Construction Quality Assurance Plan

North Bannister Resource Recovery Park – Cell 7 Bulk Earthworks

Prepared for Veolia Recycling and Recovery (Perth) Pty Ltd

8 November 2024

Project Number: TW23075

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
0.1	Internal Review	1/05/2024	JW	CS	
1.0	Tender Issue	15/05/2024	JW	CS	CS
2.0	Tender Issue (pavement update)	30/05/2024	JW	CS	CS
3.0	Tender Issue (box culvert update)	03/10/2024	JW	CS	CS
4.0	Construction Issue	08/11/2024	JW	CS	CS

Approval for Release

Name	Position	File Reference
Chris Stannard	Waste Infrastructure Lead	TW23075_N. Bannister Bulk Earthworks CQAP_4.0
Signature	[redacted]	

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1 Introduction

The purpose of the Construction Quality Assurance Plan (CQA) Plan is to detail the testing methods and quality assurance procedures during the bulk earthworks for the development of Cells 7 and associated road and drainage (the Works) at the North Bannister Resource Recovery Park (NBRRP), located 6364 Albany Highway, North Bannister, Western Australia (WA) (the Site) for Veolia Recycling and Recovery (Perth) Pty Ltd (Veolia/the Principal). The Works comprise the following:

- General bulk cut earthworks to develop landfill Cell 7, including:
  - Trimming and removal of the composite lining system over the eastern portion of the Cell 4 to Cell 5 intercell bund and Cell 6 to Cell 7 intercell bund to facilitate bulk earthworks;
  - Excavation, ripping and blasting of rock within Cell 7 to the formation level, 500mm below the Final Subgrade Level;
  - Filling within Cell 7 base to the stormwater drainage levels. Final subgrade surface level to be prepared by others;
- Excavation to approximately RL 354m for the turning circle area located to the south of Cell 7 and construction of wearing course;
- Extension of the western cut-off swale drain to the southern boundary of Cell 9 including construction of box culvert;
- Extension of the 12m wide western access road to the southern boundary of Cell 7 and construction of wearing course; and
- Extension of the 12m wide southern access road to the turning circle area located to the south of Cell 7 and construction of wearing course.

This plan shall be read in conjunction with the Cell 7 Construction Works Technical Specification and Drawings for the Works (the Specification). Further detailed and specific construction procedures and requirements are outlined in the Specification and Drawings. This document does not replace the Specification or Drawings.

2 Definitions

For the purposes of the CQA Plan guidelines, the following terms are defined below:

'**Construction Quality Assurance**' (CQA) – A planned system of activities that provide assurance that materials or construction activities are undertaken and installed as specified in the design.

'**Construction Quality Control**' (CQC) - The process of measuring and controlling the characteristics of the item/product in order to meet the manufacturers or project specifications.

'**The Principal**' shall be as defined in the Conditions of Contract and for this Project will be Veolia Recycling and Recovery (Perth) Pty Ltd.

'**The Contractor**' shall mean the future company contracted by the Principal to execute the Works and complete the project; and

'**The Superintendent**' shall be as defined in the Conditions of Contract and for this Project will be the Principal's appointed representative.

3 Role of Participants

The participants and/or parties that have been identified as key personnel in the delivery of this Project include, but are not necessarily limited to Principal and Superintendent; Design Engineer; CQA Consultant; Contractor; Resin Supplier; and Soils Testing Laboratory. The roles and responsibilities of the participants and/or parties are detailed below

3.1 Superintendent

During the construction, the Superintendent acting on behalf of the Principal will serve as a single point of contact for the design engineer, Contractor and CQA consultant during construction.

3.2 Design Engineer

The design engineering services for the earthworks will be provided by Talis. The design engineer reviews and approves any proposed changes in design during construction.

3.3 CQA Consultant

The CQA Consultant is an independent party not affiliated with the contractor, subcontractors, suppliers or manufacturers. The CQA consultant may be the design engineer. The CQA Consultant has the overall responsibility for managing, coordinating and implementing the CQA activities and confirming that the Contractor's construction quality control activities are performed in accordance with the CQA Plan, construction drawings and technical specifications. Critical activities related to the construction, manufacture and installation of the earthwork, civil improvements and other project components will be monitored and documented by the CQA consultant. The CQA Consultant will be responsible for issuing a Final Certification Report containing CQA documentation sufficient to satisfy regulatory requirements and the requirements of this CQA Plan.

3.4 Contractor

The Contractor is responsible for the timely construction of the project, as delineated in the Drawings and Technical Specifications and in accordance with this CQA Plan. The Contractor is also responsible for the CQC. In particular, the Contractor shall ensure that only materials meeting the requirements set forth in the Technical Specifications and Drawings are used.

4 Description of Works

The works to be carried out under the Specification include, but are not limited to the following:

- General bulk cut earthworks to develop landfill Cell 7, including:
  - Trimming and removal of the composite lining system over the eastern portion of the Cell 4 to Cell 5 intercell bund and Cell 6 to Cell 7 intercell bund to facilitate bulk earthworks;
  - Excavation, ripping and blasting of rock within Cell 7 to the formation level, 500mm below the Final Subgrade Level;
  - Filling within Cell 7 base to the stormwater drainage levels. Final subgrade surface level to be prepared by others;
- Excavation to approximately RL 354m for the turning circle area located to the south of Cell 7 and construction of wearing course;
- Extension of the western cut-off swale drain to the southern boundary of Cell 9 including construction of box culvert;
- Extension of the 12m wide western access road to the southern boundary of Cell 7 and construction of wearing course; and
- Extension of the 12m wide southern access road to the turning circle area located to the south of Cell 7 and construction of wearing course.

5 Daily Reporting and Documentation

5.1 General

An effective CQA Plan recognises all construction activities that should be monitored and assigns responsibilities for the monitoring of each activity. This is most effectively accomplished and verified by the documentation of quality assurance activities. The CQA consultant will document that all quality assurance requirements have been satisfied. The CQA consultant will also maintain at the job site a complete file of Construction Drawings, Technical Specifications, CQA Plan, test procedures, daily logs, and other pertinent documents.

5.2 Daily Record Keeping

Standard reporting procedures will include preparation of CQA documentation which, at a minimum, will consist of:

- Field notes, including memoranda of meetings and/or discussions with the design engineer or construction manager;
- CQA logs and testing data sheets; and
- Construction problems and solution summary sheets.

This information will be reviewed by the CQA consultant, signed, and transmitted to the construction manager on a daily basis.

Monitoring logs and testing data sheets will be prepared for all site inspections. At a minimum, these logs and data sheets will include the following information:

- Date, project name, location and other identification;
- Data on weather conditions;
- A site plan showing work areas and locations selected for random CQA testing;
- Descriptions and locations of ongoing construction;
- Equipment and personnel in each work area;
- Location where in-site CQA tests and samples were taken;
- A summary of test results;
- Calibration of test equipment;
- Decisions made regarding acceptance of units of work and/or corrective actions to be taken; and
- Signature of CQA Consultant representative.

5.3 Construction Issues

The Contractor will be informed by the CQA Consultant about any significant recurring non-conformance with the Construction Drawings, Technical Specifications, or CQA Plan. The cause of the non-conformance will be determined and appropriate changes in procedures of Specifications may be recommended. These changes will be submitted to the design engineer for approval. When changes are made, they will become part of the construction documents.

5.4 Photographic Records

Photographs will be taken by the CQA Consultant and documented in order to serve as a pictorial record of work progress, problems and mitigation activities. The basic file will contain colour prints and they will be identified with the date, time, and location of the photograph.

5.5 Design and/or Specification Change

Design and/or specification changes may be required during construction. In such cases, the CQA consultant will notify the design engineer and Construction Manager.

6 Requirements of the CQA Validation Report

At the completion of the work, the CQA consultant will submit to the Superintendent a signed final certification report. This report will document that:

- Work has been performed in compliance with the construction documents;
- Physical sampling and testing has been conducted at the appropriate frequencies specified in the Specification; and
- The required CQA documentation has been completed.

At a minimum, this report will include:

- A summary describing the CQA activities and indicating compliance with the Drawings and Technical Specifications;
- A summary of CQA testing, including failures, corrective measures and retest results;
- Progress photographs;
- Any other relevant information; and
- As built drawings.

The validation report must contain a statement by the CQA Consultant that the works have been carried out in accordance with the CQA Plan (and specifications attached to it) and that the validation report (including the drawings and appendices) represent a fair and accurate record of the works.

APPENDIX A

Technical Specification

Assets | Engineering | Environment | Noise | Spatial | Waste

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