



# **Request for Tender**

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**TOWNSVILLE CITY COUNCIL**

**STUART WASTE FACILITY**

**STAGE 2Bii INTERFACE LINER**

**CONTRACT NO: TCW00144**

**PREPARED BY**

Hayley Page



11/09/15

Technical Officer Projects

Signature

Date

**DOCUMENT CHANGE HISTORY**

Version	Author	Issue Purpose	Date
1.0	H. Page	Draft for approval	07/09/15
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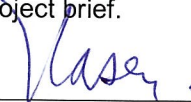
**APPROVALS**

This document is authorised for release once all signatures have been obtained.  
In signing this approval:

- » I agree that the document meets the Townsville City Council Standards and Procedures and has been checked against the signed project brief.

Tim Casey

**Checking Officer**



Signature

17/9/15

Date

Steve Gray

**Approving Manager**



Signature

17/9/15

Date

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## SECTION A – INTRODUCTION

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## INTRODUCTION

### 1. Background

Stuart Landfill is located at the base of the Muntalunga Range within a semi-rural industrial setting on the southern outskirts of Townsville. The landfill site is an 81 hectare land parcel, with access directly via Vantassel Street off the Bruce Highway. The site is described as Lot 2 on SP132603.

To meet its operating obligations of Condition G10 under DEHP Environmental Authority Number EPPR00962513, a Site Development Plan (SDP) was developed which outlines the progressive development for the site, specifically for the coming five years, but with reference to the ultimate landfill footprint.

The SDP identifies that there is an unlined central void between the older and newer cells/stages which needs to be filled with waste to maximise void space, and to create a uniform final landfill footprint. As it is now a regulatory requirement that all landfill cells be lined prior to the commencement of waste filling, the SDP outlines that an 'interface liner' needs to be constructed between these waste mounds to ensure continuity in the lining system and effectively bridge the gap between lined and unlined cells.

Construction of Interface Liner Stage 1 was completed in December 2014 and the area has been heavily filled with waste since this time. The SDP identifies two subsequent stages of the liner that are required to interface the void between the unlined and lined sections of the landfill to enable further vertical expansion. These subsequent two stages have been combined into one drawing set for construction via a single tender. This combined stage of the liner is herein called Stage 2Bii Interface Liner and is the subject of this tender.

### 2. Objectives

The project has two primary objectives, these being:

- to undertake the construction and finalisation of Interface Liner Stages 2Bii at Stuart Landfill by the end of the 2015/2016 financial year; and
- to meet DEHP Integrated Authority permit requirements and satisfy obligations required under this authority.

### **3. Site Conditions**

As the landfill is an active site, and the Stage 2Bii Interface Liner area is adjacent to the current landfill operational face, it is imperative that the WUC at no stage prevent Townsville Waste Services from allowing landfill patrons access to the operational areas for disposal of their waste. Contractors are to consider any potential conflicts in advance and factor them into their submission.



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## SECTION B – TENDER INFORMATION

## TENDER INFORMATION

This Tender Information must be read in conjunction with and will form part of the Conditions of Tendering.

- Principal:** Townsville City Council
- Project:** Stuart Waste Facility Stage 2Bii Interface Liner
- Works:** Construction of Stage 2Bii Interface Liner, as detailed in Section E – Scope of Works
- Site:** 24 Vantassel Street, Stuart
- Procurement Process:** The proposed Procurement Process is as follows:

Stage	Date
Tender Advertising	19 September 2015
Site Briefing	24 September 2015
Tender Close	14 October 2015
Tender Award	11 December 2015
Prestart meeting & contractor to commence ordering materials	February 2016
Construction Commencement	End April
Practical Completion	24 June 2016



**Tender Inspection:**

**Briefing/Site**

Time	Place	Maximum number of Personnel to attend	Compulsory or Optional ['C' or 'O']*
10am	Stuart Waste Facility, Vantassel Street (proceed to gatehouse and await direction)	2	C

\*Where nothing is stated attendance at the Tender Briefing is optional

**Tender Box:**

Tenders must be lodged at:

Tender Box  
Townsville City Council  
Administration Building, Ground Floor  
103 Walker Street  
Townsville QLD 4810

**Tender Closing Time:**

Date: 14 October 2015

Time: 10am

**Tender Deposit:**

Nil

**Tender Validity Period:**

90 days from the Tender Closing Time.

**Format of Tender:**

Tenders:

- must be lodged in hard copy format;
- must be lodged electronically;
- may be lodged in hard copy format or electronically.

(Where nothing selected, Tenders must be submitted in hard copy)

**Maximum Page Limit:** N/A

(If no limit is stated, then there is no Maximum Page Limit)

**Lodgement Requirements:**

**Hard Copy Format**

(These requirements only apply where the Tender is submitted in hard copy format)

If the Tender is lodged in hard copy then the Tenderer must provide:

- 1 x original (marked 'Original') of the Tender;
- 3 x copies (marked 'Copy 1', 'Copy 2' and 'Copy 3' respectively) of the Tender;
- 1 x electronic copy of the Tender on USB, CD or DVD (including 1 x complete copy of the Tender in a single PDF document and 1 x copy of the Tender Schedules in MS Word format)

which must be enclosed in a sealed envelope or package addressed to the Principal and marked with the name of the Project and the Contract Number.

**Electronic Format**

(These requirements only apply where the Tender is submitted in electronic format)

If the Tender is submitted electronically then the Tenderer must provide:

- 1 x complete copy of the Tender in a single PDF document; and
- 1 x copy of the Tender Schedules in MS Word format.

**Principal's Representative:**

<b>Name:</b>	Hayley Page
<b>Telephone:</b>	4727 8760
<b>Email:</b>	<a href="mailto:Hayley.page@townsville.qld.gov.au">Hayley.page@townsville.qld.gov.au</a>
<b>Facsimile:</b>	N/A

**Acceptable Electronic Format:**

A format capable of being legibly displayed on any of the following applications:

- Microsoft Office 2010
- Adobe Reader X

**Principal's Representative's Preferred Communication Method:**

- Telephone;
- Email;
- Facsimile;
- Electronic Tender Box.

(Where nothing selected, the Principal's Representative's Preferred Communication Method is email)

**Principal's Complaints Manager:**

<b>Name:</b>	Ken Veness, Manager Procurement
<b>Telephone:</b>	1300 878 001
<b>Email:</b>	<a href="mailto:Ken.Veness@townsville.qld.gov.au">Ken.Veness@townsville.qld.gov.au</a>
<b>Facsimile:</b>	N/A

**Evaluation Criteria:**

Criteria	Weighting (%)
Price	60
Local Industry Participation (Refer to Schedule of Development of Competitive Local Suppliers)	10

Demonstrated understanding of and commitment to the works (includes submitted schedules e.g. works programme, ability to improve upon program duration, ITP, labour and plant, personnel, subcontractors etc)	20
Demonstrated experience successfully completing work of a similar size and type	10
TOTAL	100

**Threshold Criteria:**

Criteria	Requirement
Sound referee checks received from references on two recent projects	Mandatory
Company Financial Statement for previous two years. <b>Statement to be provided.</b>	Mandatory.



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## SECTION C – CONDITIONS OF TENDERING

## SECTION C – CONDITIONS OF TENDERING

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## 1. DEFINITIONS AND INTERPRETATION

### 1.1 Definitions

- (a) In these Conditions of Tendering:
- (i) **Acceptable Electronic Format** means a format described as such in the Tender Information;
  - (ii) **Alternative Tender** means a Tender which is:
    - A. otherwise a Conforming Tender but which contains alternatives, qualifications or amendments to or departures from the Contract or the Scope of Works; and
    - B. lodged with a Conforming Tender.
  - (iii) **Building Code** means the *Building Code 2013* issued pursuant to the *Fair Work (Building Industry) Act 2012 (Cth)* as amended or replaced from time to time, a copy of which is available at [www.employment.gov.au/BuildingCode](http://www.employment.gov.au/BuildingCode), or on request from the Principal;
  - (iv) **Conditions of Tendering** means the conditions of tendering contained in this Section C – Conditions of Tendering of the Request for Tender;
  - (v) **Conforming Tender** means a Tender which:
    - A. is substantially in the form required by the Tender Schedules;
    - B. complies with the Lodgement Requirements;
    - C. does not exceed the Maximum Page Limit (if any);
    - D. contains no alternatives, qualifications or amendments to or departures from the Contract or the Scope of Works; and
    - E. contains substantially all of the information and documentation required by the Tender Documents;
  - (vi) **Contract** means a contract which may be entered into between the Principal and a Tenderer for the carrying out of the Works, and which will be in the form contained in Section D – the Contract of the Tender Documents, as amended (if at all) by the express written agreement of the Principal;
  - (vii) **Contract Number** means the contract number identified on the front cover of this Request for Tender;
  - (viii) **Electronic Tender Box** means the Information System (if any) identified as the Tender Box in the Tender Information;



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- (ix) **Evaluation Criteria** means the evaluation criteria set out in the Tender Information;
  - (x) **Form of Tender** means the form of that name included in the Tender Schedules;
  - (xi) **GST** has the same meaning as in the *A New Tax System (Goods and Services Tax) Act 1999* (Cth);
  - (xii) **Information System** has the same meaning as in the *Electronic Transactions (Queensland) Act 2001* (Qld);
  - (xiii) **Intellectual Property Rights** means copyright, patents and all rights in relation to inventions, registered and unregistered trademarks (including service marks), registered designs, circuit layouts and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields;
  - (xiv) **Introduction** means Section A – Introduction of this Request for Tender;
  - (xv) **Lodgement Requirements** means the lodgement requirements noted in the Tender Information;
  - (xvi) **Maximum Page Limit** means the maximum number of pages which may be submitted as, with or in relation to the Tender (including, unless otherwise indicated all attachments, annexures, supplements, parts, schedules or appendices), as stated in the Tender Information;
  - (xvii) **Moral Rights** means moral rights granted to creators under the *Copyright Act 1968* (Cth) and any similar rights existing under foreign laws;
  - (xviii) **Non-Conforming Tender** means a Tender which is not a Conforming Tender or an Alternative Tender;
  - (xix) **Notices to Tenderers** means any communication issued to Tenderers in accordance with subclause 3.3 which is identified as a notice to Tenderers;
  - (xx) **Personnel** includes the officers, employees, agents, representatives, agents, contractors and consultants of a party and any other person or entity for whom that party is vicariously liable;
  - (xxi) **Price** means the price shown in the Tender;
  - (xxii) **Principal** means the party identified as such in the Tender Information;
  - (xxiii) **Principal's Representative** means the person identified as such in the Tender Information;
  - (xxiv) **Principal's Representative's Preferred Communication Method** means the communication method or methods identified in the Tender Information;
  - (xxv) **Procurement Process** means the proposed procurement process identified in the Tender Information;

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- (xxvi) **Project** means the project identified in the Tender Information;
- (xxvii) **Queensland Code** means the Queensland Government's Code of Practice for the Building and Construction Industry as amended or replaced from time to time, a copy of which is available at <http://www.justice.qld.gov.au/fair-and-safe-work/industrial-relations/codes-of-practice-and-guidelines/queensland-code-of-practice-for-the-building-and-construction-industry> or on request from the Principal;
- (xxviii) **Queensland Guidelines** means the Queensland Government's Implementation Guidelines to the Queensland Code of Practice for the Building and Construction Industry as amended or replaced from time to time, a copy of which is available at <http://www.justice.qld.gov.au/fair-and-safe-work/industrial-relations/codes-of-practice-and-guidelines/building-and-construction-industry-guidelines> or on request from the Principal;
- (xxix) **Queensland Procurement Policy** means the Queensland Government's procurement policy, as amended from time to time, a copy of which can be obtained from the Queensland Government website;
- (xxx) **Request for Tender** means this request for tender (including Sections A to F) and all documents included in or incorporated by reference into it;
- (xxxii) **Schedule of Lump Sum** means the schedule of that name contained in the Tender Schedules;
- (xxxiii) **Schedule of Rates** has the same meaning as in the Contract;
- (xxxiiii) **Scope of Works** means Section E – Scope of Works of the Tender Documents and all documents incorporated into it (whether physically or by reference), and includes any amendments provided for in a Notice to Tenderers;
- (xxxv) **Site** means the site or sites identified in the Tender Information;
- (xxxvi) **Site Inspection** means the site inspection (if any) described in the Tender Information;
- (xxxvii) **Specified Loss** includes any of the following, whether direct, indirect, special or consequential:
- A. loss of use, production, profit, income, revenue, business, contract, opportunity or anticipated saving;
  - B. liability for loss or damage suffered by third parties;
  - C. any financing costs, increase in operating costs or legal costs (on a solicitor and client basis);
  - D. any fines levied;
  - E. loss of reputation or embarrassment; and

- F. any other financial or economic loss not expressly referred to in the preceding paragraphs,
- and any indirect, special or consequential loss, damage, cost, expense or penalty not expressly referred to in the preceding paragraphs, howsoever arising;
- (xxxvii) **Supporting Guidelines** means the supporting guidelines to the Building Code 2013 as amended or replaced from time to time, a copy of which is available at [www.employment.gov.au/BuildingCode](http://www.employment.gov.au/BuildingCode) or on request from the Principal;
- (xxxviii) **Tender** means the Tender submitted by a Tenderer in response to this Request for Tender and includes all documents and information submitted with or as part of the Tender;
- (xxxix) **Tender Box** means:
- A. in respect of Tenders to be submitted in hard copy format, the tender box located at the address stated in the Tender Information; and
  - B. in respect of Tenders to be submitted in electronic format, the Electronic Tender Box;
- (xl) **Tender Briefing** means the tender briefing (if any) described in the Tender Information;
- (xli) **Tender Closing Time** means the closing time detailed in the Tender Information;
- (xlii) **Tender Deposit** means the amount, if any, stated in the Tender Information;
- (xliii) **Tender Documents** means:
- A. this Request for Tender; and
  - B. any Notices to Tenderers issued pursuant to these Conditions of Tendering,
- and includes all documents included in or incorporated by reference into these documents;
- (xliv) **Tender Information** means the information contained in Section B – Tender Information of this Request for Tender;
- (xlv) **Tender Schedules** means the schedules in Section F – Tender Schedules which are to be lodged in accordance with the Tender Documents including the Form of Tender;
- (xlvi) **Tender Validity Period** means the period of time identified as such in the Tender Information, or, where a date is stated, the period ending on that date;

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- (xlvii) **Tenderer** means:
- A. any person who submits a Tender; and
  - B. to the extent to which the Tender Documents can apply to any other person who obtains a copy of any of the Tender Documents during the Procurement Process, also includes such other persons;
- (xlviii) **Threshold Criteria** means the threshold criteria (if any) identified in the Tender Information;
- (xlix) **Townsville City Council Procurement Policy** means the Principal's procurement policy as amended or replaced from time to time, a copy of which is available for inspection at the Principal's address; and
- (l) **Works** means the works identified in the Tender Information as more particularly described in the Scope of Works.

## 1.2 Interpretation

- (a) These Conditions of Tendering must be read in conjunction with the Introduction and the Tender Information. The Introduction and the Tender Information are not comprehensive or complete in themselves, but shall form part of these Conditions of Tendering.
- (b) Words or terms not defined in these Conditions of Tendering but which are defined in the Contract have the same meaning in these Conditions of Tendering as in the Contract, except where the context otherwise requires.
- (c) Without limiting the above, in the Tender Documents:
  - (i) an obligation of two or more parties binds them jointly and each of them severally and an obligation incurred in favour of two or more parties is enforceable by them severally;
  - (ii) words importing the singular number include the plural number and words importing the plural number include the singular number;
  - (iii) clause headings are for reference purposes only and must not be used in interpretation;
  - (iv) the words 'include', 'includes' or 'including' shall be read as if followed by 'without limitation';
  - (v) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form concerning the word or phrase has a corresponding meaning;
  - (vi) where time is to be reckoned from a day or event, the day or the day of the event must be excluded and if any time period specified in the Tender Documents expires on a day which is not a Business Day, the period will expire at the end of the next Business Day;

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- (vii) a reference to 'law' includes:
- A. legislation and subordinate legislation, including local laws, rules statutory instruments, by-laws, orders, ordinances, awards and proclamations of a local government authority, the State of Queensland, the Commonwealth or other authority having jurisdiction which are applicable to the Works, the Tender Documents, the Procurement Process or which are otherwise in force at any place where the Works are to be carried out and all related fees and charges; and
  - B. certificates, licenses, accreditations, clearances, authorisations, approvals, consents, permits and other requirements of authorities and other organisations having jurisdiction applicable to the Works, the Tender Documents or the Procurement Process and all related fees and charges;
- (viii) a reference to:
- A. a person includes any other legal entity and a reference to a legal entity includes a person;
  - B. a party includes the party's heirs, executors, successors and permitted assigns;
  - C. any gender shall be read as including every gender;
  - D. a monetary amount is a reference to an Australian currency amount;
  - E. any law, standard, code, guideline or policy includes a reference to that law, standard, code, guideline or policy as amended or replaced from time to time, and all related laws, standards, codes, guidelines or policies;
  - F. writing includes any mode of representing or reproducing words in tangible and permanently visible form, and includes e-mail and facsimile transmissions;
  - G. a measurement or quantity is a reference to an Australian legal unit of measurement as defined under the *National Measurement Act 1960* (Cth);
  - H. a time is to local time in Queensland;
- (ix) the Request for Tender and Procurement Process are governed by the Law of Queensland and the Commonwealth of Australia which are in force in Queensland. The Principal and Tenderers submit to the jurisdiction of the Courts of Queensland, relevant Federal Courts and Courts competent to hear appeals from them;

- (x) the contra proferentem rule and other rules of construction will not apply to disadvantage a party whether that party put the clause forward, was responsible for drafting all or part of it or would otherwise benefit from it;
- (xi) the rights and remedies of a party under this Request for Tender are in addition to the rights or remedies conferred on the party at law or in equity;
- (xii) if a provision of this Request for Tender is void or unenforceable it must be severed from this Request for Tender and the provisions that are not void or unenforceable are unaffected by the severance; and
- (xiii) no waiver by a party of a provision of this Request for Tender is binding unless made in writing.

## **2. BASIS OF TENDER**

### **2.1 Agreement to be Bound by Conditions of Tendering**

- (a) The Principal and the Tenderer acknowledge that these Conditions of Tendering are legally binding on them.
- (b) If the Tenderer breaches any of these Conditions of Tendering, the Principal may, at its discretion and without limiting its other rights, exclude the Tenderer's Tender(s) from assessment.
- (c) No contract for the carrying out of the Works will exist between the Principal and any Tenderer unless and until a Tender is accepted in accordance with subclause 7.1.

### **2.2 Cost of Tendering**

- (a) The Tenderer is responsible for all costs and expenses relating to the preparation and submission of its Tender, including costs incurred by the Tenderer relating to the exercise by the Principal of any of its rights under the Tender Documents.

### **2.3 The Tender Documents**

- (a) The Tender Documents must be read and construed together and are intended to be mutually explanatory.
- (b) The Tender Documents have been collated by mechanical means and Tenderers must ensure that all pages are numbered consecutively and supplements are included.
- (c) If the Tenderer:
  - (i) finds any defect, deficiency, error, inconsistency, ambiguity, discrepancy or conflict in or between, or omission from any of the documents comprising the Tender Documents or any other information provided by or on behalf of the Principal; or
  - (ii) finds any inconsistency or conflict between the Tender Documents and any law; or

(iii) has any doubt as to the meaning of any portion of the Tender Documents,

the Tenderer must notify the Principal's Representative in accordance with subclause 3.3 and (if applicable) must include in its Tender a statement of the interpretation upon which it relies and on which its Tender has been prepared.

- (d) When certain work is specified or described in the Tender Documents other work that is obviously or indispensably necessary will be deemed to be included even if it is not specifically mentioned.
- (e) The Principal gives no warranty and makes no representation as to, and accepts no responsibility for, the accuracy, adequacy or completeness of the Tender Documents or any other information provided by or on behalf of the Principal. Without limiting this, the Principal does not warrant or represent that information made available details fully and accurately the existing Site or subsurface conditions, or any other risk, contingencies or circumstances which could have an effect on the cost of executing the work under the Contract.
- (f) The Tender Documents must be used solely for the purpose of tendering for the Contract, and for no other purpose.
- (g) The Tender Documents shall at all times remain the property of the Principal.
- (h) All Intellectual Property Rights in the Tender Documents and other documents supplied to the Tenderer by or on behalf of the Principal are as between the Principal and the Tenderer the property of the Principal.

#### **2.4 Tenderer to Inform Itself**

- (a) The Tenderer must undertake all necessary enquiries and investigations to satisfy itself as to:
  - (i) the nature and extent of its obligations under the proposed Contract;
  - (ii) the nature and extent of the Works;
  - (iii) the accuracy, adequacy and completeness of the Tender Documents and any other information provided by or on behalf of the Principal;
  - (iv) the suitability of the qualifications and experience of consultants identified in the Tenderer's Tender;
  - (v) the Site and its surrounds, including:
    - A. the location of existing services at the Site (including through Dial-Before-You-Dig);
    - B. the facilities at the Site;
    - C. means of access to and from the Site;

- D. weather, climatic and seasonal conditions at the Site or elsewhere which are relevant to the Works;
  - E. any other conditions at the Site which could affect the carrying out of the Works at the Site;
- (vi) all logistical considerations for the carrying out of the Works; and
- (vii) any other risks, contingencies and other circumstances which could have an effect on the cost of executing the work under the Contract or the compliance with the Tenderer's other obligations under the Contract in the event that the Tenderer's Tender is accepted.
- (b) If:
- (i) the Tender Information does not indicate that there is to be a Site Inspection but the Tenderer requires an inspection of the Site; or
  - (ii) the Tenderer requires any further information or documentation from the Principal,
- to enable it to comply with this subclause 2.4 then the Tenderer must notify the Principal's Representative of this in accordance with these Conditions of Tendering at least seven days prior to the Tender Closing Time.
- (c) Without limiting the above, the Tenderer shall examine carefully any reports, maps, data, plans, drawings, specifications, diagrams or other information made available by or on behalf of the Principal in connection with the Procurement Process or the Works. The Tenderer should make its own interpretations, deductions and conclusions from the information made available and accepts full responsibility for those interpretations, deductions and conclusions.

## 2.5 Procurement Policies

- (a) In conducting the Procurement Process, the Principal will observe the objectives of:
- (i) the Queensland Procurement Policy; and
  - (ii) the Townsville City Council Procurement Policy.

## 2.6 No Liability

- (a) Without limiting any other clause in these Conditions of Tendering, the Principal and its Personnel are not liable upon any claim for, and the Tenderer indemnifies the Principal against and releases the Principal from all liability for, any costs, expenses, losses (including any Specified Loss) or damages suffered or incurred by the Tenderer or any of the Tenderer's Personnel relating to, or arising out of or in connection with:
- (i) the preparation and submission of the Tenderer's Tender;
  - (ii) the exercise by the Principal of any of its rights under the Tender Documents; or



- (iii) any defect, deficiency, error, inconsistency, ambiguity, discrepancy or conflict in or between, or omission from any of the documents comprising the Tender Documents, or any other information provided by the Principal, the Principal's Representative or the Principal's other Personnel in connection with the Procurement Process.

## **2.7 Building Code 2013**

- (a) This subclause 2.7 applies only if Annexure Part A of the Contract provides that the Building Code 2013 applies.
- (b) The Tenderer's attention is drawn to the Building Code and the Supporting Guidelines.
- (c) Tenderers must comply with the Building Code. It is a condition for participation that Tenderer's comply with the Building Code.
- (d) Consistent with Section 4.2.2 of the Supporting Guidelines, the Principal will not enter into a contract with a Tenderer where the Tenderer:
  - (i) has had an adverse Court or Tribunal decision (not including decisions under appeal) for a breach of workplace relations law, work health and safety law, or workers' compensation law; and
  - (ii) has not fully complied, or is not fully complying, with the order.
- (e) At the time of lodgement of the Tender, the Tenderer must not be precluded from tendering for Australian Government funded building and construction work.
- (f) By submitting a Tender to undertake the Works the Tenderer will be deemed to have:
  - (i) read the Building Code; and
  - (ii) agreed that the Tenderer must comply with the Building Code.
- (g) Tenderers should be aware that the Building Code applies to:
  - (i) the Project; and
  - (ii) all construction and building work undertaken by the Tenderer and its related entities (as that term is defined in section 8 of the Building Code) thereafter as defined in the Building Code, including work on all new privately funded construction projects in Australia.
- (h) Tenderers must submit as part of the Tenderer's Tender a signed "Declaration of Compliance" in the form contained in Section F of this Request for Tender.
- (i) Each Tenderer must indicate in its Tender:
  - (i) whether the Tenderer or a related entity of the Tenderer has ever been subject to a sanction imposed under the Building Code and Supporting Guidelines;

- (ii) whether the Tenderer has had an adverse Court or Tribunal decision (not including decisions under appeal) for a breach of workplace relations law, work health and safety law, or workers' compensation law and the Tenderer has not fully complied, or is not fully complying, with the order;
  - (iii) whether the Tenderer has had any adverse court, tribunal, industrial relations commission or Fair work Australia finding, order or penalty awarded against them in the last two years (and if so provide details);
  - (iv) how the Tenderer and its related entities have complied with the Building Code in the past (if the Tenderer has undertaken Australian Government funded construction work in the past);
  - (v) how the Tenderer intends to comply with the Building Code in performing the Contract, should it be the successful Tenderer; and
  - (vi) where the Tenderer proposes to subcontract an element of the Project, either:
    - A. the information detailed in the above subclauses (i) and (ii) in relation to each subcontractor, or
    - B. how the Tenderer intends to ensure each subcontractor complies with the Building Code; and
  - (vii) where the Tenderer has an enterprise agreement made under the *Fair Work Act 2009* on or after 1 February 2013, that the agreement includes genuine dispute resolution procedures.
- (j) Value for money is the core principle underpinning decisions on Government procurement however, Tenderers should note that when assessing Tenders, preference may be given to Tenders that demonstrate a commitment to:
- (i) adding and/or retaining trainees and apprentices;
  - (ii) increasing the participation of women in all aspects of the industry; or
  - (iii) promoting employment and training opportunities for Indigenous Australians in regions where significant indigenous populations exist.

## **2.8 Queensland Code of Practice for the Building and Construction Industry**

- (a) This subclause 2.8 applies only if Annexure Part A of the Contract provides that the Queensland Code and Queensland Guidelines apply to the Contract.

### *Queensland Code and Queensland Guidelines*

- (b) Terms used in this subclause 2.8 have the same meaning as is attributed to them in the Queensland Guidelines (as published by the Department of Justice and Attorney-General).

*Primary obligation*

- (c) By submitting a Tender, the Tenderer acknowledges and agrees that it:-
- (i) is aware that the Queensland Code and Queensland Guidelines apply to the Project;
  - (ii) is deemed to have read and understood the Queensland Code and Queensland Guidelines and the obligations they impose;
  - (iii) will comply with the Queensland Code and Queensland Guidelines on the Project;
  - (iv) will agree, if successful in the Tender, to contractual terms to give effect to the Queensland Code and Queensland Guidelines and mechanisms to ensure their compliance and enforcement; and
  - (v) will comply with, and all of its related entities (as defined in the Queensland Guidelines) will comply with, the Queensland Code and Queensland Guidelines in respect of any of their building and construction work (including any subsequent privately funded work), on and from the date of submitting this Tender.

*Condition for Participation*

- (d) By submitting a Tender, the Tenderer acknowledges its understanding and agreement that:
- (i) compliance with the Queensland Code and Queensland Guidelines is an essential condition to be considered for the Tender;
  - (ii) by submitting a Tender, the Tenderer agrees to comply with the Queensland Code and Queensland Guidelines on all future projects, including privately funded projects, to which the Queensland Guidelines apply, whether or not successful in this Tender; and
  - (iii) any party which is precluded from performing works to which the Queensland Code and Queensland Guidelines apply is excluded from consideration for the Tender.

*Cost, efficiency, productivity and workplace safety*

- (e) The Tenderer agrees that it must include in its Tender:-
- (i) a Workplace Relations Management Plan and any other documents and information necessary to meet the requirements of section 5 of the Queensland Guidelines; and
  - (ii) a Schedule of Compliance in the form contained in Section F of this Request for Tender, properly executed by or on behalf of the Tenderer.

- (f) The Tenderer acknowledges that by submitting this Tender it agrees to the Principal and authorised personnel of the Building Construction Compliance Branch taking steps to investigate claims and assertions made by the Tenderer in any of the documents referred to above in subclause 2.8(e) before any Tender is awarded. The Tenderer acknowledges and agrees that co-operation with the Principal and the Building Construction Compliance Branch is an essential component of the Tender process. Co-operation by the Tenderer will include allowing the Principal and authorised personnel of the Building Construction Compliance Branch to:-
- (i) access premises and sites controlled by the Tenderer or its related entities;
  - (ii) monitor and investigate compliance with the Queensland Code and Queensland Guidelines, including inspecting and copying relevant records and documents;
  - (iii) inspect any work, material, machinery, appliance, article or facility; and
  - (iv) interview any person,
- as is necessary to investigate the Tenderer's claims or to demonstrate the Tenderer's current or, where relevant, past compliance with the Queensland Code and Queensland Guidelines during the Procurement Process.

*Subcontractors etc*

- (g) Where the Tenderer proposes to subcontract a part of the Works, and it is authorised to do so, it agrees that it will ensure, through contract, that each subcontractor or consultant agrees to:-
- (i) the items in subclauses 2.8(c) (Primary obligation) and 8.7 (Disclosure of information) in respect of the relevant subcontractor or consultant;
  - (ii) comply with the applicable plans and policies on the Project referred to in subclause 2.8(e) (Cost, efficiency, productivity and workplace safety); and
  - (iii) where a nominated subcontractor or consultant is proposed in Tender Documents, ensure that nominated party co-operates with Queensland Government authorised personnel during the Procurement Process for the purposes outlined in subclause 2.8(f).

### **3. CONDUCT OF THE PROCUREMENT PROCESS**

#### **3.1 Principal's Rights**

- (a) Without limiting subclause 6.2, the Principal may, at any time whether before or after Tenders have been received, in its absolute discretion:
- (i) modify or depart from the procedures set out in the Tender Documents;
  - (ii) extend or reduce any timeframes or dates provided for in the Tender Documents;

- (iii) amend, add to or delete any part of the Tender Documents;
- (iv) suspend, terminate or alter the Procurement Process at any time;
- (v) request any one or more Tenderers to attend inspections of the Site or other meetings; and/or
- (vi) undertake any other enquiries or activities which it reasonably considers to be relevant to the Procurement Process.

### **3.2 Principal's Representative**

- (a) Any right or obligation of the Principal under or in relation to these Tender Documents may be exercised or carried out by the Principal's Representative.

### **3.3 Communications During the Procurement Process**

- (a) Unless otherwise expressly agreed with the Principal's Representative or expressly permitted by these Conditions of Tendering, all communications between the Tenderer and the Principal in relation to the Procurement Process including:

- (i) Notices to Tenderers; and
- (ii) requests for further information or clarifications,

shall be conducted through the Principal's Representative's Preferred Communication Method.

- (b) The Tenderer must not seek to discuss the Procurement Process or obtain any information relating to the Procurement Process from any Personnel of the Principal other than the Principal's Representative.

- (c) The Tenderer must:

- (i) provide all necessary contact details to the Principal's Representative at the time of obtaining the Tender Documents to enable it to receive communications from the Principal's Representative during the Procurement Process by way of the Principal's Representative's Preferred Communication Method;
- (ii) ensure that it is capable of receiving all communications from the Principal's Representative through the contact details provided. Without limiting this, where communications are to be conducted by email, the Tenderer must ensure that its nominated Information System is capable of receiving communications from the Client's Representative, irrespective of the size or content of the communication; and
- (iii) satisfy itself that it has received all communications from the Principal's Representative during the Procurement Process.

- (d) Without limiting this, where the Principal's Preferred Communication Method is:

- 
- (i) the Electronic Tender Box, the Tenderer must ensure that it is properly registered with the Electronic Tender Box and that it obtains copies of all relevant communications issued through the Electronic Tender Box; or
  - (ii) email, the Tenderer must ensure that its nominated Information System is capable of receiving communications from the Principal's Representative, irrespective of the size or content of the communication.
- (e) A communication given by email must be given in an Acceptable Electronic Format.
- (f) Communications conducted through the Principal's Representative's Preferred Communication Method, or other alternative form expressly authorised by the Principal's Representative, shall be deemed to have been given and received on the earliest of:
- (i) the time of actual receipt;
  - (ii) three days after the communication is posted by pre-paid mail;
  - (iii) the time shown on a transmission report produced by the sender's facsimile machine as the time at which the transmission of the communication was successfully completed;
  - (iv) the time shown on the Electronic Tender Box as the time at which the communication was available for download from the Electronic Tender Box; or
  - (v) the time at which the communication becomes capable of being retrieved and read by the intended recipient at the intended recipient's email address.
- (g) If a communication is sent by email in an Acceptable Electronic Format, then a delivery receipt issued by the Sender's Information System confirming that the email has been successfully delivered to the intended recipient's email address shall be conclusive evidence of the time at which the communication became capable of being retrieved and read by the intended recipient unless the intended recipient proves otherwise.
- (h) Without limiting subclause 2.4, the Principal will not be bound by, and the Tenderer may not rely upon, any oral advice or information nor any written advice or information provided other than in accordance with this subclause 3.3.
- (i) The Principal:
- (i) may in its absolute discretion limit the time for Tenderers to make queries or requests for further information or clarifications;
  - (ii) is not bound to respond to any query or request for further information or clarification, whether received prior to or after the required time; and
  - (iii) may subject to the following paragraph, in its absolute discretion notify any or all Tenderers of a query or request for further information or clarification made (without identifying the submitting party) and the Principal's response to the query or request.

- (j) The Tenderer may request that a query or request for further information or clarification be kept confidential and not notified to other Tenderers. The Principal may, in its absolute discretion, determine whether or not the query or request and/or the response to the query or request should be kept confidential and not notified to the other Tenderers. If the Principal determines that the query or request or the response to it should not be kept confidential and that it should be notified to other Tenderers then the Principal shall notify the Tenderer and the Tenderer may withdraw its query or request.

### **3.4 Tender Briefings and Site Visits**

- (a) Where the Tender Information provides that there is to be a Tender Briefing or a Site Inspection, then:
  - (i) each Tenderer must attend the Tender Briefing and Site Inspection unless the Tender Information provides that attendance is optional;
  - (ii) the Tenderer must notify the Principal's Representative that it intends to attend the Tender Briefing or Site Inspection at least seven days prior to the date of the Tender Briefing or Site Inspection;
  - (iii) the Tenderer may only bring a maximum of the number of Personnel noted in the Tender Information; and
  - (iv) the Principal will not respond to questions at the Tender Briefing or Site Inspection, but may issue a response to questions in accordance with subclause 3.3 following the Tender Briefing or Site Inspection. If, notwithstanding this subclause, the Principal or Principal's Representative provides a verbal response to a question during a Tender Briefing or Site Inspection, then the Tenderer must not rely on that verbal response unless it is confirmed in accordance with subclause 3.3.

### **3.5 Conduct of Tenderers**

- (a) The Tenderer must not, and must ensure that its Personnel do not:
  - (i) engage in misleading or deceptive conduct in relation to the Procurement Process;
  - (ii) engage in any collusive tendering, anticompetitive conduct, or any other unlawful or unethical conduct with any other Tenderer, or any other person in connection with the Procurement Process;
  - (iii) attempt to improperly influence any of the Principal's Personnel, or violate any applicable law regarding the offering of inducements in connection with the Procurement Process;
  - (iv) accept or invite improper assistance of any of the Principal's Personnel, or any former Personnel of the Principal, in preparing its Tender; or
  - (v) use any information improperly obtained, or obtained in breach of any obligation of confidentiality in preparing the Tenderer's Tender.

- (b) The Tenderer must:
- (i) disclose in its Tender any conflict of interest (whether actual, potential or perceived) arising or which is likely to arise as a result of this Procurement Process or the performance of the Tenderer's obligations under the Contract in the event that it is the successful Tenderer; and
  - (ii) not, and must ensure that its Personnel do not, engage in any activity or obtain any interest which is likely to result in a conflict between the Principal and the Tenderer's interests; and
  - (iii) immediately notify the Principal in accordance with subclause 3.3 in the event that a conflict of interest (whether actual, potential or perceived) that is not disclosed in the Tender arises or is likely to arise.
- (c) The Tenderer must at all times during the Procurement Process comply and ensure that its Personnel comply, with any law applicable to the Procurement Process.
- (d) Without limiting any other right of the Principal, the Principal may exclude from assessment any Tender lodged by a Tenderer who, in the Principal's reasonable opinion, has engaged in any behaviour contrary to this subclause 3.5 in relation to the Procurement Process.
- (e) The Tenderer indemnifies the Principal against all costs, expenses, losses (including Specified Loss) or damages incurred or suffered by the Principal in connection with a breach of subclause 3.5(a), 3.5(b) or 3.5(c). This indemnity extends to:
- (i) costs and expenses incurred by the Principal relating to any legal challenge to the Procurement Process including the acceptance of a Tender or anything related to the Procurement Process; and
  - (ii) costs and expenses incurred by the Principal in terminating and/or recommencing the Procurement Process.

### **3.6 Complaints in Relation to the Procurement Process**

- (a) Any complaint in relation to the Procurement Process or the Request for Tender must:
- (i) be made in writing to the Principal's Complaints Manager in accordance with this subclause 3.6;
  - (ii) be made immediately upon the cause of the complaint arising or upon a Tenderer becoming aware of the complaint or its cause;
  - (iii) contain adequate details of:
    - A. the complaint (including the cause of the complaint, the basis upon which the complaint is made and any other relevant issues);
    - B. the effect on the complainant;
    - C. the complainant's desired outcome; and



- D. any other relevant information,  
to allow the Principal to properly investigate the cause of the complaint.

## **4. THE TENDER**

### **4.1 Conforming Tenders**

- (a) If the Tenderer lodges a Conforming Tender then:
- (i) the Tenderer will be taken to have unconditionally accepted the terms and conditions of the Contract; and
  - (ii) if the Principal accepts the Tenderer's Tender in accordance with clause 7, then the Tenderer will be legally bound by the terms and conditions of the Contract.

### **4.2 Non-Conforming Tenders**

- (a) The Principal may, at its discretion, exclude a Non-Conforming Tender from assessment.
- (b) In exercising its discretion to exclude a Non-Conforming Tender, the Principal may, without limitation, take into account the nature and extent of the non-conformances, whether the Tenderer has also submitted a Conforming Tender and whether any Conforming Tender has been lodged by another Tenderer.
- (c) Acknowledgement by the Principal that it has received a Tender does not imply that the Tender has been admitted as a Conforming Tender.

### **4.3 Alternative Tenders**

- (a) If the Tenderer wishes to submit an Alternative Tender, then:
- (i) the Tenderer must submit both a Conforming Tender and the Alternative Tender;
  - (ii) the Tenderer should clearly detail in the Alternative Tender the proposed alternatives, amendments, qualifications or departures and the reasons for proposing them; and
  - (iii) the Alternative Tender must, but for the proposed alternatives, amendments, qualifications or departures, otherwise be a Conforming Tender.
- (b) Subject to any agreement of the parties to the contrary, if the Tenderer lodges an Alternative Tender then, except to the extent that the Tenderer has detailed a proposed alternative, amendment, qualification or departure:
- (i) the Tenderer will be taken to have unconditionally accepted the terms and conditions of the Contract; and

- (ii) if the Principal accepts the Tenderer's Alternative Tender in accordance with clause 7, then the Tenderer will be legally bound by the terms and conditions of the Contract.

#### **4.4 Intellectual Property**

- (a) The Intellectual Property Rights in any material included in a Tender and created by the Tenderer and relating specifically to the Works vests in the Principal upon acceptance by the Principal of the Tender (or any part thereof).
- (b) To the extent that any material submitted by a Tenderer in its Tender is the subject of pre-existing Intellectual Property Rights of third parties, the Tenderer warrants that it is able to procure for the Principal an irrevocable, royalty free licence to use, adapt, reproduce, publish and sublicense on the same terms all such Intellectual Property Rights and agrees to obtain such licence upon acceptance of its Tender (or any part thereof).
- (c) By submitting a Tender, the Tenderer is deemed to have granted the Principal a licence to reproduce the Tender in whole or in part and to do or authorise any other act or omission in relation to the Tender for the purposes of exercising its rights, or carrying out its functions or obligations under these Conditions of Tendering or the Contract. The Tenderer shall procure all necessary consents or waivers from creators in respect of Moral Rights to allow the Principal to do or authorise any such acts or omissions.
- (d) The Tenderer indemnifies the Principal against all costs, expenses, losses (including Specified Loss) or damages incurred or suffered by the Principal in connection with a claim by a third party alleging that any material submitted as, with or in relation to the Tender or any act or omission done or authorised by the Principal in accordance with these Conditions of Tendering or the Contract in respect of such material infringes the Intellectual Property Rights of that third party.

#### **4.5 Price**

- (a) The Price must be submitted inclusive of GST.
- (b) Where there is any discrepancy between the amount stated in the Form of Tender as the Price and the sum total of the items in the Schedule of Lump Sum or Schedule of Rates then the sum total of the items in the Schedule of Lump Sum or Schedule of Rates shall be the Price.
- (c) The Tenderer must allow, and warrants that it has allowed, in its Price for all matters which the Contract provides are included in the Contract Sum (as that term is defined in the Contract).

### **5. LODGEMENT OF TENDERS**

#### **5.1 Tender Deposit**

- (a) Each Tender lodged must be accompanied by the Tender Deposit (if any) detailed in the Tender Information. If no amount is stated in the Tender Information, then a Tender Deposit is not required.

- (b) The Tender Deposit must be in cash, bank cheque, money order or such other form as approved by the Principal's Representative in writing.
- (c) The Tender Deposit will be returned to the Tenderers within 28 days of the earlier of:
  - (i) the end of the Tender Validity Period (as extended in accordance with subclause 6.5); and
  - (ii) the acceptance of a Tender.

## 5.2 Hard Copy Tenders

- (a) This subclause applies if:
  - (i) the Tender Information provides that Tenders must be submitted in hardcopy; or
  - (ii) the Tender Information provides that the Tender may be submitted in hardcopy or electronically, and the Tenderer elects to submit the Tender in hardcopy format.
- (b) The Tender must comply with the Lodgement Requirements.
- (c) Tenders must be received in the Tender Box by the Tender Closing Time.
- (d) The Tenderer may at any time prior to the Tender Closing Time submit an amendment to its Tender in the same manner as its original Tender. Any amendment must clearly identify the Tender which is being amended and the amendments to be made. To the extent of any inconsistency between the Tender and the amendment, the amendments will prevail.
- (e) Any Tender or amendment to a Tender that is not received in the Tender Box by the Tender Closing Time may be rejected or admitted to evaluation at the discretion of the Principal. In exercising its discretion to reject or admit a late Tender to evaluation, the Principal may, without limitation, take into account the time at which the Tender is received, the reason the Tender is late and whether any other Tender has been received by the Tender Closing Time.

## 5.3 Electronic Lodgement of Tenders

- (a) This subclause applies if:
  - (i) the Tender Information provides that Tenders must be submitted electronically; or
  - (ii) the Tender Information provides that the Tender may be submitted in hardcopy or electronically, and the Tenderer elects to submit the Tender electronically.
- (b) The Tender must be lodged by uploading it to the Electronic Tender Box by the Tender Closing Time.

- (c) The Tender must comply with the Lodgement Requirements.
- (d) The Tender shall be deemed to have been lodged at the time that the Tender enters the Electronic Tender Box, as indicated on the electronic receipt issued to the Tenderer.
- (e) Subject to subclause 5.3(f), any Tender that has not entered the Electronic Tender Box by the Tender Closing Time may be rejected or admitted to evaluation at the discretion of the Principal.
- (f) In the event of:
  - (i) a technical failure of the Tenderer's Information System or of the Electronic Tender Box, resulting in an inability to lodge the Tender electronically as required by subclause 5.3(b); or
  - (ii) a failure of the Electronic Tender Box to issue an electronic receipt to the Tenderer acknowledging receipt of the Tenderer's Tender in accordance with subclause 5.3(d),

the Principal's Representative may, on request by the Tenderer, allow the Tender to be lodged by an alternative method. If the Principal's Representative allows the Tenderer to lodge its Tender by an alternative method, then the Tender must be received by the Principal by the alternative method by the Tender Closing Time.

- (g) The Tenderer may at any time prior to the Tender Closing Time submit an amendment to its Tender in the same manner as its original Tender. Any amendment must clearly identify the Tender which is being amended and the amendments to be made. To the extent of any inconsistency between the Tender and the amendment, the amendments will prevail.
- (h) Any Tender or amendment to a Tender that is not received in the Electronic Tender Box or otherwise received by the Principal by an alternative method allowed under subclause 5.3(f) by the Tender Closing Time may be rejected or admitted to evaluation at the discretion of the Principal. In exercising its discretion to reject or admit a late Tender to evaluation, the Principal may, without limitation, take into account the time at which the Tender is received, the reason the Tender is late and whether any other Tender has been received by the Tender Closing Time.

#### **5.4 Tenderer's Warranties**

- (a) By lodging a Tender, the Tenderer warrants that:
  - (i) all information contained in the Tender is accurate;
  - (ii) it has complied with its obligations under the Tender Documents, including its obligations under subclauses 2.3, 2.4 and 3.5; and
  - (iii) it has not relied on the accuracy, adequacy or completeness of the Tender Documents, or any other information provided by or on behalf of the Principal in preparing its Tender or determining the Price.

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## **6. AFTER LODGEMENT OF TENDERS**

### **6.1 Tender Opening**

- (a) Tenders will not be opened publicly and Tenderers will not be permitted to attend the opening of Tenders.

### **6.2 Principal's Rights After Tenders Received**

- (a) Without limiting subclause 3.1, the Principal may, at any time after Tenders have been received, in its absolute discretion:
  - (i) request any one or more Tenderers to change their Tender to take account of a change in the Tender Documents or any error in the Tender Documents;
  - (ii) request a meeting with any one or more Tenderers to obtain additional information from that Tenderer;
  - (iii) seek to clarify and alter any aspect of a Tenderer's Tender and may, at its discretion, advise any or all of the preferred Tenderers of such clarification or alteration;
  - (iv) negotiate amendments to any aspect of the Tender or the Tender Documents with any one or more Tenderers, and suspend or terminate such negotiations at any time;
  - (v) request any one or more Tenderers to provide a presentation of their Tender in person at the Principal's office at no cost to the Principal; and
  - (vi) request additional information from one or more Tenderers.

### **6.3 Assessment Process**

- (a) Subject to the Principal's other rights under the Tender Documents, Tenders will first be assessed for compliance with the Threshold Criteria (if any).
- (b) If the Tender satisfies the Threshold Criteria, then it will be assessed against the Evaluation Criteria in accordance with subclause 6.4.
- (c) If the Tender does not satisfy the Threshold Criteria then the Principal may reject the Tender without admitting it to assessment under subclause 6.4.
- (d) In exercising its discretion to reject the Tender under subclause 6.3(c), the Principal may, without limitation, take into account the nature and extent of the failure to satisfy the Threshold Criteria and whether any Tender which satisfies the Threshold Criteria has been lodged by another Tenderer.
- (e) Acknowledgement by the Principal that it has received a Tender does not imply that the Tender has satisfied the Threshold Criteria.

#### 6.4 Assessment of Tenders

- (a) Subject to subclause 6.3, in determining which Tender is most advantageous to the Principal, each Tender admitted to assessment in accordance with these Conditions of Tendering will be assessed against the Evaluation Criteria.
- (b) In assessing Tenders, the Principal may
  - (i) consider:
    - A. information contained in the Tender;
    - B. outcomes from discussions with Tenderer's referees (if any);
    - C. any other information available to the Principal (including the Tenderer's past performance under contracts with the Principal);
    - D. any relevant laws, including the *Local Government Act 2009* (Qld) and any regulation enacted under it; and
    - E. other information which the Principal reasonably considers to be relevant to its assessment;
  - (ii) ignore any part of a Tender which is ambiguous, uncertain, unclear or illegible without seeking clarification from the Tenderer and may assess the balance of the Tender.
- (c) The Principal may seek information or assistance from any person (including third parties) where the Principal considers in its absolute discretion it is necessary to do so in order to properly evaluate any aspect of the Tender. The Principal may notify the Tenderer of a third party appointed by the Principal to provide such assistance to the Principal, and the Tenderer must cooperate with and provide all information and assistance reasonably requested by such third party. The Principal may exclude from assessment or reject a Tender if the Tenderer does not provide such cooperation, information and other assistance.
- (d) The Principal:
  - (i) is not bound to accept the lowest or any Tender, or any clarification, alteration or amendment of a Tender; and
  - (ii) may, subject to these Conditions of Tendering, at its discretion, reject or accept:
    - A. a late Tender;
    - B. an Alternative Tender;
    - C. a Non-Conforming Tender;
    - D. a Tender which does not meet the Threshold Criteria;

- E. a Tender which fails to achieve a satisfactory score against any of the Evaluation Criteria;
  - F. a Tender which has been clarified, altered or amended in accordance with these Conditions of Tendering; or
  - G. a Tender submitted by a Tenderer that has breached these Conditions of Tendering; and
- (iii) will, if it accepts a Tender, accept the Tender which is the most advantageous to it having regard to the sound contracting principles in section 104 of the *Local Government Act 2009* (Qld).

## 6.5 Tender Validity Period

- (a) Each Tender must remain valid and open for acceptance by the Principal until the end of the Tender Validity Period.
- (b) Notwithstanding subclause 6.5(a), if a Tenderer wishes to withdraw its Tender before the end of the Tender Validity Period, the Principal may, in its absolute discretion, and without any obligation to do so for the benefit of the Tenderer, allow the Tenderer to withdraw its Tender. The Principal's consent to the withdrawal of the Tender may be subject to conditions, including a condition that the Tenderer forfeit the Tender Deposit.
- (c) The Principal may request an extension of the Tender Validity Period at any time by giving written notice to the Tenderer. If a Tenderer does not agree to extend the Tender Validity Period as requested by the Principal then the Principal may exclude the Tenderer's Tender from assessment or further assessment as the case may be.

## 7. ACCEPTANCE OF TENDERS

### 7.1 Form of Acceptance

- (a) A Tender shall be deemed to be accepted when the Principal or the Principal's Representative expressly advises the successful Tenderer in writing that the Tenderer's Tender (as amended by any post-tender negotiation, if any) is accepted.
- (b) No binding contract for the performance of the Works by the Tenderer will exist between the parties unless and until the Principal or the Principal's Representative expressly advises the Tenderer in writing that the Tenderer's Tender is accepted.
- (c) The successful Tenderer must execute the Contract within the timeframe stated in the Contract.
- (d) An executed contract will supersede any prior representations, agreements, statements or understandings (whether oral or in writing).

### 7.2 Notification of Unsuccessful Tenderers

- (a) The Principal shall, subject to its rights under these Tender Documents:

- (i) notify all unsuccessful Tenderers within 28 days of the date on which a Tender is accepted under subclause 7.1; and
  - (ii) return any Tender Deposit in accordance with subclause 5.1.
- (b) Unsuccessful Tenderers may request that the Principal's Representative provide feedback on the Tenderer's Tender. If the Principal's Representative agrees to the request, such feedback will be limited to the Tenderer's Tender and may be general in nature.
- (c) A Tender shall not be deemed to be rejected until the Principal notifies the unsuccessful Tenderer in writing that the Tender was not successful.

## **8. RIGHT TO INFORMATION AND DISCLOSURE**

### **8.1 Media Release**

- (a) Tenderers must not, either on their own account or in conjunction with other parties, issue any publication, advertisement, document, article or information whether verbal or written, concerning the Project, the Works or the Procurement Process in any media without the prior approval of the Principal.

### **8.2 Content of Tender Documents**

- (a) Except as otherwise permitted by these Conditions of Tendering, documents and information provided by the Principal in connection with the Procurement Process which are not in the public domain are to be treated by the Tenderer as confidential ('Confidential Information').
- (b) Each Tenderer:
- (i) must ensure that only appropriate Personnel have access to the Confidential Information. In all such cases, the party is to inform such Personnel of the confidential nature of the information and that it must not be disclosed;
  - (ii) must not and must ensure that its Personnel do not at any time disclose such Confidential Information directly or indirectly to any person whatsoever for any reason, or use or permit it to be used directly or indirectly for any reason other than:
    - A. for the purpose of preparing its Tender;
    - B. as required to comply with any law; or
    - C. to obtain legal, accounting or other professional advice; or
    - D. to comply with its corporate governance requirements; and
  - (iii) indemnifies the Principal against any costs, expenses, losses (including Specified Loss), damages or liability arising out of disclosure or unauthorised use of Confidential Information by the party, or its Personnel.



### 8.3 Content of Tenders

- (a) Except as otherwise permitted by these Conditions of Tendering, documents and information provided by a Tenderer in connection with the Procurement Process which are not in the public domain will be treated by the Principal as confidential.
- (b) Notwithstanding anything else contained in this subclause 8.3, the Principal may disclose any documents and information provided by a Tenderer in connection with a Tender:
  - (i) to comply with any law including, without limitation under the *Local Government Regulation 2012 (Qld)* and the *Right to Information Act 2009 (Qld)* and (if applicable) the Building Code 2013 and the Queensland Code and Queensland Guidelines;
  - (ii) to comply with any of its own policies, procedures and governance requirements; and
  - (iii) as the Principal considers reasonably necessary to properly conduct the Procurement Process, (including to evaluate and obtain approval of Tenders received) or to properly carry out its other functions and discharge its other obligations as a local government authority.

### 8.4 Disclosure under *Local Government Regulation 2012 (Qld)*

- (a) The *Local Government Regulation 2012 (Qld)* requires a local government which enters into a contract worth \$200,000 or more to:
  - (i) publish relevant details of the contract on the local government's website; and
  - (ii) display relevant details of the contract in a conspicuous place in the local government's public office.
- (b) In this regard, and notwithstanding any other provision of the Tender Documents or a Tender, if a Tender is accepted, the Principal may publish on its website, at its office, and by any other means, any relevant details of the Contract.
- (c) In this subclause 8.4, 'relevant details' includes:
  - (i) the person with whom the local government has entered into the Contract;
  - (ii) the worth of the Contract; and
  - (iii) the purpose of the Contract.

### 8.5 Disclosure under the *Right to Information Act 2009 (Qld)*

- (a) The *Right to Information Act 2009 (Qld)* ('the RTI Act') provides members of the public with a legally enforceable right to access documents held by Queensland Government agencies (including the Principal). The RTI Act requires that documents be disclosed upon request, unless the documents are exempt or on balance, disclosure is contrary to public interest.

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- (b) Information contained in a Tender is potentially subject to disclosure to third parties. In the assessment of any disclosure required by the Principal pursuant to the RTI Act, the Tenderer accepts that any information provided in its Tender, including information marked as confidential, will be assessed for disclosure in accordance with the terms of the RTI Act.
- (c) Notwithstanding any other provision of the Tender Documents or a Tender, if a Tender is accepted, the Principal may publish on the Queensland Government Marketplace website or by any other means, contract information including:
- (i) the name and address of the Principal and the successful Tenderer;
  - (ii) a description of the goods and/or services to be provided or Works to be carried out pursuant to the Contract;
  - (iii) the date of award of the Contract (including the relevant stages if the Contract involves more than one stage);
  - (iv) the Contract value (including the value for each stage if the Contract involves more than one stage and advice as to whether any non-price criteria were used in the evaluation of Tenders);
  - (v) the procurement method used; and
  - (vi) for Contracts with a value over \$10 million, the Contract, or summary information in respect of the Contract, between the Principal and the Tenderer.

#### **8.6 Disclosure under the Building Code 2013**

- (a) Notwithstanding any other provisions of the Tender Documents, Tenderers hereby consent to the disclosure of information concerning compliance with the Building Code, including details of whether or not a sanction (see Section 8.2 of the Supporting Guidelines) has been imposed. This consent extends to disclosure by the Commonwealth, its agencies and ministers, and disclosure to others for the purposes of facilitating compliance with the Building Code and the exercise of their statutory and portfolio responsibilities. Tenderers must ensure that their proposed subcontractors and consultants are also aware of, and agree to comply with, these rights of use and disclosure.

#### **8.7 Disclosure under the Queensland Code**

- (a) Notwithstanding any other provision of the Tender, the Tenderer agrees and consents to the disclosure of information concerning the Tenderer's, and the Tenderer's related entities', compliance with the Queensland Code and Queensland Guidelines, including the disclosure of details of past and present conduct relating to the Queensland Code and Queensland Guidelines, the Building Code, as varied from time to time, including whether or not sanctions have been imposed on a Tenderer or any of its related entities by the Commonwealth or any State or any government agency. This consent is given to the State of Queensland, including its agencies, Ministers, the Principal and the Building Construction Compliance Branch (and its authorised personnel) for



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purposes including monitoring and investigating compliance and ensuring, facilitating and promoting compliance with the Queensland Code and Queensland Guidelines.



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## SECTION D – THE CONTRACT



# CONTRACT

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**TOWNSVILLE CITY COUNCIL**  
(*'the Principal'*)

(*'the Contractor'*)

**STUART WASTE FACILITY**  
**STAGE 2Bii INTERFACE LINER**

**CONTRACT NO: TCW00144**

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## FORMAL INSTRUMENT OF AGREEMENT

### Parties

**Townsville City Council** of 103 Walker Street, Townsville in the State of Queensland

(*the Principal*)

ACN            of            ,            in the State of

(*the Contractor*)

### Recitals:

- A. The *Contractor* has submitted an offer to carry out and complete the *WUC*, and has given the *Principal* warranties and made representations to the *Principal*.
- B. In reliance on the warranties given and representations made by the *Contractor*, the *Principal* has accepted the *Contractor's* offer.
- C. The parties wish to enter into this *Contract* to record the terms of their agreement.

### The Parties Agree:

#### 1. THE CONTRACT

1.1 The *Contract* shall comprise the following documents:

- (a) This Formal Instrument of Agreement;
- (b) Annexure Part A to AS4000-1997 General Conditions of Contract;
- (c) Annexure Part B to AS4000-1997 General Conditions of Contract;
- (d) AS4000-1997 General Conditions of Contract (which form a part of this *Contract* notwithstanding that a copy is not physically incorporated into this *Contract*);
- (e) Annexure Part C – Job Specification;
- (f) Annexure Part D – Drawings;
- (g) Annexure Part E – Methodology;
- (h) Annexure Part F – Project Appreciation;
- (i) Annexure Part G – Key Personnel;

- (j) Annexure Part H – Contract Sum;
  - (k) Annexure Part I – Communication and Engagement Protocol;
  - (l) Annexure Part J – Statutory Declaration of Contractor; and
  - (m) Annexure Part K – [Other documents which may be inserted as part of the Procurement Process].
- 1.2 The *Contract* constitutes the entire, final and concluded agreement between the parties. It supersedes all prior representations, agreements, statements and understandings between the *Contractor* and the *Principal* (whether oral or in writing).
- 1.3 If there is any ambiguity, inconsistency, conflict or discrepancy between any of the documents listed in clause 1.1 then the documents will take precedence in the order set out in clause 1.1, with the Formal Instrument of Agreement being the highest in the order.

## 2. CONSIDERATION

- 2.1 In consideration of:
- (a) the *Principal* agreeing to pay the *Contractor* in accordance with the provisions of the *Contract*, the *Contractor* will perform the *WUC* in accordance with the provisions of the *Contract* and will otherwise comply with its obligations under the *Contract* at its expense;
  - (b) the *Contractor* carrying out the *WUC* and complying with its obligations under the *Contract* at its expense, the *Principal* will pay the *Contractor* in accordance with the provisions of the *Contract* and will otherwise comply with its obligations under the *Contract*.

## 3. INTERPRETATION

- 3.1 Italicised terms used in this *Formal Instrument of Agreement* have the same meaning as defined in the documents listed in clauses 1.1(b) to 1.1(d) above.
- 3.2 The *contra proferentem* rule and other rules of construction will not apply to the *Contract* to disadvantage a party whether that party put the clause forward, was responsible for drafting all or part of it or would otherwise benefit from it.
- 3.3 To the extent permitted by law, if either party consists of two or more persons the *Contract* binds such persons and their respective executors, administrators, successors and permitted assigns jointly and severally.
- 3.4 If a provision of the *Contract* is void or unenforceable it must be severed from this *Contract* and the provisions that are not void or unenforceable are unaffected by the severance.
- 3.5 The rights and remedies of a party to the *Contract* are in addition to the rights or remedies conferred on the party at law or in equity.



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- 3.6 The *Contract* may be executed in any number of counterparts and when executed communication of the fact of execution to the other parties may be made by sending evidence of execution by fax or email.
- 3.7 In the *Contract* the words 'include', 'includes' and 'including' shall be read as if followed by 'without limitation'.
- 3.8 Each indemnity provided in the *Contract* is a continuing indemnity which survives the expiration or termination of the *Contract*. The Principal need not incur any expense or make any payment in order to rely on an indemnity. Each indemnity given by the *Contractor* will be read as if the word 'indemnify' was followed by 'and hold harmless'.
- 3.9 Except to the extent otherwise provided in the *Contract*, where the *Contract* includes or incorporates by reference any standard, plan, requirement, code, guideline, policy, standard drawing or standard specification then the *Contractor* must comply with the version of that standard, plan, requirement, code, guideline, policy, standard drawing or standard specification which is current as at the *date of acceptance of tender*, and the *contract sum* shall be deemed to have allowed for compliance with that version.
- 3.10 Items or words in Annexure Part A which have been struck through are deleted from Annexure Part A, and items or words which are underlined have been added to Annexure Part A.

#### 4. EXCLUSION OF SECTION 67K OF THE QBCC ACT

- 4.1 The *Principal* and the *Contractor*:-
- (a) acknowledge that section 67K(2) of the *QBCC Act* provides that *building contracts* are subject to a condition that prior to the *date of practical completion*, the total value of the following is not to be more than 5% of the *contract sum*;
- (i) all retention amounts for the *Contract* that are being withheld; and
- (ii) all *security* for the *Contract* given and still held; and
- (b) agree that this *Contract* is not subject to the conditions set out in section 67K(2) of the *QBCC Act*.

.....  
Initialed by the *Principal*

.....  
Initialed by the *Contractor*





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## EXECUTED AS AN AGREEMENT

### EXECUTION BY THE PRINCIPAL

**SIGNED** for and on behalf of Townsville City Council in accordance with the Council's local laws and in the presence of:

.....	)	.....
Signature of witness	)	Chief Executive Officer
	)	Ray Burton PSM
.....	)	Date:     /     /
Name of witness (block letters)	)	
Date:     /     /		

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### EXECUTION BY THE CONTRACTOR (WHERE CONTRACTOR IS A CORPORATION)

**SIGNED** for and on behalf of the *Contractor* in accordance with its Constitution and Section 127 of the *Corporations Act 2001* in the presence of:

.....	)	.....
Signature of witness	)	Director
.....	)	.....
Name of witness (block letters)	)	Director/Secretary
Date:     /     /		Date:     /     /

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### EXECUTION BY CONTRACTOR (WHERE CONTRACTOR IS NOT A CORPORATION)



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**SIGNED** for and on behalf of the  
*Contractor* by its authorised  
representative in the presence of:

..... )	..... )
Signature of witness )	Signature )
..... )	..... )
Name of witness (block letters) )	Name of authorised representative )
Date:    /       / )	Date:    /       / )



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## **Annexure Part A to AS4000 - 1997**



ANNEXURE to the Australia Standard  
General Conditions of Contract  
AS4000-1997

# PART A

This Annexure shall be completed and issued as part of the tender documents and, subject to any amendments to be incorporated into the *Contract*, is to be attached to the General Conditions of *Contract* and shall be read as part of the *Contract*.

## Item

1	<i>Principal</i> (clause 1)	Townsville City Council
		ABN 44 741 992 072
2	<i>Principal's address details</i>	Address PO Box 1268, Townsville Q 4810
		<u>Email address</u> _____
		<u>Facsimile number</u> _____
		<u>After hours contact</u> <u>Name:</u> _____
		<u>Telephone:</u> _____
3	<i>Contractor</i> (clause 1)	ACN
4	<i>Contractor's address details</i>	Address
		<u>Email address</u> _____
		<u>Facsimile number</u> _____
		<u>After hours contact</u> <u>Name:</u> _____
		<u>Telephone:</u> _____

5	<i>Superintendent</i> (clause 1)	To be confirmed (TBC) upon award  ACN
6	<i>Superintendent's address details</i>	Address TBC  <u>Email address</u> _____  <u>Facsimile number</u> _____  <u>After hours contact</u> <u>Name:</u> _____ <u>  </u> <u>Telephone:</u> _____
7	a) <i>Date for practical completion</i> (clause 1)  OR  b) <i>Period of time for practical completion</i> (clause 1)	28 weeks
7A	<u>Additional requirements of Practical Completion</u> (clause 1)	_____
8	Governing law (page 5, clause 1(h))	Queensland  If nothing stated, that of the jurisdiction where the <i>site</i> is located
9	a) <i>Currency</i> (page 5, clause 1(g))  b) <i>Place for payments</i> (page 5, clause 1(g))  c) <i>Place of business of bank</i> (page 3, clause 1(d))	AUD  If nothing stated, that of the jurisdiction where the <i>site</i> is located  Townsville If nothing stated, the <i>Principal's</i> address  Townsville If nothing stated, the place nearest to where the <i>site</i> is located
9A	<u>Contract Sum</u>	<u>The Contract is a:</u>

<p>(clause 2, Annexure Part H)</p>	<p><input type="checkbox"/> <u>Schedule of Rates Contract</u></p> <p><input checked="" type="checkbox"/> <u>Lump Sum Contract</u></p> <p><input type="checkbox"/> <u>Part Lump Sum and Part Schedule of Rates Contract</u></p> <p>If nothing stated, the <i>Contract</i> is a <i>Lump Sum Contract</i>.</p>
<p>9B <u>Rise and Fall</u> (subclause 2.6)</p> <p>a) <u>Is <i>Contract</i> subject to rise and fall</u></p> <p>b) <u>If <i>Contract</i> is subject to rise and fall, the formula for determining the rise and fall is:</u></p>	<p><u>The <i>Contract</i>.</u></p> <p><input checked="" type="checkbox"/> <u>is not subject to rise and fall</u></p> <p><input type="checkbox"/> <u>is subject to rise and fall</u></p> <p>If nothing stated, the <i>Contract</i> is not subject to rise and fall.</p>
<p>10 <del><u>Bills of quantities</u></del> (subclause 2.2)</p> <p>a) <del><u>Alternative applying</u></del> (subclause 2.2)</p> <p>b) <del><u>If Alternative 2 applies, is the <i>bill of quantities</i> to be priced?</u></del> (subclause 2.2)</p> <p>e) <del><u>Lodgement time</u></del> (subclause 2.3(b))</p>	<p>_____</p> <p>If nothing stated, Alternative 1 applies</p> <p><u>The <i>bill of quantities</i>:</u></p> <p><input type="checkbox"/> <u>is not to be priced</u></p> <p><input type="checkbox"/> <u>is to be priced</u></p> <p>If nothing stated, the <i>bill of quantities</i> shall not be priced</p> <p>_____</p> <p>If nothing stated, 28 days after <i>date of acceptance of tender</i></p>
<p>11 Quantities in <i>schedule of rates</i>, limits of accuracy (subclause 2.5(b) 2.4(b))</p>	<p>Upper Limit 15%</p> <p>Lower Limit 15%</p>
<p>12 <i>Provisional sum</i>, percentage for profit and attendance (clause 3)</p>	<p>No profit and attendance is payable.</p>
<p>13 <i>Contractor's security</i></p>	

a)	Form (clause 5)	Two (2) unconditional bank guarantees in equal amounts.	
b)	Amount or maximum percentage of <i>contract sum</i> (clause 5)	10% If nothing stated, 5% of the <i>contract sum</i>	
c)	If retention moneys, percentage of each <i>progress certificate</i> (clause 5 and subclause 37.2)	Nil If nothing stated, 10% until the limit in <i>Item 13(b)</i>	
d)	Time for provision (except for retention moneys) (clause 5)	Within 14 days after the <i>date of acceptance of tender</i>  If nothing stated, within 28 days after <i>date of acceptance of tender</i>	
e)	Additional <i>security</i> for unfixed plant and materials (subclauses 5.4 and 37.3)	Not applicable  \$	
f)	<i>Contractor's security</i> upon <i>certificate of practical completion</i> is reduced by (subclause 5.4)	50% of amount held If nothing stated, 50% of amount held	
14	<i>Principal's security</i>		
a)	Form (clause 5)	Not applicable	
b)	Amount or maximum percentage of <i>contract sum</i> (clause 5)	Not applicable  If nothing stated, nil	
c)	Time for provision (clause 5)	Not applicable  If nothing stated, within 28 days after <i>date of acceptance of tender</i>	
d)	<i>Principal's security</i> upon <i>certificate of practical completion</i> is reduced by (subclause 5.4)	Not applicable  If nothing stated, 50% of amount held	
15	<i>Principal-supplied documents</i>	Document	No. of copies

(subclause 8.2)	Copy of Contract	1
	If nothing stated, 5 copies of the drawings, specification, <i>bill of quantities</i> or <i>schedule of rates</i> (if any)	
16	Time for <i>Superintendent's direction</i> about documents (subclause 8.3)	Ten <i>Business Days</i>  If nothing stated, 14 days  Other: ( list)
16A	<u>Construction records</u> (subclause 8.8)	<ol style="list-style-type: none"> <li>1. <u>Construction data, (including a drawing issue register and as constructed drawings);</u></li> <li>2. <u>All Required Contractor's Plans and all documents created in compliance with them, including:</u> <ol style="list-style-type: none"> <li>a) <u>in respect of the Contractor's Environmental Plan, copies of any relevant permits and reports; and</u></li> <li>b) <u>in respect of the Contractor's Traffic Plan, service locations and permits;</u></li> </ol> </li> <li>3. <u>Operations and maintenance manuals required by the Contract (if any);</u></li> <li>4. <u>Electrical safety records in accordance with subclause 44.4.'</u></li> </ol>
17	Subcontract work requiring approval (subclause 9.2)	The whole or any part of <i>WUC</i>
18	Novation (subclause 9.4)	<i>Subcontractor</i> Not Applicable
	<i>Selected subcontractor</i>	Not Applicable



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19	<i>Legislative requirements</i>	
	a) Those excepted (subclause 11.1)	None excepted
	b) Identified <i>WUC</i> (subclause 11.2(a)(ii))	
20	Insurance of <i>the Works</i> (clause 16)	
	a) Alternative applying	Alternative 1 If nothing stated, Alternative 1 applies
	If Alternative 1 applies	
	b) Provision for demolition and removal of debris	10% of the <i>contract sum</i>
	c) Provision for consultants' fees	10% of the <i>contract sum</i>
	d) Value of materials or things to be supplied by the <i>Principal</i>	Nil
	e) Additional amount or percentage	10% of the total of paragraphs (a) to (d) in clause 16
21	Public liability insurance (clause 17)	
	a) Alternative applying	Alternative 1 If nothing stated, Alternative 1 applies
	If Alternative 1 applies	
	b) Amount per occurrence shall be not less than	Ten million dollars \$10,000,000 If nothing stated, then not less than the <i>contract sum</i>
22	Time for giving possession	Within 10 <i>Business Days</i> of the <i>date of acceptance of tender</i>

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(subclause 24.1)	If nothing stated, 14 days
<u>22A</u> <u>Pre-requisites to entitlement to possession of the site (subclause 24.1)</u>	<p><u>The Contractor will not be entitled to possession of the site until it has provided the following to the Superintendent:</u></p> <ol style="list-style-type: none"> <li>1. <u>Evidence of insurances as required by subclause 19.1;</u></li> <li>2. <u>Security in accordance with clause 5;</u></li> <li>3. <u>If Item 22C requires the Contractor to provide a dilapidation survey, a dilapidation survey approved by the Superintendent;</u></li> <li>4. <u>Evidence of the payment of all fees required to be paid by the Contractor pursuant to any legislative requirement including but not limited to the Work Health and Safety Legislation;</u></li> <li>5. <u>All Required Contractor's Plans approved by the Superintendent in accordance with the Contract (and, in respect of the Contractor's Traffic Plan, if applicable, approved by QDTMR);</u></li> <li>6. <u>construction program approved by the Superintendent in accordance with subclause 32.2 (unless directed not to provide a construction program under subclause 32.2); and</u></li> <li>7. <u>labour schedule approved by the Superintendent in accordance with subclause 32.2 (unless directed not to provide a labour schedule under subclause 32.2).</u></li> </ol>
<u>22B</u> <u>(a) Site office to be provided by Contractor (subclause 24.6)</u>	<p><u>Is the Contractor to provide an office at the site for the Superintendent in accordance with subclause 24.6?</u></p> <p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p> <p><u>If nothing stated, the Contractor must provide an office.</u></p>
<u>(b) Requirements of site office (subclause 24.6)</u>	<p><u>If the Contractor is required to provide a site office, then the site office must:</u></p> <ol style="list-style-type: none"> <li>(a) <u>be located in a non-flooding area of the site (no costs will be paid by the Principal to</u></li> </ol>

		<p><u>relocate the office building due to flooding);</u></p> <p>(b) <u>be properly ventilated and weatherproof;</u></p> <p>(c) <u>be fitted with a door with a lock approved by the Superintendent;</u></p> <p>(d) <u>be fitted with a window with a movable sash with fastenings approved by the Superintendent;</u></p> <p>(e) <u>be not less than 3.0m wide x 9.0m long x 2.4m high inside measurement;</u></p> <p>(f) <u>has a boarded floor;</u></p> <p>(g) <u>be furnished with approved desks, chairs and filing cabinets, a room air conditioner, a refrigerator and a microwave oven;</u></p> <p>(h) <u>have at least six double power points built in and at opposite ends of the office;</u></p> <p>(i) <u>where a telephone service is available, include a telephone line;</u></p> <p>(j) <u>where mains electric power is unavailable, include a suitable generator to power the office and its contents; and</u></p> <p>(k) <u>allow space for the parking of three conventional passenger vehicles adjacent to the office.</u></p>
22C	<u>Dilapidation Survey</u> (subclause 24.9)	<p><u>The Contractor:</u></p> <p><input type="checkbox"/> is required</p> <p><input checked="" type="checkbox"/> is not required</p> <p><u>to prepare a dilapidation survey.</u></p> <p><u>If nothing stated, the Contractor is not required to prepare a dilapidation survey.</u></p>
22D	<u>Contractor's Quality Plan</u> (subclause 29.2)	<p><u>The Contractor:</u></p> <p><input checked="" type="checkbox"/> is required</p> <p><input type="checkbox"/> is not required</p> <p><u>to prepare a Contractor's Quality Plan.</u></p> <p><u>If nothing stated, the Contractor is not required to prepare a Contractor's Quality Plan.</u></p>
22E	<u>Hours within which tests to be performed</u> (subclause 30.1)	<u>Between 6:30am - 5:00pm on a business day</u>
22F	<u>Contractor's Inspection and Test Plan</u>	<u>The Contractor:</u>

(subclause 30.8)	<input checked="" type="checkbox"/> is required
	<input type="checkbox"/> is not required
	<u>to prepare a <i>Contractor's Inspection and Test Plan</i>.</u>
	<u>If nothing stated, the <i>Contractor</i> is not required to prepare a <i>Contractor's Inspection and Test Plan</i>.</u>
<u>22G Working hours</u> <u>(clause 31)</u>	<u>The working hours shall be:</u>
	<ul style="list-style-type: none"> <li>• <u>6:30am to 5:30pm Monday to Friday</u></li> <li>• <u>6:30am to 2:00pm Saturday</u></li> </ul>
	<u>but shall not include a public holiday, special holiday or bank holiday in Townsville or 27, 28, 29, 30 or 31 December.</u>
<u>22H Commissioning Plan</u> <u>(subclause 32.3)</u>	<u>The <i>Contractor</i>:</u>
	<input type="checkbox"/> is required
	<input checked="" type="checkbox"/> is not required
	<u>to prepare a <i>Commissioning Plan</i>.</u>
	<u>If nothing selected, the <i>Contractor</i> is not required to prepare a <i>Commissioning Plan</i>.</u>
<u>22I Operator Training Plan</u> <u>(subclause 32.4)</u>	<u>The <i>Contractor</i>:</u>
	<input type="checkbox"/> is required
	<input checked="" type="checkbox"/> is not required
	<u>to prepare an <i>Operator Training Plan</i>.</u>
	<u>If nothing selected, the <i>Contractor</i> is not required to prepare an <i>Operator Training Plan</i>.</u>
<u>23 Qualifying causes of delay</u> Causes of delay for which <i>EOTs</i> will <u>not</u> be granted (clause 1 and subclause 34.3)	Any rainy day other than the days with more than the average rainfall in excess of the average number of days with more than the average rainfall as given in Annexure Part B.
<u>24 Liquidated damages, rate</u> (subclause 34.7)	\$1281 per day
<del>25 Bonus for early practical completion</del> <del>(subclause 34.8)</del>	Not applicable
a) <del>Rate</del>	<del>per day</del>

	b) Limit	_____ \$ _____
		OR
		_____ % of <i>contract sum</i>
		<small>If nothing stated, there is no waiver</small>
26	Delay <del>costs</del> <del>damages</del> , other <i>compensable causes</i> (page 1, clause 1 and subclause 34.9)	No additional causes
26A	<u>Maximum daily rate for delay costs</u> (subclause 34.9)	<u>If nothing stated, \$500.00 per day.</u>
27	<i>Defects liability period</i> (clause 35)	12 months <small>If nothing stated, 12 months</small>
27A	<u>Variations,</u> <u>percentage for profit and</u> <u>overheads</u> (subclause 36.4)	<u>Profit</u> <u>5%</u> <small>If nothing stated 5%</small>
		<u>Overheads</u> <u>7.5%</u> <small>If nothing stated 7.5%</small>
28	Progress Claims (subclause 37.1)	
	a) Time for progress claims	Last day of each month in which <i>WUC</i> is carried out up to and including the month in which <i>practical completion</i> is reached
		OR
	b) Stages of <i>WUC</i> for progress claims	
28A	<u>Progress Report</u> (subclause 37.1)	<u>The Contractor:</u> <input checked="" type="checkbox"/> <u>is required</u> <input type="checkbox"/> <u>is not required</u> <u>to provide a monthly progress report.</u> <u>If nothing selected, the Contractor is not required to provide a</u>

		<u>monthly progress report.</u>
29	Unfixed plant and materials for which payment claims may be made (subclause 37.3)	Nil
30	Interest rate on overdue payments (subclause 37.5)	7 % per annum If nothing stated, 18% per annum
31	Time for <i>Principal</i> to rectify inadequate possession (subclause 39.7)	31 days If nothing stated, 14 days
31A	<u>Termination for Convenience (subclause 39.12)</u>	<u>The <i>Principal</i>:</u> <input checked="" type="checkbox"/> <u>is entitled</u> <input type="checkbox"/> <u>is not entitled</u> <u>to terminate the <i>Contract</i> for its convenience.</u> <u>If nothing selected, the <i>Principal</i> is not entitled to terminate the <i>Contract</i> for its convenience.</u>
32	<del>Arbitration (subclause 42.3)</del>	
	<del>a) Person to nominate an arbitrator</del>	<del>_____</del> <del>_____</del> <del>_____</del> <del>If no one stated, the President of the Institute of Arbitrators &amp; Mediators Australia</del>
	<del>b) Rules for arbitration</del>	<del>_____</del> <del>_____</del> <del>_____</del> <del>_____</del> <del>If nothing stated:</del> <del>a) rules 5 – 18 of the Rules of The Institute of Arbitrators, Australia for the Conduct of Commercial Arbitrations;</del> <del>OR</del> <del>b) if one or more of the parties are nationals of and habitually resident in, incorporated in, or where the central management and control is exercised in, different countries as between the parties, then the UNCITRAL Arbitration Rules shall apply and the appointing authority shall be the person</del>

provided in ~~Item~~ 32(c)

- e) ~~Appointing Authority under  
UNCITRAL Arbitration Rules~~ \_\_\_\_\_  
If ~~no one~~ stated, the President of the Institute of Arbitrators & Mediators Australia
- 32 Dispute Resolution  
(subclause 42.3)
- a) Persons to resolve dispute  
(subclause 42.2) Principal: Director, Townsville Water and Waste  
Contractor: Managing Director
- b) Industry Expert  
(subclause 42.4)
- 33 Principal Contractor  
(subclause 44.2) The Contractor:  
 is appointed  
 is not appointed  
as principal contractor.  
If nothing stated, the Contractor is not appointed as principal contractor.
- 34 Safety Management  
(subclause 44.5) The Contractor:  
 is required  
 is not required  
to prepare a Contractor's Safety Plan.  
If nothing selected, the Contractor is not required to prepare a Contractor's Safety Plan.
- 35 Cultural Heritage  
(subclause 45.1) The Contractor is required to:
- a) Arrange the searches referred to in subclause 45.1(e)(i);  Yes  
 No
- b) Arrange the consents, permission or clearances referred to in subclause 45.1(e)(ii)  Yes  
 No
- c) Pay any fees, costs, wages or other payments in connection with the consent, permission or clearance referred to in subclause 45.1(e)(iii);  Yes  
 No

- d) Prepare a Contractor's Cultural Heritage Plan in accordance with subclause 45.1(e)(iv).  Yes  No

If nothing stated, the Contractor is not required to do so.

- 36 Contractor's Environmental Plan  
(subclause 46.2)

The Contractor:

- is required  
 is not required

to prepare a Contractor's Environmental Plan.

If nothing selected, the Contractor is not required to prepare a Contractor's Environmental Plan.

- 37 Contractor's Traffic Plan  
(subclause 47.2)

The Contractor:

- is required  
 is not required

to prepare a Contractor's Traffic Plan.

If nothing selected, the Contractor is not required to prepare a Contractor's Traffic Plan.

- 38 Portable Long Service  
(clause 48)

The:

- Principal  
 Contractor

is to make payments and give notices under the Portable Long Service Leave Legislation.

If nothing stated, the Principal is to do so.

- 39 Building Code 2013  
(clause 52)

The Building Code 2013:

- applies  
 does not apply

to this Contract.

If nothing stated, the Building Code 2013 does not apply to this Contract.

- 40 OHS Accreditation Scheme  
(clause 53)

The OHS Accreditation Scheme:

- applies  
 does not apply

to this Contract.





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41 Queensland Code and Queensland Guidelines  
(clause 54)

If nothing stated, the OHS Accreditation Scheme does not apply to this Contract.

The Queensland Code and Queensland Guidelines

apply

do not apply

to this Contract.

If nothing selected, the Queensland Code and Queensland Guidelines do not apply to this Contract.



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## **Annexure Part B to AS4000 - 1997**

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## Part B

Annexure to the  
Australian Standard General Conditions of Contract  
AS4000 – 1997

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### Deletions, amendments and additions

1. The following clauses have been deleted from the General Conditions of Contract  
  
See below
  2. The following clauses have been amended and differ from the corresponding clauses in AS4000-1997  
  
See below
  3. The following clauses have been added to those of AS4000-1997  
  
See below
- 

#### 1 INTERPRETATION AND CONSTRUCTION OF CONTRACT

After the definition of *'Item'* insert:

**'Aboriginal Cultural Heritage'** has the same meaning as in the *Aboriginal Cultural Heritage Act 2003 (Qld);'*

**'Aboriginal Party'** has the same meaning as in the *Aboriginal Cultural Heritage Act 2003 (Qld);'*

**'as constructed drawings'** means as-constructed drawings described in subclause 8.7;'

**'Acceptable Electronic Format'** means a format capable of being legibly displayed on Microsoft Office 2010 and Adobe Reader X applications and any other format which the parties agree is an acceptable electronic format for the giving of documents by email or other electronic means;'

**'BCIP Act'** means the *Building and Construction Industry Payments Act 2004 (Qld);'*

Delete the definition of *'bill of quantities'* and insert:

**'building contract'** has the same meaning as given to that term in section 67AAA of the *QBCC Act;*

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**'Building Code 2013'** means the *Building Code 2013* issued pursuant to the *Fair Work (Building Industry) Act 2012* (Cth) as amended or replaced from time to time;'

**'bill of quantities'** means a document issued to tenderers by or on behalf of the *Principal*, or any other document included in the *Contract* stating estimated quantities of *work* to be carried out and to avoid doubt, includes the document named therein as the 'Schedule of Lump Sum Price';'

**'business day'** means a day that is not:

- (a) a Saturday, Sunday or public holiday at the *site*; or
- (b) 27, 28, 29, 30 or 31 December of any year;'

After the definition of '*certificate of practical completion*' insert:

**'Claim'** includes any claim, action, demand, proceeding, suit, defence or set-off, however arising including under contract, at law (including a breach of contract), under statute, in equity, in tort (including for negligence), in quasi-contract, for unjust enrichment and to the extent permitted by law, pursuant to any other principle of law, relating to or arising out of or in connection with the *Contract*, the *Works* or *WUC*, and includes, without limitation:

- (a) any claim, action, demand, proceeding, suit, defence or set-off seeking the payment of money or any costs (including legal costs), expenses, loss (including any *Specified Loss*) or damages; and
- (b) any claim by the *Contractor* for:
  - (i) an *EOT*;
  - (ii) delay, disruption, prolongation or acceleration costs or damages;
  - (iii) an addition to the *contract sum* (including by way of a *variation*);
  - (iv) any relief from the *Contractor's* obligations or liabilities;
  - (v) any other payment whether by way of compensation, reimbursement, damages restitution, unjust enrichment, quantum meruit, or otherwise;'

**'Commissioning Plan'** means a written document that:

- (a) details how the *Contractor* will establish that *the Works* are consistent with the requirements of the *Contract*;
- (b) is consistent with the *construction program* and *Operator Training Plan* (if any) approved by the *Superintendent*; and
- (c) includes as a minimum:

- 
- (i) an overview of the commissioning process;
  - (ii) details of the proposed outcomes of the commissioning process;
  - (iii) details of the persons responsible for approval of the outcomes of the commissioning process;
  - (iv) a detailed scope of the work involved in the commissioning process;
  - (v) a detailed schedule listing all commissioning activities (including the methodology, timing and duration of the activities); and
  - (vi) commissioning forms for each commissioning activity, which might include checklists, test results, reports and logs;

**'communication and engagement protocol'** means the document of that name contained in Annexure Part I of the *Contract*;

**'Commonwealth Cultural Heritage'** means significant Aboriginal areas and objects under the *Aboriginal and Torres Strait Heritage Protection Act 1984 (Cth)*;

Delete the definition of '*construction program*' and replace with:

**'construction program'** means a written statement which shows the dates by which, or the times within which, the various stages or portions of *WUC* are to be carried out or completed;

After the definition of '*construction plant*' insert:

**'construction records'** means the records to be prepared and submitted by the *Contractor* in accordance with subclause 8.8 and which must unless the *Superintendent directs* otherwise, include as a minimum the records stated in *Item 16A* and elsewhere in the *Contract*;

Delete the definition of '*contract sum*' and replace with:

**'contract sum'** means

- (a) where *Item 9A* states that the *Contract* is a *Lump Sum Contract*, the lump sum accepted by the *Principal*; or
- (b) where *Item 9A* states that the *Contract* is a *Schedule of Rates Contract* or a *Part Lump Sum and Part Schedule of Rates Contract*.
  - (i) the sum of the products ascertained by multiplying the rates by the corresponding quantities in the *bill of quantities* or *schedule of rates*; plus
  - (ii) any lump sums contained in the *bill of quantities* or *schedule of rates*,

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including *provisional sums* but excluding additions or deductions which may be required to be made under the *Contract* as more particularly described in Annexure Part H;'

After the definition of '*Contractor*' insert:

**'Contractor's Cultural Heritage Plan'** means a written document that details how the *Contractor* will comply with its obligations under the *Contract* in relation to the protection of *Cultural Heritage* (including the *Contractor's* obligations under clause 45.1) and that includes:

- (a) the results of a search of the Aboriginal Cultural Heritage database and register under the *Aboriginal Cultural Heritage Act 2003 (Qld)* for the *site*;
- (b) the steps that the *Contractor* intends to take to meet its duty of care under the *Aboriginal Cultural Heritage Act 2003 (Qld)* or *Torres Strait Islander Cultural Heritage Act 2003 (Qld)* including the details of any communication with the *Aboriginal Party* or *Torres Strait Islander Party* about the *WUC* and details of any proposed *site* inspections or monitoring of the *WUC*;
- (c) the identification of any responsibilities, procedures and processes for dealing with *Cultural Heritage*;

**'Contractor's Environmental Plan'** means a plan of that name to be prepared in accordance with subclause 46.2;'

**'Contractor's Inspection and Test Plan'** means a plan of that name to be prepared in accordance with subclause 30.8;'

**'Contractor's Quality Plan'** means the plan of that name to be prepared in accordance with subclause 29.2;'

**'Contractor's Safety Plan'** means the plan of that name to be prepared in accordance with subclause 44.5;'

**'Contractor's Traffic Plan'** means the plan of that name to be prepared in accordance with subclause 47.2;'

**'Cultural Heritage'** includes *Aboriginal Cultural Heritage*, *Torres Strait Islander Cultural Heritage* and *Commonwealth Cultural Heritage*;

**'Cultural Heritage Management Plan'** means the documents of that name referred to in the *Aboriginal Cultural Heritage Act 2003 (Qld)* or the *Torres Strait Islander Cultural Heritage Act 2003 (Qld)*;

After the definition of '*defects liability period*' insert:

**'dilapidation survey'** means a comprehensive survey of the location and condition of existing structures, roads, carparks, access paths, footpaths, trees, services, and other civil works or improvements on and around the *site*, which includes:

- 
- (a) a comprehensive photographic record of existing conditions at the *site*; and
  - (b) the recording by all other means as is necessary to accurately show the existing conditions at the *site*;

After the definition of '*final payment claim*' insert:

**'Formal Instrument of Agreement'** means the document of that name forming part of the *Contract*;

**'GST Law'** means the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)* and any other law dealing with the imposition or administration of a goods and services tax in Australia;

**'Information System'** has the same meaning as in the *Electronic Transactions (Queensland) Act 2001 (Qld)*;

After the definition of '*Intellectual Property Right*' insert:

**'labour schedule'** means a schedule showing the minimum number of staff to be working on *site* week by week for the duration of the *WUC*;

After the definition of '*legislative requirement*' insert:

**'Lump Sum Contract'** means a contract to which subclause 2.3 applies;

**'Notice of Dispute'** means a notice described in subclause 42.1;

**'OHS Accreditation Scheme'** means the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme authorised by the *Fair Work (Building Industry) Act 2012 (Cth)*;

**'Operator Training Plan'** means a written document that:

- (a) details how the *Contractor* will ensure that the *Principal's* relevant *personnel* are adequately trained in the operation of *the Works*;
- (b) is consistent with the *construction program* and *Commissioning Plan* last approved by the *Superintendent*;
- (c) includes as a minimum:
  - (i) details of the *personnel* to be trained (by job description/role);
  - (ii) details of the proposed outcome of the training process;
  - (iii) details of the persons responsible for approval of the outcomes of the training process; and
  - (iv) detailed schedule listing all training activities (including the methodology, timing and duration of the activities);

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**'Part Lump Sum and Part Schedule of Rates Contract'** means a contract to which subclause 2.5 applies;'

**'Personal Information'** has the same meaning as in the *Information Privacy Act 2009 (Qld)*;

**'personnel'** includes the officers, employees, agents, representatives, consultants, subconsultants, contractors and subcontractors (including, in respect of the *Contractor*, its *subcontractors*), of a party and any other person or entity for whom that party is vicariously liable but in respect of the *Principal* does not include the *Contractor*;

**'Portable Long Service Leave Legislation'** means the *Building and Construction Industry (Portable Long Service Leave Levy) Act 1991 (Qld)* and the *Building and Construction Industry (Portable Long Service Leave Levy) Regulation 2013 (Qld)* as amended or replaced from time to time;'

**'Portable Long Service Leave Levy'** has the same meaning as in the *Portable Long Service Leave Legislation*;

Insert the following new subclauses at the end of the definition of *'practical completion'*:

- (d) all materials imported to the *site* that are temporarily used in construction have been removed;
- (e) all *construction records* have been submitted to and approved by the *Superintendent* in accordance with subclause 8.3; and
- (f) the additional requirements (if any) stated in *Item 7A* have been satisfied;'

After the definition of *'Principal'* insert:

**'Principal Supplied Material'** has the meaning given to it in clause 28A;'

**'Private Property'** has the same meaning as in the *Local Government Act 2009 (Qld)*;

**'Procurement Process'** means the process pursuant to which the parties entered into the *Contract*, and includes the process (if any) through which the *Principal* invited, and the *Contractor* submitted, a tender, quotation or other offer to carry out the *WUC*;

After the definition of *'public liability policy'* insert:

**'QBCC Act'** means the *Queensland Building and Construction Commission Act 1991 (Qld)*;

**'QDTMR'** means the Queensland Department of Transport and Main Roads;'

**'QLEAVE'** has the same meaning as in the *Portable Long Service Leave Legislation*;



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Delete the definition of '*qualifying cause of delay*' and insert:

**'qualifying cause of delay** means:

- (a) any of the following occurring on or before the *date for practical completion*:
  - (i) subject to subclause 34.5A inclement weather and the effects at the *site* of inclement weather;
  - (ii) industrial action not exclusively directed at the *Contractor* occurring on or before the *date for practical completion*;
- (b) any of the following whether occurring before, on or after the *date for practical completion*:
  - (i) any act, default or omission of the *Superintendent*, the *Principal* or the *Principal's* consultants, agents or other *Contractors* (not being employed by the *Contractor*);
  - (ii) *variations*;
  - (iii) *latent conditions*;
  - (iv) a change in a *legislative requirement* which comes into effect after the 14th day before the closing of tenders and which could not have been reasonably anticipated by a competent *Contractor*;
  - (v) delays by municipal, public, or statutory authorities (including the *Principal* in its capacity as a local government authority);
  - (vi) claims referred to in subclause 15.1(e);
  - (vii) any breach of the *Contract* by the *Principal*,

but does not include any cause of delay identified in *Item 23*;

After the definition of '*qualifying cause of delay*' insert:

**'Queensland Code** means the Queensland Government's Code of Practice for the Building and Construction Industry as amended or replaced from time to time, a copy of which is available at <http://www.justice.qld.gov.au/fair-and-safe-work/industrial-relations/codes-of-practice-and-guidelines/queensland-code-of-practice-for-the-building-and-construction-industry> or on request from the *Principal*;

**'Queensland Guidelines** means the Queensland Government's Implementation Guidelines to the Queensland Code of Practice for the Building and Construction Industry as amended or replaced from time to time, a copy of which is available at <http://www.justice.qld.gov.au/fair-and-safe-work/industrial-relations/codes-of->

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practice-and-guidelines/building-and-construction-industry-guidelines or on request from the Principal;'

**'Required Contractor's Plans'** means such of the *Contractor's Quality Plan, Contractor's Inspection and Test Plan, Contractor's Safety Plan, Contractor's Cultural Heritage Plan, Contractor's Environmental Plan and Contractor's Traffic Plan* which the *Contract* requires the *Contractor* to prepare;'

**'Schedule of Labour and Plant'** means the schedule of that name included in the *Contract*;

After the definition of '*schedule of rates*' insert:

**'Schedule of Rates Contract'** means a contract to which subclause 2.4 applies;'

After the definition of '*site*' insert:

**'Specified Loss'** includes any of the following, whether direct, indirect, special or consequential:

- (a) loss of use, production, profit, income, revenue, business, contract, opportunity or anticipated saving;
- (b) liability for loss or damage suffered by third parties;
- (c) any financing costs, increase in operating costs or legal costs (on a solicitor and client basis);
- (d) any fines levied;
- (e) loss of reputation or embarrassment;
- (f) any other financial or economic loss not expressly referred to in the preceding paragraphs; and
- (g) any indirect, special or specified loss, damage, cost, expense or penalty not expressly referred to in the preceding paragraphs, howsoever arising;'

**'subcontractor'** means any person or entity, other than a worker, engaged or proposed to be engaged by the *Contractor* to undertake any part of the *WUC* including subcontractors, suppliers and consultants;'

Delete the definition of '*survey mark*' and insert:

**'survey mark'** in clause 26 means a mark placed as evidence of survey or a reference point for survey (whether or not related to *WUC*) and includes a survey peg, bench mark, reference mark, signal, alignment, level mark or any other mark used for the purpose of setting out, checking or measuring *WUC*;

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After the definition of '*temporary works*' insert:

**'Torres Strait Islander Cultural Heritage'** has the same meaning as in the *Torres Strait Islander Cultural Heritage Act 2003 (Qld)*;

**'Torres Strait Islander Party'** has the same meaning as in the *Torres Strait Islander Cultural Heritage Act 2003 (Qld)*;

After the definition of '*variation*' insert:

**'Work Health and Safety Legislation'** means the *Work Health and Safety Act 2011 (Qld)* and the *Work Health and Safety Regulation 2011 (Qld)* as amended or replaced from time to time;

## 2 NATURE OF CONTRACT

Delete clause 2 and replace with:

### 2.1 Performance and payment

The *Contractor* shall carry out and complete *WUC* in accordance with the *Contract* and *directions* authorised by the *Contract*.

The *Contract* shall be either a:

- (a) *Lump Sum Contract*,
- (b) *Schedule of Rates Contract*, or
- (c) *Part Lump Sum and Part Schedule of Rates Contract*,

as stated in *Item 9A*.

### 2.2 Quantities

Quantities in a *bill of quantities* or *schedule of rates* are estimated quantities only.

The *Superintendent* is not required to give a *direction* by reason of the actual quantity of an item required to perform the *Contract* being greater or less than the quantity shown in a *bill of quantities* or *schedule of rates*.

### 2.3 Lump Sum Contract

This subclause 2.3 only applies where *Item 9A* states that the *Contract* is a *Lump Sum Contract*.

The *Principal* shall pay the *Contractor* the lump sum accepted by the *Principal*, adjusted by any additions or deductions made pursuant to the *Contract*.

The *Principal* gives no warranty and makes no representation as to the completeness, accuracy or adequacy of a *bill of quantities* or *schedule of rates*

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and shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with any:

- (a) incompleteness, inaccuracy or inadequacy of;
- (b) error in; or
- (c) omission from,

a *bill of quantities* or *schedule of rates*.

A *bill of quantities* or *schedule of rates* may be used by the *Superintendent* as a guide in the assessment of progress claims, *variations* and other adjustments to the *contract sum* permitted by the *Contract*, but for no other purpose.

#### **2.4 Schedule of Rates Contract**

This subclause 2.4 only applies where *Item 9A* states that the *Contract* is a *Schedule of Rates Contract*.

The *Principal* shall pay the *Contractor* the sum of the products ascertained by multiplying the measured quantity of each section or item of *work* actually carried out under the *Contract* by the rate accepted by the *Principal* for the section or item adjusted by any additions or deductions made pursuant to the *Contract*.

The *Principal* gives no warranty and makes no representation as to the completeness, accuracy or adequacy of a *bill of quantities* or *schedule of rates*.

Where, otherwise than by reason of a *direction* to vary *WUC*, the actual quantity of an item required to perform the *Contract* is greater or less than the quantity shown in a *bill of quantities* or *schedule of rates* and:

- (a) the *Principal* accepted a lump sum for the item, the difference shall be a deemed *variation*;
- (b) the *Principal* accepted a rate for the item, the rate shall apply to the greater or lesser quantities provided that where limits of accuracy for a quantity in a *schedule of rates* are stated in *Item 11*, the rate shall apply to the greater or lesser quantities within the limits, and quantities outside the limits shall be a deemed *variation*.

If a *bill of quantities* or *schedule of rates* omits an item which should have been included, the item shall be deemed to have been allowed for in other items.

#### **2.5 Part Lump Sum and Part Schedule of Rates Contract**

This subclause 2.5 only applies where *Item 9A* states that the *Contract* is a *Part Lump Sum and Part Schedule of Rates Contract*.

The *Principal* shall pay the *Contractor*:

- (a) for *work* for which the *Principal* accepted a lump sum, the lump sum; and

- (b) for *work* for which the *Principal* accepted rates, the sum of the products ascertained by multiplying the measured quantity of each section or item of *work* actually carried out under the *Contract* by the rate accepted by the *Principal* for the section or item,

adjusted by any additions or deductions made pursuant to the *Contract*.

The *Principal* gives no warranty and makes no representation as to the completeness, accuracy or adequacy of a *bill of quantities* or *schedule of rates*.

Where, otherwise than by reason of a *direction* to vary *WUC*, the actual quantity of an item required to perform the *Contract* is greater or less than the quantity shown in a *bill of quantities* or *schedule of rates* and:

- (a) the *Principal* accepted a lump sum for the item, there shall be no adjustment to the *contract sum*;
- (b) the *Principal* accepted a rate for the item, the rate shall apply to the greater or lesser quantities provided that where limits of accuracy for a quantity in a *schedule of rates* are stated in *Item 11*, the rate shall apply to the greater or lesser quantities within the limits, and quantities outside the limits shall be a deemed *variation*.

If a *bill of quantities* or *schedule of rates* omits an item which should have been included, the item shall be deemed to have been allowed for in other items.

## 2.6 Rise and fall

This subclause 2.6 applies only if *Item 9B* provides that the *Contract* is subject to rise and fall and provisions detailing how the adjustment is to be determined are included in *Item 9B* or elsewhere in the *Contract*.

The *contract sum* is subject to adjustment for *variations* in the cost of labour and materials. The cost adjustment shall be determined in accordance with the formula stated in *Item 9B*, and shall be applied to each progress claim made pursuant to clause 37.

## 2.7 Contractor Warranties

The *Contractor* warrants that:

- (a) the *Contractor*, and any *personnel* the *Contractor* proposes to engage or has engaged, have the experience, skills, expertise, resources and judgment necessary to perform and complete the *WUC* in accordance with the *Contract*;
- (b) as at the *date of acceptance of tender*, the *Contractor* and its *personnel* hold all necessary competencies, licenses, accreditations and qualifications which are required to be held to carry out the *WUC*;
- (c) *the Works* when completed, and every part of *the Works* and all materials, articles and goods used or incorporated in *the Works* or

- 
- supplied in the performance of the *WUC* will comply with the requirements of the *Contract* and any applicable *legislative requirement*;
- (d) the *Contractor* has undertaken all necessary enquiries and investigations to satisfy itself as to:
- (i) the nature and extent of its obligations under the *Contract*;
  - (ii) the nature and extent of *the Works*;
  - (iii) the accuracy, adequacy and completeness of the *Contract* and any other information provided by or on behalf of the *Principal*;
  - (iv) the *site* and its surrounds, including:
    - (A) the location of existing services at the *site* (including through Dial-Before-You-Dig);
    - (B) the facilities at the *site*;
    - (C) means of access to and from the *site*;
    - (D) weather, climatic and seasonal conditions at the *site* or elsewhere which are relevant to *WUC*;
    - (E) any other conditions at the *site* which could affect the carrying out of *WUC*;
  - (v) all logistical considerations for the carrying out of *WUC*; and
  - (vi) any other risks, contingencies and other circumstances which could have an effect on the cost of executing *WUC* or compliance with the *Contractor's* other obligations under the *Contract*;
- (e) the *Contractor* has carefully examined any reports, maps, data, plans, drawings, specifications, diagrams or other information made available by or on behalf of the *Principal* in connection with *WUC*, has made its own interpretations, deductions and conclusions from the information made available and accepts full responsibility for those interpretations, deductions and conclusions;
- (f) the *Contractor* did not:
- (i) engage in misleading or deceptive conduct in relation to the *Procurement Process*;
  - (ii) engage in any collusive tendering, anticompetitive conduct, or any other unlawful or unethical conduct with any other tenderer, or any other person in connection with the *Procurement Process*;
  - (iii) attempt to improperly influence any of the *Principal's personnel*, or violate any applicable *legislative requirement* regarding the offering of inducements in connection with the *Procurement Process*;

- (iv) accept or invite improper assistance of any of the *Principal's personnel*, or any former *personnel* of the *Principal*, in preparing its tender; or
- (v) use any information improperly obtained, or obtained in breach of any obligation of confidentiality in preparing its tender.

## 2.8 Acknowledgements by Contractor

The *Contractor* acknowledges that the payment to which it is entitled under this clause 2 is the *Contractor's* full and sole monetary compensation for:

- (a) carrying out all *WUC* described in or to be reasonably inferred from the *Contract* in accordance with the *Contract*;
- (b) providing all materials, plant, personnel and other items of work necessary for the proper completion of *WUC* or the compliance by the Contractor with any of its other obligations under the *Contract*, (including items which are not expressly mentioned in the *Contract* but which are obviously and indispensably necessary for the proper completion of such work or the compliance of the Contractor with its other obligations under the *Contract*);
- (c) all disbursements, incidentals, sundries and outlays which may be incurred by the Contractor in connection with *WUC* including travel, accommodation, meals, living expenses, provision of site office facilities, photocopying, printing and telephone fees, costs and charges;
- (d) establishment and disestablishment;
- (e) effecting and maintaining the insurances required under the *Contract*;
- (f) attendance by the Contractor's personnel at all inductions, training, workshops and other meetings required by the *Principal*;
- (g) all payments required under any legislative requirement to be made by the Contractor in respect of the Contractor's personnel, including all fees, charges, costs, expenses, taxes, duties, levies, wages, superannuation allowances, bonuses and other payments;
- (h) paying all fees, charges, costs, expenses, taxes or duties which may be incurred by the *Contractor* in carrying out the *Contractor's* obligations under the *Contract*;
- (i) paying all royalties and other fees in connection with any patents, copyright and other *intellectual property rights* provided by the *Contractor*;
- (j) the cost of acquiring any other land required by the *Contractor* to carry out *WUC*;
- (k) all profit, attendance, preliminaries, supervision, on-site overheads, off-site overheads;

- (l) any rise and fall in costs (unless subclause 2.6 applies);
- (m) any delay or disruption to or prolongation of *WUC*;
- (n) complying with all *directions* authorised by the *Contract*;
- (o) complying with all warranties given by the *Contractor* under the *Contract*;
- (p) complying with all of the *Contractor's* other obligations under the *Contract*;
- (q) all risks, contingencies, and other circumstances referred to in subclause 2.7(d); and
- (r) all other risks borne by the *Contractor* under the *Contract*.'

### 3 PROVISIONAL SUMS

No amendment

### 4 SEPARABLE PORTIONS

No amendment

### 5 SECURITY

#### 5.1 Provision

No amendment

#### 5.2 Recourse

Insert the following at the end of clause 5.2:

'If the *Contract* is a *building contract*, then, for the purposes of section 67J of the *QBCC Act*:

- (a) the *Superintendent* is authorised to give the notice required by section 67J for and on behalf of the *Principal*; and
- (b) any certificate or other notice issued by the *Superintendent* that refers to an amount that is owed by the *Contractor* to the *Principal* shall be taken to be notice from the *Principal* to the *Contractor* of the proposed use of *security* to obtain the amount owed.'

#### 5.3 Change of security

No amendment

#### 5.4 Reduction and release

No amendment



5.5 Trusts and interest

No amendment

5.6 Deed of guarantee, undertaking and substitution

No amendment

**6 EVIDENCE OF CONTRACT**

Delete clause 6 and replace with:

**'6 Evidence of Contract**

The *Contractor* must execute two (2) copies of the *Contract* and return the executed copies of the *Contract* to the *Principal*, within the time directed by the *Principal* or *Superintendent* (as the case may be) or, where no time is stated, within 14 days of receiving execution copies of the *Contract*.

If a complete copy of the *Contract* has been provided to the *Contractor*, then, in the absence of any meaningful error in that copy, until a written contract is executed:

- (a) the *Contractor* will be bound to the *Contract* in the form of the execution copy notwithstanding that it has not executed it; and
- (b) the *Principal* may withhold payment of any amount otherwise certified due and payable under subclause 37.2.

If a complete written copy of the *Contract* has not been provided to the *Contractor*, then until a written contract is executed, documents evidencing the parties' consensus will constitute the *Contract*.'

**7 SERVICE OF NOTICES**

Insert an additional subclause 7(b)(iv) (together with any consequential amendments) at the end of subclause 7(b) as follows:

- '(iv) the time at which an email attaching the notice or other document in an *Acceptable Electronic Format* becomes capable of being retrieved and read by the addressee at the addressee's email address. If a notice or other document is sent by email in an *Acceptable Electronic Format* then a receipt issued by the Sender's Information System confirming that the email has been successfully delivered to the addressee's email address shall be conclusive evidence of the time at which the communication became capable of being retrieved and read by the addressee at the addressee's email address unless the addressee proves otherwise.'

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## 8 CONTRACT DOCUMENTS

### 8.1 Discrepancies

Delete subclause 8.1 and replace with:

#### **'8.1 Discrepancies**

- (a) Figures shall prevail over scaled dimensions in a discrepancy. Otherwise, if either party discovers any inconsistency, ambiguity or discrepancy in or between any document prepared for the purpose of carrying out *WUC*, that party shall promptly (and if that party is the *Contractor*, before the *Contractor* carries out any *WUC* or further *WUC* in reliance on the document in which the inconsistency, ambiguity or discrepancy is found) give the *Superintendent* written notice of it. The *Superintendent*, thereupon, and upon otherwise becoming aware, shall direct the *Contractor* as to the interpretation and construction to be followed.
- (b) Without limiting subclause 2.8(k), the *Contractor* must comply with a *direction* of the *Superintendent* under this subclause 8.1 at its expense.
- (c) The *Contractor* and its *personnel* must ascertain all relevant dimensions on *site* before proceeding with *WUC* in reliance on those dimensions. Dimensions must not be scale from drawings. The *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with its failure to obtain measurements and other information on the *site*.'

### 8.2 Principal-supplied documents

No amendment

### 8.3 Contractor-supplied documents

In subclause 8.3(b), after 'obligations', insert:

'or liabilities'

Insert the following paragraph at the end of subclause 8.3:

'If the *Superintendent* rejects a document or *directs* an amendment to a document submitted to the *Superintendent*, then the *Contractor* must submit the new or amended document for approval by the *Superintendent* within the timeframe reasonably required by the *Superintendent*. The *Superintendent* shall give the *Contractor* a *direction* in relation to the amended document within the time stated in *Item 16*.

To avoid doubt, the *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with a *direction* of the *Superintendent* given in accordance with this subclause, including:

- (a) for any time taken by the *Superintendent* to give a *direction* under this clause, except to the extent (if any) that the *Superintendent* does not do so within the time stated in *Item 16*; and/or
- (b) a rejection of a document or *direction* to amend a document.'

#### 8.4 Availability

No amendment

#### 8.5 Confidential information

No amendment

#### 8.6 Media

Delete subclause 8.6 and replace with:

'The *Contractor* must comply with the *communication and engagement protocols* at all times.'

#### 8.7 As constructed drawings

Insert a new subclause 8.7 as follows:

##### **'8.7 As constructed drawings**

The *Contractor* must supply *as constructed drawings*:

- (a) for approval by the *Superintendent* in accordance with subclause 8.3 prior to any *WUC* being carried out in reliance on the drawings; and
- (b) as a requirement of *practical completion*.

Unless the requirements for *as constructed drawings* are specified elsewhere in the *Contract* or the *Superintendent* otherwise directs, *as constructed drawings* must:

- (a) be in accordance with AS1100.101-1992: Technical Drawing – General;
- (b) show all levels reduced to AHD;
- (c) show grid co-ordinates as GDA94;
- (d) be black and white with line types and thickness to suit;
- (e) be certified by a surveyor registered under the *Surveyors Act 2003 (Qld)*;
- (f) be provided to the *Superintendent*:

- (i) for approval under subclause 8.3, in a printed hardcopy format and an electronic vector based DWG format suitable for CAD and GIS purposes;
- (ii) in final in the following formats:
  - (A) digital DWG file (including plotting (e.g. PCP) files) in AutoCAD format on CD;
  - (B) digital PDF file on CD; and
  - (C) A3 size paper hard copy; and
- (g) contain measured levels not 'as calculated' values.'

## 8.8 Construction Records (Hand Over Data)

Insert a new subclause 8.8 as follows:

### **'8.8 Construction Records (Hand Over Data)**

The *Contractor* must provide the *construction records* to the *Superintendent*.

The *construction records* must be:

- (a) completed in full and in accordance with all requirements of the *Principal* made known to the *Contractor*;
- (b) provided in the format(s) stated in the *Contract* or otherwise directed by the *Superintendent*;
- (c) certified by the *Contractor*; and
- (d) submitted to and approved by the *Superintendent* in accordance with subclause 8.3 as a requirement of *practical completion*.

If the *Contract* expressly provides that a separate payment in addition to the *contract sum* is to be made for the provision of *construction records* then such payment will not be made until the *construction records* have been approved by the *Superintendent* in accordance with subclause 8.3.'

## **9 ASSIGNMENT AND SUBCONTRACTING**

No amendment

## **10 INTELLECTUAL PROPERTY RIGHTS**

No amendment

## **11 LEGISLATIVE REQUIREMENTS**

### 11.1 Compliance

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Insert the following at the end of subclause 11.1:

'Without limiting anything else in this subclause or elsewhere in the *Contract*:

- (a) in carrying out *WUC*, the *Contractor* must, and must ensure that its *personnel*, comply with all *legislative requirements* concerning storage, transport and use of materials, plant, equipment, work processes and safety precautions;
- (b) where any current Australian Standard published by the Standards Association of Australia is appropriate to storage, transport and use of materials, plant, equipment, work processes or safety, the provisions of that Standard are to be observed except where it conflicts with a *legislative requirement* in which case the latter is to apply;
- (c) in the absence of any *legislative requirement* or relevant Australian Standard, the *Contractor* must ensure that suitable procedures are observed and all proper care is taken by the *Contractor* and its *personnel*.'

## 11.2 Changes

No amendment

## 11.3 Liability

Insert new subclause 11.3 as follows:

### **'11.3 Liability**

The *Contractor* shall indemnify and keep indemnified the *Principal* against any *Claim* which may be brought against the *Principal* and any loss (including *Specified Loss*) which may be suffered or incurred by the *Principal* relating to or arising out of or in connection with:

- (a) the *Contractor's* failure to satisfy a *legislative requirement* as required by subclause 11.1;
- (b) any breach by the *Contractor* of its obligations under any *legislative requirement*, and/or
- (c) any enforcement of obligations imposed on the *Contractor* under any *legislative requirement*,

but the indemnity will be reduced to the extent that the act or omission of the *Principal* caused or contributed to the *Claim* or loss.'

## 12 PROTECTION OF PEOPLE AND PROPERTY

No amendment

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**13 URGENT PROTECTION**

No amendment

**14 CARE OF THE WORK AND REINSTATEMENT OF DAMAGE**

No amendment

**15 DAMAGE TO PERSONS AND PROPERTY OTHER THAN WUC**

No amendment

**16 INSURANCE OF THE WORKS**

No amendment

**17 PUBLIC LIABILITY INSURANCE**

No amendment

**18 INSURANCE OF EMPLOYEES**

No amendment

**19 INSPECTION AND PROVISIONS OF INSURANCE POLICIES**

No amendment

**20 SUPERINTENDENT**

Insert the following new paragraphs at the end of clause 20:

'Where the *Contractor* has an obligation under the *Contract*, the *Superintendent* may direct the *Contractor* as to the manner and timing of the *Contractor's* performance of that obligation and the *Contractor* must comply with the *direction* at its expense and without delaying completion of *WUC* unless the *Contract* expressly entitles the *Contractor* to an adjustment of the *contract* sum or an *EOT*.

The *Contractor* agrees that except to the extent expressly provided in the *Contract* the *Superintendent* may:

- (a) exercise or refuse to exercise any discretion, right or power given to the *Superintendent* under the *Contract* in whatever way the *Superintendent* decides in its absolute discretion, and without any obligation to do so for the benefit of the *Contractor*; and
- (b) grant, refuse or grant subject to reasonable conditions any consent required from the *Superintendent* in its absolute discretion, and without any obligation to do so for the benefit of the *Contractor*.'

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## 21 SUPERINTENDENT'S REPRESENTATIVE

No amendment

## 22 CONTRACTOR'S REPRESENTATIVE

Insert the following new paragraph after the first paragraph of clause 22:

'The *Contractor's* representative must have sufficient command of the English language and of Australian building and technical terminology to be able to read, converse and receive instructions in English.'

## 23 CONTRACTOR'S EMPLOYEES AND SUBCONTRACTORS

Insert the following at the end of clause 23:

'The *Contractor* must provide the key *personnel* (if any) identified in Annexure Part G to perform the roles stated in that Annexure during the period or periods stated in that Annexure or where no period is stated, until the end of the last *defects liability period*. If any key person is not available due to circumstances beyond the reasonable control of the *Contractor*, the *Contractor* must promptly notify the *Superintendent* and arrange for the substitute key person nominated in Annexure Part G or another replacement approved by the *Superintendent* (with such approval not to be unreasonably withheld or delayed) to assume the role of the key person.'

## 24 SITE

### 24.1 Possession

Insert the following after 'subclause 19.1' in the second paragraph of subclause 24.1

'and has given the information and documents listed in *Item 22A* to the *Superintendent*

Insert the following paragraphs at the end of subclause 24.1:

'Without limiting the above:

- (a) access to the *site* is to be by public road or by other land as the *Superintendent* may direct;
- (b) the *Contractor* must construct all access tracks necessary for the carrying out of *WUC*;
- (c) for the purposes of excavating and backfilling trenches and the construction of pipe drains and ducts, sewers and pressure mains, manholes and similar structures or other *WUC*, the *Contractor* will have temporary possession of such part of the width of streets, roads or highways as do not, in the opinion of the *Superintendent*, unduly interfere with reasonable traffic requirements.'

24.2 Access for Principal and others

No amendment

24.3 Minerals, fossils and relics

No amendment

24.4 Other property

Insert new subclause 24.4 as follows:

**'24.4 Other property**

The *Contractor* must:

- (a) arrange for any other land (in addition to land made available by the *Principal*) required by the *Contractor* to carry out *WUC*, whether for the storage of materials, plant or equipment or for any other purposes;
- (b) obtain the *Principal's* permission in writing to enter any *Private Property* before entering the *Private Property* for the purpose of carrying out *WUC* or fulfilling any other obligation of the *Contractor* under the *Contract*;
- (c) comply with all *legislative requirements*, including the *Local Government Act 2009 (Qld)* in relation to entering private property;
- (d) not unreasonably obstruct, destroy or damage any *Private Property*, other land or other property and ensure that all roadways, drains, watercourses, buildings, fences, gardens, walls, concrete surfaces and paths, grass and trees, and other property are left in a condition equivalent or better than that in which the property was found, unless the *Contractor* provides written evidence that the owner of the property agrees otherwise;
- (e) take over control of any approval, permit or license, that the *Principal* has in place in relation to the *site* or other land made available by the *Principal* prior to commencing any *WUC* on the *site* or using or occupying the other land.'

24.5 Salvaged material

Insert new subclause 24.5 as follows:

**'24.5 Salvaged material**

Material salvaged from *WUC*, other than that specified to remain the property of the *Principal*, will become the property of the *Contractor*. The *Contractor*:

- (a) may reuse the material in *WUC* if expressly permitted by the *Contract* or directed by the *Superintendent*; or



- (b) if the material is not reused in *WUC*, must dispose of the material clear of the *site* in accordance with any *legislative requirements*.'

#### 24.6 Site office

Insert new subclause 24.6 as follows:

##### **'24.6 Site office**

This subclause 24.6 only applies if *Item 22B* provides that the *Contractor* is to provide a *site* office.

The *Contractor* must provide a convenient movable office for the sole use and benefit of the *Superintendent* and the *Superintendent's Representative* and others engaged by the *Superintendent* or *Superintendent's Representative*.

The *Contractor* must ensure that the office complies with the requirements of *Item 22B*.

The *Contractor* must:

- (a) keep the office clean and in good order;
- (b) provide all power and generator fuel required;
- (c) if directed, move the office when and where reasonably required by the *Superintendent* during *WUC*; and
- (d) ensure that all other *site* offices, storage sheds and the like are located in a non-flood prone area.'

#### 24.7 Light and Power

Insert new subclause 24.7 as follows:

##### **'24.7 Light and Power**

The *Contractor* must:

- (a) install any temporary electric light and power installations required, in accordance with all relevant *legislative requirements*; and
- (b) pay all related charges.'

#### 24.8 Water

Insert new subclause 24.8 as follows:

##### **'24.8 Water**

- (a) The *Contractor* must only use:

- (i) approved metered standpipes for the supply of water from existing mains;
  - (ii) such water as is reasonably necessary for the *Contractor* to comply with its obligations under the *Contract*.
- (b) The *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with any cessation or temporary failure of the water supply.
- (c) Any connections and extensions which the *Contractor* requires to comply with its obligations under the *Contract* must be provided by the *Contractor* and only after receiving the prior approval of the *Superintendent*.'

#### 24.9 Dilapidation Survey

Insert new subclause 24.9 as follows:

##### **'24.9 Dilapidation Survey**

This subclause 24.9 only applies if *Item 22C* provides that the *Contractor* is to provide a *dilapidation survey*.

Unless the *Contract* requires the *dilapidation survey* to be provided earlier, the *Contractor* must, prior to commencing any *work* on or adjacent to the *site*, carry out a *dilapidation survey* and submit a copy of the *dilapidation survey* to the *Superintendent* for approval pursuant to subclause 8.3. If requested by the *Contractor*, the *Superintendent* may attend the carrying out of the *dilapidation survey*.'

## **25 LATENT CONDITIONS**

### 25.1 Scope

In the first paragraph of subclause 25.1, insert the following before 'inspected':

'complied with the warranties in subclause 2.7 and had'

### 25.2 Notification

No amendment

### 25.3 Deemed variation

Delete 'more than 28 days' from subclause 25.3.

### 25.4 Existing Services

Insert new subclause 25.4 as follows:

## '25.4 Existing Services

Without limiting anything else in this *Contract*, the *Contractor* must, before commencing any *work* at the *site*:

- (a) confirm the location of any existing services at the *site* or its near surroundings with all relevant authorities and 'Dial Before You Dig' (DBYD); and
- (b) provide this information to all relevant *personnel*.

Without limiting the *Contractor's* liability under subclause 15.2 or any other provision of this *Contract* or at law, the *Contractor* is responsible for, and must rectify at its expense and within the timeframe directed by the *Superintendent*, any damage caused to existing services which would have been reasonably located if the *Contractor* had complied with its obligations under this subclause 25.4.'

## 26 SETTING OUT THE WORKS

### 26.1 Setting out

Insert the following at the end of subclause 26.1:

'The *Contractor* will, at the *Contractor's* expense, provide chainmen and other labour as required by the *Superintendent* for checking line and level and for measuring up and recording all *WUC*.

Before any *Works* are constructed, the *Contractor* must:

- (a) peg road centrelines sufficient for set out of road works;
- (b) peg all boundary points within *the Works*;
- (c) provide all other reasonable *survey marks* necessary for the *Contractor* to set out *the Works*;
- (d) confirm existing surface levels;
- (e) provide a plan to the *Superintendent* with the points listing for the road and boundary related to the XY co-ordinate system. This information will be in CAD format if readily available from the surveyor and if requested by the *Superintendent*.'

### 26.2 Errors in setting out

No amendment

### 26.3 Care of survey marks

Delete the first paragraph of subclause 26.3 and insert the following:

'The *Contractor* shall:

- (a) keep in their true positions all *survey marks* supplied by the *Superintendent* or the *Contractor* and all other *survey marks* at the *site* or on any other property accessed by the *Contractor* pursuant to subclause 24.4;
- (b) comply with its obligations under any *legislative requirement* in relation to *survey marks*, including the *Survey and Mapping Infrastructure Act 2003* (Qld); and
- (c) advise the *Superintendent* in writing of any *survey marks* which must necessarily be disturbed to allow *WUC* to proceed.

The *Superintendent* may direct the *Principal* to engage at the *Principal's* expense a surveyor to offset any *survey marks* referred to in subclause 26.3(c).

The *Contractor* acknowledges that it is an offence under the *Survey and Mapping Infrastructure Act 2003* (Qld) to interfere with a *survey mark*.'

## 27 CLEANING UP

No amendment

## 28 MATERIALS, LABOUR AND CONSTRUCTION PLANT

Insert the following at the end of clause 28:

'All materials used in the *WUC* are to be the best of their respective kinds and in accordance with the current specifications of the Standards Association of Australia for those particular materials where such specifications are applicable and do not otherwise conflict with an express requirement of this *Contract*. If there is no relevant Australian Standard, the British Standard Specification if any, will apply.

The *Superintendent* may require samples of any or all materials to be submitted for its approval before their use. Whether the *Superintendent* has called for samples or not, all materials used in the *WUC* are subject to the *Superintendent's* written approval.

Where the *Contract* refers to trade names, brands and/or catalogue numbers, then, pursuant to subclause 36.3:

- (a) the *Contractor* may request the *Superintendent* to direct that alternative materials or equipment be substituted; and
- (b) the *Superintendent* may, if the *Superintendent* is of the opinion that the characteristics of type, quality, appearance, finish, method of construction and/or performance are not less than is required by the *Contract*, direct a *variation* for the convenience of the *Contractor* allowing the substitution.'

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## 28A PRINCIPAL SUPPLIED MATERIALS

Insert a new clause 28A as follows:

### '28A Principal Supplied Materials

Where the *Contract* requires the *Principal* to supply materials to the *Contractor* free of charge for use in the *WUC* ('*Principal Supplied Material*') then:

- (a) at least 20 days before any *Principal Supplied Material* is required, the *Contractor* shall advise the *Superintendent* in writing of the exact date on which such material is required and the quantity required on that date;
- (b) the *Principal* shall:
  - (i) deliver the material to the location stated in the *Contract*; or
  - (ii) make the material available from the location stated in the *Contract*; or
  - (iii) where the *Contract* does not expressly provide for the matter, the *Principal* shall deliver the material to the *site*,

by the later of the time notified by the *Contractor* in its notice under clause 28A(a), or the time at which the *construction program* included in the *Contract* required the material to be provided or made available.

Upon any *Principal Supplied Material* being delivered or made available, the *Contractor* shall immediately inspect the material and ensure that the specified quantity has been delivered and that the material is in a condition which complies with the requirements of the relevant specification.

If, within 5 calendar days of the material being delivered or made available, the *Contractor* does not notify the *Superintendent* in writing of any deficiencies, then it shall be deemed that the specified quantity of *Principal Supplied Material* has been delivered or made available to the *Contractor* in a condition which complies with the relevant specification.

Any *Principal Supplied Material* which, after it is delivered or made available to the *Contractor* is lost, destroyed, contaminated or altered in any way such that the material no longer complies with the relevant specification shall be immediately removed, disposed of and replaced by the *Contractor* with material which complies with the relevant specification, unless the *Superintendent* expressly directs otherwise. The *Contractor* shall notify the *Superintendent* in writing of any lost, destroyed, contaminated or altered material within 5 calendar days of becoming aware of such events.

Unless otherwise directed, the *Contractor* must return any excess *Principal Supplied Material* to the *Principal* at the place stated in the *Contract*.

*Principal Supplied Material*, other than destroyed, contaminated or altered material which is disposed of by the *Contractor* pursuant to this clause shall,

notwithstanding anything else in this clause, remain the property of the *Principal* at all times.'

## 29 QUALITY

### 29.1 Quality of material and work

No amendment

### 29.2 Quality assurance

Subclause 29.2 is deleted and replaced with:

#### **'29.2 Contractor's Quality Plan**

This subclause 29.2 only applies if *Item 22D* provides that the *Contractor* is required to prepare a *Contractor's Quality Plan*.

- (a) The *Contractor* must:
- (i) prepare a *Contractor's Quality Plan*;
  - (ii) obtain the *Superintendent's* approval of the *Contractor's Quality Plan* in accordance with subclause 8.3;
  - (iii) comply with, and ensure that its *personnel* comply with, a *Contractor's Quality Plan* approved by the *Superintendent*;
  - (iv) ensure that the *Superintendent* has access to the *Contractor's Quality Plan* and all related documents to enable monitoring and quality auditing;
  - (v) provide a copy of any document produced by the *Contractor* in compliance with this subclause or under the *Contractor's Quality Plan* to the *Superintendent* on request, including:
    - (A) system operating procedures;
    - (B) checklists;
    - (C) non-conformance reports;
    - (D) *Contractor's Inspection and Test Plan*; and
    - (E) quality records.
- (b) The *Contractor's Quality Plan* must, at a minimum:
- (i) provide for the establishment and maintenance of a quality system in accordance consistent with ISO9000 quality management system;

- (ii) provide a comprehensive system to ensure *WUC* consistently conforms to the requirements of the *Contract*;
  - (iii) be consistent with the *Contractor's* obligations under the *Contract*.'
- (c) The *Contractor's Quality Plan* shall only be used as an aid to achieving compliance with the *Contract* and to document such compliance. Such *Contractor's Quality Plan* and system shall not relieve the *Contractor* of the responsibility to comply with the *Contract* or discharge other obligations under the *Contract*.'

### 29.3 Defective work

Insert the following at the end of subclause 29.3:

'Until the cost of such *work* has been incurred by the *Principal*, the *Principal* may deduct the estimated cost of such *work* from payments otherwise due to the *Contractor* as an amount due from the *Contractor* to the *Principal*.

Without limiting the above, if the *Contractor* discovers *work* done (including material provided) by the *Contractor* which does not comply with the *Contract*, the *Contractor* shall promptly advise the *Superintendent* and initiate any non-conformance procedures required by the *Contract* or directed by the *Superintendent*.

If directed to do so by the *Superintendent*, the *Contractor* shall submit a written proposal for the rectification of the subject *work* in writing to the *Superintendent* within the timeframe reasonably required by the *Superintendent*. The subject *work* must not be covered up or incorporated into *the Works* without the prior *direction* of the *Superintendent*.'

### 29.4 Acceptance of defective work

No amendment

### 29.5 Timing

No amendment

### 29.6 Disputing a defect

Insert new subclause 29.6 as follows:

#### **'29.6 Disputing a defect**

Without limiting subclause 41.4, if the *Contractor* wishes to *dispute* a *direction* given, or purportedly given, under subclause 29.3 (including any fact, matter, or circumstance described in such a *direction*) the *Contractor* must give the *Superintendent* written notice of its intention to *dispute* the *direction* promptly and where practicable, before complying with the *direction*.

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Unless it is withdrawn, the *Contractor* must comply with any *direction* given, or purportedly given, under subclause 29.3 notwithstanding the existence of a *dispute*.'

## 30 EXAMINATION AND TESTING

### 30.1 Tests

Insert the following additional paragraph at the end of subclause 30.1:

'The *Contractor* shall arrange *WUC* so that all necessary *tests* can be performed between the hours stated in *Item 22E*.'

### 30.2 Covering up

Delete subclause 30.2 and insert:

#### '30.2 Covering up

No *WUC* shall be covered up or made inaccessible until accurate details of *WUC* have been recorded.

Any *WUC* covered up or made inaccessible:

- (a) before details of the *WUC* have been accurately recorded by a surveyor appointed by the *Contractor* or nominated by the *Superintendent*; or
- (b) in breach of a *direction* by the *Superintendent* or other requirement of the *Contract* that the *work* is not to be covered or made inaccessible,

must, if the *Superintendent* so *directs*, be uncovered and re-covered at the *Contractor's* expense.'

### 30.3 Who conducts

Insert the following additional paragraph at the end of clause 30.3:

'If the *Superintendent* nominates a person other than the *Contractor* to carry out *tests* under the *Contract* pursuant to clause 21, then, unless otherwise advised by the *Superintendent* the appointed person's responsibilities in relation to the *Contract* shall be to:

- (a) report to the *Superintendent* on the standard of workmanship of *WUC*;
- (b) monitor and report on safety issues and on the impact of the *WUC* on property referred to in subclause 24.4 and the public generally;
- (c) carry out *tests* to allow monitoring of the quality and extent of the *WUC* and to ensure compliance of the *WUC* with the *Contract*;
- (d) exercise the *Superintendent's* functions under subclause 29.3;



- (e) maintain a daily log of *WUC*, a copy of which will be made available on request to the *Contractor*.'

#### 30.4 Notice

No amendment

#### 30.5 Delay

No amendment

#### 30.6 Completion and results

At the end of subclause 30.6, insert:

'Notwithstanding anything else in the *Contract*, the *Contractor* shall not be entitled to payment in respect of any *WUC* which is required to be *tested* under the *Contract* unless and until:

- (a) all required *tests* have been completed;
- (b) the results of the *tests* do not reveal a failure of the *Contractor* to comply with the *Contract*, and
- (c) the *Contractor* has made good *WUC* and provided the results of the *tests* to the *Superintendent* and to the *Principal* in accordance with this subclause 30.6.

The *Superintendent* may, from time to time, certify an amount as payable notwithstanding that the conditions in this subclause have not been met, but neither this certification, nor any payment by the *Principal* of the amount certified, shall constitute a waiver of this provision.

The *Contractor* shall not be entitled to rely upon the results of any *test* carried out by the *Principal* or *Superintendent*.

If the *Contractor* disagrees with the results of any test, conducted by or on behalf of the *Principal*, the *Contractor* must give the *Principal* and the *Superintendent* a Notice of Dispute within five *Business Days* of the results being provided to the *Contractor*. In the absence of a Notice of Dispute being given in accordance with this subclause 30.6 and subclause 42.1, the *Contractor* will be deemed to have irrevocably accepted the accuracy and correctness of the test and shall be barred from disputing the results of the test under this *Contract* or otherwise.'

#### 30.7 Costs

At the end of subclause 30.7, insert:

'If, notwithstanding subclause 30.1, *tests* are required outside of the hours stated in *Item 22E* (other than due to the act or omission of the *Principal* or *Superintendent*) then the additional cost incurred by the *Principal* in carrying out or having those *tests* carried out by others outside of the hours in *Item 22E* will be

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a debt due and payable by the *Contractor* to the *Principal*, irrespective of the outcome of the *test*.'

### 30.8 Contractor's Inspection and Test Plan

Insert new subclause 30.8 as follows:

#### **'30.8 Contractor's Inspection and Test Plan**

This subclause 30.8 only applies if *Item 22F* provides that the *Contractor* is required to prepare a *Contractor's Inspection and Test Plan*.

- (a) The *Contractor* must:
- (i) prepare a *Contractor's Inspection and Test Plan*;
  - (ii) obtain the *Superintendent's* approval of the *Contractor's Inspection and Test Plan* in accordance with subclause 8.3;
  - (iii) comply with, and ensure that its *personnel* comply with, a *Contractor's Inspection and Test Plan* approved by the *Superintendent*; and
  - (iv) provide a copy of any document produced by the *Contractor* in connection with this subclause to the *Principal* or *Superintendent* on request.
- (b) The *Contractor's Inspection and Test Plan* must be consistent with this clause 30 and clearly detail:
- (i) the items of *work* to be inspected or tested;
  - (ii) the party who will carry out the inspection or *test*;
  - (iii) the stages at which *work* is to be inspected and tested or the frequency of inspections and *tests*;
  - (iv) hold points beyond which *work* cannot proceed without approval of the *Superintendent* or its nominee;
  - (v) witness points for the *Superintendent* or its nominee to witness inspections or tests;
  - (vi) references to relevant standards and acceptance criteria; and
  - (vii) the records to be maintained by the *Contractor*.'

## 31 WORKING HOURS

Delete the first sentence of clause 31 and replace with:

'The working hours and working days for *work* on the *site* are stated in *Item 22G*.'

## 32 PROGRAMMING

### 32.1 Order and timing

Insert a heading at the beginning of the clause as follows:

#### **'32.1 Order and timing'**

Delete the last 4 paragraphs of clause 32 and insert:

'If:

- (a) compliance with any such *direction* under this subclause, except those pursuant to the *Contractor's* default, will or is likely to cause the *Contractor* to incur more cost than otherwise would have been incurred had the *Contractor* not been given the *direction*; and
- (b) the *Contractor* gives the *Superintendent* a written notice of this stating the reason for the additional cost and (if possible) an estimate of the cost:
  - (i) within five *Business Days* of the *direction* being given; and
  - (ii) before complying with the *direction*,

then the increased costs reasonably and necessarily incurred by the *Contractor* in complying with the *direction* shall be assessed by the *Superintendent* and added to the *contract sum*.

The *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with a *direction* of the *Superintendent* under this subclause unless it has complied with subclause 32.1(b).

If compliance with any such *direction* under this subclause causes the *Contractor* to incur less cost than otherwise would have been incurred had the *Contractor* not been given the *direction*, then the difference shall be assessed by the *Superintendent* and deducted from the *contract sum*.'

### 32.2 Construction Program and Labour Schedule

Insert new subclause 32.2 at the end of clause 32 as follows:

#### **'32.2 Construction Program and Labour Schedule**

- (a) The *Contractor* must unless otherwise directed by the *Superintendent*.
  - (i) prepare a *construction program* and *labour schedule* and obtain the *Superintendent's* approval of the *construction program* and *labour schedule* pursuant to subclause 8.3 as a precondition to

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its entitlement to possession of the *site* pursuant to subclause 24.1;

- (ii) review and update the *construction program* and *labour schedule* and submit the revised documents to the *Superintendent*:
  - (A) with each monthly progress claim; and
  - (B) within ten *Business Days* of a *direction* to do so by the *Superintendent*,

and must obtain the *Superintendent's* approval of the revised documents pursuant to subclause 8.3;

- (iii) make available any documentation reasonably requested by the *Superintendent* relating to the *Contractor's construction program* and *labour schedule*, or the *Contractor's* progress of *WUC*; and
  - (iv) carry out *WUC* at a rate and otherwise in accordance with the *construction program* approved by the *Superintendent* from time to time and must not, without reasonable cause, depart from a *labour schedule* or *construction program* approved by the *Superintendent*.
- (b) Without limiting subclause 32.2(a), the *Superintendent* may direct the *Contractor* to provide an updated *construction program* or *labour schedule*:
- (i) when the *Contractor* gives any notice or claim under subclause 34.2 or 34.5;
  - (ii) after a change in the *date for practical completion*;
  - (iii) on the occurrence of any circumstances affecting the progress of *WUC*; or
  - (iv) if the *Superintendent* reasonably considers that:
    - (A) a *construction program* does not comply with the requirements of the *Contract*;
    - (B) a *construction program* does not demonstrate the *Contractor's* ability to comply with its obligations under the *Contract*;
    - (C) the progress for any item of *work* shown on the *construction program* is less than that forecast by the *construction program*; or
    - (D) otherwise considers that the *construction program* does not show a satisfactory program of *WUC*.

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- (c) The *construction program* must:
- (i) commence on the *date of acceptance of tender*;
  - (ii) reflect the *Contractor's* bona fide planned work activities and sequences for bringing the *WUC* to *practical completion* by the *date for practical completion*;
  - (iii) be issued to the *Superintendent* in hard copy and in an electronic form approved by the *Superintendent*;
  - (iv) incorporate a separate program for each separable portion of *WUC* (if applicable);
  - (v) be in sufficient detail to enable the *Superintendent* to properly integrate the *work* of others;
  - (vi) indicate all resources, including human resources to be employed on the *Contract* throughout its duration.
- (d) Without limiting the above, the *construction program* must, as a minimum clearly detail:
- (i) *WUC* broken down into activities of sufficient specificity to enable accurate assessment of progress and the effects of delays to be made;
  - (ii) defined critical paths;
  - (iii) early start and finish dates and the duration of the *Contractor's* float;
  - (iv) relationships between activities in sufficient number to clearly indicate the intended sequence of *work* and shall show all dependencies dictated by constructability and the availability of labour or equipment resources;
  - (v) all on and off-*site* activities including but not limited to:
    - (A) preparation, submission and approval of drawings (including *as constructed drawings*);
    - (B) order, manufacture and delivery periods for materials, plant and equipment;
    - (C) deadlines for selections or approvals by the *Superintendent* or the *Principal*;
    - (D) approval dates required from any municipal, public or statutory authorities;

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- (E) supply times for any essential materials and major items of plant;
  - (F) dates for placing orders for standard components;
  - (vi) all testing requirements;
  - (vii) commissioning;
  - (viii) operator training;
  - (ix) activities for the inspection of *the Works*, preparation of a defects list and rectification of defects prior to *practical completion*;
  - (x) quality assurance tests and approvals prior to *practical completion*.
- (e) Despite any other provision of this clause any *construction program* prepared or provided by the *Contractor* shall not be used as a *construction program* for the purposes of this subclause until it has been reviewed and approved by the *Superintendent*.
- (f) If the *Contractor* fails to submit a *construction program* in accordance with this subclause 32.2, then the *Principal* may prepare such a program itself in accordance with subclause 39.13 and submit it to the *Superintendent* for approval. A *construction program* approved by the *Superintendent* under subclause 32.2(f) will be binding on the *Contractor* as if the *Contractor* had prepared the program itself and submitted it to the *Superintendent* for approval.
- (g) Without limiting subclause 8.3, the receipt, acceptance, review, approval or comment by the *Superintendent* of or on a *construction program* or *labour schedule* furnished by the *Contractor* (or by the *Principal* under subclause 32.2(f)) does not:
- (i) relieve the *Contractor* from its liabilities or obligations, including the obligation to achieve *practical completion* by the *date for practical completion*;
  - (ii) evidence or constitute a *direction* by the *Superintendent* to accelerate, disrupt, prolong or vary any, or all, *WUC*;
  - (iii) affect the time for performance of the *Principal's* or the *Superintendent's* obligations.'

### 32.3 Commissioning Plan

Insert new subclause 32.3 as follows:

#### **'32.3 Commissioning Plan**

This subclause 32.3 only applies if *Item 22H* provides that the *Contractor* is required to prepare a *Commissioning Plan*.

- (a) The *Contractor* must:
- (i) prepare a *Commissioning Plan* for *the Works*;
  - (ii) obtain the *Superintendent's* approval of the *Commissioning Plan* in accordance with subclause 8.3;
  - (iii) comply with a *Commissioning Plan* approved by the *Superintendent* in accordance with subclause 8.3; and
  - (iv) provide a copy of any document produced or obtained by the *Contractor* in compliance with the *Commissioning Plan* to the *Superintendent* on request.
- (b) The *Commissioning Plan* must be consistent with the *Contract*.'

### 32.4 Operator Training Program

Insert new subclause 32.4 as follows:

#### **'32.4 Operator Training Plan**

This subclause 32.4 only applies if *Item 22I* provides that the *Contractor* is required to prepare an *Operator Training Plan*.

- (a) The *Contractor* must:
- (i) prepare an *Operator Training Plan* for *the Works*;
  - (ii) obtain the *Superintendent's* approval of the *Operator Training Plan* in accordance with subclause 8.3;
  - (iii) comply with an *Operator Training Plan* approved by the *Superintendent* in accordance with subclause 8.3; and
  - (iv) provide a copy of any document produced or obtained by the *Contractor* in compliance with the *Operator Training Plan* to the *Superintendent* on request.

(b) The *Operator Training Plan* must be consistent with the *Contract*.'

### 33 SUSPENSION

No amendment

### 34 TIME AND PROGRESS

#### 34.1 Progress

Insert the following at the end of subclause 34.1:

'Except to the extent that the *Contract* expressly provides for an *EOT*, the *Contractor* must comply with all of its obligations under the *Contract* without delaying the completion of *WUC*.

Notwithstanding anything else in the *Contract*, the *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to arising out of or in connection with any delay or disruption to, or prolongation of *WUC* however caused or encountered except to the extent expressly provided for in this clause 34.'

#### 34.2 Notice of delay

Delete subclause 34.2 and replace with:

#### **'34.2 Notice of Delay**

If the *Contractor* becomes aware of anything which will probably cause delay to *WUC*, the *Contractor* shall give the *Superintendent* written notice of that cause and (if possible) the estimated delay within two *Business Days* of when the *Contractor* should reasonably have become aware of that causation occurring.'

#### 34.3 Claim

Delete '28 days' from paragraph (b) of subclause 34.3 and replace with 'ten *Business Days*'.

#### 34.4 Assessment

Delete the first paragraph of subclause 34.4 and replace with:

'To the extent that both *qualifying causes of delay* and other causes of delay (or the effects of such causes of delay) overlap or are concurrent, the *Contractor* shall not be entitled to an *EOT*.'

Insert the following at the end of clause 34.4:

'To avoid doubt, all *EOTS* shall be claimed and granted in *working days*.'

#### 34.5 Extension of time

Delete subclause 34.5 and replace with:



'Within 28 days after receiving the *Contractor's Claim* for an *EOT*, the *Superintendent* shall give to the *Contractor* and the *Principal* a written *direction* evidencing the *EOT* so assessed.

Notwithstanding anything else in this *Contract*, the *Contractor* shall not be entitled to an *EOT* unless, and then only to the extent, that the causation has delayed activities on the critical path of the *construction program* approved by the *Superintendent* under clause 32.2(a)(i) or (ii) or 32.2(f);

Notwithstanding that the *Contractor* is not entitled to or has not claimed an *EOT* the *Superintendent* may at any time and from time to time before issuing the *final certificate*, in its absolute discretion and without any obligation to do so for the benefit of the *Contractor*, direct an *EOT*.

A delay in approving an *EOT* or rejection of an *EOT* by the *Superintendent* will not set the *date for practical completion* at large, or render subclause 34.7 unenforceable.'

#### 34.5A Inclement Weather

Insert new subclause 34.5A as follows:

'The *Contractor* is deemed to have allowed in its program for the number of days of delay caused by inclement weather and the effects at the *site* of inclement weather shown in the table below.

Notwithstanding anything else in the *Contract*, the *Contractor* is not entitled to an *EOT* for any delay caused by inclement weather or the effects at the *site* of inclement weather, unless and then only to the extent that:

- (a) the aggregate number of *working days* by which the *Contractor* is delayed by inclement weather or the effects at the *site* of inclement weather in a particular calendar month exceeds the number of days shown in the table below for that calendar month; and
- (b) the *Contractor* is otherwise entitled to an *EOT* under the *Contract* in respect of the delay.

Month	Number of days
January	4
February	5
March	3
April	2
May	1
June	1
July	1

August	1
September	0
October	1
November	2
December	3

34.6 Practical completion

No amendment

34.7 Liquidated damages

No amendment

34.8 Bonus for early practical completion

Delete subclause 34.8

34.9 Delay damages

Delete subclause 34.9 and replace with:

**'34.9 Delay Costs**

If:

- (a) the *Contractor* has complied with its obligations under subclause 32.2(a)(i) and (ii);
- (b) the *Contractor* has claimed an *EOT* in accordance with subclause 34.3;
- (c) the *Contractor* has notified the *Superintendent* in the claim for the *EOT* that it intends to claim delay costs;
- (d) an *EOT* has been given under subclause 34.5 in respect of the delay;
- (e) the delay was caused solely by a *compensable cause*;
- (f) the *Contractor* has given the *Superintendent* a written claim for delay costs within ten *Business Days* after the cessation of the delay;
- (g) the *Contractor* has taken all proper and reasonable steps necessary and within its control to prevent the occurrence of the delay, and to mitigate the effect of the delay; and
- (h) no monetary compensation in respect of the delay has been included in the value of any *variation* and no such compensation is payable to the *Contractor* under any other provision of the *Contract*,

then, for each working day of *EOT* granted for the *compensable cause* the *Principal* shall pay the *Contractor* the extra costs reasonably and necessarily incurred by the *Contractor* by reason of the delay up to a limit of the maximum daily rate for delay costs (if any) stated in *Item 26A*.

The compensation provided for under the preceding paragraph:

- (a) is a genuine pre-estimate of the *Contractor's* likely loss;
- (b) shall not include any profit, loss of profit, rise and fall or off-site overheads; and
- (c) is the *Contractor's* sole remedy and entitlement to monetary compensation in connection with any delay or disruption to or prolongation of *WUC* however caused or encountered (including without limitation, claims for breach of contract by the *Principal* and claims against the *Contractor* by *subcontractors*).

To avoid doubt:

- (a) where the *Contractor*:
  - (i) is delayed in reaching *practical completion* by a *compensable cause*; and
  - (ii) is subsequently delayed by a further cause of delay (other than a *compensable cause*) which would not have delayed the *Contractor* but for the earlier delay due to the *compensable cause*,

then this further delay shall not, under any circumstances, be taken to be a *compensable cause*; and

- (b) to the extent that both a *compensable cause* and another cause of delay (whether a non-qualifying or *qualifying cause of delay*) or the effects of such causes of delay overlap or are concurrent, the *Contractor* shall not be entitled to any payment under this subclause 34.9; and
- (c) notwithstanding anything else in the *Contract*, an act or omission of the *Principal* in its capacity as a local government authority having jurisdiction over *the Works* will not constitute a *compensable cause*, but may constitute a *qualifying cause of delay*.'

### 35 DEFECTS LIABILITY

Insert the following at the end of clause 35:

'Until the cost of such *work* has been incurred by the *Principal*, the *Principal* may deduct the estimated cost of such *work* from payments otherwise due to the *Contractor* as an amount due from the *Contractor* to the *Principal*.

Without limiting subclause 41.4, if the *Contractor* wishes to *dispute* a *direction* given, or purportedly given, under clause 35 (including any fact, matter, or

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circumstance described in such a *direction*) the *Contractor* must give the *Superintendent* written notice of its intention to *dispute* the *direction* promptly and where practicable, before complying with the *direction*.

Unless it is withdrawn, the *Contractor* must comply with any *direction* given, or purportedly given, under clause 35 notwithstanding the existence of a *dispute*.'

## 36 VARIATIONS

### 36.1 Directing variations

No amendment

### 36.2 Proposed variations

Delete 'as soon as practicable' from the second paragraph of subclause 36.2 and replace with:

'within the time reasonably required by the *Superintendent*'

### 36.3 Variations for convenience of contractor

No amendment

### 36.4 Pricing

Delete subclause 36.4 and replace with:

#### **'36.4 Pricing**

The *Superintendent* shall, as soon as possible, price each *variation* using the following order of precedence:

- (a) prior agreement;
- (b) applicable rates or prices in the *Contract*;
- (c) rates or prices in the *Schedule of Labour and Plant*;
- (d) rates or prices in a *bill of quantities* or *schedule of rates* to the extent that it is reasonable to use them;
- (e) reasonable rates or prices which shall include the percentage stated in *Item 27A* for profit and attendance,

and any deductions shall include the amount stated in *Item 27A* for profit, but not overheads.'

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### 36.5 Notice of Variations

Insert new subclause 36.5 as follows:

#### **'36.5 Notice of Variations**

Where the *Contractor* is given a *direction* to vary *WUC* which is not expressly identified in writing as a *variation*, the *Contractor* must promptly, and where practicable before complying with the *direction*, give the *Superintendent* a written notice which identifies the *direction* and states that the *Contractor* considers that the *direction* involves a *variation*.

Unless the *direction* is withdrawn or the *Superintendent* has expressly acknowledged in writing that the *direction* involves a *variation*, the *Contractor* must, within ten *Business Days* after being given the *direction*, give the *Superintendent* a written notice which details:

- (a) the reasons why the *Contractor* considers that the *direction* involves a *variation*;
- (b) the effect which the *Contractor* anticipates the *variation* will have on the *construction program* and time for *practical completion*; and
- (c) the *Contractor's* estimate of the cost (including delay costs) of the *variation*.

Notwithstanding anything else in this *Contract*, the *Contractor* shall not be entitled to an *EOT* for *practical completion* or any addition to the *contract sum* or any other *Claim* relating to or arising out of or in connection with a *direction* to vary *WUC* (and the *Principal* shall not be liable upon any such *Claim*) unless the *Superintendent* has expressly acknowledged in writing that the *direction* involves a *variation* or the *Contractor* has complied with this subclause 36.5.'

### 36.6 Omissions

Insert new subclause 36.6 as follows:

#### **'36.6 Omissions**

- (a) Where the *Superintendent* directs that any part of the *WUC* is to be omitted then:
  - (i) the *Principal* may subsequently perform the omitted *work* itself, or engage others to perform the omitted *work*; and
  - (ii) the omitted *work* will be valued in accordance with subclause 36.4 and the value deducted from the *contract sum*.

Except to the extent expressly provided in this subclause 36.6, the *Principal* shall not be liable upon any *Claim* by the *Contractor* relating to or arising out of or in connection with the omission of any part of *WUC*.'

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## 37 PAYMENT

### 37.1 Progress claims

Insert the following at the end of subclause 37.1:

'On the same day that it gives the *Superintendent* a progress claim, the *Contractor* must give an identical copy of the progress claim to the *Superintendent's Representative*.

If *Item 28A* states that the *Contractor* is required to prepare a monthly progress report then the *Contractor* must, as a precondition to the *Contractor's* entitlement to payment of a progress claim, give the *Superintendent* a monthly progress report in a form approved by the *Superintendent* detailing:

- (a) programming, progress and scheduling (including a revised program in accordance with subclause 32.2(a)(ii));
- (b) issues arising under or documents produced pursuant to the *Required Contractor's Plans* which have not been included in a previous monthly progress report;
- (c) any audits undertaken the results of which have not been included in a previous monthly progress report;
- (d) local industry participation which has not detailed in a previous monthly progress report, including local labour, materials, equipment and subcontractors; and
- (e) such other information as the *Superintendent* may reasonably direct.

The monthly progress report must be dated no earlier than five *Business Days* prior to the time stated in *Item 28* and must be current up to the date of the report.'

### 37.2 Certificates

Delete the fourth paragraph of subclause 37.2 and replace with:

'Unless otherwise directed by the *Principal*, the *Contractor* must, as a precondition to the *Contractor's* entitlement to payment pursuant to this clause 37, give the *Principal* a tax invoice in an amount equal to the balance of the *progress certificate* less the *Superintendent's* assessment (if any) of retention moneys and other moneys due from the *Contractor* to the *Principal* pursuant to the *Contract*. The tax invoice must comply with the *GST Law*.

If the *Contract* is not a *building contract* the *Principal* shall pay the tax invoice within 28 days after receiving it.

If the *Contract* is a *building contract*, the *Principal* shall, within 15 *Business Days* of the earlier of:

- (a) receipt of a 'payment claim' as defined in the *QBCC Act*; and
- (b) receipt of a tax invoice as required by the subclause 37.2,

pay to the *Contractor* an amount equal to the balance of the *progress certificate* after deducting retention moneys and setting off such of the certificate in paragraph b) as the *Principal* elects to set off.

To avoid doubt, the provision by the *Contractor* of a tax invoice under this subclause 37.2 in an amount less than the amount of the progress claim shall not be taken as evidence that the *Contractor* accepts the *progress certificate* and/or the certificate in paragraph (b).'

### 37.3 Unfixed plant and materials

No amendment

### 37.4 Final payment claim and certificate

Delete the third paragraph of subclause 37.4 and replace with:

'Where the *final certificate* certifies that an amount is due and payable by the *Principal* to the *Contractor* then, unless otherwise directed by the *Principal*, the *Contractor* must, as a precondition to the *Contractor's* entitlement to payment of that amount, give the *Principal* a tax invoice for that amount.

If the *Contract* is not a *building contract* the *Principal* shall pay the tax invoice within 28 days after receiving it.

If the *Contract* is a *building contract*, the *Principal* shall, within 15 *Business Days* of the earlier of:

- (a) receipt of a 'payment claim' as defined in the *QBCC Act*; and
- (b) receipt of a tax invoice as required by subclause 37.2,

pay to the *Contractor* the amount certified as due and payable to the *Contractor* in the *final certificate*.

Where the *final certificate* certifies that an amount is due and payable by the *Contractor* to the *Principal* then the *Contractor* must pay that amount within seven days after the *Contractor* receives the *final certificate*.

To avoid doubt, the provision by the *Contractor* of a tax invoice under this subclause 37.4 in an amount less than the amount of the final payment claim shall not be taken as evidence that the *Contractor* accepts the *final certificate*.'

### 37.5 Interest

No amendment

### 37.6 Other moneys due

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No amendment

### 37.7 GST

Insert new subclause 37.7 as follows:

#### **'37.7 Goods and Services Tax**

Terms used in this subclause 37.7 which are defined in the *GST Law* have the meanings given in that law.

Unless expressly included, the consideration expressed to be payable under any clause of, or schedule or annexure to, this *Contract* for any supply made under or in connection with this *Contract* does not include GST.

To the extent that any supply made under or in connection with this *Contract* is a taxable supply by one party to this *Contract* to another such party, the GST-exclusive consideration otherwise payable for that supply is increased by an amount equal to that consideration multiplied by the rate at which GST is imposed in respect of the supply.

Where a party to this *Contract* receives a taxable supply from another party to this *Contract*, without being obliged under this *Contract* to provide monetary consideration in exchange, the receiving party shall pay to the supplying party an amount equal to the GST inclusive market value of that taxable supply multiplied by the rate at which GST is imposed in respect of that supply.

Each party agrees to do all things, including providing tax invoices and other documentation, that may be necessary or desirable to enable or assist the other party to claim any input tax credit, adjustment or refund in relation to any amount of GST paid or payable pursuant to any supply made under or in connection with this *Contract*.

If a payment to a party under this *Contract* is a payment by the other party by way of reimbursement or indemnity that is calculated by reference to the GST-inclusive amount of a loss, cost or expense incurred by that party, then the payment is to be reduced by the amount of any input tax credit to which that party is entitled in respect of that loss, cost or expense before the payment is increased for GST pursuant to the third paragraph of this subclause 37.7.'

### 37.8 The BCIP Act

Insert new subclause 37.8 as follows:

#### **'37.8 The BCIP Act**

In addition to any other means of service permitted under the *BCIP Act*, and notwithstanding clause 7, the *Contractor* must:

- (a) serve any documents (including a payment claim and adjudication application) under the *BCIP Act* by registered post to the address of the



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*Superintendent* stated in *Item 6*, unless otherwise expressly directed by the *Superintendent*, and

- (b) on the same day that it serves the document on the *Superintendent* or the *Principal* (whichever occurs earliest) also provide an identical copy of the document to the *Superintendent's Representative*; and
- (c) if it intends to serve an adjudication application under the *BCIP Act* on the *Principal*, give the *Superintendent* and the *Principal* written notice of its intention to do so within five *Business Days* of receiving the *Principal's* payment schedule under the *BCIP Act*.

The *Superintendent* acts as the *Principal's* agent for the purposes of issuing payment schedules under the *BCIP Act*, but this shall not prevent the *Principal* from issuing a payment schedule under the *BCIP Act* itself. If the *Principal* issues a document that complies with the requirements of a valid payment schedule under the *BCIP Act* within the timeframes required by the *BCIP Act*, then this document shall be taken to be the *Principal's* payment schedule under the *BCIP Act*. If the *Principal* does not do so, then a document issued by the *Superintendent* or *Superintendent's Representative* within the timeframes required by the *BCIP Act* that complies with the requirements of a valid payment schedule under the *BCIP Act* shall constitute the *Principal's* payment schedule.

The *Principal* may:

- (a) exercise any right under the *Contract* or any *legislative requirement* in relation to the calculation or withholding of payment to the *Contractor*, and
- (b) include in any payment schedule under the *BCIP Act* any reasons as to why the amount proposed to be paid by the *Principal* is less than that claimed by the *Contractor* in respect of a payment,

notwithstanding that the *Principal* or *Superintendent* may have failed to do so in relation to a previous payment claim or payment schedule under the *BCIP Act* or a progress claim or progress certificate under the *Contract*.

The *Contractor* indemnifies the *Principal* against any loss (including *Specified Loss*) suffered or incurred by the *Principal* which is caused or contributed to by a breach of the *Contractor's* obligations under this subclause 37.8.'

## **38 PAYMENT OF WORKERS AND SUBCONTRACTORS**

### **38.1 Workers and subcontractors**

Delete subclause 38.1 and replace with:

### **'38.1 Workers and subcontractors**

The *Contractor* shall, as a precondition to its entitlement to payment of a progress claim:

- (a) give the *Superintendent* a statutory declaration in the form contained in Annexure Part J in respect of that progress claim; and
- (b) comply with any reasonable request by the *Superintendent* for further evidence (which may include statutory declarations from workers, *subcontractors* or other personnel) in relation to the amounts paid, or which remain due and payable by the *Contractor* to:
  - (i) workers or other personnel of the *Contractor* and of its *subcontractors*; and
  - (ii) *subcontractors*,

in respect of *WUC* the subject of that claim. Documentary evidence except where the *Contract* otherwise provides, shall be to the *Superintendent's* satisfaction.

### 38.2 Withholding payment

Delete subclause 38.2 and replace with:

### **'38.2 Withholding payment**

Subject to the next paragraph, the *Principal* may withhold moneys certified as due and payable in respect of the progress claim until the *Contractor* complies with subclause 38.1 and the *Superintendent* is satisfied that no moneys remain due and payable to workers, *subcontractors* and other *personnel* in respect of *WUC* the subject of that claim.

The *Principal* shall not withhold payment of such moneys in excess of moneys evidenced pursuant to subclause 38.1 as due and payable to workers, *subcontractors* and other *personnel* or as being claimed by workers, *subcontractors* and other *personnel* as due and payable to workers, *subcontractors* and other *personnel*.

### 38.3 Direct payment

Delete 'or *subcontractor*' wherever those words appear in subclause 38.3 and replace with ', *subcontractor* or other *personnel*'.

## **39 DEFAULT OR INSOLVENCY**

### 39.1 Preservation of other rights

No amendment

### 39.2 Contractor's default

At the end of subclause 39.2a) insert new subparagraphs as follows (together with any consequential amendments):

(v) execute and return the *Contract* in breach of clause 6; and

(vi) comply with its obligations under subclause 37.8.'

After '*construction program*' in subclause 39.2(c), insert:

'or *labour schedule* approved by the *Superintendent* under clause 32.2'

### 39.3 Principal's notice to show cause

No amendment

### 39.4 Principal's rights

At the end of subclause 39.4, insert:

'The exercise of the *Principal's* right under subclause 39.4(a) will not prevent the *Principal* from subsequently exercising its right under subclause 39.4(b) in respect of the same breach.'

### 39.5 Take out

At the end of subclause 39.5 insert:

'The *Principal* shall not be liable for any payment or allowance for fair wear and tear or diminution in value of any *construction plant* or other things sustained while in the possession of the *Principal*.

If the *Principal* takes *work* out of the hands of the *Contractor* under subclause 39.4(a) or terminates the *Contract* under subclause 39.4(b) or at common law, the *Principal* may also, without payment of compensation, take possession of any design documents and any goods which have become the property of the *Principal* and the *Principal* and its *personnel* shall have a right of access to any premises at which anything that the *Principal* is entitled to take possession of under this subclause 39.5 is held in order to recover possession of that thing.'

### 39.6 Adjustment on completion of work taken out

Delete subclause 39.6 and replace with:

#### **'39.6 Adjustment on completion of work taken out**

When *work* taken out of the *Contractor's* hands has been completed, the *Superintendent* shall assess:

(a) the cost thereby incurred;

- 
- (b) any liquidated damages owing by the *Contractor* to the *Principal* under subclause 34.7;
  - (c) any other amount payable by the *Contractor* to the *Principal* whether under the *Contract* or otherwise,

and shall certify as moneys due and payable accordingly the difference between the amount (showing the calculations therefor) and the amount which would otherwise have been paid to the *Contractor* if the *work* had been completed by the *Contractor*.

If the *Superintendent* certifies that an amount is owing by the *Principal* to the *Contractor* or by the *Contractor* to the *Principal* then that amount must be paid within ten *Business Days* after the issue of the *Superintendent's* certificate.

If the *Superintendent* certifies that an amount is owing by the *Contractor* to the *Principal* and the *Contractor* fails to pay the amount within the period required by this clause then, without limiting the *Principal's* rights, the *Principal* may:

- (a) retain any *construction plant* or other things taken under subclause 39.5 until the debt is satisfied; and/or
- (b) sell any *construction plant* or other things taken under subclause 39.5 after giving five *Business Days* written notice to the *Contractor* of the *Principal's* intention to do so and apply the proceeds to the satisfaction of the debt and the costs of sale; and/or
- (c) have recourse to any *security* held in accordance with clause 5.

The *Principal* may continue to hold any remaining *security* until the end of the last *defects liability period* under the *Contract* and may exercise its rights under the *Contract* in respect of such *security*.'

#### 39.7 Principal's default

No amendment

#### 39.8 Contractor's notice to show cause

No amendment

#### 39.9 Contractor's rights

No amendment

#### 39.10 Termination

No amendment

#### 39.11 Insolvency

No amendment

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### 39.12 Termination for Convenience

Insert new subclause 39.12 as follows:

#### **'39.12 Termination for Convenience**

This subclause 39.12 only applies if *Item 31A* states that the *Principal* is entitled to terminate the *Contract* for its convenience.

The *Principal* may at any time, and for any reason, in its absolute discretion, terminate this *Contract* by giving written notice to the *Contractor*.

If the *Principal* exercises its right under this subclause 39.12, then:

- (a) the *Principal* may, without payment of compensation to the *Contractor*, take possession of any documents (including design documents and *construction records*) and any goods which have become the property of the *Principal* and the *Principal* shall have a right of access to any premises at which those things are held in order to recover possession of those things;
- (b) the *Contractor* must comply with all reasonable *directions* of the *Superintendent* in connection with the termination;
- (c) the *Principal* may complete the uncompleted part of the *WUC* itself, or have it completed by others;
- (d) the *Principal* shall pay the *Contractor* the same payments that would have been payable if the *Contract* was frustrated under clause 40 with references to 'frustrated' and 'frustration' in clause 40 being read as references to 'terminated' and 'termination' respectively; and
- (e) the *Principal* shall not be liable upon any other *Claim* relating to or arising out of or in connection with the exercise by the *Principal* of its rights under this clause 39.12.'

### 39.13 Principal's rights on failure of *Contractor* to carry out an obligation

Insert new subclause 39.13 as follows:

#### **'39.13 Principal's rights on failure of *Contractor* to carry out an obligation**

Without limiting the *Principal's* other rights, where the *Contractor* fails to carry out any obligation under the *Contract* (including the obligation to comply with a *direction* of the *Superintendent*) the *Principal* may, after giving five *Business Days* notice (unless urgent action is required, in which case the *Principal* need not give notice) to the *Contractor*, carry out that obligation itself or have it carried out by others.

If the *Principal* incurs more cost in carrying out the obligation itself, or having it carried out by others than it would have incurred if the *Contractor* had carried out

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the obligation then those additional costs shall be a debt due and payable by the *Contractor* to the *Principal* and shall be certified as such by the *Superintendent*.'

#### 40 TERMINATION BY FRUSTRATION

No amendment

#### 41 NOTIFICATION OF CLAIMS

##### 41.1 Communication of claims

No amendment

##### 41.2 Liability for failure to communicate

Delete the existing heading of subclause 41.2 and replace with:

**'41.2 Liability for failure to communicate a claim under subclause 41.1'**

Delete the following from the existing paragraph of subclause 41.2:

'or to communicate a claim in accordance with the relevant provision of the *Contract*'

##### 41.3 Superintendent's decision

No amendment

##### 41.4 Disputing a direction of the Superintendent

Insert new subclause 41.4 as follows:

**'41.4 Disputing a direction of the Superintendent**

Without limiting any other clause of this *Contract*, if the *Superintendent* has given a *direction* pursuant to the *Contract* or provided any minutes of a meeting pursuant to subclause 51.1, the *direction* or minutes shall not be disputed by the *Contractor* unless a *Notice of Dispute* in accordance with subclause 42.1 is given by the *Contractor* to the *Principal* and to the *Superintendent* within 20 *Business Days* of the *direction* being given.

In the absence of a *Notice of Dispute* being given in accordance with this subclause, the *Contractor* will be deemed to have irrevocably accepted the *direction* and/or the accuracy of the minutes and shall be barred from disputing the *direction* or minutes under this *Contract* or otherwise.

To avoid doubt, the giving of a *Notice of Dispute* in accordance with this subclause 41.4 and subclause 42.1 shall not relieve the *Contractor* from its obligations or liabilities under any other provision of the *Contract*, including an obligation to comply with a *direction* or to otherwise communicate a *Claim* in accordance with a relevant provision of the *Contract*.'

## 42 DISPUTE RESOLUTION

Delete clause 42 and replace with:

### '42 Dispute Resolution

#### 42.1 Notice of Dispute

If a difference or *dispute* (together called a '*dispute*') arises between the *Contractor* and the *Principal* or between the *Contractor* and the *Superintendent* in respect of any fact, matter or thing arising out of or in connection with the *Contract*, either party may (subject to subclause 41.4) give a notice in writing to the other party specifying:

- (a) the *dispute* or difference;
- (b) particulars of the party's reasons for being dissatisfied; and
- (c) the position which the party believes is correct,

(a '*Notice of Dispute*').

#### 42.2 Executive Negotiation

The *dispute* or difference identified in a *Notice of Dispute* given under the previous clause is to be referred to the persons described in *Item 32(a)* who must meet and undertake genuine and good faith negotiations with a view to resolving the *dispute* or difference.

#### 42.3 Expert Appraisal

If the persons described in *Item 32(a)* cannot resolve the *dispute* or difference within 21 days after the date notice is given under clause 42.1, or within such longer period of time as these persons may agree in writing, the *dispute* or difference is to be submitted to an expert appraisal.

#### 42.4 The Expert

The expert appraisal is to be conducted by:

- (a) the independent industry expert specified in *Item 32(b)*; or
- (b) where:
  - (i) no such person is specified; or
  - (ii) the independent industry expert specified in *Item 32(b)* or person appointed under this clause:
    - (A) is unavailable;
    - (B) declines to act; or

- (C) does not respond within 14 days to a request by one or both parties for advice as to whether he or she is able to conduct the appraisal,

a person appointed by the President for the time being of the Institute of Arbitrators and Mediators Australia.

#### **42.5 Not Arbitration**

An appraisal conducted under this clause is not an arbitration. The appraiser may reach a decision from his or her own knowledge and expertise.

#### **42.6 Procedure for Appraisal**

The appraiser may:

- (a) conduct any investigation which he or she considers necessary to resolve the *dispute* or difference;
- (b) examine such documents, and in the presence of representatives of both parties, interview such persons as he or she may require; and
- (c) without limitation, make such directions for the conduct of the appraisal as he or she considers necessary.

#### **42.7 Disclosure of Interest**

The appraiser must:

- (a) disclose to the parties any interest he or she has in the outcome of the appraisal; and
- (b) not communicate with one party to the appraisal without the knowledge of the other.

#### **42.8 Costs**

Each party shall bear its own costs in respect of any appraisal.

#### **42.9 Conclusion of Appraisal**

An appraisal conducted under this clause must be concluded within 28 days from the acceptance by the appraiser of his or her appointment unless otherwise agreed between the parties.

#### **42.10 Agreement with Expert**

The parties must enter into an agreement with the appointed appraiser containing the terms reasonably required by the appraiser, including:



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- (a) a release of any liability which the appraiser may otherwise incur from any act or omission, other than fraud, during the course of the appraisal; and
  - (b) a term that each party will pay one-half of the appraiser's costs.

#### **42.11 Determination of Expert**

The determination of the appraiser:

- (a) must be in writing;
- (b) will be final and binding unless a party gives a notice of appeal to the other party within 7 days of the determination;
- (c) is to be given effect to by the parties unless and until it is reversed, overturned or otherwise changed under the procedure in the following clauses.

#### **42.12 Resolution by Litigation**

If either party wishes to appeal against the determination of the expert appraiser that party must institute proceedings in a court of competent jurisdiction within 28 days of receipt of the appraisal.

#### **42.13 Open Up and Review**

Any court to which the parties have recourse shall have the ability to open up and review any decision of the expert appraiser.

#### **42.14 Summary Relief**

Nothing herein shall prejudice the right of a party to institute proceedings to enforce payment due under the *Contract* or to seek injunctive or urgent relief.

#### **42.15 Disputes under subcontracts**

The *Contractor* must ensure that subcontracts into which it enters with a *subcontractor* (whether nominated or not) do not provide for resolution of the *dispute* by the *Principal* or *Superintendent* or any of the personnel of either.

The *Contractor* must advise the *Superintendent*:

- (a) promptly of any potential *dispute* between the *Contractor* and *subcontractor*; and
- (b) immediately if:
  - (i) the *Contractor* receives any *Notice of Dispute* under a subcontract; or

- (ii) any court proceedings are commenced against the *Contractor* by a *subcontractor*; or
- (iii) a *subcontractor* becomes entitled to suspend its part of *WUC* under the *BCIP Act*.

#### **42.16 Continued Performance**

Notwithstanding the existence of a *dispute*, the parties shall, subject to clauses 39, 40 and 42.14, continue to perform the *Contract*.'

### **43 WAIVER OF CONDITIONS**

At the end of clause 43, insert:

'The *Principal* and the *Contractor* acknowledge that:

- (a) the *Superintendent* is not authorised to vary, waive, discharge or release any provision of the *Contract* or any right of the *Principal* on behalf of the *Principal* (including provisions or rights relating to the giving of notices or the making of *Claims* under the *Contract*); and
- (b) the failure of the *Principal* or *Superintendent* at any time during the *Contract* to require strict compliance with the provisions of the *Contract* (including provisions relating to the giving of notices or the making of *Claims* under the *Contract*) or to exercise a right of the *Principal* will not constitute a waiver, discharge, or release of such provisions or rights, or any other provision or right, and shall not prevent the *Principal* from exercising any of its rights or having the benefit of any remedies it may have in respect of any subsequent non-compliance with such provisions by the *Contractor*.'

### **44 WORK HEALTH AND SAFETY**

Insert new clause 44 as follows.

#### **'44 Work Health and Safety**

##### **44.1 Terms used in this clause**

For the purposes of clause 44 'workplace', 'inspector', 'notifiable incident', 'principal contractor' and 'regulator' have the same meanings as in the *Work Health and Safety Legislation*.

##### **44.2 Appointment as principal contractor**

If *Item 33* states that the *Contractor* is appointed as *principal contractor* under the *Work Health and Safety Legislation* then from the *date of acceptance of tender* until 5pm on the *date of practical completion*, and at all other times at which the *Contractor* carries out any *WUC* at the *site*:

- 
- (a) the *Principal* appoints the *Contractor* to be the *principal contractor* under the *Work Health and Safety Regulation 2011 (Qld)* in relation to *WUC* and authorises the *Contractor* to:
- (i) have management and control of the *site* and any other workplace at which *WUC* is carried out; and
  - (ii) discharge the duties of the *principal contractor* under the *Work Health and Safety Regulation 2011 (Qld)*; and
- (b) the *Contractor* accepts the appointment as *principal contractor* from the *Principal* and agrees to do all things necessary to give effect to that appointment prior to the commencement of *WUC*.

If *Item 33* states that the *Contractor* is not appointed as *principal contractor*, the *Contractor* must comply with all reasonable requirements of the *Principal* in its capacity as *principal contractor*, or the reasonable requirements of any other party appointed by the *Principal* as *principal contractor*.

#### 44.3 General Obligations

Without limiting any other obligation of the *Contractor* relating to health and safety, the *Contractor* must:

- (a) comply with and discharge (and ensure that the *Contractor's personnel*, to the extent applicable to them, comply with and discharge) all obligations imposed on the *Contractor* and the *Principal* under:
- (i) this *Contract*,
  - (ii) the *Work Health and Safety Legislation* (including its obligations as *principal contractor*, if so appointed) and any other *legislative requirement* relating to health and safety which is applicable to *WUC*;
  - (iii) any other standards, plans, requirements, codes, guidelines or policies relating to the health and safety which are applicable to *WUC* including:
    - (A) any industry standards relating to the carrying out of the *WUC*,
    - (B) any *Contractor's Safety Plan* prepared by the *Contractor* and approved by the *Superintendent* pursuant to subclauses 8.3; and
  - (iv) the *Principal's* safety management plan and policies; any *direction* of the *Superintendent* relating to health and safety;
- (b) consult with the *Principal* and the designers of the whole or any part of *the Works* about how to ensure that risks to health and safety arising from the design during the *WUC* are eliminated or, if it is not reasonably

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practicable to eliminate the risks, to minimise the risks, so far as is reasonably practicable;

- (c) in performing its obligations under the *Contract*, take into account and use its best endeavours to act consistently with any information given to the *Contractor* by the *Principal* or any other person, about hazards and risks at or in the vicinity of the *site* or any other workplace where *WUC* is being carried out;
- (d) if a *notifiable incident* occurs at the *site* or any other workplace where *WUC* is being carried out:
  - (i) immediately notify the regulator and the *Superintendent* of the *notifiable incident*; and
  - (ii) take all reasonably practicable steps to secure the *site* or part of the *site* where the *notifiable incident* occurred until an *inspector* arrives at the *site* or any earlier time that an *inspector* directs;
- (e) in the event of any inconsistency, ambiguity, discrepancy or conflict between any of the standards or obligations of the *Contractor* or its *personnel* under clause 44 promptly notify the *Superintendent* of the inconsistency, ambiguity, discrepancy or conflict, and, unless otherwise directed by the *Superintendent* adopt the higher or more onerous standard or obligation.

#### 44.4 Electrical Safety

- (a) The *Contractor* must comply with all provisions of the *Electrical Safety Act 2002 (Qld)* and all related *legislative requirements*.
- (b) The *Contractor* must ensure that:
  - (i) all electrical *work* conducted, including *work* performed by *subcontractors*, is fully documented and recorded on a 'Certificate of Electrical Safety';
  - (ii) all required 'AS3000 Test Results' are documented and recorded by the *Contractor*;
  - (iii) the *Contractor* provides, as part of the *construction records*:
    - (A) certificates of testing and safety pursuant to the *Electrical Safety Regulation 2013 (Qld)* for all electrical work carried out as part of *WUC* (whether by the *Contractor* or by *subcontractors*); and
    - (B) records of all test results in accordance with AS3000:2007 for all electrical installation works on property owned by the *Principal*.

#### 44.5 Contractor's Safety Plan

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This subclause 44.5 only applies if *Item 34* provides that the *Contractor* is required to prepare a *Contractor's Safety Plan*.

The *Contractor* must:

- (a) prepare a *Contractor's Safety Plan* for the *WUC*; and
- (b) obtain the *Superintendent's* approval of the *Contractor's Safety Plan* in accordance with subclause 8.3; and
- (c) provide a copy of any document produced or obtained by the *Contractor* in compliance with this subclause to the *Principal* or *Superintendent* on request.

The *Contractor's Safety Plan* must, at a minimum, be consistent with the *Contract* and demonstrate how the *Contractor* will comply with its obligations under subclauses 44.3 and 44.4.'

## 45 CULTURAL HERITAGE

Insert new clause 45 as follows:

### '45 CULTURAL HERITAGE

#### 45.1 General Obligations

Without limiting any other clause in this *Contract*, the *Contractor* must:

- (a) in carrying out the *WUC*, comply with its duty of care under section 23 of the *Aboriginal Cultural Heritage Act 2003 (Qld)* and of the *Torres Strait Islander Cultural Heritage Act 2003 (Qld)* requiring the *Contractor* to take all reasonable and practicable measures not to harm or damage *Aboriginal Cultural Heritage* or *Torres Strait Islander Cultural Heritage*;
- (b) in carrying out the *WUC*, act diligently to protect the *Cultural Heritage* of the *site*, the area surrounding the *site* and any other land used by the *Contractor* in connection with the *WUC*;
- (c) notify the *Superintendent* immediately of any communication with the *Contractor* by an *Aboriginal Party* or *Torres Strait Islander Party* (or a person claiming to be an *Aboriginal Party* or *Torres Strait Islander Party*) which may affect the *WUC*;
- (d) comply with and discharge (and ensure that the *Contractor's personnel* comply with and discharge) all obligations imposed on the *Contractor* under:
  - i) this *Contract*;
  - ii) *legislative requirements* relating to the protection of *Cultural Heritage* which are applicable to *WUC*;

- 
- iii) any other standards, plans, requirements, codes, guidelines, policies, consents and permissions relating to the protection of the *Cultural Heritage* which are applicable to *WUC*, including:
    - (A) any *Contractor's Cultural Heritage Plan* prepared by the *Contractor* and which the *Superintendent* has notified the *Contractor* is suitable under subclause 8.3; and
    - (B) the *Principal's Cultural Heritage* management policies and plans;
    - (C) any consent, permission or clearance provided by an *Aboriginal Party* or *Torres Strait Islander Party*; and
    - (D) the *Cultural Heritage Management Plan* (if any) approved pursuant to the *Aboriginal Cultural Heritage Act 2003 (Qld)* or the *Torres Strait Islander Cultural Heritage Act 2003 (Qld)* and applicable to the *WUC*;
  - iv) any *direction* of the *Superintendent* in relation to the protection of *Cultural Heritage*;
  - (e) if *Item 35* states that the *Contractor* must do so:
    - i) arrange for a search of the relevant *Aboriginal Cultural Heritage* or *Torres Strait Islander Cultural Heritage* register and database under the *Aboriginal Cultural Heritage Act 2003 (Qld)* or *Torres Strait Islander Cultural Heritage Act 2003 (Qld)* to be undertaken before any *work* commences and provide a copy of the results of the searches to the *Superintendent*;
    - ii) arrange any consents, permissions or clearances required from an *Aboriginal Party* or *Torres Strait Islander Party* for the carrying out of the *WUC* (including arranging any *site* inspections and monitoring or *works* required by the an *Aboriginal Party* or *Torres Strait Islander Party*) and provide evidence suitable to the *Superintendent* of any such consents, permissions or clearances;
    - iii) pay any fees, costs, wages or other payments in connection with obtaining the consent, permission, clearance (including the fees, costs and/or wages of any persons conducting a *site* inspection or monitoring); and/or
    - iv) prepare and obtain the *Superintendent's* approval of a *Contractor's Cultural Heritage Plan*, and provide a copy of any documents produced or obtained by the *Contractor* in connection with this subclause to the *Principal* or the *Superintendent* on request; and
  - (f) in the event of any inconsistency, ambiguity, discrepancy or conflict between any of the standards or obligations of the *Contractor* or its *personnel* under clause 45.1, promptly notify the *Superintendent* of the inconsistency, ambiguity, discrepancy or conflict, and, unless otherwise

directed by the *Superintendent*, adopt the higher or more onerous standard or obligation.'

## 46 ENVIRONMENTAL MANAGEMENT

Insert new clause 46 as follows:

### '46 Environmental Management

#### 46.1 General obligations

Without limiting any other obligation of the *Contractor* relating to the protection of the environment, the *Contractor* must:

- (a) in carrying out *WUC* or undertaking any other activity in relation to *WUC*, act diligently to prevent any environmental harm to the *site*, the area surrounding the *site* and any other land used by the *Contractor* in connection with *WUC*;
- (b) comply with and discharge (and ensure that its *personnel*, to the extent applicable to them, comply with and discharge) all obligations imposed on the *Contractor* under:
  - (i) this *Contract*;
  - (ii) any *legislative requirements* relating to the protection of the environment;
  - (iii) any other standards, plans, requirements, codes, guidelines or policies relating to the protection of the environment which are applicable to *WUC*; including:
    - (A) any industry standards relating to the carrying out of the *WUC*, and
    - (B) any *Contractor's Environmental Plan* prepared by the *Contractor* and approved by the *Superintendent* pursuant to subclause 8.3; and
    - (C) the *Principal's* environmental management policies and plans;
  - (iv) any *direction* of the *Superintendent* relating to the protection of the environment;
- (c) obtain, keep current and comply with the requirements of any environmental licences, permits or authorities required under *legislative requirements* in relation to *WUC*;
- (d) identify all potential sources of and take all reasonable care to minimise waste and prevent pollution;

- (e) undertake a safety and environmental risk assessment for the *WUC* and provide these to the *Superintendent*;
- (f) report all incidents of environmental contamination or disturbance to the *Superintendent* within 24 hours of the occurrence of such an event;
- (g) instruct all *personnel* in relevant environmental procedures prior to any *WUC* being undertaken by those *personnel*;
- (h) nominate a competent employee to act as an environmental officer for the *Contract*;
- (i) exercise due diligence in all activities carried out on behalf of the *Principal*;
- (j) take all other reasonable steps to prevent the occurrence of any environmental damage or pollution, including noise pollution, as a result of the carrying out of the *WUC*;
- (k) undertake, and ensure that its *personnel* undertake the *Principal's* environmental induction training prior to the commencement of *WUC* if directed to do so by the *Superintendent*;
- (l) rectify and make good at its own cost any loss or damage caused as a result of the *Contractor's* failure to comply with its obligations under this clause 46; and
- (m) in the event of any inconsistency, ambiguity, discrepancy or conflict between any of the standards or obligations of the *Contractor* or its *personnel* under clause 46 promptly notify the *Superintendent* of the inconsistency, ambiguity, discrepancy or conflict, and, unless otherwise directed by the *Superintendent*, adopt the higher or more onerous standard or obligation.

#### **46.2 Contractor's Environmental Plan**

This subclause 46.2 only applies if *Item 36* states that the *Contractor* is required to provide a *Contractor's Environmental Plan*.

- (a) The *Contractor* must:
  - (i) prepare a *Contractor's Environmental Plan*;
  - (ii) obtain the *Superintendent's* approval of the *Contractor's Environmental Plan* in accordance with subclause 8.3; and
  - (iii) unless directed otherwise by the *Superintendent*, monitor and review the *Contractor's Environmental Plan*:
    - (A) at weekly intervals during the carrying out of the *WUC*;
    - (B) at monthly intervals during the first quarter of the *defects*



*liability period; and*

- (C) at quarterly intervals until the issuing of a *final certificate*;
  - (iv) with its *final payment claim* under subclause 37.4, (or at such earlier time as may be requested by the *Superintendent*) submit an exit report to the *Superintendent* which:
    - (A) reviews the overall environmental management process;
    - (B) provides recommendations in relation to the need for any further monitoring;
    - (C) provides recommendations in relation to any changes to the environmental management process;
  - (v) provide a copy of any document produced or obtained by the *Contractor* in connection with this subclause to the *Principal* or *Superintendent* on request.
- (b) The *Contractor's Environmental Plan* must:
- (i) at a minimum, be consistent with the *Contract* and demonstrate how the *Contractor* will comply with its obligations under this clause 46; and
  - (ii) where relevant, address:
    - (A) stripping of topsoil;
    - (B) management of stockpiles;
    - (C) water management;
    - (D) revegetation;
    - (E) sediment and erosion control;
    - (F) acid sulphate soils;
    - (G) waste management;
    - (H) air and noise quality management;
    - (I) applying for, gaining and maintaining all approvals, permits and licences required under the *Contract*.

### **46.3 Environmental Performance**

- (a) The *Contractor* acknowledges that a failure by the *Contractor* to comply with any of its obligations under this clause 46 may be taken into account by the *Principal* in determining whether to award future contracts to the

*Contractor.*'

## 47 TRAFFIC MANAGEMENT

Insert new clause 47 as follows:

### '47 Traffic Management

#### 47.1 General

The *Contractor* must:

- (a) ensure that traffic is safely and efficiently controlled from the *date of acceptance of tender* until *practical completion* is reached and when carrying out any *WUC* during the *defects liability period* by the use of *personnel*, barricades, signs and the like in compliance with Standard Specification Roads MRS02 – Provision for Traffic (10/10) and 'Manual of Uniform Traffic Control Devices (MUTCD)' – 2011 published by *QDTMR* and available from *QDTMR*;
- (b) comply with and discharge (and ensure that its *personnel*, to the extent applicable to them, comply with and discharge) all obligations imposed on the *Contractor* or the *Principal* under:
  - (i) this *Contract*;
  - (ii) *legislative requirements* relating to management of traffic;
  - (iii) any other standards, plans, requirements, codes, guidelines or policies relating to the management of traffic which are applicable to *WUC* including:
    - (A) any industry standards relating to the carrying out of the *WUC*; and
    - (B) any *Contractor's Traffic Plan* prepared by the *Contractor* and approved by the *Superintendent* pursuant to subclause 8.3; and
    - (C) the *Principal's* traffic management policies and plans;
  - (iv) any *direction* of the *Superintendent* relating to the management of traffic; and
- (c) in the event of any inconsistency, ambiguity, discrepancy or conflict between any of the standards or obligations of the *Contractor* or its *personnel* under subclause 47 promptly notify the *Superintendent* of the inconsistency, ambiguity, discrepancy or conflict, and, unless otherwise directed by the *Superintendent*, adopt the higher or more onerous standard or obligation.

#### 47.2 Contractor's Traffic Plan

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This subclause 47.2 only applies if *Item 37* states that the *Contractor* is required to prepare a *Contractor's Traffic Plan*.

- (a) The *Contractor* must:
- (i) prepare a *Contractor's Traffic Plan*;
  - (ii) obtain the *Superintendent's* approval of the *Contractor's Traffic Plan* in accordance with subclause 8.3;
  - (iii) if directed by the *Superintendent*, obtain *QDTMR's* approval of the *Contractor's Traffic Plan* and comply with all *directions* of *QDTMR* to enable it to do so; and
  - (iv) provide a copy of any document produced or obtained by the *Contractor* in compliance with this clause to the *Principal* or *Superintendent* on request.
- (b) The *Contractor's Traffic Plan* must at a minimum:
- (i) be consistent with all relevant *legislative requirements*, (including where relevant *QDTMR* requirements);
  - (ii) detail the measures to be taken by the *Contractor* to safely and efficiently manage traffic during the carrying out of *WUC*; and
  - (iii) detail the proposed cartage routes for the importation of materials.
- (c) Without limiting subclause 8.3, the *Contractor* is not entitled to an *EOT* or any additional payment in connection with a *direction* of the *Superintendent* or *QDTMR* in respect of the *Contractor's Traffic Plan* and notwithstanding clause 20, neither the *Superintendent's* nor *QDTMR's* acknowledgement or approval of the *Contractor's Traffic Plan* shall prejudice the *Contractor's* obligations or liabilities.'

## 48 PORTABLE LONG SERVICE LEAVE

Insert new clause 48 as follows:

### '48 Portable Long Service Leave

The party identified in *Item 38* shall pay any *Portable Long Service Leave Levy* payable in relation to the *WUC* and give all relevant notices to *QLEAVE* in accordance with the *Portable Long Service Leave Legislation*.'

## 49 EXPLOSIVES

Insert new clause 49 as follows:

### '49 Explosives

In this clause, '*explosive*' has the same meaning as in the *Explosives Act 1999* (Qld).

The *Contractor* must not use any *explosive* in carrying out *WUC* unless the *Superintendent* expressly directs otherwise in writing.

Where the *Superintendent* directs in writing that explosives may be used, then without limiting anything else in this *Contract*, the *Contractor* must satisfy and comply with all *legislative requirements* relating to the use of explosives, including the *Explosives Act 1999* (Qld), the *Explosives Regulation 2003* (Qld) and Australian Standard AS2187.0-1998.'

## 50 INFORMATION PRIVACY ACT

Insert new clause 50 as follows:

### '50 Information Privacy Act

If the *Contractor* collects or has access to *Personal Information* in order to carry out *WUC*, the *Contractor* must comply with Parts 1 and 3 of Chapter 2 of the *Information Privacy Act 2009* (Qld) in relation to the discharge of its obligations under this *Contract* as if the *Contractor* was the *Principal*.'

## 51 MEETINGS

Insert new clause 51 as follows:

### '51 Meetings

#### 51.1 Project and Site Meetings

The *Contractor* shall ensure that it and any of its *personnel* requested by the *Superintendent* or the *Principal* to attend are represented at any meetings required by the *Superintendent* or *Principal* to openly discuss all matters relevant to the *WUC* and progress of *WUC*. Such meetings may be convened by the *Principal* or *Superintendent* by reasonable notice to the *Contractor*.

If minutes of a meeting are kept by the *Superintendent*, they will be issued to the *Contractor* as soon as possible after the meeting. If the *Contractor* does not agree with the accuracy of the minutes, it must notify the *Superintendent* of the inaccuracy in accordance with subclause 41.4.

Despite the recording of the minutes of any meeting, no resolution or communication at any meeting (nor minutes recording any resolution or communication) shall waive, release, vary or affect in any way the parties

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obligations under this *Contract* nor shall it constitute a *direction* unless and until a *direction* is given in writing by the *Superintendent*.

### 51.2 Pre-start Meeting

- (a) The *Contractor* shall prior to commencing any *WUC* on *site*, attend the pre-start meeting to be held at the address, time and date nominated by the *Superintendent*.
- (b) At that meeting, unless the *Contractor* has already done so, the *Contractor* shall:
  - (i) satisfy the *Superintendent* that the *Contractor* has provided all of the information and documents required in *Item 22A*; and
  - (ii) provide the names and telephone contact details for the *Contractor's* representative and all relevant *personnel* who may be contacted for after hours calls during the course of the *Contract*.
- (c) The meeting may also address the following matters:
  - (i) construction and *site* specific issues;
  - (ii) lines of communication and authority levels;
  - (iii) possession of *site*;
  - (iv) frequency and venue of *site* and other meetings;
  - (v) progress payments; and
  - (vi) *site* induction/accreditation of *personnel* of the *Contractor* who are to be engaged in *WUC*.

## 52 BUILDING CODE 2013

Insert new clause 52 as follows:

### '52 Building Code 2013

- 52.1 This clause 52 applies only if *Item 39* provides that the *Building Code 2013* applies to this *Contract*.
- 52.2 The *Contractor* must comply with the *Building Code 2013*. Copies of the *Building Code 2013* are available at [www.employment.gov.au/BuildingCode](http://www.employment.gov.au/BuildingCode).
- 52.3 Compliance with the *Building Code 2013* shall not relieve the *Contractor* from responsibility to perform the *Contract*, or from liability for any defect in the *WUC* arising from compliance with the *Building Code 2013*.
- 52.4 Where a change in the *Contract* is proposed and that change would

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affect compliance with the *Building Code 2013*, the *Contractor* must submit a report to the Commonwealth and to the *Principal* specifying the extent to which the *Contractor's* compliance with the *Building Code 2013* will be affected.

- 52.5 The *Contractor* must maintain adequate records of the compliance with the *Building Code 2013* by:
- (a) the *Contractor*;
  - (b) its *subcontractors*;
  - (c) consultants; and
  - (d) its Related Entities (as that term is defined in Section 8 of the *Building Code 2013*).
- 52.6 If the *Contractor* does not comply with the requirements of the *Building Code 2013* in the performance of this *Contract* such that a sanction is applied by the Minister for Employment, the Code Monitoring Group or the Commonwealth, without prejudice to any rights that would otherwise accrue, those parties shall be entitled to record that non-compliance and take it, or require it to be taken, into account in the evaluation of any future tenders that may be lodged by the *Contractor* or a related entity in respect of work funded by the Commonwealth or its agencies.
- 52.7 While acknowledging that value for money is the core principle underpinning decisions on Government procurement, when assessing tenders, the *Contractor* may give preference to *subcontractors* and consultants that have a demonstrated commitment to:
- (a) adding and/or retaining trainees and apprentices;
  - (b) increasing the participation of women in all aspects of the industry; or
  - (c) promoting employment and training opportunities for Indigenous Australians in regions where significant indigenous populations exist.
- 52.8 The *Contractor* must not appoint a *subcontractor* or consultant in relation to the project where:
- (a) the appointment would breach a sanction imposed by the Minister for Employment; or
  - (b) the *subcontractor* or consultant has had an adverse Court or Tribunal decision (not including decisions under appeal) for a breach of workplace relations law, work health and safety law, or workers' compensation law and the tenderer has not fully complied, or is not fully complying, with the order.

- 52.9 The *Contractor* agrees to require that it and its *subcontractors* or consultants and its related entities provide the Commonwealth or any person authorised by the Commonwealth, including a person occupying a position in the Fair Work Building Industry Inspectorate, with access to:
- (a) inspect any work, material, machinery, appliance, article or facility;
  - (b) inspect and copy any record relevant to the project the subject of this *Contract*; and
  - (c) interview any person,
- as is necessary to demonstrate its compliance with the *Building Code 2013*.
- 52.10 Additionally, the *Contractor* agrees that the *Contractor* and its related entities will agree to a request from the Commonwealth or any person authorised by the Commonwealth, including a person occupying a position in the Fair Work Building Industry Inspectorate, to produce a specified document within a specified period, in person, by fax or by post.
- 52.11 The *Contractor* must ensure that all subcontracts impose obligations on sub contractors equivalent to the obligations under this clause 52.

Nothing in this clause 52 will affect or limit the *Contractor's* obligation to comply with this *Contract*.'

### 53 OHS ACCREDITATION SCHEME

Insert new clause 53 as follows:

#### '53 OHS Accreditation Scheme

This clause 53 only applies if *Item 40* provides that the *OHS Accreditation Scheme* applies to the *Contract*.

- (a) The *Contractor*:
  - (i) warrants that as at the *date of acceptance of tender* the *Contractor* is fully accredited in accordance with the *OHS Accreditation Scheme*;
  - (ii) must:
    - (A) comply with all conditions of accreditation under the *OHS Accreditation Scheme*;
    - (B) maintain accreditation under the *OHS Accreditation Scheme* at all times whilst *WUC* is being carried out; and

- (C) immediately notify the *Superintendent* if it ceases to maintain accreditation.'

## 54 QUEENSLAND CODE OF PRACTICE FOR THE BUILDING AND CONSTRUCTION INDUSTRY

Insert new clause 54 as follows:

### '54 QUEENSLAND CODE OF PRACTICE FOR THE BUILDING AND CONSTRUCTION INDUSTRY

#### 54.1 Queensland Code and Queensland Guidelines

- (c) This clause 54 applies only if *Item 41* provides that the *Queensland Code* and *Queensland Guidelines* apply to the *Contract*.
- (d) In addition to terms defined in this document, terms used in this clause 54 have the same meaning as is attributed to them in the *Queensland Guidelines*.

#### 54.2 Primary obligation

- (e) The *Contractor* must comply with, and meet any obligations imposed by, the *Queensland Code* and *Queensland Guidelines*.
- (f) The *Contractor* must notify the Building Construction Compliance Branch (or nominee) and the *Principal* of any alleged breaches of the *Queensland Code* and *Queensland Guidelines* and of voluntary remedial action taken, within 24 hours of becoming aware of the alleged breach.
- (g) Where the *Contractor* is authorised to engage a subcontractor or consultant, and it does so, the *Contractor* must ensure that any secondary contract imposes on the subcontractor or consultant equivalent obligations to those in this clause 54, including that the subcontractor or consultant must comply with, and meet any obligations imposed by, the *Queensland Code* and the *Queensland Guidelines*.
- (h) The *Contractor* must not appoint or engage another party in relation to the project where that appointment or engagement would breach a sanction imposed on the other party in relation to the *Queensland Code* or *Queensland Guidelines*.

#### 54.3 Access and information

- (a) The *Contractor* must maintain adequate records of compliance with the *Queensland Code* and *Queensland Guidelines* by it, its subcontractors, consultants and related entities.



- 
- (b) The *Contractor* must allow, and take reasonable steps to facilitate, Queensland Government authorised personnel (including personnel of the Building Construction Compliance Branch) to:
- (i) enter and have access to sites and premises controlled by the *Contractor*, including the *site*;
  - (ii) inspect any *work*, machinery, appliance, article or facility;
  - (iii) access information and documents;
  - (iv) inspect and copy any record relevant to the project;
  - (v) have access to personnel;
  - (vi) interview any person; and
  - (vii) as is necessary for the authorised personnel to monitor and investigate compliance with the *Queensland Code* and *Queensland Guidelines*, by the *Contractor*, its subcontractors, consultants and related entities.
- (c) The *Contractor*, and its related entities, must agree to, and comply with, a request from Queensland Government authorised personnel (including personnel of the Building Construction Compliance Branch) for the production of specified documents by a certain date, whether in person, by post or electronic means.

#### 54.4 Sanctions

- (a) The *Contractor* warrants that at the time of entering into this *Contract*, neither it, nor any of its related entities, are subject to a sanction in connection with the *Queensland Code* or *Queensland Guidelines* that would have precluded it from tendering for work to which the *Queensland Code* and *Queensland Guidelines* apply.
- (b) If the *Contractor* does not comply with, or fails to meet any obligation imposed by, the *Queensland Code* or *Queensland Guidelines*, a sanction may be imposed against it in connection with the *Queensland Code* or *Queensland Guidelines*.
- (c) Where a sanction is imposed:
- (i) it is without prejudice to any rights that would otherwise accrue to the parties; and

- 
- (ii) the State of Queensland (through its agencies, Ministers and the Building Construction Compliance Branch) is entitled to:
    - (A) record and disclose details of non-compliance with the *Queensland Code* or *Queensland Guidelines* and the sanction; and
    - (B) take them into account in the evaluation of future expressions of interest or tender responses that may be lodged by the *Contractor*, or its related entities, in respect of work to which the *Queensland Code* and *Queensland Guidelines* apply.

#### 54.5 Compliance

- (a) The *Contractor* bears the cost of ensuring its compliance with the *Queensland Code* and *Queensland Guidelines*, including in respect of any positive steps it is obliged to take to meet its obligations under the *Queensland Guidelines*. The *Contractor* is not entitled to make a *Claim* for reimbursement or an extension of time from the *Principal* or the State of Queensland for such costs.
- (b) Compliance with the *Queensland Code* and *Queensland Guidelines* does not relieve the *Contractor* from responsibility to perform *the Works* or any other obligation under the *Contract*, or from liability for any defect in *the Works* or from any other legal liability, whether or not arising from its compliance with the *Queensland Code* and *Queensland Guidelines*.
- (c) Where a change in the *Contract* or *the Works* is proposed, and that change would, or would be likely to, affect compliance with the *Queensland Code* and *Queensland Guidelines*, the *Contractor* must immediately notify the *Principal* (or nominee) of the change, or likely change and specify:
  - (i) the circumstances of the proposed change;
  - (ii) the extent to which compliance with the *Queensland Code* and *Queensland Guidelines* will, or is likely to be, affected by the change; and
  - (iii) what steps the *Contractor* proposes to take to mitigate any adverse impact of the change (including any amendments it proposes to a Workplace Relations Management Plan),

and the *Principal* will direct the *Contractor* as to the course it must adopt within five *Business Days* of receiving notice.'





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**AS4000-1997**

**GENERAL CONDITIONS OF CONTRACT**



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A copy of AS4000-1997 General Conditions of Contract (as current at the *date of acceptance of tender*) forms part of this *Contract* notwithstanding that a copy is not physically included. A copy of the AS4000-1997 General Conditions of Contract can be obtained from SAI Global by contacting (02) 8206 6355 or [copyright@saiglobal.com](mailto:copyright@saiglobal.com) or by visiting the website [www.saiglobal.com](http://www.saiglobal.com).



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## Annexure Part C – Job Specification



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## Annexure Part D – Drawings





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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## Annexure Part E – Methodology



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## Annexure Part F – Project Appreciation



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## Annexure Part G – Key Personnel



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## Annexure Part H – Contract Sum





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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## **Annexure Part I – Communication and Engagement Protocols**



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT]



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## **Annexure Part J – Statutory Declaration of Contractor pursuant to subclause 38.1**



**Statutory Declaration by Contractor  
Oaths Act 1867**

Queensland  
To Wit

I, \_\_\_\_\_ of \_\_\_\_\_ in the State of Queensland, do solemnly and sincerely declare that, in relation to the *Contract* between the Townsville City Council and \_\_\_\_\_ (the *Contractor*) for the \_\_\_\_\_ Project (the *Contract*):

- (a) I hold the position of \_\_\_\_\_. I am in a position to know the facts contained herein and to bind the *Contractor* by the terms of this declaration, and I am duly authorised by the *Contractor* to make this declaration on its/his behalf.
- (b) All *WUC* claimed in in progress claim no. \_\_\_\_\_ has been carried out in accordance with the requirements of the *Contract*.
- (c) All subcontractors suppliers, and consultants ('Subcontractors') of the *Contractor* have been paid all that:
  - (i) \_\_\_\_\_ is due and payable to them up to the date of submission by the *Contractor* of progress claim no \_\_\_\_\_ in respect of their part of the *WUC*; and
  - (ii) the Subcontractors have claimed is due and payable to them up to the date of submission by the *Contractor* of progress claim no \_\_\_\_\_ in respect of their part of the *WUC*, except as disclosed in paragraph (d).
- (d) The *Contractor* has not paid the following amounts which Subcontractors claim are due and payable to them:

Name of subcontractor	Date of claim	Amount claimed	Amount paid	Reason for not paying amount claimed

- (e) All the *Contractor's* employees who at any time have been engaged on *WUC* by the *Contractor* have been paid, in accordance with the relevant award or industrial instrument, all moneys due and payable to them up to the date of submission by the *Contractor* of progress claim no \_\_\_\_\_, (including, without limitation building industry superannuation and long service leave levies).

And I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the **Oaths Act 1867**.

TAKEN AND DECLARED before me )  
 )  
 ..... )  
 Name of Witness ) Name of declarant  
 )  
 at ..... )  
 ..... )  
 ..... )  
 ) A Justice of the Peace / Legal Practitioner /  
 ) Commissioner for Declarations





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## Annexure Part K – Other Documents



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[TO BE INSERTED INTO EXECUTION COPY OF CONTRACT (IF ANY)]





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[CONTRACT TO BE INSERTED HERE]



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## SECTION E – SCOPE OF WORKS



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## SCOPE OF WORKS

**CONTRACT No. TCW00144**  
STUART WASTE FACILITY - STAGE 2Bii INTERFACE LINER

**Refer attached Technical Specification for a full scope of works including drawings.**

August 2015

TECHNICAL SPECIFICATION FOR

# Construction of Stuart Waste Facility Stage 2Bii Interface Liner

**Submitted to:**  
Townsville City Council

REPORT

**Report Number.** 1525414-002-R-Rev0

**Distribution:**  
Townsville City Council



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# STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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## 1.0 INTRODUCTION

### 1.1 Background

Townsville City Council (TCC) operates the Stuart Waste Facility. The site is next to the Bruce Highway, forming the western boundary. The site is bound by the Vantassel Street in the north and east and Coast Road to the south.

This Technical Specification has been prepared for the Construction of the Stage 2Bii extension of an existing interface liner (Stage 1) that connects to and supports raising the height of the waste mound in Cell 2 and placement back over the footprint of Cell 1 that does not have an engineered liner and leachate collection system.

To the east and south of the Stage 2Bii interface liner area final capping has been constructed over sections of completed external slopes of Cell 1 and Cell 2.

### 1.2 Extent of Work

The Stage 2Bii interface liner is located within Stuart Waste Facility immediately East of the Stage 1 Interface liner. The interface liner to be constructed is approximately 275m in length from north to south and on average approximately 60 m wide from east to west. The slope varies from 5H:1V in the north and 2.5H:1V to the south.

The Stage 2Bii interface liner system comprises

- A gas collection system using a network of panel drains and geocomposite strip drains,
- A biaxial geogrid system to reduce the risk of differential settlement of underlying waste resulting in damage to the interface lining system,
- A 200 mm thick soil layer above the biaxial geogrid system.
- Geosynthetic Clay Liner (GCL),
- A layer of 1.5mm thick one-sided textured LLDPE geomembrane
- A cushion geotextile layer
- A 300 mm thick soil protection layer restrained by a uniaxial geogrid
- A network of leachate collection pipes reporting to a leachate collection sump.

The design of the Stage 2Bii interface liner system is presented in the following drawings:

- Drawing 1: Cover Sheet
- Drawing 2: Existing Conditions
- Drawing 3: Gas Collection System
- Drawing 4: Leachate Collection System
- Drawing 5: General Cross Sections
- Drawing 6: Liner Section and Details
- Drawing 7: Typical Anchor Trench Details
- Drawing 8: Typical Gas and Leachate Sections and Details

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

Construction of the Stage 2Bii interface liner system shall be undertaken without disruption to existing Stuart Waste Facility operations.

### 1.3 Definitions

The following parties are referred to in this Specification.

Principal	Townsville City Council (TCC)
Designer	Golder Associates Pty Ltd.
Superintendent	TCC and its appointed representatives responsible for overseeing construction of the Works.
Construction Quality Officer (CQO)	Shall be appointed by TCC to undertake independent quality assurance supervision of the liner installation.
Contractor	Shall be the party awarded the Contract to complete the Works described in this Technical Specification
Installer	Shall be a specialist lining installer who will be engaged by the Contractor

The following materials are referred to in this Specification.

Unit 1	Clay Rich Fill	Soils with clay content
Unit 2A	Protection Layer	Natural various soils
Unit 2B	Protection Layer	Natural various soils
Unit 3	Drainage Aggregate	Crushed rock or gravel
Unit 4	Panel Drain	Perforated oblong HDPE core drain
Unit 5	Geocomposite Strip Drains	HDPE geonet wrapped with filter geotextile
Unit 6	Biaxial Geogrid	Soil reinforcement grid
Unit 7	GCL	Reinforced Geosynthetic Clay Liner
Unit 8	Geomembrane (LLDPE)	1.5mm thick one sided textured LLDPE Geomembrane
Unit 9	Cushion Geotextile	Non-woven polyester or polypropylene geotextile
Unit 10	Uniaxial Geogrid	Soil reinforcement grid.
Unit 11	Filter Geotextile	Non-woven geotextile
Unit 12	Separation Geotextile	Non-woven geotextile
Unit 13A	Gas Collection Pipe - Perforated	90mm diameter perforated polyethylene pipe
Unit 13B	Gas Collection Pipe – Solid Wall	90mm diameter solid wall polyethylene pipe
Unit 14A	Leachate Collection Pipe	160mm diameter perforated polyethylene pipe
Unit 14B	Leachate Collection Pipe	250mm diameter perforated polyethylene pipe
Unit 15	Leachate Collection Drain Pipe	315mm diameter solid wall polyethylene pipe
Unit 16	Pipe Anchor	150mm diameter solid wall polyethylene pipe
Unit 17	Leachate Collection Sump	1800mm diameter prefabricated concrete pipe, cast insitu base and prefabricated lid with galvanized steel hinged grate.
Unit 18	Leachate Collection Pit	900mm diameter prefabricated concrete pipe, cast insitu base and prefabricated lid with galvanized steel hinged

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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### 1.4 Suggested Sequence of Construction

The following is a suggested sequence of construction of the Works. The Contractor shall use its experience in assessing the adequacy of this method of works and adjust it accordingly. This is provided for information only.

- 1) Strip and remove vegetation and other foreign objects from the extents of works for the geosynthetics installation and stockpile material as locations instructed by the Superintendent.
- 2) Area of geosynthetic installation is to be re-profiled to remove irregularities and fill low lying areas.
- 3) Excavate the crest gas collection and Unit 6 Biaxial Geogrid trench and install network of Unit 4 Panel Drains and Unit 5 Geocomposite Strip Drains. Connect the Unit 4 Panel Drains to the existing Stage 1 gas collection connection points.
- 4) Excavate trenches for Unit 13B Gas Collection Pipes for future gas connections at the crest of the cell.
- 5) Install Unit 13B Gas Connection Pipes.
- 6) Excavate interim GCL anchor trenches.
- 7) Deploy Unit 6 Biaxial Geogrid and backfill the crest gas collection and Unit 6 Biaxial Geogrid trench.
- 8) Place the Unit 2A Protection Layer over the Unit 6 Biaxial Geogrid
- 9) Progressively excavate the crest liner system anchor trench.
- 10) Deploy Unit 7 GCL and Unit 8 Geomembrane concurrently. Backfill the interim GCL anchor trenches progressively. Ensure ballasting is used during installation.
- 11) Deploy Unit 9 Cushion Geotextile over the Unit 8 Geomembrane and backfill the crest liner system anchor trench progressively.
- 12) Excavate the crest Unit 10 Uniaxial Geogrid anchor trench.
- 13) Deploy the Unit 10 Uniaxial Geogrid and backfill crest anchor trench progressively.
- 14) Place the Unit 2B Protection Layer over the geosynthetics.
- 15) Install Unit 14A and Unit 14B Leachate Collection Pipes above the protection layer. Unit 14A pipes shall be surrounded by Unit 3 Drainage Gravel wrapped in Unit 12 Separation Geotextile
- 16) Excavate trench for temporary leachate collection drain, achieving a minimum grade of 1.5%. Also excavate area for Unit 17 Leachate Collection Sump and Unit 18 Leachate Collection Pit.
- 17) Install Unit 15 Leachate Collection Drain pipe, Unit 12 Separation Geotextile and Unit 3 Drainage Aggregate. Backfill trench.
- 18) Placement of Unit 17 Leachate Collection Sump and Unit 18 Leachate Collection Pit.

Technical Specifications for materials and construction are presented in the following sections. Suggestions are also presented regarding use of machines and equipment over Unit 8 Geomembrane.

Construction must be carried out in accordance with this Technical Specification. The Superintendent shall inspect the Works and to conduct compliance tests on the drainage aggregate, geomembranes, geotextiles and GCL. The Superintendent may seek advice from the CQO where appropriate when undertaking inspections as described in the Technical Specification.

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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Should any areas of the Works show any non-conformance with the requirements of this Specification then Works shall cease until the non-conformance is resolved by either presentation of the appropriate documentation or undertaking sampling and testing, or any other activity approved by the Superintendent.

### 1.5 Submissions required from the Contractor

The Contractor is required to submit works methodologies or procedures to the Superintendent, for potential approval. Details of required submissions are found within this document and include:

- Quality Control Procedures Documentation for Unit 8 Geomembrane installation
- Proposed Panel Layout Plan for Unit 8 Geomembrane
- Current calibration certificates for Unit 8 Geomembrane test equipment
- Proposed Unit 7 GCL placement methodology (including interim GCL anchor trenches on batter)
- Proposed Unit 2A and Unit 2B Protection Layer placement methodology
- Proposed Unit 12 Separation Geotextile and Unit 9 Cushion Geotextile placement methodologies
- Methodology for backfilling of anchor trenches using Unit 1 Clay Rich Fill material.
- Methodology for placement of Unit 9 Leachate Collection Pipes onto Unit 2 Protection Layer
- Joining method for Unit 14A and Unit 14B Leachate Collection Pipes with the Unit 15 Leachate Collection Drain Pipe.
- Procedure for Installation of Unit 3 Drainage Aggregate.
- Installation of Unit 17 Leachate collection sump.

## 2.0 MATERIALS

### 2.1 Material Specifications and Supply

Materials used in construction of the Stage 2Bii interface liner must meet the requirements of this Specification and shall demonstrate compliance to the satisfaction of the Superintendent. The Superintendent may seek advice from the CQO when assessing material compliance.

### 2.2 Unit 1 Clay Rich Fill

Unit 1 Clay Rich Fill must comprise of natural soils, visibly free of organic content and conforming to the geotechnical material properties specified in Table 1 or other equivalent material approved by the Superintendent.

**Table 1: Unit 1 Clay Rich Fill Material Properties**

Description	Minimum	Maximum	Test Method	Contractor Quality Control Testing Frequency
Particle Size Distribution				
Soil Content Passing 19 mm Sieve	100%	100%	AS 1289.3.6.1	One sample per 1000 m <sup>3</sup> of material placed
Soil Content Passing 4.75 mm Sieve	90%	100%		
Soil Content Passing 0.075 mm Sieve	40%	100%		
Plasticity Index	>20%	-	AS1289	One sample per 1000 m <sup>3</sup> of material placed

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

Description	Minimum	Maximum	Test Method	Contractor Quality Control Testing Frequency
Liquid Limit	>40%	-	AS1289	One sample per 1000 m <sup>3</sup> of material placed

Unit 1 Clay Rich Fill shall be compacted to greater than or equal to 95% Standard Dry Density Ratio (SDDR) at 0% to +3% (wet) of Standard Optimum Moisture Content (SOMC).

Upon review of the source and information of the material, the Superintendent must decide whether to accept the materials and/or whether an independent test on samples of the supplied materials is required.

### 2.3 Unit 2A and Unit 2B Protection Layer

Unit 2A and Unit 2B Protection Layer must comprise of natural cohesive soils conforming to the geotechnical material properties as follows:

- Maximum particle size of 50mm.
- Emerson Class 3 or higher.
- Free of foreign objects which have the potential to damage the liner;

Unit 2A and Unit 2B Protection Layer material delivered to the works area will be inspected for conformance by the Superintendent. The Contractor shall provide the Superintendent with the source location and information of the material demonstrating it is compliant with the required material properties prior to the commencement of placement. Additional testing may be requested by the Superintendent based on observations and advice from the CQO. The material assessed as non-conforming shall be removed from site at the Contractor's expense.

### 2.4 Unit 3 Drainage Aggregate

Unit 3 Drainage Aggregate must comprise high strength, crushed rock or gravel, visibly free of organics and other foreign material and conforming to the material properties specified in Table 2. Other equivalent material such as recycled concrete aggregate may be considered for use subject to approval in writing by the Superintendent.

**Table 2: Unit 2 Drainage Aggregate Material Properties**

Property	Minimum	Maximum	Test Method	Contractor Quality Control Testing Frequency
Particle Size Distribution				
Soil Content Passing 37.5 mm Sieve	100%	-	AS 1289.3.6.1	One sample per 500 m <sup>3</sup> of material placed
Soil Content Passing 19 mm Sieve	90%	100%		
Soil Content Passing 9.5 mm Sieve	-	5%		
Soil Content Passing 2.36 mm Sieve	-	3%		
Soil Content Passing 0.075 mm Sieve	-	3%		
Sodium sulphate stability	10%	30%	AS 1289.3.3.1	One sample
Specific gravity of rock	2 t/m <sup>3</sup>	-	AS 1141.6.1	One Sample
Permeability @ 95% of Maximum Density	1 x 10 <sup>-4</sup> m/s	-	AS 1289.6.7.2	One Sample

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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Upon review of the quarry source and information of the material, i.e. particle size distribution and rock type, the Superintendent shall decide based on advice from the CQO whether to accept the materials and/or whether an independent test on samples of the supplied materials is required.

### 2.5 Unit 4 Panel Drain

Unit 4 Panel Drain shall consist of a perforated oblong HDPE core drainage system. The required characteristics of panel drain materials are summarised in Table 3. The Unit 4 Panel Drain must be wrapped in geotextile and shall conform to the requirements in Table 4.

**Table 3: Unit 4 Panel Drain Minimum Properties**

Property	Units	Value	Test Method
Panel long dimension	mm	450	ASTM D2122
Panel thickness	mm	> 40	ASTM D2122
Slot Size	mm x mm	2.0 x 25 with maximum 4 mm width	ASTM D2122
Compressive Strength	kPa	> 300	ASTM D2412 (mod)
Flow capacity in panel drain at 0.01 gradient and 300 kPa confining pressure (rigid plate interface)	l/min/m width	> 130	ASTM D4716

**Table 4: Geotextile Minimum Properties for Unit 4 Panel Drain**

Property	Unit	Value	Test Method
Wide Strip Tensile Strength	kN/m	9.5	AS 3706.2-12
Trapezoidal Tear Strength	N	270	AS 3706.3-12
Pore Size	µm	110	AS 3706.7-03
Flow Rate at 100mm Head	l/m <sup>2</sup> /sec	235	AS 3706.9-12

Unit 4 Panel Drain shall also comprise:

- Connection for Unit 13 Gas Collection Pipe - 90mm diameter HDPE Pipe and Unit 4 Panel Drain End Outlets, and;
- End Caps to be fitted on the blank ends.

The Contractor will provide the Manufacturer's Material Quality Control (MQC) data to the Superintendent for review by the CQO to demonstrate the material properties are in compliance with Table 3 and Table 4.

### 2.6 Unit 5 Geocomposite Strip Drains

Unit 5 Geocomposite Strip Drains shall consist of 450 mm (min) wide HDPE bi-planar, tri-planar geonet, or cusped sheet with a layer of filter geotextile bonded to both sides and shall be supplied and delivered to site by the Contractor. The filter geotextile component of Unit 4 Geocomposite Strip Drains shall be a non-woven, needle punched geotextile. Both the geonet and the filter geotextile components of Unit 5 Geocomposite Strip Drains shall conform to the following requirements in Table 5.

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

**Table 5: Unit 5 Geocomposite Strip Drains Minimum Properties**

Property	Units	Value	Test Method	Manufacturer Quality Control Testing Frequency
<u>Geonet</u>				
Thickness at 20 kPa	mm	≥ 4.5	AS 3706.1	2 tests distributed on the rolls delivered to site
Density	g/cm <sup>3</sup>	≥ 0.94	ASTM D1505	1 tests distributed on the rolls delivered to site
Compressive Strength	kPa	≥ 300	ASTM D1621	1 tests distributed on the rolls delivered to site
Peak Tensile Strength (MD <sup>1</sup> )	kN/m	≥ 7.0	AS 3706.2	1 tests distributed on the rolls delivered to site
Elongation at Break (MD <sup>1</sup> )	%	≥ 20	AS 3706.2	1 tests distributed on the rolls delivered to site
<u>Filter Geotextile</u>				
Mass per unit area	g/m <sup>2</sup>	≥ 130	AS 3706.1	1 tests distributed on the rolls delivered to site
CBR Burst Strength	N	> 1 700 N (see note 2)	AS 3706.4	1 tests distributed on the rolls delivered to site
Water Flow Rate (under 100mm head)	L/m <sup>2</sup> /s	≥ 90	AS 3706.9	1 tests distributed on the rolls delivered to site
<u>Geocomposite</u>				
In-plane flow rate <sup>3</sup> at 20 kPa confinement pressure and hydraulic gradient of 0.1	L/s.m	≥ 0.2	ASTM D 4716	1 tests distributed on the rolls delivered to site

Notes: 1. MD = Machine direction

2. Based on a geonet maximum opening size of 10 mm x 10 mm.

3. Based on rigid plates (hard-hard)

The CBR burst strength requirement for the filter geotextile component of Unit 5 Geocomposite Strip Drains shall be reviewed and approved by the Superintendent based on the specific materials delivered to site and the proposed methodology for placement of overlying geosynthetics and Unit 2 Protection Layer.

The Manufacturer shall conduct Material Quality Control (MQC) testing on the geocomposite strip drain rolls to be delivered to site and shall provide test results to the Contractor. The materials proposed for the site should be manufactured in one continuous batch. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and relevant data to the Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of



Table 5.

### 2.7 Unit 6 Biaxial Geogrid

Unit 6 Biaxial Geogrid shall comprise of a geogrid designed for the purpose of resisting differential settlement in waste. The material must comprise of polyethylene or polypropylene based material approved by the Superintendent. Unit 6 Biaxial Geogrid must meet the following criteria:

- The Unit 6 Biaxial Geogrid requires design strength of 25 kN/m at 5% strain in machine direction and cross machine direction, with a minimum strain at breakage of 10%.
- The Supplier shall apply creep, environmental and installation factors to mean ultimate tensile strength of the biaxial geogrid material provided by the Manufacturer to estimate the required strength of material to be supplied. The biaxial geogrid material proposed for use must meet the strength and strain requirements outlined above (25kN/m at 5% strain) after applying the above reduction factors.
- Lower stiffness materials may be considered subject to the approval of the Superintendent and subject to a performance demonstration (field trial) to be conducted by the Contractor at no extra cost to the Principal.
- The Contractor shall seek confirmation and further advice from the biaxial geogrid Supplier to prevent separation and shall achieve a long term design strength of at least 32 kN/m. The Contractor shall include strength reduction factors from the Manufacturer to estimate the required ultimate strength of the side overlap.

The Contractor shall submit the Manufacturer's MQC test results conducted on the material delivered to site to the Superintendent for review by the CQO. MQC data must demonstrate the proposed material meets the requirements for Unit 6 Biaxial Grid.

### 2.8 Unit 7 GCL

Unit 7 GCL shall be supplied by the Contractor and be delivered to site. The Unit 7 GCL supplied shall conform to the following requirements in Table 6.

Unit 7 GCL shall be a reinforced multi-layered system comprising at least two layers of geotextile encapsulating a layer of dry, sodium bentonite. The Manufacturer shall certify that the bentonite used for the manufacture of the Unit 7 GCL rolls delivered to site is at least 80% by weight of sodium activated bentonite.

A statement from the Manufacturer on the origin and material properties of the bentonite shall be provided. The material properties information shall comprise at least:

- Montmorillonite content
- Carbonate content
- Percentage of Sodium Bentonite
- Cation Exchange Capacity
- Free Swell Index

The top and lower geotextile shall be either of woven or non-woven composition, and shall be needle punched across the bentonite layer, and be thermally locked. A statement from the Manufacturer on the origin and material properties of the geotextile component shall be provided.

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

**Table 6: Unit 7 GCL Properties**

Property	Units	Minimum Value	Test	Manufacturer Quality Control Testing Frequency	Independent Testing Frequency
GCL Mass	g/m <sup>2</sup>	≥ 4300	ASTM D 5993	1 test per 500 m <sup>2</sup>	1 test per 500 m <sup>2</sup>
Bentonite Mass (measure at 0% moisture content)	g/m <sup>2</sup>	≥ 4100	ASTM D 5993	1 test per roll	1 test per 5 rolls used on site
Bentonite Particles passing 0.075 mm sieve	mm	≥75 %	AS 1289.3.6.1	1 test	No tests
Cation exchange capacity of Bentonite	M eq/100 g (or cmol/kg)	≥ 70	Methylene Blue Method	1 tests	No tests
Montmorillonite Content	% by weight	>70	X-ray diffraction	1 test	No tests
GCL mass per Unit Length of Overlap (measure at 0% moisture content)	g/m <sup>2</sup>	≥ 4550	ASTM D 5993	1 test per roll	1 test per 5 rolls used on site
Tensile Strength	kN/m	≥ 8	ASTM D 6768	2 tests from different rolls	2 tests from different rolls used on site
Tensile Elongation	%	≥ 10	Modified ASTM D 6768		
CBR Strength	N	≥ 1500	AS 3706.4		
Peel Strength	N/m	≥ 650	ASTM D 6496	1 test per 500 m <sup>2</sup>	2 tests from different rolls used on site
Swell Index	mL/2g	≥ 24	ASTM D 5890		
Fluid Loss	mL	≤ 18	ASTM D5891		
Permeability	m/s	≤ 5 x 10 <sup>-11</sup>	ASTM D 5887	1 test	1 test per manufacturer batch

The Contractor shall also supply buckets of bentonite paste of two different viscosities, for the preparation and pasting of overlaps, where required. The bentonite paste shall be sourced from the GCL Manufacturer and shall be prepared using bentonite similar to the bentonite of the Unit 7 GCL.

The rolls shall also include edge markings to indicate the required 300 mm overlap for panels. The overlap of the GCL rolls may be varied by the CQO, depending on the type of GCL, the composition of the geotextile type and edge treatment of the GCL supplied.

The Manufacturer shall conduct Quality Control (MQC) testing at the frequencies listed in Table 6 on the GCL rolls to be delivered to site and shall provide test results to the Contractor. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and data to the

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of Table 6.

### 2.9 Unit 8 Geomembrane

Unit 8 Geomembrane shall be supplied by the Contractor and be delivered to site. The Unit 8 Geomembrane supplied shall conform to the following requirements in Table 7 and comprise of 1.5mm thick one sided textured LLDPE geomembrane. The textured side shall be installed facing down and the smooth side shall be installed facing up.

The Unit 8 Geomembrane shall be manufactured from a virgin premium-quality polythene resin specifically for use in manufacture of geomembrane and must not be mixed with other resin. In addition the geomembrane may contain up to a maximum of 1% by weight of additives, fillers or extenders (not including carbon black).

The Unit 8 Geomembrane shall be free from holes, blisters, blemishes, striations, bubbles, roughness, undispersed raw materials, and contamination by foreign matter to the satisfaction of the CQO.

**Table 7: Unit 8 Geomembrane Material Properties**

Property	Units	Minimum Values	Test Method	Manufacturer Quality Control Testing Frequency	Independent Testing Frequency
Thickness (average)	mm	≥1.50	ASTM D 5199 ASTM D 5994	Testing to be undertaken by the manufacturer at a frequency equivalent to GRI-GM17 <sup>1</sup> or as per manufacturer's in-house testing frequency (whichever requires the most tests)	1 test every 2 rolls used on site
Minimum Thickness	mm	≥1.38			
Asperity Height	mm	≥0.45	ASTM D 7466		
Tensile Properties (each direction): Strength at break Elongation at break	N/mm %	>16 >250	ASTM D 6693 ASTM D 6693		1 test every 5 rolls used on site
Density	g/ml	0.92 to 0.9393	ASTM D 1505/ D792		3 tests distributed on the rolls used on site
Tear Resistance	N	>150	ASTM D 1004		2 tests distributed on the rolls used on site
Puncture Resistance	N	>300	ASTM D 4833		2 tests distributed on the rolls used on site
Carbon Black Content	%	2 to 3	ASTM D 1603		2 tests distributed on the rolls used on site
Carbon Black Dispersion	Rating	100% in Cat 1 and Cat 2 <sup>2</sup>	ASTM D 5596		2 tests distributed on the rolls used

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

Property	Units	Minimum Values	Test Method	Manufacturer Quality Control Testing Frequency	Independent Testing Frequency
					on site
2% Modulus	N/mm	≤630	ASTM D 5323		1 test distributed on the rolls used on site
Axi-symmetric break strain	%	>30	ASTM D 5617		1 test distributed on the rolls used on site
Oxidative Induction Time (OIT) - BOTH					1 test per resin type or per 10,000m <sup>2</sup>
a. Standard	Minutes	>110	ASTM D 3895		Or Manufacturing run (whichever requires the most tests)
b. High Pressure	Minutes	>450	ASTM D 5885		
Oven Aging at 85°C BOTH					
High Pressure OIT (retained after 90 days)	%	>60	ASTM D 5721 ASTM D 5885	One manufacturer quality control test per resin type less than 1 year old relative to the manufacture date of the roll batch	Results from the Manufacturer Quality Control Testing will be reviewed by the CQO. No independent required.
Standard OIT (retained after 90 days)	%	>35	ASTM D 5721 ASTM D 3895		
UV Resistance High Pressure OIT (min. ave) % retained after 1600hrs.	%	>35	ASTM D 3895 ASTM D 5885		

Notes: 1. Geosynthetic Research Institute publication titled 'GRI Test Method GM13\* Standard Specification for Test Methods, Test Properties, and Testing Frequencies for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes', revision 10, dated 14 November 2014 or latest revision at the time of construction.

2. Minimum 90% view samples in Categories 1 or 2 and maximum 10% view samples in Category 3.

The Contractor shall also supply extrudate for extrusion welding of seams. The extrudate shall be supplied from the same supplier as the Unit 7 Geomembrane and shall be in the form of LLDPE rod supplied in rolls. The Contractor shall obtain documents from the Supplier to certify the weld rod is from the same resin as the Unit 7 Geomembrane for this project.

The test results for Oven Aging and UV resistance tests shall be no older than 12 months from the manufacture data of the rolls and the Manufacturer shall certify whether the material used in the delivered rolls is the same as the material of the tests.

The Manufacturer shall conduct Material Quality Control (MQC) testing at the frequencies listed in Table 7 on the geomembrane rolls to be delivered to site and shall provide test results to the Contractor. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and materials

## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

manufacturing quality assurance test certificates to the Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of Table 7.

### 2.10 Unit 9 Cushion Geotextile

Unit 9 Cushion Geotextile shall be supplied by the Contractor and be delivered to site. The Unit 9 Cushion Geotextile supplied shall conform to the following requirements in Table 8.

**Table 8: Unit 9 Cushion Geotextile Material Properties**

Property	Units	Minimum Value	Test	Manufacturer Quality Control Testing Frequency	Independent Testing Frequency
Thickness	mm	≥ 3.8	AS 3706.1	1 test per 2 500 m <sup>2</sup>	1 test per 2 500 m <sup>2</sup>
Mass	g/m <sup>2</sup>	≥ 610	AS 3706.1		
Wide Strip Tensile Strength	kN/m	20	ASTM D 4595 AS 3706.2	1 test per 5 000 m <sup>2</sup>	1 test per 5 000 m <sup>2</sup>
Trapezoidal Tear	N	≥ 1000	AS 3706.3		
CBR Burst	N	≥ 6600	AS 3706.4		
Puncture resistance	mm	≥ 4100	AS 3706.5		
Grab Strength	N	≥ 1900	AS 2001.1.2.3		
Grab Elongation	%	50			

Geotextiles shall comprise new (i.e. no recycled materials) polymeric yarns or fibres, seamed or drawn strands oriented into a stable network which retains its structure during handling, placement. Geotextiles shall be non-woven, continuous fibre, polyester needle punched and resin or heat bonded. Alternative types of geotextile with different properties may be considered subject to compression testing with the liner materials.

The Manufacturer shall provide documentation to demonstrate what process is adopted in the manufacture of the geotextile to ensure that any broken needles or other sharp objects from the manufacturing process are identified and removed from the geotextile prior to dispatch of the materials to site. The CQO shall review the provided documentation and shall recommend to the Superintendent whether field sensing should be carried out to verify the absence of sharp items in the geotextile that may pose a puncture risk to the geomembrane liner.

Unit 9 Cushion Geotextile shall be capable of withstanding direct exposure to sunlight for six months with no visible deterioration. Unit 9 shall retain at least 70% of the original strength when exposed to the test requirements of ASTM D 7238, or Australian Standard AS 3706.11.

The Manufacturer shall conduct Quality Control (MQC) testing at the frequencies listed in Table 8 on the cushion geotextile rolls to be delivered to site and shall provide test results to the Contractor. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and data to the Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of Table 8.

### 2.11 Unit 10 Uniaxial Geogrid

Unit 10 Uniaxial Geogrid shall comprise of a geogrid designed for the purpose of soil reinforcement. The material must comprise of polyethylene or polypropylene based material approved by the Superintendent. Unit 10 Uniaxial Geogrid must meet the following criteria:

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- The Unit 10 Uniaxial Geogrid requires design strength of 70 kN/m at 5% strain in machine direction and a minimum strain at breakage of 10%. The design strength of 30kN/m at 5% strain is required in the cross machine direction.
- The Supplier shall apply creep, environmental and installation factors to mean ultimate tensile strength of the uniaxial geogrid material provided by the Manufacturer to estimate the required strength of material to be supplied. The reduction factors shall be applied to the machine direction and the cross machine direction. The uniaxial geogrid material proposed for use must meet the strength and strain requirements outlined in after applying the above reduction factors.
- Lower stiffness materials may be considered subject to the approval of the Superintendent and subject to a performance demonstration (field trial) to be conducted at no extra cost by the Contractor.
- The Contractor shall seek confirmation and further advice from the uniaxial geogrid Supplier to prevent separation and shall achieve a long term design strength of at least 70 kN/m in the machine direction and 30 kN/m in the cross machine direction. The Contractor shall include strength reduction factors from the Manufacturer to estimate the required ultimate strength of the side overlap.

The Contractor shall submit the MQC test results conducted on the material delivered to site to the Superintendent for review by the CQO. MQC data must demonstrate the proposed material meets the requirements for Unit 10 Uniaxial Grid.

### 2.12 Unit 11 Filter Geotextile

The Unit 11 Filter Geotextile shall be supplied by the Contractor and be delivered to site. The Unit 11 Filter Geotextile supplied shall conform to the following requirements in Table 9.

Unit 11 Filter Geotextile shall comprise of non-woven, needle punched, continuous filament, polyester or polypropylene geotextile.

**Table 9: Unit 11 Filter Geotextile Material Properties**

Property	Units	Value (MARV)*	Test	Manufacturer Quality Control Testing Frequency
Mass	g/m <sup>2</sup>	> 160	AS 3706.1	1 test distributed on the rolls delivered to site
Trapezoidal Tear	N	> 350	AS 3706.3	2 tests distributed on the rolls delivered to site
Thickness	mm	> 1.2	AS 3706.1	1 test distributed on the rolls delivered to site
Puncture Resistance	N	> 2300	AS 3706.4	1 test distributed on the rolls delivered to site

\* MARV = Minimum Average Roll Value representing a confidence level of 97.5% of test results meet the required value.

The Manufacturer shall conduct Material Quality Control (MQC) testing at the frequencies listed in Table 9 on the filter geotextile rolls to be delivered to site and shall provide test results to the Contractor. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and data to the Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of Table 9.

### 2.13 Unit 12 Separation Geotextile

The Unit 12 Separation Geotextile shall be supplied by the Contractor and be delivered to site. The Unit 12 Separation Geotextile supplied shall conform to the following requirements in Table 9, in Section 2.12.

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Unit 12 Separation Geotextile shall comprise of non-woven, needle punched, continuous filament, polyester or polypropylene geotextile. It shall also comprise polymeric yarns or fibres, seamed or drawn strands oriented into a stable network which retains its structure during handling, placement, and long-term service.

The Unit 12 Separation Geotextile shall be capable of withstanding direct exposure to sunlight for 6 months with no visible deterioration. It shall retain the indicated material values in Table 9 after the samples have been exposed to the simulated UV radiation requirements of ASTM D 7238 for 215 hours or equivalent AS 3706.11 period. This is on the basis that the geotextile will be covered by waste maximum 12 months after placement of the geotextile.

The Manufacturer shall conduct Material Quality Control (MQC) testing at the frequencies listed in Table 9 on the separation geotextile rolls to be delivered to site and shall provide test results to the Contractor. The Contractor is responsible for submission of the Material Quality Control (MQC) test results conducted and data to the Superintendent for review by the CQO. MQC data is required to demonstrate the material meets all the requirements of Table 9.

### 2.14 Unit 13A and Unit 13B Gas Collection Pipe

The Unit 13A and Unit 13B Gas Collection Pipes shall be supplied by the Contractor and installed by a qualified pipe Installer. It shall comprise of the following:

- Unit 13A – 90mm diameter perforated PE100 PN8 SDR21 HDPE Pipe
- Unit 13B – 90mm diameter solid wall PE100 PN8 SDR21 HDPE Pipe

For Unit 13A, the perforations must be drilled in accordance with the details shown on the drawings in the pipe Manufacturer's factory or on-site using a template and all waste material must be removed from the pipes before installation. Unit 13A and Unit 13B Gas Collection Pipes shall be joined and connected using butt fusion or electrofusion (coupling) welding techniques. All fittings for bends must be solid wall units with the same pressure class as the pipe.

The Contractor shall obtain the material property compliance datasheets from the Manufacturer for Unit 13A and Unit 13B Gas Collection Pipe and submit it to the Superintendent for review by the CQO.

### 2.15 Unit 14A and Unit 14B Leachate Collection Pipe

The Unit 14A and Unit 14B Leachate Collection Pipes shall be supplied by the Contractor and installed by a qualified Installer. It shall comprise of the following:

- Unit 14A – 160mm diameter perforated PE100 PN8 SDR21 HDPE Pipe
- Unit 14B – 250mm diameter perforated PE100 PN8 SDR21 HDPE Pipe

For Unit 14A and Unit 14B, the perforations must be drilled in accordance with the details shown on the drawings in the pipe Manufacturer's factory or on-site using a template and all waste material must be removed from the pipes before installation.

Pipes shall be joined and connected using butt fusion or electrofusion (coupling) welding techniques. All fittings for bends must be solid wall units with the same pressure class as the pipe.

The Contractor shall obtain the material property compliance documentation from the Manufacturer for Unit 14a and Unit 14b Leachate Collection Pipe and submit it to the Superintendent for review by the CQO.

### 2.16 Unit 15 Leachate Collection Drain Pipe

The Unit 15 Leachate Collection Drain Pipe shall be 315mm diameter perforated PE100 PN8 SDR21 HDPE Pipe and installed in the temporary and permanent extents of the leachate collection drain as per the drawings.

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The perforations must be drilled in accordance with the details shown on the drawings in the pipe Manufacturer's factory or on-site using a template and all waste material must be removed from the pipes before installation.

Pipes shall be joined and connected using butt fusion or electrofusion (coupling) welding techniques. All fittings for bends must be solid wall units with the same pressure class as the pipe.

The Contractor shall obtain the material property compliance documentation from the Manufacturer for Unit 15 Leachate Collection Drain Pipe and submit it to the Superintendent for review by the CQO.

### 2.17 Unit 16 Pipe Anchor

The Unit 16 Pipe Anchor shall be 150mm diameter solid wall PE100 PN8 SDR21 HDPE pipe. The Contractor may submit an alternative item to Unit 15 Pipe Anchor to the Superintendent for review.

Pipes shall be joined and connected using butt fusion or electrofusion (coupling) welding techniques. All fittings for bends must be solid wall units with the same pressure class as the pipe.

The Contractor shall obtain the material property compliance documentation from the Manufacturer for Unit 16 Pipe Anchor and submit it to the Superintendent for review by the CQO.

### 2.18 Unit 17 Leachate Collection Sump

Unit 17 Leachate Collection Sump shall be an 1800 mm diameter precast concrete pipe, Class 2 in accordance with AS 4058. The precast concrete pipe will comprise either in-wall joints or belled socket joints. If belled socket joint pipes are used, they shall be installed with the belled end pointing downwards.

The base of the sump excavation shall have an initial 300mm thick concrete blinding layer. The base of the sump shall be a formed precast or cast in-situ concrete 200mm thick square slab with a single layer of SL81 (grade D500N) galvanised steel reinforcing mesh. The mesh shall be located mid-depth within the slab with a minimum of 50 mm cover to the mesh at all edges. The square slab shall have dimensions of 2.6m x 2.6m.

The lid shall be heavy duty precast concrete Class C, with a bolted down galvanised steel grate equipped with a hinged gate with dimensions of 300mm x 300mm formed in. The gate shall have a locking system to prevent unregulated entry.

Penetrations through the sump shall be the responsibility of the Contractor to suit the diameters of the entering and exiting conduits. A water tight seal shall be achieved at the penetration locations and the methodology shall be presented to the Superintendent, with advice from the CQO, for review and approval.

### 2.19 Unit 18 Leachate Collection Pit

Unit 18 Leachate Collection Pit shall be a 900 mm diameter precast concrete pipe, Class 2 in accordance with AS 4058. The precast concrete pipe will comprise either in-wall joints or belled socket joints. If belled socket joint pipes are used, they shall be installed with the belled end pointing downwards.

The base of the pit excavation shall have an initial 300mm thick concrete blinding layer. The base of the pit shall be a formed precast or cast in-situ concrete 200mm thick square slab with a single layer of SL81 (grade D500N) galvanised steel reinforcing mesh. The mesh shall be located mid-depth within the slab with a minimum of 50 mm cover to the mesh at all edges. The square slab shall have dimensions of 1.7m x 1.7m.

The base of the sump excavation shall have an initial 300mm thick concrete blinding layer.

The lid shall be heavy duty precast concrete Class C, with a bolted down galvanised steel grate equipped with a hinge gate with dimensions of 300mm x 300mm formed in. The gate shall have a locking system to prevent unregulated entry.

Penetrations through the pit shall be the responsibility of the Contractor to suit the diameters of the entering and exiting conduits. A water tight seal shall be achieved at the penetration locations and the methodology shall be presented to the Superintendent, with advice from the CQO, for review and approval.



### 3.0 QUALITY ASSURANCE AND QUALITY CONTROL

#### 3.1 Unit 1 Clay Rich Fill

##### 3.1.1 Initial Compliance Testing

Prior to construction, the Unit 1 Clay Rich Fill material shall be tested to confirm that it meets the specified property values listed in Table 1 of this Technical Specification. It is the responsibility of the Contractor to arrange the following testing on the proposed clay liner material:

- **Particle Size Distribution** to measure particle grading distribution.
- **Percent Fines Test** to determine the percentage by mass of the soil passing the 0.075mm sieve.
- **Atterberg Limits Test** to determine Plasticity Index and Liquid Limit.
- **Standard Compaction Test** to measure compaction characteristics.

The initial compliance testing shall be conducted by the Contractor at a frequency of 1 per 1 000 m<sup>3</sup> evenly distributed throughout the clay source. The results of the initial compliance testing shall be submitted to the Superintendent for review by the CQO.

##### 3.1.2 Contractor Compliance Testing

Compliance testing of Unit 1 Clay Rich Fill during construction must be undertaken by the Contractor in a NATA endorsed soils testing laboratory. Compliance testing must be carried out in accordance to the test methods as per Table 1 in this Technical Specification.

The Superintendent, based on advice from the CQO, shall request the Contractor to conduct compliance testing when it appears to be required. Should compliance testing be requested, the works shall be programmed such that an area that has been tested is not covered until satisfactory compliance test results are obtained and reported to the Superintendent.

Compliance testing of Unit 1 Clay Rich Fill is required to comprise field density tests (in-situ dry density and moisture content).

###### 3.1.2.1 Testing Frequency

The frequency of Contractor compliance testing shall be in accordance with Table 1 in this Technical Specification.

The Contractor may vary the test frequency depending on the observed general performance of the Works and the variation of material used for the clay liner subject to the approval of the Superintendent, with advice from the CQO. The Contractor is responsible for submitting all compliance testing results to the Superintendent.

#### 3.2 Unit 3 Drainage Aggregate

##### 3.2.1 Initial Compliance Testing

Prior to delivery to site and placement of Unit 3 Drainage Aggregate, the Superintendent is required to be notified in writing of the source and supplied with the source information, i.e. particle size distribution and rock type. Following review of this information by the CQO, the Superintendent may request the Contractor to arrange a site visit to the source quarry to allow for visual inspection of the source by the CQO prior to delivery to site.

The Superintendent must arrange for samples to be taken from the stockpile of Unit 3 Drainage Aggregate at a frequency no less than one sample per 500 m<sup>3</sup>. Samples are required to be tested to demonstrate particle size distribution in accordance with AS 1289.3.6.1. Following review of the aggregate source it is the responsibility of the Superintendent, based on advice from the CQO, to indicate whether the aggregate will be tested to confirm the absence of calcareous content.

### 3.2.2 Contractor Compliance Testing

Compliance testing of Unit 3 Drainage Aggregate during construction must be undertaken by the Contractor in a NATA endorsed soils testing laboratory. Compliance testing must be carried out in accordance to the test methods as per Table 2 in this Technical Specification.

The Contractor is responsible for informing the Superintendent when testing is required. Works shall be programmed such that an area that has been tested is not covered until satisfactory compliance test results are obtained and reported to the Superintendent.

#### 3.2.2.1 Testing Frequency

The frequency of Contractor compliance testing shall be in accordance with Table 2 in this Technical Specification.

The Contractor may vary the test frequency depending on the observed general performance of the Works and the variation of material used subject to the approval of the Superintendent, based on advice from the CQO. The Contractor is responsible for submitting all compliance testing results to the Superintendent.

### 3.3 Geosynthetics Site Testing Frequencies

All tests listed in Section 2.0 of this Specification must be performed on the actual geosynthetic materials that are delivered to site. The geosynthetics include the following:

- Unit 5 Geocomposite Strip Drains, testing requirements as per

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- Table 5.
- Unit 7 GCL, testing requirements as per Table 6.
- Unit 8 Geomembrane, testing requirements as per Table 7.
- Unit 9 Cushion Geotextile, testing requirements as per Table 8.
- Unit 11 Filter Geotextile and Unit 12 Separation Geotextile, testing requirements as per Table 9.

The Contractor shall be responsible for obtaining manufacturing quality control results from the geosynthetics suppliers and submitting this information to the Superintendent for review by the CQO. All quality control testing is to be performed by accredited testing laboratories for both the manufacturing quality control tests and the independent laboratory tests. The results of the independent testing shall take precedence over the manufacturing quality control test results

The Superintendent, based on advice from the CQO, shall provide the Contractor with a copy of the list of rolls approved for use in construction and will check roll numbers during deployment. The Contractor will be responsible for selecting only approved rolls for use in construction. At the commencement of works the Contractor may request the Superintendent to mark all rolls approved for use in construction. The Contractor shall be responsible for maintaining any roll markings.

### 3.3.1 Unit 5 Geocomposite Strip Drains

#### 3.3.1.1 General

The Contractor shall be responsible for control of the storage, transportation and installation of Unit 5 Geocomposite Strip Drains. This shall include all inspections, repairs, and certification as detailed in this Specification.

The Contractor shall also establish and maintain a quality control system for all operations including but not limited to the following:

- Handling and storage of materials.
- Placement, joining and repair.
- The CQO shall reference roll numbers to the deployed lengths and alignments.

#### 3.3.1.2 Reporting

The Contractor shall submit all quality forms, test results and other documentation required by this Specification to the Superintendent to demonstrate the compliance of Unit 5 Geocomposite Strip Drains with this Specification. The Contractor shall also include any non-compliance testing results for all materials with the satisfactory retest. All quality control results shall be referenced to roll numbers.

The Contractor shall prepare an as-built layout of the lengths and alignments of Unit 5 Geocomposite Strip Drains. The layout shall be to scale.

### 3.3.2 Unit 7 GCL

#### 3.3.2.1 General

The Contractor shall be responsible for control of the storage, transportation and installation of Unit 7 GCL. This shall include all inspections, repairs, and certification as detailed in this Specification.

The Contractor shall also establish and maintain a quality control system for all operations including but not limited to the following:

- Handling and storage of materials.
- Placement, joining and repair.

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- The CQO shall reference roll numbers to deployed panel numbers.

### **3.3.2.2**     *Independent Testing*

The Superintendent, based on advice from the CQO, may request the Contractor recover samples from the GCL rolls delivered to site and arrange independent testing at the frequencies listed in Table 6 of the samples to confirm the material meets the specified minimum material property values. The Superintendent is responsible for any independent testing. The samples to be tested shall be recovered under the supervision of the CQO and shall be from different rolls evenly distributed through the batch delivered to site.

### **3.3.2.3**     *Reporting*

The Contractor shall submit all quality forms, test results and other documentation required by this Specification to the Superintendent to demonstrate the compliance of the installed Unit 7 GCL with this Specification. The Contractor shall also include any non-compliance testing results for all materials with the satisfactory retest. All quality control results shall be referenced to roll numbers.

The Contractor shall prepare as-built drawings of the panel layout of the Unit 7 GCL, with locations and details of all repairs, joins and anchor trenches. The as-built drawings shall be to scale and reference GCL roll numbers to panel numbers, and provide details and locations of the anchor trenches. The as-built drawings shall be prepared on survey drawings of the earthworks provided by the Contractor.

The Contractor shall supply survey data of the as-built location of the anchor trenches.

## **3.3.3**     **UNIT 8 GEOMEMBRANE**

### **3.3.3.1**     *General*

The Contractor shall be responsible for all quality assurance and quality control documentation on the installation of Unit 8 Geomembrane, and submission of the information to the Superintendent. This shall include the documentation of all inspections, non-destructive and destructive testing and repairs etc. and the assessment as detailed in this Specification.

The CQO shall monitor the installation of the geomembrane. The Contractor shall accommodate all Quality Assurance activities described in this Section.

### **3.3.3.2**     *Independent Testing*

The Superintendent, based on advice from the CQO, may request the Contractor to recover samples from the geomembrane rolls delivered to site and arrange independent testing at the frequencies listed in Table 7 of the samples to confirm the material meets the specified minimum material property values. The samples to be tested shall be recovered under the supervision of the CQO and shall be from different rolls evenly distributed through the batch delivered to site. The Superintendent is responsible for any independent testing. The results of the independent testing shall take precedence over the MQC test results.

### **3.3.3.3**     *Quality Control Procedures Documentation*

The Contractor shall submit the following information to the Superintendent at least 5 days before planned commencement of lining activities:

- 1) The Installer's personnel, and the qualifications and experience of the proposed installation personnel.
- 2) Management of temperature variations (including those potentially causing wrinkles) during the installation.
- 3) Welding methods, equipment and testing procedures.
- 4) Deployment equipment and procedures (including storage and handling).
- 5) Safety equipment.

The CQO may request additional information specific to the project installation conditions. The Installer will not be permitted to commence work until this information is received and approved by the Superintendent.

### **3.3.3.4 Installers, Reports and Certificates**

The Installer shall submit any documentation requested by the Superintendent to demonstrate its compliance with the Quality system for the project and to demonstrate compliance of the installed geomembrane with this Specification. The Contractor shall record all results of testing of the geomembrane. The Installer shall ensure that the Superintendent (or CQO on behalf of the Superintendent) is present for all testing to facilitate the recording of results and details of any testing. The Installer shall adjust its installation program to facilitate the observation and recording of results by the Superintendent (or CQO on behalf of the Superintendent). The Superintendent shall make all reasonable endeavours to provide supervision to suit the Contractors proposed works methodology.

No work shall be covered with subsequent layers until the Superintendent is satisfied that all information related to the installed Works has been recorded and meets the requirements of this Specification.

### **3.3.3.5 Installers Layout Drawings**

The Installer shall provide proposed Panel Layout drawings for the Unit 8 Geomembrane at least 7 days before installation starts. The geomembrane installed over the northern slope shall extend onto the cell floor and shall be staggered to eliminate the occurrence of coincident cross-seams. The proposed configuration of the smooth and textured geomembrane shall be shown on the Panel Layout drawing. The Panel Layout drawings shall indicate the panel configuration and the location of seams and vents. The Panel Layout drawings shall be suitable for use as construction drawings and shall include key dimensions and details. The Superintendent, with advice from the CQO) shall approve the Panel Layout drawings before installation commences.

### **3.3.3.6 Reporting**

The Contractor shall submit all quality forms, test results and other documentation required by this Specification to the Superintendent to demonstrate the compliance of the installed Unit 8 Geomembrane with this Specification. The Superintendent shall also include any non-compliance testing results for all materials with the satisfactory retest. All quality control results shall be referenced to roll and panel numbers.

A field panel is the unit area of Unit 8 Geomembrane to be welded in the field and shall be bounded by field welds or anchor trenches. Each field panel shall be numbered and an as-built layout of the panels of the geomembrane shall be prepared by the CQO showing the panel numbers, the dimensions of each panel and the orientation of seams of panels. The Installer shall adhere to the numbering system adopted by the CQO. The layout shall be schematic and be to scale. The CQO shall also prepare a layout identifying the location of any defects identified on the geomembrane panels in addition to locations and details of all repairs.

The CQO shall reference roll numbers to deployed panel numbers.

## **3.3.4 Unit 9 Cushion Geotextile, Unit 11 Filter Geotextile and Unit 12 Separation Geotextile**

### **3.3.4.1 General**

The Contractor shall be responsible for the installation of the Unit 9 Cushion Geotextile, Unit 11 Filter Geotextile and Unit 12 Separation Geotextile. The Contractor shall establish and maintain a quality control system for all operations including:

- 1) Handling of materials.
- 2) Placement equipment and heat bonding.
- 3) The CQO shall reference roll numbers to deployed panel numbers.

### **3.3.4.2 Independent Testing**

The Superintendent, based on advice from the CQO, may request the Contractor recover samples from the Unit 9 Cushion Geotextile rolls delivered to site and arrange independent testing at the frequencies listed in Table 8 of the samples to confirm the material meets the specified minimum material property values. The samples to be tested shall be recovered under the supervision of the CQO and shall be from different rolls

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evenly distributed through the batch delivered to site. The Superintendent is responsible for any independent testing. The results of the independent testing shall take precedence over the MQC test results.

### **3.3.4.3 Reporting**

The Contractor shall submit all quality forms, test results and other documentation required by this Specification to the Superintendent for assessment by the CQO to demonstrate the compliance of the installed Unit 9, Unit 11 and Unit 12 Geotextiles with this Specification. The Contractor shall also include any non-compliance testing results for all materials with the satisfactory retest.

The Contractor shall prepare an as-built layout of the panels of the Unit 9 Cushion Geotextile only to show orientation of seams of panels. The layout shall be schematic and does not need to be to scale.

## **3.4 Manufacturer Quality Control Information**

The Contractor shall be responsible for obtaining manufacturing quality control datasheets from the geosynthetics suppliers and submitting this information to the Superintendent for review by the CQO. These datasheets are to certify the material properties are in compliance with this technical specification.

### **3.4.1 Unit 4 Panel Drain, Unit 6 Biaxial Geogrid and Unit 10 Uniaxial Geogrid**

The Contractor shall be responsible for the installation of the Unit 4 Panel Drain, Unit 6 Biaxial Geogrid and Unit 10 Uniaxial Geogrid. The Contractor shall establish and maintain a quality control system for all operations including:

- 1) Handling of materials.
- 2) Placement equipment.
- 3) The CQO shall reference roll numbers to deployed panel numbers.

#### **3.4.1.1 Reporting**

The Contractor shall obtain and present documentation from the Manufacturer related to Unit 4 Panel Drain, Unit 6 Biaxial Geogrid and Unit 10 Uniaxial Geogrid to the Superintendent certifying that the materials meet the property requirements of this technical specification.

- Handling and storage of materials.
- Placement, joining and repair.
- The CQO shall reference roll numbers to the deployed panel numbers.

### **3.4.2 Unit 13A, Unit 13B, Unit 14A, Unit 14B, Unit 15, Unit 16, Unit 17 and Unit 18**

The Contractor shall obtain and present documentation from the manufacturer related to the following materials to the Superintendent for review by the CQO certifying that the materials meet the property requirements of this Technical Specification:

Unit 13A and Unit 13B Gas Collection Pipes, Unit 14A and Unit 14B Leachate Collection Drain, Unit 15 Leachate Collection Drain Pipe, Unit 16 Pipe Anchor, Unit 17 Leachate Collection Sump and Unit 18 Leachate Collection Pit.

All pipes and fittings delivered to site shall be marked or tagged with the following information:

- Manufacturers Name
- Product identification including pressure class and SDR rating
- Standard Certification

### 4.0 CONSTRUCTION

#### 4.1 Delivery, Storage and Handling of Geosynthetics Materials

The Contractor will be responsible for transport to site of all geosynthetics materials. The Contractor will be responsible for unloading, storage and handling of all delivered materials. All geosynthetics rolls shall be stored so they are elevated above ground level, not stacked greater than 3 rolls high and protected from impacts of weather. The Contractor will be responsible for maintaining roll identification labels for the duration of the works. Any costs associated with lost time or delays resulting from missing or deteriorated roll labels will be the responsibility of the Contractor.

##### 4.1.1 Unit 4 Panel Drains, Unit 5 Drainage Geocomposites, Unit 6 Biaxial Geogrids and Unit 10 Uniaxial Geogrid

All on-site handling of the Unit 4 Panel Drain, Unit 5 Geocomposite Strip Drains, Unit 6 Biaxial Geogrid and Unit 10 Uniaxial Geogrid will be the responsibility of the Contractor. During storage, the geosynthetics shall be protected from ultraviolet light exposure, precipitation or other inundation, spills of hydrocarbons, mud, dirt, dust, puncture, cutting or other damaging deleterious conditions.

All geosynthetics shall be supplied in rolls wrapped in protective dust-proof covers and marked or tagged with all of the following information:

- Roll numbers of material delivered to site
- Roll dimensions
- Manufacture dates

##### 4.1.2 Unit 9 Cushion Geotextile, Unit 11 Filter Geotextile and Unit 12 Separation

All on-site handling of the Unit 9 Cushion Geotextile, Unit 11 Filter Geotextile and Unit 12 Separation Geotextile will be the responsibility of the Contractor. Rolls shall be stacked to provide access for roll identification and conformance testing. During storage, the geotextiles shall be protected from ultraviolet light exposure, precipitation or other inundation, spills of hydrocarbons, mud, dirt, dust, puncture, cutting or other damaging deleterious conditions.

All geotextiles shall be supplied in rolls wrapped in protective dust-proof covers and marked or tagged with all of the following information:

- 1) Manufacturer's name.
- 2) Product identification including name, grade and polymer type.
- 3) Lot or Batch number.
- 4) Roll number.
- 5) Roll length, width and weight.

##### 4.1.3 Unit 7 GCL

Unit 7 GCL delivered to site shall be wrapped with weather and moisture resistant wrapping. The Contractor shall be responsible for the unloading, protection from the weather and storage of the delivered GCL. Rolls with damaged wrapping shall be inspected by the Superintendent and CQO to assess the extent of hydration of the GCL. Unit 7 GCLs with moisture content above 50% by weight (ASTM D5993) may be rejected. GCL rolls with damaged wrapping and moisture content lower than 50% shall be re-wrapped and sealed. All rolls of material shall be clearly marked with the type of GCL, unroll direction and manufacture batch number.

All rolls of Unit 7 GCL shall be delivered with the GCL tightly wrapped around a centre core. The Contractor shall ensure that the hole in the core is suitable for the proposed spreader bar to be used during deployment. All rolls shall be stacked safely, and stored off the ground on hard, dry, free-draining surface, with suitable bearers at closely spaced centres, suitably protected from runoff and other damage. Stacked rolls of GCL shall be covered with tarpaulins to the satisfaction of the Superintendent and CQO to promote runoff. GCL

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rolls shall not be rolled across the ground. The Contractor shall store the GCL on timber supports appropriately spaced to prevent damage to the GCL or deployment core, and shall cover the GCL stockpile with tarpaulins to shed rainfall. The tarpaulins shall be suitably anchored to resist wind uplift.

### 4.1.4 Unit 8 Geomembranes

The Contractor shall be responsible for the off-loading, on-site transportation and on-site storage of the Unit 8 Geomembrane liners to site. Rolls shall be stacked to provide access for roll identification and conformance testing. The integrity and legibility of roll labels must be maintained during storage. Geomembrane materials shall be stored in accordance with the Quality Control Procedures Manual and the Manufacturer's recommendations. This may include covering of geomembrane rolls.

Each roll of Unit 8 Geomembrane shall be supplied in rolls wrapped in protective dust-proof covers be clearly labelled with the following information:

- Weatherproof product identification.
- Manufacturer's Name and type of material.
- Thickness of the material and identify between smooth and textured sides.
- Roll Number.
- Length and width of the roll.
- References to raw material batch (Batch Number) and laboratory certified reports.

### 4.1.5 Unit 13A and Unit 13B Gas Collection Pipes, Unit 14A and Unit 14B Leachate Collection Pipes and Unit 15 Leachate Collection Drain Pipe

All on-site handling of the Unit 13A and Unit 13B Gas Collection Pipe, Unit 14A and Unit 14B Leachate Collection Pipes and Unit 15 Leachate Collection Drain Pipe will be the responsibility of the Contractor. During storage, the pipes shall be protected from ultraviolet light exposure, precipitation or other inundation, spills of hydrocarbons, mud, dirt, dust, puncture, cutting or other damaging deleterious conditions.

## 4.2 Tolerances

The Contractor shall be responsible for setting out the Works for the Stage 2Bii interface liner and maintaining all benchmarks and set out points needed for construction. Survey work shall be performed by an appropriately experienced surveyor.

The final surface finish of all earthworks shall be within the following tolerances:

- Thicknesses shall have a tolerance of  $-0$  mm and  $+100$  mm.
- Surveys shall be carried out at maximum 10 m intervals and shall pick up all topographical features and changes in grade.

The Contractor shall undertake a survey of:

- Top of subgrade in waste prior to placement of geosynthetics.
- Network of Unit 4 Panel Drain and Unit 5 Composite Strip Drains.
- Top of Unit 2A Protection Layer placement
- Interim GCL anchor trenches.
- Top of Unit 2B Protection Layer placement.
- Crown and alignment of leachate collection pipes and covering drainage aggregate.
- Leachate Collection Drain trench, pipe alignments and final formation.



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- Alignment of the edges of all anchor trenches.

The surveys shall pick up the crest and all changes in grade. The Contractor shall prepare and issue drawings showing the as-built Stage 2Bii interface liner items listed above.

The results of the surveys shall be presented to the Superintendent within one week of completing construction of each of the components listed above.

It is a requirement that the geosynthetics are not deployed over the subgrade in waste until the surface has been checked and approved. The Superintendent based on advice from the CQO will approve the levels and surface of the subgrade in waste, in accordance to Section 4.7, within one week of submission. The Contractor may seek approval from the Superintendent, , to commence placement of the Unit 4 Panel Drain, Unit 5 Geocomposite, Unit 2A Protection Layer and Unit 6 Biaxial Geogrid at the Contractors own risk prior to checking and approval subgrade survey being completed.

### 4.3 Survey and As Built Records

The Contractor shall be supplied with a three dimensional (3D) electronic model file of the proposed works derived from Autodesk Civil3D modelling program based on survey data supplied by the Superintendent. At the end of construction the Contractor shall supply an 'As Built' 3D model to the Superintendent similar in format to that received prior to starting construction. This includes files compatible with Civil3D or 12D modelling programmes and dxf/dwg format. The 'As Built' 3D model shall be certified by a registered Surveyor. The 3D model shall present the "as built" information in a similar format to that received with new layers and line work named within the model so that those elements are clearly defined and described.

As built survey certified by a registered surveyor of all elements of construction shall be provided by the Contractor and be supplied to the Superintendent as soon as practical following completion of the following milestones:

- **Subgrade.** The Contractor shall arrange for the survey of the surface of the completed sections of the Subgrade. The survey shall be carried out and provided to the Superintendent for assessment prior to placement of overlying geosynthetics or commencement of construction of the Protection Layer.
- **Gas collection network.** The Contractor shall ensure that the Gas collection network is placed as per the drawings
- **Protection layer.** The Contractor shall arrange for the survey of the surface of the completed sections for Unit 2A and Unit 2B Protection Layer, to measure the as constructed thickness, grades and extents. The survey shall be carried out and provided to the Superintendent for assessment prior to placement of overlying geosynthetics.
- **Anchor trench.** The Contractor shall arrange for survey of the anchor trenches as geosynthetics installation progresses. Survey should pick up both inside and outside extents of the anchor trenches. This includes the interim GCL anchor trench.
- **Leachate collection pipes.** The Contractor shall ensure that the Leachate Collection Pipes are placed as per the drawings and above the completed Protection Layer.
- **Leachate collection drain.** The Contractor shall ensure that the Leachate Collection Drain is placed as per the drawings and achieving the minimum grade specified.
- **Leachate collection sump.** The Contractor shall ensure that the Leachate Collection Sump is placed as per the drawings and at the invert level where the connecting drain is achieving the minimum grade specified.
- **Leachate collection pit.** The Contractor shall ensure that the Leachate Collection Pit is placed as per the drawings and at the invert level where the connecting pipes are achieving the minimum grade specified.

### 4.4 Field Trials

There shall be 2 separate field trials conducted which include the following:

#### **Field Trial 1 – Unit 2A Protection Layer**

Prior to installation of Unit 7 GCL, the Contractor must construct a field trial simulating the waste subgrade, underlying gas collection geosynthetics and Unit 6 Biaxial Geogrid and all earthmoving equipment to be used during the placement of the Unit 2A Protection Layer.

The aim of the field trial is to ensure the geosynthetics in the gas collection system and Unit 6 Biaxial Geogrid are not damaged during placement of the Unit 2A Protection Layer whilst using the machinery and methods that are intended to be utilised for the construction. The trial pad shall be a minimum of one Unit 6 Biaxial Geogrid width by 5m long and be inspected by the Superintendent and CQO.

Upon completion of placement of Unit 2A Protection Layer, the Contractor must exhume Unit 6 Biaxial Geogrid from the field trial area for inspection of both top and bottom surfaces by the CQO to ensure no damages are applied from the construction process. In the event of damage being identified by the CQO, the Contractor must change methodology and re-do the field trial to ensure compliance with the design intent

#### **Field Trial 2 – Unit 2B Protection Layer**

Prior to installation of the Unit 8 Geomembrane liner, the Contractor must construct a field trial simulating the waste subgrade and geosynthetics underlying the geomembrane, geomembrane, cushion geotextile and all earthmoving equipment to be used during the placement of the Unit 2B Protection Layer and Leachate Collection System.

The aim of the trial pad is to ensure the geomembrane liner is not damaged during installation of the Unit 2B Protection Layer and Leachate Collection System. The trial pad shall be a minimum of one geomembrane roll width by 5m long and be inspected by the CQO. The Contractor must prepare the waste subgrade, place the geosynthetics for the gas collection network, Unit 2A Protection Layer, place the geosynthetics for the interface liner system, place Unit 2B Protection Layer and Leachate Collection System with the machinery and methods that are intended to be utilised for the construction including the movement of trucks placing Unit 3 Drainage Aggregate.

Upon completion of placement of the Leachate Collection System, the Contractor must exhume the geomembrane liner from the trial pad area for inspection of both top and bottom surfaces by the CQO to ensure the geosynthetics were not damaged by the applied construction process. In the event of damage being identified by the CQO, the Contractor must change methodology and re-do the field trial to ensure compliance with the design intent.

### 4.5 Anchor Trench Classification

The Contractor shall excavate anchor trenches in accordance with the details on the drawings, prior to geosynthetic installation. The inside edge of the trench shall be trimmed to the satisfaction of the CQO to facilitate installation of geosynthetic. The Contractor shall survey and mark out the extents of the type of anchor trenches required and shall abide by the following:

- Anchor Trench Type A – The crest edge to the existing gas collection anchor trench is 7m or greater.
- Anchor Trench Type B – The crest edge to the existing gas collection anchor trench is between 3m to 6m.
- Anchor Trench Type C – The crest edge to the existing gas collection anchor trench is 2m or at the same location.

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- Anchor Trench Type D – Interim GCL anchor trench in locations on the batter.

The approximate extents for the different type of anchor trenches are shown on the drawings, however; the CQO shall provide a visual inspection and verify on site. There shall be a gradual transition length between the types of anchor trenches along the length of the crest that does not inflict stress on the liner system.

The trenches shall be excavated no more than 2 days before the geosynthetics are to be anchored. If ponded water in the excavated trench has softened the existing waste, as assessed by the CQO, the anchor trench shall be reformed in remoulded waste or replaced with clay rich fill that meets the requirements of the technical specification. The surface of the trench shall be inspected prior to installation of the geomembrane and any sharp or angular particles or water shall be removed and any desiccation cracks that could jeopardise the integrity of the trench shall be repaired.

During the installation of geosynthetics, temporary ballasts shall be placed in the anchor trenches of adequate weight to prevent slippage or wind uplift of the layers prior to backfilling. The anchor trenches shall be backfilled by laying the appropriate geosynthetics into the corresponding anchor trench and compacting with Unit 1 Clay Rich Fill in layers of equal thickness and shall comply with Section 4.6.

Anchor trenches should be constructed to avoid disturbing the existing gas collection trench. If it considered necessary to disturb the gas collection pipe this shall be undertaken in accordance with the requirements of the Superintendent and the Landfill Gas Operator.

The Contractor should develop a methodology for anchor trench construction which considers health and safety risks associated with anchor trench construction including the requirement to excavate in waste. This methodology should be provided to the Superintendent for potential approval at least 1 week prior to the scheduled commencement of anchor trench construction.

### 4.6 Placement and Compaction of Unit 1 Clay Rich Fill

The placement of Unit 1 Clay Rich Fill shall be used as backfill material for anchor trenches in locations shown on the drawings. Unit 1 Clay Rich Fill shall be placed and compacted in accordance with following requirements:

- The Contractor's operations in handling and placement of Unit 1 Clay Rich Fill are to produce a uniform gradation of materials when compacted. If the Contractor detects material changes or variations it must inform the Superintendent and the CQO to assess the suitability of the material for its purpose by undertaking appropriate laboratory testing and assessing its suitability in accordance with this technical specification.
- The placement of Unit 1 Clay Rich Fill shall be conducted in the presence of the CQO and compacted to a dry density ratio of not less than 95 % Standard (AS 1289 Sections 2.2) and achieves between 0 % and +3 % (wet) of SOMC. If the CQO , detects any reason the material is non-compliant with compaction and moisture content requirements of this technical specification, the CQO may request on site testing for verification. Should the test results show non-compliance, it is the responsibility of the Contractor to rework the backfill area until compliance has been achieved.
- The Contractor shall propose the machinery and methodology that are intended to be utilised for the placement of Unit 1 Clay Rich Fill in Anchor Trench Type C. The proposed machinery and methodology shall implement safety precautions for construction on the steep batter and preventing damage to the geosynthetic materials, whilst achieving the minimum compaction and moisture content requirements in this technical specification. The proposed machinery and methodology shall be reviewed by the Superintendent and CQO for potential approval.
- All remaining areas that require placement of Unit 1 Clay Rich Fill shall to be placed in continuous layers of a thickness to suit the proposed compaction equipment and of not more than 200 mm compacted thickness.

- Care shall be taken where Compaction shall be achieved using appropriate machinery such as a small hand guided steel drum roller or a plate compactor with rubberised edges, to prevent damage to the geosynthetic materials. Compaction shall be carried out in the presence of CQO to a dense consistency in the trench.

### 4.7 Stripping Vegetation and Preparing Subgrade

The established vegetation shall be removed to the extents of the geosynthetic installation area as per the drawings and areas outside of the extents that are required for the construction works. The additional areas outside of the geosynthetic installation area shall be agreed on site with the Superintendent. The area must then be re-profiled to remove large foreign objects, fill low lying areas and smooth irregularities. The existing access road (bench) mid batter shall be graded with a minimum cross slope of 5% towards the toe of the batter, which may require the excavation of existing waste and importing of soils for fill.

Prior to the placement of the gas collection system, the CQO shall provide a visual inspection and verify the suitability of the subgrade. If further subgrade preparation is required, this will be communicated to the Contractor.

### 4.8 Unit 4 Panel Drain and Unit 5 Geocomposite Strip Drains

The network of Unit 5 Geocomposite Strip Drains shall first be rolled on top of the subgrade in a 'herring bone' pattern as per the nominal locations shown on the drawings. Unit 4 Panel Drain shall be rolled on top of the subgrade and on top of the network of Unit 5 from the crest moving downward at nominal locations directed in the drawings. The Contractor shall seek further advice from the Supplier on the use of plastic pins to secure the network in place during times of heavy winds and installation of overlain layers to prevent deviation from the alignments. The Contractor shall submit an installation methodology to the Superintendent and CQO for review. The Contractor must ensure the installation of the pins shall not introduce risk of puncturing the above geosynthetic layers.

Unit 4 Panel Drains shall be connected to the existing gas connections for Stage 1 interface liner system using fittings. These fittings shall also be used at the Unit 4 Panel Drain connections to the Unit 13A Gas Collection Pipe at the crest, at locations shown on the drawings. The Contractor shall seek advice from the Supplier on the installation of these fittings to ensure proper connection. The proposed fittings shall be submitted to the Superintendent and CQO for review.

### 4.9 Installation Unit 13A and Unit 13B Gas Collection Pipe

#### 4.9.1 Installation by Subcontractor

The Works described below shall be undertaken by the Contractor and approved by the Superintendent based on advice from the CQO.

The Contractor is responsible for all aspects of the installation works. Any proposed change to the installation procedures shall be subject to written approval from the Superintendent.

#### 4.9.2 Anchor Trench

The Unit 13A and 13B Gas Collection Pipe anchor trenches shall be constructed in accordance with Section 4.5.

##### 4.9.2.1 Surface Preparation

The anchor trench shall be cut within the waste and should be free of large protruding objects. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing Unit 3 Drainage Aggregate. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given.

#### 4.9.3 Placement

Unit 13A Gas Collection Pipe shall be installed at the crest in the location shown on the drawings. The Unit 13A Gas Collection Pipe shall be connected to the existing site gas collection infrastructure. The

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methodology of connection shall be agreed on between the Contractor, Superintendent and the Owners of the site landfill gas infrastructure.

Unit 13B Gas Collection Pipe shall be installed at the locations at the crest shown on the drawings. The Contractor shall seek advice from the Supplier on fittings that are required to connect to Unit 13A Gas Collection Pipes. At the location where the Unit 13 B Gas Collection Pipe penetrates the finished surface level a 150 mm minimum thickness 1.5 m x 1.5 m square concrete mound shall be constructed using 32 MPa concrete.

The incision required through the Unit 6 Biaxial Drain for the penetration of the Unit 13B Gas Collection Pipe through the anchor trench should match the area of the pipe. The incision through the geogrid should be rounded as a means to prevent further propagation of the cut to greater lengths.

The anchor trench shall be backfilled with Unit 1 Clay Rich Fill, in accordance with Section 4.6, when Unit 13A and Unit 13B Gas Collection Pipes are placed in the trench with approval given by the CQO.

### 4.10 Installation of Unit 6 Biaxial Geogrid

#### 4.10.1 Installation by Subcontractor

The Works described below shall be undertaken by an experienced Installer approved by the Superintendent.

The Contractor is responsible for all aspects of the Installer's work. Any proposed change to the Unit 6 Biaxial Geogrid installation, which includes personnel or installation procedures shall be subject to written approval from the Superintendent based on advice from the CQO.

#### 4.10.2 Anchor Trench

The Unit 6 Biaxial Geogrid anchor trench shall be constructed in accordance with Section 4.5.

##### 4.10.2.1 Surface Preparation

The anchor trench shall be cut within the waste and should be free of large protruding objects. The Unit 6 Biaxial Geogrid shall share the same anchor trench as the Unit 13A Gas Collection Pipe and Unit 3 Drainage Aggregate, as shown on the drawings. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing Unit 6 Biaxial Geogrid. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given.

#### 4.10.3 Placement

Unit 6 Biaxial Geogrid shall be installed over the subgrade and the network of Unit 4 Panel Drains and Unit 5 Geocomposite Strip Drains as shown on the drawings. The Unit 6 Biaxial Geogrid shall be deployed from the crest moving downward and will be placed within the interim GCL anchor trench at locations shown on the drawings. No horizontal joints along the roll direction shall be permitted on the slopes. Should a matter arise where a cross slope is required, the Contractor shall submit a proposed an interim batter anchor trench design to the Superintendent for review.

Unit 6 Biaxial Geogrid shall be pulled tight by hand to remove any slack or unevenness in the layer. Unit 6 Biaxial Geogrid panel overlap/joins shall be overlapped in accordance to the advice received from the Supplier's methodology to achieve the specified tensile strength of the seams, after reduction factors have been applied, refer to Section 2.7. The proposed overlap/joins detail shall be approved by the Superintendent in consultation with the CQO, prior to being implemented in the Works.

The incision required through the Unit 6 Biaxial Drain for the penetration of the Unit 4 Panel Drain through the interim GCL anchor trench and the Unit 13B Gas Collection Pipe shall match the cross sectional area of those items going through. The incision through the geogrid should be rounded as a means to prevent further propagation of the cut to greater lengths.

The interim GCL anchor trench shall be backfilled with Unit 1 Clay Rich Fill, in accordance with Section 4.6, when the Unit 6 Biaxial Geogrid and Unit 7 GCL are secured in the trench with approval given by the CQO.

### 4.11 Installation Unit 2A Protection Layer

#### 4.11.1 Thickness

The Unit 2A Protection Layer shall be constructed over the Unit 6 Biaxial Geogrid layer as per the drawings and have a minimum thickness of 200 mm. If areas thinner than 200 mm (as measured perpendicular to slope) are identified in the Unit 2A protection layer, additional material shall be placed and compacted and the top of the protection layer and shall again be surveyed.

#### 4.11.2 Placement of Unit 2A Protection Layer

The Contractor shall provide proposed machinery and placement methodology for Unit 2A Protection layer to the Superintendent and CQO, for review and potential approval. The proposed machinery and methodology shall implement safety precautions for construction on the steep batter and preventing damage to the geosynthetic materials, whilst achieving the minimum requirements of this technical specification by best means possible. The Superintendent and CQO shall assess whether the proposed construction machinery is appropriate for the layer thickness and provide instruction if the layer thickness needs to be adjusted by the Contractor.

Unit 2A Protection Layer shall be placed in accordance with the following requirements:

- The placement of the Unit 2A Protection Layer shall only commence once the Field Trial, as per Section 4.4, has been completed and with proven result of no damage inflicted on the gas collection geosynthetics and Unit 6 Biaxial Geogrid. The Superintendent and CQO shall review the results of the Field Trial and give approval once it is verified the methodology does not inflict damage on the liner system.
- The CQO, will inspect the stockpile of material proposed for the use of Unit 2 Protection Layer and shall provide approval. Should the material be non-compliant with the requirements of this technical specification, further direction to the Contractor will be provided by the Superintendent.
- Unit 2A Protection Layer shall be placed over the Unit 9 Cushion Geotextile in the presence of the CQO.
- Unit 2A Protection Layer shall be moisture conditioned at the stockpile before placement unless otherwise approved by the CQO. The Contractor is responsible for achieving +3 % (wet) of SOMC or SOMC during the placement of Unit 2A Protection Layer. In addition, the Contractor is responsible for maintaining the moisture content in the placed Unit 1 Clay Rich Fill material prior to the installation of Unit 7 GCL.
- The CQO shall request independent standard compaction tests, distributed evenly across the material quantities used for Unit 1 Clay Rich Fill placement for verification the material is compliant with the moisture content requirements of this technical specification. The samples shall be taken in the presence of the CQO.
- The Contractor's operations in handling and spreading Unit 2A Protection Layer shall produce a uniform gradation of materials when compacted, free from lenses, pockets, streaks or layers of materials differing substantially in texture, gradation or moisture content from the surrounding material in that layer. If the Contractor detects material changes or variations it shall inform the Superintendent, for the CQO to assess the suitability of the material for its purpose by undertaking appropriate laboratory testing and determining its suitability in accordance with this Specification.
- Unit 2A Protection Layer shall be placed in continuous sloping layers of not more than 200 mm thickness after compaction to form a uniform and continuous layer.

### 4.12 Installation of Unit 7 GCL

#### 4.12.1 Installation by Subcontractor

The Works described below shall be undertaken by an experienced Installer approved by the Superintendent.

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The Contractor is responsible for all aspects of the Installer's work. Any proposed change to the personnel undertaking GCL installation or installation procedures shall be subject to written approval from the Superintendent based on advice from the CQO.

### 4.12.2 Crest Anchor Trench and Interim GCL Anchor Trench

Unit 7 GCL shall be anchored at the crest and at the interim anchor trench locations shown on the Drawings. The anchor trench shall be constructed in accordance with Section 4.5. The upslope GCL panel shall overlap the downslope GCL in the interim anchor trench by a minimum of 500mm, as shown in the drawings.

Backfilling of the trench will only be constructed once all geosynthetics are placed. Therefore, temporary ballasts of adequate weight must be used to prevent slippage or wind up lift of the GCL panels prior to installation of overlaying geosynthetics and backfilling.

#### 4.12.2.1 Surface Preparation

The anchor trench will be cut within the waste and should be free of large protruding objects. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing the GCL. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given to deploy the Unit 7 GCL.

### 4.12.3 Acceptance Criteria and Placement

#### Inspection of GCL after Unrolling

The CQO shall inspect the GCL as it is rolled out on the slope. The CQO shall be responsible for the acceptance or rejection of GCL being placed.

Where a roll of GCL has been damaged and extends more than 300 mm across the deployed width of GCL, the roll may be rejected due to its' reduced tensile strength. The CQO shall determine if the strength of the roll is unacceptable, based on the nature and location of the damage.

#### Placement

- Subgrade surface preparation (i.e. Unit 2A Protection Layer surface) for Unit 7 GCL deployment shall be undertaken in accordance with Section 4.11.
- The Unit 7 GCL shall be deployed concurrently with the Unit 8 Geomembrane. This installation sequence will protect the Unit 7 GCL from climatic and other installation risks.
- Rolls of Unit 7 GCL shall be moved or deployed from the toe moving upward with a suitable spreader bar that is stiff enough to limit deflection over the width of the roll to prevent wrinkling or creasing of the rolls to ensure smooth uniform deployment of the GCL layer. Unit 8 Geomembrane shall be deployed from the crest moving downward.
- Unit 7 GCL shall only be installed in dry weather conditions. Panel placement shall take into account forecast weather conditions such as heavy rain or high winds so as to minimise any possible damage from these conditions.
- The GCL shall be installed in the presence of the CQO. A minimum side and end overlay of 300 mm is required between panels, or as instructed by the CQO. All rolls of GCL shall include standard pre-treated side overlaps, which comprises extra bentonite encapsulated in the geotextile.

The CQO shall inspect and approve all overlaps prior to covering the overlap.

- If wrinkles greater than 50 mm high occur in the Unit 7 GCL or where wrinkles extend to the edge of the roll due to manufacturing tolerances, the wrinkle shall be cut at the crest of the wrinkle. A priming layer of low viscosity bentonite paste shall be worked into the lower layer followed by a layer 10 mm thick of high viscosity bentonite paste spread over the top of one flap of the cut and the other flap pushed over the paste to form an overlap. A 20 mm thick layer of high viscosity bentonite paste shall be placed over

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the top of the overlap extending 100 mm beyond the edges of the cut and overlap. The paste shall be covered with a patch of Unit 12 Separation Geotextile, and squeezed into the paste.

- The exposed edges of deployed GCL shall be protected from rainfall runoff by builder's plastic to prevent erosion of bentonite. Special care shall be taken to prevent flow of runoff or seepage under and/or over the geomembrane to prevent erosion of the bentonite in the GCL.
- Exposed Unit 7 GCL shall not be trafficked by vehicles. Unit 7 GCL is to be covered with Unit 8 Geomembrane, which shall be deployed concurrently with the GCL (i.e. roll width after roll width) or as approved by the CQO.

### 4.12.4 Repairs

Rolls or panels of GCL that have been damaged shall be brought to the attention of the CQO, who shall judge if the panel or roll is not to be used in the Works, or may be repaired. If the CQO decides the damage is minor, then the hole may be patched. If a roll is deployed with manufacturing defects, the entire roll shall not be used in the Works.

All defects and repairs shall be recorded and locations measured by the CQO as the panels are deployed, to facilitate the timely deployment of the overlying geomembrane.

A patch of GCL shall be placed over any hole with a minimum overlap over the adjoining area of 500 mm. All overlaps shall be made by first priming the lower layer of the patch and upper layer of the GCL with low viscosity bentonite paste followed by a 10 mm thick layer of high viscosity hydrated sodium bentonite paste between the GCL and the patch GCL.

Where the repair occur on the slope the top edge of the GCL patch shall be glued to the lower GCL using contact adhesive applied over a 50 mm width. The adhesive and gluing method shall be assessed and approved (if appropriate) by the CQO.

## 4.13 Installation of Unit 8 Geomembrane Liner

### 4.13.1 Installation by Subcontractor

The Works described below shall be undertaken by an experienced geomembrane installation specialist Installer approved by the Superintendent.

The Contractor shall use the Installer and the Installer's key personnel to test and install the geomembrane. The Contractor is responsible for all aspects of the Installer's work. Any proposed change to the geomembrane installation shall be subject to written approval from the Superintendent based on advice from the CQO.

### 4.13.2 Surface Maintenance

The Contractor is to place geomembrane sheets over all areas as outlined in the drawings or as directed by the Superintendent, based on advice from the CQO.

The Contractor is required to maintain the moisture of the Unit 7 GCL until the installation of the overlying geomembrane. If the surface of the Unit 7 GCL is to dry out such that the bentonite content within becomes cracked and desiccated, the Contractor will be required to replace an extent of the Unit 7 GCL as decided by the Superintendent, based on advice from the CQO, in accordance with the requirements of this Specification. The CQO shall assess the replaced areas of Unit 7 GCL for compliance with the requirements of this Specification.

### 4.13.3 Surface Preparation

The required Unit 7 GCL deployment is described in Section 4.12 of this technical specification. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing the geomembrane. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given to deploy the Unit 8 Geomembrane.



### 4.13.4 Anchor Trench

The anchor trench shall be constructed in accordance with the details shown on the Drawing and Section 4.5. Geomembrane should be anchored when cool to deter bridging. Temporary ballasts of adequate weight must be used to secure Unit 8 Geomembrane to prevent slippage or wind up lift prior to installation of overlaying geosynthetics and backfilling.

### 4.13.5 Placement

#### Installation Schedule

Field panels shall be installed at the location and positions indicated in the Panel Layout drawings and using any one of the following schedules:

- Field panels for one day's installation may be placed prior to field welding (to protect the Unit 7 GCL from precipitation).
- Field panels are placed one at a time and welded immediately (to minimise the number of unwelded field panels exposed to wind), or
- Any combination of the above.

Panel placement shall take into account forecast weather conditions such as heavy rain or high winds so as to minimise any possible damage from these conditions.

#### Night time placement

Installation work may be carried out at night but shall be inspected and tested during daylight hours. All joints shall be tested during daylight hours. Night time placement will be subject to approval by the Superintendent.

#### Method of Placement

The Contractor shall ensure that:

- Geomembrane shall be placed concurrently with the GCL. The Geomembrane shall be deployed from the crest moving downward.
- No more geomembrane is deployed at any one time than can be reasonably welded in one day.
- Geomembrane rolls shall be unrolled in accordance with the instructions and the direction shown on the wrapping.
- No equipment used shall damage the geomembrane by handling, trafficking, leakage of hydrocarbons or other means.
- No materials shall be dragged or pushed along the surface of the geomembrane. Geomembrane damaged by this process shall be considered to be installation damage and the CQO shall advise whether the damaged area should be patched, capped or replaced.
- Personnel working on the Unit 8 Geomembrane shall not smoke, wear studded footwear, or engage in other activities that could damage the geomembrane. The Contractor shall protect the geomembrane from damage by equipment or personnel traffic associated with construction.
- Methods used to unroll panels shall not cause scratches or crimps in the geomembrane and shall not damage the underlying Unit 7 GCL.
- A geomembrane roll shall be unrolled in a controlled manner. A roll shall not be released to unroll freely down slopes.

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- Geomembrane shall be cut with an approved knife with a retractable hooked blade to minimise the chance of scoring the surface and to minimise the risk of injury occurring to installation staff. Foldable bladed knives shall not be permitted. Cutting tools shall not be placed on the geomembrane surface, and shall be stored in secure containers to prevent personal injury and accidental damage to the liner system.
- Methods used to place panels shall preclude folds, wrinkles that may become folds, bridging (trampolining) and differential wrinkles between adjacent panels. Geomembrane panels placed on the mid-batter bench (existing access road) shall have no cross-slope seams.
- During construction sand bags and/or rolls of geosynthetics shall be applied to counter uplift during high wind conditions. The bags and/or rolls shall be spread out along the free edges and also in the middle of the panels and shall not damage the geomembrane. Panels subjected to movement by wind shall be inspected by the CQO for damage (creasing, folds, etc) prior to being welded.
- Ballast or sand bags must be secured or fastened and not spill their contents onto the geomembrane. Any areas of spillage, as determined by the CQO observed on the geomembrane shall be promptly swept up by hand brooms and removed.
- The sand bags shall be made of UV resistant materials and be approved by the CQO before deployment.
- Joints shall be orientated so that overlaps are in the downslope direction (roof tile effect).
- Geomembrane should not be installed in rain, hail or high winds/dusty conditions or if the subgrade is wet.

### 4.13.6 Damage and Defects

The supply of the geomembrane is the responsibility of the Contractor. Two types of defects may occur in the geomembrane; manufacturing defects which exist in the geomembrane as delivered to the site, and defects related to the installation of the geomembrane. The Installer is responsible for the repair of manufacturing and installation defects. The Installer is required to allow for the repair of a given number of manufacturing defects.

The following section clarifies the differences and limits related to different types of defects, to clarify the responsibilities of the different parties.

The following manufacturing defects shall apply.

#### **Gel, Fisheye or Crater**

A gel is also referred to as a "fisheye", which is a thinning and inclusion of the geomembrane. The specified minimum thickness of the geomembrane also applies to gels and fisheyes. The size of the fisheye is of no consequence, as it is the thinning of the geomembrane inside the fisheye, which is of concern. The inclusions in the fisheye or gel may also result in a stress concentrator in the sheet, which is unacceptable. Fisheyes or gels often occur repetitively down the length of the roll, and at the same location from the roll edge, and is related to a manufacturing problem. Fisheyes often include some undispersed raw materials such as degraded resin blobs, carbon black or other materials.

A crater is generally a depression or thinning of the geomembrane.

#### **Pimples**

Pimples are undispersed or lumps of resin that is included within or on the surface of the geomembrane. The pimples with inclusions result in stress concentrations which is unacceptable. The CQO shall assess

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the condition of the pimple for inclusions and risk of stress concentration and decide whether the pimple shall be removed and repaired.

### **Crazing**

Crazing is where the sheet appears to include in sheet cracking or “cold joints”, which is related to resin flow. The CQO shall assess whether the crazing extends into the sheet and presents either a stress concentrator or potential flow path through the crazing. Crazing may include some sheet thickening, which shall be assessed by CQO with respect to stress concentration. In most cases the crazing shall be a defect and shall be capped.

### **Surface Blemishes**

Surface blemishes are considered to be areas where the resin has not been properly mixed or filler can be noted on the geomembrane. The colour and surface texture of the geomembrane shall normally be uniform and consistent. Where changes occur in the surface texture or colour the Contractor shall request the CQO to inspect the area. If the area is rejected as unacceptable, then the section of the geomembrane roll shall be removed and replaced, and be treated as a manufacturing defect.

### **Scratches**

Straight-line scratches that penetrate the geomembrane (approximately 0.1 mm) shall be pointed out to the CQO for consideration. The CQO shall inspect the deployment equipment and the shape of the defect to decide if it is a manufacture defect. The CQO decision shall be final. The roll length where such a defect occurs shall, if instructed by the CQO, be cut out and removed from site. The removed length of roll shall constitute one defect.

Defects in the geomembrane that result in non-ductile failure of the sheet shall be considered unacceptable. The acceptance of a scratch shall also be decided on this basis, and where considered appropriate the CQO shall instruct coupons to be recovered from the suspect area and be subject to tensile testing, to demonstrate whether the scratch results in ductile or non-ductile behaviour. Defects shall be cut out and capped.

### **Maximum Defect Rates**

A guide for acceptance of a geomembrane roll is one defect per 50 m roll (one defect per 350 m<sup>2</sup>). A roll where the defects occur over the majority of the roll length deployed, shall be rejected. A majority of roll length deployed is 75% of the roll length. If the end of a roll has a number of defects greater than one per 50 m of roll, then the end of the roll shall be cut off and removed from the Work area. The Superintendent in consultation with the CQO shall make the final decisions on site.

### **Non-uniform Surface Texture**

Geomembrane rolls which present a non-uniform pattern or intensity of texturing shall be considered as follows:

- 1) If the texturing on both surfaces of the geomembrane sheet is similar, the sheet shall be accepted.
- 2) If the texturing on the surfaces varies to the extent that the surface roughness of the surfaces is significantly different, the geomembrane shall be rejected. A difference in surface roughness over 4 m<sup>2</sup> is considered significant. The difference shall be decided by the CQO using a visual assessment, and shall be final.
- 3) Scattered significant agglomeration of texturing on the surface shall be removed if it occurs at a density of less than one significant agglomeration per 300 m<sup>2</sup>. A roll with a higher density of significant agglomerations shall be rejected. A significant agglomeration shall be one that can be seen as a discolouration from a distance of 15 m from the surface being inspected, and is larger than 20 mm in diameter.

### **Repair of Defects**

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The CQO shall mark defects as either manufacture or installation defects. The CQO shall record the manufacture and installation defects on a layout drawing.

All defects shall be patched or capped and subject to QC testing, reporting and documentation by the CQO. Repair of defects is part of the Installers responsibility. The Installer shall supply rates for circular patching, long patching per Lm and fusion welding per Lm. To facilitate the issue of whether the Principal or the Contractor shall pay for defects or repairs the following points shall apply:

- Maximum is one manufacturing defect per 350 m<sup>2</sup> of roll, with the total number of manufacturing defects for the geomembrane liner being 30. If more than one manufacturing defect occurs over a local area of the geomembrane within a circular area of 0.5 m radius, the area shall be considered 'one defect' and be capped. Up to 30 manufacturing defects shall be repaired at no additional cost to the Principal. If more than 30 manufacturing defects are repaired the Contractor shall be paid for the additional repairs. Replacement of defective geomembrane is at the Contractor's expense.
- Installation defects are the Installers responsibility. The CQO shall decide if the number of installation defects over a certain area is too high, and whether the area should be cut out or capped.
- Rejection of a part of a roll may result in additional fusion welding due to shorter roll length. The additional weld related to joining two parts rolls is considered one defect. The Installer shall supply rates for additional fusion welds, so that the Superintendent can decide if the roll is to be replaced or joined with additional welds. A standard panel for this project is considered to be a standard roll length times its width (approx. 950 m<sup>2</sup>). Only two additional joins (i.e.: a total of four lengths of geomembrane) are permitted per standard panel to join part rolls. Longitudinal joins of part rolls shall not be permitted. There must be at least 500 mm between adjacent T-joints.

The Installer shall be responsible for recording all defects, labels, locations and preparing Field QC records of their repair.

The geomembrane panels shall be installed with the smooth side upward and the textured side downward.

Inspections shall be carried out in daylight. The responsibility of identification of defects remains with the Installer, but the type of defect is to be decided by the CQO. It shall be the Installer's responsibility to ensure that it communicates with the Superintendent to ensure that enough geomembrane is on site to prevent any delays in completing the liner. The risk of time delays is the responsibility of the Installer, and it shall program any repairs to ensure the liner is completed on time.

### 4.13.7 Field Welding

#### 4.13.7.1 Requirements of Personnel

Personnel performing welding operations shall be qualified as indicated below.

- Shall be qualified by experience or by successfully passing welding tests and at least one welder shall have welded a minimum of 100 000 m<sup>2</sup> of geomembrane using the same type of welding apparatus in use at the site.
- The Weld Foreman, most experienced welder, shall directly supervise less experienced welders, as required.
- No field welding shall take place unless the Weld Foreman is present.

#### 4.13.7.2 Welding Equipment and Methods

Welding equipment must not be more than two years old.

#### Approved Processes for Field Welding

Only extrusion welding or fusion welding using equipment approved by make and model shall be used.

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The Contractor shall be responsible for regularly checking, calibrating and recording the following items:

- Preheat air flow and temperature at the nozzle
- Extrudate flow and temperature at the barrel outlet
- Split Copper wedge temperature on both contact points

The Contractor shall ensure they have an independent calibrated hand held temperature measuring device to confirm temperatures of each and every welding machine prior to the commencement of any test or fields welds. All information regarding the results gained from the temperature device shall be recorded on the daily quality control sheet for each welding machine.

### **Fusion Welding Process**

The Contractor shall use dual-track fusion welding process. The Contractor shall maintain at least one spare, operable welding unit of each type employed on the project site at all times. The fusion-welding apparatus must be automated vehicular-mounted devices comprising heated copper wedge, pressure rollers and electronic controls. The copper wedge shall be controlled and constantly monitored by a programmable controller and variable speed drive unit and be approved for use by the CQO. The fusion-welding apparatus shall be equipped with gauges giving the applicable temperatures, speed and pressures. The welding apparatus shall include an audible alarm for when the set temperature for welding is not achieved by the heating wedges of the machine. Where equipment is proposed that does not have an alarm system, an alternative warning system shall be proposed for consideration by the CQO. The alarm system shall be approved by the CQO before any seam welding is conducted. A temporary movable protective layer shall be used directly below each overlap of geomembrane that is to be welded to prevent build-up of moisture between the sheets. The copper wedge shall create two contact fusion areas of a minimum width of 15 mm and a 5 mm minimum wide void between each of the separate parallel weld zones.

### **Extrusion Welding Process**

Extrusion welding shall be used for Unit 8 Geomembrane repairs.

The extrusion apparatus shall be equipped with gauges giving the temperature in the apparatus (preheat) and at the nozzle (extrudate) and equipped with electronic controls which constantly monitor outputs for both preheat and extrudate. The unit shall be capable of pre-heating the sheet just prior to the casting of the extrudate over the upper and lower section of the weld zone.

The extruder shall be purged before beginning a weld and until all heat-degraded extrudate has been removed from the barrel. Whenever, the extruder is stopped, the barrel shall be purged of all heat degraded extrudate. The minimum width of the surface extruded bead shall be 30 mm. The surface extrusion welder shall be semi-automated

### **Protection of Geomembrane**

The electric generator shall be mounted on a wheeled trolley so that it is not dragged across the geomembrane. A smooth insulating plate or fabric shall be placed beneath the hot welding apparatus after usage to protect the geomembrane. The wheeled trolley shall not be moved onto the geomembrane without inspection of the wheels to ensure no trapped particles pose a puncture risk to the geomembrane.

When on the geomembrane generators shall be moved carefully to prevent wheels folding over wrinkles in the geomembrane. Where possible the Contractor shall position the generator such that it is not positioned on the geomembrane, this may require the use of long power leads. All generators shall include a safety switch (residual current device) and be approved for use by the Superintendent.

Fusion welded seams shall be formed using a slip sheet below the weld to reduce the risk of sharp particles or mud being trapped in the underside of the welder, resulting in scoring of the underside of the geomembrane or low strength seams. The slip sheet is to be progressively removed and shall not be left in place at the end of seaming operations.

### 4.13.7.3 Seam Layout

In general, seams shall be oriented parallel to the line of maximum slope, i.e. oriented up and down, not across, the slope. In corners and odd-shaped geometric locations, the number of seams shall be minimised. No horizontal seam shall be closer than 1.0 m from the toe of the slope. No seams shall be located in areas of potential stress concentrations.

No cross-joints shall be allowed. All fusion joints between panel ends are to form T-joints, with panel layouts being staggered to achieve this. The minimum spacing between T-joints shall be 500 mm. All T-joints, defects, etc shall be patched and be subject to quality testing.

All seams and joints shall be numbered or named by the CQO which shall be cross-referenced to field notes and records of the Contractor. Seam names or numbers shall be marked on the as-built seam layout drawing. The Contractor shall mark panel and seam names or numbers, weld and testing information on the geomembrane to the satisfaction of the CQO.

### 4.13.7.4 Weather Conditions for Welding

Geomembrane jointing and welding shall not be started if the geomembrane temperature is below 5°C or above 55°C, unless otherwise authorised by the CQO. Geomembrane jointing shall not be undertaken in the rain, in the presence of excessive moisture (i.e. fog, dew), in an area of ponded water, or during periods of high wind or excessive dust. If geomembrane placement and jointing is to be carried out at night, the entire area of deployment shall be illuminated.

When personnel are undertaking work on the black geomembrane in hot weather conditions the Contractor will be required to undertake a risk assessment at the request of and to the satisfaction of the Superintendent for potential approval in order to continue work. If welding is permitted during high temperature days, the installer shall demonstrate to the CQO that the intended welder settings do not result in so called 'Hot Weather' seams which have a high risk of stress crack propagation. This shall be demonstrated on trial samples where both sides of the seam can be inspected and shall be prepared and welded in the field on geomembrane that has been exposed to the weather for at least one hour.

### 4.13.7.5 Weld Preparation

Prior to welding, the weld area shall be cleaned (or abraded) no more than 30 minutes before welding, and be free of moisture, dust, dirt, debris, markings and foreign material. Grinding marks should not be more than 10 per cent of the geomembrane thickness.

If seam overlap abrading is required, the process shall be completed within one hour of the welding operation and in a way that does not damage the geomembrane. Abrasion of the geomembrane surface shall not extend outside the weld bead or weld surface area. Abrading striations shall be in line with welding/seam alignment. Seams shall be aligned to minimise the number of wrinkles.

Artificially induced cooling of the extrudate welds using water or other means is not permitted. Care shall be exercised to ensure that non-destructive testing of the extrudate and/or other conditions does not cause artificial cooling of the weld.

The edge flap of fusion seams shall not be ripped from the seam to inspect the "squeeze-out" from the weld. Any required removal of geomembrane material shall be carried out by careful cutting.

The Contractor shall record the following information on the geomembrane surface adjacent to the weld:

- Unique seam number.
- Welding device number and operating temperature.
- Welding technician's initials.
- Date and time.

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The information shall be recorded in permanent ink to ensure the information is legible for the duration of the Works.

### **4.13.7.6 Overlapping and Temporary Bonding**

Panels of Unit 6 Geomembrane shall be overlapped by a minimum of 75 mm for extrusion welding and 125 mm for fusion welding. The Installer shall make appropriate allowance for the effect of shrinkage of panels related to changes in temperature, to ensure the required overlap during welding. The overlap shall be sufficient to allow peel tests to be performed on the weld, and to provide enough space to form a reliable air channel between dual fusion welds for testing.

The procedure used to temporarily bond adjacent panels together shall not damage the geomembrane; in particular, the temperature of the air at the nozzle of any spot welding apparatus shall be controlled such that the geomembrane is not damaged.

### **4.13.7.7 General Welding Procedures**

The general welding procedure used by the Contractor shall be as follows:

- Welding shall extend to the outside edge of panels to be placed in the anchor trench.
- Ends of the air channel of dual fusion welds extending into anchor trenches shall be welded closed.
- If required, a firm substrate shall be provided by using a flat board, piece of geomembrane, a conveyor belt, or similar hard surface directly under the seam overlap to achieve proper support. The substrate shall be removed as welding progresses.
- Fish-mouths or wrinkles at the seam overlaps shall be cut along the ridge of the wrinkle to achieve a flat overlap. The cut fish-mouths or wrinkles shall be welded and then be patched with an oval or round patch of the same geomembrane extending a minimum of 150 mm beyond the cut in all directions.
- All cuts and patches shall be formed with rounded edges and ends, to prevent stress concentrations in the geomembrane. All cuts shall be removed or be ended off with a round cut-out.

## **4.13.8 Testing**

### **4.13.8.1 Trial Welds**

Each welding technician shall qualify to operate on a daily basis, by performing a trial weld prior to welding activities or at times designated by the CQO. These trial welds shall be performed using each type of welding device to be employed by the welding technician during that period. Additionally, a trial weld shall be made using each welding device at mid-day or at an interval of no greater than five (5) hours, whichever is less, and also if welding stoppages exceeds 1 hour and also after significant changes in weather conditions. During hot weather welding (ambient temperature higher than 35°C) trial welds shall be carried out every three hours. The CQO may also require that a trial weld be performed using each device at the conclusion of welding activities. Welding devices that have not produced a passing trial weld will not be permitted to perform production welding.

Trial welds shall be made on "fragment" pieces of geomembrane liner to verify that welding conditions are adequate. The trial weld sample shall be at least 0.3 m wide and 1.5 m long for fusion welds or 1.0 m long for extrusion welds with 125 mm overlap, with the weld centred length-wise along the long side. All trial welds shall be performed under the same weather and subgrade conditions as production welding.

Three specimens (each 25 mm wide) shall be cut from the trial weld sample by the Installer: one near each end and one near mid-point. The two near end specimens shall be tested in peel and the mid-point samples tested in shear. All test results shall be recorded, including failed and passed tests.

All trial weld specimens shall be tested in the field by the Installer, using an electrically operated tensiometer where the force exerted is displayed. The Installer shall supply evidence demonstrating that the tensiometer has been calibrated within the previous 12-month period.

### ***Trial Weld Evaluation Criteria***

If any one of the three specimens fails, the entire trial weld is considered failing. The shear test specimen for both fusion and extrusion welds shall, at a minimum, meet strength of 95% of the tensile yield strength of the values in Table 7, and shall not fail within the weld. Both tracks of dual-track fusion welds shall be tested for peel adhesion and both tracks shall exhibit strengths within 10 per cent. If variation in strength is more than 10 per cent the Installer shall investigate the condition of the welder to identify the reason for the strength difference and adjust welder accordingly. If either track fails within the weld, the test specimen is considered to have failed. Peel strength of welds to meet at least 65% of the tensile yield strength of the values in Table 7. For extrusion welds, the peel strength of the weld must be at least 60% of the tensile yield strength of values listed in Table 3.

In the event that a trial weld fails, the entire trial weld procedure shall be repeated after the appropriate adjustments to the welding device and/or operator has been made. If a second trial weld fails the welding device and/or the welding technician shall be rejected and shall not be used for welding until such time as the deficiencies are resolved, verification of the resolution is provided, and a successful trial weld performed.

### **4.13.8.2 Non-destructive Weld Continuity Testing**

#### **General**

The Installer shall non-destructively test all field and factory welds over their full length using a vacuum test unit, spark testing, air pressure test (for double fusion welds only), or other approved method. Vacuum testing and air pressure testing are described below. Spark Testing shall not be carried out along the joint to the existing cell due to the risk of landfill gas from the adjacent waste. Spark Testing may be carried out in areas remote from the Cell 8 edge in accordance with ASTM D 6365, if the CQO is satisfied there is no risk of landfill gas at that location.

The purpose of the non-destructive test is to check the continuity of welds. Continuity testing shall be done as the welding work progresses to identify issues early and reduce the risk of large portions of welds requiring remediation. Testing of welds shall not be delayed more than 3 days of welding. Any welds that fail non-destructive testing shall be repaired in accordance with these Specifications. Welds, which cannot be non-destructively tested because of seam geometry, shall be double welded or capped.

All test equipment shall be in calibration and conform to Manufacturer's specifications. The Installer shall submit current calibration certificates.

The Installer shall demonstrate to the CQO at the beginning of the job, and as otherwise directed by the CQO, that the testing equipment is in good working order by testing a test seam with a defect.

#### **Spark Testing**

The procedure for Spark Testing shall be as follows;

- As the weld is fabricated a continuous electrically conductive wire is to be located in the lapped area of the panels at a distance of 2 to 5 mm from the edge of the top panel of membrane.
- Prior to testing it is necessary to connect the conductive material installed in the field seam to the negative terminal of the voltage source. This is typically the subgrade under the geomembrane.
- Set the voltage source to the appropriate voltage needed for the expected distance to the conductive wire. The user should verify that the test voltage will not damage the geomembrane.
- Check that the field seam and areas adjacent to the seams are dry prior to testing.
- Place the voltage application connected to the positive terminal of the voltage source.



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- Move the voltage applicator along the seam at a uniform rate of 6 m/min. The voltage applicator must make intimate contact with the seam inspected. Both edges of the extrusion welds are to be tested.
- As the test progresses, the generation of a spark indicates a suspect area in the seam.
- The suspect area is to be marked for repair.

### **Vacuum Testing**

The equipment shall comprise the following:

- A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft neoprene gasket attached to the bottom, port hole or valve assembly, and a vacuum gauge showing the pressure in the box.
- A steel vacuum tank and pump assembly equipped with a pressure controller and connections.
- A rubber pressure/vacuum hose with fittings, pressure gauge linked to the window housing and connections.
- A soapy solution to be applied over seam area.

Each section of the weld to be tested shall be tested to a pressure of at least minus 15 kPa.

Each section of seam shall be vacuum tested for a period of not less than 10 seconds by examining the geomembrane through the viewing window for the presence of soap bubbles. Adjoining area shall be tested with a minimum 75 mm overlap between sections.

### **Air Pressure Testing**

The following procedures are applicable only to those processes that produce a double weld with an enclosed air channel. All double welds with an enclosed air channel shall be air pressure tested. Testing should not be performed earlier than one hour after welding.

The equipment shall be comprised of the following:

- An air pump (manual or motor driven) capable of generating and sustaining a pressure of 415 kPa.
- A rubber hose with fittings and connections.
- A sharp hollow needle or other approved pressure feed device.
- A calibrated pressure gauge capable of reading pressures up to 450 kPa, with a tolerance of less than 5 kPa.

The following procedures shall be used:

- Seal both ends of the weld to be tested by grinding through the upper panel and sealing the air channel by extrusion welding;
- Insert needle with pressure gauge, or other approved pressure feed device within 300 mm of one of the sealed ends, into the air channel created by the fusion weld;
- Energise the air pump and pressurise the channel to between 170 to 210 kPa for a 25 mm wide channel, and 300 to 350 kPa for a 13 mm wide channel. Close the valve and sustain the pressure for a minimum of 5 minutes. The Installer may propose a greater test pressure with shorter periods of observation for consideration by the CQO. A pressure drop of less than 15 kPa is allowable, but the air pressure is still required to stabilise for a minimum of 5 minutes;

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- If loss of pressure exceeds 15 kPa, or does not stabilise, locate faulty area and repair in accordance with this section. If, in the judgement of the CQO, significant changes in geomembrane temperature occur during the test (e.g., due to cloud cover), the test shall be repeated after the geomembrane temperature has stabilised;
- Cut end of weld opposite to the pressure gauge and observe that the pressure drops. If the pressure does not drop, locate the obstruction(s) in the weld, repair, and retest weld; and,
- Remove needle or other approved pressure feed device and repair all holes and damage made to the air channel by grinding and extrusion welding over the damage.

Alternative testing procedures may be considered by the Superintendent based on submission of relevant information by the Installer. If an alternative testing procedure is to be considered the Installer shall submit information to the Superintendent at least 14 days before the procedure is to be used.

### 4.13.8.3 Destructive Weld Continuity Testing

The Installer shall recover field weld samples for destructive testing at selected locations. The purpose of these tests is to evaluate field weld strength. Field weld strength testing shall be done as the welding work progresses, not at the completion of all field welding. The Superintendent will arrange for testing of the samples at an independent laboratory.

#### Location and Frequency

Destructive test samples shall be collected at an initial average frequency of one test location per 150 m (fusion weld), or 120 m (extrusion weld), of seam length. At least one sample shall be recovered from the tie-on seam with the adjacent cell liner. As welding progresses the frequency of testing may be increased or decreased by the Superintendent in consultation with the CQO based on the performance of:

- Trial Welds.
- Previous destructive testing.
- Air Pressure testing.
- Observations on site by the CQO

Test locations shall be determined during welding, and may be prompted by suspicion of excess crystallinity, contamination, offset welds, or any other potential cause of low quality seams. The CQO shall choose the test locations. The Installer shall not be informed in advance of the locations where the samples will be taken. The Superintendent reserves the right to increase the frequency depending on the test results of samples taken.

#### Sampling Procedure

The Installer shall cut samples at locations designated by the CQO as welding progresses to obtain laboratory test results before the geomembrane is covered by another material. Each sample shall be numbered and the sample number and location identified on the panel layout drawing.

All holes in the geomembrane resulting from destructive weld sampling shall be immediately repaired and tested in accordance with repair procedures in this Specification. Cuts to remove the samples shall be rounded to prevent stress concentrations in the geomembrane.

#### Size of Samples

The samples shall be a minimum 0.3 m wide by 1 m long with the weld centred length-wise. The sample length shall be increased to provide material for additional laboratory testing or archiving. Two specimens shall be cut from each end of the sample for preliminary field tests. Each portion of the test sample shall be labelled with a unique number for the sample, and referenced to the joint number from where the sample was taken. The sample number shall be noted on the as-built Drawings. The CQO may direct the

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Contractor to reduce the length of the sample removed from the welds, if the CQO is satisfied that field testing indicates high quality welds.

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### **Weld Destructive Tests**

#### Preliminary Field Testing

Four (4) specimens, two from each end of the weld destructive sample, shall be removed and tested for peel adhesion by the Installer in accordance with ASTM D 6392. The results of this testing shall be evaluated in accordance with the criteria as detailed under 'Trial Welds' in Section 4.6.8.1 of this Specification. If any of the four field specimens fails, the entire destructive test is considered to fail and additional destructive test samples shall be taken in accordance with the procedures of this Specification.

#### Laboratory Weld Sample Destructive Testing

Tests shall be performed on ten-25 mm wide specimens cut from each destructive weld sample. From each sample, 5 specimens shall be tested in shear and 5 specimens shall be tested in peel. The shear and peel specimens shall be selected from the sample alternately, so that no two adjacent specimens are tested in the same mode.

#### Laboratory Testing Weld Evaluation Criteria

Each weld sample must satisfy both the shear and peel criteria. All testing and evaluation shall be carried out by an accredited geosynthetic testing laboratory in accordance with ASTM D 6392.

### **Shear**

The weld shear strength shall be, at a minimum, equal to 95% of the minimum tensile strength of the geomembrane sheet at yield, as specified in the property values in Table 3 of this Specification. The specimen shall fail in the geomembrane sheet and not in the weld area. This is referred to as "film tear bond," (FTB). The specimen shall be defined as failing in the weld if any portion of the weld exhibits separation across more than 10% of the weld surface. Each track of a dual-track fusion weld shall be considered to be a separate weld for the purpose of calculating the percentage separation. If any specimen fails in shear, the entire weld destructive test sample shall be considered as failing.

### **Peel Adhesion**

The weld peel strength shall be equal to or greater than 65% for fusion and 60% for extrusion welds of the minimum yield strength of the geomembrane, as specified in the property values in Table 3 of this Specification. The specimen shall fail in FTB. The specimen shall be defined as failing in the weld if any portion of the weld exhibits separation across more than 10% of the weld surface. Each track of a dual-track fusion weld shall be considered to be a separate weld for the purpose of calculating the percentage separation. If any specimen fails in peel, the entire weld destructive test sample shall be considered as failing.

### **Failed Destructive Sample Procedure**

The Installer shall reconstruct the deficient weld once the extent has been determined. All welds that are to be reconstructed shall be bound by passing destructive tests. The Installer shall trace deficient welds by taking specimens for field testing or by obtaining additional weld destructive samples at a nominal of 5 m intervals in both directions along the deficient weld from the failure location. If tracing by taking field specimens is chosen, the Installer shall continue to obtain specimens from the weld at 3 m intervals until it has confidence destructive samples which will pass laboratory testing can be obtained. A full laboratory sample will then be taken at that location and tested. If one or both of these samples fail the laboratory test, then the procedure is repeated in that direction until passing laboratory results are obtained. For the purposes of tracing a weld, the weld is considered to be the path of the given fusion welding apparatus or extrusion welding device/technician combination and may, if necessary, extend beyond any given welding period. Tracing which requires obtaining more than 2 specimens in either direction from the location of the initial failed destructive weld sample shall be brought to the attention of the Superintendent and the process approved by the Superintendent prior to continuing. A review of the Installer's procedures and performance may be conducted.

Alternatively, the Installer may elect to cap the full length of the weld if they do not choose to trace the deficient weld.

### 4.13.9 Repairs

#### 4.13.9.1 General

All weld and non-weld areas of the geomembrane shall be visually inspected by the Installer for signs of damage, defective welds, blisters, punctures, undispersed raw materials, and any sign of contamination by foreign matter. Any defective or flawed areas observed shall be marked, repaired, tested, or removed from the installation and disposed of. Unless otherwise approved by the CQO, all air channels produced by the dual track fusion welding process shall be sealed at both ends and at any location where the air channel is severed and made discontinuous. The method of sealing shall be agreed between the Installer and the CQO.

All repairs shall be subjected to quality testing either non-destructively or destructively as directed by the CQO.

The repair procedures shall be in accordance with the Quality Control Procedures Manual. The minimum repair methodologies are described in this Specification.

Where in the opinion of the CQO a geomembrane panel requires an unacceptably high number of patches, the panel shall be removed and replaced. As a guide, a patch density within the panel, excluding patches for joints, of more than one per 50 m length of panel, or per 300 m<sup>2</sup> of geomembrane liner, is considered the maximum. This may be varied at the discretion of the CQO depending on the layout of panels.

All cuts made in the geomembrane shall be ended in a round eye, and any cut-out shall be formed with rounded corners to prevent stress concentrations in the geomembrane.

#### 4.13.9.2 Patching

Patches shall be used to repair defects such as holes (including areas from which destructive test samples were obtained) and pinholes (exclusive of non-destructive testing air pressure needle holes) which penetrate the entire geomembrane thickness, tears and crazing. Small surface blemishes and localised flaws which do not penetrate the entire thickness of the geomembrane shall also be patched.

The ends of all holes or cuts shall be rounded, to prevent further propagation, prior to patching. Patches may be used to cover areas of undispersed raw material or contaminated by foreign substances (gasoline, oil, etc.), if approved by the CQO. Patches shall extend a minimum of 150 mm beyond the limits of the defect, all corners of patches shall be rounded and if the patch is on a slope transverse joints are not permitted. Patches shall follow the contour of the defect area and remain free of crimping or pinching. The geomembrane material used for patches must, at a minimum, meet the requirements of this Specification. Where a patch covers a T-joint the geomembrane material under the patch shall be removed to allow for a smooth base beneath the patch.

Patches and defect areas shall be free of dirt, moisture, debris and markings. Patches shall be temporarily bonded by heat welding. Chemical adhesives and tape are prohibited. The perimeter of the patch shall be abraded with a hand-held grinder to produce a bevelled edge. Patches shall be temporarily installed by heat welding along the entire perimeter of the patch and defect areas. The patch shall be installed flat along all edges with no wrinkles or folds. The patch weld area shall be abraded no more than 1 hour in advance of permanent welding. Heat welding and abrasion shall not cause excessive melting, wear or puncturing of the geomembrane material; such occurrences shall be considered defects and shall be repaired by patching.

Patching or repairs that require more than two passes of a welding procedure shall be considered as a defect, and be covered by a patch. Patches covering parts of other patches are not acceptable.

### Capping

A cap is a patch of extended length and may be used to repair failed welds. Caps shall extend a minimum of 150 mm beyond the limits of the defective weld and all corners shall be rounded. Caps include removal of the defect and the cap shall be installed as detailed in this Specification for patches.

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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A cap used to repair a failed weld or portion of weld shall be destructively tested if it exceeds 35 m in length or if the weld is of questionable quality. Caps over failed welds shall be carried out only with the approval of the CQO if no other method of repair is feasible. Where welds are being repaired by caps, in general, the failed weld shall be cut out, and the cap welded using fusion welding over most of the joint. The length of extrusion weld required to close-off the cap shall be kept to a minimum, and shall be closed-off after the fusion weld has been pressure tested.

Where a length of dual-track fusion weld less than 10 m long is not holding air when tested non-destructively by the air pressure testing method, the weld may be repaired by bevelling the edge, abrading the sheet surface and applying an extrusion weld along the exposed edge (flap) of the seam. Failed welds repaired in this manner must conform to the requirements of this Specification and be vacuum box tested. If the length of the weld exceeds 10 m, and the flap is not wide enough to allow destructive testing of the extrusion weld (without first testing through the fusion weld), then the weld must be reconstructed by capping.

### **Geomembrane Wrinkles and Bridging**

Geomembrane wrinkle and bridge size and extent shall be minimised to the satisfaction of the CQO. Wherever possible wrinkles shall be kept small and spread over the panel. In general, wrinkles which, when loaded, will result in a fold in the geomembrane are too large. Wrinkles or bridging larger than 150 mm high shall be cut and fusion welded as a seam if the overlap is sufficient, in accordance with this Specification. Where the overlap is not sufficient, the wrinkle shall be cut and patched or capped as detailed in this Specification. Whenever it is not possible to manage wrinkles to less than specified, wrinkles shall be combined through accumulation so as to minimise the number of repairs being made.

The Contractor shall note that the south end of the cell should be lined and anchored when the geomembrane is cool (early morning) to reduce the risk of bridging at the south bund due to contraction of the floor geomembrane. Particular consideration related to bridging should be given when joining the geomembrane liner to the pipe sleeves.

### **Non-destructive Testing Needle Holes**

Needle holes from pressure testing of seams shall be ground no more than one hour before being extruded, and shall be closed off with a neat extrusion bead over the ground area. The width of the ground area shall be at least 15 mm wide and 25 mm long, with the needle hole centrally in the area.

## **4.14 Installation Unit 9 Cushion Geotextile**

### **4.14.1 Installation by Subcontractor**

The Works described below shall be undertaken by experienced Installer approved by the Superintendent.

The Contractor is responsible for all aspects of the Installer's work. Any proposed change to the personnel undertaking Cushion Geotextile installation or installation procedures shall be subject to written approval from the Superintendent based on advice from the CQO.

The Unit 9 Cushion Geotextile shall be placed over the Unit 8 Geomembrane, as indicated on the drawings, after the completion of testing and recording of the Unit 8 Geomembrane.

### **4.14.2 Anchor Trench**

The anchor trench shall be constructed in accordance with the details shown on the drawing and Section 4.5. The backfilling of the anchor trench with Unit 1 Clay Rich Fill material, in accordance to Section 4.6, shall be done concurrently with the installation of the Unit 9 Cushion Geotextile.

#### **4.14.2.1 Surface Preparation**

The required Unit 8 Geomembrane deployment is described in Section 4.13 of this Specification. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing the cushion geotextile. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given to deploy the Unit 9 Cushion Geotextile.

### 4.14.3 Acceptance Criteria and Placement

#### Inspection of Cushion Geotextile after Unrolling

Rolls of Unit 9 Cushion Geotextile shall be inspected by the CQO for foreign inclusions such as broken needles, staples on the core tube or any other hard material that may compromise the function of the cushion geotextile and the underlying geomembrane. The foreign materials shall be removed and placed in sealed bags for off-cell disposal.

Material damaged during storage and handling shall be rejected by the Superintendent, based on advice from the CQO, and be removed from site and replaced at the Contractor's expense.

#### Placement

The Contractor shall safely handle all Unit 9 Cushion Geotextile and in a manner to ensure it and the geomembrane is not damaged and shall comply with the following:

- The Unit 9 Cushion Geotextile shall be secured near the anchor trench using temporary ballasts of adequate weight at the top Stage 2Bii and then deployed down the slope in a controlled manner approved by the CQO to continually keep the geotextile in tension to preclude folds and wrinkles,
- Unit 9 Cushion Geotextile shall be weighted with sand bags or equivalent until covered with overlying materials,
- Unit 9 Cushion Geotextile shall be cut using an approved cutting method and approved equipment only. Where Unit 8 Geomembrane is in place below Unit 9 Cushion Geotextile, care shall be taken to protect the geomembrane from damage which could be caused by cutting the geotextile,
- During placement, care shall be taken not to entrap soil, stones, excessive dust, or moisture that could damage either the cushion geotextile or the geomembrane, or clog the geotextile or hamper subsequent seaming or joining. The Unit 8 Geomembrane liner shall be swept prior to installation of the cushion geotextile as well as observed for wrinkling, buckling, folds or other tensioning. The occurrence of wrinkle and bridging shall be managed in a similar way to the underlying geomembrane. Any foreign objects potentially harmful to the geotextile or geomembrane encountered either during or after placement shall be removed or the geotextile shall be replaced. The Contractor shall allow for the CQO to inspect the geomembrane surface and record all geomembrane installation and testing records prior to placement of overlying cushion geotextile. This may require the Contractor to notify the CQO of intended geotextile deployment 24 hours prior. Any geotextile removal required to facilitate geomembrane testing or recording shall be undertaken at the Contractor's expense.
- Unit 9 Cushion Geotextile may be deployed using a "balloon tyred" All-Terrain Vehicle (ATV). The ATV shall be lifted onto and off the geomembrane and shall have the tyres inspected for stones before working on the geomembrane. Any spreader bar used to deploy the Unit 7 Cushion Geotextile shall include adequate measures to prevent scoring of the geomembrane and these will be inspected every day by the CQO. The Contractor must prevent folding over wrinkles or stressing of the geomembrane when travelling the geomembrane. The CQO shall assess the effectiveness of the Contractor's ATV geomembrane risk management method. If the CQO considers the management method is not appropriate the CQO shall inform the Superintendent. The Contractor shall be responsible for repairing or replacing, as determined by the Superintendent, based on advice from the CQO, any geomembrane that is damaged by the ATV.

Unit 9 Cushion Geotextile shall be joined according to the following requirements:

- Areas to be joined shall be clean and free of foreign matter.
- No cross-slope joints shall be allowed on slopes steeper than 1V:10H.

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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- Geotextile joints shall be overlapped by 100 mm and be heat bonded with a welder specifically designed for geotextile seaming. The overlap may also be joined with a contact adhesive that is applied from a specifically designed geotextile application system.
- Any blow holes or damage caused by the heat bonding shall be patched by Unit 7 Cushion Geotextile in accordance with Section 4.14.4.

### 4.14.4 Repairs

Any holes or tears in the Unit 9 Cushion Geotextile shall be repaired as follows:

- Soil or other material that may have penetrated the torn geotextile shall first be removed.
- On slopes, a patch made from the same geotextile, shall be heat bonded or glued into place with at least 300 mm overlap to any edge. The patch shall be seamed in place with two separate lengths of heat bonding around the edge of the patch, to ensure the patch seam is durable and the patch remains in place. A glued seam on the slope shall comprise at least 150mm wide continuous glued strip. Should any tear exceed 10% of the width of the roll, that roll shall be removed from the Works and replaced.
- Elsewhere, a patch made from the same geotextile shall be heat bonded in place with a minimum of 100 mm overlap in all directions.

## 4.15 Installation of Unit 10 Uniaxial Geogrid

### 4.15.1 Installation by Subcontractor

The Works described below shall be undertaken by an experienced Installer approved by the Superintendent.

The Contractor is responsible for all aspects of the Installer's work. Any proposed change to the Unit 10 Uniaxial Geogrid installation shall be subject to written approval from the Superintendent based on advice from the CQO.

### 4.15.2 Anchor Trench

The Unit 10 Uniaxial anchor trench shall be constructed in accordance with Section 4.5.

#### 4.15.2.1 Surface Preparation

The anchor trench shall be cut within the waste and should be free of large protruding objects. The Contractor shall provide 24 hours' notice to the CQO to allow for a final inspection of the surface prior to placing Unit 10 Uniaxial Geogrid. If the CQO is satisfied with the surface, the condition of the surface shall be signed off and approval given.

### 4.15.3 Placement

Unit 10 Uniaxial Geogrid shall be installed over the Unit 9 Cushion Geotextile as shown on the drawings. The Unit 10 Uniaxial Geogrid shall be deployed from the crest moving downward and installed with the primary strength direction of the rolls orientated perpendicular to the slope contours.

No horizontal joints along the roll direction shall be permitted on the slopes. Should a matter arise where a cross slope is required, the Contractor shall submit a proposed interim batter anchor trench design to the Superintendent for review.

Unit 10 Uniaxial Geogrid shall be pulled tight by hand to remove any slack or unevenness in layer. Unit 10 Biaxial Geogrid panel overlap/joins shall be overlapped in accordance to manufacturer's methodology to achieve the specified tensile strength of the seams. The proposed overlap/joins detail shall be approved by the Superintendent in consultation with the CQO, prior to being implemented in the Works.

The Unit 10 Uniaxial Geogrid anchor trench shall, as a minimum, have Unit 1 Clay Rich Fill material backfilled to the dimensions shown in the drawings. The placement and compaction of the Unit 1 Clay Rich

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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Material shall be constructed in accordance with Section 4.6. The Contractor shall backfill the remaining area with the excavated waste or place Unit 2A and Unit 2B Protection Layer material instead.

### 4.16 Installation of Unit 2B Protection Layer

#### 4.16.1 Thickness

The Unit 2B Protection Layer shall be constructed over the layered geosynthetics as per the drawings and have a minimum thickness of 300 mm. At the junction between Stage 1 and Stage 2Bii, the Unit 2B Protection Layer shall be connected to the existing protection layer in Stage 1 once the works detailed in Section 4.19 are complete. If areas thinner than 300 mm (as measured perpendicular to slope) are identified in the Unit 2B Protection Layer, additional material shall be placed and compacted and the top of the protection layer and shall again be surveyed.

#### 4.16.2 Placement of Unit 2B Protection Layer

The Contractor shall provide a placement methodology for Unit 2B Protection layer to the Superintendent and the CQO for review and approval. The proposed machinery and methodology shall implement safety precautions for construction on the steep batter and preventing damage to the geosynthetic materials, whilst achieving the minimum requirements of this technical specification by best means possible. The Superintendent, based on advice from the CQO, shall assess whether the proposed construction equipment is appropriate for the layer thickness and provide instruction if the layer thickness needs to be adjusted by the Contractor.

Unit 2B Protection Layer shall be placed in accordance with the following requirements:

- The placement of the Unit 2B Protection Layer shall only commence once the Field Trial, as per Section 4.4, has been completed and with proven result of no damage inflicted on the liner system. The Superintendent and CQO shall review the results of the Field Trial and grant approval once it is verified the methodology does not inflict damage on the liner system.
- The CQO, will inspect the stockpile of material proposed for the use of Unit 2B Protection Layer and shall provide approval. Should the material not meet the requirements of this specification, further direction to the Contractor will be provided.
- Unit 2B Protection Layer shall be placed over the Unit 9 Cushion Geotextile in the presence of the CQO.
- Unit 2B Protection Layer shall be moisture conditioned at the stockpile before placement unless otherwise approved by the CQO.
- The Contractor's operations in handling and spreading Unit 2B Protection Layer shall produce a uniform gradation of materials when compacted, free from lenses, pockets, streaks or layers of materials differing substantially in texture, gradation or moisture content from the surrounding material in that layer. If the Contractor detects material changes or variations it shall inform the Superintendent, for the CQO, to assess the suitability of the material for its purpose by undertaking appropriate laboratory testing and determining its suitability in accordance with this Specification.
- Unit 2B Protection Layer shall be placed in continuous sloping layers of not more than 200 mm thickness after compaction to form a uniform and continuous layer.
- The Unit 2B Protection Layer shall be placed in thicker layers at the crest to accommodate the required anchor trench cover soil, as per the drawings.

### 4.17 Installation Leachate Collection System

#### 4.17.1 Fabrication and Installation of Unit 14A and Unit 14B Leachate Collection Pipes

The Contractor shall ensure the Unit 14A and 14B Leachate Collection Pipes is perforated by drilling holes into the pipe as per the Drawing prior to welding sections of pipe. The orientation of the holes shall be

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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maintained during installation as far as practical at 45 degrees to the vertical. Care shall be taken when welding together sections to orientate the sections to maintain the orientation of the holes in the pipeline. All the excess material from drilling and welding the pipes shall be removed prior to welding the pipes together. All pipe fittings at bends shall be formed using the same type and strength of pipe as the leachate collection pipes, and shall be solid wall units. The upper ends of the leachate collection pipes, once installed in the cell, shall be closed using bolted flanged galvanised plates

Unit 14A Leachate Collection Pipe shall be installed in the network locations shown on the drawings. Unit 14B Leachate Collection Pipes shall be installed resting against the existing waste placed in the Eastern edge of Stage 1; the waste is to provide buttress reinforcement along the pipe alignment. It may be necessary to remove existing waste that lies in the alignment of the Unit 14B as well as re-profiling the waste to achieve a minimum grade of 1.5%.

The pipes shall be welded by the Contractor using butt fusion or electrofusion (coupling) welding techniques except to join with pipes at angles 90 degrees and smaller. The Contractor shall propose an angled joining or coupling method for review and approval by the CQO for the joins of the cross pipes, as shown on the drawings. The angled joining method shall be formed using the same type and strength of pipe as the leachate collection pipes, and shall be solid wall units. The angled pipes shall be joined taking consideration of the likely thermal movement of the leachate pipes in the long direction of the cell.

### **4.17.1.1 Leachate Collection Pipe Crest Anchor and Ballast**

Unit 14A Leachate Collection Pipes must be anchored at points on the crest shown on drawings. Star Pickets shall be installed at quantities to ensure the network of Unit 14A Leachate Collection Pipes do not move down the batter. Prior to installation of the Star Pickets, the locations must be approved by the CQO to verify the Star Pickets do not cause damage to the liner system, or the liner system within the trench. An alternative anchor point method may be submitted to the Superintendent for review.

Unit 14A Leachate Collection Pipes at intermittent locations along the batter shall have alignments to achieve a minimum grade of 2%, as per the drawings. The Unit 14A Leachate Collection Pipes shall be anchored at the crest using the method using Star Pickets. The locations of Star Pickets shall be confirmed with the CQO to verify it does not cause damage to the liner system or affect the network of the leachate collection pipes. An alternative anchor point method may be submitted to the Superintendent for review.

Unit 14B Leachate Collection Pipes shall be resting against the waste placement on the Eastern area of Stage 1, the waste is to provide buttress reinforcement along the alignment of the pipe. Should areas require additional securement, ballasts made of 20kg ready mix concrete bags shall be placed on the existing access track bench, using heavy duty ropes to connect to the Unit 14B Leachate Collection Pipes. Prior to installation of the permanent ballasts, the locations and quantity of ready mix concrete bags must be approved by the CQO to verify the connecting ropes do not affect the network locations of Unit 14A Leachate Collection Pipes. An alternative permanent ballast design may be submitted to the Superintendent for review.

The Unit 2A and Unit 2B Protection Layer material shall be mounded over the lengths of the Unit 14B Leachate Collection Pipes shall be placed to prevent damage from traffic.

### **4.17.2 Fabrication and Installation of Unit 15 Leachate Collection Drain Pipe**

The pipe trench must be inspected and approved by the CQO to ensure it is free of protruding foreign objects and standing water as the trench is cut into existing waste.

The Contractor shall ensure the Unit 15 Leachate Collection Drain Pipe are perforated by drilling holes into the pipe as per the Drawing prior to welding up the sections of pipe. The orientation of the holes shall be maintained during installation as far as practical at 45 degrees to the vertical. Care shall be taken when welding together sections to orientate the sections to maintain the orientation of the holes in the pipeline. All the excess material from drilling and welding the pipes shall be removed prior to welding the pipes together.

The extents of the Temporary and Permanent Unit 15 Leachate Collection Drains are shown on the drawings. Unit 15 Leachate Collection Drain Pipes shall be welded by the Contractor using butt fusion or

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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electrofusion (coupling) welding techniques except to join with pipes at angles 90 degrees and smaller. The Contractor shall propose an angled joining or coupling method for review and possible approval by the CQO. The angled joining method shall be formed using the same type and strength of pipe as the leachate collection pipes, and shall be solid wall units. The angled pipe connection shall be joined taking consideration of the likely thermal movement of the leachate pipes in the long direction of the cell.

### 4.17.3 Installation of Unit 17 Leachate Collection Sump

The excavated area shall be of dimensions to ensure there is enough clearance to work around the base. The base of the excavated sump area shall have a 300mm thick concrete blinding layer.

The base of the sump shall be a formed precast or cast in-situ concrete 200mm thick square slab with a single layer of SL81 (grade D500N) galvanised steel reinforcing mesh. The mesh shall be located mid-depth within the slab with a minimum of 50 mm cover to the mesh at all edges. The square slab shall have dimensions of 2.6m x 2.6m. The concrete shall achieve a minimum 28 days compressive strength of 32 MPa, in accordance with AS 3600:2009. The concrete mix design, composed of Portland cement, fly ash, fine aggregate, coarse aggregate, water and any admixture, is to be approved by CQO prior to the placement of concrete in the works.

The completed base to pipe wall joints shall be waterproof to prevent seepage into and out of the sump. The Contractor shall submit the proposed detail to the Superintendent, for assessment by the CQO and potential approval at least 3 weeks before the intended order of material for this part of the works. Contractor's proposals will be considered by the Superintendent, with advice from the CQO, on the basis of material suitability and anti-buoyancy checks.

The lid shall be heavy duty precast concrete Class C, with a bolted down galvanised steel grate equipped with a hinged gate with dimensions of 300mm x 300mm formed in. The gate shall have a locking system to prevent unregulated entry.

The top of Unit 17 Leachate Collection Sump shall extend 300mm above the surrounding ground, and the surrounding ground shall be graded away to promote stormwater runoff away from the area.

### 4.17.4 Unit 18 Leachate Collection Pit

The excavated area shall be of dimensions to ensure there is enough clearance to work around the base. The base of the excavated sump area shall have a 300mm thickness concrete blinding layer. The dimensions of the pit geometry shall be reviewed once the alignments of the entering and exiting conduits are confirmed to meet the specified minimum grades, as shown on the drawings.

Penetrations through the pit shall be preformed by the Contractor to suit the diameters of the entering conduits that include Unit 14A Leachate Collection Pipe and Unit 15 Leachate Collection Drain Pipe (permanent section) and the Unit 15 Leachate Collection Drain Pipe (temporary section). A water tight seal shall be achieved at the penetration locations and the methodology shall be presented to the CQO for review and potential approval.

The top of Unit 18 Leachate Collection Pit shall extend 300mm above the surrounding ground, and the surrounding ground shall be graded away to promote stormwater runoff away from the area.

### 4.17.5 Installation of Unit 11 Filter Geotextile and Unit 12 Separation Geotextile

The Contractor shall handle the geotextile rolls in such a manner as to ensure they are not damaged in any way, and shall comply with the following:

- Geotextiles shall be cut using an approved cutting method and approved equipment only.
- The geotextile shall be examined over the entire surface, after installation, to ensure that no potentially harmful foreign objects are present. Any foreign objects encountered shall be removed or the geotextile shall be removed and replaced.
- After installation, the Unit 12 Separation geotextile shall be covered within 4 months to limit exposure to ultraviolet (UV) radiation (sunlight).

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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The geotextile shall be joined according to the following:

- Areas to be joined shall be clean and free of foreign matter.
- Geotextile joints shall be overlapped by 150 mm and to the satisfaction of the CQO.
- Geotextile panels shall be joined by stitching, heat bonding or contact adhesive that is applied from a specifically designed geotextile application system. The proposed bonding method shall be submitted to the CQO for approval 3 days prior to being carried out.
- Alternatively the overlap may be increased to 250 mm and the overlap ballasted with soil mounds placed along the overlap to the satisfaction of the CQO.
- Any holes or tears in the geotextile shall be repaired by a patch made from the same geotextile, spot seamed or glued in place with a minimum of 300 mm overlay in all directions.

### 4.18 Installation of Unit 3 Drainage Aggregate

The mounding of Unit 3 Drainage Aggregate over the Unit 13A Gas Collection Pipe trench, Unit 14A and Unit 14B Leachate Collection Pipes, Unit 15 Leachate Collection Drain Pipe temporary and permanent anchor trenches shall be carried out based on the results of previous field trials carried out with similar construction materials. Road trucks cannot traffic on the aggregate due to bearing failure of the uniformly graded aggregate.

The CQO shall be present on site to view the placement of the aggregate. The Contractor shall take care to ensure the aggregate is worked around the leachate collection pipes and gas collection pipes to provide uniform support around the pipes. This is likely to require hand work. Where damage occurs to the underlying materials the CQO shall direct the Contractor on the actions required for repair.

The Contractor shall submit a work procedure to the Superintendent and CQO for potential approval that demonstrates how it proposes to ensure no accidental damage to the underlying geosynthetics from equipment blades or buckets, or development of wrinkles in the underlying geomembrane.

### 4.19 Interface Liner Connection to Stage 1 Cell

The join of the geosynthetics between Stage 1 and Stage 2Bii and shall be carried out to achieve a joint with as little as practical residual stress once completed. The CQO shall inspect the join, and direct where corrective action, if any, is required to reduce any stresses.

#### 4.19.1 Removal of Existing Protection Layer

The existing protection layer in the Stage 1 area shall be removed to an extent that provides sufficient room along the entire length of joining of Stage 1 and Stage 2Bii Interface liner systems. The location of the existing geosynthetics anchor trench shall be determined during this stage. Care should be taken during the removal of this layer to prevent any damage inflicted on the existing Stage 1 liner system, should damage occur it is up to the Contractor to notify the CQO for their inspection. Measures should be taken in accordance to this technical specification to remediate the damage. The Unit 2B Protection Layer shall be extended over the area where the existing protection layer was removed once all joining works are completed.

#### 4.19.2 GCL Join

The existing Stage 1 GCL layer can remain in the existing anchor trench, and the Unit 7 GCL shall be joined to by overlapping it to a minimum of length of 0.5m over the existing Stage 1 GCL. Any temporary cuts or damages caused during the joining of the GCLs, repair work shall be in accordance to Section 4.12.4.

#### 4.19.3 Geomembrane Join

Extra care must be taken when excavating the existing anchor trench to release the existing Stage 1 geomembrane layer. The surface of the existing geomembrane shall be cleaned prior to the start of joining

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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operations. The weld area of the join shall be prepared in accordance with the method and requirements specified in Section 4.13 of this Specification. The method of joining shall be dual wedge fusion welding. Destructive testing samples of the seam shall be taken prior to the extrusion welding of the seam flap.

All layers above the existing Stage 1 geomembrane layer shall remain above the join between the existing Stage 1 geomembrane liner and Unit 8 Geomembrane liner. The existing excavated anchor trench shall be backfilled to the surrounding elevation, using Unit 1 Clay Rich Fill in accordance to Section 4.6.

The Installer shall present to the CQO at least 1 week before commencement of the Works and with a minimum 5 days notification the method it proposes to adopt to minimise the amount and size of wrinkles that may occur along the geomembrane join to Stage 2Bii. This method shall be considered by the CQO to decide whether the proposed method is appropriate or whether a revised method is required to limit wrinkles.

Spark testing of any join is prohibited along this seam due to the risk of landfill gas ignition and only vacuum or air pressure testing shall be used.

### 4.19.4 Cushion Geotextile Join

The Unit 9 Cushion Geotextile shall be joined by overlapping with the existing geocomposite drain (as per the details shown on the Drawings) a minimum of 0.5m. Any temporary cuts made in the cushion geotextile to facilitate the construction Works shall be heat bonded or glued, and where no overlap is available, a patch of cushion geotextile shall be bonded to the cut as per Section 4.14. The overlap of the patch shall extend at least 200 mm beyond the join in all directions of the cut, and the minimum width of gluing or heat bonding shall be 100 mm.

The Unit 10 Uniaxial Geogrid shall terminate at the same end as the Unit 9 Cushion Geotextile join.

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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### 4.20 Vehicle Traffic over the Interface Liner

Construction traffic is restricted over materials to avoid damage to the materials. Access limitations are as follows:

Unit 7 GCL	No vehicle access over deployed GCL and only careful foot traffic subject to footwear restrictions. Once the GCL has hydrated, no traffic is permitted over the GCL (including foot traffic).
Unit 8 Geomembrane	No general vehicle access over deployed geomembrane, only careful foot traffic subject to footwear requirements and the ATV for cushion geotextile deployment.
Unit 9 Cushion Geotextile	No general vehicle access over deployed geotextile, only careful foot traffic and the ATV for cushion geotextile deployment.
and Unit 14B Leachate Collection Pipes, Unit 3 Drainage Aggregate and Unit 12 Separation Geotextile	No general vehicle access over deployed installed leachate system in areas of no waste placement, only foot traffic.

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## STUART WASTE FACILITY STAGE 2BII INTERFACE LINER

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### Report Signature Page

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August 2015

DRAWING SET FOR

# Construction of Stuart Waste Facility Stage 2Bii Interface Liner

**Submitted to:**  
Townsville City Council

REPORT

**Report Number.** 1525414-002-R-Rev0

**Distribution:**  
Townsville City Council

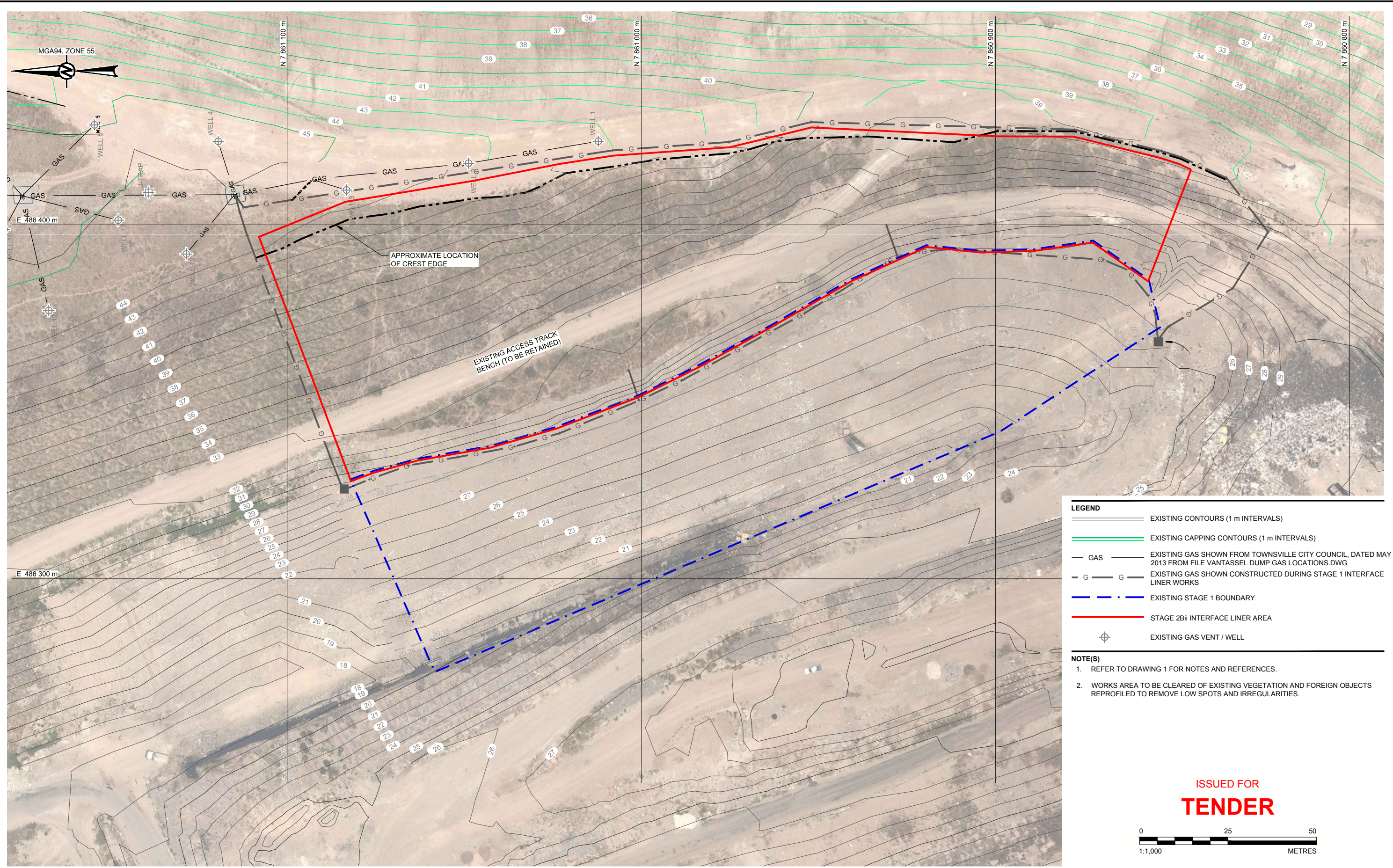






# DRAWINGS





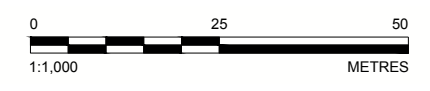
**LEGEND**

- EXISTING CONTOURS (1 m INTERVALS)
- EXISTING CAPPING CONTOURS (1 m INTERVALS)
- EXISTING GAS SHOWN FROM TOWNSVILLE CITY COUNCIL, DATED MAY 2013 FROM FILE VANTASSEL DUMP GAS LOCATIONS.DWG
- EXISTING GAS SHOWN CONSTRUCTED DURING STAGE 1 INTERFACE LINER WORKS
- EXISTING STAGE 1 BOUNDARY
- STAGE 2Bii INTERFACE LINER AREA
- EXISTING GAS VENT / WELL

**NOTE(S)**

1. REFER TO DRAWING 1 FOR NOTES AND REFERENCES.
2. WORKS AREA TO BE CLEARED OF EXISTING VEGETATION AND FOREIGN OBJECTS REPROFILED TO REMOVE LOW SPOTS AND IRREGULARITIES.

**ISSUED FOR  
TENDER**



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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
1	2015-08-31	REVISED IN RESPONSE TO COUNCIL COMMENTS	LA	PDM	DRW	ATG
0	2015-06-29	ISSUED FOR TENDER	LA	DAT	DRW	ATG

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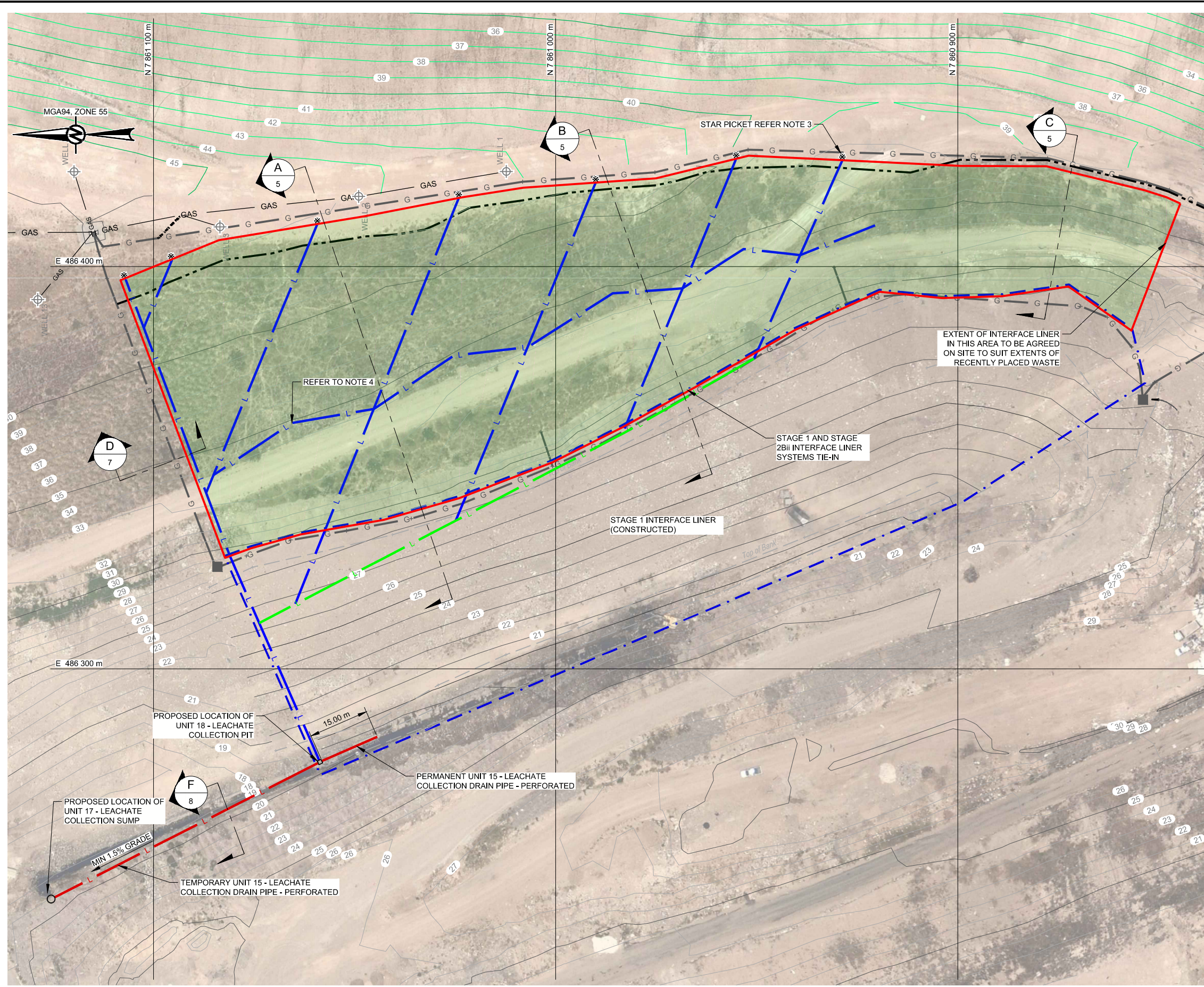
PROJECT  
**STUART WASTE FACILITY  
STAGE 2Bii INTERFACE LINER**

TITLE  
**EXISTING CONDITIONS**

PROJECT NO. <b>1525414</b>	CONTROL <b>002-S</b>	REV. <b>1</b>	2 of 8	DRAWING <b>2</b>
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3





**LEGEND**

- EXISTING CONTOURS (1 m INTERVALS)
- EXISTING CAPPING CONTOURS (1 m INTERVALS)
- GAS — EXISTING GAS SHOWN FROM TOWNSVILLE CITY COUNCIL, DATED MAY 2013 FROM FILE VANTASSEL DUMP GAS LOCATIONS.DWG
- G - G - EXISTING GAS SHOWN CONSTRUCTED DURING STAGE 1 INTERFACE LINER WORKS
- - - APPROXIMATE LOCATION OF CREST LINE
- - - EXISTING STAGE 1 BOUNDARY
- STAGE 2Bii INTERFACE LINER AREA
- ⊕ EXISTING GAS VENT / WELL
- \* STAR PICKET
- ▭ EXTENT OF INTERFACE LINER STAGE 2Bii
- L — UNIT 14A - LEACHATE COLLECTION PIPE - PERFORATED DIA. 160
- L — UNIT 14B - LEACHATE COLLECTION PIPE - PERFORATED DIA. 250
- L — UNIT 15 - LEACHATE COLLECTION DRAIN PIPE - PERFORATED

- NOTE(S)**
1. REFER TO DRAWING 1 FOR NOTES AND REFERENCES.
  2. ELEVATION AND ALIGNMENT OF UNIT 15 - LEACHATE COLLECTION DRAIN PIPE - PERFORATED AND UNIT 17 - LEACHATE COLLECTION SUMP AND LEACHATE COLLECTION PIT TO BE AGREED ONSITE AND APPROVED BY THE DESIGNER TO SUIT EXISTING CONDITIONS.
  3. LOCATIONS OF CREST ANCHOR POINTS FOR UNIT 14A - LEACHATE COLLECTION PIPE - PERFORATED DIA. 160 TO COMPRISE OF 1000 mm LONG STAR PICKETS WITH END CAPS AT NOMINAL LOCATIONS SHOWN ON THE DRAWING. LOCATIONS SHALL BE AGREED UPON ON SITE TO AVOID DAMAGE ON THE LINER SYSTEM. AN ALTERNATE ANCHOR POINT MAY BE SUBMITTED TO THE DESIGNER FOR REVIEW AND POTENTIAL APPROVAL.
  4. UNIT 14A - LEACHATE COLLECTION PIPE - PERFORATED DIA. 160 AT INTERMITTENT LOCATIONS SHALL HAVE ALIGNMENTS ON THE BATTER THAT ACHIEVE A MINIMUM GRADE OF 1.5%.
  5. UNIT 14B - LEACHATE COLLECTION PIPE - PERFORATED DIA. 250 SHALL BE RESTING AGAINST THE WASTE PLACEMENT ON THE EASTERN AREA OF STAGE 1, THE WASTE IS TO PROVIDE BUTTRESS REINFORCEMENT. THE WASTE SHALL BE RE-PROFLED AS NECESSARY TO ACHIEVE A MINIMUM GRADE OF 2% FOR THE UNIT 14B - LEACHATE COLLECTION PIPE - PERFORATED DIA. 250. SHOULD AREAS REQUIRE ADDITIONAL SECUREMENT, BALLASTS MADE OF 20KG READY MIX CONCRETE BAGS SHALL BE PLACED ON THE EXISTING ACCESS TRACK BENCH, USING HEAVY DUTY ROPES TO CONNECT TO THE UNIT 14B - LEACHATE COLLECTION PIPE - PERFORATED DIA. 250. AN ALTERNATE BALLAST SYSTEM MAY BE SUBMITTED TO THE DESIGNER FOR REVIEW AND POTENTIAL APPROVAL.

ISSUED FOR  
**TENDER**



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
1	2015-08-31	REVISED IN RESPONSE TO COUNCIL COMMENTS	LA	PDM	DRW	ATG
0	2015-06-29	ISSUED FOR TENDER	LA	DAT	DRW	ATG

CLIENT  
**TOWNSVILLE CITY COUNCIL**

CONSULTANT  
**Golder Associates**

TOWNSVILLE  
150 WALKER STREET  
TOWNSVILLE, QUEENSLAND 4810  
AUSTRALIA  
[+61] (7) 4727 1700  
www.golder.com

PROJECT  
**STUART WASTE FACILITY  
STAGE 2Bii INTERFACE LINER**

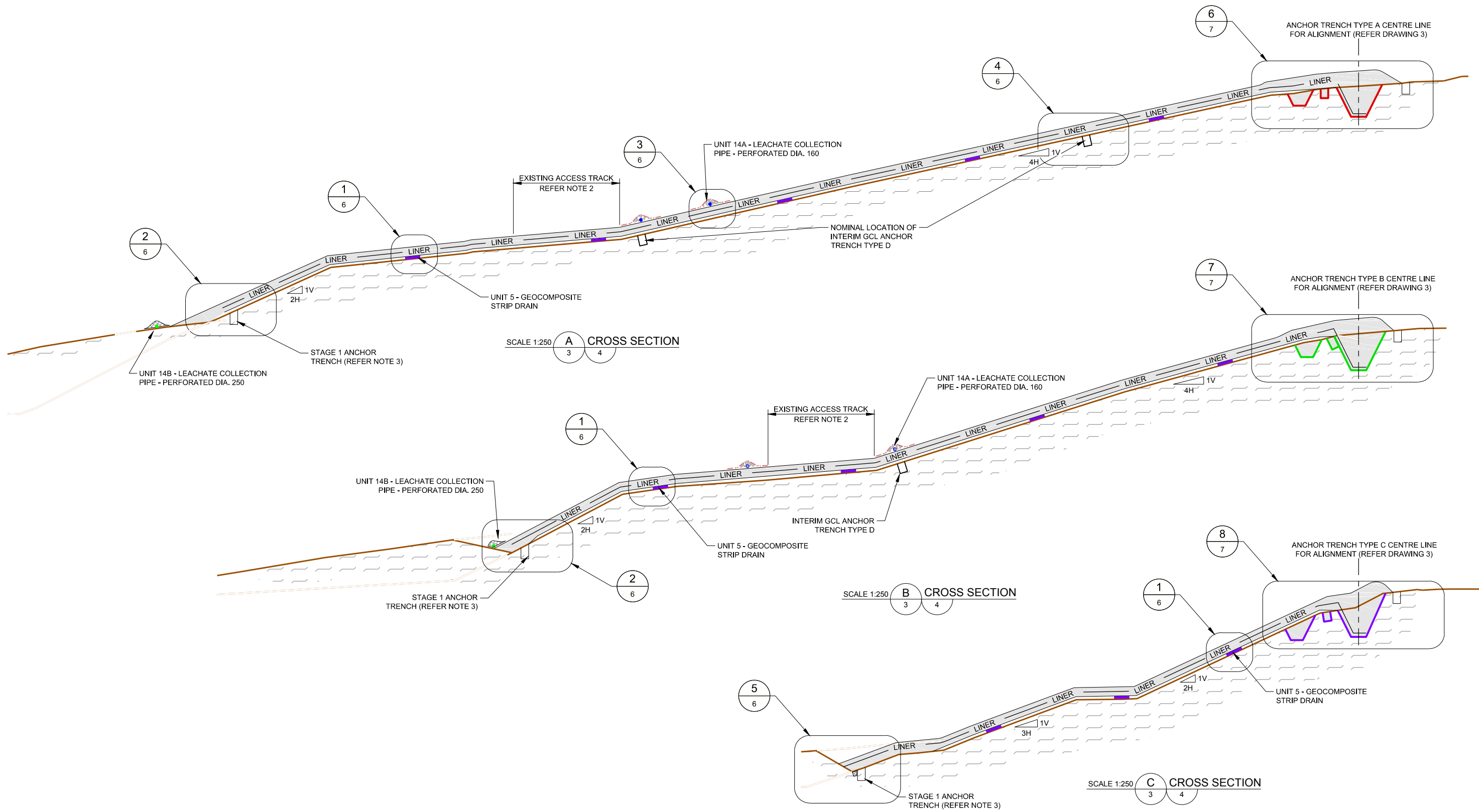
TITLE  
**LEACHATE COLLECTION SYSTEM**

PROJECT NO. 1525414 CONTROL 002-S REV. 1 4 of 8 DRAWING 4

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25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

Pub: \\golder\gdp\p\melbourne\Townsville\City Council\Stuart Landfill Site\99\_PROJECT\1525414\_Liner Design\02\_SPEC\02\_PROD\02\DWG | File Name: 1525414-02-S-005.dwg



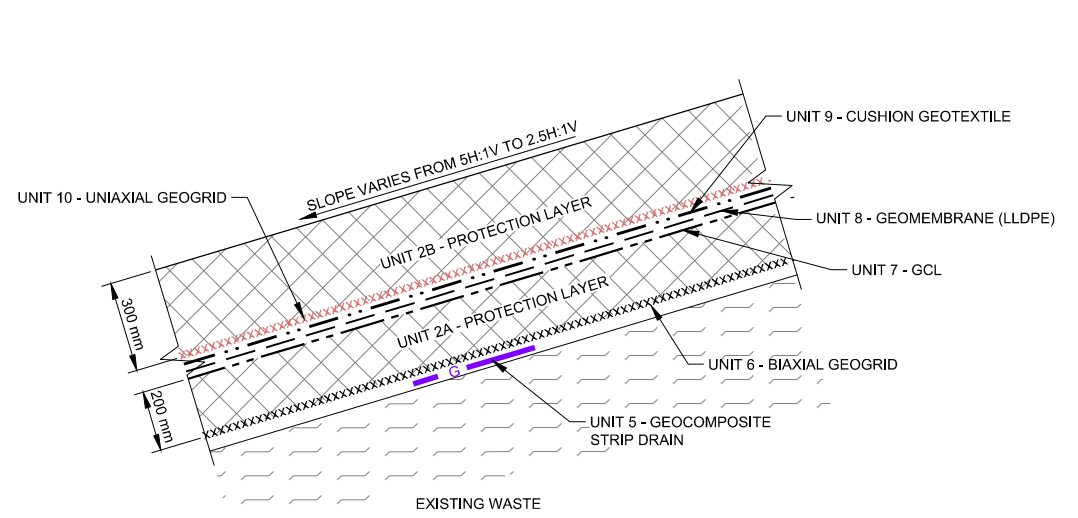
- NOTE(S)**
- REFER TO DRAWING 1 - COVER SHEET FOR GENERAL NOTES.
  - EXISTING ACCESS TRACK BENCH TO BE RE-PROFILED TO ACHIEVE 20H:1V CROSS SLOPE.
  - LOCATION OF EXISTING STAGE 1 ANCHOR TRENCH TO BE CONFIRMED ON SITE.

**ISSUED FOR TENDER**

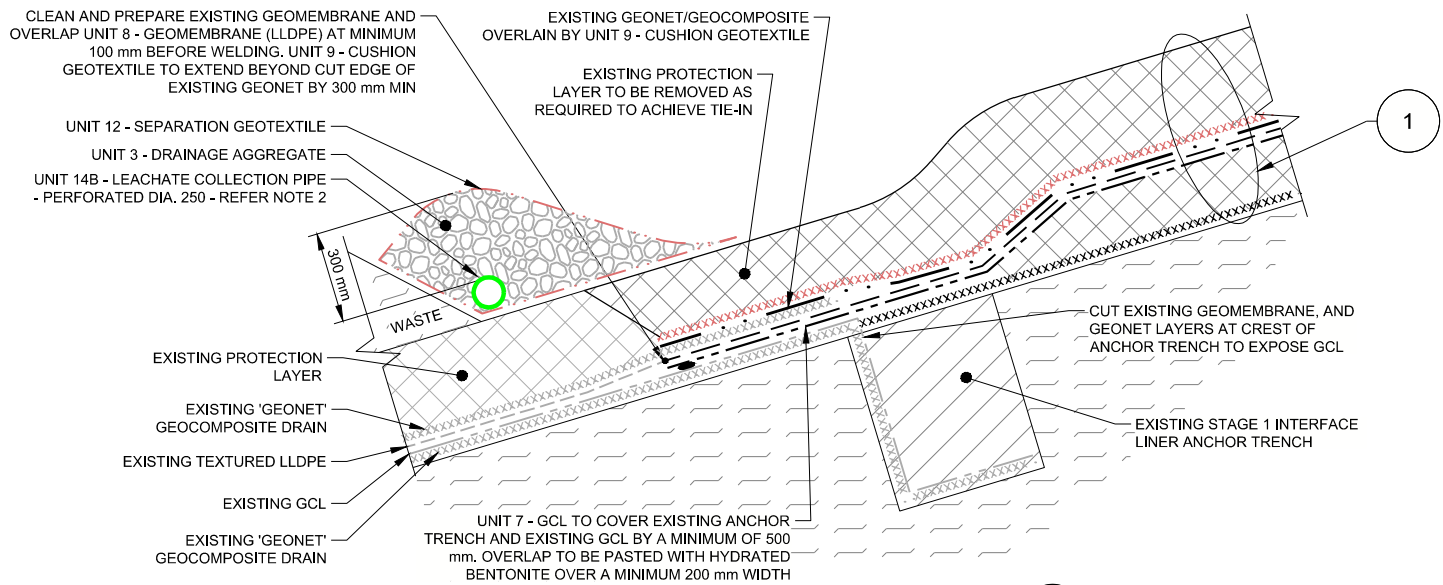
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1	2015-08-31	REVISED IN RESPONSE TO COUNCIL COMMENTS	LA	PDM	DRW	ATG
0	2015-06-29	ISSUED FOR TENDER	LA	DAT	DRW	ATG

CLIENT <b>TOWNSVILLE CITY COUNCIL</b>	PROJECT <b>STUART WASTE FACILITY          STAGE 2Bii INTERFACE LINER</b>
CONSULTANT 	TITLE <b>GENERAL CROSS SECTIONS</b>
TOWNSVILLE 150 WALKER STREET TOWNSVILLE, QUEENSLAND 4810 AUSTRALIA [+61] (7) 4727 1700 www.golder.com	PROJECT NO. 1525414 CONTROL 002-S REV. 1 5 of 8 DRAWING 5

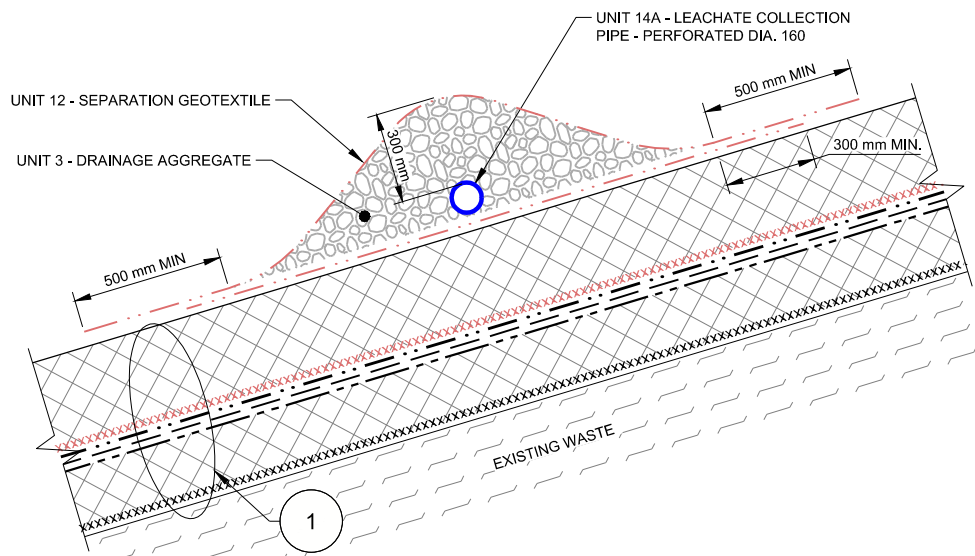
25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3



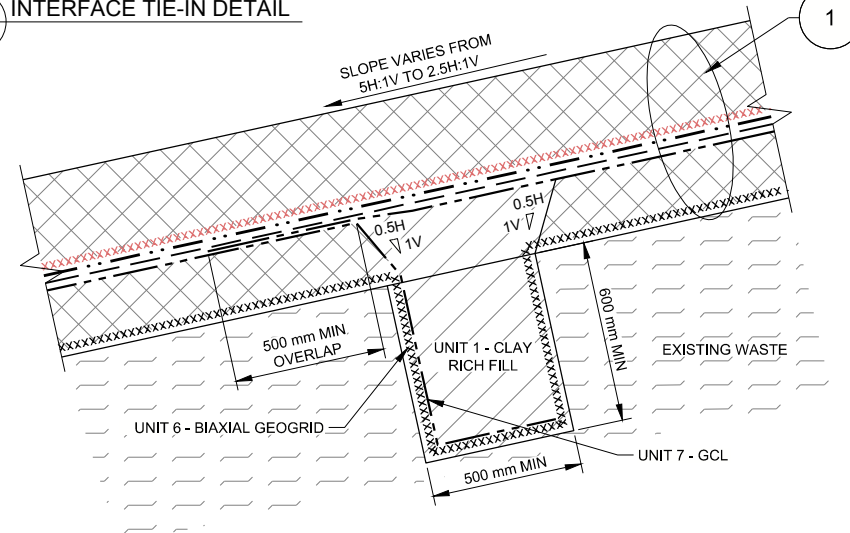
SCALE 1:25 **1** TYPICAL LINER DETAIL WITH UNIT 5 - GEOCOMPOSITE DRAIN



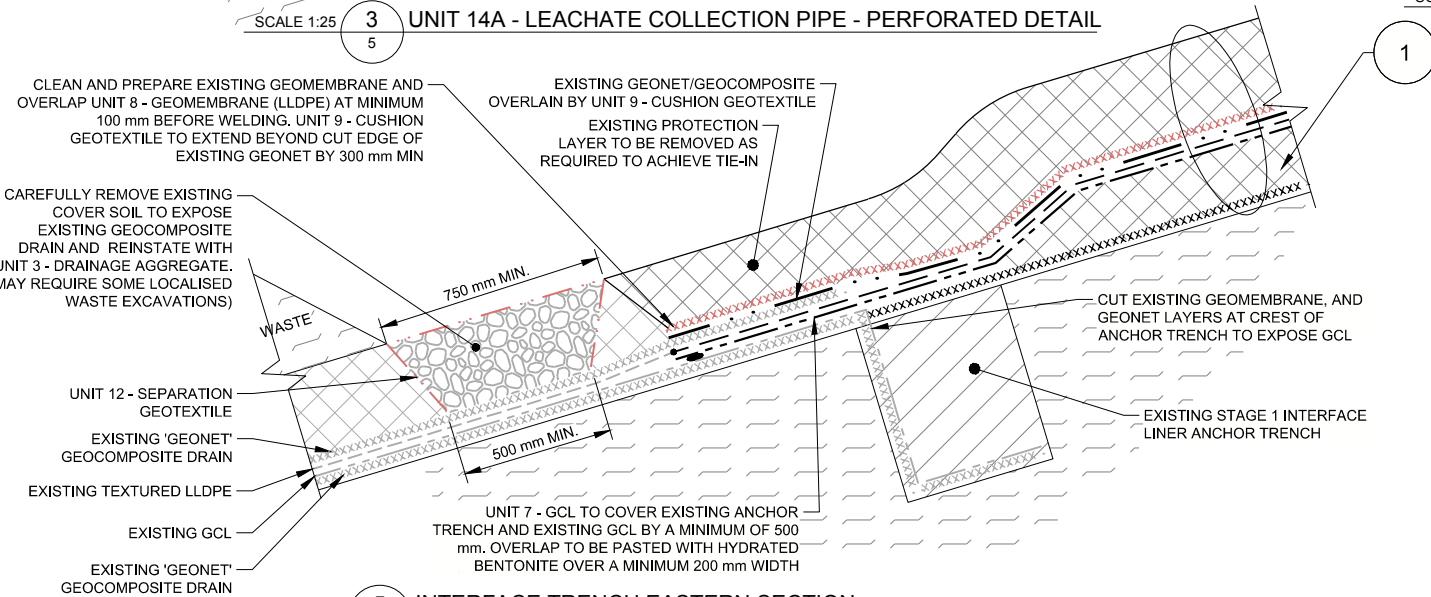
SCALE 1:25 **2** INTERFACE TIE-IN DETAIL



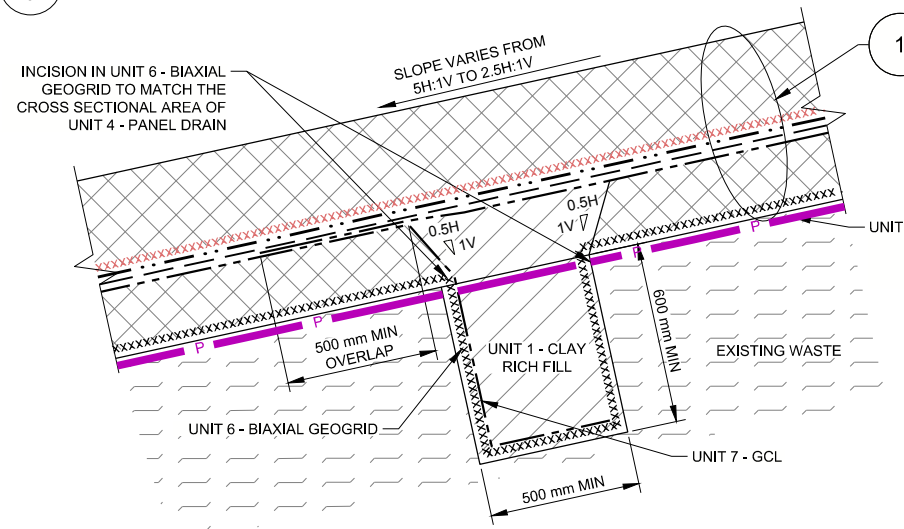
SCALE 1:25 **3** UNIT 14A - LEACHATE COLLECTION PIPE - PERFORATED DETAIL



SCALE 1:25 **4** INTERIM GCL ANCHOR TRENCH DETAIL TYPE D



SCALE 1:25 **5** INTERFACE TRENCH EASTERN SECTION



SCALE 1:25 **4** INTERIM GCL ANCHOR TRENCH DETAIL TYPE D AT UNIT 4 - PANEL DRAIN

NOTE(S)  
1. REFER TO DRAWING 1 - COVER SHEET FOR GENERAL NOTES.

**ISSUED FOR TENDER**



Path: \\golder\gdp\p\melbourne\Geomatics\Townsville\City Council\Stuart Landfill Site\09\_PROJECT\1525414\_Liner Design\02\_SPECS\02\_PRODUCT\DWG\1 File Name: 1525414-02-S-006.dwg

REV.	YYYY-MM-DD	DESCRIPTION
1	2015-08-31	REVISED IN RESPONSE TO COUNCIL COMMENTS
0	2015-06-29	ISSUED FOR TENDER

DESIGNED	PREPARED	REVIEWED	APPROVED
LA	PDM	DRW	ATG
LA	DAT	DRW	ATG

CLIENT  
**TOWNSVILLE CITY COUNCIL**

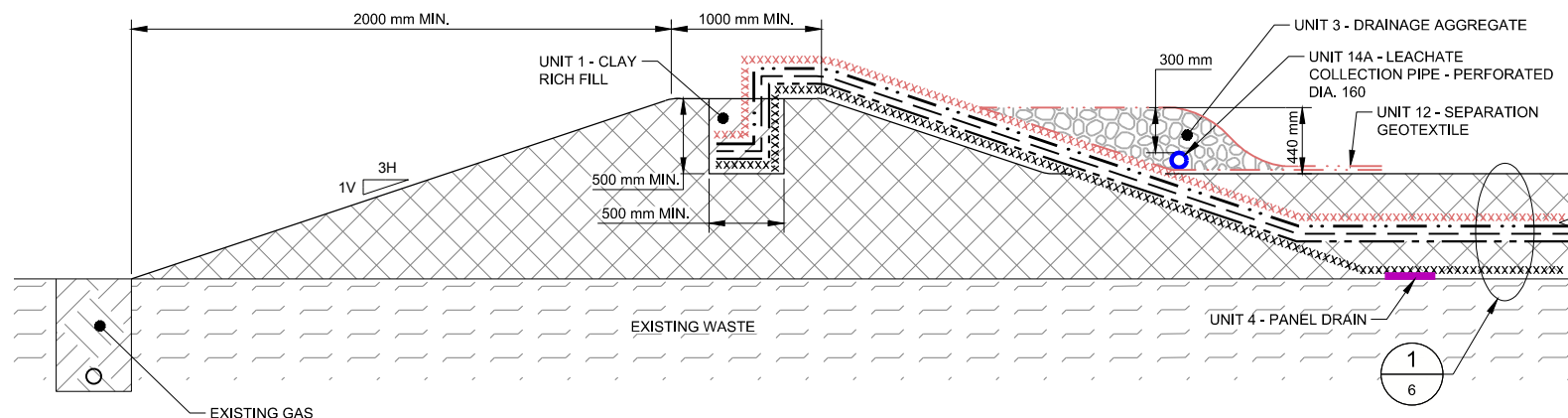
CONSULTANT  
**Golder Associates**

TOWNSVILLE  
150 WALKER STREET  
TOWNSVILLE, QUEENSLAND 4810  
AUSTRALIA  
[+61] (7) 4727 1700  
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PROJECT  
**STUART WASTE FACILITY  
STAGE 2Bii INTERFACE LINER**

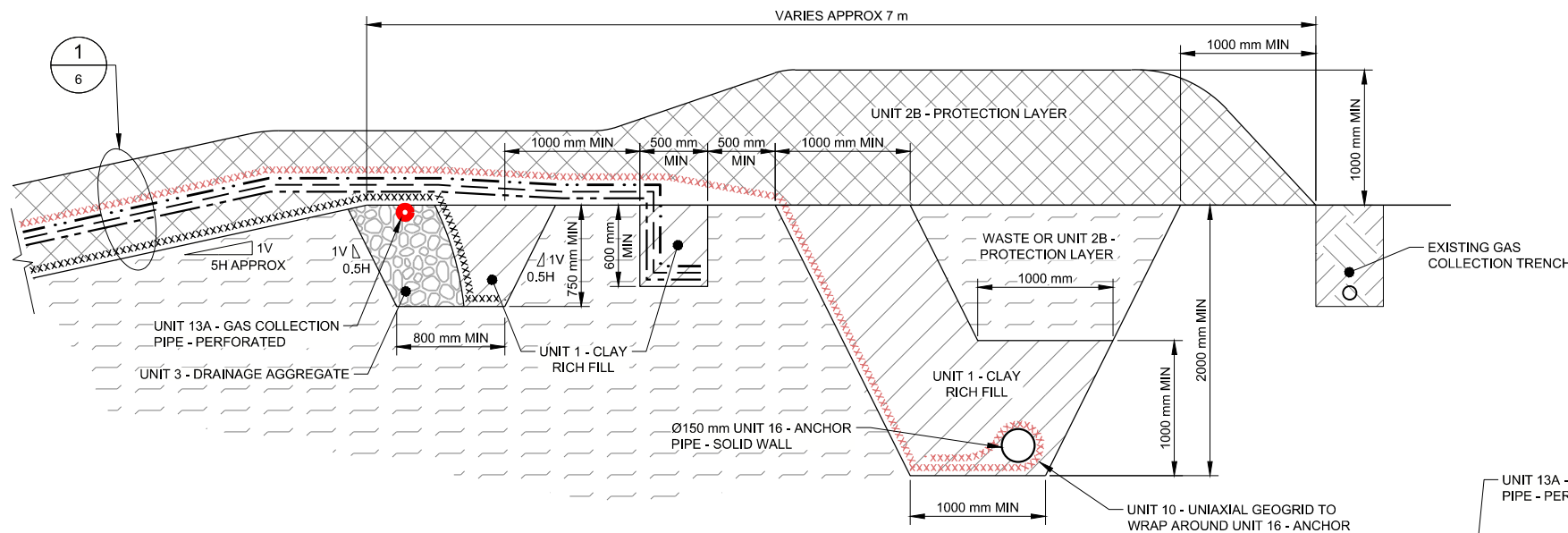
TITLE  
**LINER SECTIONS AND DETAILS**

PROJECT NO. 1525414 CONTROL 002-S REV. 1 6 of 8 DRAWING 6

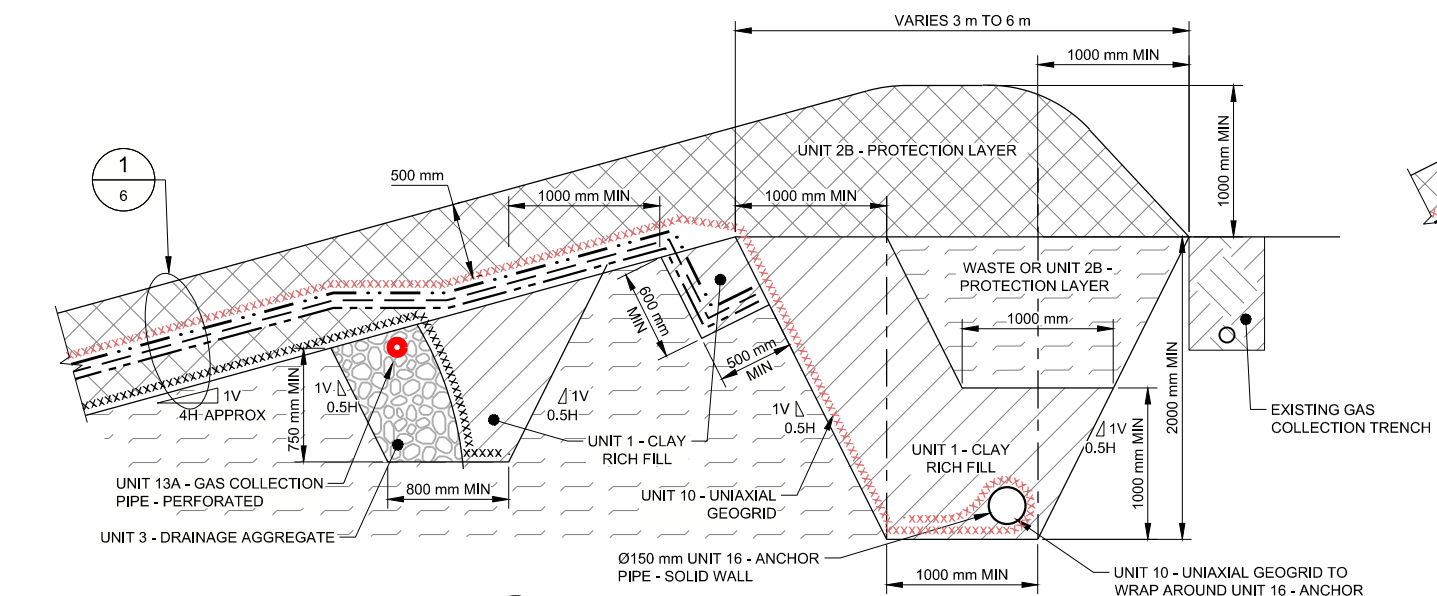


SCALE 1:50 **D** TYPICAL EDGE SECTION

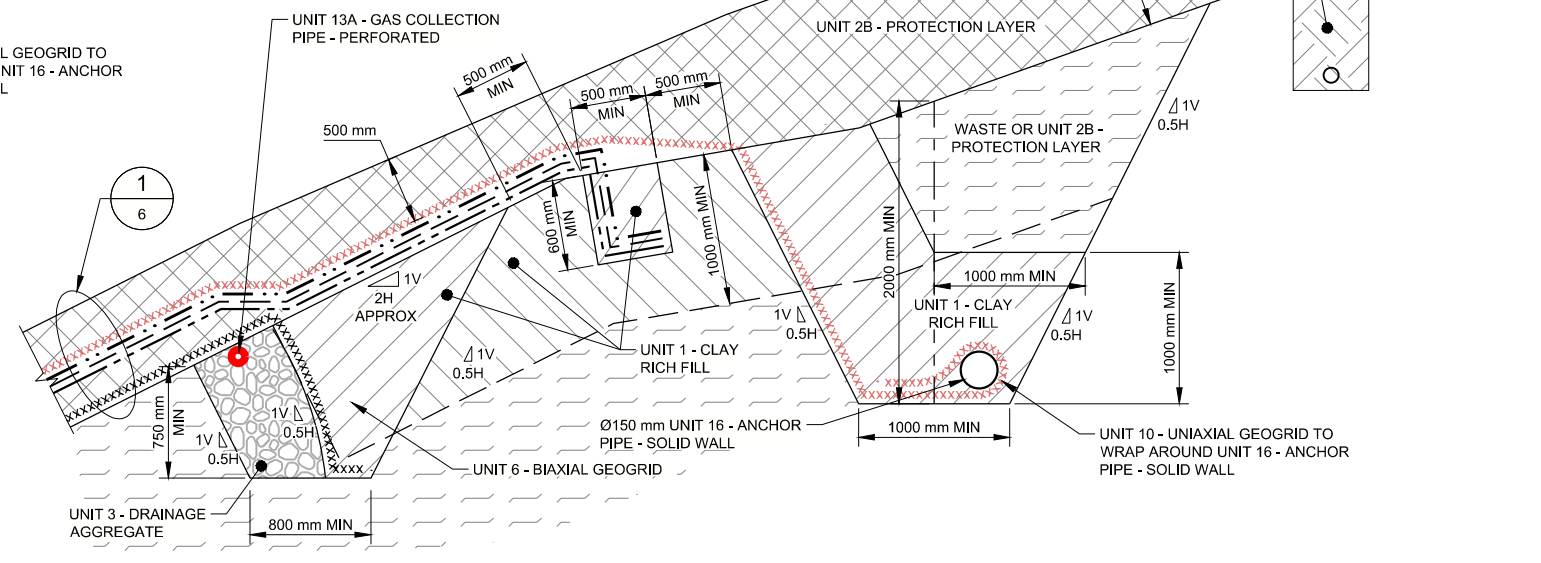
- NOTE(S)**
- REFER TO DRAWING 1 - COVER SHEET FOR GENERAL NOTES.
  - ANCHOR TRENCH TYPE A - WHERE DISTANCE FROM CREST TO EXISTING GAS COLLECTION ANCHOR TRENCH IS GREATER THAN 7 m.
  - ANCHOR TRENCH TYPE B - WHERE DISTANCE FROM CREST TO EXISTING GAS COLLECTION ANCHOR TRENCH IS BETWEEN 3 m AND 6 m.
  - ANCHOR TRENCH TYPE C - WHERE DISTANCE FROM CREST TO EXISTING GAS COLLECTION ANCHOR TRENCH IS LESS THAN 3 m.



SCALE 1:50 **6** ANCHOR TRENCH DETAIL TYPE A



SCALE 1:50 **7** ANCHOR TRENCH DETAIL TYPE B



SCALE 1:50 **8** ANCHOR TRENCH DETAIL TYPE C

**ISSUED FOR TENDER**

Path: \\golder\gdp\p\melbourne\Geomatics\Townsville\City Council\Stuart\Landfill Site\09\_PROJECT\1525414\_Linear Design\02\_SPECS\02\_PRODUCTION\DWG\_1 File Name: 1525414-02-S-006.dwg

1	2015-08-31	REVISED IN RESPONSE TO COUNCIL COMMENTS	LA	PDM	DRW	ATG
0	2015-06-29	ISSUED FOR TENDER	LA	DAT	DRW	ATG
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED

CLIENT  
**TOWNSVILLE CITY COUNCIL**

CONSULTANT  
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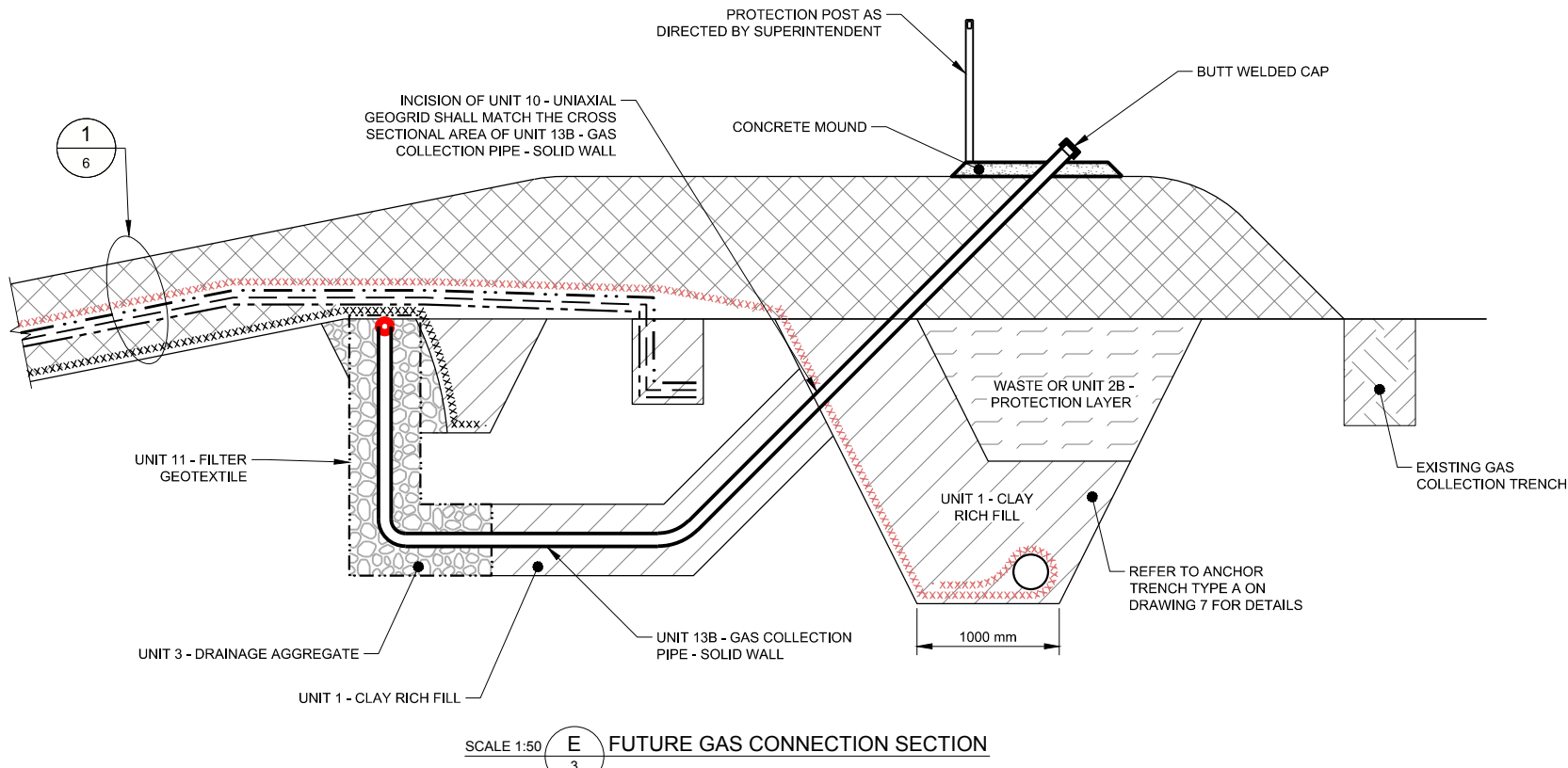
PROJECT  
**STUART WASTE FACILITY  
STAGE 2Bii INTERFACE LINER**

TITLE  
**ANCHOR TRENCH DETAILS**

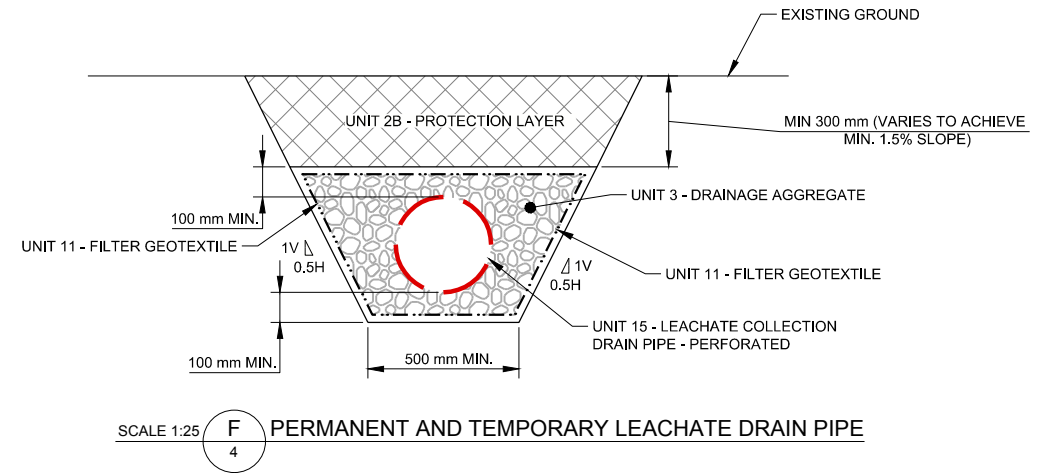
PROJECT NO. 1525414    CONTROL 002-S    REV. 1    7 of 8    DRAWING 7

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

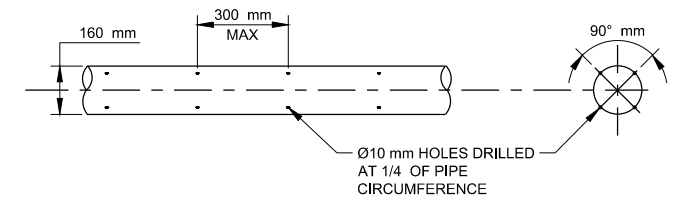




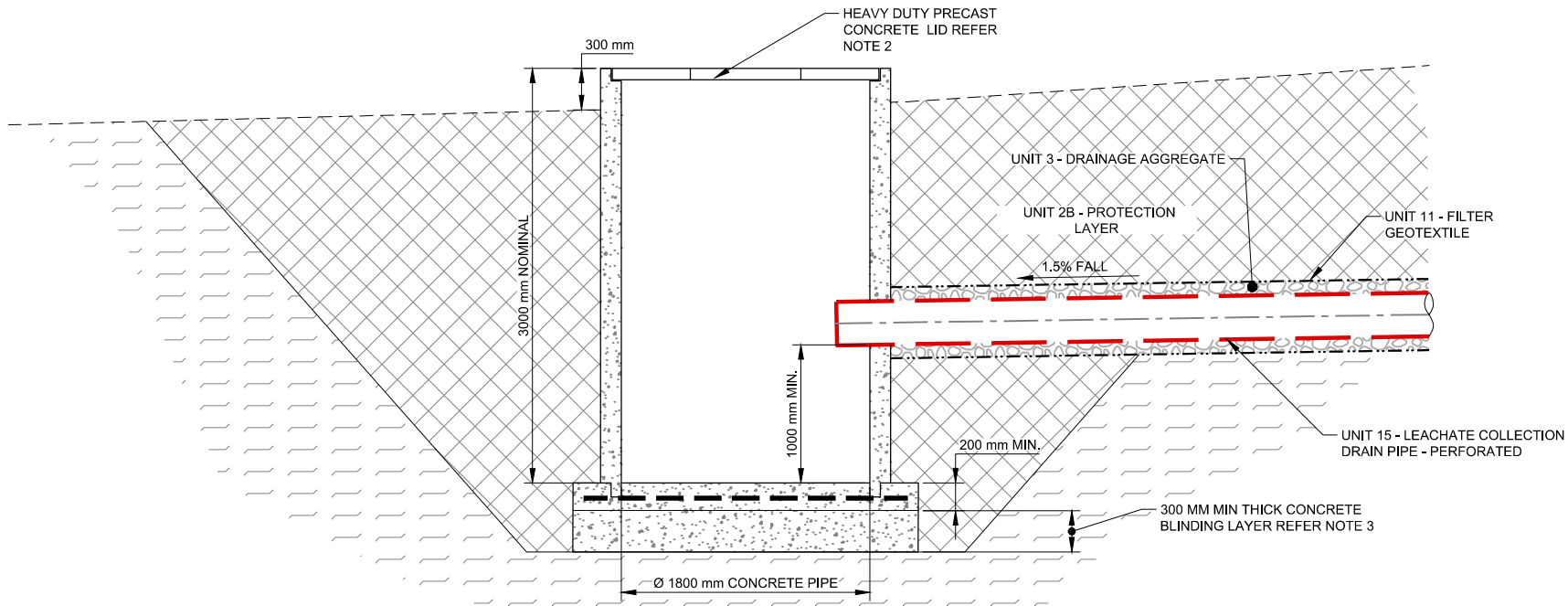
SCALE 1:50 **E** FUTURE GAS CONNECTION SECTION



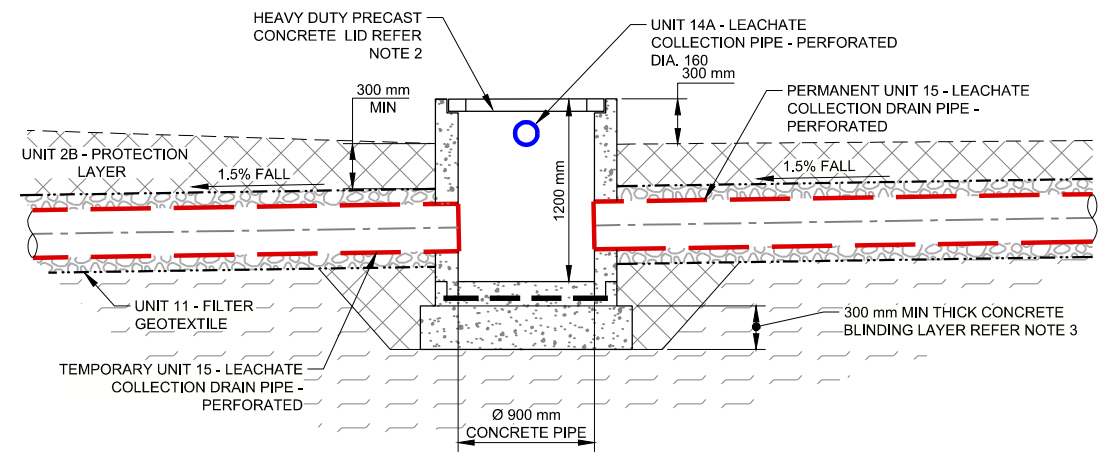
SCALE 1:25 **F** PERMANENT AND TEMPORARY LEACHATE DRAIN PIPE



LEACHATE COLLECTION PIPE DRILL DETAIL  
SCALE 1:25



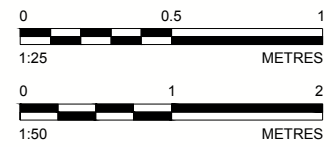
UNIT 17 - LEACHATE COLLECTION SUMP DETAIL  
SCALE 1:50



UNIT 18 - LEACHATE COLLECTION PIT DETAIL  
SCALE 1:50

- NOTE(S)**
- REFER TO DRAWING 1 - COVER SHEET FOR GENERAL NOTES.
  - THE LID SHALL BE HEAVY DUTY PRECAST CONCRETE, CLASS C WITH A BOLTED DOWN GALVANISED STEEL GRATE EQUIPPED WITH A HINGED GATE WITH DIMENSIONS OF 300 mm x 300 mm FORMED IN. THE GATE SHALL HAVE A LOCKING SYSTEM TO PREVENT UNREGULATED ENTRY.
  - IF BASE OF EXCAVATION IS ON WASTE, THEN INSTALL MASS POUR CONCRETE BLINDING LAYER MINIMUM 300 mm THICK LOCALLY UNDER SUMP AND/OR PIT

**ISSUED FOR  
TENDER**



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0	2015-06-29	ISSUED FOR TENDER	LA	DAT	DRW	ATG

CLIENT TOWNSVILLE CITY COUNCIL	PROJECT STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER			
CONSULTANT Golder Associates TOWNSVILLE 150 WALKER STREET TOWNSVILLE, QUEENSLAND 4810 AUSTRALIA [+61] (7) 4727 1700 www.golder.com	TITLE <b>TYPICAL GAS AND LEACHATE SECTIONS AND DETAILS</b>			
PROJECT NO. 1525414	CONTROL 002-S	REV. 1	8 of 8	DRAWING 8

Path: \\golder.com\projects\1525414\Linear Design\02\_SPECO2\_PROD\PRODUCTION\DWG\1 File Name: 1525414-02-S-006.dwg

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3



## Report Signature Page

**GOLDER ASSOCIATES PTY LTD**

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A.B.N. 64 006 107 857

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\\golder.gds\gap\cairns\jobs\design\2015\1525414 - tcc - stuart landfill piggyback liner\corr out\1525414-002-r-rev0 stuart waste facility interface liner technical specification.docx

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

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North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

[solutions@golder.com](mailto:solutions@golder.com)  
[www.golder.com](http://www.golder.com)

**Golder Associates Pty Ltd**  
**Level 1, 25 Sturt Street**  
**Townsville, Queensland 4810**  
**Australia**  
**T: +61 7 3721 5400**





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## SECTION F – TENDER SCHEDULES



---

[FORM OF TENDER AND TENDER SCHEDULES TO BE INSERTED HERE]

## Tender Form

**Tenderer's Name:** [TENDERER TO COMPLETE]

**Project:** [TENDERER TO INSERT NAME OF PROJECT FROM TENDER INFORMATION]

**Works:** [TENDERER TO INSERT BRIEF DESCRIPTION OF WORKS FROM TENDER INFORMATION] as detailed in the Tender Documents.

The Tenderer:

- (a) lodges a Tender to perform the work under the Contract in accordance with the Tender Documents, incorporating:
- (i) the Request for Tender; and
  - (ii) Notices to Tenderers numbered [TENDERER TO INSERT FIRST NOTICE TO TENDERERS] to [TENDERER TO INSERT LAST NOTICE TO TENDERERS],

for the sum of :

Price in figures: \$[TENDERER TO COMPLETE]

Price in words: [TENDERER TO COMPLETE]

('the Price');

- (b) agrees that it will complete the work under the Contract within [TENDERER TO COMPLETE] days/weeks of the date of acceptance of Tender;
- (c) acknowledges that it has read and understood the Tender Documents and in particular all of its obligations under, and warranties given or to be given in, the Tender Documents or any part of them.

**Signature of authorised representative of Tenderer: X** \_\_\_\_\_

**Name of authorised representative of Tenderer: X** \_\_\_\_\_

**Dated this** \_\_\_\_\_ **day of** \_\_\_\_\_ , \_\_\_\_\_  
[day] [month] [year]

*Note: The Tender Form must be signed for and on behalf of the Tenderer by a person or persons having full authority to bind the Tenderer for the purposes of the Tender and evidence of such authority must be provided on request.*

**FORM OF TENDER**  
(LUMP SUM CONTRACT Under AS4000)



An individual Tenderer must complete Section A, a Tenderer that is a firm must complete Section B and a Tenderer that is a Company must complete Section C.

PLEASE INSERT STREET ADDRESSES - POST OFFICE ADDRESSES ARE NOT ACCEPTABLE BUT MAY BE ADDED.

**SECTION A**

SURNAME OF TENDERER .....

CHRISTIAN NAMES IN FULL .....

ABN .....

RESIDENTIAL ADDRESS .....

BUSINESS ADDRESS .....

TELEPHONE NUMBER .....

EMAIL ADDRESS .....

**SECTION B**

TENDERER'S FIRM NAME .....

BUSINESS ADDRESS .....

ABN .....

TELEPHONE NUMBER .....

EMAIL ADDRESS .....

FULL NAME AND ADDRESS OF EACH MEMBER OF FIRM

1.1 SURNAME .....

1.2 CHRISTIAN NAMES IN FULL .....

1.3 RESIDENTIAL ADDRESS .....

2.1 SURNAME .....

2.2 CHRISTIAN NAMES IN FULL .....

2.3 RESIDENTIAL ADDRESS .....

3.1 SURNAME .....

3.2 CHRISTIAN NAMES IN FULL .....

3.3 RESIDENTIAL ADDRESS .....

*(If more than three members of the firm please use reverse side for particulars of other members.)*

**FORM OF TENDER**  
(LUMP SUM CONTRACT Under AS4000)



**SECTION C**

TENDERER'S COMPANY NAME .....

PROPRIETARY\*/PTY\*/LIMITED\*/LTD\*  
(\*Cross out whichever is not applicable)

ACN .....

ABN .....

STATE OF INCORPORATION .....

ADDRESS OF REGISTERED OFFICE IN QLD .....

ADDRESS OF PRINCIPAL PLACE OF BUSINESS IN QLD .....

ADDRESS OF LOCAL OFFICE NEAREST TOWNSVILLE (IF ANY) .....

TELEPHONE NUMBER .....

EMAIL ADDRESS .....



# SCHEDULE OF DOCUMENTS TO BE LODGED WITH TENDER



**CONTRACT No. TCW00144**

**STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER**

## DOCUMENTS TO BE LODGED WITH TENDER

Including other information identified in the tender, Tenderers must also indicate whether or not the following mandatory documents have been lodged with its Tender:

<b>DOCUMENT TITLE</b>	<b>YES</b>	<b>NO</b>
1. Form of Tender	<input type="checkbox"/>	<input type="checkbox"/>
2. Schedule of Documents to be Lodged With Tender	<input type="checkbox"/>	<input type="checkbox"/>
3. Schedule of Lump Sum Price	<input type="checkbox"/>	<input type="checkbox"/>
4. Schedule of Maximum Daily Rate for Delay Costs	<input type="checkbox"/>	<input type="checkbox"/>
5. Schedule of Development of Competitive Local Suppliers	<input type="checkbox"/>	<input type="checkbox"/>
6. Schedule of Amendments, Qualifications or Departures	<input type="checkbox"/>	<input type="checkbox"/>
7. Schedule of Workers Compensation and Public Risk Insurance	<input type="checkbox"/>	<input type="checkbox"/>
8. Schedule of Contractor's Inspection and Test Plan (ITP)	<input type="checkbox"/>	<input type="checkbox"/>
9. Schedule of Subcontractors	<input type="checkbox"/>	<input type="checkbox"/>
10. Schedule of Environmental Management System	<input type="checkbox"/>	<input type="checkbox"/>
11. Schedule of Key Personnel	<input type="checkbox"/>	<input type="checkbox"/>
12. Schedule of Labour and Plant	<input type="checkbox"/>	<input type="checkbox"/>
13. Schedule of Tenderer's Experience	<input type="checkbox"/>	<input type="checkbox"/>
14. Schedule of Current Commitments (Confidential)	<input type="checkbox"/>	<input type="checkbox"/>
15. Schedule of Quality Assurance	<input type="checkbox"/>	<input type="checkbox"/>
16. Schedule of Projected Payments	<input type="checkbox"/>	<input type="checkbox"/>
17. Schedule of Financial Position	<input type="checkbox"/>	<input type="checkbox"/>
18. Annexure Part E – Methodology	<input type="checkbox"/>	<input type="checkbox"/>
19. Annexure Part F – Project Appreciation	<input type="checkbox"/>	<input type="checkbox"/>
20. Construction Program	<input type="checkbox"/>	<input type="checkbox"/>
21. Queensland Code – Compliance Schedule For Works Valued Over \$2 Million	<input type="checkbox"/>	<input type="checkbox"/>
22. Other (Please identify):	<input type="checkbox"/>	<input type="checkbox"/>

# SCHEDULE OF DOCUMENTS TO BE LODGED WITH TENDER



---

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LUMP SUM PRICE



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

The schedule shall include prices exclusive of GST, the GST applicable and the GST inclusive price. Include on the Schedule below ALL items necessary for the completion of works which may not be listed.

### SUMMARY

ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
1	Preliminaries and General Items	Item	1	
2	Subgrade Preparation and Anchor Trenching	Item	1	
3	Gas Collection System	Item	1	
4	Geosynthetics	Item	1	
5	Leachate Collection System	Item	1	
6	Other Works	Item	1	
TOTAL GST EXCLUSIVE				
GST 10%				
<b>TOTAL GST INCLUSIVE</b>				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>1</b>	<b>PRELIMINARIES AND GENERAL ITEMS</b>			
1.1	Preparation of Management Plans in accordance with the requirements of Section 1.5 of the Technical Specification and any other detailed construction programs, construction management plans, work method statements and other construction, inspection and testing planning documentation.	Item	1	
1.2	Mobilisation, demobilisation of all Contractor facilities, personnel, plant and machinery required to undertake the works, including allowance for all site inductions, preparation and maintenance of temporary site access and material stockpile areas required during the works and clean-up of the work site after completion of the works.	Item	1	
1.3	Preparation of Geosynthetic Material Panel Layout Plans in accordance with the requirements of Section 1.5 of Technical Specification	Item	1	
1.4	Preparation, provision and maintenance of all temporary stormwater management, erosion and sediment control measures required during the works.	Item	1	
1.5	Provision, operation and maintenance of all temporary excavation work support measures and dewatering control systems required during the works.	Item	1	
1.6	Provision of professional survey services (set out, material quantities and as-constructed drawings)	Item	1	
1.7	Preparation of as-constructed drawings (Provisional Item)	Lump Sum	1	\$15 000
			<b>SUB TOTAL</b>	
			<b>GST</b>	
			<b>TOTAL</b>	

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>2</b>	<b>SUBGRADE PREPARATION AND ANCHOR TRENCHING</b>			
2.1	Clear and grub work areas, including removal of vegetation and topsoil, within the footprint of the geosynthetic installation, leachate trench and leachate sumps, including allowance for additional works outside the area as required for construction. Stockpile material at locations instructed by Principal.	m2	14 100	
2.2	Re-profile waste material to remove large foreign objects, fill low lying areas and smooth irregularities ready for gas collection system placement.	m2	14 100	
2.3	Regrade existing access road (bench) mid batter to a minimum cross slope of 5% towards toe of batter.	m2	1 500	
2.4	Construct Anchor Trench Type A including excavation and backfill. Excavated material to be hauled to a location nominated by the Principal.	m	88	
2.5	Construct Anchor Trench Type B including excavation and backfill. Excavated material to be hauled to a location nominated by the Principal.	m	125	
2.6	Construct Anchor Trench Type C including excavation and backfill. Excavated material to be hauled to a location nominated by the Principal.	m	56	
2.7	Construct Anchor Trench Type D including supply and backfilling with Unit 1 following the placement of Unit 6 and Unit 7	m	290	
2.8	Construct Northern edge bund and anchor trench in accordance with Section D Drawing 7	m	75	
2.9	Excavate and remove existing cover material (approx. 300mm) to expose the existing Stage 1 Interface Liner system	m	245	
<b>SUB TOTAL:</b>				
<b>GST:</b>				
<b>TOTAL:</b>				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>3</b>	<b>GAS COLLECTION SYSTEM</b>			
3.1	Supply and install Unit 4 drains including connection to existing 90mm HDPE pipe (2 No.) and connection to Unit 13A Gas Collection Pipe (7 No.)	m	276	
3.2	Supply and Install Unit 5	m	1100	
3.3	Supply and install Unit 13A including butt welding and connection to Unit 4 and Unit 13B	m	265	
3.4	Supply and install Unit 13B including excavation, butt welding of all bends and connection to Unit 13A and sealed with a butt welded end cap	m	15	
3.5	Supply and install a concrete surround and protection post to end caps of Unit 13B as directed by the Principal	Item	2	
SUB TOTAL:				
GST:				
<b>TOTAL:</b>				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>4</b>	<b>GEOSYNTHETICS</b>			
4.1	Supply and install Unit 6 in accordance with the requirements of Section 4.10 of Technical Specification	m2	15 100	
4.2	Supply, stockpile, transport and place Unit 2A in accordance with the requirements of Section 4.11 of Technical Specification	m2	2 850	
4.3	Supply and install Unit 7 in accordance with the requirements of Section 4.12 of Technical Specification	m2	15 400	
4.4	Clean and prepare existing geomembrane and Unit 8 LLDPE before welding tie in seam	m	250	
4.5	Supply and install Unit 8 in accordance with the requirements of Section 4.13 of Technical Specification	m	14 700	
4.6	Supply and install Unit 9 in accordance with the requirements of Section 4.14 of Technical Specification.	m2	14 700	
4.7	Supply and install Unit 10 in accordance with the requirements of Section 4.15 of Technical Specification and including supply and install Unit 16	m2	16 00	
4.8	Supply, stockpile, transport and place Unit 2B in accordance with requirements of Section 4.16 of Technical Specification	m3	5 675	
<b>SUB TOTAL:</b>				
<b>GST:</b>				
<b>TOTAL:</b>				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>5</b>	<b>LEACHATE COLLECTION SYSTEM</b>			
5.1	Carefully excavate existing cover material to expose the existing Stage 1 geocomposite drain and backfill with Unit 3 and Unit 12 in accordance with Detail 5 on Drawing 6	m	100	
5.2	Supply, fabricate and install Unit 14A above the Unit 2B protection layer, including all butt welding and connections to pipes (7 No.) and surrounded by Unit 3 wrapped in Unit 12	m	710	
5.3	Supply, fabricate and install Unit 14A above the Unit 2B protection layer, including all butt welding and connections to pipes (5 No.) and surrounded by Unit 3 wrapped in Unit 12	m	140	
5.4	Excavate waste material to form leachate collection trench for Unit 15 along centreline shown on Drawing 4, rate to include for backfilling over Unit 15 with Unit 2B	m	90	
5.5	Excavation in waste for Item 5.4 for the Leachate Collection Sump and Collection Pit construction	m3	140	
5.6	Supply, fabricate and install Unit 15 including all butt welding. To be installed surrounded by Unit 3 wrapped in Unit 12	m	90	
5.7	Construction of Unit 17 including concrete base, heavy duty precast concrete lid with bolted down galvanised steel grate and backfilling with Unit 2B	Item	1	
5.8	Construction of Unit 18 including 900mm precast concrete pipe, concrete base, and heavy duty precast concrete lid with bolted down galvanised steel grate	Item	1	
5.9	Supply and install Unit 14A in accordance with the requirements of Section 4.17.1.1 of Technical Specification	Item	7	
<b>SUB TOTAL:</b>				
<b>GST:</b>				
<b>TOTAL:</b>				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



# SCHEDULE OF LUMP SUM PRICE



ITEM	DESCRIPTION	UNIT	QTY	AMOUNT Excl. GST (\$)
<b>6</b>	<b>OTHER WORKS</b>			
6.1	Any other works defined in the Technical Specification, Drawings, Construction Quality Assurance Plan and Tender Documents	Item		
	<b>TOTAL CONSTRUCTION COST GST exclusive</b>			
	<b>GST 10%</b>			
	<b>TOTAL CONSTRUCTION COST GST inclusive</b>			

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF MAXIMUM DAILY RATE FOR DELAY COSTS



**CONTRACT No. TCW00144**

## **STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER**

The Tenderer is to nominate the maximum daily rate for delay costs to which it may be entitled under subclause 34.9 of the Contract.

Maximum Daily Rate for Delay Costs (including GST)    \$

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF DEVELOPMENT OF COMPETITIVE LOCAL SUPPLIERS



## CONTRACT No. TCW00144

### CONTRACT DESCRIPTION >> STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

1. The Tenderer is required to provide the following details for all goods, services or work to be procured by the Tenderer, in the form of the table provided on the next page:
  - (a) the description of the goods, services or work;
  - (b) the name of the principal contractor, subcontractors and suppliers who will provide the goods, services or work;
  - (c) the post code of the principal contractor's, subcontractors' and/ or supplier's client place of business;
  - (d) the number of full time employees directly employed
  - (e) the expected total contract value for the principal contractor, subcontractor or supplier;
  - (f) the location at which the goods will be manufactured, services provided or work undertaken (and where more than one location, the expected percentage of the total subcontractor and/ or supplier contract value to be manufactured, provided or undertaken in each location);
2. In assessing Tenderers' responses against the assessment criteria, the following scoring will be given to Tenderers (principal contractor) and/ or their subcontractors/ suppliers for the percentage of the expected value of work

Percentage	Score	Description
100	5.0	Developing business <sup>#</sup> in the Townsville City Council local government area
80	4.0	Establish business in the Townsville City Council local government area
60	3.0	Branch office in the Townsville City Council local government area directly employing a minimum of 5 full time employees.
40	2.0	Branch office in the Townsville City Council local government area directly employing less than 5 full time employees.
30	1.5	Manned Office in the Townsville Local Area (1-2 people)
20	1.0	Adjacent local government area
15	0.75	Queensland business
10	0.5	Interstate business
0	0	Overseas business

<sup>#</sup> A developing business is a business that has a head office in Townsville and conducts business within the Townsville City Council local government area and is attempting to gain work outside of its normal core business. The company may conduct business outside of the

## SCHEDULE OF DEVELOPMENT OF COMPETITIVE LOCAL SUPPLIERS



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Townsville City Council local government area. A developing business does not include a proposal to establish a business in Townsville.



## SCHEDULE OF DEVELOPMENT OF COMPETITIVE LOCAL SUPPLIERS

DESCRIPTION OF THE GOODS, SERVICES OR WORK	NAME	POST CODE OF PRINCIPAL CONTRACTOR, SUBCONTRACTOR OR SUPPLIER'S PLACE OF BUSINESS	NUMBER OF FULL TIME EMPLOYEES DIRECTLY EMPLOYED	EXPECTED TOTAL SUBCONTRACT VALUE	LOCATION AT WHICH WORK WILL BE CARRIED OUT (WHERE MORE THAN ONE, INCLUDE THE % TO BE CARRIED OUT AT EACH LOCATION)	
					LOCATION	%

Name of Tenderer:

\_\_\_\_\_

Authorised Representative:

\_\_\_\_\_

Signature:

\_\_\_\_\_

Date:

\_\_\_\_\_



# SCHEDULE OF AMENDMENTS, QUALIFICATIONS OR DEPARTURES

CONTRACT No. **TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

The Tenderer's Tender is subject to the following amendments, qualifications or departures.

PART, CLAUSE OR ITEM	AMENDMENTS, QUALIFICATIONS OR DEPARTURES	EFFECT ON PRICE IF AMENDMENT, QUALIFICATION OR DEPARTURE IS ACCEPTED*. <i>*if nothing inserted, Tenderer warrants that the amendment, qualification or departure will have no effect on the Price</i>

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF WORKERS COMPENSATION AND PUBLIC RISK INSURANCE DECLARATION



## WORKERS COMPENSATION INSURANCE

The Workcover Queensland Act of 1996 and Subsequent Amendments

Contractor: .....

Workers Compensation Insurance Policy No: .....

Date of Expiry of Above Policy: .....

NOTE: In accordance with the General Conditions of Contract no Subcontractor shall be employed on the works without the prior written approval of the Superintendent.

## PUBLIC RISK INSURANCE

(Persons and Property)

Contractor: .....

Insurance Company: .....

Third Party Insurance Policy  
No. ....

Amount of Policy: .....

Date of Expiry of Above Policy: .....

## INSURANCE OF THE WORKS

(Contract value plus percentage thereof stated in Annexure A)

Contractor: .....

Insurance Company: .....

Policy Number: .....

Amount of Policy: .....

Date of Expiry of Above Policy: .....

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## SCHEDULE OF INSPECTION AND TEST PLAN (ITP)

**CONTRACT No. TCW00144**

### STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

To confirm the Tenderer's understanding of the project, a draft ITP must be submitted contract specific with the tender for review. Use additional sheets as required.

Item	Specification Section	Specification Clause	Inspection / Test Required	Frequency	Witness / Hold Point	Inspection / Test Undertaken By:	Date Completed	Date Submitted to Superintendent	Comments
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## SCHEDULE OF SUBCONTRACTORS

CONTRACT No. **TCW00144**

### STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

The Tenderer must identify for approval all subcontractors it intends to employ on the work under Contract. Company Profiles are to be attached for each entry.

Where the subcontractor has carried out work for Council in the previous three (3) years, those works must also be identified.

COMPANY	CONTACT PERSON	SUBCONTRACT WORK TO BE COMPLETED	Has the Sub Contractor previously carried out works for Council in any capacity? (If yes, attach details)	Nominated TCC Referee for works completed for Council
			Y / N	
			Y / N	
			Y / N	
			Y / N	
			Y / N	
			Y / N	

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF ENVIRONMENTAL MANAGEMENT SYSTEM



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

1.	Has a third party accredited your Company Environmental Management system?	YES
		NO
2.	Does your Company have an approved Environmental Management system manual?	YES
		NO
3.	Is your Environmental Management system based on a recognised standard?	YES
		NO

By whom: \_\_\_\_\_

\_\_\_\_\_ If Yes go to question 3

State Which: \_\_\_\_\_

If you have answered YES to both questions 1 and 3, go to question 8

4.	Does your Company have documented Environmental Management procedures?	YES
		NO
5.	Has a third party audited your Company Environmental Management system?	YES
		NO
6.	Are records of inspection, test and other Environmental Management system activities maintained?	YES
		NO
7.	Does your Company undertake internal Environmental Management audits?	YES
		NO
8.	Does your Company agree to allow access for an initial assessment?	YES
		NO

By whom: \_\_\_\_\_

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF KEY PERSONNEL

**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bi INTERFACE LINER

The Tenderer must identify all Key Personnel it intends to employ on the work under Contract. CV's are to be included for each listed person.

ROLE	KEY PERSON	SUBSTITUTE KEY PERSON	AVAILABILITY	
			FROM (DATE)	TO (DATE)
Contractor's Representative				
Project Manager				
Construction Manager				
Works Supervisor				
Quality Representative				
Environmental Rep.				
Safety Officer				
Administration Manager				
Other:				

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF LABOUR AND PLANT



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

Tenderer's shall supply hourly hire rates for all labour, plant and equipment proposed to be used on the contract.

ITEM	LABOUR /PLANT	DESCRIPTION	HOURLY RATE (GST Inclusive)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## SCHEDULE OF TENDERER'S EXPERIENCE

CONTRACT No. **TCW00144**

### STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

The Tenderer shall provide a list of the most recent relevant experience it has had in the type of work required by this Contract.

CLIENT	CONTACT NAME AND NUMBER	DESCRIPTION OF WORKS	TOTAL CONTRACT COST	CONTRACT PERIOD

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**SCHEDULE OF CURRENT COMMITMENTS (CONFIDENTIAL)**



**CONTRACT No. TCW00144**

**STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER**

All entries will be treated as strictly confidential

Authority or Owner for whom work is being executed	Phone No. and Contact name of Owner/Agent	Location	Description of Work	Total Cost of Contract	Value of Work not yet completed	Specified Completion Date

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF QUALITY ASSURANCE



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

1.	Has a third party accredited your Company Quality Assurance system?	YES
		NO
2.	Does your Company have an approved Quality Assurance manual?	YES
		NO
3.	Is your Quality Assurance system based on a recognised standard?	YES
		NO

By whom: \_\_\_\_\_

\_\_\_\_\_ If Yes go to question 3

State Which: \_\_\_\_\_

If you have answered YES to both questions 1 and 3, go to question 8

4.	Does your Company have documented Quality Assurance procedures?	YES
		NO
5.	Has a third party audited your Company Quality Assurance system?	YES
		NO
6.	Are records of inspection, test and other Quality Assurance activities maintained?	YES
		NO
7.	Does your Company undertake internal Quality Assurance audits?	YES
		NO
8.	Does your Company agree to allow access for an initial assessment?	YES
		NO

By whom: \_\_\_\_\_

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# SCHEDULE OF PROJECTED PAYMENTS



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

The payments schedule is an *indicative* time frame for the payment of payment claims under the contract. Include on the Schedule below all claims (excluding variations) considered necessary for the completion of works.

Claim No.	Claim Description	Point in Contract Period Claim Expected (week)	Claim Amount Excl. GST (\$)	Proportion Contract sum (%)
1	Progress Claim			
	Practical Completion			
	Defects Liability Period (Final Payment Claim)			

Name of Tenderer \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



# SCHEDULE OF FINANCIAL POSITION



**CONTRACT No. TCW00144**

## STUART WASTE FACILITY STAGE 2Bii INTERFACE LINER

Including other information identified in the tender, Tenderers must also provide the following financial information:

- |   | YES                      | NO                       |
|---|--------------------------|--------------------------|
| 1. Is the Tenderer presently able to pay all its debts in full as and when they fall due?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Is the Tenderer currently engaged in litigation as a result of which it may be held liable?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. If the Tenderer is awarded the Contract, will it be able to fulfil the obligations of the Contractor under the Contract from its own resources or from resources readily available to it and remain able to pay all of its debts in full as they fall due? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Has the tenderer included an attachment labelled " <b>Financial Position</b> "?  | <input type="checkbox"/> | <input type="checkbox"/> |

Note: In order to demonstrate the Tenderer's financial ability to undertake the Contract, an attachment labelled "**Financial Position**" is to be submitted with its tender. This attachment must include as a minimum:

- a profit and loss statement;
- the latest financial return for the Tenderer and each of any proposed contracting entities; and
- a list of financial referees from its bank and/or accountant.

Name of Tenderer: \_\_\_\_\_

Authorised Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_