid will assist the stabilisation process.

Boulders will be placed in the base of the dam to provide a stable layer for compaction. The fill material in the dam void will be crushed coarse cobbles or ballast comprising gravel, concrete and ceramic tile (Figure 4). The aggregate will be placed from the base of the dam to the water level. The aggregate will be placed on the edge of the dam and pushed into the dam filling approximately half of the dam. The expected depth of the dam is 5m. The aggregate will not contain fines. Voids between the cobbles will enable movement of water and ensure the permeability is maintained and spring remains active to maintain flows into the remaining part of the dam

At the water level a layer of geotextile matting will be placed above the cobbles. Subsequent layers will consist of a sandy clay fill material with gravel. The fill will contain two layers of geogrid geotextile and geotextile matting which will bridge the aggregate above the dam. Advice should be provided from geotextile suppliers for the optimum product for the bank and pad area.

The final fill level will be approximately 10 m above the dam water level and the geotextile.

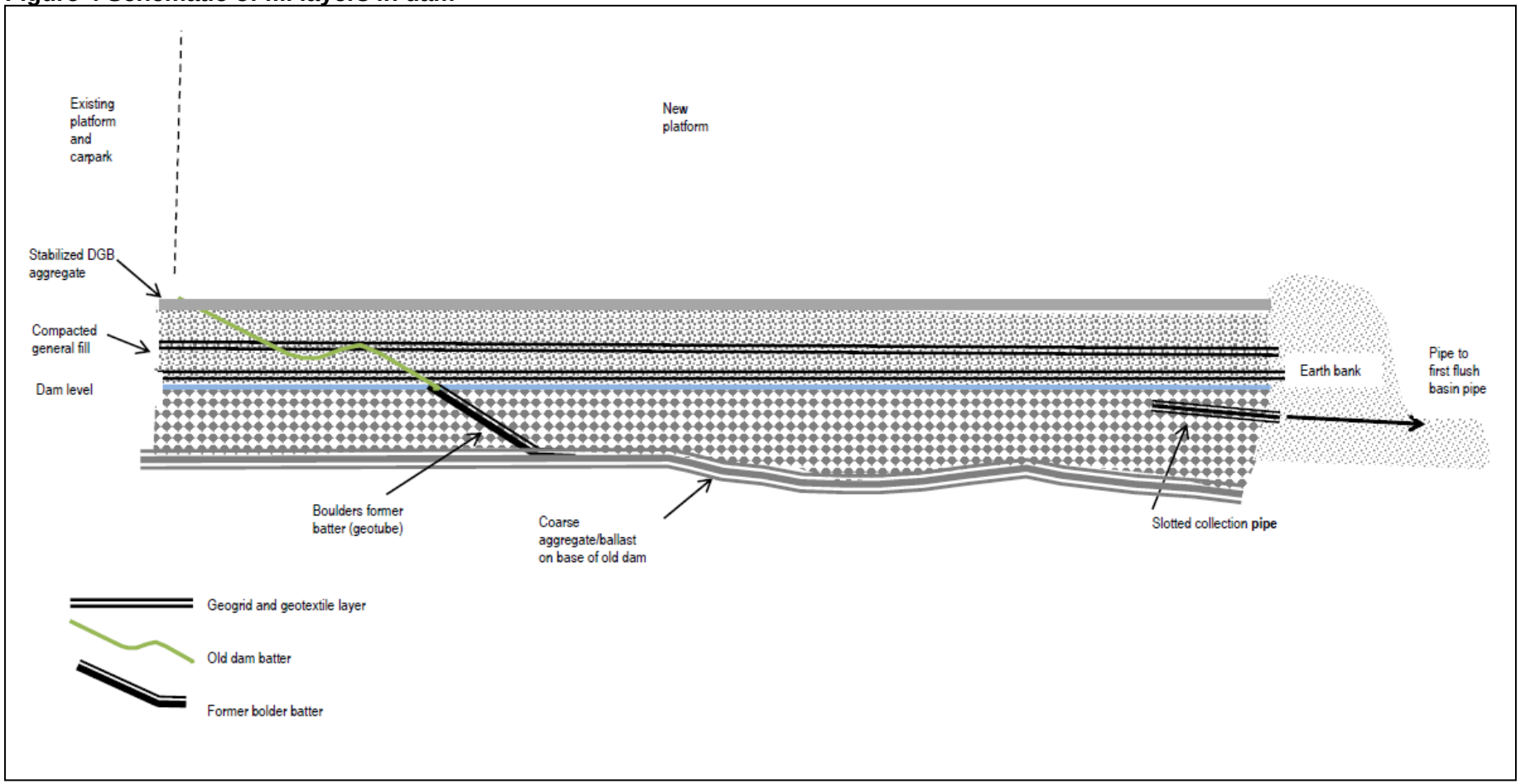
The upper 300mm of fill will comprise DGB 20mm gravel stabilised with 5% cement. The final wearing surface layer steel reinforced concrete and the thickness determined by the expected loads.

The level of stabilised layer will be verified for no deformation by proof rolling with a 10t truck or similar prior to installation of concrete layer or building construction activities. Compaction testing should be undertaken at each lift above the water level to check for compaction density.

**Table 1: Fill Layers in the Spring Dam**

| Layer | Description | Comments |
|---|---|---|
| Surface layer | Concrete | - |
| Base and subbase (300mm) | Stabilised DGB gravel | Compacted |
| General fill (5m) | Sandy clay with gravel with two layers of geogrid separated by 2m | Compacted |
| Water level | Geotextile | - |
| Dam void (5m) | Ballast/cobbles (>75mm dia) | Washed with no fines |
| Base of dam | Boulders (>200mm dia) | Base of dam in sediment |

**Figure 4 Schematic of fill layers in dam**



# 7 INSPECTIONS & REPORTING

Borg Manufacturing will manage all internal and external reporting requirements in accordance with EMS0060 Construction Environment Management Plan (CEMP). Any environmental concerns regarding the reclamation works will be immediately reported to the Construction Manager and/or the Environmental Manager.

## 7.1 Inspections

Either the Environmental Manager or Site Supervisor will perform daily inspections of the construction area. Any environmental issues identified such as ineffective erosion or sediment controls will be addressed immediately. A monthly site inspection will be conducted and recorded by the Environmental manager. Checklists will be used to report on activities for compliance with this Plan and to identify issues specific to the reclamation works that require attention.

Pre-rainfall and post-rainfall inspections will also be undertaken and recorded by the Environmental Manager to ensure erosion and sediment control devices are adequate, working effectively and replaced if necessary.

All workers will be responsible for reporting identified environmental issues immediately to the Site Supervisor and implementing the requirements of this Plan as they conduct their works.

## 7.2 Unlicensed discharge

In the event of an unlicensed discharge during the reclamation works, Borg Manufacturing will notify the EPA immediately and undertake an investigation of the discharge event. In the unlikely event that a discharge poses a threat to health of surrounding property owners and occupiers, Borg Manufacturing will implement the Pollution Incident Response Management Plan (PIRMP), which includes notification with those likely to be affected. A list containing surrounding property owner's and occupier's contact details is held by Borg Manufacturing.

The notification procedure is to be initiated by the Environmental Manager for Borg Manufacturing. In the absence of the Environmental Manager, the notification procedure is to be initiated by the person designated as fulfilling the responsibilities of the Environmental Manager.

An investigation report on the unlicensed discharge will be prepared and provided to the EPA or other relevant agency, including the DPE.

## 7.3 Annual Review

In accordance with Development Consent SSD 7016 an Annual Review report is prepared and submitted to the Secretary Department of Planning and Environment on an annual basis. The review will be prepared in accordance with Condition C11.

# 8 PLAN REVIEW

In accordance with Development Consent SSD 7016 Condition C10, this Plan will be reviewed and if necessary revised within 3 months of an:

- Approval of a modification;

- Submission of an incident report under Condition C13;
- Approval of an Annual Review under Condition C11; or
- Completion of an audit under Condition C15.

The Plan will also be updated as required to reflect any change to on-site management or monitoring programs referred to in this document, or any changes to Development Consent SSD 7016 or EPL 3035.

Revisions to the Plan will be submitted to the Secretary DPE for approval.

# Appendix A
# Edge Geotechnical *Borg Panels Timber Processing Facility Modification 1 (MOD 4) Comments on Full Reclamation of Spring Fed Dam (17 May 2021)*

Edge Geotechnical

J21012-001 22 June 2021

Borg Manufacturing Pty Ltd
2 Wella Way
SOMERSBY NSW 2250

**Borg Panels Timber Processing Facility Modification 1(MOD 4)**
**Comments on Full Reclamation of Spring Fed Dam**

# Introduction

At your request, Edge Geotechnical Pty Ltd (Edge) has reviewed Borg Manufacturing Pty Ltd (Borgs) proposal to reclaim the remainder of the Spring Fed Dam as part of its Oberon plant extension project.

The spring fed dam lies to the north-east of the existing plant and the proposed expansion. Part of the Spring Fed Dam (SFD) was reclaimed in 2020 based on Borg's "Spring Fed Dam Reclamation Plan" EMS0099 dated 28th May 2019. The current proposal is to reclamation remaining portion of the dam using a similar methodology.

This letter is provided to assist in your planning approval for the reclamation to be obtained from the Department of Primary Industries (DPI). A Construction Environmental Management Plan (CEMP) will need to be prepared prior to commencement of the works.

# Impact of Reclamation on Groundwater Regime

The site is located within an area of elevated/perched and possibly deep artesian groundwater, with significant groundwater inflows observed through the shallow subsurface profile which comprises porous volcanic sandstone with breccia and conglomerate. During original expansion of the factory in 1996, the spring fed dam was excavated and significant groundwater inflow was encountered.

Proposed expansion of the Borg Oberon warehouse requires general fill placement, plus additional fill for reclamation of the remainder SFD following successful reclamation of the western 30% in 2020. The dam is up to 9m deep. Given the anticipated significant volume of groundwater inflow, dewatering is not considered feasible. Similar to reclamation of the initial 30% portion of the SFD, reclamation of the remainder is proposed to be carried out whilst the dam contains water. Underwater reclamation is likely to be carried out using a granular or rock fill (or blend of both), which has high permeability and can be placed below water and compacted when the new surface level is above water. Underwater reclamation is normally carried out using granular or rock fill material. The use of granular material will have the added benefit of reducing impact on local groundwater flow paths.

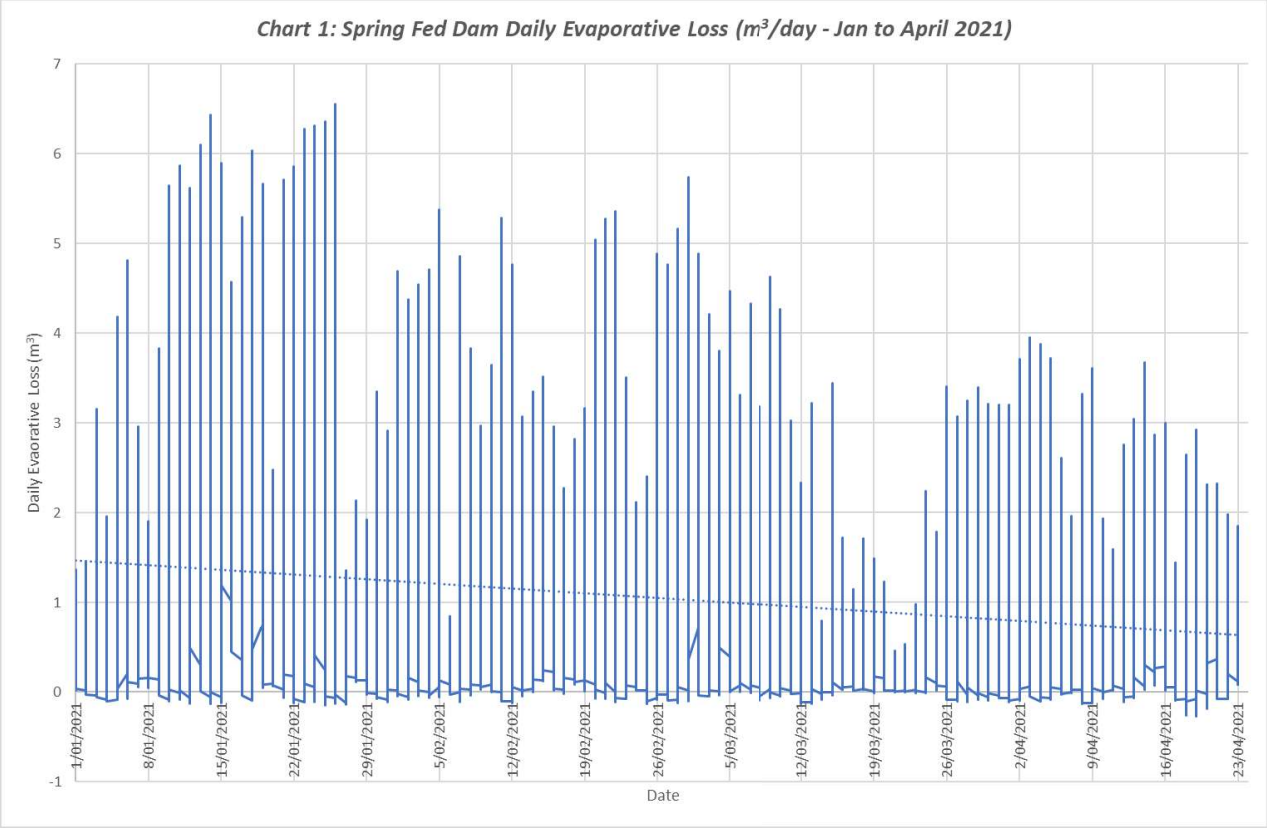
It is widely accepted that crushed rock material can provide good strength whilst maintaining high permeability - which would enable reclamation of the SFD with minimal impact on local groundwater flow paths. A suitable granular fill, or blend of granular fill with crushed rock, could also provide high permeability reclamation fill with minimal impact on local groundwater flow paths.

The required composition and degree of compaction of the reclamation fill can be tailored to be compatible with the engineering requirements of proposed future use of the area. Footings for proposed structures can be shallow or deep, depending on settlement sensitivity of such structures and the thickness, composition and compaction obtained within the new reclamation fill. Hardstand areas can be designed to accommodate additional settlement that will occur due to acceptance of a lower degree of compaction of the reclamation fill.

Construction Environmental Management Plan (CEMP) will need to be updated prior to commencement of the works to clearly identify and testing of proposed fill sources, outline a similar reclamation methodology to that previously used and identify a suitable degree of fill compaction compatible with proposed land use.

You have told Edge that you currently pump approximately 28 megalitres of water from the SFD per financial year, for use within the Borg manufacturing facility. You propose to replace the existing dam pumped water supply pump with groundwater water extraction well(s). The design of and number of such groundwater extraction wells must be compatible with the annual 28 megalitre volume of water normally extracted and the depth of the wells should be similar to the depth of the existing dam (i.e., approximately 9 m). Design of groundwater extraction wells is outside of the scope of services provided by Edge. Additional pumping capacity may need to be considered in design as complete reclamation of the SFD may result in lower loss of water due to evaporation.

Edge has reviewed daily site evaporation data combined with the remaining surface of the SFD. These calculations suggest an increase in groundwater availability (due to removal of evaporative loss) may occur. Daily measured evaporative loss over the period 1 Jan 2021 to 23rd April 2021 is shown in Chart 1, for an existing SFD surface area of 8,500 m$^2$. The total evaporative volume over this time period is 2.8 ML. Evaporation rates will reduce over the winter months, but over the period of one year the total evaporative loss could be of the order 5 ML.



# Recommendations

Is it understood that after you have obtained planning approval for the proposed extension, further investigation into reclamation materials can be carried out and a specific reclamation methodology for the remainder of the dam prepared that meets the above objectives.

The reclamation plan should comprise, but may not be limited to, the following:

- Investigation into local sources of rock fill, including gathering information on material grading curves and collecting samples for laboratory testing where necessary.
- Investigation into local sources of granular fill (other than crushed rock), including gathering information on material grading curves, compaction/density curves and collection samples for laboratory testing where necessary.
- Laboratory testing of fill sources would include particle size distribution, compaction and permeability testing.
- Further investigation (desk top study and/or additional field testing) into in-situ field permeability of the aquifer(s) to provide clear comparison with physical properties of possible fill sources to demonstrate that groundwater flow objectives are satisfied.
- Documentation of a reclamation methodology and construction specification documents and to enable construction verification that main objective of maintaining groundwater flow is satisfied.

You should also engage an appropriately qualified consultant to design a suitable number of groundwater extraction well(s) noting that they should target the same depth aquifer that is currently filling the SFD.

If you have any questions, please do not hesitate to contact Edge by email or telephone.

For and on behalf of

**Edge Geotechnical Pty Ltd**

**Karen Allan** BEng (Hons), CPEng MIEAust
Principal Geotechnical Engineer, Director

# Appendix B

## Geosyntec *Review of Groundwater Access associated with the Spring Fed Dam Reclamation, Borg Panels Timber Processing Facility, Oberon NSW (21 February 2022)*

Geosyntec consultants

engineers | scientists | innovators

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122017 L01

21 February 2022

Victor Bendevski
Borg Manufacturing
2 Wella Way
Somersby NSW 2250

Via email: bendevskiv@borgs.com.au

Dear Victor,

**Re: Review of Groundwater Access associated with the Spring Fed Dam Reclamation, Borg Panels Timber Processing Facility, Oberon NSW.**

# 1 Introduction

Geosyntec Consultants Pty Ltd (Geosyntec) was engaged by Borg Manufacturing (Borg) to provide preliminary hydrogeological advice regarding the influence on the local groundwater resource of a proposed reclamation plan for a spring fed dam (SFD) located at Borg's processing facility in Oberon, NSW (the Borg site). The western portion of the SFD (approximately 30% of its original area) was reclaimed in 2020 as part of Modification 1 of the Borg facility, and Borg now proposes to reclaim the remaining area to facilitate an expansion of the facility operations. The SFD reclamation proposal comprises backfilling of the dam with permeable granular material to facilitate ongoing access to the shallow groundwater resource via the backfilled dam, using a modified water supply work.

This advice was prepared in response to the following groundwater-related comments in a letter from the Department of Planning and Environment (DPE) and the Natural Resources Access Regulator (NRAR) related to the proposed reclamation plan (ref. OUT21/16593, dated 17 January 2022):

> *<u>Recommendation – Prior to Determination</u>*
>
> *Confirm the additional activities and works that are to take water due to the project and complete an impact assessment on the environment and water users. Where the works are an aquifer interference activity the impact assessment will need to meet the requirements of the NSW Aquifer Interference Policy.*
>
> *<u>Recommendation – Post Approval</u>*
>
> *The proponent must ensure sufficient water entitlement is held in a Water Access Licence/s (WAL) to account for the maximum predicted take for each water source prior to take occurring unless an exemption under the Water Management (General) Regulation 2018 applies.*

*Explanation*

*The specifics of how the proponent will retain access to groundwater from the spring fed dam have not been provided including how this relates to a water supply work and how groundwater flows are to be extracted or maintained through the site. Further detail is requested on the works proposed to extract and maintain pathways for groundwater at the spring fed dam and any new bores proposed at the site.*

*An impact assessment on the environment and water users will be required, or justification as to why it's not necessary for additional works or activities. This is to understand how the works relate to a water supply work and to enable relevant exemptions under the Water Management Act 2000 to apply.*

This advice was prepared to clarify the SFD reclamation proposal in the context of the local groundwater resource, including a comparison of the proposed method of future groundwater access to the current extraction method from the SFD as a basis for justification as to why an impact assessment is not considered to be necessary.

# 2 Environmental Setting

## 2.1 Climate, Topography and Hydrology

The Borg facility is located within an industrial precinct north of Oberon within the South Western Slopes region of NSW. The regional climate is warm temperate, with seasonal variations of wet winters and low summer rainfall. The average rainfall (from BoM Oberon Albion Street weather station ID 63063) is 835.7 mm.

The local topography slopes gently to the east, towards Kings Stockyard Creek located approximately 600 m east of the site. The creek follows a south easterly alignment and joins Fish River just over 3 km to the southeast. Stormwater from the site is collected in a surface drainage system and directed to sedimentation ponds that discharge to an ephemeral watercourse that discharges to the creek.

## 2.2 Geology and Hydrogeology

The local geology consists of late Ordovician aged Rockley Volcanics of the Cabonne Group, which are volcaniclastic sandstones of deep marine origin consisting of primarily feldspar or lithic rich arenite sandstones.

A borehole log from a groundwater bore (GW023226) close to the Borg site (west of Lowes Mount Road) indicates clay from the ground surface to approximately 12 m below ground level (mbgl), with "sandstone water supply" from 12 to 40 mbgl and shale beneath. It is suspected that the local groundwater flow system is through the underlying sandstone

Groundwater in the local shallow aquifer is likely to be recharged by direct infiltration of rainfall into and through the clay soils into the underlying volcanic sandstones. Perched groundwater may also be present in the surficial clay weathering profile, it is generally accepted that shallow groundwater at this site generally flows east, a portion of which may discharge to Kings Stockyard Creek and Fish River.

Groundwater discharge will also occur during abstraction from water supply bores. A search of the National Groundwater Database (BOM) indicated that there is a water supply bore at the Borg site (GW800701) drilled to 75 mbgl. Several additional water supply bores are located north of King Stockyard Creek at distances greater than 1 km of the SFD. No irrigation, stock and domestic, dewatering or exploration bores were identified within 1 km of the dam.

A review of the Groundwater Dependent Ecosystem (GDE) Atlas[1] indicated the following in the vicinity of the Borg facility:

- The closest aquatic GDE was identified as Kings Stockyard Creek to the east of the site, which is classified as a "moderate potential GDE". The designation likely means that the creek is considered to receive a portion of its flow from groundwater baseflow.
- There are no terrestrial GDEs identified within the Borg site boundaries, a high-potential GDE (likelihood 5) is identified 1.1 km to the east of the SFD across the Kings Stockyard Creek and is identified as a "Oak forest and woodland wetland."

# 3 Water Access License and Water Supply Works Approval

The site is situated within the jurisdiction of the *Water Sharing Plan for NSW Murray Darling Basin Fractured Rock Groundwater Sources* (WaterNSW 2020).

Borg holds the following licence and approval for accessing groundwater at the site:

- A Water Access License (WAL 28951) that allows for the extraction of 28 ML/annum of water from the Lachlan Fold Belt MDB Groundwater source.
- A water supply works approval for the "excavation of groundwater" (Approval number 80WA715797), which applies to extraction of groundwater from the SFD.

The WAL for 28 ML/yr applies to the whole property and will therefore remain valid for the future access of groundwater from the rehabilitated SFD. Borg should consult with Water NSW to confirm whether their proposal will require a revision to the nominated water supply works approval to reflect the method for accessing groundwater from the rehabilitated SFD.

# 4 Hydrogeological Setting of the Spring Fed Dam

The SFD was created as a result of an excavation for a source of clean fill during development of the site in the late 1990s. Borg indicated that the dam was excavated to an approximate depth of 9 mbgl. The source of water in the SFD is primarily groundwater inflow from the surrounding shallow aquifer, with a component of precipitation that falls directly on the dam. Borg indicated that the SFD continuously overflows via a spillway on the eastern end of the dam, even when the licensed allocation is extracted. Stormwater runoff from the site is captured in a separate stormwater drainage system at the site and is prevented from entering the SFD by a perimeter bund around the dam. In 2020, approximately 30% of the dam footprint was reclaimed as part of site development works approved under Modification 1 (MOD1). Borg indicated that the same yield was maintained in the remaining portion of the SFD, and that the dam continues to overflow as it did prior to the partial reclamation.

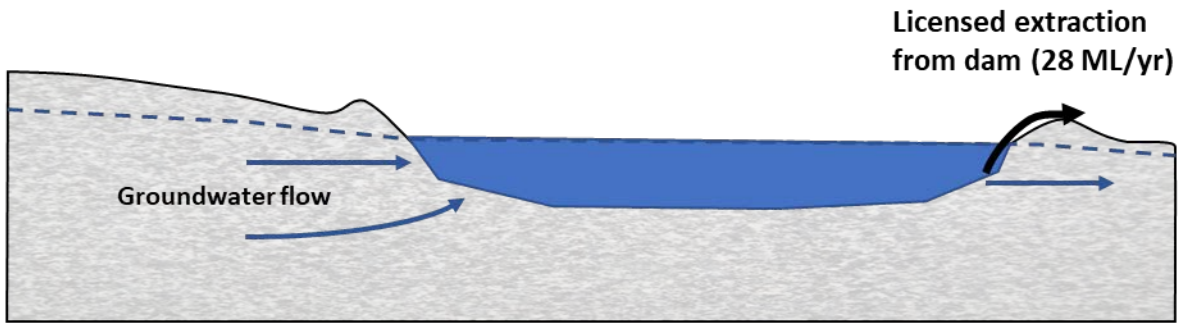
Based on the approximate depth of the dam, comparison to the lithological logs for nearby bores and the rate of groundwater ingress to the dam (discussed below), it is assumed that the dam excavation is likely to have penetrated the surficial clay profile and intersected the water table aquifer associated with the underlying volcanic sandstone formation. Despite the dam's nomenclature, Borg was unsure if an actual spring or surface expression of groundwater existed in the location of the SFD prior to its excavation. Borg has estimated groundwater inflow to the SFD to be in the order of 100 $m^3$/day (email correspondence, 2022), based on the maintenance of the water level in the dam when pumped at the corresponding rate. Borg indicated that a similar rate of groundwater ingress to the dam was maintained following the reclamation of the western portion of the SFD.

[1] http://www.bom.gov.au/water/groundwater/gde/map.shtml

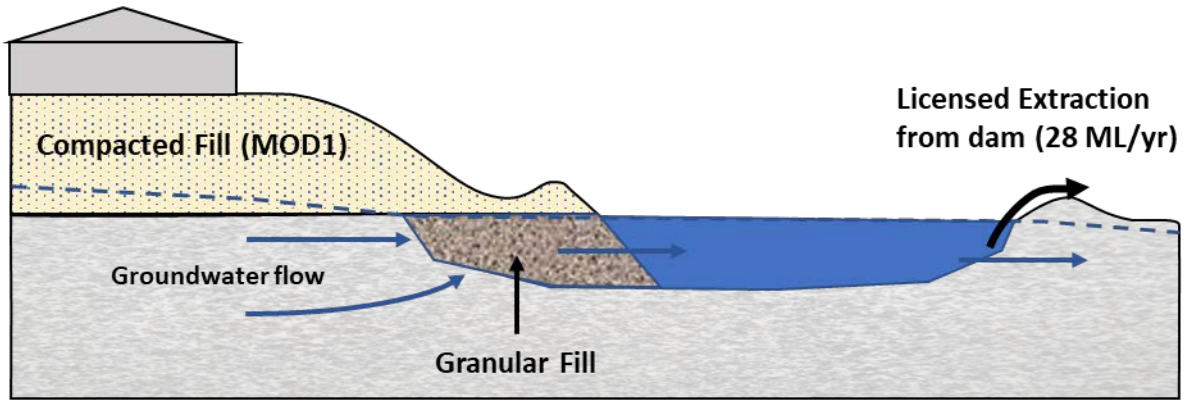
Borg indicated that they generally pump between 40 and 76 $m^3$/day of water from the SFD from a pumping station located at the south-eastern end of the dam and directs the water to their onsite treatment plant prior to use in their processes. Borg further indicated that if the dam is not pumped, it will continue to fill and overflow through a spillway at the eastern end of the dam.

Edge Geotechnical (22 June 2021) estimated an annual volume of evaporative loss from the SFD of approximately 5 ML per year, based on the surface area of the dam and local evaporation data. Considering the average annual rainfall of 835.7 mm and an SFD surface area of 8500 $m^2$, direct precipitation input to the dam is estimated to be on the order of 7 ML per year. Hence, the SFD is likely to receive a net input of 2 ML/yr of rainfall in excess of evaporation.

Borg indicated that the dam consistently overflows when it is not being pumped. The overflow is directed from a spillway on the eastern end of the dam to a small storage pond east of the dam which is then diverted to a newly constructed (2020) stormwater collection dam located 140 m southeast of the SFD, which was constructed as part of the MOD1 approved works. Prior to construction of this stormwater dam, overflow from the SFD was released from the small storage pond and directed down a drainage channel towards the creek.




SFD prior to MOD1 reclamation




SFD 30% reclamation with granular fill (MOD1)

## 5 Proposed Reclamation Setting

The objective of the reclamation works is to create a new, flat and uniform surface topography to make beneficial use of the industrially zoned land to the east of the newly built warehouse. Reclamation of the western part (30%) of the SFD was successfully completed in 2020. Borg has indicated that the dam is still overflowing with partial reclamation and extraction for site use. Reclamation of the remaining portion of the SFD will restore the dam to its pre-excavated condition.

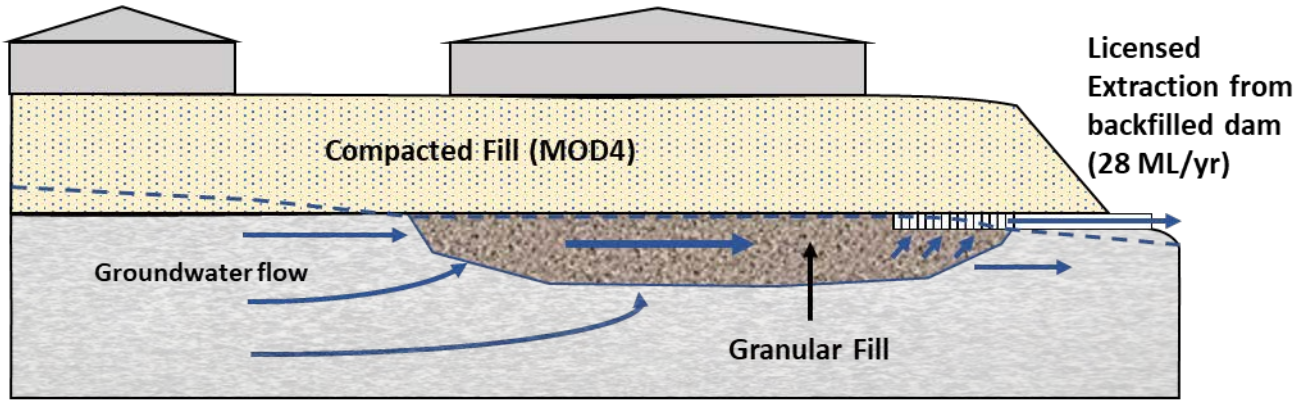
Borg does not propose to dewater the dam during reclamation. They indicated that the remaining area of the dam will be filled in a similar manner to the western portion. Their reclamation plan states:

> *Boulders will be placed in the base of the dam to provide a stable layer for compaction. The fill material in the dam void will be crushed coarse cobbles or ballast comprising gravel, concrete and ceramic tile. The aggregate will be placed from the base of the dam to the water level within the dam. The aggregate will be placed on the edge of the dam and pushed into the dam filling approximately half of the dam. Voids between the cobbles will enable movement of water and ensure the permeability and that groundwater inflow is maintained into the remaining area of the dam.*
>
> *At the water level, a layer of geotextile matting will be placed above the cobbles. Subsequent [overlying] layers will consist of a sandy clay fill material with gravel and will contain two layers of geogrid geotextile and geotextile matting, which will bridge the aggregate above the dam.*
>
> *The final fill level will be approximately 6 meters above the dam water level and the geotextile. The upper 300mm of fill will comprise DGB 20mm gravel stabilised with 5% cement. The final wearing surface layer is steel reinforced concrete and the thickness shall be governed by the expected loads.*

Borg have confirmed that geofabric will be placed over the dam backfill material to prevent ingress of the finer overlying fill material into the coarse dam backfill material. Through reclamation of the dam and placement of reinforced concrete/hardstand at the surface, both the evaporation losses and precipitation inputs to the dam will be minimised.

The infilled dam will serve as a groundwater collection and storage system. The greater permeability of the backfill material relative to the surrounding formation will facilitate the continued ingress of groundwater. Borg has indicated that the proposed design will include a buried overflow collection pipe, at the height of the water table (current SWL height of the dam) that will act as a groundwater drain. Gravity flow will direct water to a pit and pipe system installed at a constructed embankment to the east.

The intention of the collection system design is to facilitate access to groundwater at the same volume and rate as the current licensed extraction from the SFD. The pipe outlet will be positioned at the toe of the constructed embankment to the east of the infilled SFD, in the vicinity of the overflow pond and close to the current water extraction point at the pumping station. Groundwater that flows into the collection system will be directed to the onsite treatment plant and surplus overflow water will be directed into the stormwater drainage system. Groundwater in the backfilled dam that is not captured by the collection system will flow back into shallow aquifer to the east, as it currently does from the SFD.




SFD 100% reclamation with granular fill (MOD4)

# 6 Hydrogeological Comparison of Reclaimed SFD Design to Current SFD Groundwater Extraction

Borg currently holds a WAL to extract 28 ML/yr of groundwater from the SFD. They have indicated that the average rate of water extraction from the dam is sustained by inflow from the surrounding shallow aquifer. Hence, the SFD currently acts as a groundwater drain to the local shallow aquifer, with groundwater likely to enter the dam on the upgradient (western) end and excess water flowing back into the shallow aquifer on the eastern side. Locally, groundwater flow from the west is expected to bend inwards towards the dam within the radius of influence of the dam, as it would within the capture zone of an extraction well. The fact that the water level in the dam is reported to exhibit minimal variation in response to pumping suggests that the extraction rate is within the sustainable yield of the surrounding shallow aquifer.

Conceptually, backfilling of the SFD with coarse permeable material will result in the backfilled dam having a higher permeability than the surrounding formation and will therefore act as a preferential flow path for groundwater in the surrounding shallow aquifer. With groundwater being extracted from the backfilled dam at the same licensed rate as it is currently, the influence on the local groundwater flow system is expected to be nearly identical to the current extraction regime. Covering the dam with engineered fill will eliminate the evaporative losses from the dam and will also prevent (or greatly reduce) direct rainfall infiltration to the dam. Based on the estimated net rainfall in excess of evaporation to the dam of 2 ML/yr, the loss of this input to the system may result in a minor increase in the radius of influence of groundwater flow into the dam in response to extraction. However, this is anticipated to have no impact to the closest water supply works (which are located >2 km from the SFD) or the maintenance of baseflow to Kings Stockyard Creek.

Borg has indicated that the material used to backfill the SFD will not be contaminated or contain waste (similar to the material used to backfill the western 30% of the SFD during the approved MOD1 development). Accordingly, the backfill material is not expected to leach contaminants to groundwater in contact with the fill. It is recommended that proposed backfill material is subjected to rigorous quality control and testing to ensure it will not degrade the environmental values of the local groundwater resource.

With respect to the Aquifer Interference Policy, reclamation of the SFD will not interfere with the local groundwater flow system (as it will be more permeable than the surrounding aquifer), will not degrade the quality of the local groundwater resource, and licensed extraction from the reclaimed SFD (in accordance with the current WAL) will have an equivalent effect to the current extraction from the SFD. Reclamation of the SFD does not directly meet the definitions of a high-risk activity as listed in the NSW Aquifer Interference Policy. A cumulative pressure head decline is not anticipated.

In summary, the reclamation of the SFD will not impact groundwater flow or quality in the shallow aquifer, and future groundwater extraction from the reclaimed SFD will access the same licensed rate and volume, from the same location within the same aquifer as the current extraction from the SFD. Accordingly, the influence on the local groundwater resource is expected to be indistinguishable from the current licensed extraction from the SFD, and therefore a more detailed impact assessment is not considered to be warranted.

# 7 Limitations

This letter has been prepared by Geosyntec Consultants Pty Ltd (“Geosyntec”) for use by the Client who commissioned the works in accordance with the project brief only and has been based entirely on information obtained from the Client and other parties. The findings of this letter are based on the scope of work outlined in Section 1. The report has been prepared specifically for the Client for the purposes of the commission. No warranties, express or implied, are offered to any third parties and no liability will be accepted for use or interpretation of this

report by any third party (other than where specifically nominated in an agreement with the Client).

This letter relates to only this project and all results, conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose. This report should not be reproduced without prior approval by the Client or amended in any way without prior written approval by Geosyntec.

Geosyntec's assessment was limited strictly to identifying environmental conditions associated with the spring fed dam, as identified in the scope of work and does not include evaluation of any other issues.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this letter are based on the information obtained at the time of the investigation.

All conclusions regarding the site are the professional opinions of the Geosyntec personnel involved with the project, subject to the qualifications made above. While normal assessments of data reliability have been made, Geosyntec has not independently verified and assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Geosyntec, or developments resulting from situations outside the scope of this project.

Geosyntec is not engaged in environmental assessment and reporting for the purpose of advertising sales promoting, or endorsement of any client interests, including raising investment capital, recommending investment decisions, or other publicity purposes. The Client acknowledges that this report is for its exclusive use.

## 8 Closure

Should you have any queries or wish to discuss any points, please do not hesitate to contact the undersigned.

Yours sincerely,

**Lange Jorstad**
**Principal Hydrogeologist**
Geosyntec Consultants Pty Ltd

**Sarah Silver**
**Senior Hydrogeologist**
Geosyntec Consultants Pty Ltd

# Appendix C
# Envirowest Consulting *Partial filling of Spring Dam 124 Lowes Mount Road, Oberon NSW (28 June 2022)*

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*Environmental*
*Geotechnical*
*Asbestos*
*Services*

28 June 2022

Andrew Brady
Borg Manufacturing
2 Wella Way
Somersby NSW 2250

Our ref: L10570g3

Andrew,

**Partial filling of Spring Dam 124 Lowes Mount Road, Oberon NSW**

## 1. Introduction

The spring fed dam on the Borg Panels Timber Manufacturing Facility site requires filling to enable construction of a timber panel manufacturing facility. The dam was previously partially filled. The previous filling procedure has maintained void permeability of the dam water levels and inflows from the spring. The same methodology will be undertaken to fil the remaining section of the dam which is expected to maintain permeability of the dam water area. The fill procedure undertaken was construction of a porous bed in the dam void to retain water ingress from the spring. Approximately 10 metres of fill needs to be placed in the dam to make the level suitable for the new facilities. The filling needs to have sufficient bearing capacity to support the new building and pavement The new pavement will be constructed over the permeable section above the historical dam waterline.

A construction plan is required to enable the allow flow of water through the fill in the dam void under the platform for the new facilities.

## 2. Scope

Prepare a construction design plan for filling of the dam and placement of fill to the new surface level.

## 3. Location

The site is the Borg Panels Timber Manufacturing Facility development at the location of the site above Spring Dam, 124 Lowes Mount Road, Oberon at the Borg Manufacturing Facility (Figure 1).

## 4. Description of development

The dam will be filled with porous aggregate material and a new building and pavement constructed.

## 5. Fill design

The remaining section of the Spring dam will be filled (Figure 2 and 3). The permeability of the dam void will be maintained in the filling process. The fill will comprise boulders, ballast, general fill and stabilised fill (Table 1). Geotextile, geogrid will assist the stabilisation process.

Boulders will be placed in the base of the dam to provide a stable layer for compaction. The fill material in the dam void will be crushed coarse cobbles or ballast comprising gravel, concrete and ceramic tile (Figure 3). The aggregate will be placed from the base of the dam to the water level. The aggregate will be placed on the edge of the dam and pushed in to the dam filling approximately half of the dam. The expected depth of the dam is 5m. The aggregate will not contain fines. Voids between the cobbles will enable movement of water and ensure the permeability is maintained and spring remains active to maintain flows into the remaining part of the dam

At the water level a layer of geotextile matting will be placed above the cobbles. Subsequent layers will consist of a sandy clay fill material with gravel. The fill will contain two layers of geogrid geotextile and geotextile matting which will bridge the aggregate above the dam. Advice should be provided from geotextile suppliers for the optimum product for the bank and pad area.

The final fill level will be approximately 10 m above the dam water level and the geotextile.

The upper 300mm of fill will comprise DGB 20mm gravel stabilised with 5% cement. The final wearing surface layer steel reinforced concrete and the thickness determined by the expected loads.

The level of stabilised layer will verified for no deformation by proof rolling with a 10t truck or similar prior to installation of concrete layer or building construction activities. Compaction testing should be undertaken at each lift above the water level to check for compaction density.

**Table 1.** Fill layers in the dam

| Layer | Description | Comments |
|---|---|---|
| Surface layer | Concrete | - |
| Base and subbase (300mm) | Cement stabilised DGB gravel | Compacted |
| General fill (5m) | Sandy clay with gravel<br>with two layers of geogrid separated by 2m | Compacted |
| Water level | Geotextile/geogrid | - |
| Dam void (5m) | Ballast/ cobbles (>75mm dia) | Washed with no fines |
| Base of dam | Boulders (>200mm dia) | Base of dam in sediment |

## 6. Bearing capacity

The shear strength of the fill material is expected to be 100kPa from a depth of 2m above the former water level. The end bearing capacity of the fill will be 150kPa to a depth of 2m above the former water level and skin friction of 15 kPa.

The building will be designed to bridge the dam area. Foundations for the building will be screw piers inserted at the edge of the dam. The screw piers will not compromise the geotextile layers.

## 7. Dam bank and discharge pipes

Three a perforated pipes will be embedded into the coarse rock below the water surface layer. The perforated pipes will be at least 15m in length and 100mm diameter. Each perforated pipe will join at pit junction and discharge by pipe into the first flush basin (Figure 2).

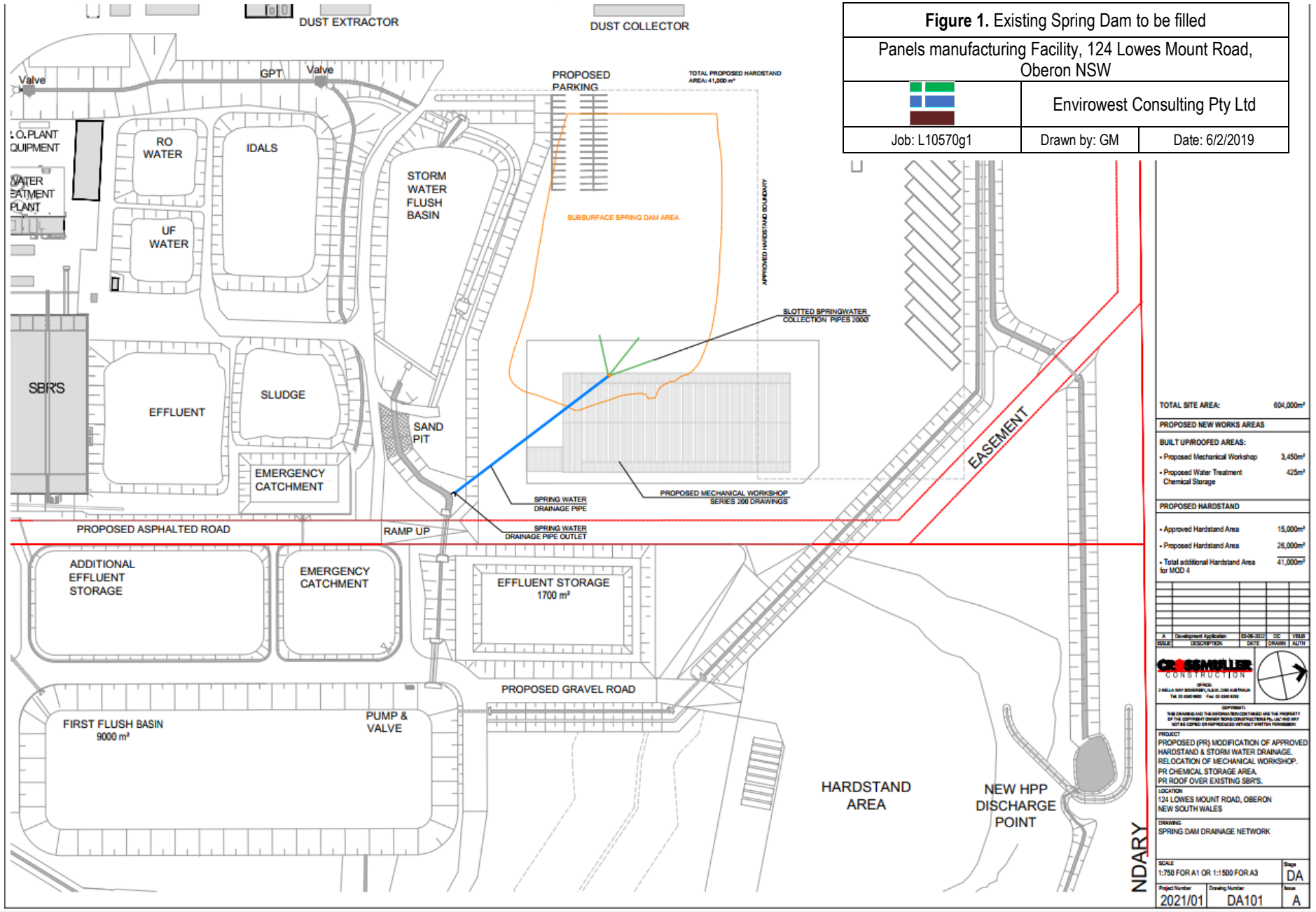
Regards,

Greg Madafiglio PhD
Engineering geologist

**Attachments**

Figure 1. Existing dam location
Figure 2. New development and dam to be filled
Figure 3. Schematic of the filled dam area
Appendix 1. Limitations


| **Figure 1.** Existing Spring Dam location | | |
|---|---|---|
| Panels Manufacturing Facility, 124 Lowes Mount Road, Oberon NSW | | |
| | Envirowest Consulting Pty Ltd | |
| Job: L10570g3 | Drawn by: GM | Date: 28/6/22 |




| **Figure 1.** Existing Spring Dam to be filled | | |
|---|---|---|
| Panels manufacturing Facility, 124 Lowes Mount Road, Oberon NSW | | |
| | Envirowest Consulting Pty Ltd | |
| Job: L10570g1 | Drawn by: GM | Date: 6/2/2019 |

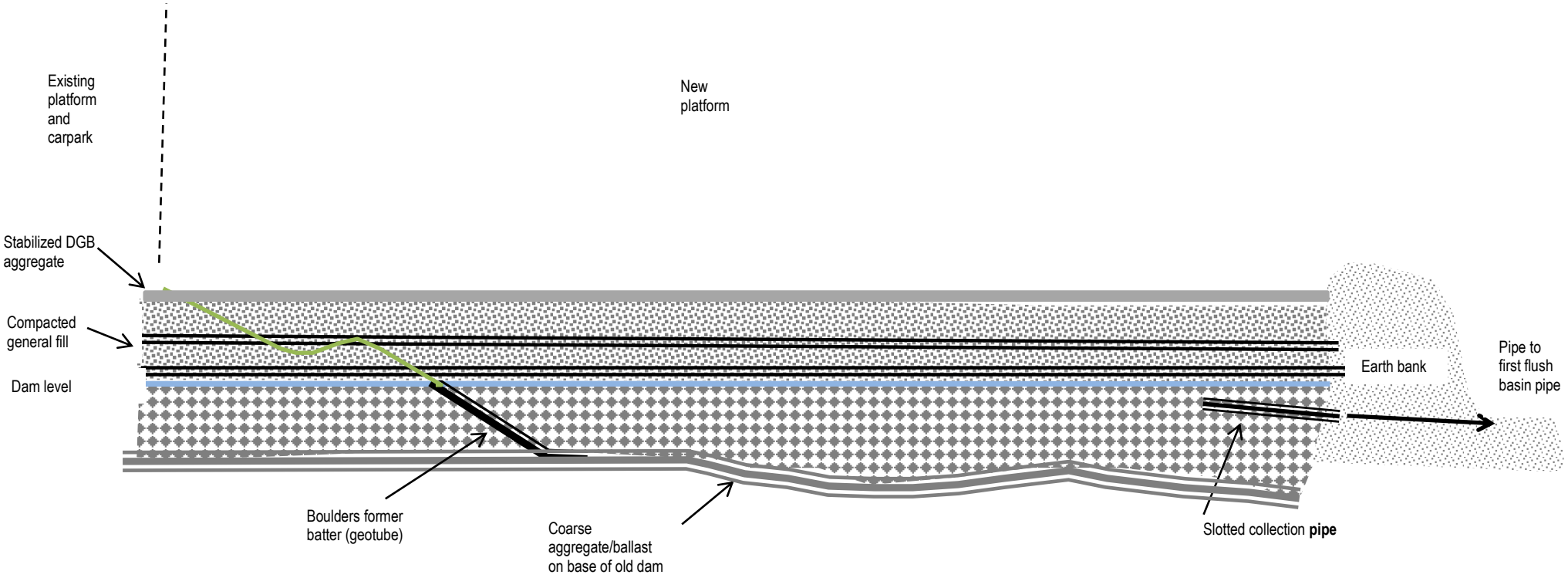



**Figure 3. Schematic of the fill layers in dam**

Panels Manufacturing Facility, 124 Lowes Mount Road, Oberon NSW

| | | |
|---|---|---|
| | Envirowest Consulting Pty Ltd | |
| Job: L10570g3 | Drawn by: GM | Date: 28/6/22 |

## Appendix 1. Limitations of the investigation

Ground conditions can vary over relatively short distances and it may be necessary to carry out additional investigations for specific excavation and building sites. Once specific proposals are known a geotechnical review should be undertaken and if necessary additional investigations commissioned to provide the level of information required for assessing design parameters. A geotechnical engineer should be engaged to review subsurface condition during construction stages to confirm that subsurface conditions are consistent with design assumptions.

This report has been prepared for the use of the client to achieve the objectives given the client requirements and cost constraints. The level of confidence of the conclusion reached is governed by the scope of the investigation and the availability and quality of existing data. Where limitations or uncertainties are known, they are identified in the report. No liability can be accepted for failure to identify conditions or issues which arise in the future and which could not reasonably have been predicted using the scope of the investigation and the information obtained.

The investigation identifies the actual subsurface conditions only at those points where samples are taken, when they are taken. Data derived through sampling and subsequent laboratory testing are interpreted by geologists, engineers or scientists who then render an opinion about overall subsurface conditions, the nature and extent of the investigation and its likely impact on the proposed buildings Actual conditions may differ from those inferred to exist, because no professional, no matter how well qualified, and no sub surface exploration program, no matter how comprehensive, can reveal what is hidden by earth, rock or time. The actual interface between materials may be far more gradual or abrupt than a report indicates. Actual conditions in areas not sampled may differ from predictions. It is thus important to understand the limitations of the investigation and recognise that Envirowest Consulting Pty Ltd are not responsible for these limitations.