

CITY OF PALMERSTON

**Minutes of Council Meeting
held in Council Chambers
Civic Plaza, Palmerston
on Tuesday 1 November 2016 at 6.30pm.**

Mayor Ian Abbott
Chair

Any member of Council who may have a conflict of interest, or a possible conflict of interest in regard to any item of business to be discussed at a Council meeting or a Committee meeting should declare that conflict of interest to enable Council to manage the conflict and resolve it in accordance with its obligations under the Local Government Act and its policies regarding the same.

Audio Disclaimer

An audio recording of this meeting is being made for minute taking purposes as authorised by City of Palmerston Policy MEE3 Recording of Meetings, available on Council's Website.

Acknowledgement of Traditional Ownership

I respectfully acknowledge the past and present Traditional Custodians of this land on which we are meeting, the Larrakia people. It is a privilege to be standing on Larrakia country.

1 PRESENT

Elected Members:	His Worship the Mayor Ian Abbott (Chair) Deputy Mayor Seranna Shutt Alderman Athina Pascoe-Bell Alderman Paul Bunker Alderman Sue McKinnon
Staff:	Ricki Bruhn, Chief Executive Officer Ben Dornier, Director of Corporate and Community Services Mark Spangler, Director of Technical Services Alyce Breed, Minute Secretary
Gallery:	David Anthony, Zest Projects Pty Ltd Eavan Coyne, Zest Projects Pty Ltd Stuart Brown, One Mile Brewery 2 members of the public

2 APOLOGIES

Alderman Byrne – Apology

ACCEPTANCE OF APOLOGIES AND LEAVE OF ABSENCE

Moved: Alderman McKinnon

Seconded: Deputy Mayor Shutt

THAT the apology received from Alderman Byrne be received and granted.

CARRIED 8/2306 – 01/11/2016

3 CONFIRMATION OF MINUTES

Moved: Alderman Pascoe-Bell
Seconded: Deputy Mayor Shutt

1. THAT the minutes of the Council Meeting held Tuesday, 18 October 2016 pages 8709 to 8717, be confirmed.
2. THAT the Confidential minutes of the Council Meeting held Tuesday, 18 October 2016 pages 262 to 263, be confirmed.

CARRIED 8/2307 – 01/11/2016

4 MAYOR'S REPORT

M8-31

Moved: Alderman Pascoe-Bell
Seconded: Alderman McKinnon

THAT Council receives Report Number M8-31.

CARRIED 8/2308 – 01/11/2016

5 REPORT OF DELEGATES

Nil.

6 QUESTIONS (WITHOUT DEBATE) FOR WHICH NOTICE HAS BEEN GIVEN

Nil.

7 QUESTIONS (WITHOUT DEBATE) FOR WHICH NOTICE HAS NOT BEEN GIVEN

Nil.

8 PETITIONS

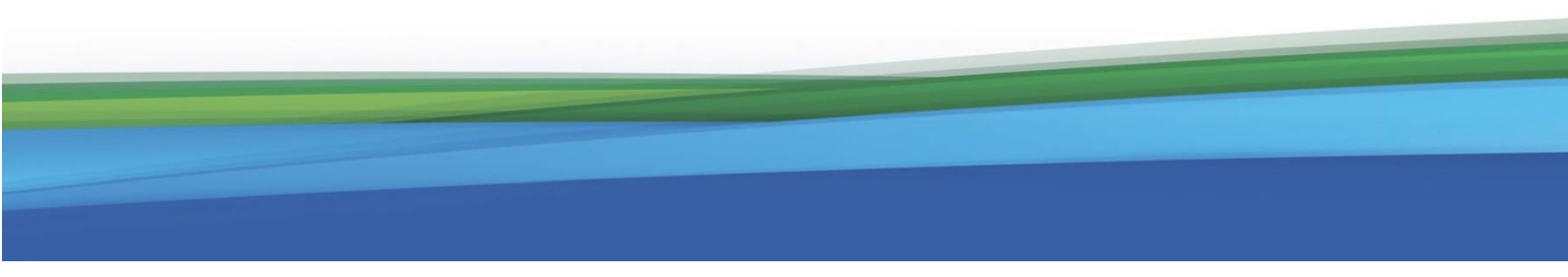
Nil.

9 DEPUTATIONS/PRESENTATIONS

- 9.1 Community Infrastructure
Presentation by David Anthony, Director and Eavan Coyne, Building Design and Construction Manager from Zest Projects Pty Ltd.

10 CONSIDERATION OF MOTIONS FOR WHICH NOTICE HAS BEEN GIVEN

Nil.



11 COMMITTEE RECOMMENDATIONS

11.1 Governance and Organisation

Nil.

11.2 Economic Development and Infrastructure

Nil.

11.3 Community Culture and Environment

Nil.

11.4 Risk Management and Audit Committee

Moved: Deputy Mayor Shutt

Seconded: Alderman McKinnon

THAT the minutes from the Risk Management and Audit Committee meeting held on 26 October 2016, be received and noted.

CARRIED 8/2309 – 01/11/2016

12 INFORMATION AGENDA

12.1 Items for Exclusion

Nil.

12.2 Receipt of Information Reports

Moved: Alderman McKinnon

Seconded: Alderman Pascoe-Bell

THAT the information items contained within the Information Agenda, be received.

CARRIED 8/2310 – 01/11/2016

The Chair invited the Chief Executive Officer, Director of Technical Services and Director of Corporate and Community Services to provide a verbal update on the outstanding matters contained within the Action Report.

Officers provided a verbal report to the meeting and answered questions from the Elected Members.

13 DEBATE AGENDA

13.1 Officer Reports

13.1.1 Annual Report 2015/2016 8/1009

Moved: Alderman McKinnon

Seconded: Deputy Mayor Shutt

1. THAT Council receives Report Number 8/1009.
2. THAT Council adopt the Annual Report 2015/2016.
3. THAT the Chief Executive Officer be instructed to send the Annual Report 2015/2016 to the Minister for Housing and Community Development on or before 15 November 2016.

CARRIED 8/2311 – 01/11/2016

13.1.2 Appointment of Acting Mayor 8/1011

Moved: Alderman Pascoe-Bell

Seconded: Deputy Mayor Shutt

1. THAT Council receives Report Number 8/1011.

CARRIED 8/2312 – 01/11/2016

Moved: Alderman McKinnon

Seconded: Alderman Pascoe-Bell

2. THAT Alderman Pascoe-Bell be appointed as Acting Mayor for period Friday, 23 December 2016 to Tuesday, 3 January 2017 both days inclusive.

CARRIED 8/2313 – 01/11/2016

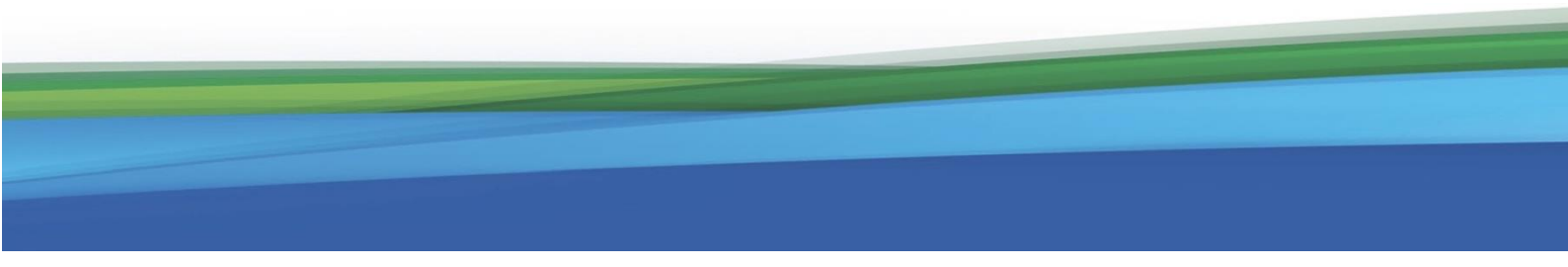
13.1.3 Liquor Licence Application – Lot 2710 (3) Mansfield Street, Palmerston – New 'Merchant' Liquor Licence Application – One Mile Brewery 8/1012

Moved: Alderman Pascoe-Bell

Seconded: Alderman McKinnon

THAT Council receives Report Number 8/1012.

CARRIED 8/2314 – 01/11/2016



13.1.4 Top End Motor Cross Club Inc. Rate Concession

8/1013

Moved: Alderman Bunker

Seconded: Alderman McKinnon

1. THAT Council receives Report Number 8/1013.
2. THAT Council approves a rate concession of 100%, excluding waste charges for the financial year 2016/2017.

CARRIED 8/2315 - 01/11/2016

13.1.5 TS2016/14 - Hillson Street Upgrade - Contract Award

8/1014

Moved: Alderman Bunker

Seconded: Deputy Mayor Shutt

1. THAT Council receives Report Number 8/1014.
2. THAT Council award contract TS2016/14 - Hillson Street Upgrade to JLM Civil Works for the amount of \$241,965.90 (GST inclusive).
3. THAT the Mayor and Chief Executive Officer are granted consent to sign and seal all required contract documentation for the contract TS2016/14 - Hillson Street Upgrade.

CARRIED 8/2316- 01/11/2016

14 CORRESPONDENCE

14.1 2016 Compliance Review

Moved: Alderman McKinnon

Seconded: Alderman Pascoe-Bell

THAT Council receives correspondence from Meeta Ramkumar, Director Sustainability and Compliance from Department of Housing and Community Development - 2016 Compliance Review - City of Palmerston.

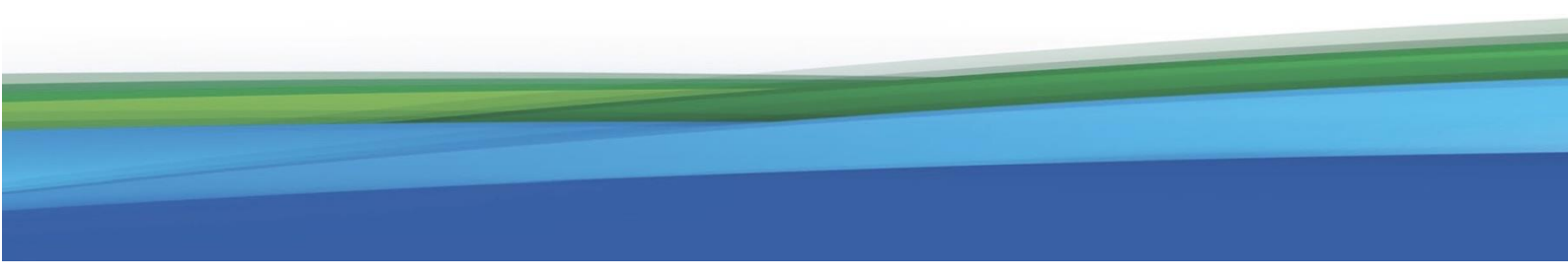
CARRIED 8/2317 - 01/11/2016

15 RESPONSE TO PREVIOUS QUESTIONS TAKEN ON NOTICE

Nil

16 PUBLIC QUESTION TIME

Nil.



17 OTHER BUSINESS

Nil.

18 CONFIDENTIAL REPORTS

Moved: Alderman McKinnon
 Seconded: Alderman Pascoe-Bell

18.1 YMCA of the Top End – Presentation

1. THAT pursuant to Section 65 of the Local Government Act, Council orders that the public be excluded from the meeting with the exception of the Chief Executive Officer, Director of Corporate and Community Services, Director of Technical Services, Minute Secretary and the YMCA of the Top End on the basis that Council considers it necessary and appropriate to act in a manner closed to the public in order to receive and discuss the presentation in relation to confidential agenda item 18.1 YMCA of the Top End and that Council is satisfied that the meeting should be conducted in a place open to the public is outweighed in relation to the matter because receiving involves:
 - (c) information that would, if publicly disclosed, be likely to:
 - (i) cause commercial prejudice to, or confer an unfair commercial advantage on, any person; or

This item is considered confidential pursuant to Regulation 8 (c)(i) of the Local Government (Administration) Regulations.

2. THAT Council orders that the minutes from the Confidential Council meeting held on 1 November 2016, in relation to confidential item number 18.1 YMCA of the Top End remain confidential and not available for public inspection for a period of 12 months from the date of this meeting or a lesser period as determined by the Chief Executive Officer.

18.2 Multistorey Car Park Proposal for Lot 10024**8/1015**

1. THAT pursuant to Section 65 of the Local Government Act, Council orders that the public be excluded from the meeting with the exception of the Chief Executive Officer, Director of Corporate and Community Services, Director of Technical Services and Minute Secretary on the basis that Council considers it necessary and appropriate to act in a manner closed to the public in order to receive and discuss the presentation in relation to confidential agenda item 18.2 Multistorey Car Park Proposal for Lot 10024 and that Council is satisfied that the meeting should be conducted in a place open to the public is outweighed in relation to the matter because receiving, considering and discussing the report and associated documentation involves:
 - (c) information that would, if publicly disclosed, be likely to:
 - (iv) prejudice the interests of the council or some other person;

This item is considered confidential pursuant to Regulation 8 (c)(iv) of the Local Government (Administration) Regulations.

18.2 Multistorey Car Park Proposal for Lot 10024 (continued)

8/1015

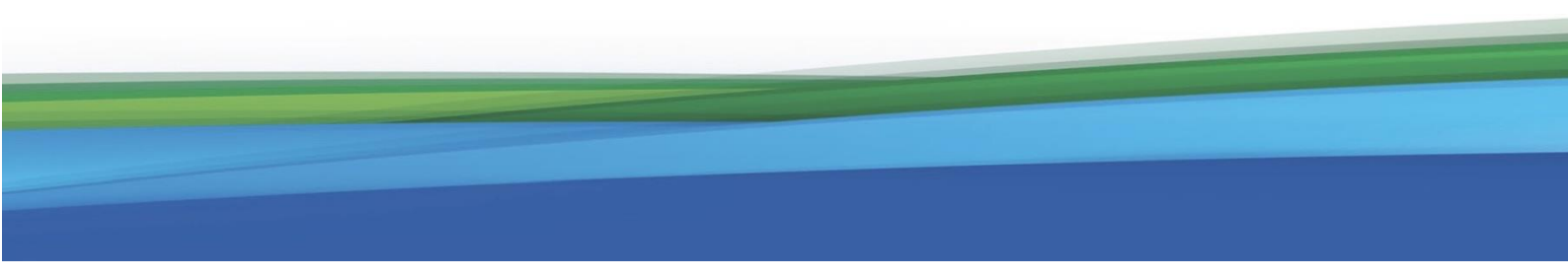
2. THAT Council orders that the minutes from the Confidential Council meeting held on 1 November 2016, in relation to confidential item number 18.2 Multistorey Car Park Proposal for Lot 10024 the report and associated documents remain confidential and not available for public inspection for a period of 12 months from the date of this meeting or a lesser period as determined by the Chief Executive Officer.

CARRIED 8/2318 – 01/11/2016

The meeting moved into the Confidential Session at 7:01pm.

19 CLOSURE

Meeting closed at 9.10pm



CITY OF PALMERSTON

**Minutes of Confidential Council Meeting
held in Council Chambers, Civic Plaza, Palmerston
on Tuesday, 20 October 2015 at 8.02pm**

RELEASED TO THE PUBLIC RECORD

1. PRESENT

Elected Members: His Worship the Mayor Ian Abbott (Chair)
Deputy Mayor Sue McKinnon
Alderman Paul Bunker
Alderman Andrew Byrne
Alderman Seranna Shutt

Staff: Ricki Bruhn, Chief Executive Officer
Mark Spangler, Director of Technical Services
Jan Peters, Acting Director of Community Services
Silke Reinhardt, Acting Director of Corporate Services
Emily Fanning, Minute Secretary

2. APOLOGIES

Alderman Geoff Carter – Leave of Absence

ACCEPTANCE OF APOLOGIES AND LEAVE OF ABSENCE

Moved: Alderman Shutt
Seconded: Deputy Mayor McKinnon

THAT the leave of absence received from Alderman Carter, be received and granted.

CARRIED 8/1725–20/10/2015

3. DEPUTATIONS / PRESENTATIONS

Nil

4. OFFICER REPORTS

4.1 Application – Remission of Interest for Lot 8788

8/0761

Moved: Alderman Byrne
Seconded: Alderman Bunker

1. THAT Council receives Report Number 8/0761.

CARRIED 8/1726–20/10/2015

4.1 Application – Remission of Interest for Lot 8788 (continued) 8/0761

Moved: Alderman Byrne
Seconded: Alderman Bunker

2. THAT Council approve to waive the interest for the period 13 October 2015 to 30 June 2016 for Lot 8788, under financial hardship policy FIN17, subject to repayments being made in accordance with the future agreed repayment plan.

CARRIED 8/1727–20/10/2015

4.2 Application – Remission of Interest for Lot 8094 8/0762

Moved: Alderman Byrne
Seconded: Alderman Bunker

1. THAT Council receives Report Number 8/0762.

CARRIED 8/1728–20/10/2015

Moved: Alderman Byrne
Seconded: Deputy Mayor McKinnon

2. THAT Council approve to waive the interest for the period 8 October 2015 to 30 June 2016 for Lot 8094 under financial hardship policy FIN17, subject to repayments being made in accordance with the future agreed repayment plan.

CARRIED 8/1729–20/10/2015

4.3 Application – Remission of Interest for Lot 5789 8/0763

Moved: Deputy Mayor McKinnon
Seconded: Alderman Bunker

1. THAT Council receives Report Number 8/0763.

CARRIED 8/1730–20/10/2015

Moved: Alderman Bunker
Seconded: Alderman Byrne

2. THAT Council approve to waive the interest for the period 8 October 2015 to 30 June 2016 for Lot 5789 under financial hardship policy FIN17, subject to repayments being made in accordance with the future agreed repayment plan.

CARRIED 8/1731–20/10/2015

5. MOVE TO OPEN

Moved: Deputy Mayor McKinnon
Seconded: Alderman Shutt

THAT the Council move into the open session.

CARRIED 8/1732–20/10/2015

The meeting moved to the Open Session at 8.25pm

(Chair)

ITEM NO. 18.1 Application – Remission of Interest for Lot 8788**FROM:** Acting Director of Corporate Services**REPORT NUMBER:** 8/0761**MEETING DATE:** 20 October 2015**Municipal Plan:****4. Governance & Organisation****4.1 Responsibility**

We are committed to corporate and social responsibility, the sustainability of Council assets and services, and the effective planning and reporting of Council performance to the community

Summary:

Application for remission of interest for the 2015/2016 financial year in regards to assessment number 110371, Lot 8788.

In line with policy FIN17, an application for a remission of interest is required to be presented to council for consideration.

Background:

There are two owners registered on the title for Lot 8788. Throughout a separation, one owner has taken over responsibility of the rates. The ratepayer has advised that she is hoping to increase her income with career advancement to enable her to repay the debt. The current amount outstanding is \$7,105.54.

General:

The ratepayer has owned the property since 2009, since that time, rate instalments have been overdue. The ratepayer has previously been granted a concession for hardship in 2012/2013 financial year, but the concession was cancelled due to non-compliance with the payment arrangement. The ratepayer has been making fortnightly repayments of \$25 since May 2015, Somerville have advised that the ratepayer could increase her payments and can afford to pay \$60 per fortnight. The ratepayer has requested a remission of interest from the date of application from Somerville, which in this case is 13 October 2015 to 30 June 2016.

As part of the debt collection process, finance will refrain from placing a statutory charge on the property if Council accepts the financial hardship application. Should the ratepayer default with repayments, one written warning will be sent. If repayments are not taken up again, the debt collection process will continue immediately, with a statutory charge without further warnings.

Financial Implications:

Interest remission calculated at 18% pa from 13 October 2015 until 30 June 2016 equates to approximately \$845.

Policy Legislation:

Pursuant to Part 11.7 Section 163 of the Local Government Act.

Part 11.7 Interest on unpaid rates

163 Remission of interest
A council may remit interest wholly or in part.

RECOMMENDATION

1. THAT Council receives Report Number 8/0761.
2. THAT Council approve the remission of interest for the period 13 October 2015 to 30 June 2016 for Lot 8788, under financial hardship policy FIN17.

Recommending Officer:

Silke Reinhardt, Acting Director of Corporate Services

Any queries on this report may be directed to Silke Reinhardt, Acting Director of Corporate Services on telephone (08) 8935 9922 or email silke.reinhardt@palmerston.nt.gov.au.

Schedule of Attachments:

Nil

ITEM NO. 18.2 **Application – Remission of Interest for Lot 8094**

FROM: **Acting Director of Corporate Services**

REPORT NUMBER: **8/0762**

MEETING DATE: **20 October 2015**

Municipal Plan:

4. Governance & Organisation

4.1 Responsibility

We are committed to corporate and social responsibility, the sustainability of Council assets and services, and the effective planning and reporting of Council performance to the community

Summary:

Application for remission of interest for the 2015/2016 financial year in regards to assessment number 108629, Lot 8094.

In line with policy FIN17, application for remission of interest is required to be presented to council for consideration.

Background:

The owner's only source of income is from the Centrelink Newstart allowance, which provides a limited source of funds. The owner is committed to repaying the debt and hopes to meet the repayment plan with the help of family. The current amount outstanding is \$4,121.88.

General:

The ratepayer has owned the property since 2003 and during this time rate instalments have been intermittently overdue. The ratepayer has entered into previous payment arrangements, but has not been able to commit to them. Somerville has advised that the ratepayer could afford to pay \$227 per fortnight with the help of family.

If the ratepayer does not maintain the payment plan, one written warning will be sent. If the ratepayer fails a second time to maintain the pay agreement, the interest will immediately be reinstated and the assessment will go back to debt collection.

Financial Implications:

Interest remission calculated at 18% pa from 8 October 2015 until 30 June 2016 equates to approximately \$291.

Policy Legislation:

Pursuant to Part 11.7 Section 163 of the Local Government Act.

Part 11.7 Interest on unpaid rates

163 Remission of interest
A council may remit interest wholly or in part.

RECOMMENDATION

1. THAT Council receives Report Number 8/0762.
2. THAT Council approve the remission of interest for the period 8 October 2015 to 30 June 2016 for Lot 8094 under financial hardship policy FIN17.

Recommending Officer:

Silke Reinhardt, Acting Director of Corporate Services

Any queries on this report may be directed to Silke Reinhardt, Acting Director of Corporate Services on telephone (08) 8935 992 or email silke.reinhardt@palmerston.nt.gov.au.

Schedule of Attachments:

Nil

ITEM NO. 18.3 **Application – Remission of Interest for Lot 5789**

FROM: **Acting Director of Corporate Services**

REPORT NUMBER: **8/0763**

MEETING DATE: **20 October 2015**

Municipal Plan:

4. Governance & Organisation

4.1 Responsibility

We are committed to corporate and social responsibility, the sustainability of Council assets and services, and the effective planning and reporting of Council performance to the community

Summary:

Application for remission of interest for the 2015/2016 financial year in regards to assessment number 102230, Lot 5789.

In line with policy FIN17, application for remission of interest is required to be presented to council for consideration.

Background:

The owners of Lot 5789 are restricted with income, due to one owner being on a disability pension with little income from Centrelink.

The ratepayers have contacted our office and have advised that they are committed to repaying their significant debt, but hope that by being granted a rates concession for hardship, they may reduce the principle of the debt. The current outstanding amount is \$6,626.98.

General:

The ratepayers have owned the property since 2008 and during this time, rate instalments have been intermittently overdue. The ratepayers previously had a direct debit in place, but it continually dishonoured. Somerville have advised that the owners are able to pay \$220 per fortnight, with the assistance of their family. The ratepayers have requested a remission of interest from the date of application from Somerville, which in this case is 8 October 2015 to 30 June 2016.

If the ratepayer does not maintain the payment plan, one written warning will be sent. If the ratepayer fails a second time to maintain the pay agreement the interest will immediately be reinstated and the assessment will go back to debt collection.

Financial Implications:

Interest remission calculated at 18% pa from 8 October 2015 until 30 June 2016 equates to approximately \$587.

Policy Legislation:

Pursuant to Part 11.7 Section 163 of the Local Government Act.

Part 11.7 Interest on unpaid rates

163 Remission of interest
A council may remit interest wholly or in part.

RECOMMENDATION

1. THAT Council receives Report Number 8/0763.
2. THAT Council approve the remission of interest for the period 8 October 2015 to 30 June 2016 for Lot 5789 under financial hardship policy FIN17.

Recommending Officer:

Silke Reinhardt, Acting Director of Corporate Services

Any queries on this report may be directed to Silke Reinhardt, Acting Director of Corporate Services on telephone (08) 8935 9922 or email silke.reinhardt@palmerston.nt.gov.au.

Schedule of Attachments:

Nil

CITY OF PALMERSTON

**Minutes of Confidential Council Meeting
held in Council Chambers, Civic Plaza, Palmerston
on Tuesday, 3 November 2015 at 7.45pm**

RELEASED TO THE PUBLIC RECORD

1. PRESENT

Elected Members: Deputy Mayor Sue McKinnon (Chair)
Alderman Paul Bunker
Alderman Andrew Byrne
Alderman Geoff Carter
Alderman Seranna Shutt

Staff: Ricki Bruhn, Chief Executive Officer
Mark Spangler, Director of Technical Services
Silke Reinhardt, Acting Director of Corporate & Community Services
Emily Fanning, Minute Secretary

2. APOLOGIES

Mayor Ian Abbott – On Council Business

ACCEPTANCE OF APOLOGIES AND LEAVE OF ABSENCE

Moved: Alderman Shutt
Seconded: Alderman Byrne

THAT the apology received by Mayor Abbott be received and granted.

CARRIED 8/1748–03/11/2015

3. DEPUTATIONS / PRESENTATIONS

Nil

4. OFFICER REPORTS

4.1 Power to sell land – various Assessments

8/0770

Moved: Alderman Byrne
Seconded: Alderman Carter

1. THAT Council receives Report Number 8/0770.
2. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100113.
3. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100498.

4.1 Power to sell land – various Assessments (continued)

8/0770

4. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100821.
5. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 101930.
6. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 105820.
7. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 103759.
8. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 103882.
9. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 107951.
10. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 109208.
11. THAT the Mayor and Chief Executive Officer be authorised to sign and seal all documentation in relation to the above mentioned properties, including discharge of statutory charges if full payment should occur.

CARRIED 8/1749–03/11/2015

5. MOVE TO OPEN

Moved: Alderman Carter

Seconded: Alderman Shutt

THAT the Council move into the open session.

CARRIED 8/1750–03/11/2015

The meeting moved to the Open Session at 7.51pm

(Chair)

ITEM NO. 18.1 Power to sell land – various Assessments**FROM:** Acting Director of Corporate Services**REPORT NUMBER:** 8/0770**MEETING DATE:** 3 November 2015**Municipal Plan:****4. Governance & Organisation****4.1 Responsibility**

We are committed to corporate and social responsibility, the sustainability of Council assets and services, and the effective planning and reporting of Council performance to the community

Summary:

Division 4 of the Local Government Act Northern Territory gives Council the right to execute the Power to sell land for non-payment of rates. Senior Management has identified nine properties with outstanding rates that qualify for the sale of land. Property owners have been given warnings and debt recovery steps have been taken to try to recover the debt. Council is asked to support a registration of statutory charges on the above mentioned properties to initiate the process to sell land for outstanding rates.

Background:

The rates debts on the following nine properties are not recoverable through the debt recovery process and therefore qualify for the sale of land by Local Government Act. All property owners have received a Default letter (Sample Attachment A) outlining the next possible steps Council will take. Under Section 173 Local Government Act Council can initiate the sale of land after six months of the liability being registered on the land. Therefore the registration of the statutory charge is the initial step for the process. Management strongly believes that all possible steps have been taken to attempt to recover the debt without legal actions.

General:*Assessment 100113*

Residential property with arrears since 2011 and has been registered in the name of the current owner since 2011. Bailiffs attended the property several times since 2010 to serve Field Calls and Statements of Claims. Our office has tried to contact the owner via telephone and have posted correspondence on various occasions but we have had no contact with the owner. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no response from the owner. Property owner last paid \$100 on 24 August 2015 and has been paying \$100 sporadically since November 2014. No direct contact was made by the ratepayer at any time.

Total currently outstanding is \$6,121.68.

Assessment 100498

Residential property with arrears since 2008 and has been registered in the name of the current owner since 2006. Bailiffs attended the address several times since 2009 to serve Field Calls and Statements of Claims. Property owner has contacted our office in response to bailiff visits to enter into payment arrangements, which have ultimately not been adhered to. In May 2014 the owner set up a direct debit repayment for \$350 per fortnight but starting from December 2014 the payments were dishonoured and in September 2015 the bank advised the account was closed and the direct debit was terminated. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no contact from the owner in response to this correspondence. Last payment received was in May 2015. Last contact we had with the owner was in May 2015.

Total currently outstanding is \$8,222.32

Assessment 100821

Residential property with periodic arrears since 2004 and has been registered in the name of the current owner since 2004. Bailiffs attended property several times since 2011 to serve Field Calls and Statements of Claims. Property owner has contacted our office in response to bailiff visits to enter into a payment arrangement which she has not adhered to. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no response from the owner. Last payment received was in March 2013 and last contact made May 2014.

Total currently outstanding is \$6,043.10.

Assessment 101930

Residential property with periodic arrears since 2004 and has been registered in the name of the current owner since 2004. Bailiffs attended the address several times between 2005 and 2012 to serve Field Calls and Statements of Claims. In 2012 the owner entered into a rate agreement of \$340 per month which continues to be paid to date. Since the beginning of January 2014, the owners have been urged to increase their repayment amount. The amount of payment has not been changed and therefore the debt is not decreasing. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no contact from the owner in response to this correspondence. Last payment received was in October 2015 for \$340 and the last direct contact made with Council by the owner was when the owner attended our office in May 2015 to discuss the debt.

Total currently outstanding is \$7,669.90.

Assessment 105820

Residential property with periodic arrears since 2010 and has been registered in the name of the current owner since 2008. Bailiffs attended the address several times since 2011 to serve Field Calls and Statements of Claims. In 2015 the owner applied for a Hardship concession via Somerville but was unable to commit to a repayment plan so application did not proceed. The property owner has contacted our office previously to organise payment arrangements, which have not been adhered to. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no contact from the owner in response to this correspondence. Last payment received was in July 2015 (minor amount of \$25) and last direct contact made with Council was January 2011.

Total currently outstanding is \$5,882.69.

Assessment 103759

Residential property with periodic arrears since 2011 and the current owners have been the only registered owners of this property. Bailiffs attended property several times and served Field Calls and Statements of Claims have been issued. Default letter, dated 29 September 2015 was posted and requested full payment within two weeks. There has been no contact from the owner in response to this correspondence. We have telephoned and left messages on several occasions. Last payment received was in January 2013 and there has been no direct contact with the owner.

Total currently outstanding \$6,659.93.

Assessment 103882

Residential unit with periodic arrears since 1999 and the current owners are the only registered owners of this property, according to our records. Bailiffs have attended the property several times since 2003 to serve Field Calls and Statements of Claims. Property owners had previously contacted our office in response to debt recovery and made payment or part payment of arrears but there has been no regular contact with owners since 2009. The last attempts by Council officers to make contact via phone, owner refused to talk to us. The tenant of the property advised that he pays minimal rent and deposits money into a bank account with no direct contact with owner. The owner responsible for the payment of rates lives interstate. Default Letter dated 29 September 2015 was posted to the postal address on our system and requested full payment within two weeks. There has been no response from the owners. Last payment received was in December 2013 and last direct contact with council was in March 2012.

Total currently outstanding is \$6,762.21.

Assessment 107951

Residential property with periodic arrears since 2001 and has been registered in the name of the current owner since 2005. Bailiffs attended property several times since 2003 to serve Field Calls and Statements of Claims. Property owner has contacted our office in response to debt recovery to enter into a payment arrangement which has not always been adhered to. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no response from the owner. The last payment made of \$100 was in January 2014 and the last direct contact between the owner and our office was in 2009.

Total currently outstanding is \$6,978.22.

Assessment 109208

Residential property with periodic arrears since 2007 and has been registered in the name of the current owner since 2004. Bailiffs have attended the property several times between 2009 and 2012. In 2012 the owner set up a direct debit of \$100 per fortnight in an attempt to pay her arrears. In 2014 we requested the owner increase their repayment amount and in June 2015 she increased the amount to \$150 per fortnight but it is not enough to repay the debt and the arrears have consequently been increasing. At the time that the owner increased the direct debit we did advise that this amount would be insufficient but the owner advised that she hoped to access a large sum from her tax and would repay then. Default Letter dated 29 September 2015 was posted and requested full payment within two weeks. There has been no response from the owner. Last payment received was 22 October 2015 and last contact between council and the owner was via email in June 2015.

Total currently outstanding is \$7,162.03.

Financial Implications:

The overall accrued debt of \$61,502.08 (as at 27/10/2015, accruing penalty interest daily) is a shortage in operational funds.

All legal fees incurred are fully recoverable over the sale of land and will not be at any cost to Council.

Policy Legislation:

Local Government Act, Dec 2014

Part 11.9 Recovery of rates
Division 3 Overriding statutory charge

- 170 *Overdue rates to be a charge on land*
If rates are not paid by the due date, the rates become a charge on the land to which they relate.
Exceptions:
1. Rates do not become a charge on land unless the owner of the land is a ratepayer who is liable for the rates that are in arrears.
2. Rates cannot become a charge on land within an Aboriginal community living area.
- 171 *Registration of charge*
(1) After rates have been in arrears for at least 6 months, the council may apply to the appropriate registration authority for registration of the charge over the land to which the charge relates.
(2) The registration authority must, on payment of the appropriate fee by the council:
 (a) register the charge as an overriding statutory charge; and
 (b) notify all persons with a registered interest in or over the land of the registration of the charge.
(3) Failure to give notice of the registration of the charge under subsection (2)(b) does not invalidate the registration of the charge.
(4) A registration authority must cancel registration of a charge if the council applies for the cancellation.
(5) The council must apply for cancellation if the liability to which the charge relates is fully satisfied, and may apply for cancellation for any other reason.
- 172 *Effect of registered charge*
While a charge is registered as an overriding statutory charge under this Division, it has priority over all other registered and unregistered mortgages, charges and encumbrances except a previously registered overriding statutory charge.

Division 4 Sale of land

- 173 *Power to sell land for non-payment of rates*
If rates have been in arrears for at least 3 years, and an overriding statutory charge securing liability for the rates has been registered for at least the last 6 months, the council may sell the land.
- 174 *Pre-conditions of sale*
(1) Before the council sells land for non-payment of rates, it must give a notice to the principal ratepayer for the land at the address appearing in the assessment record:
 (a) stating the period for which rates have been in arrears; and
 (b) stating the total amount currently outstanding on the land; and

(c) warning that if that amount is not paid in full within a stated period (at least 1 month) after the date of the notice, the council will sell the land for non-payment of rates.

(2) A copy of the notice must be given to:

- (a) any other person with a registered interest in the land; and
- (b) if the land is a pastoral or other lease granted by the Territory, or a mining tenement – the Minister administering the legislation under which the lease or mining tenement was granted.

(3) If the whereabouts of a person to whom a notice (or copy) is, after reasonable inquiries, not ascertained by the council, the notice may be given by:

- (a) publishing it in a newspaper circulating generally throughout the Territory; and
- (b) leaving a copy of the notice in a conspicuous place on the land.

175 *Sale of land*

(1) If the full amount of the outstanding rates is not paid within the time allowed in the warning notice, the council may sell the land.

(2) The sale must be by public auction.

Exceptions

1 If the land is a pastoral or other lease granted by the Territory, or a mining tenement, the sale must be made as approved by the Minister administering the legislation under which the lease or mining tenement was granted.

2 If the land is a leasehold estate granted by a Land Trust, the sale must be made as approved by the relevant Land Council.

(3) A public auction must be advertised:

- (a) on the council's website; and
- (b) on at least 2 separate occasions in a newspaper circulating generally throughout the Territory.

(4) If before the date of the sale, the outstanding rates (including costs incurred by the council with a view to sale of the land) are paid, the council must call off the sale.

(5) If an auction fails, the council may sell the land by private contract for the best price that it can reasonably obtain.

(6) If a council sells land under this section, the council may execute a conveyance of the land under its common seal.

(7) On registration of the conveyance, title to the land vests in the purchaser freed and discharged from all mortgages, charges and encumbrances securing the payment of money.

176 *Proceeds of sale*

(1) The council must apply the proceeds of the sale of the land as follows:

- (a) first in the payment of the costs incurred in selling the land under this Division;
- (b) secondly, in the payment of all liabilities secured on the land (including the liability to the council) in the order of their priority;
- (c) thirdly, in payment to the owner of the land.

(2) If the council fails, after reasonable inquiry, to discover the identity or whereabouts of a person entitled to payment under this section, the council may make the payment to the Public Trustee as unclaimed property.

(3) A payment made to the Public Trustee under subsection (2) vests in the Public Trustee under, and for the purposes of, section 59A of the Public Trustee Act.

RECOMMENDATION

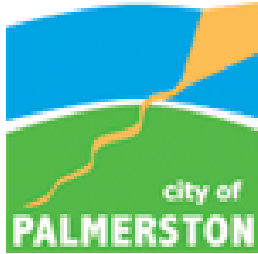
1. THAT Council receives Report Number 8/0770.
2. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100113.
3. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100498.
4. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 100821.
5. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 101930.
6. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 105820.
7. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 103759.
8. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 103882.
9. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 107951.
10. THAT Council approves the recommended process of power of sale of land for non-payment of rates for Assessment 109208.
11. THAT the Mayor and Chief Executive Officer be authorised to sign and seal all documentation in relation to the above mentioned properties, including discharge of statutory charges if full payment should occur.

Recommending Officer: Silke Reinhardt, Acting Director of Corporate Services

Any queries on this report may be directed to Silke Reinhardt, Acting Director of Corporate Services on telephone (08) 8935 9922 or email silke.reinhardt@palmerston.nt.gov.au.

Schedule of Attachments:

Attachment A – Example of Default letter



CITY OF PALMERSTON

COUNCIL OFFICES CIVIC PLAZA 2 CHUNG WAH TERRACE

PO BOX 1 PALMERSTON NT 0831

TEL: (08) 8935 9922 FAX: (08) 8935 9900

Email rates@palmerston.nt.gov.au

ABN: 420 601 76900

XXXXXXX
XXXXXXXXXX
PALMERSTON NT 0830

Dear Sir/Madam,

Re: ASSESSMENT NO: XXXXXX
PROPERTY ADDRESS: XX XXXXXXXXXXXX, Palmerston

I write in regards to your above property, which has accrued substantial arrears of municipal rates and charges.

Due to your continued failure to comply with repeated requests for payment, Council intends to commence further legal proceedings against you pursuant to Part 11.9 of the Northern Territory Local Government Act 2014.

These legal proceedings **will ultimately result in your property being seized and sold** to recover the outstanding rates, interest accruals and the costs incurred in pursuing this action.

In order to avoid the above action being commenced, Council requires payment of all arrears and penalty interest in full by the close of business, **2 weeks** from the date of this letter. Please note that due to previous conduct of your account, a negotiated payment arrangement over time will no longer be acceptable, a lump sum payment in full of **\$x,xxx.xx** is required.

Should the above amount not be received at Council's office by the due date, sale proceedings will be initiated without further notice.

The decision as to whether this course of action is pursued now rests with you. I strongly urge you to not ignore this notification.

Should you require any clarification in regards to this matter, you should contact me via silke.reinhardt@palmerston.nt.gov.au or on 08 8935 9922.

Yours sincerely,

Silke Reinhardt
Acting Director of Corporate Services
City of Palmerston

29 September 2015

CITY OF PALMERSTON

**Minutes of Special Confidential Council Meeting
held in Council Chambers, Civic Plaza, Palmerston
on Wednesday, 11 May 2016 at 5.01pm**

RELEASED TO THE PUBLIC RECORD

1. PRESENT

Elected Members: His Worship the Mayor Ian Abbott (Chair)
Deputy Mayor Seranna Shutt
Alderman Athina Pascoe-Bell
Alderman Andrew Byrne
Alderman Geoff Carter
Alderman Paul Bunker
Alderman Sue McKinnon

Staff: Ricki Bruhn, Chief Executive Officer
Mark Spangler, Director of Technical Services
Silke Reinhardt, Acting Director of Corporate and Community Services
Alyce Breed, Minute Secretary

Gallery: Nil

2. APOLOGIES

Nil

3. DEPUTATIONS / PRESENTATIONS

Nil

4. OFFICER REPORTS

4.1 Archer Pollution Abatement Notice (PAN) Audit

8/0870

Moved: Alderman Bunker
Seconded: Alderman McKinnon

1. THAT Council receives Report Number 8/0870.

CARRIED 8/1970–11/05/2016

Moved: Alderman Byrne
Seconded: Deputy Mayor Shutt

2. THAT Council adopts a staged approach to the closure of the Archer landfill site.

CARRIED 8/1971–11/05/2016

4.1 Archer Pollution Abatement Notice (PAN) Audit (continued)

8/0870

Moved: Alderman Byrne
Seconded: Alderman McKinnon

3. THAT Stage 1 works be tendered immediately.
4. THAT an allowance of \$2.45M be made in the 2016/17 draft budget for the construction of Stage 1 of the Archer Landfill Rehabilitation.

CARRIED 8/1972–11/05/2016

Moved: Alderman Byrne
Seconded: Alderman McKinnon

5. THAT Stage 2 & 3 works be undertaken in a subsequent dry season to Stage 1 works and that prior to tendering Stages 2 & 3, design be reviewed with a view to re-grading the site, forming drainage channels and reducing the required cut and fill at the site.

CARRIED 8/1973–11/05/2016

Moved: Alderman Bunker
Seconded: Alderman Carter

6. THAT the Mayor meet with the Northern Territory Government to discuss funding contributions to the closure of the Archer Landfill site.

CARRIED 8/1974–11/05/2016

Moved: Alderman Carter
Seconded: Alderman Byrne

7. THAT the resolutions only come back to the open session.

CARRIED 8/1975–11/05/2016

5. MOVE TO OPEN

Moved: Alderman McKinnon
Seconded: Alderman Byrne

THAT the Council move into the open session.

CARRIED 8/1976–11/05/2016

The meeting moved to the Open Session at 5.32pm

(Chair)

ITEM NO. 5.1 Archer Pollution Abatement Notice (PAN) Audit**FROM:** Director of Technical Services**REPORT NUMBER:** 8/0870**MEETING DATE:** 11 May 2016**Municipal Plan:****3. Environment & Infrastructure****3.3 Waste**

3.3 We are committed to providing comprehensive and effective waste management services to our community

Summary:

Following the unexpected receipt of cost information related to the Archer Landfill Closure Plan, Council commissioned an independent auditor to undertake an audit of the PAN reports and subsequent landfill closure design and report back on appropriateness in addition to making recommendations about areas where cost savings might be realised.

The Auditor's report is now available and the following officer's report discusses the findings and proposes a way forward that would see stage 1 of the landfill closure undertaken this coming dry season.

General:

Upon completion of the landfill site civil drawings a construction cost estimate was provided by the civil consultant. **Attachment A.** The closure was split into three stages. Expected costs for individual stages and a cost to undertake the works in one single stage are as follows.

Stage 1	\$2.444M
Stage 2	\$4.084M
Stage 3	\$3.385M
Total	\$9.913M
One Stage	\$9.716M

The current estimate is far in excess of previous estimates council has received for the landfill closure and in excess of the budgeted \$4M for the project.

Council has had an independent consultant review the closure plans and responses to the Pollution Abatement Notice (PAN). **Attachment B.** While the review discusses some possible opportunities to reduce the expected cost it does conclude that "the unit rate to cap the landfill based on QS Services cost estimate of approximately \$45/m² is consistent with Tonkin Consultant's experience based on landfills across Australia."

Opportunities to reduce cost

There are two areas identified in the independent consultant's report where costs may become less than the estimated values.

- Group 1. Those costs where a contractor may be able to provide the item of work at a rate cheaper than expected.
- Group 2. Those items where a change in work practice might result in a cheaper alternative method of construction.

Within Group 1 are the following:

- a) Hydro seeding/revegetation – QS Services suggest that this cost is of the order \$6.30/m² a total cost of \$1.48M. It is suggested in the review that this value at the time of tendering may well be a round half the estimate value. The difference being \$740k.
- b) Preliminary's – QS Services suggesting that preliminaries of 10% is reasonable. The review is suggesting that this value may be between 1 & 5%. At 5% the difference would be \$393k.
- c) Allowance for the contractor's margin – The review is suggesting that the contractor's margin is already provided for in the estimate unit rates. A difference of \$605k.
- d) QS Services contingency rate – Contingency rates are applied to account for unforeseen costs. In Metropolitan areas the relocation of unknown services are common and often expensive contingencies. In a setting like the landfill site it is unlikely these types of risks exist. A contingency of 5% is likely to be adequate.

Within Group 2 are the following:

- a) Review of the design to optimise current contours. Should Council choose to undertake stage 1 in 2016/17 a redesign aimed at optimising grades could be achieved in time to commence stage 2.
- b) Fill with additional imported waste (subject to EPA approval). This would require consent to reopen the landfill site to accept inert waste with a view to accepting material and placing it to fill the voids in the final landform. This option may give Council the opportunity to charge for the waste received. This approach would be coupled with a review of the final design levels.
- c) Review of revegetation approach. Saving could be achieved if seed was broadcast mechanically rather than hydro mulched. Undertaking the project in stages may also reduce irrigation demand.

Conclusions

While there may be opportunities to deliver this project at a lower cost the design review has highlighted one key finding, that being "The unit rate to cap the landfill based on QS Services cost estimate of approximately \$45/m² is consistent with Tonkin Consulting's experience based on landfills across Australia."

While a contractor will itemise his costs in the bill of quantities and some contractors may be able to undertake some aspects of the work cheaper than others the bottom line is that for landfill closures \$45/m² is a fair and reasonable estimate of the cost of works.

There appears to be good reason to undertake the works in stages. Firstly this will enable staff to have the design reviewed and to undertake further discussions with EPA. Staging also allows for sizeable chunks of the site to be serviced by the available water supply in the area during revegetation.

Financial Implications:

With staging the PAN works under the current estimates available to Council over three financial years, Council needs to consider certain financial aspects in regards to waste charges for residential properties and funding through sale of land income.

Currently staff have included the following scenario in the Draft budget 2016/17 and Long term financial plan 2016-2021. The following table shows the assumptions made by staff to fund the works over the coming three financial years.

Financial Year	2016/17	2017/18	2018/19
Waste Reserve Opening Balance	\$1,142,591	\$3,889,529	\$1,873,828
<i>Waste Charge per Connection</i>	<i>\$510</i>	<i>\$510*</i>	<i>\$510*</i>
+ Surplus generated for Waste Reserve	\$1,213,938	\$809,299	\$840,935
+ Loan withdraw	\$4,000,000		
+Sale of Land Income (lot 10029 and Part Lot 9608)		\$1,650,000	
-PAN capital works	\$2,445,000	\$4,085,000	\$3,385,000
-Other Waste related Capital Works	\$22,000	\$390,000	
Waste Reserve Closing Balance	\$3,889,529	\$1,873,828	(\$995,237)

* Council needs to be aware that depending on operational expenditures for waste collection and the interest being payable on the loan, the charge might need to be adjusted to generate the calculated surplus for the waste reserve.

There remains a deficit in year three of \$995,237 for the waste related expenditures being funded out of waste related income. Council has several options to resolve this predicted deficit in the 2018/19 financial year including funding through rates income, utilising other income from sale of land or internal borrowing from other reserves.

Staff are anticipating that the tender process and insight of the first two stages will generate savings from the initial estimate used in this costing model. Staff cannot quantify those savings at this point in time.

Legislation / Policy:

The rehabilitation and closure of the Archer landfill site is undertaken in response to a Pollution Abatement Notice (PAN) issued by the NT EPA. The PAN is issued pursuant to section 77 of the Waste Management and Pollution Control Act (the Act). The PAN is a statutory instrument requiring Council to address existing or potential future pollution at the Archer landfill site.

Under section 80 (1) of the Act a person found guilty of intentionally contravening or intentionally failing to comply with a PAN is liable to a penalty of up to \$5,000.

RECOMMENDATION

1. THAT Council receive Report Number 8/0870.
2. THAT Council adopts a staged approach to the closure of the Archer landfill site.
3. THAT stage 1 works be tendered immediately.
4. THAT an allowance of \$2.45M be made in the 2016/17 draft budget for the construction of stage 1 of the Archer Landfill Rehabilitation
5. THAT stage 2 & 3 works be undertaken in a subsequent dry season to stage 1 works and that prior to tendering stages 2 & 3 stages, design be reviewed with a view to re-grading the site, forming drainage channels and reducing the required cut and fill at the site.
6. THAT the resolutions only come back to the open session.

Recommending Officer: Mark Spangler, Director of Technical Services

Any queries on this report may be directed to Mark Spangler, Director of Technical Services on telephone (08) 8935 9958 or email mark.spangler@palmerston.nt.gov.au.

Schedule of Attachments:

- | | |
|---------------|---|
| Attachment A: | QS Services cost estimate and GHD civil drawings. |
| Attachment B: | Tonkin Consulting – Independent Rehabilitation Plan Review for Archer Waste Landfill. |



Tax agent
03649009

4 April 2016

Senior Civil Engineer - Waste Management
GHD
Level 15, 133 Castlereagh Street,
SYDNEY NSW 2000

Attention : Mr Chris Nivison-Smith

Dear Sir,

Re: Proposed Archer Landfill Rehabilitation, Palmerston

Further to your request we have prepared the attached Tender Estimate for the above project summarised below.

Description	Stage 1	Stage 2	Stage 3	One Stage
End Construction Cost	2,444,000.00	4,084,000.00	3,385,000.00	9,716,000.00
Consultant's Fees and Charges	Excl.	Excl.	Excl.	Excl.
NCCP and WASSEP Fees	Excl.	Excl.	Excl.	Excl.
Sub-Total	\$2,444,000.00	\$4,084,000.00	\$3,385,000.00	\$9,716,000.00
GST	\$244,400.00	408,400.00	\$338,500.00	971,600.00
NT Build Levy	\$2,700.00	\$4,500.00	\$3,800.00	\$10,700.00
Total Cost including GST	\$2,691,100.00	\$4,496,900.00	\$3,727,300.00	\$10,698,300.00

The above Tender Estimate is based on the quantities supplied by GHD Pty. Ltd.

The stage costs have not been escalated out to reflect a possible start date and represent April 2016 costs.

We trust this is in accordance with your requirements and should you have any queries, please do not hesitate to contact the under signed.

Yours faithfully,
QS Services

Charles H. Wright
AAIQS ICECA

Material Quantities Estimate - All Works

Client: City of Palmerston

Project:

Subject:

Job Number:

21-24584

Revision:

Prepared by:

Date of issue:

Checked by:

Date of review:

Item #	Description	Quantity	Units	Rate	Calculation	Gross Rate	Gross Extension
1 Site preparation							
1.01	Clearing and grubbing	235,100	m ²	0.55	129,305.00	0.75	175,797.07
2 Earthworks to top of seal bearing layer							
2.01	Excavate and relocate existing cover layer and waste material to top of seal bearing layer	72,100	m ³	16.00	1,153,600.00	21.75	1,568,380.97
2.02	Supply and install seal bearing layer	41,500	m ³	35.00	1,452,500.00	47.58	1,974,751.53
3 Final capping system							
3.01	Prepare subgrade surface for placement of capping system	235,100	m ²	2.05	481,955.00	2.79	655,243.63
3.02	Install subsoil layer using Principal supplied materials stockpiled on-site	117,600	m ³	16.10	1,893,360.00	21.89	2,574,124.31
3.03	Supply and install topsoil layer	23,600	m ³	40.50	955,800.00	55.06	1,299,461.28
3.04	Revegetate as per Specification	235,100	m ²	6.30	1,481,130.00	8.57	2,013,675.55
4 Surface water management							
4.01	Excavate and install surface water channel type 1	330	m	25.00	8,250.00	33.99	11,216.32
4.02	Excavate and install surface water channel type 2	250	m	18.00	4,500.00	24.47	6,117.99
4.03	Excavate and install perimeter drain	2,260	m	10.00	22,600.00	13.60	30,725.91
4.04	Excavate spoon drains	40	m ³	20.00	800.00	27.19	1,087.64
4.05	Install granular material for spoon drains	70	m ³	70.00	4,900.00	95.17	6,661.81
4.06	Install concrete for spoon drains (including mesh)	100	m ³	130.00	13,000.00	176.74	17,674.20
5 Access track							
5.01	Install separation geotextile for access tracks	10,400	m ²	5.00	52,000.00	6.80	70,696.78
5.02	Install granular material for access tracks	2,720	m ³	70.00	190,400.00	95.17	258,859.00
6 Landfill gas monitoring bores							
6.01	150 mm bore drilling to RL1 mAHD (17 bores)	81	m	210.00	17,010.00	285.51	23,126.01
SUMMARY							
Net Total					7,861,110.00		
Preliminaries, Include EMP, TMP, Etc.				10.0%	786,111.00		
Sub-Total					8,647,221.00		
Margin				7.0%	605,306.00		
Sub-Total					9,252,527.00		
Contingency/Escalation				5.0%	463,473.00		
Sub-Total					9,716,000.00		
GST				10.0%	971,600.00		
Total Construction Cost Including GST - Stage 1					\$10,687,600.00		\$10,687,600.00

Material Quantities Estimate - All Works**Client:** City of Palmerston**Project:****Subject:****Job Number:** 21-24584**Prepared by:****Checked by:****Revision:****Date of issue:****Date of review:**

Item #	Description	Quantity	Units	Rate	Calculation	Gross Rate	Gross Extension
Purpose:							
This Quantity Estimate is undertaken to provide information on the materials required for the Works.							
Assumptions:							
- The extent of the works will be as indicated on the design drawings							
Exclusions:							
- Client cost items - Contractor indirect cost items - Site establishment works - Temporary works required during the Works - Construction quality assurance works							
References:							
1. Design drawings (21-24584-C101 to C121) 2. Technical Specification 3. 3D modelling (using 12D).							
Disclaimer:							
This Quantity Estimate is an estimate only. Actual quantities may vary from those contained in this Quantity Estimate. GHD does not represent, warrant or guarantee the contents of this estimate.							
Notes:							
- No allowance has been made for increase in bulk after excavation and it has been assumed that all filling will be consolidated to its original bulk. - Excavations have been measured to the net area on plan by the depth. - No allowance for specified tolerances has been included in the quantities - No allowance for bulking or wastage has been included in the quantities							

Material Quantities Estimate - Stage 1

Client: City of Palmerston
 Project:
 Subject:

Job Number: 21-24584
 Prepared by:
 Checked by:

Revision:
 Date of issue:
 Date of review:

Item #	Description	Quantity	Units	Rate	Calculation	Gross Rate	Gross Extension
1	Site preparation						
1.01	Clearing and grubbing	61,500	m ²	0.55	33,825.00	0.76	46,828.16
2	Earthworks to top of seal bearing layer						
2.01	Excavate and relocate existing cover layer and waste material to top of seal bearing layer	10,400	m ³	16.00	166,400.00	22.15	230,368.23
2.02	Supply and install seal bearing layer	10,400	m ³	35.00	364,000.00	48.45	503,930.50
3	Final capping system						
3.01	Prepare subgrade surface for placement of capping system	61,500	m ²	2.05	126,075.00	2.84	174,541.31
3.02	Install subsoil layer using Principal supplied materials stockpiled on-site	30,800	m ³	16.10	495,880.00	22.29	686,508.40
3.03	Supply and install topsoil layer	6,200	m ³	40.50	251,100.00	56.07	347,628.98
3.04	Revegetate as per Specification	61,500	m ²	6.30	387,450.00	8.72	536,395.25
4	Surface water management						
4.01	Excavate and install surface water channel type 1		m				
4.02	Excavate and install surface water channel type 2		m				
4.03	Excavate and install perimeter drain	790	m	10.00	7,900.00	13.84	10,936.95
4.04	Excavate spoon drains	20	m ³	20.00	400.00	27.69	553.77
4.05	Install granular material for spoon drains	30	m ³	70.00	2,100.00	96.91	2,907.29
4.06	Install concrete for spoon drains (including mesh)	40	m ³	130.00	5,200.00	179.98	7,199.01
5	Access track						
5.01	Install separation geotextile for access tracks	3,610	m ²	5.00	18,050.00	6.92	24,988.86
5.02	Install granular material for access tracks	950	m ³	70.00	66,500.00	96.91	92,064.23
6	Landfill gas monitoring bores						
6.01	150 mm bore drilling to RL1 mAHD (17 bores)	81	m	210.00	17,010.00	290.73	23,549.06
	SUMMARY						
	Net Total				\$1,941,890.00		
	Preliminaries, Include EMP, TMP, Etc.			12.00%	\$233,027.00		
	Sub-Total				\$2,174,917.00		
	Margin			7.00%	\$152,245.00		
	Sub-Total				\$2,327,162.00		
	Contingency/Escalation			5.02%	\$116,838.00		
	Sub-Total				\$2,444,000.00		
	GST			10.0%	\$244,400.00		
	Total Construction Cost Including GST - Stage 1				\$2,688,400.00		\$2,688,400.00

Material Quantities Estimate - Stage 2

Client: City of Palmerston
Project:
Subject:

Job Number: 21-24584
Prepared by:
Checked by:

Revision:
Date of issue:
Date of review:

Item #	Description	Quantity	Units	Ref. ID	Calculation	Gross Rate	Gross Extension
1 Site preparation							
1.01	Clearing and grubbing	106,600	m ²	0.55	58,630.00	0.76	81,165.52
2 Earthworks to top of seal bearing layer							
2.01	Excavate and relocate existing cover layer and waste material to top of seal bearing layer	56,600	m ³	16.00	905,600.00	22.15	1,253,684.01
2.02	Supply and install seal bearing layer	1,500	m ³	35.00	52,500.00	48.45	72,679.34
3 Final capping system							
3.01	Prepare subgrade surface for placement of capping system	106,600	m ²	2.05	218,530.00	2.84	302,526.02
3.02	Install subsoil layer using Principal supplied materials stockpiled on-site	53,300	m ³	16.10	858,130.00	22.29	1,187,968.04
3.03	Supply and install topsoil layer	10,700	m ³	40.50	433,350.00	56.07	599,916.04
3.04	Revegetate as per Specification	106,600	m ²	6.30	671,580.00	8.72	929,714.12
4 Surface water management							
4.01	Excavate and install surface water channel type 1	330	m	25.00	8,250.00	34.61	11,421.04
4.02	Excavate and install surface water channel type 2	190	m	18.00	3,420.00	24.92	4,734.54
4.03	Excavate and install perimeter drain	240	m	10.00	2,400.00	13.84	3,322.48
4.04	Excavate spoon drains	20	m ³	20.00	400.00	27.69	553.75
4.05	Install granular material for spoon drains	30	m ³	70.00	2,100.00	96.91	2,907.17
4.06	Install concrete for spoon drains (including mesh)	40	m ³	130.00	5,200.00	179.97	7,198.72
5 Access track							
5.01	Install separation geotextile for access tracks	1,080	m ²	5.00	5,400.00	6.92	7,475.59
5.02	Install granular material for access tracks	280	m ³	70.00	19,600.00	96.91	27,133.62
6 Landfill gas monitoring bores							
6.01	150 mm bore drilling to RL1 mAHD		m				
SUMMARY							
	Net Total				\$3,245,090.00		
	Preliminaries, Include EMP, TMP, Etc.			12.00%	\$389,411.00		
	Sub-Total				\$3,634,501.00		
	Margin			7.00%	\$254,416.00		
	Sub-Total				\$3,888,917.00		
	Contingency/Escalation			5.02%	\$195,083.00		
	Sub-Total				\$4,084,000.00		
	GST			10.0%	\$408,400.00		
	Total Construction Cost Including GST - Stage 1				\$4,492,400.00		\$4,492,400.00

Material Quantities Estimate - Stage 3

Client: City of Palmerston
Project:
Subject:

Job Number: 21-24584
Prepared by:
Checked by:

Revision:
Date of issue:
Date of review:

Item #	Description	Quantity	Units	Ref. ID	Calculation	Gross Rate	Gross Extension
1 Site preparation							
1.01	Clearing and grubbing	67,100	m ²	0.55	36,905.00	0.76	51,089.44
2 Earthworks to top of seal bearing layer							
2.01	Excavate and relocate existing cover layer and waste material to top of seal bearing layer	5,100	m ³	16.00	81,600.00	22.15	112,962.96
2.02	Supply and install seal bearing layer	29,700	m ³	35.00	1,039,500.00	48.45	1,439,031.81
3 Final capping system							
3.01	Prepare subgrade surface for placement of capping system	67,100	m ²	2.05	137,555.00	2.84	190,424.26
3.02	Install subsoil layer using Principal supplied materials stockpiled on-site	33,600	m ³	16.10	540,960.00	22.29	748,877.97
3.03	Supply and install topsoil layer	6,800	m ³	40.50	275,400.00	56.07	381,249.99
3.04	Revegetate as per Specification	67,100	m ²	6.30	422,730.00	8.72	585,206.27
4 Surface water management							
4.01	Excavate and install surface water channel type 1		m				
4.02	Excavate and install surface water channel type 2	70	m	18.00	1,260.00	24.92	1,744.28
4.03	Excavate and install perimeter drain	1,250	m	10.00	12,500.00	13.84	17,304.37
4.04	Excavate spoon drains	20	m ³	20.00	400.00	27.69	553.74
4.05	Install granular material for spoon drains	30	m ³	70.00	2,100.00	96.90	2,907.13
4.06	Install concrete for spoon drains (including mesh)	40	m ³	130.00	5,200.00	179.97	7,198.62
5 Access track							
5.01	Install separation geotextile for access tracks	5,720	m ²	5.00	28,600.00	6.92	39,592.41
5.02	Install granular material for access tracks	1,500	m ³	70.00	105,000.00	96.90	145,356.75
6 Landfill gas monitoring bores							
6.01	150 mm bore drilling to RL1 mAHD		m				
SUMMARY							
	Net Total				\$2,689,710.00		
	Preliminaries			12.00%	\$322,766.00		
	Sub-Total				\$3,012,476.00		
	Margin			7.00%	\$210,874.00		
	Sub-Total				\$3,223,350.00		
	Contingency/Escalation			5.01%	\$161,650.00		
	Sub-Total				\$3,385,000.00		
	GST			10.0%	\$338,500.00		
	Total Construction Cost Including GST - Stage 1				\$3,723,500.00		\$3,723,500.00



CITY OF PALMERSTON

ARCHER LANDFILL

REHABILITATION

21-24584



DRAWING LIST

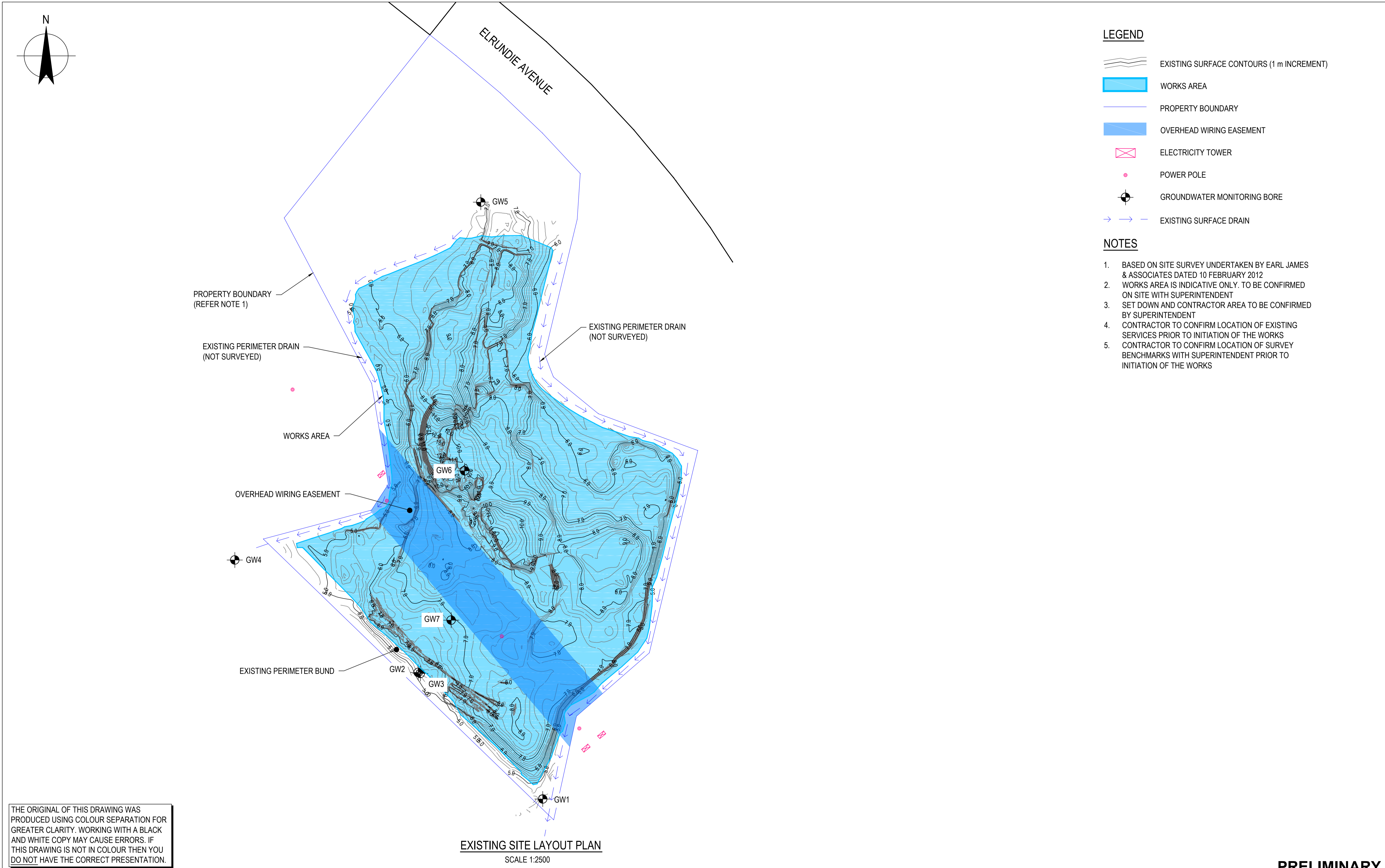
DRG No.	DRAWING TITLE
21-24584-C101	LOCALITY PLAN AND DRAWING LIST
21-24584-C102	EXISTING SITE LAYOUT PLAN
21-24584-C103	TOP OF SEAL BEARING LAYER PLAN
21-24584-C104	TOP OF FINAL LANDFORM PLAN
21-24584-C105	LONG SECTION
21-24584-C106	CROSS SECTIONS - SHEET 1 OF 4
21-24584-C107	CROSS SECTIONS - SHEET 2 OF 4
21-24584-C108	CROSS SECTIONS - SHEET 3 OF 4
21-24584-C109	CROSS SECTIONS - SHEET 4 OF 4
21-24584-C110	TYPICAL DETAILS
21-24584-C111	STAGING PLANS - STAGE 1 OF 3
21-24584-C112	STAGING PLANS - STAGE 2 OF 3
21-24584-C113	STAGING PLANS - STAGE 3 OF 3
21-24584-C120	LANDFILL GAS MONITORING - BORE LOCATION PLAN
21-24584-C121	LANDFILL GAS MONITORING - TYPICAL DETAIL

DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION. WHERE THE DRAWINGS & THE SPECIFICATION DO NOT AGREE, THE CONTRACTOR SHALL SEEK CLARIFICATION FROM THE SUPERINTENDENT.

THE ORIGINAL OF THIS DRAWING WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY. WORKING WITH A BLACK AND WHITE COPY MAY CAUSE ERRORS. IF THIS DRAWING IS NOT IN COLOUR THEN YOU DO NOT HAVE THE CORRECT PRESENTATION.

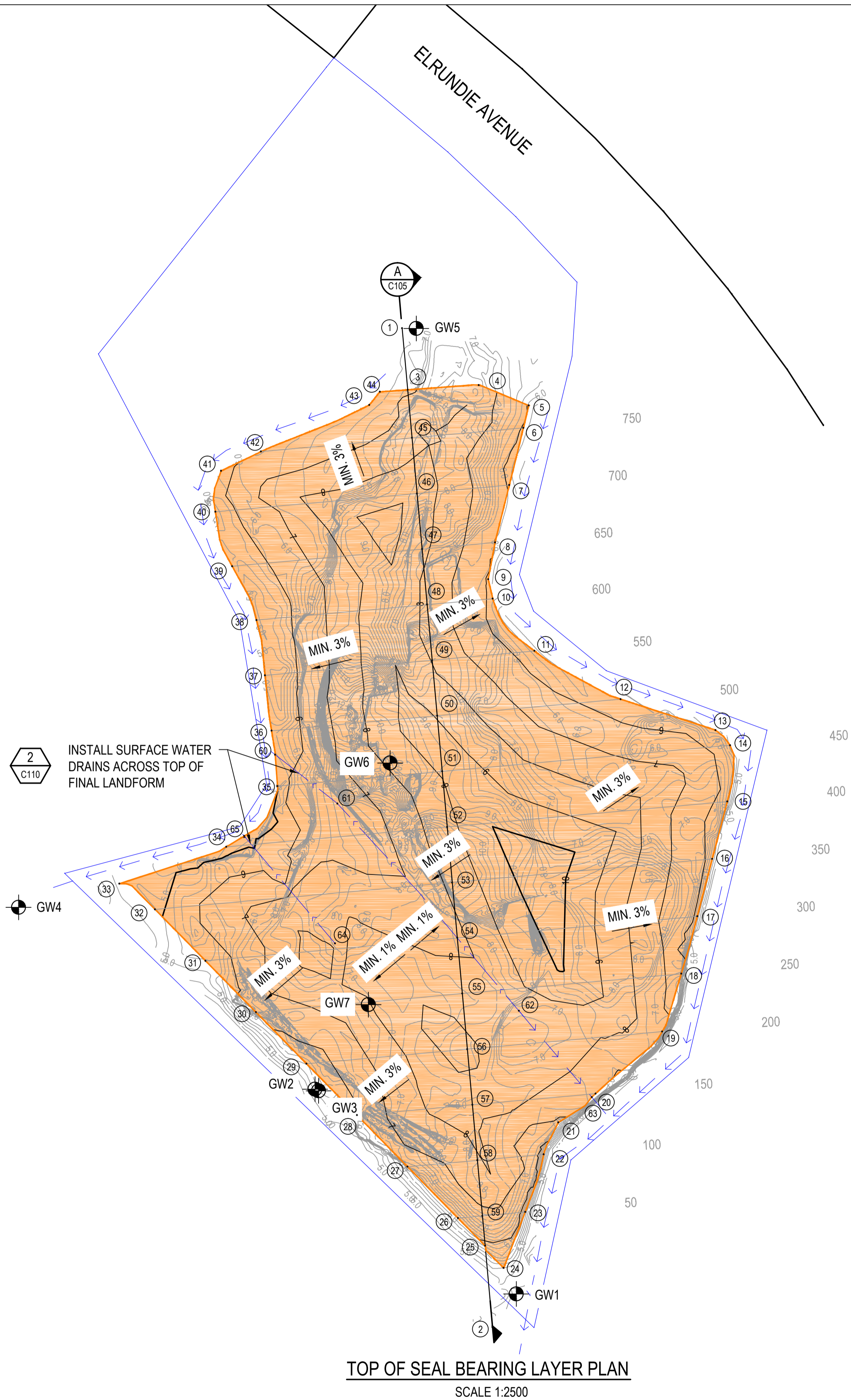
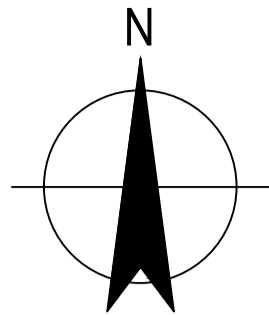
PRELIMINARY

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THE ORIGINAL OF THIS DRAWING WAS PRODUCED USING COLOUR SEPARATION FOR GREATER CLARITY. WORKING WITH A BLACK AND WHITE COPY MAY CAUSE ERRORS. IF THIS DRAWING IS NOT IN COLOUR THEN YOU DO NOT HAVE THE CORRECT PRESENTATION.

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LEGEND

- EXISTING SURFACE CONTOURS (1 m INCREMENT)
- TOP OF SEAL BEARING LAYER CONTOURS (1 m INCREMENT)
- PROPERTY BOUNDARY
- TOP OF SEAL BEARING LAYER
- GROUNDWATER MONITORING BORE
- EXISTING PERIMETER DRAIN
- SURFACE WATER DRAIN

NOTES

- EXTENT OF CAPPING AREAS ARE INDICATIVE ONLY; TO BE CONFIRMED ON SITE WITH SUPERINTENDENT
- THE CONTRACTOR SHALL SEPARATE ANY WASTE MATERIAL FROM EXCAVATED MATERIAL AND RELOCATE THE MATERIAL WITHIN THE CAPPING AREA AS SOON AS PRACTICABLE TO LOCATIONS APPROVED BY THE SUPERINTENDENT AS PER THE SPECIFICATION
- WASTE MATERIALS EXPOSED BY THE CONTRACTOR SHALL BE COVERED WITH A MIN. 150 mm THICK LAYER OF CLEAN MATERIAL BY THE END OF EACH WORKING DAY
- LOCAL WASTE SETTLEMENT MAY IMPACT ON LAYER THICKNESS MEASUREMENTS. THE CONTRACTOR SHALL USE SUITABLE METHODS (SUCH AS DEPTH MARKERS) TO ENSURE LAYER THICKNESSES ARE ACHIEVED. THE METHODS USED SHALL BE IN ACCORDANCE WITH THE APPROVED WORK METHOD STATEMENT. ANY VOIDS CAUSED BY DEPTH MARKERS (OR SIMILAR) SHALL BE FILLED FOLLOWING REMOVAL
- THE CONTRACTOR SHALL EXTEND AND REINSTATE MONITORING BORES GW6 AND GW7 AS PART OF THE CAPPING INSTALLATION TO THE SATISFACTION OF THE SUPERINTENDENT

SET OUT TABLE - TOP OF SEAL BEARING LAYER

PT	EASTING	NORTHING	R.L.
1	714910.60	8615020.79	
2	714991.62	8614125.63	
3	714915.60	8614965.51	6.74
4	714979.44	8614969.70	7.42
5	715024.20	8614951.40	5.95
6	715019.35	8614931.41	5.94
7	715006.73	8614880.07	5.93
8	714993.93	8614828.70	5.99
9	714987.79	8614795.72	5.91
10	714991.94	8614778.32	5.84
11	715029.26	8614731.49	5.50
12	715106.64	8614688.29	5.43
13	715191.74	8614660.53	5.39
14	715204.66	8614646.96	5.33
15	715202.22	8614596.53	5.80
16	715188.76	8614545.11	5.77
17	715175.29	8614493.69	5.96
18	715160.90	8614442.18	6.53
19	715143.78	8614390.43	7.19
20	715084.09	8614334.83	7.11
21	715050.67	8614308.97	6.88
22	715037.68	8614280.42	5.62
23	715020.98	8614228.70	5.79
24	715001.68	8614178.62	5.00
25	714985.03	8614198.43	5.85
26	714960.67	8614223.24	6.18
27	714915.40	8614269.35	6.59
28	714870.13	8614315.46	5.87
29	714824.87	8614361.56	5.43
30	714779.60	8614407.67	6.43

PT	EASTING	NORTHING	R.L.
31	714734.33	8614453.78	5.17
32	714689.07	8614499.89	4.99
33	714657.10	8614522.90	4.85
34	714752.84	8614555.86	4.60
35	714798.84	8614610.23	5.01
36	714793.51	8614659.95	5.04
37	714787.66	8614709.63	5.00
38	714779.96	8614759.13	5.00
39	714758.25	8614807.37	5.00
40	714743.15	8614856.14	5.32
41	714748.27	8614892.83	6.00
42	714784.06	8614910.12	6.00
43	714881.11	8614951.83	6.00
44	714890.63	8614963.68	6.00
45	714919.51	8614922.38	7.62
46	714924.01	8614872.58	8.57
47	714928.52	8614822.78	8.22
48	714933.03	8614772.99	7.78
49	714937.53	8614723.19	7.96
50	714942.04	8614673.40	8.92
51	714946.55	8614623.60	9.14
52	714951.05	8614573.80	8.69
53	714955.56	8614524.01	8.25
54	714960.05	8614474.37	7.75
55	714964.57	8614424.41	8.51
56	714969.08	8614374.62	9.10
57	714973.59	8614324.82	8.32
58	714978.10	8614275.02	7.87
59	714982.60	8614225.23	6.71

SET OUT TABLE - SURFACE WATER DRAINS

PT	EASTING	NORTHING
60	714796.79	8614638.46
61	714852.67	8614594.75
62	715015.31	8614408.99
63	715080.65	8614331.69
64	714850.41	8614469.32
65	714769.02	8614565.61

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Drawn C. N-SMITH

Designer C. N-SMITH

Drafting Check

Design Check

Approved (Project Director)
Date

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Client CITY OF PALMERSTON
Project ARCHER LANDFILL REHABILITATION
Title TOP OF SEAL BEARING LAYER PLAN

Original Size
A1 Drawing No: 21-24584-C103

Rev: A

PRELIMINARY

LEGEND

- ## LEGEND
- | | |
|---|--|
|  | EXISTING SURFACE CONTOURS (1 m INCREMENT) |
|  | TOP OF FINAL LANDFORM CONTOURS (1 m INCREMENT) |
|  | PROPERTY BOUNDARY |
|  | TOP OF FINAL LANDFORM |
|  | GROUNDWATER MONITORING BORE |
|  | EXISTING PERIMETER DRAIN |
|  | SURFACE WATER DRAIN |

NOTES

- ## NOTES
1. LOCAL WASTE SETTLEMENT MAY IMPACT ON LAYER THICKNESS MEASUREMENTS. THE CONTRACTOR SHALL USE SUITABLE METHODS (SUCH AS DEPTH MARKERS) TO ENSURE LAYER THICKNESSES ARE ACHIEVED. THE METHODS USED SHALL BE IN ACCORDANCE WITH THE APPROVED WORK METHOD STATEMENT. ANY VOIDS CAUSED BY DEPTH MARKERS (OR SIMILAR) SHALL BE FILLED FOLLOWING REMOVAL.
 2. THE CONTRACTOR SHALL EXTEND AND REINSTATE MONITORING BORES GW6 AND GW7 AS PART OF THE CAPPING INSTALLATION TO THE SATISFACTION OF THE SUPERINTENDENT

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TOP OF FINAL LANDFORM PLAN

SCALE 1:2500

PRELIMINARY

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TOP OF FINAL LANDFORM PLAN

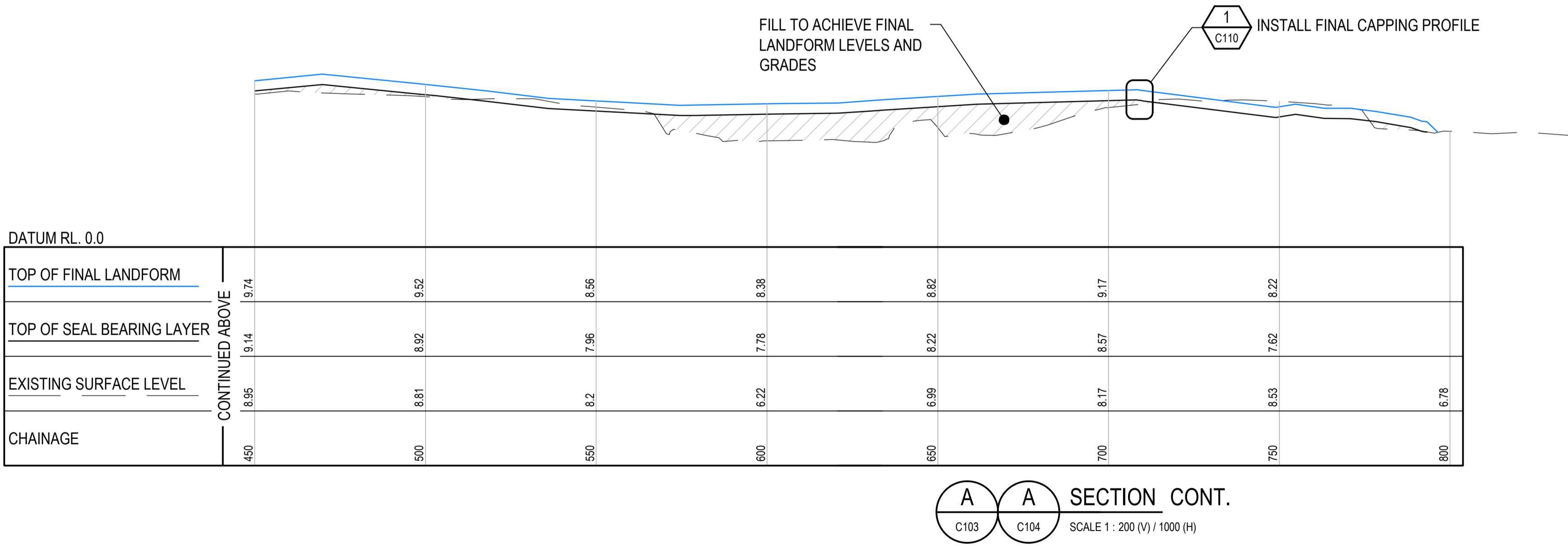
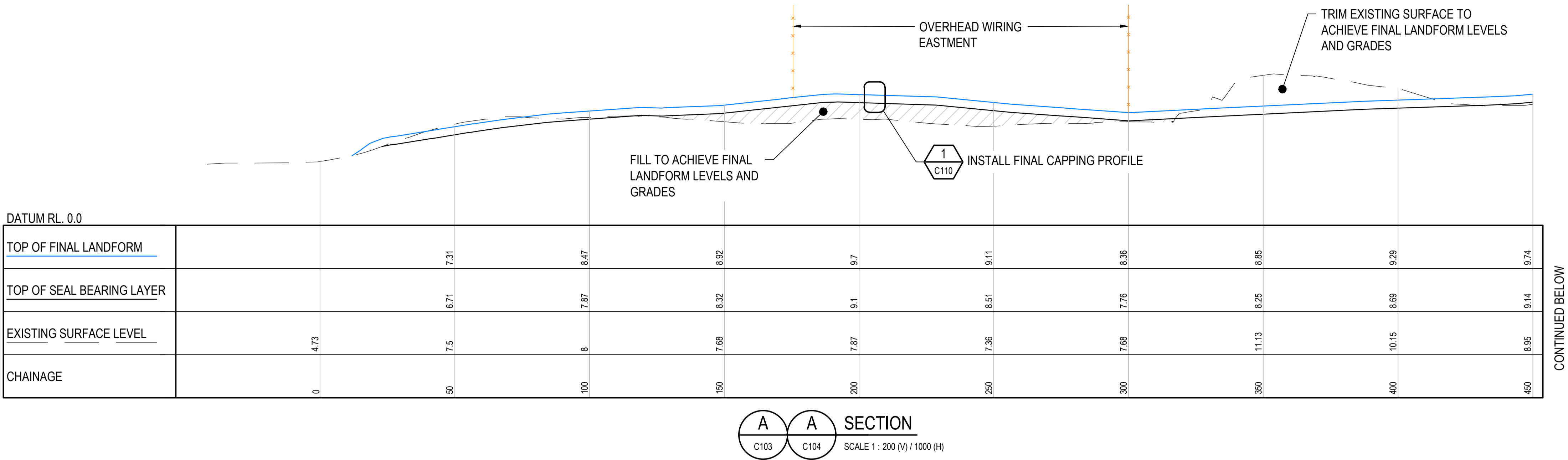
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PRELIMINARY

[illegible]

NOTES

1. SURFACE WATER DRAINS NOT SHOWN. REFER DRAWING C110 FOR MORE DETAILS



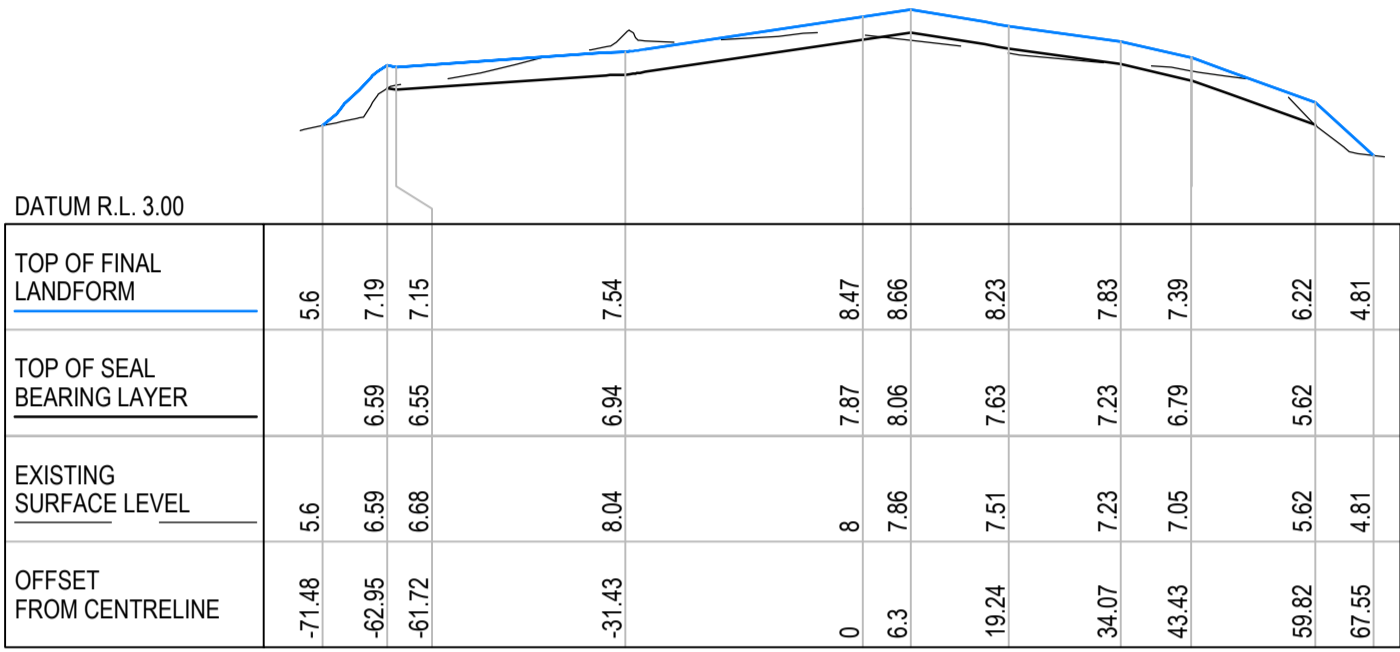
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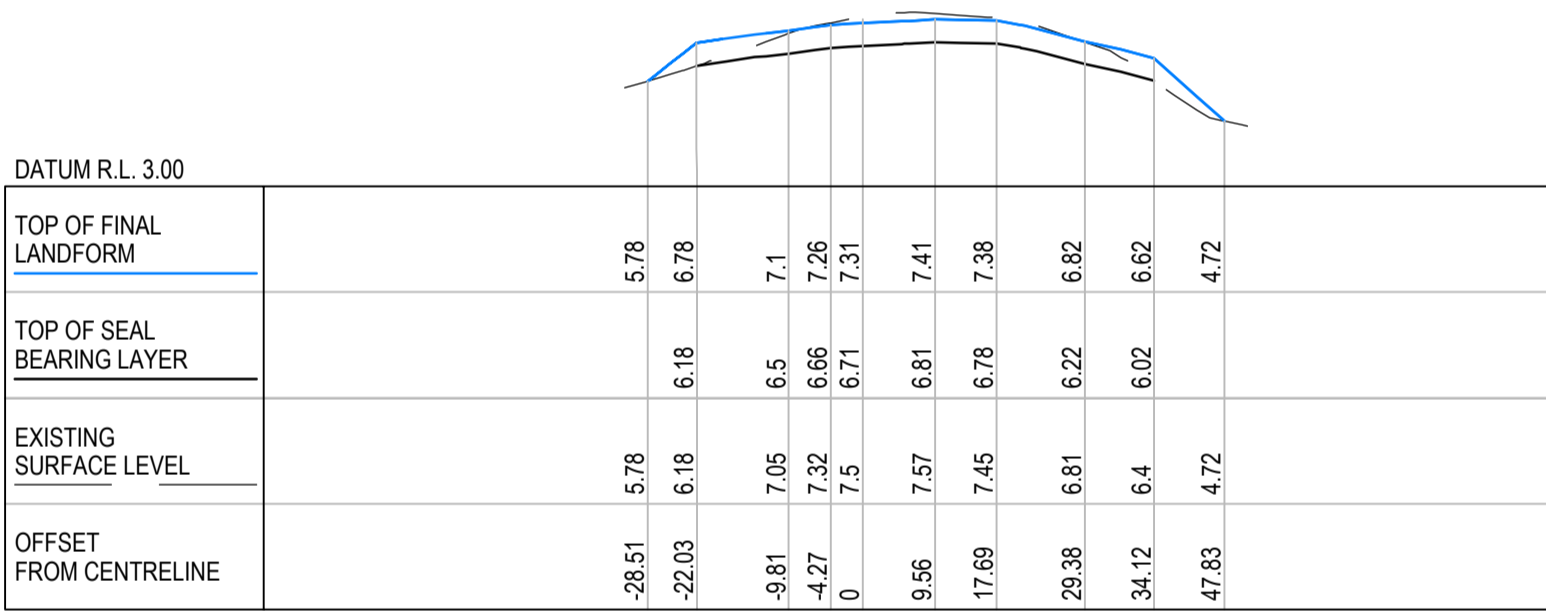
															DO NOT SCALE					Drawn C. N-SMITH		Designer C. N-SMITH		Client		CITY OF PALMERSTON ARCHER LANDFILL REHABILITATION LONG SECTION									
															Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.					Drafting Check		Design Check		Project											
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																				Date					Original Size										
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A	INITIAL ISSUE				CN								15.03.16																						
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NOTES

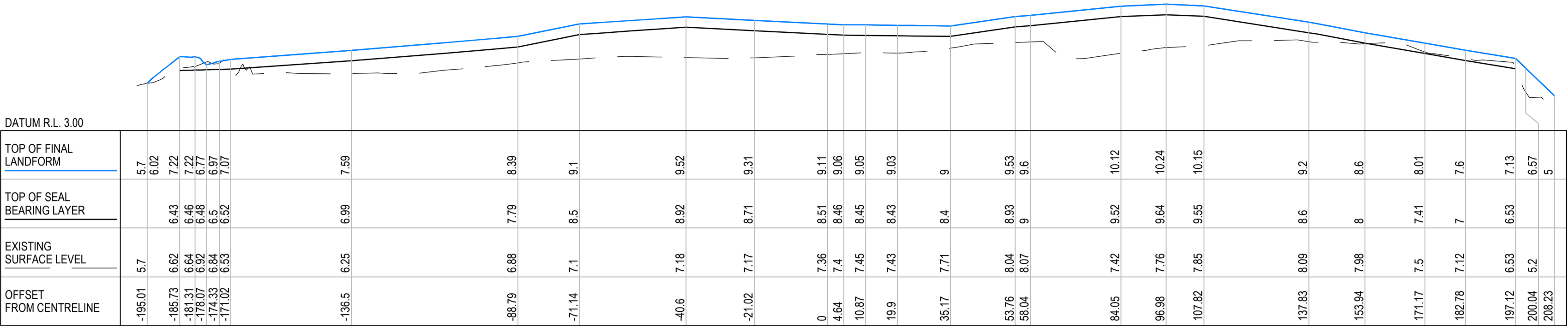
1. SURFACE WATER DRAINS NOT SHOWN. REFER DRAWING C110 FOR MORE DETAILS



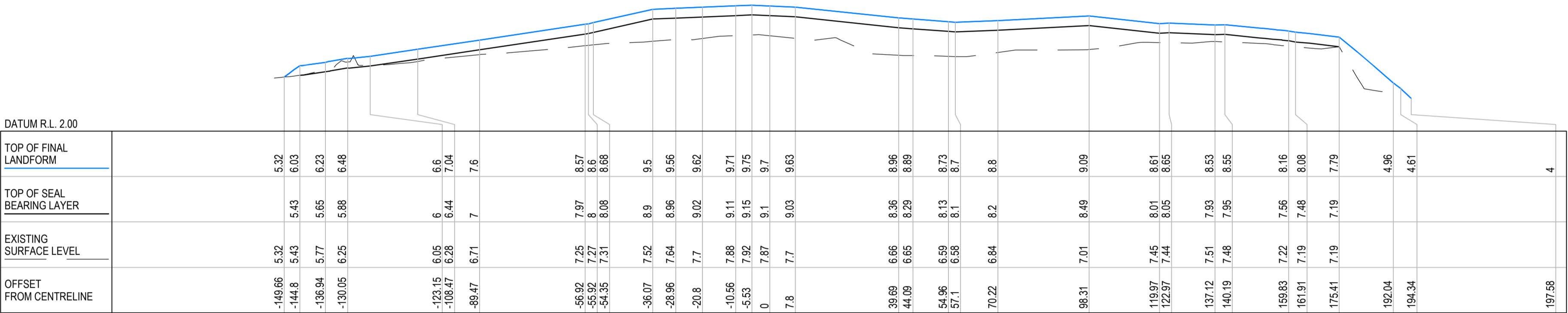
CH 100



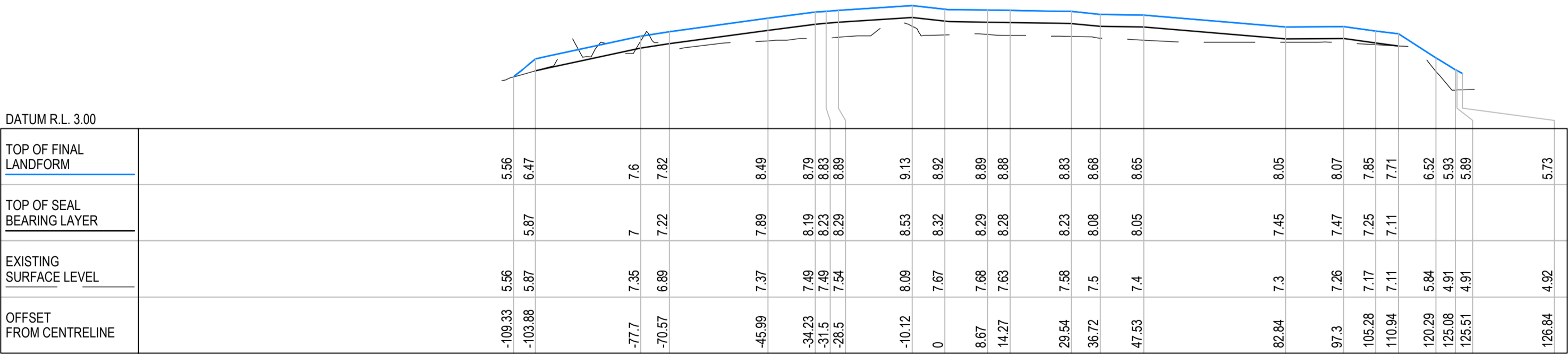
CH 50



CH 250



CH 200

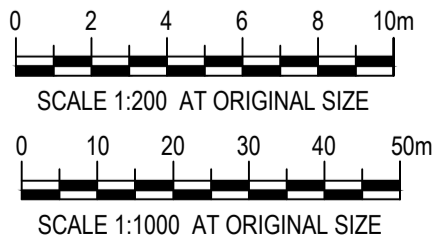


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Approved (Project Director)			
Date			
Scale	AS SHOWN		

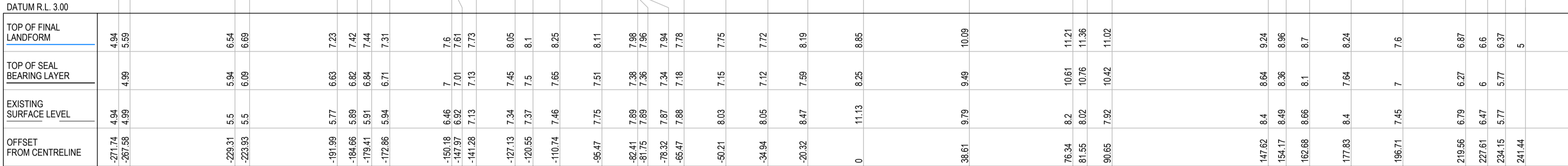
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Project ARCHER LANDFILL REHABILITATION
Title CROSS SECTIONS - SHEET 1 OF 4

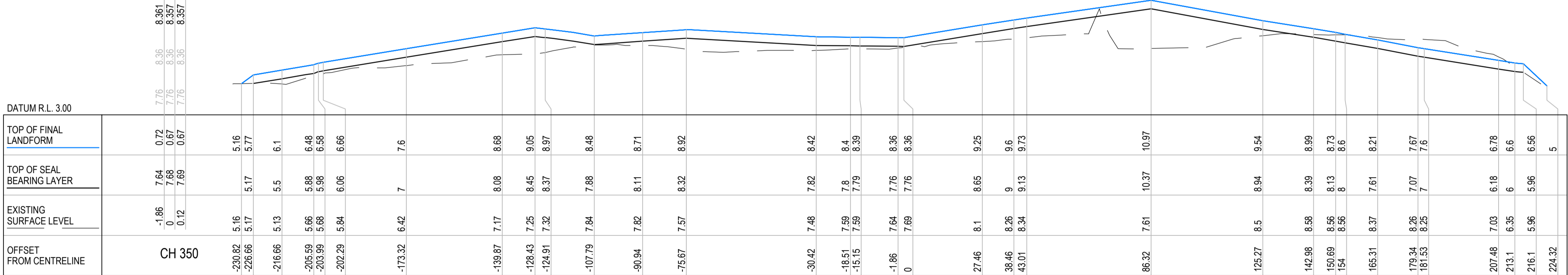
Original Size
A1 Drawing No: 21-24584-C106

Rev: A

1. SURFACE WATER DRAINS NOT SHOWN. REFER DRAWING C110 FOR MORE DETAILS



CH 350



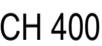
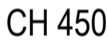
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PRELIMINARY

[illegible]

1. SURFACE WATER DRAINS NOT SHOWN. REFER
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Date	

Designer C. N-SMITH

Design Check

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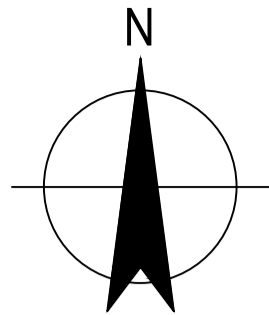
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Original Size
A1 Drawing No: **21-24584-C108**

Rev: **A**



SURFACE WATER DRAIN



ELRUNDIE AVENUE

LEGEND

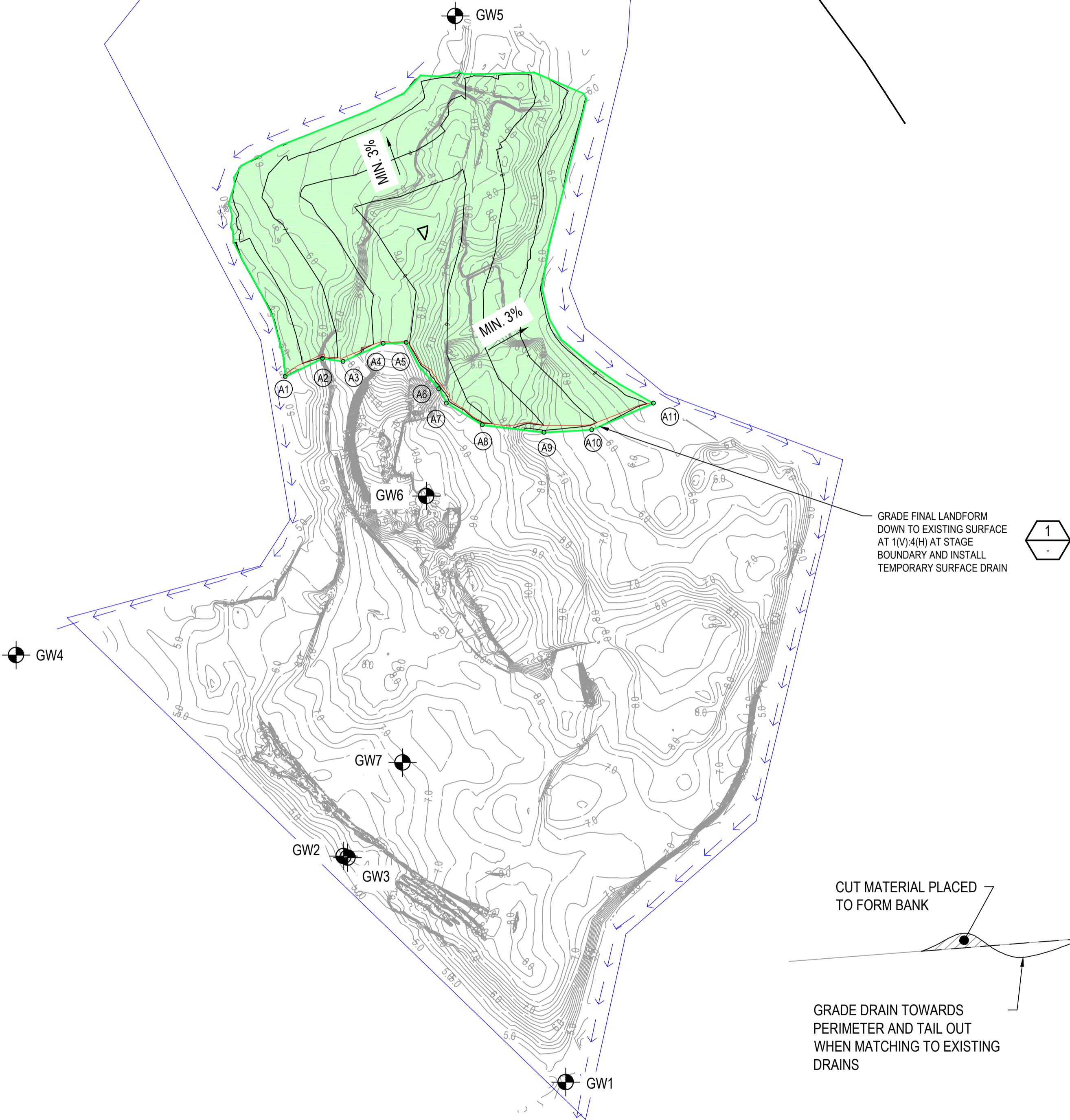
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- TOP OF FINAL LANDFORM CONTOURS (1 m INCREMENT)
- PROPERTY BOUNDARY
- TOP OF FINAL LANDFORM
- EXISTING PERIMETER DRAIN
- SURFACE WATER DRAIN

NOTES

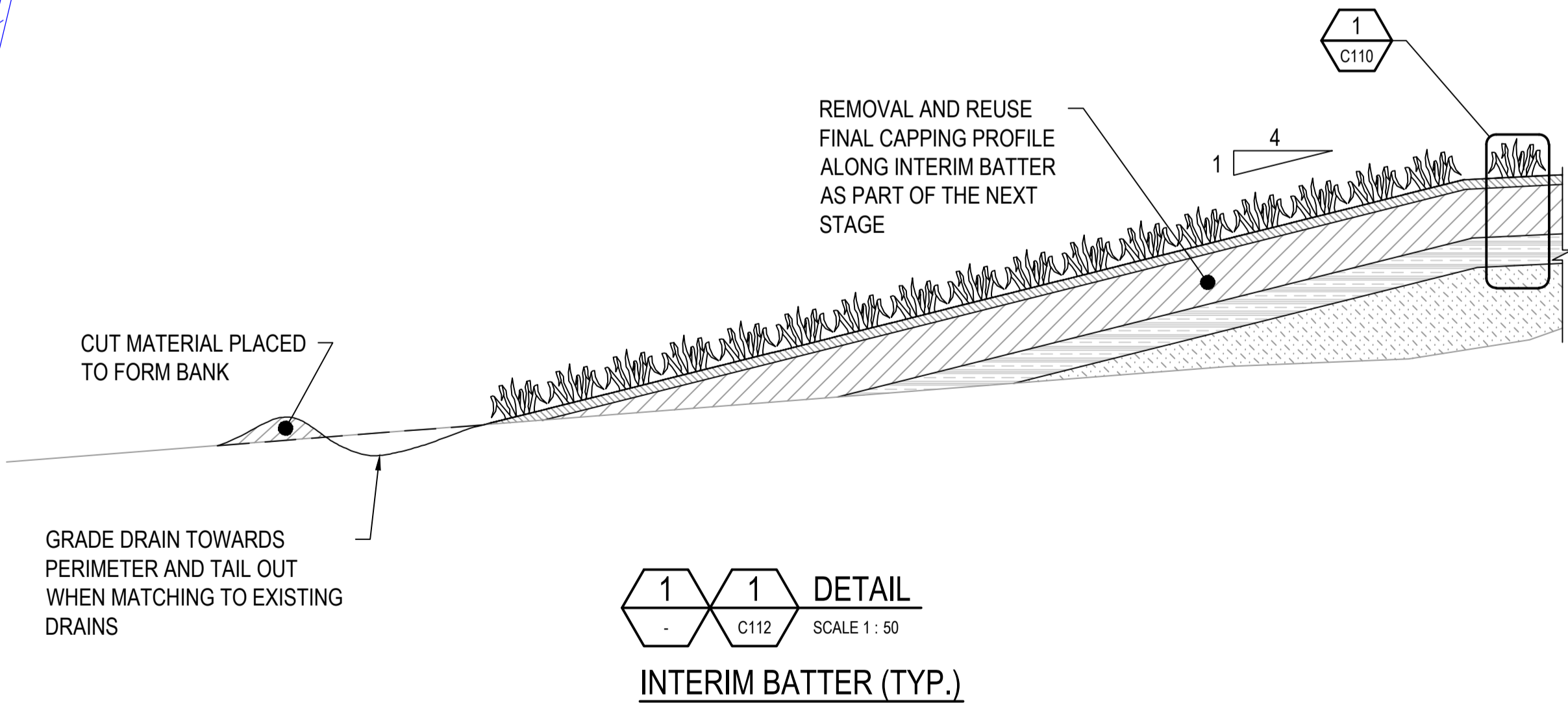
- STAGE BOUNDARIES ARE INDICATIVE ONLY AND SHALL BE CONFIRMED ON SITE IWTH THE SUPERINTENDENT

SET OUT TABLE - INTERIM BATTER

PT	EASTING	NORTHING
1	710783.06	8614724.35
2	710813.38	8614739.18
3	710830.14	8614736.70
4	710862.67	8614751.22
5	710881.34	8614752.08
6	710907.86	8614714.50
7	710914.00	8614702.94
8	710943.18	8614685.20
9	710993.24	8614679.05
10	711031.94	8614681.22
11	711082.19	8614702.79



TOP OF FINAL LANDFORM PLAN - STAGE 1
SCALE 1:2500



1 1 DETAIL
SCALE 1: 50
INTERIM BATTER (TYP.)

PRELIMINARY

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Drawn A WALKER

Designer C. N-SMITH

Drafting Check

Design Check

Approved (Project Director)

Date

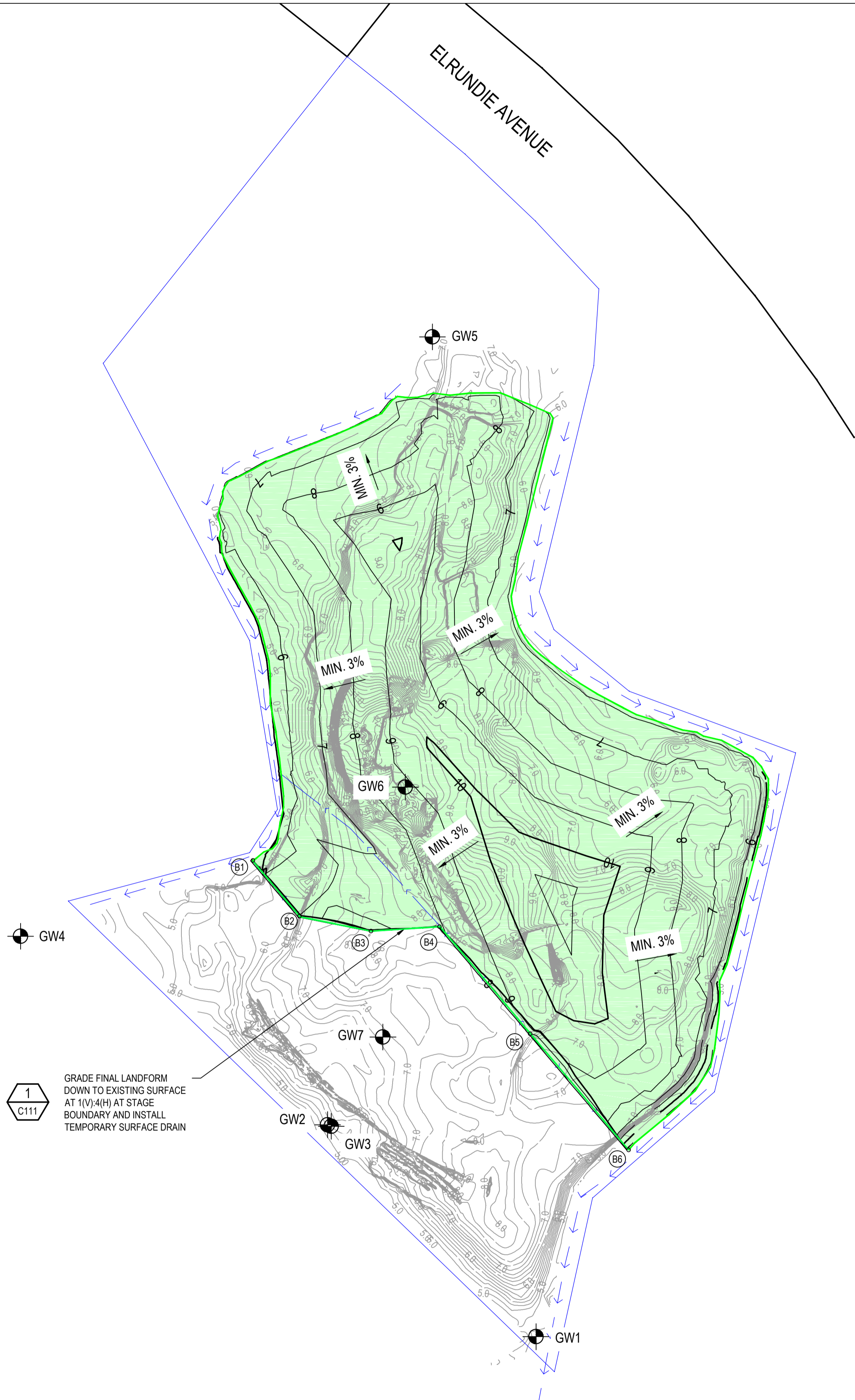
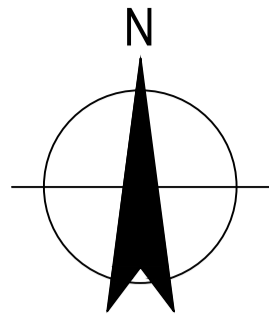
Scale 1:2500

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Client CITY OF PALMERSTON
Project ARCHER LANDFILL REHABILITATION
Title STAGING PLAN
STAGE 1 OF 3

Original Size A1 Drawing No: 21-24584-C111

Rev: A



LEGEND

- EXISTING SURFACE CONTOURS (1 m INCREMENT)
- TOP OF FINAL LANDFORM CONTOURS (1 m INCREMENT)
- PROPERTY BOUNDARY
- TOP OF FINAL LANDFORM
- EXISTING PERIMETER DRAIN
- SURFACE WATER DRAIN

NOTES

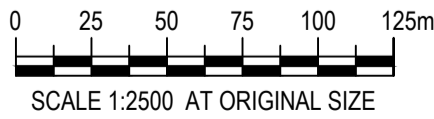
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SET OUT TABLE - INTERIM BATTER

PT	EASTING	NORTHING
B1	712767.85	8614567.36
B2	712808.11	8614519.12
B3	712870.26	8614506.23
B4	712929.41	8614510.10
B5	713007.97	8614417.43
B6	713093.20	8614316.84

PRELIMINARY

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A	INITIAL ISSUE		AW			15.03.16



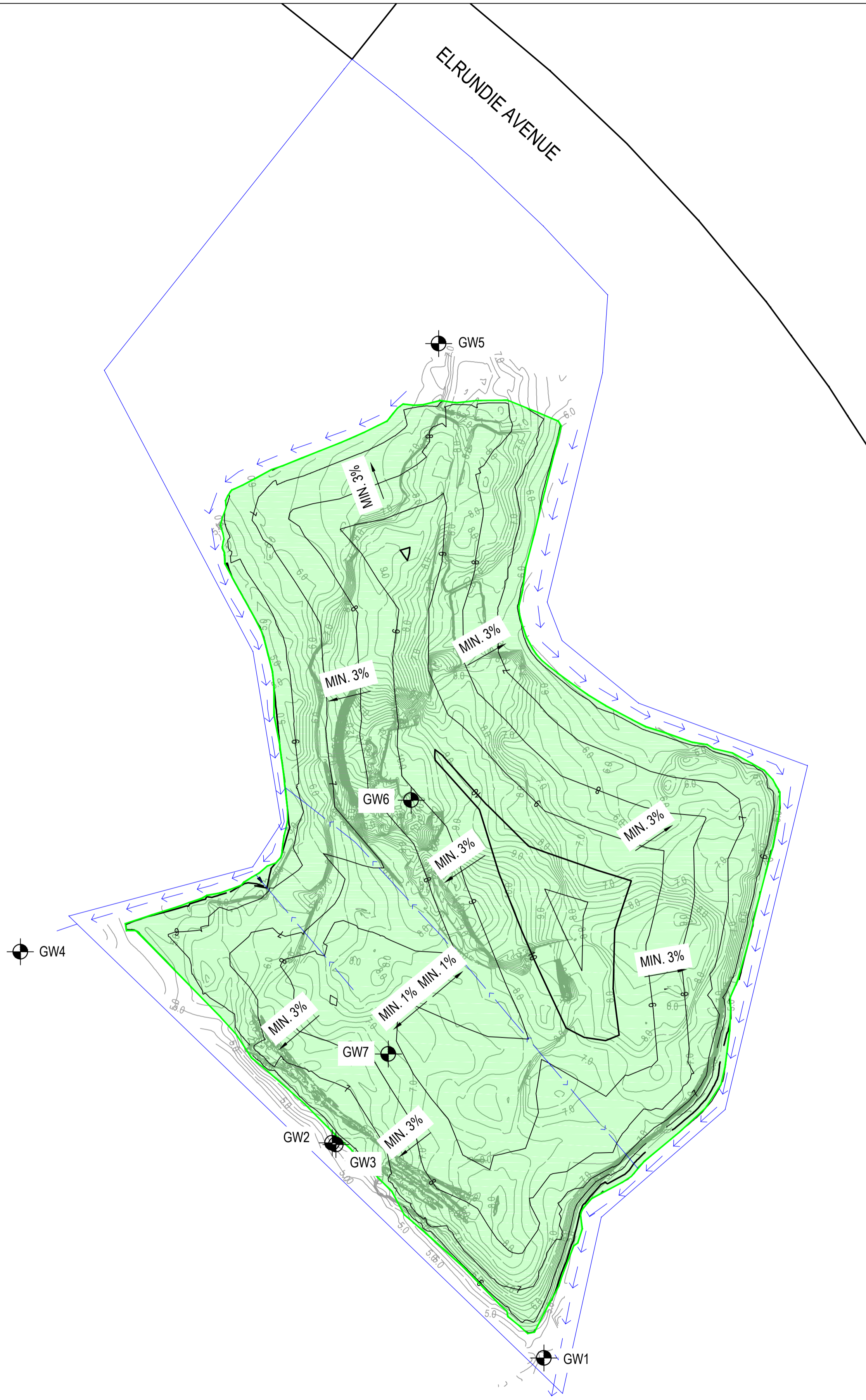
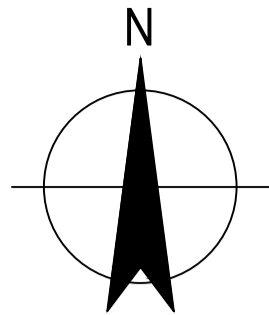
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Drafting Check		Design Check	
Approved (Project Director)		Date	
Scale	1:2500	This Drawing must not be used for Construction unless signed as Approved	

Client	CITY OF PALMERSTON
Project	ARCHER LANDFILL REHABILITATION
Title	STAGING PLAN STAGE 2 OF 3
Original Size	A1
Drawing No:	21-24584-C112
Rev:	A



TOP OF FINAL LANDFORM PLAN - STAGE 3

SCALE 1:2500

LEGEND

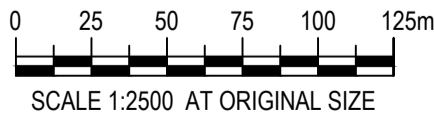
- EXISTING SURFACE CONTOURS (1 m INCREMENT)
- TOP OF FINAL LANDFORM CONTOURS (1 m INCREMENT)
- PROPERTY BOUNDARY
- TOP OF FINAL LANDFORM
- EXISTING PERIMETER DRAIN
- SURFACE WATER DRAIN

NOTES

- STAGE BOUNDARIES ARE INDICATIVE ONLY AND SHALL BE CONFIRMED ON SITE IWTH THE SUPERINTENDENT

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	Approved (Project Director) Date		Title STAGING PLAN STAGE 3 OF 3
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LEGEND



— > — SURFACE WATER DRAIN

NOTES

- ## NOTES
1. BORE LOCATIONS ARE APPROXIMATE ONLY AND SHALL BE CONFIRMED WITH THE SUPERINTENDENT PRIOR TO DRILLING
 2. BORES SHALL BE INSTALLED USING SUITABLE DRILLING RIGS AND EQUIPMENT
 3. THE CONTRACTOR MAY ENCOUNTER PERCHED GROUNDWATER OR GROUNDWATER BEARING ZONES DURING DRILLING AND IT MAY BE NECESSARY TO ALTER THE GAS MONITORING BORE INSTALLATION TO CATER FOR SUCH FEATURES. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT IF A PERCHED GROUNDWATER TABLE OR GROUNDWATER BEARING ZONE IS ENCOUNTERED DURING DRILLING AND NOT PROCEED WITH THE INSTALLATION OF THE MONITORING BORE UNTIL ADVISED BY THE SUPERINTENDENT
 4. WHERE THE BORES ARE LOCATED ON ADJOINING SITES, THE SUPERINTENDENT SHALL FACILITATE ACCESS AND THE CONTRACTOR SHALL COMPLY WITH ALL DIRECTIONS IN RELATION TO ACCESSING THESE SITES AND MINIMISING THE IMPACTS THAT MAY OCCUR FROM ACCESSING THE SITE AND UNDERTAKING THE WORKS
 5. ALL DRILLING CUTTINGS AND OTHER WASTE GENERATED BY THE WORKS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THEY SHALL BE NEATLY STOCKPILED DURING DRILLING AND SUITABLY DISPOSED OF BY THE CONTRACTOR PRIOR TO COMPLETION OF THE WORKS. THE WASTE MAY BE INCORPORATED INTO THE REGRADING WORKS ACROSS THE SITE SUBJECT TO APPROVAL FROM THE SUPERINTENDENT

SET OUT TABLE - LANDFILL GAS MONITORING BORES (INDICATIVE)

SET OUT TABLE - LANDFILL GAS MONITORING BORES (INDICATIVE)					
PT	EASTING	NORTHING	R.L.	TARGET R.L.	DRILL DEPTH
LFG01	714752.93	8614570.92	4.48	1	3.48
LFG02	714774.25	8614701.69	4.95	1	3.95
LFG03	714725.31	8614840.68	5.17	1	4.17
LFG04	714812.11	8614943.31	6.19	1	5.19
LFG05	714914.65	8614985.50	6.80	1	5.80
LFG06	714954.65	8614988.44	7.52	1	6.52
LFG07	714992.98	8614986.31	6.74	1	5.74
LFG08	715029.39	8614971.40	6.21	1	5.21
LFG09	715054.72	8614961.52	6.24	1	5.24
LFG10	715044.92	8614920.75	6.19	1	5.19
LFG11	715033.23	8614872.14	5.64	1	4.64
LFG12	715022.85	8614828.98	5.82	1	4.82
LFG13	715097.15	8614712.50	5.46	1	4.46
LFG14	715237.81	8614660.41	5.27	1	4.27
LFG15	715202.53	8614513.09	5.05	1	4.05
LFG16	715167.59	8614367.22	4.79	1	3.79
LFG17	715061.00	8614271.47	4.60	1	3.60

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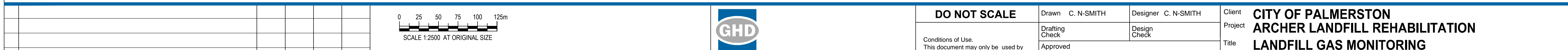
LANDFILL GAS MONITORING BORE LOCATION PLAN


SCALE 1:2500

PRELIMINARY

LANDFILL GAS MONITORING BORE LOCATION PLAN

MONITORING BORE LOCATION PLAN

[illegible]

 <p>Level 15, 133 Castlereagh Street, Sydney NSW 2000 Australia F +61 2 9238 7100 F +61 2 9238 7199 E sydney@ghd.com W www.ghd.com</p>	DO NOT SCALE		Drawn C. N-SMITH	Designer C. N-SMITH	Client Project Title Original Size Drawing No.	CITY OF PALMERSTON ARCHER LANDFILL REHABILITATION LANDFILL GAS MONITORING BORE LOCATION PLAN	Rev. A
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Project	ARCHER LANDFILL REHABILITATION
Title	LANDFILL GAS MONITORING EARTHQUAKE PLAN

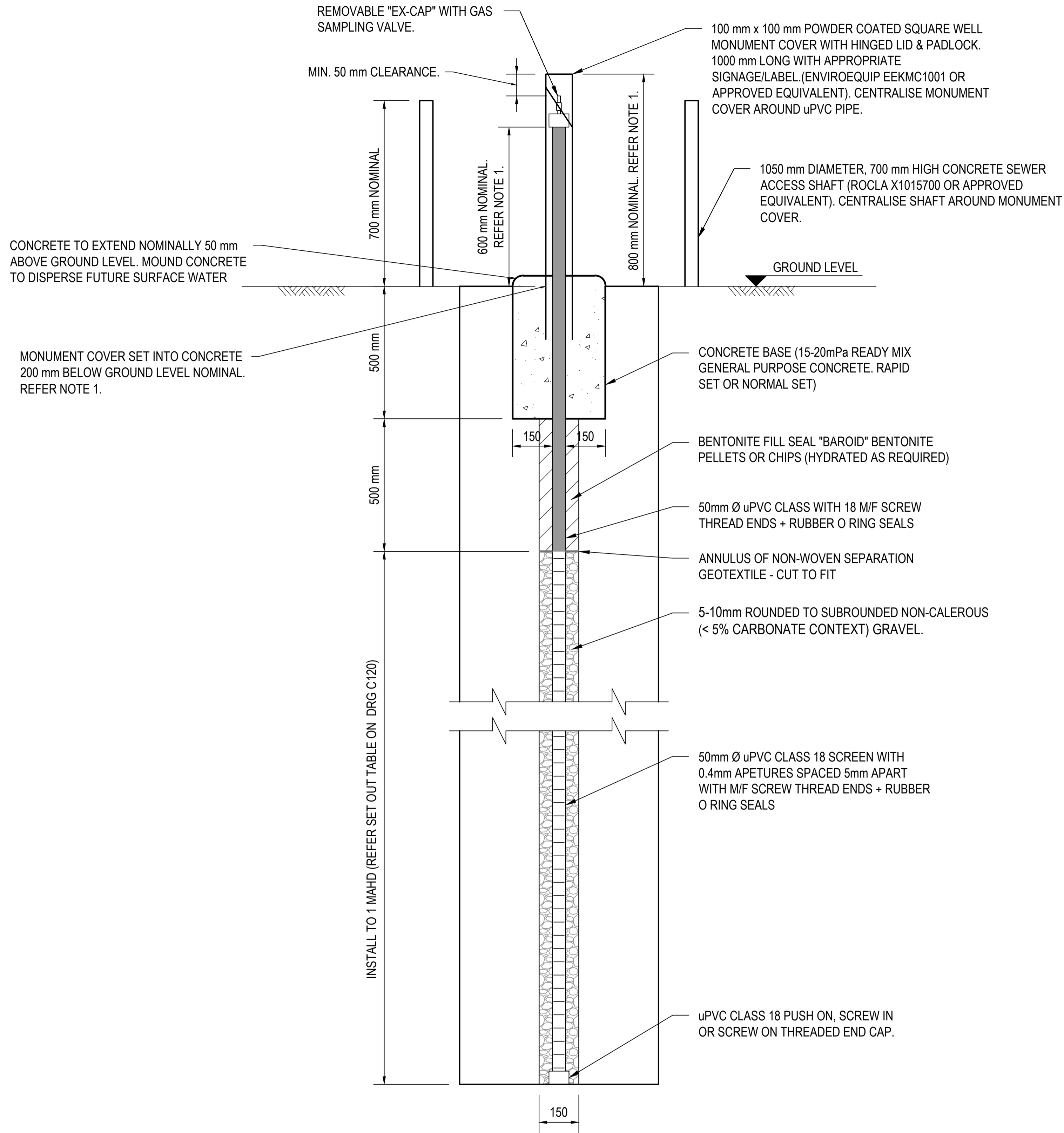
Client	CITY OF PALMERSTON
Project	ARCHER LANDFILL REHABILITATION
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NOTES

1. ADJUST MONUMENT COVER AS REQUIRED TO ALLOW READY REMOVAL OF "EX-CAP" DURING FUTURE MONITORING EVENTS AND TO ALLOW MONUMENT COVER TO FULLY CLOSE.



SCALE 1 : 10

LANDFILL GAS MONITORING BORE (TYP.)

PRELIMINARY

A	INITIAL ISSUE		DL		15.03.16
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director



SCALE 1:10 AT ORIGINAL SIZE



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DO NOT SCALE		Drawn D. LEE	Designer M. WELSH	Client CITY OF PALMERSTON Project ARCHER LANDFILL REHABILITATION Title LANDFILL GAS MONITORING TYPICAL DETAIL
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20160444_Archer Landfill

2 May 2016

Director Technical Services
City of Palmerston

Attention: Mark Spangler

Dear Mark

INDEPENDENT REHABILITATION PLAN REVIEW FOR ARCHER WASTE LANDFILL

Tonkin Consulting is pleased to provide this independent review of Archer Landfill Rehabilitation Plan and associated requirements pertaining to the Pollution Abatement Notice (PAN) (no: 2015/1).

Introduction

Archer Waste Landfill (the Site), owned by City of Palmerston (CoP), is located at 240 Elrondie Avenue, Archer, Northern Territory and has operated as a Landfill for approximately 20 years. The landfill operated under Environment Protection Authority (EPA) Licence EPL69-02 until closure in 2011. CoP currently operates the Site as a waste transfer station under EPA Licence (EPL96 issued December 2012).

CoP received a Pollution Abatement Notice (PAN) in 2015 which sets out the required reports which form a basis for the development of the landfill closure plan and aftercare plan. All the required reports for the PAN have now been undertaken and assessed by a suitably qualified auditor.

This review has been commissioned to provide Council with an independent high level assessment of the rehabilitation requirements determined by the PAN against the approved rehabilitation plan. Specifically this review has focused on the proposed cap design and estimated rehabilitation costs.

Background Review

As part of this assessment, the following relevant documents have been considered:

- Pollution Abatement Notice 2015/1
- NT EPA (2013) Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites (NT EPA Guidelines)
- EPA Licences: EPL69-02 and EPL96
- QS Services cost estimate
- GHD (2012) Landfill Closure Plan
- GHD (2015A) Archer Landfill Aftercare Management Plan
- GHD (2015B) Archer Landfill Rehabilitation Management Plan
- GHD (2015C) Review of Preliminary Landfill Gas Risk Assessment
- GHD (2015D) Review of Environment Monitoring Program
- GHD (2015E) Review of Rehabilitation Plan
- GHD (2016) Technical Specification Landfill Rehabilitation Works

Attachment 1 presents a summary of relevant information contained within the listed documents, from which the following commentary has been developed.

Pollution Abatement Notice [PAN] (2015/1)

Relevant actions detailed in the PAN include the requirement for an approved rehabilitation plan consistent with the requirements of NT EPA Guidelines. This requirement has been delivered with the relevant documents including GHD (2015B) and GHE (2015E). It is noted the PAN also requires the implementation schedule within the rehabilitation plan specifying an 18 month close out timeline from the date of issue (April 2015).

EPA Licences

The licence EPL69-02 which is relevant to the landfilling activity has been superseded by EPL96 which applies to the operation of the transfer facility (only). Relevant considerations to the rehabilitation plan include the types of wastes permitted to be landfilled (EPL69-02) – that include only green waste and inert materials. An assumption that this is the limit of waste landfilled would reduce the likelihood that chemically reactive materials deposited in the landfill are likely to be present at sufficient levels to cause impact to groundwater. This consideration may have implications to the type of protective measures required. It is noted however that the EPL69-02 had a commencement date of June 2010, by which time it is understood the landfill was majority filled.

NT EPA Guidelines (2013)

It is noted the NT guidelines provides design objectives for capping systems, but not prescriptive details such as compaction, permeability or detailed classification of soil type. The prescribed requirement is that the seepage of the cap must not exceed the seepage of the liner. It is noted there is no liner below the Archer landfill and therefore this prescribed objective cannot be reasonably achieved. The NT EPA Guidelines provide an alternative that appears suitable to apply in these circumstances: *the final cover should be a minimum of 600 mm of low permeability soil and be compacted and graded in order to shed water and prevent ponding*, together with a general description of a cover system as: *intermediate soil cover; low permeability layer; and topsoil layer*.

Archer Landfill Rehabilitation Plan (GHD, 2015B)

The Archer Landfill Rehabilitation Plan (ALRP) provides relevant background information to consider the sites setting and management strategies. The site located on a former wetland, with potential acid sulphate soils, indicates the site is likely under tidal influence (supported by leachate and groundwater data), and it is probable these conditions will produce some natural background methane and hydrogen sulphide gas (similar to landfill gas). Groundwater monitoring has also identified low or minimal impacts from landfill leachate. Based on this understanding the design objective within the ALRP of: *reducing infiltration into the landfilled waste via the final landform regrading rather than through the components of the final capping layer* would appear suitable. The recommended cap design within the ALRP includes:

- 0.1 m imported topsoil layer with revegetation including shallow rooted local grasses and shrubs
- 0.5 imported subsoil layer
- 0.3 m seal bearing layer.

A comparison was provided against the NT EPA guidelines to support its suitability.

The ALRP also includes an implementation schedule that provides a scheduled date of completion of capping 4 years from commencement which appears inconsistent with the PAN's requirement for 18 months from the date of issue.

It is also noted that landfill gas risk is yet to be fully characterised due to limited data. This data gap should be addressed to ensure additional control measures will not be required as part of the final capping plan.

Review of Rehabilitation Plan (GHD, 2015E)

This review undertaken by a qualified person pursuant to section 68 of the Act confirms the ALRP is consistent with the NT EPA Guidelines.

Preliminary Technical Specification Landfill Rehabilitation Works (GHD, 2015B Appendix C)

This report is prepared for information purposes only therefore is not considered a formal technical specification approved under the report cover GHD (2015E).

Technical Specification Landfill Rehabilitation Works (GHD, 2016)

Materials

The report details the technical specification for materials and procedures to be implemented for the construction of landfill rehabilitation works. The specification notes that CoP has materials available for purchase and use as part of the Works, with the Contractors responsible for transport and blending the material to conform to the specification. A procurement plan is also required from the Contractor detailing sources and quantities. Material specifications describe a relatively broad class of acceptable soil type's (gravels to clayey sands).

It is noted that a significant difference between the GHD (2012) and QS Services (2016) cost estimate's (refer *Cost Estimate Review* below) was the supply of materials (excluded from GHD's estimate). Where CoP has materials available, opportunities for potential cost savings (margin costs) may exist in the material procurement process.

Construction and quality control

Construction quality control (CQC) requirements detail moisture and dry density testing requirements in addition to tolerances for layer construction. This includes:

- Material placement (i.e. 200 mm – 300 mm layers)
- Compaction and moisture content
- Thickness tolerances per layer
- Quality assurance testing.

Given the design objective for reducing infiltration by landform rather than components (ALRP), opportunities for further savings may exist through a reduction in the scope of CQC. Savings could be part of a broader CQC revision, undertaken in conjunction with increasing CoPs role in quality assurance of pre-supply materials.

Review Summary

The design objective and recommended cap design within the ALRP would appear to meet with the requirements of the NT EPA guidelines. Further it is Tonkin Consulting opinion the design has considered the Archer Landfill setting and risk profile and given the information made available we do not consider the proposed plan to be excessive to baseline requirements.

Cost Estimates Review

Cost estimates for undertaking the rehabilitation plan were originally provided in the Landfill Closure Plan (GHD, 2012) and more recently have been provided by QS Services (2016). The age and relevant limitations of the GHD report should be noted. The preliminary cost estimate provided by GHD provided a total cost of \$3.15 M for a final cap with 5% grade, whereas the QS Services estimate provided a total cost of approximately \$9.72 M. For comparative purposes and a detailed breakdown of cost estimates provided by both GHD and QS Services is presented in Attachment 2. For comparative purposes the QS Services cost estimate was compared against GHD's highest cost (for a 5% grade).

Notable outcomes of this comparison include:

- GHD costing excluded capping material supply, the QS Services estimate appears to provide for the supply of externally sourced material (approximately 64,500 m³). Material costs are not separated in the QS Services Estimate from the construction cost; however, based on unit rate differentials estimated to be at least \$1.4 M. Tonkin Consulting experience suggests this is likely to be a minimum cost for this element.
- A significant discrepancy between unit rates for seeding (hydroseeding/revegetation) between GHD (\$0.25/m²) and QS Services (\$6.30/m²) contributed to a net difference between the two cost estimates of \$1.4 M. In Tonkin Consulting's experience the cost of this elements is more likely to be in the lower mid-range of these costs. For consideration at \$2/m² the likely cost reduction from QS Services estimate would be approximately \$1 M, although this price will likely be dependent on the erosion control applied for the works. .
- The QS Services Cost Estimate includes allowance for the following construction activities, not included in the GHD estimate: surface water management, access track, LFG bores. The total cost of these activities from QS Services was \$313,460. Tonkin Consulting experience suggests these cost are reasonable.
- The QS Services Cost Estimate includes a 10% allowance of total project value for preliminaries, which we consider to be high. Recently tendered rates indicate that 1%-5% of total project value would be reasonable.
- The QS Services Cost Estimate includes a 7% allowance of the total project value for the Contractor's margin, however, it is considered that the rates provided would sufficient to cover the Contractor's margin.
- GHD contingency allowance was \$167,373 greater than QS Services, with estimated calculated on a significantly greater rate (25% compare to 5%) with both applied to the total project cost estimates.

Analysis: QS Services Estimate and Recommendations

Tonkin Consulting has identified the following key items from the QS Services Estimate for further comment:

- Item 2.01: Excavate and relocate existing cover material and waste at a unit rate of \$16/m³ is considered reasonable for general earthmoving equipment (and may range significantly higher). Use of Contractors with landfill operations experience could expect this rate to reduce. Preliminary and other costs are also likely to elevate due to the nature and volume of material to be moved.
- Item 2.02: Assume the quantity takes account of in-situ materials to make up the balance of the 70,000 m³ of material needed. Understand the current capped not fully characterised, further work would help refine this cost, and potentially reduce it.
- Item 3.01: Not sure the requirement for this element in relation to item 2.01/2.02.
- Item 3.04: Revegetation cost, assume to be hydroseeding. Rate of \$6.30/m² is considered high.

Conclusions and Recommendations

The unit rate to cap the landfill based on QS Services cost estimate of approximately \$45/m² is consistent with Tonkin Consulting's experience based on landfills across Australia. However the NT EPA Guidelines provides scope for alternative design that may allow delivery of lower cost solutions while maintaining the required outcomes. The cap component design adopted in the ALRP is considered to apply the minimum standards permitted under the NT EPA Guidelines and therefore provides a limited scope for cost reduction through further revision. One alternative approach with the potential to generate significant cost savings, whilst remaining consistent with the ALRP design objectives and the NT EPA Guidelines, could be a revised approach to creating the required landform.

The proposed plan relies on the relocation of a significant volume of fill materials on site at an estimated cost of \$1.15 M (QS Services). The excavation and relocation of significant quantities of wastes also presents inherent safety and environmental risks as well as the potential for project delays and/or further cost variations due these risks and the materials heterogenic nature. In lieu of the proposed approach, Tonkin Consulting recommends consideration of the following options to achieve the final landform:

- Review of design to optimise current contours could reduce cut and fill of waste. This approach could also incorporate additional elements such as surface drainage features to achieve water shedding with less grade. This should also include characterisation of the existing cover material (type and thickness) for reuse potential.
- Fill with additional imported waste (subject to EPA approval). This could be the accepting clean inert fill, or low risk C&D waste to form the contours. Apart from rehabilitation cost reduction, this option may also provide CoP additional revenue opportunity through waste receipts.

In addition to considering the above options further cost saving may be achieved through:

- Where CoP is able to supply materials, review of the procurement process may assist by minimising Contractors margin and associated risk costs. This could extend to CoP undertaking certification of the materials prior to supply to the Contractor.
- Revision of the revegetation approach (\$1.5 M [QS Services estimate]). Options may include revegetation with lower cost turf species, rather than the specified native grasses.

If you require further information, please do not hesitate to contact the undersigned or Melissa Salt on (08) 8273 3100.

Yours faithfully
TONKIN CONSULTING



J VARCOE

Senior Scientist

Attachment 1 Summary of Documents Reviewed

Document Name	Section/Content	Comment
Pollution Abatement Notice [PAN] (2015/1)	Reason (3): landfill activity (previously authorised under EPA Licence EPL69. has or is likely to cause pollution (environmental harm) to ground water and (off-site) receptors.	Noted.
	Action (Landfill Gas Management): undertake a risk assessment and review a LFG Risk Assessment, with indicative timeframes of implementation of (endorsed) control measures.	Noted.
	Action (Leachate Management): review existing Hydrological Assessment (HA); identify gaps/risks in HA; determine management actions; determine maximum leachate levels for effective risk management.	Noted.
	Action (Landfill Rehabilitation Plan [LRP]): Develop and endorse a LRP consistent with the NT EPA Guidelines and Closed Landfill Guideline (CLG) (EPA Victoria) including a cap design and CQA for construction.	LRP has been developed and endorsed. Refer: GHD Report (2015) Archer Landfill Rehabilitation Plan; GHD Report (2015) Review of Rehabilitation Plan (A Kohlrusch)
	Action (LRP): Implementation timeline not to exceed 18 months (from April 2015).	Note: GHD LRP implementation timeline exceeds this requirement including stage construction of cap over 4 years
	Action (Aftercare Management Plan [AMP]): Develop an AMP.	AMP not relevant to this review
EPA Licence EPL69	Appendix 1: extract from Landfill Gas Risk Assessment (from EPA Victoria CLG) including Landfill Gas Action Levels (surface emissions) (EPA Victoria BPME)	Assume this reference is provided in reference to 1.4, that CLG refer to LFG management not cap design.
	Duration of licence: remain in force until 31 August 2012	
	A2: Authorised activity: waste disposal by burial for a population greater than 1000 persons until 30 November 2011. Wastes permitted: Inert and Green waste.	Based on permitted waste, reduced likelihood of significant environmental harm from leachate due to non-chemically reactive wastes. Potentially a risk mitigating factor in consideration of appropriate capping requirements. Unknown historical waste potential risk.
EPA Licence EPL96	O16 Landfill Closure Plan: required 3 months from closure to be submitted to the NT EPA Executive Director.	
	(Current) Licensed Activity: Operating premises, other than a sewage treatment plant, associated with storing, a listed waste on a commercial or fee for service basis.	Storage only – applies to various listed wastes and not for disposal (non landfill).
	Supporting Guidelines and Documents: Listed waste management plan (TS2011-03-LWMP [2-12]) and HA (GHD, 2012).	Limited reference to managing landfill legacy issues being the HA.
	Environmental Protection Objectives (EPO) and Beneficial Use Declaration (BUD): Relevant EPO to Licence is Darwin Harbour Region Government Gazette No. G27	Beneficial uses include: aquaculture, environment, cultural and rural stock and domestic. Considerations of landfill management.
	Performance Improvement: requires the development of a Conceptual Site Model for the Facility and desktop environmental risk assessment for the licenced activity.	

Document Name	Section/Content	Comment
NT EPA (2013) Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites	(Section) Closure and Post Closure (pgs 66-70). Rehabilitation (Plan) (pg 66) to include: potential after uses; operational requirements (highest after use); surface contours; specifications of cap; environmental control, and monitoring features. Landfill Cap (pg 68-69): section provides design objectives (minimise infiltration; long term stable barrier; prevent uncontrolled gas escape; suitable after use). Long term protection of groundwater – seepage through cap must not exceed calculated seepage through liner to avoid “bathub” effect. Indicative design provided, no specified performance criteria. Surface layer should ideally be similar to surrounding natural conditions, supportive of vegetation for erosion control.	In establishing suitable design objective consider: With an unlined landfill potentially under tidal influence the caps capacity to prevent groundwater impact is limited. Absence of liner also limits establishing a design criteria based on seepage rate. Note EPA conditions: Use of landfill for inert and green waste a potential risk limiting factor (historic uncertainty) Suitable performance criteria may be focused on after use, vegetation support and LFG.
	(Section) Cover (pgs 54-56): Final Cover (in addition to daily and intermediate cover) the final layer of cells must be covered with additional soil. Specification outlined in Section 5 (? Assumed to be Rehabilitation section (discussed above), but states: “ <i>where the specification... are unable to be addressed the final cover should be a minimum of 600 mm of low permeability soil and be compacted and graded in order to shed water and prevent ponding.</i> ” The guideline further states: “ <i>A final cover system generally includes (from bottom to top): intermediate soil cover; low permeability layer; and topsoil layer.</i> ” Daily cover section outlines preferable soil characteristics including providing good compaction, are loam, clay loam and some clay soils. Alternatives – best of the soils which are readily available should be used.	Given potential site limitations (above) and further risk mitigating factors such as waste type, it may be considered the specifications is not able to be met and the appropriate final cover strategy would be consistent with the alternative detailed in pgs 54-56.. Note
GHD Report (2015) Archer Landfill Rehabilitation Plan.	Supersedes 2012 plan by GHD. – Intended to address the requirements of the PAN.	Relevant document for consideration of cap design.
	Site Location: identifies the site and the nearby wetlands are “ <i>Nationally Important Wetlands</i> ” on the <i>Australian Government Department of Environment’s Protected Matters Search Tool</i> . The site is currently zoned as a combination of Future Development and Proposed Main Road The majority of the site is located on a former wetland, with the underlying soils consisting of saline muds and uniform silty clays. It is further understood that these soils are potential acid sulphate soils.	Note: informs of sites environmental values to protect. Note: informs of after uses to consider in cap design. Key consideration in risk setting. Tidal influence, potential for natural acidic groundwater, presence of natural gases including methane and hydrogen sulphide, similar to LFG. Natural soils underlying area likely unsuitable for excavation and use on cap.

Document Name	Section/Content	Comment
GHD Report (2015) Archer Landfill Rehabilitation Plan. (cont)	<p>Groundwater 2.5 to 6.5 m AHD, between 0 and 5 m below prevailing ground levels and composition data (GHD 2011 and 2012) identifies that the landfill does not appear to be having any significant impacts upon the composition of the groundwater downstream of the site.</p> <p>Leachate between approximately 1.5 m AHD and 4.5 m AHD (2.5 and 6 m below the prevailing ground levels) is generally elevated above the local groundwater table although this may vary seasonally and with rising and falling tides. Composition data obtained by (GHD 2011 and 2012) identifies that the concentrations of key leachate indicator parameters are relatively low.</p> <p>The site is at risk of occasional flooding (Elizabeth River).</p> <p>Site History: The majority of the site was reported as filled in as early as 1996.</p> <p>Evaluation of existing environmental management:</p> <p>The landfill footprint is relatively flat across the entire surface, with some undulations. No defined flow paths for surface water across the landfill footprint. The differential settlement is likely to result in ponding. Some exposed waste was present across the surface of the landfill (potential illegal/unauthorised dumping). Localised rutting and erosion of the existing cover layer and some exposed waste was identified at isolated areas across the site, in particular at the edges of the access tracks.</p> <p>No formal monitoring program is currently implemented at the site.</p> <p>No formally engineered final cover or capping layer is present at the site. existing cover layer present at the site varies in thickness between approximately 0 m and 0.75 m</p> <p>No engineered basal or side wall containment system is known to be present at the site. No engineered leachate collection system is known to be present at the site.</p> <p>The only landfill gas management measure currently implemented at the site is the cover layer (Preliminary LFG RA GHD, 2015). Limited LFG monitoring revealed no exceedances of nominated assessment criteria outside of the waste footprint. Key risks identified as surface emissions and subsurface migration to off-site receptors – but likely due to data gaps rather than identified issues. It is noted that surface emissions were measured all below 40 ppm.</p> <p>Rehabilitation works: Note Council have no future use plans at present, current plan limited to site security management. Preliminary rehabilitation works includes waste footprint identification, the final landfill will be updated based on these findings. Regarding works to remediate the relatively flat landform to develop grades consistent with the 3% post settlement grading (1% at electricity easement). Actions include preloading (stockpiles) and impact rolling to encourage settlement; regrade site to achieve post settlement landform; relocation of existing materials; additional fill; existing covers stripped in areas of excavation and reused for final capping. Work undertaken in staged approach (give site size and on-site material availability). Recommended capping included 0.1 m imported topsoil layer with revegetation including shallow rooted local grasses and shrubs; 0.5 imported subsoil layer; 0.3 m seal bearing layer – existing cover materials where possible.</p>	<p>Key consideration in risk setting, shallow groundwater, low/limited impact, potential tidal flushing.</p> <p>Potential leachate and groundwater overlap, suggesting tidal influence into waste mass.</p> <p>Majority of waste more than 20 years old, relative stability.</p> <p>Note: design consideration, flat landform inconsistent with grading requirements to shed water.</p> <p>Assume to be daily to intermediate covering (?)</p> <p>Note, no liner seepage rate/bathtub consideration.</p> <p>Note: Suggests there is likely to be a low LFG generation rate. Further investigation potentially required/risk not fully established.</p> <p>Recommended capping design is consistent with NT EPA Guidelines, given the specification cannot be met for this site.</p> <p>Grade construction likely to be the most challenging issue (and most important component) in capping site.</p>

Document Name	Section/Content	Comment
GHD Report (2015) Archer Landfill Rehabilitation Plan. (cont)	<p>Table 3 notes objectives and solutions and notes lack of liner with the tidal activity being a significant contributor to the quantity of leachate generated limits the impact of a low permeability liner on the groundwater protection objective. Also considers the size of the site and lack of available on-site materials, supply and installation of low permeability layers would be a costly exercise. In consideration of GCLs cost of these items would offset with minimal benefit from reductions in leachate generation due to the current site conditions. It is proposed achieve this objective to reduce infiltration into the landfilled waste via the final landform regrading rather than through the components of the final capping layer (such as a low permeability capping layer and subsurface cap drainage). Management measures and procedures prefer to manage LFG risks rather than low permeability capping and LFG collection systems.</p> <p>Table 4 provides capping detail.</p> <p>Implementation Program: summarises program, including stage construction, regrading and revegetation between 2016 and 2019 (4 stages)</p>	<p>Key objective: <i>reduce infiltration into the landfilled waste via the final landform regrading rather than through the components of the final capping layer (such as a low permeability capping layer and subsurface cap drainage).</i> Potentially reduces significant quality control and testing requirements of cap construction.</p>
GHD Report (2015) Review of Rehabilitation Plan (A Kohlrusch - Qualified person pursuant to section 68 of the Act)	<p>The Plan contains the key relevant information requirements of the NT EPA Landfill Guidelines and EPA Victoria. It presents a comprehensive evaluation of site conditions that have to be considered in developing a landfill closure plan relevant to the waste that is to be managed, provides details on the steps (and technical considerations) necessary to implement the necessary rehabilitation works and has identified other data required to finalise the design specifications.</p>	<p>Review applies to ALRP – the Preliminary Specification is noted but is not a focus of the review.</p> <p>Plan acceptable –proposed approach to focus landform rather than components of the final capping layer.</p>
GHD Repot (2015) Preliminary Technical Specification Landfill Rehabilitation Works	<p>Preliminary in nature, purpose is for information purposes only, for consideration alongside the Landfill Rehabilitation Plan (GHD, 2015). This document is not to be used for the construction of the Works.</p>	<p>Note preliminary – not approved specification, not subject of the Qualified persons review (?)</p>
GHD Repot (2016) Technical Specification Landfill Rehabilitation Works	<p>Specification contains the technical requirements for materials and procedures to be implemented for the construction of landfill rehabilitation works.</p> <p>The Principal has material available for purchase and use as part of the Works. Further information on this material is provided as part of the Contract Documents.</p> <p>It is the Contractor's responsibility to transport any material supplied for the Principal to the required location in the Works Area.</p> <p>It is the Contractor's responsibility to treat or blend any material supplied for the Principal to conform to the requirements of the Specification.</p>	<p>Note finalised specification</p> <p>Material sourced from CoP, further information required. Cost savings potential achieved through margin reduction if principal supplies.</p> <p>Manage specifications to extent possible to suit the Principal supplied materials.</p>

Document Name	Section/Content	Tonkin Comment
GHD Repot (2016) Technical Specification Landfill Rehabilitation Works (cont)	<p>The Principal has material available for purchase and use as part of the Works. Further information on this material is provided as part of the Contract Documents.</p> <p>It is the Contractor's responsibility to transport any material supplied for the Principal to the required location in the Works Area.</p> <p>It is the Contractor's responsibility to treat or blend any material supplied for the Principal to conform to the requirements of the Specification.</p> <p>Considers Standards including soil classification, permeability and compaction testing.</p> <p>Earthworks. Unsuitable materials: list includes silts and high plasticity clays.</p> <p>Earthworks. Compaction: Unless stated otherwise, all fill shall be compacted at a moisture content of -2 to +2% of optimum moisture content (OMC)</p> <p>Earthworks. Construction quality control testing: required for moisture content and density.</p>	<p>Material sourced from CoP, further information required. Cost savings potential achieved through margin reduction if principal supplies.</p> <p>Manage specifications to extent possible to suit the Principal supplied materials.</p> <p>Potentially limited need for such standards warranted under the proposal with limited focus on "components" as fundamental.</p> <p>Agree consider when detailing source material to meet definition: <i>best of the soils which are readily available</i></p> <p>No prescribed requirements, CQC could potentially be reduced due to limited focus on <i>components</i>.</p>
GHD (2012) Landfill Closure Plan	<p>(Section) Waste Covering:</p> <p>Interim Cover: Excavations undertaken as part of the PSI indicated that cover soil thicknesses varied between approximately 0.1 – 1000 mm in thickness. Due to the lack of documentation regarding the source and/or quality of cover soil accepted at the site, it is recommended that additional characterisation be undertaken on the existing interim cover soils to determine their appropriateness for use as a landfill final cover. Alternatively, Council could use the existing interim cover soils to establish positive drainage and to construct the final cover subgrade and import clean fill for incorporation into the landfill final cover system.</p> <p>Final Cover: The final capping layer will comprise of a minimum 600 mm thick earthen cover layer with a minimum 500 mm thick compacted soil layer and a minimum 100 mm thick revegetation or topsoil layer. The earthen cover layer is to be a compacted VENM material and meet requirements of the Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites in the Northern Territory (NRETAS, 2010). The 100 mm thick revegetation or topsoil layer is proposed to be suitable for the proposed initial revegetation scheme i.e. grassing (see following section).</p> <p>(Section) Funding for Rehabilitation Work: Table 7 provide primary cost estimate. Appendix F provides slightly more detail on cost estimate calculations.</p>	<p>The design is largely the same as the updated plan, however interim cap appears to be treated differently (absence of seal bearing layer in description). Potentially due to changes in NT regulations (2010 to 2012 drafts)</p> <p>Refer to Section <i>Cost Estimate Review</i>.</p>
QS Services (2016) Tender Estimates	Cost estimates	As above – refer to Cost Differential spreadsheet.

	GHD (2012)		QS Services (2016)	Item	Cost Difference
Description of Work Cost	3% Grade	5% Grade			
Detailed Design and Tender Documents	\$ 100,000	\$ 100,000	NC		
Mobilisation	\$ 100,000	\$ 100,000	NC		
Clearing and Grubbing	\$ 117,000	\$ 117,000	\$ 129,305	1.01	\$ 12,305.00
Excavate and Fill Onsite Materials	\$ 600,000	\$ 420,000	\$ 1,153,600	2.01	\$ 733,600.00
Construct Final Cover Subgrade	\$ 452,000	\$ 848,000	\$ 1,934,455	2.02+3.01	\$ 1,086,455.00
Construct Final Cover Compacted Soil Layer	\$ 660,000	\$ 660,000	\$ 1,893,360	3.02	\$ 1,233,360.00
Construct Final Cover Revegetation Layer	\$ 198,000	\$ 198,000	\$ 955,800	3.03	\$ 757,800.00
Hydro-seeding	\$ 55,000	\$ 55,000	\$ 1,481,130	3.04	\$ 1,426,130.00
Construction Quality Assurance	\$ 20,000	\$ 20,000	NC		
Subtotal	\$2,300,000	\$2,518,000	\$ 7,547,650		\$ 5,249,650.00
Other Items (QS)					
Surface Water Management	NC	NC	\$ 54,050	4	\$ 54,050.00
Access Track	NC	NC	\$ 242,400	5	\$ 242,400.00
LFG Bores (17)	NC	NC	\$ 17,010	6	\$ 17,010.00
Subtotal			\$ 7,861,110		
Preliminaries, management plans (10%)	NC	NC	\$ 786,111		\$ 786,111.00
Margin (7%)	NC	NC	\$ 605,305		\$ 605,305.47
Contingency (5%)	\$ 575,000 25%	\$ 630,000 (25%)	\$ 462,626 (5%)		-\$ 167,373.68
Subtotal Diff Other Items	NC	NC			\$ 1,537,502.79
Total (ex GST)			\$ 9,715,152.79		\$ 6,787,152.79
Additional Non Costed (NC) works					
Surface Water Management	\$ 54,050	\$ 54,050			
Access Track	\$ 242,400	\$ 242,400			
LFG Bores (17)	\$ 17,010	\$ 17,010			
Material supply	\$ 1,363,500	\$ 1,363,500			
Management plans, Margin (+ 17%)	\$ 858,408	\$ 858,408			
Detailed Design and Tender Documents			\$ 125,000		
Mobilisation			\$ 125,000		
Construction Quality Assurance			\$ 25,000		
Subtotal			\$ 275,000		
Potential Total Cost (ex GST)			\$ 9,990,153		\$ 4,082,285