FLUENCE
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Soil and Water Management Plan

BROKEN HILL BESS

24 August 2023

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Revision History

Date	Revision No	Details
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07 June 2023	B0	Issued for Review (AGL)
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Management sign-off

Date	Name	Position
24 August 2023	Chris Stewart	Principal Consultant (SQE Solutions)
24 August 2023	Sally Stahmer	HSE Manager - Fluence
24 August 2023	Anthony Hickman	Services Manager - Fluence

Record of Consultation

Date	Issues Raised	Addressed	Approved

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1. INTRODUCTION

The Soil and Water Management Plan (SWMP) is a Subplan to the Environmental Management Strategy (EMS) for the Broken Hill BESS.

This SWMP has been prepared by Fluence Energy Australia (Fluence) for the applicant AGL Macquarie Pty Limited (AGL) to meet the requirements set out in Schedule 3 Condition 9 of the Broken Hill Battery Project Development Consent (SSD-11437498).

The Development Consent conditions relating to Soil and Water Management are detailed in Section 4 of this plan.

1.1 Preparation of the Soil and Water Management Plan

The Soil and Water Management Plan has been aligned with the Development Consent Approval under Section 4.38 of the *Environmental Planning & Assessment Act 1979* which has been authorised by the Minister for Planning and Public Spaces and is registered as the Broken Hill Battery Energy Storage System (BESS).

SQE Solutions Pty Ltd has assisted and worked with Fluence in the preparation of this Soil & Water Management Plan to meet the requirements under the Development Consent. Fluence, during Operations and Maintenance of the Broken Hill BESS, will continue to hold the responsibility of implementing the Soil and Water Management Plan.

The Operations of the Broken Hill BESS is likely to result in a negligible impact on soil and water systems surrounding the site as suitable soil and water infrastructure has been designed and constructed during Stage 1 of the Project.

1.2 Applicability

This SWMP is for the operation of the Broken Hill BESS and any further upgrade activities, or decommissioning will require an amendment to the SWMP as required by Schedule 3 Condition 23 of the development consent.

This plan will be considered the “Standard Operating Procedure” for routine operation and maintenance operations. This procedure does not apply to any upgrade or decommissioning of the development.

It is the responsibility of the Fluence Operations and Maintenance (O&M) Team and any additional subcontractors to comply with the objectives and requirements of this SWMP and related documents where required by their respective scope of works.

1.3 Consultation Requirements

DPE Water were consulted in the development of this Stage 3 Soil and Water Management Plan, and their recommendations have been incorporated into the plan. A copy of feedback from this consultation is included in Appendix 2.

1.4 Applicable Definitions

Term	Definition
BOP	Balance of Plant
CEMP	Construction Environmental Management Plan.
Competent	Ability to apply knowledge and skills to achieve intended results from operational experience and education.
Conformity	Fulfilment of a requirement (i.e. EIS, Development Consent, EMS)
DC	Development Consent as required by the Minister for Planning and Public Open Spaces and Section 4.38 of the *Environmental Planning & Assessment Act 1979.*
DPE Water	NSW Department of Planning and Environment water team.
EIS	The Environmental Impact Statement for Broken Hill Battery Project
Environment	Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelationships.
Environmental Aspect	An element of an organisation's activities, products, and services that interact with the environment. These can include discharges to water, emissions to air, waste and use of natural resources and materials.
Environmental Impact	Any change to the environment, whether adverse or beneficial, resulting from a facility's activities, products, or services (the effect that people's actions have on the environment).
EMS	Environmental Management Strategy
HM	Hazardous Material
HV	High Voltage
Incident	Occurrence arising out of or in the course of work that could or does result in death, injury or ill-health, or equipment or environmental damage.

Term	Definition
	'Accident' refers to incidents incurring injury, ill health, damage or harm. 'Near-Miss' refers to incidents not incurring injury, ill health, damage or harm but have the potential to do so.
Material harm	Is harm that: involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development.
Non-compliance	An occurrence, or development that is a breach of this Soil and Water Management Plan but is not an incident.
POEO Act	*Protection of the Environment Operations Act 1997*
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, considering: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements.
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable, non- polluting and sustainable.
Significant Environmental Aspect	An Environmental aspect that has significant characteristics in terms of risk impact (i.e. Legal requirement, protected species, habit, licence conditions), and if not controlled can cause a significant impact (i.e. pollution, degradation, environmental harm, prosecution, breach, non-compliance and or non-conformity).
Significant Wet Weather	Weather event capable of causing damage to BESS Infrastructure

2. OPERATIONAL OVERVIEW

2.1 Scope of Works

Fluence will be responsible for all required planned and unplanned maintenance services at Broken Hill BESS.

The Facility will operate 24 hours a day, 7 days a week and will have up to three full time employees. The Broken Hill BESS would typically be managed remotely and staffed as required during planned and unplanned maintenance periods.

The operations and maintenance categories are generally as per below: -

- BESS Core – Cubes, ancillary systems, IT infrastructure, and power conversion units;
- HM & HV BOP – Transformers, switches and protection, and related accessories.
- Fire Suppression – BESS system and devices, building systems, and first response;
- Facility – Site access, grounds and yard management, and amenities control; and
- 24/7 on call site support.

Any further upgrade activities, or decommissioning will require an amendment to the SWMP as required by Schedule 4 Condition 2 of SSD – 11437498.

The Broken Hill BESS is located at 74 - 80 Pinnacle Place, Broken Hill NSW.

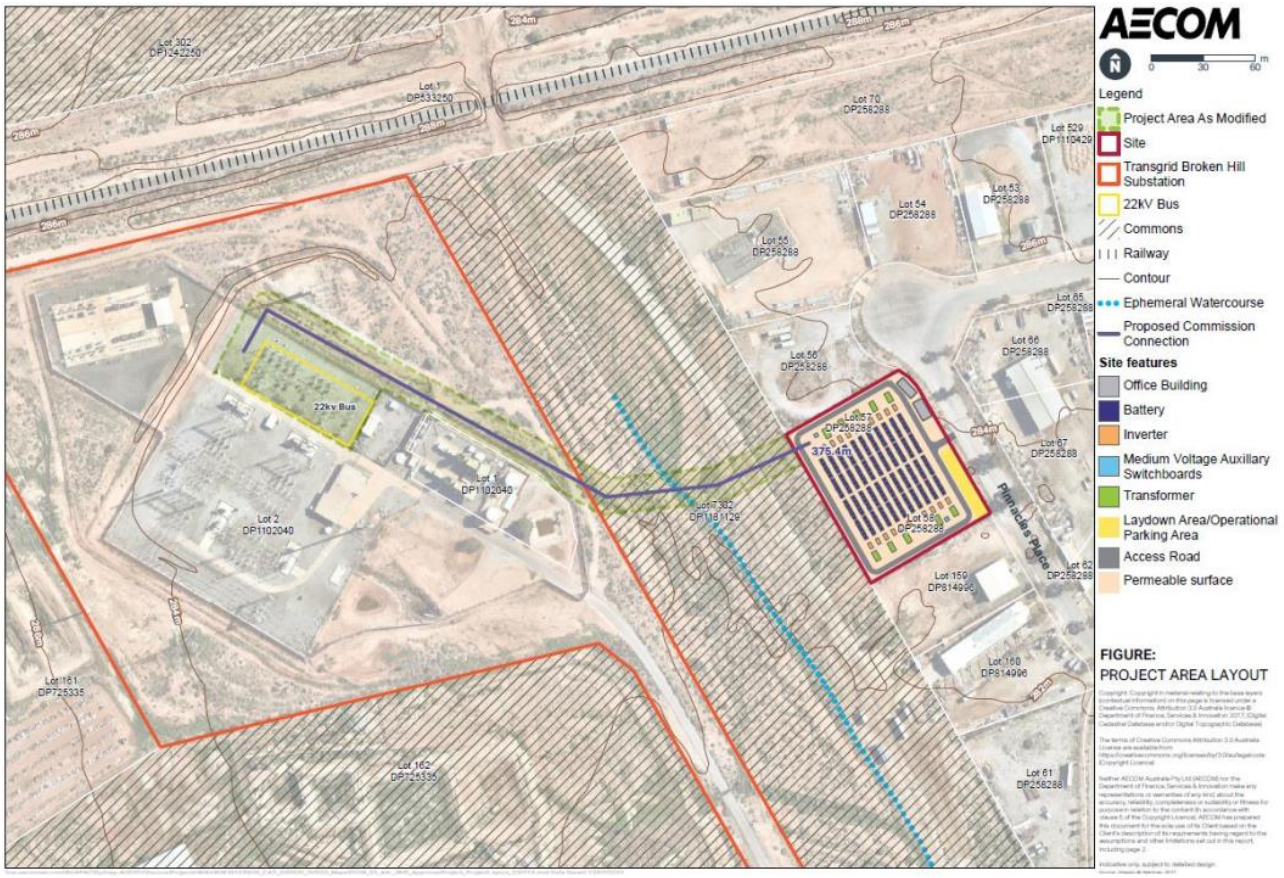


Figure 1 – Site Boundaries (AECOM)

2.2 Soil & Water Operational Impacts

Operation and maintenance of the Broken Hill BESS facility is not anticipated to result in ground disturbance or modification or altering of soil and water management infrastructure at the site. which has been designed and installed in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) Manual, or its latest version. The operational team will monitor and maintain the soil and water infrastructure to minimise impacts on surface water, localised flooding and groundwater at the site. Refer to Appendix 1 for an overview of the soil and water infrastructure on site.

3. DEVELOPMENT CONSENT CONDITIONS

Development Consent Sections	Soil and Water Management Plan References
Water Supply 20. The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply. *Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.*	Section 4.1 Water Supply
Water Pollution 21. The Applicant must ensure that the development does not cause any water pollution, as defined under Section 120 of the POEO Act.	Section 4.2 Water Pollution
Operating Conditions 22. The Applicant must: (a) minimise erosion and control sediment generation. (b) ensure the battery storage and ancillary infrastructure and any other land disturbance associated with the construction, upgrading or decommissioning of the development have appropriate drainage and erosion and sediment controls designed, installed and maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) manual, or its latest version; (c) ensure the battery storage and ancillary infrastructure (including security fencing) are designed, constructed and maintained to reduce impacts on surface water, localised flooding and groundwater at the site; (d) ensure all works are undertaken in accordance with Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018), unless DPE Water agrees otherwise.	Section 4.4 Operating Conditions and Controls Appendix 2
Soil and Water Management Plan 23. Prior to commencing construction, the Applicant must prepare a Soil and Water Management Plan for the development in consultation with DPE Water. This plan must: (a) demonstrate how the project will meet conditions 21 and 22(a) to (d); and	Sections 4 to 4.8 Soil and Water

Development Consent Sections	Soil and Water Management Plan References
(b) include details of the soil erosion control measures including sediment basins. The Applicant must implement the Soil and Water Management Plan for construction upgrading, operation and/or decommissioning of the development.	Management Plan and Mitigation Controls

4. SOIL AND WATER MANAGEMENT PLAN AND MITIGATION CONTROLS

The following Soil and Water Management Plan and mitigation control measures during operation and maintenance outline the requirements and operational controls that are to be monitored and maintained throughout the operation stage and shall include the following (but not limited to):

- Water supply and pollution;
- Erosion and sediment controls;
- Operating conditions and controls;
- Drainage and stormwater management;
- Spill containment;
- Aqueous Wastes; and
- Unexpected finds and contamination(s).

4.1 Water Supply

Fluence must ensure that it has sufficient water for the operation of the site. Office facilities at the BESS is connected to mains supply.

4.2 Water Pollution

Operation of the site must not cause any water pollution, as defined under Section 120 of the POEO Act Prohibition of Pollution of Waters which states:

- A person who pollutes any water is guilty of an offence.
- An offence of water pollution committed by a corporation is an offence attracting special executive liability for a director or other person involved in the management of the corporation.
- Pollute waters include causing or permitting any waters to be polluted.

Any incident resulting in water pollution must be managed in accordance with the incident reporting and investigation procedure.

4.3 Dust Management

Generated dust can cause nuisance and inconvenience to other land users, and high levels can damage crops and other plant life or cause adverse health effects. The following controls will be implemented to minimise dust generation:

- Plant and vehicles will adhere to the Traffic Management Plan to avoid disturbing stabilised cleared land, and their speed will be limited to reduce dust generated on unsealed roadways.
- If planned works contain a significant risk of nuisance dust (e.g. extensive clearing), a Site Dust Risk Assessment will be completed and prevention/control measures implemented accordingly.

4.4 Operating Conditions and Controls

The following operating conditions for soil and water management shall be adhered to during operation and maintenance of the facility:

- Minimise erosion and control sediment generation.
- Ensure the battery storage and ancillary infrastructure drainage and erosion and sediment controls are maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom, 2004) Manual.
- Ensure the battery storage and ancillary infrastructure (including security fencing) are maintained to reduce impacts on surface water, localised flooding and groundwater at the site; and
- Ensure all works on waterfront land are undertaken in accordance with the updated Guidelines for Controlled Activities on Waterfront Land (DPE, 2022).
- All erosion and sediment controls are to be inspected before and after significant wet weather events. The inspection is to focus on the suitability and serviceability of the controls. Additional controls will be installed, or repairs made prior to or after extreme wet weather events when required. Extreme is classified as an event that has caused considerable damage to the local area.
- Plant and vehicles will follow designated traffic ways within the traffic management plan to avoid disturbing stabilised cleared land.

The Services Manager is responsible for ensuring that the above controls are monitored and implemented during monthly facility inspections, refer 8.1 below.

4.5 Drainage and Stormwater Management

The facility has been constructed to include systems for the collection, treatment, and final disposal of all wastewaters.

Site drainage has been constructed in accordance with AS3500 Plumbing and Drainage and has been designed to cater for an increase in flows generated by the site to limit post-development flows to pre-development flows in all events up to and including a 1% annual exceedance probability (AEP) storm event, in accordance with the Intensity-Frequency-Duration design rainfalls in conjunction with the most recent Australian Rainfall and Runoff.

Site drainage incorporates spill containment measures, both for bunded and non-bunded areas. Stormwater from roadways and hardstand areas is directed, using kerb and gutter or concrete spoon drains, to underground drains via inlet pits.

Drains grade towards the southern swale which then feeds into the western pond (please refer to Appendix 1). Runoff over gravelled and native landscaped areas shall be allowed to seep into the soil and drain via overland flow into the southern swale and the sediment basin along the western boundary. Stormwater from roofed buildings is routed via rainwater gutters underground to water tanks. Two Ag pipes run north to south across the site to assist with moving seepage from rainfall, and overflow from the tank catching rainfall on roofed structures, into the southern swale and the sediment basin.

4.6 Spill Containment

Batteries contain hazardous substances. As such, spill containment measures have been incorporated into the design of the battery enclosures to protect the site and downstream environment should there be a spillage on-site. All run-off from transformer bunds will pass through an oil separating filter installed at each bund before entering constructed swales.

4.7 Aqueous Waters

Contaminated aqueous effluents may include (but not be limited to) water contaminated with oil, coolant inhibitors or other compounds that may impact the environment surrounding the Facility if released into that environment through the storm water systems or otherwise.

The systems installed for the safe collection, storage, and final disposal of all the contaminated or potentially contaminated aqueous effluents from the facility and common services facilities (so as not to cause Contamination) must be monitored and maintained to ensure they remain effective. This will be included as part of the Monthly Facility Inspections, refer 8.1 below.

4.8 Fire Water

There is a potential for residues after a fire and hence potential for contaminated fire water run-off. Contamination may include traces of metals, contaminants from burning plastics and coolants. Fire water from transformers may contain traces of greases and solids (carbonaceous) matter. Fire water could potentially cause environmental pollution and become a potential hazard to people and external environment in the area.

Fire water run-off from the site would flow into the swale drain which runs along the western boundary of the site. From here it would drain into a 108kL rainwater/fire water retention pond. The pond will accommodate up to 90 minutes of fire water at an application rate of 20 L/s. The remediation of any contamination as a result of fire water must be included as part remedial actions to be determine through the incident management process.

4.9 Unexpected Finds and Contamination(s)

Where unexpected contamination is identified or suspected by personnel involved in the operation and maintenance of the facility, works will be suspended in the potentially affected area. This area will be isolated to minimise the potential for disturbance of the affected material, soil and/or water. Field personnel are to notify the Fluence Site Representative who will be responsible for organising the evaluation of the nature of the unexpected find. The rectification and remediation of any unexpected find or contamination must be included as a remedial action as per the Fluence incident management process outlined in the Environmental management Strategy (0775-ENV-GEN-90-011-RB0-IFR Environmental Management Strategy (Stage 3)).

5. INCIDENTS AND EMERGENCIES

As with any near-miss or incident associated with equipment or personnel, each event must be reported to the Fluence service supervisor in accordance with the Broken Hill BESS Health and Safety Management Plan and Operational Environmental Management Plan (OEMP).

5.1 Infractions

Breaching the rules and mandates set forth in this SWMP may result in a suspension or cancellation of site access authority, based on the assessment of Fluence facility management of the severity of an infraction.

6. CONSULTATION WITH LOCAL COMMUNITY

The nominated Fluence personnel will be available to meet with any neighbours affected by the Operations of the Broken Hill BESS to discuss the proposed measures mentioned within this SWMP. Regular consultation as required will be held with Council's manager for social and community services.

7. COMPLAINT MANAGEMENT PROCESS

Complaints shall be registered, tracked, and responded to in accordance with the following timeframes:

- Complaint entered into Sales Force
- Initial response provided to the complainant and Client within 24 hours indicating the matter is being addressed; and
- Detailed response including details of the complaint and the action taken / further action planned to alleviate the problem provided to the client within ten working days.

The following details will be recorded as a minimum:

- Date;
- Issue / Complaint;
- Affected Neighbours;
- Activity Date;
- Follow up / complaints – Actions; and
- Follow up / complaints – date.

The complainant should be contacted by the Fluence manager if additional information is required to confirm the complaint issues or the outcome sought, or to provide information about the customer complaints management process, such as timeframes and complainant responsibilities.

The Operations Team must advise the complainant of the outcome of the assessment and resolution process. This should include:

- A clear explanation of the final decision of any recommendations
- Any review options available to the complainant, including internal or external review.

8. MONITORING AND INSPECTION

8.1 Monthly Inspection Program

The services manager is responsible for completion of monthly inspections of soil and water infrastructure integrity and effectiveness. Monthly inspections must include the following.

- Erosion and sediment controls are inspected for any signs of failure or compromise. If erosion and sediment controls are compromised, they are to be rectified as appropriate, so no sediment loss occurs external to the site. As a minimum, inspections must include.
    - The southern swale to ensure surface stabilisation is effective and no sheet or rill erosion of the bed and banks has occurred.
    - Each rock riffle flow breaker within the southern swale for sedimentation build up that would or could cause water to flow beyond the banks of the drain.
    - The banks and inflow pathways to the sediment basin to ensure surface stabilisation is effective and no sheet or rill erosion of the bed and banks has occurred.
    - The energy dissipater at the discharge point of the sediment basin to ensure it is free of excessive sediment build up that would render dissipation ineffective.
    - The energy dissipater outlet conduits, to ensure it does not become blocked or otherwise compromised.
    - The surface of any water retained in the sediment basin for evidence of contamination.
- all chemicals are correctly stored and bunded as required onsite, appropriately labelled, and current SDS available.
- Bunded areas are inspected for evidence of spills or contamination, and effective treatment and discharge of natural water via oil separation filters. Filters to be changed as required if a spill has discharged.

8.2 Audit and Management Plan Review

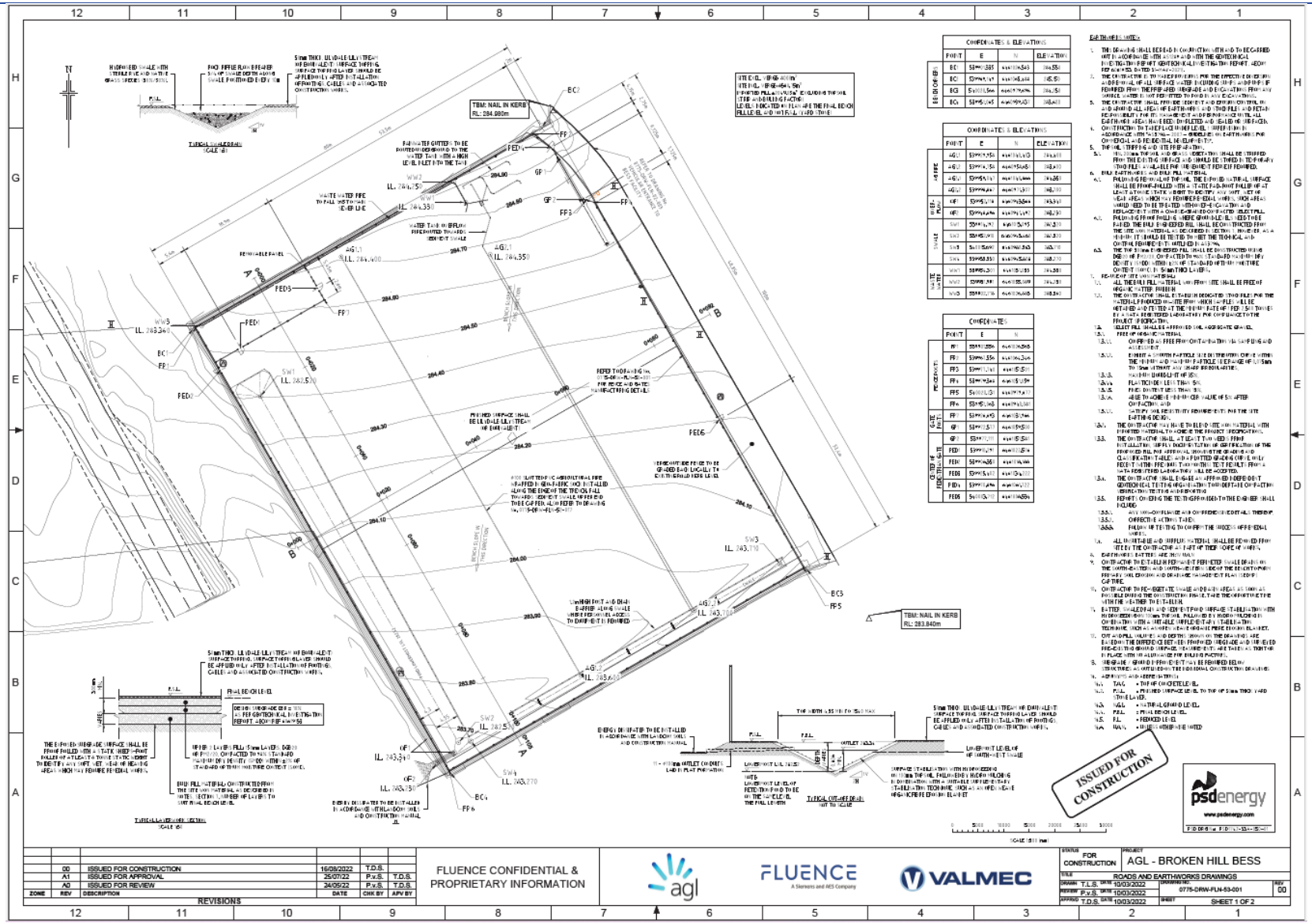
All aspects of the SWMP should be audited and reviewed as per the Operations and Maintenance Agreement Schedule 4 to ensure continuing suitability, adequacy, and effectiveness of the controls for eliminating risk, for the best continuous improvement process possible. This Plan will be reviewed and if necessary, amended: -

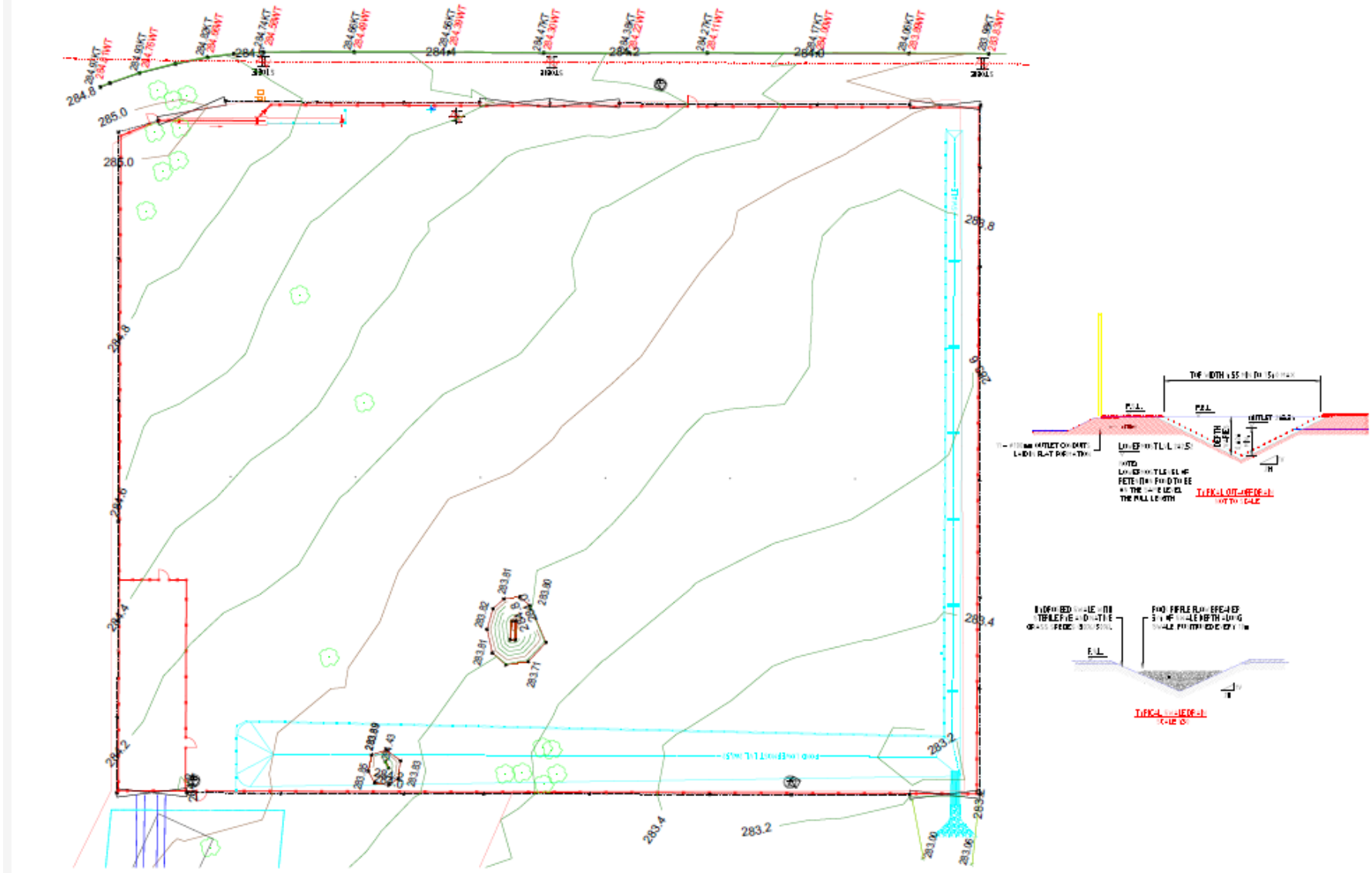
- Every 3 Months
- Upon Occurrence of any of the following: -
    - A HSE Incident
    - A change of a significant part of the Service Works

- A Significant Change in Site Conditions
- A change in applicable HSE Laws; and
- As requested by AGL to do so.

If the SWMP has been amended with Schedule 4, the documentation will be resubmitted to AGL displaying amendments in tracked changes.

9. Appendix 1


ISSUED FOR CONSTRUCTION
FLUENCE CONFIDENTIAL & PROPRIETARY INFORMATION
AGL - BROKEN HILL BESS
ROADS AND EARTHWORKS DRAWINGS
0775-DRW-FLN-93-001
SHEET 1 OF 2



10.Appendix 2

Department of Planning and Environment

Our ref: OUT23/12937

Vicki Brady
Email: VBrady@agl.com.au

14 August 2023

Subject: **Broken Hill Battery Energy Storage System - Stage 3 Soil and Water Management Plan (SSD-11437498-PA-47)**

Dear Vicki Brady

I refer to your request for advice sent on 10 August 2023 to the Department of Planning and Environment (DPE) Water about the above matter.

DPE Water has reviewed the Soil and Water Management Plan and makes the following recommendation:

- Ensure all works on waterfront land are undertaken in accordance with the updated Guidelines for Controlled Activities on Waterfront Land (DPE, 2022). https://water.dpie.nsw.gov.au/licensing-and-trade/controlled-activity-approvals/guidelines

Should you have any further questions in relation to this submission please do not hesitate to contact DPE Water Assessments water.assessments@dpie.nsw.gov.au.

Yours sincerely

Rose-Anne Hawkeswood
A/Manager Assessments, Knowledge Division
Department of Planning and Environment: Water