

RSM Richter

Receiver's Third Report RE: CIC Pulp Ltd. operating as Meadow Lake Limited Partnership and Meadow Lake Pulp Ltd.

RSM Richter Inc.
Calgary, July 30, 2009

CANADA)
PROVINCE OF SASKATCHEWAN)

**IN THE QUEEN’S BENCH
JUDICIAL CENTRE OF REGINA**

**IN THE MATTER OF THE COMPANIES’ CREDITORS ARRANGEMENT ACT
R.S.C. 1985, C.C-36 AS AMENDED**

**AND IN THE MATTER OF A PROPOSED PLAN OF ARRANGEMENT FOR THE
CREDITORS OF CIC PULP LTD. in its capacity as a general partner of MEADOW
LAKE PULP LIMITED PARTNERSHIP and
MEADOW LAKE PULP LTD. in its own capacity as agent and nominee for Meadow
Lake Pulp Limited Partnership**

BETWEEN:

**CIC PULP LTD., operating as MEADOW LAKE PULP LIMITED PARTNERSHIP
and MEADOW LAKE PULP LTD.**

APPLICANTS

- and -

**HSBC BANK CANADA, INVESTMENT SASKATCHEWAN INC.,
101069101 SASKATCHEWAN INC., GUSCO HANDEL G. SCHARFELD & CO.,
MILLAR WESTERN INVESTMENTS (SASKATCHEWAN) LTD.,
MILLAR WESTERN HOLDINGS (MEADOW LAKE) LTD.
and MILLAR WESTERN INDUSTRIES LTD.**

RESPONDENTS

**Receiver’s Third Report
July 30, 2009**

1.0 INTRODUCTION

1.1 This report is filed by RSM Richter Inc. (“Richter”) in its capacity as Receiver and Manager (the “Receiver”) of CIC Pulp Ltd. operating as Meadow Lake Pulp Limited Partnership and Meadow Lake Pulp Ltd. (collectively “MLPLP”) pursuant to an Order of the Court of Queen’s Bench of Saskatchewan (the “Court”) made on October 1, 2007 (the “Receivership Order”). The Receiver reported to the Court on December 10 and 18, 2008.

- 1.2 Richter was previously appointed monitor (the “Monitor”) of MLPLP pursuant to an Order of the Court made on December 28, 2005 granting MLPLP protection under the *Companies’ Creditors Arrangement Act*. The Monitor was discharged on October 29, 2007.
- 1.3 On January 11, 2007, the Court approved the sale of MLPLP’s pulp mill (the “Mill”) to Meadow Lake Mechanical Pulp Inc. (“MLMP”). The sale closed on January 23, 2007 in accordance with the purchase and sale agreement.
- 1.4 MLMP did not acquire all of MLPLP’s lands. Landfills (the “Landfills”) are located on the lands not sold to MLMP (the “Non-Acquired Lands”). Phase I and II Environmental Site Assessments (“ESA”) were undertaken to determine the extent of environmental contamination associated with the Landfills. A program has been established to address the environmental contamination on the Non-Acquired Lands.
- 1.5 The purpose of this report is to:
- Provide information to the Court in respect of the Landfill remediation program; and
 - Respectfully recommend that the Court approve the retention by the Receiver on behalf of MLPLP of Saskcon Repair Services Ltd. (“Saskcon”) to undertake the necessary repairs and remediation to the Landfills.

2.0 LANDFILLS

- 2.1 As previously reported to the Court, the Phase II ESA concluded that there was environmental contamination caused by the Landfill, (although the contamination was assessed as low), that the Landfills should be capped and that a long-term monitoring program should be established to monitor the site and the attendant environmental contamination. The environmental firm retained by the Monitor and subsequently the Receiver, SLR Consulting (Canada) Ltd. (“SLR”), was engaged to design the Landfill caps and prepare a long-term monitoring program. Saskatchewan Ministry of Environment (“SME”) was regularly consulted by SLR and the Landfill capping system design has been approved by SME.

- 2.2 A long-term monitoring program has been proposed to SME. The monitoring program will include the installation of additional monitor wells to assess groundwater impact of the Landfills, the sampling of the groundwater monitor wells and the delivery of an annual report on the results of the sampling to identify any groundwater concentration trends. The proposed monitoring program would run for a four year period (2009 being the first year), which would produce sufficient data to identify any trends in groundwater concentrations. Should groundwater concentrations be stable or in decline, it is anticipated that future monitoring would be turned over to SME. Should the groundwater concentrations increase, an action plan may need to be developed. The costs of the four year monitoring program are estimated to be \$181,000 and will be carried out by SLR. The Receiver understands that SME agrees with the proposed monitoring program subject to SME agreeing to the proposed four year time period.
- 2.3 SLR was also engaged by the Receiver to assist in the preparation of a tender package (the "Tender Package") to solicit prospective contractors to cap the Landfills. A copy of the Tender Package is attached as Appendix "A". The information contained therein was based on information gathered at the Landfills by SLR from September 2007 to December 2008. The solicitation process commenced May 22, 2009 with bids to be submitted by June 12, 2009. A summary of the tender process is as follows:
- i) Advertisements were placed in the Calgary Herald, the Edmonton Journal, the Regina Leader Post, the Saskatoon Star Phoenix and the Winnipeg Free Press on May 23 and 30, 2009, and in the Meadow Lake Progress on May 29 and June 5, 2009;
 - ii) Arrangements were made by SLR with the Saskatoon Construction Association, the Lloydminster Construction Association and the Saskatchewan Road Builders Association to post a notice calling for tenders on May 25 and 26, 2009;
 - iii) SLR contacted prospective contractors in its data base; SLR has previously worked with many contractors;
 - iv) 23 Tender Packages were provided to prospective bidders;
 - v) A site visit at MLPLP was arranged by SLR on June 3, 2009 and 14 prospective bidders attended the site; and

- vi) 6 bids were submitted to SLR on June 12, 2009. A summary of the bids submitted is attached at Appendix “B”.

- 2.4 The Receiver and SLR evaluated the bids, which process of evaluation included several parameters including price, experience, evidence of insurability, WCB standing, certificate of recognition standing, proposed subcontractors and health and safety policies of each bidder. In some cases references were investigated. Based on the evaluation process the Receiver and SLR concluded that Saskcon should be awarded the contract based on price and experience, subject to the Receiver obtaining Court approval.
- 2.5 Upon obtaining Court approval, Saskcon will immediately commence its work under the contract. It is expected the Landfill capping will take three months to complete; however, the timing is subject to weather conditions and cannot be undertaken in freezing weather. Consequently, the Landfill capping may not be concluded until the spring of 2010.
- 2.6 SME has approved the Landfill capping system designed by SLR and SME was aware of the solicitation process to identify a contractor. SME will continue to be kept informed of developments associated with the capping of the Landfills.
- 2.7 Millar Western Forest Products Ltd. (“MWF”) provided marketing and other services to MLPLP pursuant to a Marketing Services Agreement (“MSA”) and an Administrative Services Agreement (“ASA”). Both the MSA and ASA were terminated in 2007. The Receiver anticipates that addressing the Landfills environmental issue in the manner described in this report, will be acceptable to MWF.

3.0 OTHER

- 3.1 The Receiver holds and has invested \$41,559,233 as at June 30, 2009 for the benefit of 101069101 Saskatchewan Ltd. (“101”) and Investment Saskatchewan Inc. (“ISI”) (which amount arose from the sale of inventory and the collection of accounts receivable). The funds can only be distributed in accordance with an Order or Orders of this Honourable Court. The costs to cap the Landfills will be funded from such amounts.

- 3.2 The Receiver understands that 101 and ISI agree with what the Receiver is proposing in this report, and that they intend that the remaining funds will continue to be held by the Receiver pending the capping of the Landfills, at which time 101 and ISI envisage making a Court application for the distribution of the funds held by the Receiver.
- 3.3 On April 23, 2009 the Receiver received the amount of \$847,851.97 from MWF, and this amount has been placed with the other funds that are held and invested by the Receiver.

4.0 CONCLUSION AND RECOMMENDATION

- 4.1 The Receiver with the assistance of SLR took steps to locate a suitable contractor to undertake the capping of the Landfills. The solicitation and the evaluation process resulted in the Receiver selecting Saskcon as the contractor to cap the Landfills, subject to obtaining Court approval. The Receiver, therefore respectfully recommends that the Court approve the retention of Saskcon by the Receiver to cap the Landfills and that the amounts payable under the contract with Saskcon be paid from the funds held by the Receiver.

All of which is respectfully submitted this 30th day of July, 2009.

**RSM RICHTER INC.
IN ITS CAPACITY AS RECEIVER AND MANAGER
OF CIC PULP LTD. OPERATING AS
MEADOW LAKE PULP LIMITED PARTNERSHIP
AND MEADOW LAKE PULP LTD.**



Per: Robert J. Taylor, CA, CIRP

**Meadow Lake Pulp Limited Partnership in Receivership
Meadow Lake, Saskatchewan**

**Tender Documents
Landfill Capping Works
Tender No. 208.04504.06**

Closing Date: 12 June 2009

**21st May 2009
SLR Project No.: 208.04504.06**

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DEFINITIONS

1.0 The following definitions apply in the interpretation of this Bid Document:

- The “Receiver” shall mean RSM Richter Inc. as receiver and manager of the Meadow Lake Pulp Limited Partnership;
- The “Consultant” shall mean SLR Consulting (Canada) Ltd.;
- The “CQA Engineer” shall mean the on-site representative appointed by the Consultant;
- The “Contractor” shall mean the successful Bidder, selected by the Receiver;
- The “Works” shall refer to the construction of the landfill cell capping and shall include grading of waste, importing of fill, placement of the geosynthetic membrane, and all ancillary works as specified in this Bid document;
- The “Site” shall refer to the landfill cells located in the Northwest Quarter of Section 1, Township 060, Range 16 West of the 3rd Meridian;
- The “Site Manager” shall refer to the person appointed by Meadow Lake Mechanical Pulp Inc. to act as their representative during the execution of the Works; and
- The “Pulp Mill” shall refer to the Meadow Lake Mechanical Pulp Mill plant and associated infrastructure.

INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDERS

Bids shall be submitted in accordance with the following instructions. Bids not complying with these instructions in any way may be rejected by the Receiver whose decision in the matter will be final.

1.1 INTRODUCTION

RSM Richter Inc. in its capacity as receiver and manager of Meadow Lake Pulp Limited Partnership and not in its personal capacity (the "Receiver") is overseeing the closure of a sludge and ash landfill site located at the Meadow Lake Mechanical Pulp Inc. Pulp Mill near Meadow Lake, Saskatchewan. This Bid is for the installation of the capping geomembrane and placement of restoration soils for the completed phases of the landfill.

The capping works will be conducted on:

- a. sludge landfill #2;
- b. ash landfill #3;
- c. ash landfill #4;
- d. ash landfill #5; and
- e. incinerator ash landfill.

The landfill site is located on land adjacent to the Pulp Mill. During the capping works the operations of the Pulp Mill will continue.

The contract is to be let in accordance with the terms and conditions of CCDC 18 civil works contract 2001. Pricing and measurement is to be based on unit rates and lump sum amounts as set out in the Bid documents.

The Specifications contained within the Bid documents detail the installation of all elements of the installation of the capping system.

1.2 Location of the Site

The Landfill is located on land adjacent to the Pulp Mill located approximately 8 km east of Meadow Lake, Saskatchewan in NW1/4-01-060-16W3M near Highway #55 (54° 9' N Latitude; 108° 16' W Longitude). The landfill site is accessed from the public highway onto the main access road leading up to the mill, from which an internal road leads to the landfill.

1.3 Bid Documents

Bidders are required to submit bids based on the Bid Documents as described in these instructions. The Bid Documents are:

- (1) The letter of invitation to Bid
- (2) A bound volume comprising:
 - (a) Instructions to Bidders
 - (b) Information available to Bidders (on CD)
 - (c) Bid Form
 - (d) Bid Form Supplements
 - (e) CCDC18 Civil Works Contract, Definition, and General Conditions
 - (f) Supplementary Conditions
 - (g) General Requirements
 - (h) Specifications
- (3) A set of Bid Drawings for the site, as listed in the appropriate Specifications.

Bid surety bonds are not required.

1.4 Confidentiality

The Bid Documents and all other documents and information given, or made available to, a Bidder pursuant to these Instructions are confidential. Bidders must not disclose the Bid Documents or such other documents and information to any other person and may only use the Bid Documents and such other documents and information for the purpose of preparing and submitting a Bid. Each Bidder may disclose the Bid Documents and other documents and information in confidence to those who have a legitimate need to know or whom it needs to consult for the purpose of preparing a Bid but shall cause each of them to comply with the obligations of confidentiality and restricted use set out in this Section.

1.5 Queries

Should there be any doubt or uncertainty as to the meaning of the Bid Documents or as to anything to be done or not to be done under the Contract clarification should be sought by contacting the Consultant, as soon as possible (preferably in writing) and in any case not later than one week before the due date for return of Bids.

1.6 Amendments to the Bid Documents

Should the Receiver or Consultant determine that any amendments to the Bid Documents are necessary before the due date for return of Bids these will be issued to all Bidders as amendments to the Bid Documents.

1.7 Site Inspection

A mandatory site inspection will take place on June 3, 2009 at 1:00 pm local time. A representative of all interested bidders will be required to attend. All representatives will be required to attend a brief Pulp Mill site orientation and bring appropriate personal protective equipment (hard hat, steel toe boots, high visibility vest, and safety glasses).

Contact the Consultant Representative, Mr. Tracey Forbister, at (306) 374-6800 for additional information.

1.8 Address to Contact the Consultant

The address to contact the Consultant during the Bid period is:

SLR Consulting (Canada) Ltd.
1141 – 8th Street East
Saskatoon, SK
Canada S7H 0S3

Tel: (306) 374-6800
Fax: (306) 374-6077

Contact: Tracey Forbister

1.9 Examination of Documents and Site Issues

The Bidder must review all Bid Documents and information pertinent to the work and carry out all necessary examinations or investigations and make its own independent interpretation of all available information to satisfy itself regarding the requirements, limitations and constraints applicable to the work, including familiarizing itself with the specifics of the site during the course of the site visit. Neither the Receiver nor the Consultant shall have any responsibility for the successful bidder's lack of understanding of the Bid Documents, site-specific issues or other requirements, limitations and constraints applicable to the work.

1.10 Completion of the Bid Documents

A Bid must be on the Bid Form provided, include all documents which are to be submitted with the bid pursuant to these Instructions and must be properly signed. No unauthorized alteration or addition should be made to any of the Bid Documents. All entries and signatures should be unambiguous and any necessary alterations shall be initialed. Bids submitted for separate sections only or Bids, which are incomplete, will not be considered.

1.11 Documents to be Submitted with a Bid

The following documents shall be submitted with a Bid:

- (a) Completed unit price Bid Form, including appendices;

- (b) Safety information outlined in Appendix C of the Bid Form;
- (c) Provisional construction program as outlined in Appendix B of the Bid Form
- (d) Statement of anticipated method of working
- (e) Details of the terms of the insurance proposed to be affected or already held and intended to be used to meet the requirements of the Conditions of Contract.

1.12 Qualified Bids

Bids shall not be qualified but shall be submitted strictly in accordance with the Bid Documents. Bids shall not be accompanied by statements that could be construed as rendering the Bid equivocal and/or placing it on a different footing from other Bids. Only Bids submitted without qualification strictly in accordance with the Bid Documents as issued (or subsequently amended) will be accepted for consideration. The Receiver's decision on whether or not a Bid is acceptable for consideration will be final. Any Bid that is not without qualification will be excluded from further consideration.

1.13 Alternative Bids

The Bidder is expected to submit a Bid on the basis of the parameters as identified within the performance specification and contract document. Many of these details are necessary to satisfy environmental and planning considerations. Should a Bidder decide to submit a Bid involving modifications to these parameters, this should be done by way of an alternative Bid, but no alternative Bid will be considered unless a Bid based strictly on the Bid Documents without qualification is also submitted. Any alternative Bid must also be free of qualifications and be fully priced to show clearly how and where costs would differ from the primary Bid. The Bidder should approach the Consultant to ascertain what special design criteria and requirements apply with respect to the alternatives or modifications the Bidder is contemplating. Any such approach will be treated in confidence.

An alternative Bid will not be considered unless prior notification has been given to the Consultant in writing no less than one week before the due date for return of Bids. An alternative Bid must be accompanied by all supporting information, drawings, calculations and a priced Schedule of Activities addendum covering the substitution of the alternative to facilitate the full assessment of its technical acceptability, construction time and price.

1.14 Submission of Bids

Bids are to be sent to the Consultant by registered mail, recorded delivery, data post or delivered by hand and addressed to:

SLR Consulting (Canada) Ltd.
1141 – 8th Street East
Saskatoon, SK
Canada S7H 0S3

Attention: Mr. Tracey Forbister

All bids must be received by June 12, 2009 before 12:00 noon local time in Saskatoon, Saskatchewan ("Closing Time"). Bids shall not be sent by any other form of postal service. No electronic submission will be accepted.

1.15 Bids to Remain Open

Bids shall remain open for acceptance by written notice to the Bidder at any time before 12:00 noon local time at Saskatoon, Saskatchewan on the 90th day following the Closing Date. A Bidder will not be entitled to make any changes or adjustments to the prices set out in its Bid during this 90-day period or after acceptance.

1.16 Award

The Bid having the lowest cost or any Bid will not necessarily be accepted. The Receiver reserves the right to accept the Bid that it deems in its sole discretion most advantageous and the right to reject any or all Bids without giving any notice or reasons. Evaluation criteria will be determined by the Receiver in its sole discretion in consultation with the Consultant and neither the Receiver nor the Consultant is obliged to inform Bidders of any particular evaluation criteria or the relative weight to be given to any particular evaluation criteria.

The Receiver reserves the right, in its sole discretion, to seek further information from or clarification of, any Bid submitted by any Bidder, and to negotiate with any Bidder, or with more than one Bidder concurrently, the terms and conditions of Bids. There is no requirement to offer any modified terms and conditions to any other Bidder and neither the Receiver nor the Consultant incurs any liability whatsoever to any bidder due to the exercise of the Receiver's discretion.

Final award of the Bid may be subject to approval by the Court of Queen's Bench of Saskatchewan.

1.17 Authority to Conduct Credit Check

By submitting a Bid, Bidder shall be deemed to have authorized a credit investigation to be conducted on the Bidder and to permit reasonable enquiries in connection therewith.

1.18 Costs

All costs incurred by a Bidder in preparing and submitting its Bid are for the account of and are to be paid by the Bidder.

INFORMATION AVAILABLE TO BIDDERS

Information Available to Bidders

The attached CD includes pdf versions of recent environmental site investigations conducted in and around the vicinity of the Landfills. The investigations are not geotechnical investigations and are presented for information only. The Receiver and the Consultant will not accept any liability or responsibility for the content of this information. The Bidders must satisfy themselves that the information presented to them is satisfactory to conduct the work prior to submitting their proposal.

BID FORM

Unit Price Bid Form

Project/Contract: Pulp Mill Landfill Capping Works

From (Bidder):

company name

street address or postal box number

city/town, province and postal code

To (Receiver): RSM Richter Inc., Receiver and Manager,
Meadow Lake Pulp Limited Partnership
Suite 910, 736 – 8th Avenue S.W.
Calgary, AB T2H 1H4

We the undersigned, having examined the Bid Documents for the above-named project/contract, including Addendum Number(s) _____, and having visited the Place of the Site, hereby offer to perform the Work in accordance with the Bid Documents, for the Unit Prices set out in the Schedule of Prices. The Unit Prices are in Canadian dollars and exclude Value Added Taxes. It is understood that:

- a) Any quantities in the Schedule of Prices are estimated and may vary;
- b) The Unit Prices and actual quantities will form the basis for payment of the Contract Price;
- c) The total amount of our bid is the estimated Contract Price, which is the sum of all unit price extensions, including any lump sum, and allowance items;
- d) The extensions of unit prices and addition of unit price extensions, including any lump sum and allowance items, will be checked by the Consultant and where arithmetical errors are discovered, the Unit Prices will be considered as representing our intentions, and the Unit Price extensions and total amount of our bid will be corrected accordingly.

We the undersigned, declare that:

- a) We agree to perform the Work within the required completion time specified in the Bid Documents;
- b) We arrived at this bid without collusion with any competitor;
- c) This bid is open to acceptance by the Receiver for a period of 90 days from the date of bid closing; and
- d) All bid form supplements called for by the Bid Documents form an integral part of this bid.

Schedule of Prices

Item No.	Description of Work	Unit	Estimated Quantity	Unit Price	Extended Amount
1	Mobilization	lump sum	1	\$ _____	\$ _____
2	Excavation of tie-ins and anchor trenches	lineal metre	2,200	\$ _____	\$ _____
3	Excavation and contouring/placement of waste to achieve design grades in Sludge Landfill 2 and Ash Landfill 5	cubic metre	6,000	\$ _____	\$ _____
4	Supply and placement of imported fill to achieve design grades in Incinerator Ash Landfill	cubic metre	1,400	\$ _____	\$ _____
5	Anchor trench fill supply and place	cubic metre	550	\$ _____	\$ _____
6	Supply and placement of sand fill for 75 mm regulating layer	cubic metre	4,900	\$ _____	\$ _____
7	Supply and placement of sand fill for 200 mm layer above Geomembrane Cap	cubic metre	13,000	\$ _____	\$ _____
8	Supply and placement of topsoil for 100 mm final cover layer	cubic metre	6,550	\$ _____	\$ _____
9	Supply and install 20mil (0.5mm) thick PVC Geomembrane Cap	square metre	65,250	\$ _____	\$ _____
10	Sampling, transportation and laboratory conformance testing of PVC geomembrane	per sample	12	\$ _____	\$ _____
11	Sampling, transportation and laboratory destructive testing of geomembrane seam samples	per sample	50	\$ _____	\$ _____
12	Supply and install of gas venting pipes	per pipe	18	\$ _____	\$ _____
13	Hydroseeding of completed topsoil surface with an approved seed mix	hectare	6.5	\$ _____	\$ _____
Total Extended Amount					\$ _____

Signatures

Signed and Submitted by:

Company Name

Name and Title of Authorized Signing Officer

Telephone

Signature of Authorized Signing Officer

Email

Name of Witness

Signature of Witness

Dated this _____ day of _____, 2009.

BID FORM SUPPLEMENTS

Appendix B - Construction Schedule and Anticipated Work Method

Project/Contract: Pulp Mill Landfill Capping Works

Project/Contract No.:

From (Bidder):

Company Name

Duration of construction period, with no delays to perform work outlined in this bid document:

_____ days.

Earliest date for start of construction: _____

Provide a brief description of the proposed work method to construct the works described in this bid document (including but not limited to equipment and labour proposed, waste re-profiling techniques, compaction techniques, work schedule, supervisory personnel):

(add additional pages as necessary)

Appendix C – Contractor Safety Information

Project/Contract: Pulp Mill Landfill Capping Works

Project/Contract No.:

From (Bidder):

Company Name

Provide information on the following:

1. WCB Clearance Form
2. WCB Rate Statement
3. Certificate of Recognition (COR)
4. Proof of Insurance
5. H&S Policy Statement
6. Table of Contents of H&S Program
7. H&S information and qualification of the Bidders sub-contractors

Note: The successful bidder will be required to provide additional information on their safety program and develop a site-specific health and safety plan prior to mobilization to the site.

APPENDIX D – CONTRACTOR/SUBCONTRACTOR EXPERIENCE

Project/Contract: Pulp Mill Landfill Capping Works

Project/Contract No.:

From (Bidder):

Company Name

Provide Information on relevant experience from within the last five years of the Contractor or proposed Subcontractor in the installation of Geomembrane liners or covers:

Project Title: _____

Date Completed: _____ Project Value \$: _____

Location: _____

Owner: _____

Contact Person(s): _____

Phone: _____ Fax: _____

E-mail: _____

Consultant: _____

Contact Person(s): _____

Phone: _____ Fax: _____

Email: _____

Description (include size of liner/cover, material, project type (landfill/pond/etc.)):

Project Title: _____

Date Completed: _____ Project Value \$: _____

Location: _____

Owner: _____

Contact Person(s): _____

Phone: _____ Fax: _____

E-mail: _____

Consultant: _____

Contact Person(s): _____

Phone: _____ Fax: _____

Email: _____

Description (include size of liner/cover, material, project type (landfill/pond/etc.)):

Project Title: _____

Date Completed: _____ Project Value \$: _____

Location: _____

Owner: _____

Contact Person(s): _____

Phone: _____ Fax: _____

E-mail: _____

Consultant: _____

Contact Person(s): _____

Phone: _____ Fax: _____

Email: _____

Description (include size of liner/cover, material, project type (landfill/pond/etc.)):

Project Title: _____

Date Completed: _____ Project Value \$: _____

Location: _____

Owner: _____

Contact Person(s): _____

Phone: _____ Fax: _____

E-mail: _____

Consultant: _____

Contact Person(s): _____

Phone: _____ Fax: _____

Email: _____

Description (include size of liner/cover, material, project type (landfill/pond/etc.)):

Project Title: _____

Date Completed: _____ Project Value \$: _____

Location: _____

Owner: _____

Contact Person(s): _____

Phone: _____ Fax: _____

E-mail: _____

Consultant: _____

Contact Person(s): _____

Phone: _____ Fax: _____

Email: _____

Description (include size of liner/cover, material, project type (landfill/pond/etc.)):

CCDC18 AGREEMENT AND GENERAL CONDITIONS

SUPPLEMENTARY CONDITIONS

REVISIONS TO GENERAL CONDITIONS

- 1 The following sections and subsections of the General Conditions are hereby deleted in their entirety:
 - 1.1 GC 3.11 Shop Drawings
 - 1.2 GC 5.3 Basis of Payment for Lump Sum Work
 - 1.3 GC 5.4 Basis of Payment for Cost Plus Work
 - 1.4 GC 6.7 Quantity Variations
 - 1.5 GC 11.2 Contract Security
- 2 The term "Owner" throughout the General Conditions is hereby deleted and replaced with "Receiver".
- 3 The following sections and subsections are amended or shall be interpreted as provided for below:
 - 3.1 GC 1.1.8 is hereby amended to such that the Contractor shall be provided with two (2) hard copies and one (1) electronic copy only of the Contract Documents or parts thereof without charge.
 - 3.2 Pursuant to GC 1.2.1, the parties hereby agree to that the law of the Province of Saskatchewan shall govern the interpretation of the Contract.
 - 3.3 Pursuant to GC 5.7.1 and GC 5.8.4 the Builders Lien Act of the Province of Saskatchewan is named as the applicable liens legislation.
 - 3.4 GC 2.2.2 second line is hereby amended to read "The duties, responsibilities, and limitations of authority of such project representatives is outlined in these General Conditions and the Specifications attached to the Contract."
 - 3.5 GC 5.6.2 and GC 5.10.4 are hereby amended to provide that the Receiver shall make payments to the Contractor no later than thirty (30) days after the issuance of such certificates rather than five (5) days.
 - 3.6 Pursuant to GC 10.2.1 the laws of the Province of Saskatchewan shall govern the Work.
 - 3.7 Pursuant to GC 10.4.1 the workers compensation legislation of the Province of Saskatchewan shall govern the Work.
 - 3.8 Pursuant to GC 11.1 INSURANCE
 - (a) Contractor's policies of insurance shall waive rights of subrogation against the Receiver, and if requested by the Receiver, prior to commencement of any work, Contractor will provide the Receiver with insurance certificates confirming the existence of the above insurance. No material change or cancellation will be made without 30 days written notice to the Receiver.

- (b) Any policy deductible shall be for the account of the Contractor and shall not be recoverable from the Receiver.
- (c) The policy of insurance which afford Comprehensive General Public Liability shall contain a provision or endorsement stating that such insurance subject to all of its other terms and conditions, applies to the liability assumed by Contractor under this Contract the policy shall not contain any exclusions as to loss or damage to property caused by explosion or resulting from collapse of buildings or structures or damage to property underground.
- (d) The liabilities and obligations assumed by Contractor under this Contract shall not in any manner be limited or qualified by the foregoing requirements as to types, limits and the Receiver's approval of insurance coverage to be maintained by Contractor or, by any Contractor and/or subcontractors. The Contractor's liability and obligations under this Contract, for any injury to persons (including death) and for damage to property (including existing property of the Receiver and the "Project" under construction), will include any amount not otherwise compensated by Contractor's and the Receiver's insurance.
- (e) The Contractor shall deliver the original of the initial Certificates of Insurance and two (2) copies to the Consultant.
- (f) The requirement for Aircraft and Watercraft Liability Insurance, and Property and Boiler and Machinery Insurance as outlined in GC 11.1.1.3 and GC 11.1.1.4 is waived.

3.10 GC 6.4 CONCEALED OR UNKNOWN CONDITIONS is hereby deleted and the following provisions are substituted;

- 6.4.1 The Contractor shall be deemed to have relied upon his own examination of the Place of the Work and to have fully informed himself as to all other data, matters, and things requisite to the fulfilment of the contract. Failure to acquaint himself fully with all available information concerning conditions affecting the Work will not relieve the Contractor of the responsibility for estimating the difficulties and costs of satisfactorily performing the work.
- 6.4.2 Any subsurface information and data furnished in relation to this Contract is not intended as a representation or warranty but is furnished for information only. The information is made available in order that the Contractor may have access to the same information which is available to the Receiver and is not part of this Contract and the Receiver will not be responsible for any deduction, interpretation, assumption or conclusion drawn therefrom by the Contractor".

4.0 CONSTRUCTION SERVICES

- 4.1 The Receiver will provide surveyed line references necessary for the Contractor to layout the work at no cost to the Contractor. The cost of excessive resurveys due to the Contractor's execution of the work will be charged to the Contractor.
- 4.2 The Consultant will arrange a preconstruction meeting of the Contractor and Consultant to review all details of the work before commencement.

5.0 DETAILS OF THE WORK

- 5.1 The Contractor shall be responsible for the identification of all buried and overhead services through contact with appropriate authorities which include but may not be limited to the Meadow Lake Mechanical Pulp Inc., SaskEnergy, SaskPower and SaskTel.
- 5.2 The Contractor shall be responsible for obtaining all permits pertaining to the work.
- 5.3 The Contractor shall provide all support facilities for his staff and equipment.
- 5.4 The Contractor shall maintain all existing roads used for hauling materials to a reasonable standard subject to approval by the Consultant.
- 5.5 The Contractor shall dispose of any water entering any excavation during the course of the Work in an approved manner.
- 5.6 The Contractor is responsible for decontamination of all equipment, clothing, tools and accessories prior to their transportation to and from the site.

6.0 SAFETY INSTRUCTIONS AT SITE

- 6.1 The project Works include work on and adjacent to landfill cells containing sludges and ash waste. The Contractor shall develop appropriate work methodologies to protect workers and equipment at the site.
- 6.2 The Contractor, and his staff, agents and suppliers on site will obey all safety regulations, as per Occupational Health and Safety Guidelines and Meadow Lake Mechanical Pulp Inc. Safety Guidelines.
- 6.3 Access to the Landfill site is through the Pulp Mill property. As such, all Contractor personnel will be required to attend a Pulp Mill safety orientation at no additional cost to the Receiver.

GENERAL REQUIREMENTS

General requirements

1. General

- The conditions of contract are CCDC 18 Civils works Contracts 2001.
- The works are the Capping and Restoration Works, Pulp Mill Landfill.
- The *Receiver* is to be:

Name: RSM Richter Inc. as receiver and manager of Meadow Lake Pulp Limited Partnership
Suite 910, 736 – 8th Avenue S.W.
Calgary, AB T2H 1H4
- The *Consultant* is to be:

Name: SLR Consulting (Canada) Ltd.
1141 – 8th Street East,
Saskatoon, SK S7H 0S3
- The *Supervisor* is to be:
- The Works Information is in: The Specifications and Drawings.
- The Site Information is contained within: The Contract Documents.
- The boundaries of the site are shown on: Drawing No. 1.
- The language of this contract is: English.
- The law of this contract is the law of the Province of Saskatchewan.

2. Time constraints

- The starting date is 01 July 2009.
- The possession dates for the works are:

01 July 2009 to 30 September 2009.
- The Contractor submits revised programs at intervals no longer than 4 weeks.
- The Completion for the whole of the works is: 30 September 2009.

3. Testing and Defects

- The defects date is 52 weeks after Completion of the whole of the works.

- The defect correction period is 4 weeks.

4. Payment

- The currency of this contract is Canadian dollars (\$).
- The assessment interval is one calendar month.

5. Weather delays

- The place where weather is to be recorded is at Meadow Lake Saskatchewan, Canada.
- The *weather measurements* to be recorded for each calendar month are the number of days with rainfall more than 10 mm and cumulative monthly rainfall.

6. Risks and Insurance

- The amount of the minimum limit of indemnity for insurance in respect of loss of or damage to property (except the Works, Plant, or Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) due to activity in connection with this contract for any one event is \$2,000,000.
- The amount of the minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the contractor arising out of and in the course of their employment in connection with the contract is \$2,000,000.
- The Receiver and the Consultant are to be named on the Contractor's liability insurance policies as additional named insureds (with cross-liability protection) and the Contractor is to provide the required Certificates of Insurance evidencing the Receiver and the Consultant as additional named insured.

7. Disputes and termination

- CCDC 40 – Rules for Mediation and Arbitration of Construction disputes 2005 will apply for these works.

8. Optional Statements

- The period within which payments are made is 30 Days.
- The holdback percentage is 10%.

SPECIFICATIONS

SPECIFICATIONS

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1.0 INTRODUCTION

1.1 Site Description

- 1.1.1 These Specifications details the engineering requirements and methods for the construction of the capping and restoration of five former landfill cells at the Pulp Mill, located at Meadow Lake, Saskatchewan. SLR Consulting (Canada) Ltd. (SLR) has been appointed, by the Receiver as the designer for the works. A General Site Layout is presented on Drawing No. 1.
- 1.1.2 The area of the landfill at the Pulp Mill comprises 8 individual containment cells which lie in an area of land owned by Meadow Lake Pulp Limited Partnership (MLPLP) and outside of the demise of the Pulp Mill. The cells at the site are no longer receiving waste deliveries as of September 30, 2008.
- 1.1.3 The landfill cells have been developed in phases and progressively in filled with sludge waste, ash and incinerator ash, as detailed on Drawing No. 1. To date landfill cells Sludge 1, Ash 1 and Ash 2 have been capped and restored previously. These Specifications details the capping of the remainder of the cells on site within the area owned by MLPLP.

1.2 Scope of Works

- 1.2.1 The capping works will be conducted on:
- a. Sludge landfill #2;
 - b. Ash landfill #3;
 - c. Ash landfill #4;
 - d. Ash landfill #5; and
 - e. Incinerator ash landfill.
- 1.2.2 The construction shall generally involve:
- Regrading of the final waste profile;
 - Placement of a 75 mm thick soil regulating layer beneath the geomembrane;
 - Installation of a permanent 0.5 mm PVC welded geomembrane cap;
 - Installation of a geotextile protector above the geomembrane, if required;
 - Placement of restoration soils.
- 1.2.3 The works will be subject to Construction Quality Assurance (CQA), which will be undertaken by a CQA Engineer nominated by the Receiver and Consultant.

2.0 GENERAL ITEMS

2.1 Materials

- 2.1.1 The Contractor shall name all sources of materials to be supplied to site for approval of the CQA Engineer. Any material condemned or rejected by the CQA Engineer will be removed immediately from the site at the Contractor's expense. All materials will be stored and transported in such a manner as to preserve their quality and integrity. All materials used in the construction of the Works, which can be detrimentally affected by the weather, are to be removed, covered or sealed at the end of every working period.

2.2 Personnel and Relevant Experience

- 2.2.1 Prior to commencement of the Works, the Contractor shall provide a list of key personnel he proposes to employ together with a resume of their experience and qualifications. The list of key personnel shall include the name of the full-time Contractors Agent. The list will be accompanied with a chart showing the key personnel on the project and who/what they are responsible for.

2.3 Hours of Work

- 2.3.1 The Contractor shall prepare a work schedule in consultation with the CQA Engineer and the Pulp Mill prior to commencement of the Works.

2.4 Equipment

- 2.4.1 The Contractor shall use equipment of suitable and appropriate capacity to carry out the work in accordance with the Specifications. Each item of equipment will be maintained and operated in a safe manner. A chart detailing the equipment required to excavate the works, time required on site, forecasted earthmoving capability of tonnes per day, etc shall be submitted to the CQA Engineer prior to commencement of the works. No claim will be entertained for mechanical breakdown, theft, vandalism or punctures. Equipment operators are to be trained and certified by an approved body for the equipment they are operating, as applicable. The Contractor will consider the potential safety hazards of his proposed works and adapt equipment and vehicles accordingly.

2.5 Contractors Superintendence

- 2.5.1 The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the CQA Engineer may consider necessary. Such superintendence shall be given by an experienced person having adequate knowledge of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and the methods of preventing accidents) as may be requisite for the satisfactory construction of the Works.

2.6 Contractors Agent and Personnel

- 2.6.1 The Contractor or a competent and authorized agent or representative, approved of in writing by the CQA Engineer (for which approval may at any time be withdrawn) is to be constantly present during the Works and shall give his whole time to the superintendence of the same if required by the CQA Engineer. The Contractor will only employ staff competent to undertake the required works. At all times during the contract a trained First Aider must be present on site.

2.7 Site Facilities

- 2.7.1 The Contractor shall provide, maintain and remove on completion of the works, suitable site offices for the sole use of the Contractors Agent and the CQA Engineer, and furniture appropriate to their functions. All buildings, sheds and other temporary structures that the Contractor may erect for his own or the CQA Engineer's purpose shall (in respect of location, design and sanitary arrangements) meet with the approval of the CQA Engineer.
- 2.7.2 The Contractor shall provide temporary accommodations for the CQA Engineer with a minimum floor area of 10 m². The office shall be ready for use by the CQA Engineer within 7 days of the Date of Commencement of the Works.
- 2.7.3 Immediately on completion of the Works, or at such other times as the CQA Engineer may determine that they are no longer required, all temporary buildings, offices, sheds, huts, stores and other accommodations put up by the Contractor shall be removed by him.

2.8 Site Cleanliness

- 2.8.1 The Contractor shall confine his operations to the minimum area of ground required for correct execution of the Works and access thereto. The Contractor shall at all times keep the working area and area surrounding all site temporary buildings clean and tidy. The Contractor shall be responsible for the disposal of all mud, water, chippings, soil or other waste products resulting directly or indirectly from the works. The Contractor shall take all precautions necessary to prevent pollution or contamination of streams, waterways and watercourses. Provision must be made to ensure that the paved roads to and within the site remain clear of mud, soil and debris.
- 2.8.2 The Contractor shall take all reasonable steps to minimize dust nuisance during the Construction of the Works. The CQA Engineer may direct that water trucks are permanently on the site during the Contract period to hose down areas of the Works causing a dust nuisance.
- 2.8.3 Upon instructions from the CQA Engineer, when the Works have been satisfactorily completed, the Contractor shall leave the working area and the access thereto in a clean and tidy condition, this will require occasional road sweeper hire. The Contractor shall repair any damage he may have caused whether in the vicinity of the works or on the access route thereto to the

satisfaction of the CQA Engineer. The Contractor shall indemnify and keep indemnified the Receiver against all claims arising from any such pollution, contamination, loss or damage.

2.9 Site Electricity Supply

2.9.1 The Contractor shall be required to provide suitable electricity supply to suit his own requirements.

2.10 Site Water Supply

2.10.1 The Contractor shall be responsible for locating a suitable water supply. Where a suitable water supply is not available in the locality, the Contractor shall make arrangements for carrying and storing water in quantities as necessary for the Works. All costs incurred in this respect shall be borne by the Contractor.

2.11 Existing Structures and Services

2.11.1 The Receiver may provide the CQA Engineer and Contractor with details of any such services known or likely to affect or be affected by the works. The supply of this information to the Contractor does not absolve the Contractor from his responsibilities to ascertain more accurately the location of any service apparatus within the site using all reasonable care and attention.

2.12 Health and Safety

2.12.1 It is a condition of the Contract that the Contractor and all Sub-Contractors engaged by the Contractor shall comply with the provisions of the Saskatchewan Occupational Health and Safety Act, 1993 and all regulations made there under, and indemnifies the Receiver against all liabilities and claims whatsoever arising from the said Act and Regulations.

2.12.2 It is a further condition of accepting the Contract, the Contractor and all Sub-Contractors engaged by him, shall be deemed to have granted to the Receiver the aforementioned indemnity and to have accepted liability for obtaining from Sub-Contractors engaged by him, undertakings, in writing, that they will comply with the provisions of the said Act and regulations and similarly indemnify the Receiver against the said liabilities and claims.

2.12.3 The Contractor shall ensure that any incomplete or temporary works are covered and secure at the end of every working day. It is essential that the Works are covered at the end of each working period. The Contractor is responsible for provision of security for his works.

2.12.4 Contractors should note that smoking and naked flames are prohibited in the work area at all times. Smoking may be permitted at designated smoking areas subject to the agreement of the Site Manager. Anyone seen to disregard the no smoking policy will be removed from site without delay.

2.12.5 The following safety equipment is obligatory:

- Canadian Standards Association (CSA) approved hardhat with side impact protection;
- CSA approved safety glasses with side shields;
- CSA approved high visibility vest; and
- CSA approved steel toe boots.

Personnel protective clothing such as dust mask, goggles and gloves etc. will be worn when the appropriate works require it.

2.12.6 The Contractor shall not undertake any operations which contravene or conflict with the site licence conditions, conditions of planning permission or the safety policy of the Receiver. The Contractor's attention is drawn to the presence of landfill gas within the Works area, i.e. tie in of new geomembrane cover to existing liner. Gas levels will be monitored by the Contractor to demonstrate to the CQA Engineer that levels are sufficiently low to permit working.

2.12.7 All drivers are required to wear seatbelts when driving mobile equipment.

2.13 Inclement Weather

2.13.1 When weather conditions are such that the quality of the Works may be impaired or the conditions of the materials impaired then the Works will be stopped with the agreement of the CQA Engineer. Inclement weather may comprise high winds, rain, snow, freezing, excessive temperatures or a combination of the above.

2.13.2 Where, in the opinion of the CQA Engineer, any works carried out in inclement weather conditions that have been adversely affected, these works shall be removed and made good.

2.13.3 Following adverse weather conditions, any standing water on the surface of the works shall be removed at the earliest opportunity.

2.13.4 Earthworks placement operations following inclement weather conditions shall not proceed without prior approval of the CQA Engineer.

2.14 Surface Water Control

2.14.1 The Contractor shall ensure that water does not accumulate on or adjacent to the surfaces of the Works. To ensure this temporary watercourses, ditches, drains, pumping or other means of maintaining the Works free from water, shall be provided by the Contractor. The Contractor will be deemed to have allowed for this in his rates.

- 2.14.2 On no account will any unauthorized discharge be permitted to leave the site without prior consent of the CQA Engineer in consultation with the Saskatchewan Ministry of Environment.

2.15 Fuelling of Equipment

- 2.15.1 Fuel tanks and drums used by the Contractor will be stored at a location approved by the Site Manager in conjunction with the CQA Engineer. All such tanks and drums will be bermed in a containment berm capable of containing 110% of the total quantity of fuel present at any one time. The containment berm will have an impermeable base and sides. All fuel spillages within and outside the bermed area will be remediated in a safe and controlled manner by the Contractor and reported to appropriate authorities as required by legislation. Empty oil and grease containers shall be disposed of properly.

2.16 Parking of Mobile Equipment and Siting of Ancillary Equipment

- 2.16.1 The Contractor shall be allowed to establish an area at a location to be agreed by the Receiver, for parking of equipment overnight. The Receiver accepts no responsibility for damage or theft incurred as a result of the presence of the equipment on site.

2.17 Daily Journal

- 2.17.1 The Contractor will be required to keep a detailed daily journal recording all equipment and labour present, quantities of materials delivered and placed, dimensions and locations of materials placed, weather conditions, details of meetings and details of testing results, remedial works and any other relevant information. The Contractor will give the CQA Engineer reasonable access to the daily journal, which will, if necessary, be made available to the CQA Engineer, Saskatchewan Ministry of Environment or any other Authority during and after completion of the Works if required. The Contractor will forward copies of the daily journals on a weekly basis to the CQA Engineer.

2.18 Site Operations and Traffic Management

- 2.18.1 It is the responsibility of the Contractor not to interfere with the day to day routine of the Pulp Mill. The Contractor must liaise with the Pulp Mill Site Manager and CQA Engineer, and must make all due provision for completing the works without interfering or detrimentally affecting site operations and specific Site Rules.
- 2.18.2 All access and Pulp Mill's site roads are subject to a speed limit of 30 kilometres per hour. This speed restriction should not be exceeded and must be observed at all times. Drivers seen to disregard the site speed limit or drive without regard for other road users shall be removed from site without delay.

2.19 Disposal of Soil

- 2.19.1 All superfluous soil, subsoil, rubble, rock cuttings and waste or any other material accumulated on the surface or disturbed by contracting activities must be correctly and tidily disposed of. Any cost incurred in this respect will be borne by the Contractor.

2.20 Independent Quality Assurance Supervision

- 2.20.1 The Receiver will appoint a Consultant to supervise all aspects of quality assurance of the contract. The Consultant shall supply a Construction Quality Assurance (CQA) Engineer. On site the CQA Engineer will ensure that all requirements of the Specifications relating to quality are met.
- 2.20.2 The CQA Engineer's responsibilities are detailed below:
- Acts as the on-site (resident) representative of the Consultant;
 - Attends all CQA related meetings (e.g. Pre-construction and Progress);
 - Prepares or oversees the ongoing preparation of the Record Drawings;
 - Assigns locations for testing and sampling in accordance with the Specifications;
 - Reports to the Consultant, and logs in his daily report any relevant observations;
 - Oversees the collection and shipping of all samples for laboratory testing;
 - Reviews results of laboratory testing and makes appropriate recommendations;
 - Reports any unresolved deviations from the Specifications for consideration by the Engineer, MLPLP and Saskatchewan Ministry of Environment;
 - Provides all logs and relevant data for the preparation of the final CQA report;
 - Reviews all Certifications and Documentation from the Contractor and makes appropriate recommendations;
 - Notes and brings to the attention of the Contractor any on-site activities that could result in damage to the liner system.
- 2.20.3 The CQA Engineer shall be empowered by the Consultant to enforce aspects of deviations from the specification not impacting on end product quality and to assist in controlling the contract to the requirements of the Receiver.

2.21 Highways to be Kept Clean

- 2.21.1 No debris or material resulting from the Works shall be allowed to fall onto any public highway. It is the sole responsibility of the Contractor to ensure that all mud, soil, waste and other residual materials are not allowed to accumulate on the public highway or asphalted or concrete roads within the site. The Contractor will make due provision for the cleaning of roads.

2.22 Adherence to the Site Waste Management Licence and Site Rules

- 2.22.1 Prior to commencement of the Works, the Contractor and his Site Agent (superintendent/foreman) will attend a pre-contract meeting with the Receiver, CQA Engineer and Pulp Mill Site Manager to discuss the Works and to familiarize the Contractor with the potential hazards of the Works, the Site's Waste Management Licence conditions and the Site Rules.

2.23 Covering of Vehicles

- 2.23.1 The Contractor will ensure that any load being transported to or from the site, which is capable of generating dust, ash, rubbish or other wind blown material is sheeted in an appropriate manner.

2.24 Noise and disturbance

- 2.24.1 All work shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Receiver against any liability for damages on account of noise or any other disturbance created while or in carrying out the work and from and against all claim demands proceeding damages costs, charges and expenses whatsoever in regard or in relation to such liability.

2.25 Existing/Final Ground Levels

- 2.25.1 The Receiver will establish temporary benchmarks, referenced to a local geodetic benchmark on or near the site to which all levels shall be referred. Levels will be agreed with the CQA Engineer and a list supplied to him. The topographic survey already carried out is shown on Drawing No.1.
- 2.25.2 The Contractor should verify for himself the accuracy of all survey data and be required to agree original ground levels with the CQA Engineer prior to commencement of site works. The agreed original ground levels shall provide a basis for measurement purposes.
- 2.25.3 The Receiver shall carry out construction surveys to determine ground elevations at each of the following stages of earthworks and during construction and at other times as may be necessary to measure quantities for evaluation purposes:
- i Prior to commencing earthworks.
 - ii On completion of regulating layer.

- iii As built geomembrane panel survey to include defect and repairs locations.
 - iv As built geotextile protection panel layout if this option is used to protect the geomembrane.
 - v On completion of restoration soils placement.
- 2.25.4 Each survey should be carried out on a fixed grid of points to facilitate this process. The Contractor shall agree a fixed 20 m grid arrangement with the CQA Engineer, prior to the undertaking of any surveys. Further details such as crests and toes of slopes, in addition to the grid points, will be required for the production of as built drawings.
- 2.25.5 The surveys may be used as a basis for confirming layer thickness. However, due to the settlement of waste during the construction process, the thickness of the soil layers may also be demonstrated by excavating trial pits to allow a direct measurement of the placed material.
- 2.25.6 An on site record of levels shall be maintained and up dated, by the Contractor. Placement of overlying layers shall not proceed without supporting survey information to demonstrate the minimum thickness has been achieved. Proceeding with installation of an overlying layer prior to confirmation that the thickness requirements of the preceding layer has been attained as calculated by survey, is at the Contractor's own risk.
- 2.25.6 The Receiver shall give sufficient notice of the intention to survey to enable the Contractor to conduct a joint survey or check the Receiver's survey.
- 2.25.7 The Receiver shall forward a paper and disc copy of each survey within one week of undertaking the survey, at a scale of 1:500. Proceeding with installation of an overlying layer prior to confirmation that the thickness requirements of the preceding layer has been attained as calculated by survey, is at the Contractor's own risk.

2.26 Tolerance Limits

- 2.26.1 The tolerance limits for the works shall be as follows;
- i Positions in plan shall be within 75 mm of the true positions as shown on or calculated from the drawings.
 - ii Slopes shall be sensibly plane and within 1% of the gradient shown on the Drawings.

2.27 Method Statements

- 2.27.1 The Contractor shall produce method statements for each element of the Works. Method statements shall detail how the Works are to be undertaken, in a safe manner, in order to meet the Specifications.

- 2.27.2 The Contractors attention is drawn to the fact that all method statements are to be reviewed by the CQA Engineer, Receiver and/or Saskatchewan Ministry of Environment. Method statements shall be provided to the CQA Engineer for distribution to the other parties for comment, at least 1 week prior to commencing the specific element of the Works. Each element of the Works will not proceed until a method statement is in place.

3.0 FORMATION REQUIREMENTS

3.1 General

- 3.1.1 Placement of waste within all of the cells has ceased as September 30, 2008. Prior to commencement of these capping works, the waste will require re-grading to produce the final design contours, as detailed for each of the cells on Drawing Nos. 2,3,4,5 and 6.

- 3.1.2 The following definitions shall apply to this Specifications wherever reference is made to the defined material.

“Suitable fill material” – shall comprise of all that which is in accordance with the Contract for use in the Works, and deemed by the CQA Engineer to be suitable.

“Unsuitable material” shall mean material other than suitable materials and shall include but is not exclusive to:

- i Peat, material from swamps, marshes and bogs.
- ii Logs, stumps and perishable material.
- iii Material in a frozen condition.
- iv Material susceptible to spontaneous combustion.
- v Any industrial, commercial or domestic waste.
- vi Cobbles and boulders with a minimum dimension greater than 0.15 m and maximum dimension no greater than 2/3 of the lift thickness.
- vii Materials having moisture content greater than the maximum or less than the minimum permitted for such materials in the Contract unless otherwise permitted by the CQA Engineer.
- viii Clay of liquid limit exceeding 80% and/or plasticity index exceeding 55%.

Materials of Class vii above if otherwise suitable shall be classified as suitable when wetted or dried sufficiently as appropriate.

“Rock” shall mean those geological strata indicated in the Contract to be regarded as such and other masses of hard material which cannot be removed from an excavation up to 4.0 m deep with a Caterpillar 325 or equivalent excavator in good working order.

3.2 Excavation Requirements

- 3.2.1 The final waste levels will require re-grading to achieve a maximum slope gradient of 1(v):5(h) in order to ensure the stability of the capping system. Drawing Nos. 2 to 6 presents the indicative design contours for each of the cells and cut/fill cross sections for each of the cells. However, on site the profiles may be altered to minimize cut fill operations and to take into account any waste deposits placed since the topographic survey presented in Drawing No. 1 was undertaken.
- 3.2.2 The excess waste material excavated to achieve the maximum gradient shall be placed within and compacted within available "void space" of the cell from which it has been excavated, in accordance with Section 3.3 of these Specifications.
- 3.2.3 The Contractors attention is drawn to the soft ground conditions within Sludge cell 2 and therefore the consideration shall be deemed to have been made for the use of suitable equipment in order to reprofile the waste in this cell.
- 3.2.4 Prior to the placement of the regulating layer, the final waste levels will be surveyed and the maximum slope gradients will be checked by the CQA Engineer.
- 3.2.5 All of the cells at landfill have been lined using an 0.8 mm thick PVC geomembrane liner. The geomembrane has been anchored around the perimeter of each cell within an anchor trench as detailed in Drawing Nos. 2 to 6. Where the proposed geomembrane cap adjoins the existing basal liner, the 300 mm thick layer of sand overlying the basal liner shall be carefully excavated to expose the geomembrane. The anchor trench shall then be carefully excavated to allow the installation of the geomembrane cap, as detailed on Drawing Nos. 2 to 6, within the trench. Any damage to the basal lining materials shall be repaired by the Contractor, to the satisfaction of the CQA Engineer, at his own expense.

3.3 Fill Placement and Compaction Procedures

- 3.3.1 Fill material will be generated from the reprofiling of the waste. In addition to this the Incinerator Ash Cell will require additional suitable fill to be sourced from a borrow pit.
- 3.3.2 Fill shall be placed and compacted in a series of lifts in order to provide a firm stable foundation, sufficient to permit the movement of vehicles. The Contractor shall submit with his completed Bid, a method statement detailing the equipment and compaction techniques he proposes to use.
- 3.3.3 Haulage of materials to the areas of placement shall only proceed when sufficient spreading and compaction equipment is operating at the place of deposition. There shall be minimum delay between placement and compaction.

- 3.3.4 No earthmoving or other equipment which could damage the compacted material shall be allowed onto the surface of the material following satisfactory compaction.

3.4 Waste Surface Preparation

- 3.4.1 The final waste levels shall be prepared by the Contractor to receive the soil protection layer. The surface shall be rolled to provide a clean even, firm foundation sufficient to permit the movement of vehicles without causing rutting or other deleterious effects.
- 3.4.2 The surface to receive the soil protection layer shall have no sudden sharp or abrupt changes in grade and shall be free from areas excessively softened by high water content. Prior to installation of the soil protection layer, the Contractor shall seek approval from the CQA Engineer as to the adequacy of finished rolled general fill surface.

4.0 REGULATING LAYER

- 4.1 A nominal 75 mm thick layer of sand shall be installed over the final waste level prior to installation of the geomembrane cap, as detailed on Drawing Nos. 2 to 6.
- 4.2 Suitable fill material for the protection layer shall be sourced either from a borrow pit or imported on to the site. The contractor shall ensure that no material greater than 40 mm, minimum dimension is present in the surface of the regulating layer.
- 4.3 The regulating layer shall be placed to provide a surface that is be smooth and free from debris, roots, angular or sharp rocks exceeding 19 mm in diameter and any other deleterious materials that may cause damage to the geomembrane. Any such deleterious material shall be removed from the surface and any resulting depression repaired to the CQA Engineer's satisfaction.
- 4.4 The surface shall be rolled and compacted such that in any event it provides a firm unyielding foundation sufficient to permit the movement of vehicles and welding equipment over the surface without causing rutting or other deleterious effects. The surface shall have no sudden sharp or abrupt changes in grade in excess of 25 mm, and shall be free from areas excessively softened by high water content. A continuous fall shall be maintained towards from the high point within each cell to its perimeter, with no areas of ponding or backfalls on the surface.
- 4.5 The Contractor shall protect the surface from flooding and freezing. Surfaces that have suffered from erosion by the runoff of surface water or other similar conditions shall be reworked and eroded material replaced by the Contractor to the approval of the CQA Engineer to remove these defects.

5.0 CAPPING WORKS

5.1 General

- 5.1.1 A 0.5 mm PVC welded Geomembrane cap is to be installed over the area of the landfill cells indicated on Drawing No. 1. The cap shall be constructed in accordance with the details presented on Drawing Nos. 2 to 6.
- 5.1.2 The geomembrane shall consist of virgin materials and be manufactured specifically for this work and will have satisfactorily demonstrated by prior testing to be suitable and durable for such purposes. The geomembrane shall be manufactured by a member of the PVC Geomembrane Institute (PGI) in accordance with PGI 1104 specifications.
- 5.1.3 The geomembrane shall be placed over the regulating layer. It shall be anchored within trenches around the perimeter of each cell.
- 5.1.4 The geomembrane material shall meet the minimum requirements set out in Appendix A. The geomembrane shall be free from cuts, holes, blisters, abrasions or other surface blemishes or defects.
- 5.1.5 The geomembrane installer shall have considerable experience of installing geomembrane of the type specified for the Works. The Contractor shall include with his completed Bid a summary of his or his sub-contractor's experience with the specified materials including an estimate of the total area installed by him in North America over the past 5 years.

5.2 Delivery, Handling and Storage

- 5.2.1 The material shall be delivered, handled and stored in accordance with the manufacturer's recommendations taking care to protect the material from damage and contamination. Each roll of geomembrane delivered to site shall be identified with the name of the manufacturer, the product name and type, the thickness, the batch number, the length and the date of manufacture. Any protective coatings shall not be removed until the material is ready to be incorporated into the works.

5.3 Manufacturer's Quality Control

- 5.3.1 The geomembrane manufacturer shall submit details of their internal Quality Control procedures to the CQA Engineer; in particular this should detail the parameters tested and the frequency of testing.
- 5.3.2 The geomembrane supplier will provide quality control certificates for each batch of material delivered to the site. The certificate shall detail the results of quality control testing for the materials delivered, to demonstrate that the materials meet the requirements set out in Appendix A.

5.4 Subgrade Acceptance

- 5.4.1 Prior to the placement of the geomembrane, the subgrade shall be inspected by the Contractor, his geomembrane installer and the CQA Engineer. Each section of the subgrade to receive the geomembrane shall be signed off by all parties to record in writing that the area meets the specified requirements set out in Section 4 of these Specifications.

5.5 Geomembrane Deployment

- 5.5.1 The Contractor shall submit a detailed Geomembrane Panel Layout Plan showing the proposed layout and sequence of geomembrane placement not less than one week prior to commencing installation. Geomembrane panels shall be installed in accordance with the Layout Plan as approved by the CQA Engineer.
- 5.5.2 The Contractor shall arrange the panels so that seams are aligned parallel to the line of maximum slope (i.e. perpendicular to contours), whenever practical in accordance with accepted good practice.
- 5.5.3 Installation of the geomembrane shall not take place until the surface of the regulating layer has been accepted in writing by the geomembrane installer and CQA Engineer.
- 5.5.4 The free edges of each panel shall be adequately weighed down with sand bags, tires or other means approved by the CQA Engineer. Trafficking of equipment directly on the underlying stabilization layer will be minimized. The Contractor shall deploy the geomembrane close to its final position as practically possible to minimize the need for pulling the panel over the underlying stabilization layer. If damage occurs to the regulating layer surface the Contractor will be required to carry out remedial work to ensure compliance with Section 4.4.
- 5.5.5 Adjacent panels of geomembrane shall be overlapped according to the method of seaming to be adopted by the geomembrane installer, as detailed below:
- Chemical Seaming 150 mm to 200 mm; or
 - Thermal Seaming 100 mm to 150 mm.

5.6 Temporary Surcharge

- 5.6.1 The Contractor shall be responsible for the geomembrane at all times during the Contract and shall adopt whatever measures are necessary to ensure its stability and protect it from damage. These measures shall include the use of sufficient temporary surcharge in the form of durable sandbags, tires or similar weights, without sharp edges, to be placed on the geomembrane immediately after laying to prevent slipping and damage by wind or other agents prior to covering. In this regard the Contractors attention is drawn to the need to

provide adequate restraint at free edges of sheet material before anchoring, in order to prevent uplift by wind.

5.7 Seaming

5.7.1 General

5.7.1.1 The Contractor shall submit method statements for approval by the CQA Engineer not less than one week prior to commencing installation, detailing the following as a minimum.

- i Proposed seaming technique or techniques and their proposed applications.
- ii Proposed seaming machinery.
- iii Overlap widths and overlap preparation prior to seaming.
- iv Proposed acceptable temperature ranges.
- v Proposed acceptable maximum seaming speed if automated machinery to be used.
- vi Seam pre-treatment measures e.g. grinding and cleaning.

5.7.1.2 Chemical seams are formed by the application of a suitable adhesive at the overlap between adjacent panels of geomembrane to form a continuous 40 mm wide weld path. After application the weld is rolled to release air bubbles to ensure the integrity of the weld.

5.7.1.3 Thermal seams may be formed by either single track or dual track welders, with weld widths of 40 mm and 13 mm respectively.

5.7.2 Trial Seams

5.7.2.1 The Contractor shall perform trial seams with each seaming machine and operator at least at the start of each shift, after every four hours of operation and also following any period of machine shutdown or change of operator.

5.7.2.2 The trial seams shall be at least 2 m in length. On completion of the trial seam, the Contractor shall cut four 25 mm wide field tabs normal to the seam spaced along the seam length. The tabs shall be subjected to field qualitative destructive testing using a tensiometer. Three of the four tabs shall be tested in peel mode with the fourth sample tested in shear mode.

5.7.2.3 The trial seam will be deemed to have passed qualitative destructive testing if the failure occurs solely in the parent material and does not enter the seam and the weld exceed the minimum strengths set out in Appendix B. The seam will be deemed to have failed qualitative destructive testing if any of the failure enters the seam or the seams fails to meet the minimum weld strength set out in Appendix B.

- 5.7.2.4 If a trial seam fails field destructive testing as specified above then the seaming machine and the operator shall not be allowed to perform field seaming until the deficiencies are corrected and both machine and operator have achieved a passing trial seam. Trial seaming and destructive testing will be observed by the CQA Engineer.

5.7.3 Field Seams

- 5.7.3.1 The Contractor shall perform field seams only after satisfying the trial seam conditions as specified in Section 5.8.2 of these Specifications. The Contractor shall ensure that all pretreatment measures (e.g. grinding and cleaning), as specified in his approved method statement in Section 5.8.1 are carried out and that extrudate and/or wedge temperatures are maintained within a range approved by the CQA Engineer.
- 5.7.3.2 The Contractor's attention is drawn to the fact that:
- i Seaming will not be allowed during rain or snow unless proper precautions are made to allow the seam to be made on dry geomembrane materials.
 - ii Seaming above saturated soil is not acceptable.
 - iii Ponded water on the soil surface beneath the geomembrane is not acceptable.
 - iv Seaming above frozen ground is not acceptable.
 - v Ambient air temperature for seaming should be above 5°C and below 35°C, unless mitigating measures agreed with the CQA Engineer are adopted.
- 5.7.3.3 All field seams shall be completed to the back edge of the anchor trench, i.e. the edge furthest away from the slope or toe bund. Any seam defects falling within the anchor trench shall be repaired in accordance with Section 5.10 of these Specifications.
- 5.7.3.4 During construction the specified overlap shall be clearly marked on the edge of the underlying sheet seam prior to seaming. Failure to maintain the minimum overlap may be cause for rejection of the seam.

5.8 Sampling and Testing

5.8.1 Non-Destructive Testing

- 5.8.1.1 The Contractor shall perform non-destructive testing along the entire lengths of all field seams including patches and repairs. The Contractor shall submit not less than one week prior to commencing installation a method statement detailing his proposed non-destructive test technique or techniques and their proposed applications.
- 5.8.1.2 Air pressure testing of dual track welded seams shall be undertaken in accordance with ASTM D 7177. The test length of seam should be sealed at both ends and an approved pressure feed divide inserted into the air channel.

The channel should then be pumped to the pressure indicated in the table below.

Sheet Temperature (°F)	Sheet Temperature (°C)	Air Pressure (psi)	Air Pressure (kPa)
40	4.4	60	414
45	7.2	56	386
50	10	52	359
55	12.8	47	324
60	15.6	42	290
65	18.3	40	276
70	21.1	36	248
75	23.9	34	234
80	26.7	29	200
85	29.4	27	186
90	32.2	25	172
95	35	24	165
100	37.8	22	152
105	40.6	20	138
110	43.3	19	131

The test will have deemed to have passed if the loss of pressure is held for over 30 seconds.

- 5.8.1.3 Chemical and single track thermal welds shall be tested using the Air Lance Test Method ASTM D 4437.
- 5.8.1.4 Vacuum box testing is not normally undertaken on PVC, however if used, vacuum box testing shall be undertaken in accordance with ASTM D4437.
- 5.8.1.5 In the event of a field seam failing non-destructive testing the Contractor shall identify and repair the failed area in accordance with Section 5.10 of these

Specifications. The Contractor shall then subject the repair to further non-destructive testing until the repair shall pass the test.

- 5.8.1.6 The Contractor shall advise the CQA Engineer when he is ready to commence non-destructive testing and shall not perform non-destructive testing unless the CQA Engineer is in attendance.

5.8.2 Qualitative destructive testing

- 5.8.2.1 The Contractor shall cut a 25 mm wide field tab from the beginning and end of each completed field seam and shall subject it to qualitative destructive testing in peel mode using a tensiometer.

- 5.8.2.2 The seam will be deemed to have passed qualitative destructive testing if the failure occurs solely in the parent material and does not enter the seam. The seam will be deemed to have failed qualitative destructive testing if any of the failure enters the seam.

- 5.8.2.3 If a field tab fails qualitative destructive testing, the Contractor shall either:

- i reconstruct the seam; or
- ii cut further tabs from 3.0 m to each side of the failed tab and subject these to qualitative destructive testing. If these tabs pass qualitative destructive testing the Contractor shall reconstruct the seam between the passed locations in accordance with Section 5.10 of these Specifications. If either sample fails, the Contractor shall cut and test further field tabs until he can identify an area bounded by two passed locations. The Contractor shall then reconstruct the failed seam in accordance with Section 5.10 of these Specifications.

- 5.8.2.4 The CQA Engineer reserves the right to request the cutting and destructive testing of further field tabs at any locations along the length of a seam.

5.8.3 Quantitative destructive testing

- 5.8.3.1 The Contractor shall cut laboratory samples from the field seams when instructed by the CQA Engineer and in any case at a frequency not exceeding 1 sample per 200 m of seam performed by an individual machine.

- 5.8.3.2 The Contractor shall divide the sample as shown in Appendix C and release sub-sample C to the CQA Engineer for archiving.

- 5.8.3.3 The Contractor shall without delay dispatch sub-sample B to an approved geosynthetic laboratory for destructive testing in accordance with Appendix B. The Contractor should note that five tabs should be cut for peel tests and five tabs for shear tests. The laboratory shall report quantitative results and the mode of failure for the tests carried out. Mode of failure shall be described in accordance with the laboratory test procedure. The Contractor shall issue copies of the test results certificates to the CQA Engineer immediately upon receipt, within 48 hours of cutting the sample from the installation.

- 5.8.3.4 The seam will be deemed to have passed quantitative destructive testing if in five out of five of the tabs:
- i The failure occurs solely in the parent material and does not enter the seam.
 - ii The peel strength exceeds that indicated in Appendix B.
 - iii The shear strength exceeds that indicated in Appendix B.
- 5.8.3.5 The seam will be deemed to have failed quantitative destructive testing if one or more out of the five tabs:
- i Any of the failure enters the seam.
 - ii The peel strength is less than that indicated in Appendix B.
 - iii The shear strength is less than that indicated in Appendix B.
- 5.8.3.6 If a seam fails quantitative destructive testing the Contractor shall investigate the seam to each side of the failed sample as specified in Section 5.9.2.3 of these Specifications. The Contractor shall cut further laboratory samples from each side of the failed section and perform laboratory tests upon them at his own expense until the failed seam is bounded by two passed locations.
- 5.8.3.7 The Contractor shall then reconstruct the failed seam in accordance with Section 5.10 of these Specifications. The CQA Engineer may at his discretion observe laboratory destructive testing in which event the Contractor shall arrange permission for access to the approved laboratory.
- 5.8.3.8 The Contractor shall furnish the CQA Engineer with a copy of the formal report from the independent testing laboratory detailed the procedures used for testing and including a summary of all results. This report shall be furnished to the CQA Engineer within one week of the completion of the Works.

5.9 Repairs, Patches and Cap-Strips

- 5.9.1 All discontinuities in the welded geomembrane (whether caused by damage, or failure of geomembrane to conform with the Specifications, or of sampling or testing or other factors), shall be repaired by the Contractor in the following manner:
- i Point defects

The area shall be prepared in accordance with the methods agreed and an extra layer of extrudate applied.
 - ii Large faults

The faulted area shall be cut back to remove all imperfections and shall be overlain with a single piece of compatible geomembrane to give a minimum overlap of 100 mm in all directions. The area shall then be prepared in

accordance with the Contractor's approved method statement and seamed in accordance with Section 5.8 of these Specifications.

iii) Seam faults

- a. Faulted extrusion seams shall be overlain with a single piece of compatible geomembrane with a minimum overlap of 100 mm in all directions to form a cap strip. The repair may then be completed as for large faults.
- b. Faulted fusion seams shall be cut back to remove the upper flap, prepared in accordance with the Contractor's approved method statement, and extruded in accordance with Section 5.8 of these Specifications.

The Contractor shall test all repairs in accordance with Section 5.9.1 of these Specifications.

5.10 Construction Details

- 5.10.1 All of the landfill cells at Meadow Lake have been lined using an 80 mil thick PVC geomembrane liner. The geomembrane has been anchored around the perimeter of each cell with in an anchor trench as detailed in Drawing Nos. 2 to 6. Where the proposed geomembrane cap adjoins an existing basal liner, the 300 mm thick layer of sand overlying the basal liner shall be carefully excavated to expose the geomembrane. The anchor trench shall then be carefully excavated to form to allow the installation of the geomembrane cap, as detailed on Drawing Nos. 2 to 6, within the trench.

5.11 Seals to Penetrations Through the Geomembrane

- 5.11.1 Within the area to be capped, a number of landfill gas and leachate management pipes will penetrate the geomembrane cap. All of these installations require access upon completion of the capping and restoration Works and therefore require sealing at the point where they penetrate the geomembrane liner.
- 5.11.2 The Contractor shall provide a suitable means to prevent accidental damage occurring to any of the above installations during the course of the Works.
- 5.11.3 Around penetrations that pass vertically through the cap, a "top hat" or "boot" shall be constructed from PVC, in accordance with the detail presented on Drawing Nos. 2 to 6. Immediately around the "top hat" a bentonite seal shall be placed to prevent the ingress of water.

5.12 Installation Approval

- 5.12.1 The installed geomembrane shall be subject to the inspection and approval of the CQA Engineer prior to the placement of the protection layer. Approval shall be made on the basis of the following:

- Visual inspection to confirm that all stones, extrusion weld materials or any other potentially deleterious materials have been removed from the surface of the geomembrane; that there are no visible surface defects such as excessive scratching and no folds or excessive undulations; and that the appropriate overlap between adjacent panels has been achieved;
- All necessary repairs have been made and their locations recorded;
- All tests to seams, patches and repairs have been completed and recorded by the CQA Engineer and the results of respective laboratory destructive seam testing have been received.

Following confirmation of approval, approved areas shall be covered with the protection layer at the earliest possible opportunity.

5.13 Basis of Payment

5.13.1.1 Payment for installation of the geomembrane will be on a square metre basis for the measured geosynthetic installed over the crest, slopes, and within the anchor trenches, and will include all of the following:

- a) Providing and maintaining all necessary equipment and services to Phase 2 slope plus base and removal on completion.
- b) Adequate secure storage facilities to protect geomembrane materials and plant from adverse weather conditions.
- c) The provision of samples to the Consultant in accordance with an agreed schedule for destructive testing.
- d) The repair and testing in accordance with the Specifications of any holes produced as a result of sampling required by the contract.
- e) Trimming of excess materials and removal off site.
- f) Ensuring that the geomembrane is secure at all times.
- g) The maintenance of the geomembrane clean and free from deleterious materials, especially those inhibiting the Consultant from inspecting the surface.
- h) Preparing all geomembrane overlap areas by grinding or cleaning prior to seaming or welding.
- i) Maintaining the geomembrane overlap areas and prepared slope immediately beneath geomembrane overlap areas from water and maintaining the overlap free from deleterious particles during seaming operations.
- j) The installation of geomembrane and geotextile into the crest and toe anchor trenches.

- k) Any patching required should small sections of geomembrane, or seaming or welding not conform with the Specifications.
- l) Any removal and replacement of large sections of the geomembrane due to failure of the geomembrane or seaming to conform with the Specifications.
- m) The non-destructive testing of the entire length of seam or weld installed.
- n) The qualitative destructive tests required to establish tabs have passed.
- o) Connection of installed geosynthetic materials to existing geosynthetic materials in adjacent phases of the landfill lining and capping system, unless specifically covered by another item.

6.0 GEOMEMBRANE PROTECTION LAYER, IF REQUIRED

6.1 General

6.1.1 In order to protect the geomembrane cap from damage by oversized particles within the restoration soils, a geotextile protector may be required above the geomembrane if there is no readily available source of clean sand available.

6.1.2 The geotextile protector shall be installed in accordance with Drawing Nos. 2 to 6

6.2 Material Properties

6.2.1 The geotextile protector shall consist of a non woven geotextile. The geotextile protector shall have the following properties:

Properties	Test Method	Required Minimum Value
Nominal Thickness	ASTM D1777 DIN 53854 BS EN 964-1	3.5 mm
Puncture Resistance	DIN 54307 BS EN ISO 12236	2000N

6.2.2 The geotextile protector manufacturer shall provide production test certificates for rolls delivered to site. Certificates relevant to a batch of geotextile protector shall be furnished to the CQA Engineer prior to that batch of geotextile protector being incorporated in the Works.

6.2.3 Geotextile materials shall be protected at all times against physical or chemical damage. They shall be kept in the wrappings provided by the manufacturer until required for use in the Works. The rolls of geotextile protector shall be stored on level ground and stacked not more than five rolls high and no other

materials shall be stacked on top. Geotextile material shall be delivered to site in packaging that will protect the rolls from degradation by ultra violet light.

- 6.2.4 The method of installation shall not impose stresses or strains likely to cause damage to the geotextile protector or the geomembrane. The method of installation shall ensure that the geotextile protector is in continuous contact with the surface on which it is placed without stretching or bridging over humps or hollows. Construction equipment must not operate directly on the geotextile protector.
- 6.2.5 Laying of the geotextile protector is to be undertaken by staff experienced in this type of work. The Contractor shall submit a summary of its and of any intended subcontractor's experience of handling and laying this type of material for verification by the CQA Engineer of their suitability.
- 6.2.6 Joints shall be formed by either hot air welding or stitching. The material at the joints will overlap, by 300 mm for hot air welding and by 150 mm for stitching. The method of joining is to be approved by the CQA Engineer.

7.0 RESTORATION SOILS

- 7.1 Upon completion of the capping works the cap shall be covered with 0.3 m of restoration soils. The restoration soils shall comprise 200 mm of subsoil (sand if available) overlain by a minimum 100 mm of topsoil, as detailed on Drawing Nos. 2 to 6.
- 7.2 The restoration soils shall be placed but not compacted. Access for dump trucks shall be restricted to ensure areas do not become compacted.
- 7.3 Suitable sand for the restoration soils layer immediately above the geomembrane shall be sourced by the contractor from an appropriate source. **As detailed in Section 6.1 above, if there is no readily available source of sand, then a geotextile protector will be required above the geomembrane.** Where a geotextile is to be used the Contractor shall screen the overlying soils to ensure that no material greater than 40 mm, minimum dimension, is present in the initial 200 mm layer of restoration soils.
- 7.4 Topsoil material shall be sourced by the contractor from an appropriate source.
- 7.5 A minimum 1.0 m thickness of restoration soils shall be maintained between the geomembrane and haulage vehicles. The restoration soils shall be spread using a 360° excavator, of maximum weight 12 tonnes, and graded using a low ground pressure dozer, which will be continually supervised such that any damage to the underlying materials are identified and repaired in accordance with Sections 5.10.

APPENDIX A

Appendix A
GEOMEMBRANE MATERIAL REQUIREMENTS
0.5 mm PVC

Parameter	Test Method	Specification
1. Thickness	ASTM D1593	0.5 mm+/- 0.03 mm
2. Density	ASTM D	1.2 g/cc
3. Tensile Properties	ASTM D882	
	Stress at break	>8.4 kN/m
	Elongation at break	>360%
	Modulus at 100%	>3.7 kN/m
6. Tear Strength	ASTM D1004	>27 N
7. Dimensional Stability	ASTM D1204	4%
8. Low Temperature Impact	ASTM D1790	-15°F (-26°C)
9. Water Extraction % Loss	ASTM D1239 Maximum Loss	0.15%
10. Average Plasticizer Molecular Weight	ASTM D2124	400
11. Volatile Loss	ASTM D1203 Maximum % Loss	0.9%
12. Soil Burial	ASTM G160	
	Break Strength	5%
	Elongation	20%
	Modulus at 100%	20%
13. Hydrostatic Resistance	ASTM D751	68 psi (467 kPa)

Appendix B

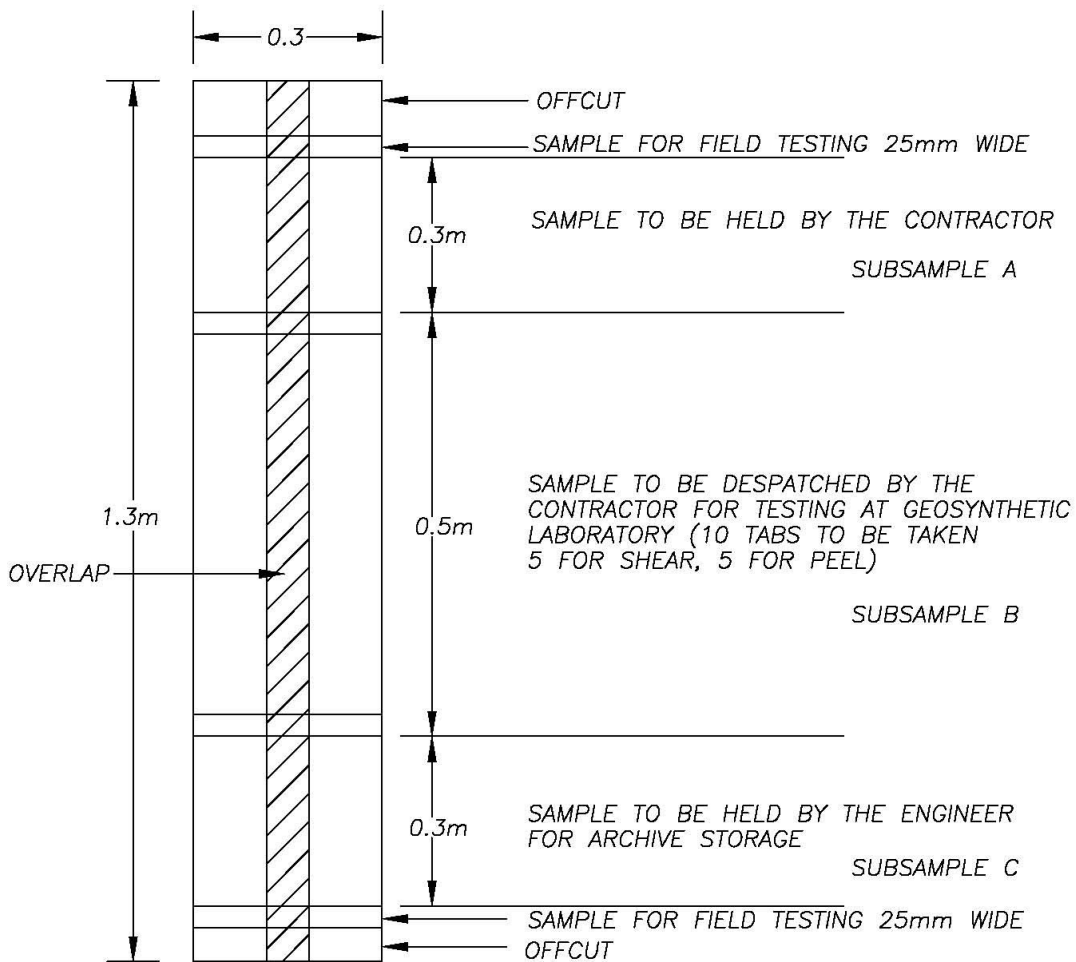
FIELD SEAM – DESTRUCTIVE TEST CRITERIA

0.5 mm PVC GEOMEMBRANE

Test	Method*	Requirement**
Shear Strength	ASTM D6214 for chemically bonded seams or ASTM D6392 for thermally Bonded Seams	> 6.7 kN/m
Peel Strength	ASTM D6214 for chemically bonded seams or ASTM D6392 for thermally Bonded Seams	> 2.2 kN/m

Notes:

1. Peel Test on double fusion weld to be carried out on both welds.



NB: THE SEAM SHALL BE CENTRED PARALLEL TO THE WIDTH OF THE SAMPLE



Revision 0 Dec 2008 JC
 403.0999.00008

Site MEADOW LAKES
 Project CAPPING WORKS
 Date Dec 2008 Scale NTS

Drawing
**Detail of Geomembrane
 Destructive Seam Sample**

Dwg No.
APP C

DRAWINGS

Copies of drawings are included in PDF format on the attached compact disk. If hard copies are required, please contact Mr. Tracey Forbister by June 1, 2009, and hard copies of the drawings will be supplied at the site meeting on June 3, 2009.

Meadow Lake Pulp Limited Partnership-In Receivership
 Bid Evaluation Form
 As at June 12, 2009
 \$

Contractor Name	Total Project Cost	Complete Bid	Proposed Sub Contractors	Proposed Start Date	Number of Days Anticipated	Valid WCB Clearance Form	COR	Proof of Insurance	H&S Policy Statement	H&S Program TOC	Subcontractor H&S Info	Experience Ranking	Unit Rates Included	Comments
Bidder 1	1,171,885.00	Yes	Noted - 2 Proposed	July 1, 2009	60	Yes rate statement 2008 (AB) - No discount no surcharge. Net premium rate of \$2.26/100 (industry std)	COR process initiated. Interim COR provided (Enform)	Yes - General \$5,000,000; Auto \$2,000,000	Yes	Yes	No	5 projects listed: 3 landfill construction; 1 landfill capping; 1 gas well abandonment program. (\$0.7 to 4.7 m)	Yes	Minimal description of work methods. Use of FDFN for supplier and hauler of sand fill and topsoil and hydroseeding of site.
Bidder 2	1,783,131.50	No	Noted - 2 Proposed	July 5, 2009	60 to 90	# provided. No documentation	States audit scheduled. No supporting documentation	Not provided. Bid document states attached.	Not provided. Bid document states "at evaluation meeting".	Not provided. Bid document states "at evaluation meeting".	Not provided. Bid document states "at evaluation meeting".	5 projects listed: 4 lined containment ponds and 1 talings dam. (\$1.0 to 3.0 m)	Yes	Good description of proposed work methods
Bidder 3	1,134,194.00	Yes	Noted - 1 Proposed	July 6, 2009	60	Yes rate statement 2009 - Discount applied. Net premium rate of \$2.46/100	Yes - Sask. Construction Safety Assoc. Valid since Feb 11, 2009	Yes - General \$5,000,000; Auto \$2,000,000	Yes	Yes	No	2 projects listed: Lagoon liner upgrades. (\$1.1 to 2.1 m)	Yes	Good description of proposed work methods
Saskcon Repair Services Ltd.	863,985.00	Yes	Noted - 2 Proposed	June 15, 2009	90	Yes rate statement 2009 - Net premium rate of \$3.38/100	Yes - Sask. Construction Safety Assoc. Valid since June 10, 2004	Yes - General \$10,000,000; Auto \$5,000,000	Yes	Yes	Yes and COR	3 projects listed: 1 landfill construction; 1 lagoon construction; 1 water intake. (\$0.25 to 7.0 m)	Yes	Performance Bond and Bid bond submitted. Limited description of proposed work methods
Bidder 5	1,318,252.50	Yes	Noted - 2 Proposed	July 20, 2009	60	Yes rate statement 2009 - No discount no surcharge. Net premium rate of \$2.76/100	Yes - Heavy Construction Safety Assoc of Sask. Valid since June 19, 2008	Yes - General \$5,000,000; Auto \$5,000,000	Yes	Yes	Yes - policy statement	No contractor experience listed. Provided project experience Excellent - sub	No	Good description of proposed work methods
Bidder 6	829,365.00	No	Noted - 2 Proposed	June 29, 2009	70	Yes rate statement 2008 - Surcharge. Net premium rate of \$3.85/100 WCB provided Tuesday as per conversation	Note provided COR is pending. No documentation	Yes - General \$2,000,000; Auto \$2,000,000	Yes	Yes	No	No contractor experience provided.	No	Limited description of proposed work methods