

Métis Nation-Saskatchewan (MN-S) 310-20th Street East

Saskatoon, SK S7K 0A7 306.343.8391 metisnationsk.com

// RFP//

2024-101

REMOTE MA FAAMII SERVICE CENTRE -BEAUVAL

Métis Nation-Saskatchewan // MN-S

August // 12 // 2024

RFP No. // MNS-2024-101



Request for Proposals

For

Ma Faamii Service Centre Building - Beauval

Métis Nation-Saskatchewan (MN-S)

Ministry of Housing and Infrastructure

310-20th Street East

Saskatoon, SK S7K 0A7

306.343.8391

www.metisnationsk.com

Request for Proposals No.: MNS-2024-101

Issued: August 12th, 2024

Submission Deadline: Proposals must be received before 2:00 P.M. (CST) on Thursday, September 5th, 2024 ("RFP Closing Time")

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PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

1.1 Invitation to Proponents

This Request for Proposals (the **"RFP"**) is an invitation by Métis Nation–Saskatchewan (**"MN-S"**) to prospective Proponents to submit proposals for the supply of one (1) Ma Faamii Service Centre Building, as further described in the RFP Particulars (Appendix A) (the **"Deliverables"**).

Métis Nation–Saskatchewan (MN-S) represents the province's Métis citizens. The Métis Nation Legislative Assembly is the governing authority of the Métis Nation–Saskatchewan (MN-S) and has the authority to enact legislation, regulation, rules, and resolutions governing the affairs and conduct of the Métis in Saskatchewan. The Métis are recognized in the 1982 Canadian Constitution "Section 35 (1) the existing Treaty and aboriginal rights of the aboriginal peoples of Canada are hereby recognized and affirmed;" (2) In this Act, "aboriginal peoples of Canada" includes Indian, Inuit and Métis peoples.

Métis Nation–Saskatchewan(MN-S) currently requires the design, construction, and related site work of three (3) Ma Faamii Service Centres. The intent of this RFP is to obtain an offer to perform work to supply one (1) Ma Faamii building located in Beauval, under a single CCDC 5B Construction Management **Contract** – for Services and Construction (the "Agreement") through a public request for proposals. MN-S intends for this one (1) centre to be provided through site built, hybrid or modular building practices. The building contains approximately 4,294 sq. ft. of building area on one level and the maximum project budget is \$1.6M CAD (Exclusive of Taxes). There are a total of three (3) RFP's for Ma Faamii Service Centres located in Yorkton, Beauval, and North Battleford. Proponents are able to submit on 1, 2 or all 3 RFP's. It is understood that proponents may gain economy of scale, purchasing power and design efficiencies that should be reflected in their Construction Manager's fee should they choose to submit proposals for multiple RFP's. The work is to be initiated immediately after execution of the Agreement takes place. Work is to be performed within the timeline that is negotiated between MN-S and the Proponent prior to execution of the Agreement, based on the successful Proponent's RFP submission. Exterior signage and wayfinding elements will be unique on each project to distinguish them. All submissions shall be prepared and submitted, and the RFP process administered, in accordance with the following requirements.

RFP documents, Addenda or further information will be available electronically through MN-S website at <u>www.metisnationsk.ca.</u> It is the sole responsibility of the Proponent to monitor these websites regularly to check for updates. It is recommended that if you intend to submit a proposal you email <u>Procurement@mns.work</u> and indicate your interest. Addenda will be directly emailed those who are registered with procurement as well as posted online.

1.2 Owner

The Owner is hereby identified as: **Métis Nation–Saskatchewan (MN-S)** 310 – 20th street Saskatoon, SK S7K 0A7 306.343.8391



Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)

1.3 RFP Contact

For the purposes of this procurement process, the "RFP Contact" will be:

Melissa Pederson, Acting Director of Infrastructure

Email: Procurement@mns.work

Proponents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of MN-S, other than the RFP Contact, concerning matters regarding this RFP. Failure to adhere to this rule may result in the disqualification of the Proponent and the rejection of the Proponent's proposal. Questions regarding this RFP are to be sent in writing via email to the RFP contact. Questions asked via phone or other means beyond email will not be answered and will not form any part of the contract documents.

1.4 Type of Contract for Deliverables

The selected Proponent will be requested to enter into direct contract negotiations to finalize an agreement with MN-S for the provision of the Deliverables. MN-S expects the terms and conditions of the final negotiated agreement with the selected Proponent to be in the form of a **CCDC 5B Construction Management Contract – for Services and Construction**, as further described in Appendix B. MN-S will elect to onboard Situated On Land Office (SOLO) Architecture under this contract as a consultant to work as an advocate architect ensuring both their technical and cultural goals are met. Proponents choosing to participate in this RFP process should be prepared to accept those terms and conditions, subject only to minor changes that may be mutually agreed upon in the negotiation process. It is MN-S's intention to enter into an agreement with either multiple or a single Proponent for the three Ma Faamii projects. The terms of the agreement are to be negotiated between MN-S and the Proponent based on their proposed construction schedule.

1.5 RFP Timetable

Issue Date of RFP	August 12th, 2024
Deadline for Questions	August 26th, 2024
Deadline for Issuing Addenda	August 29th, 2024
Submission Deadline	September 5th, 2024
Anticipated Initial Ranking and Commencement of Concurrent Negotiations	September 12th, 2024

The RFP timetable is tentative only and may be changed by MN-S at any time. Work is to commence immediately after the Execution of the Agreement.



1.6 Submission of Proposals

1.6.1 Proposals to be Submitted at the Prescribed Location

Proposals must be submitted online via email:

a) Proponents shall be solely responsible for delivery of their RFP submissions in the manner and time prescribed. Submissions received not on time may be deemed, in the sole discretion of MN-S to be non-compliant and not considered further.

b) Submit one copy of the required RFP submission forms, signed and with corporate seal together with all other requirements set forth (Reference Checklist) in the RFP via email.

1.6.2 Proposals to be Received on Time

Proposals must be received at the location set out above on or before the Submission Deadline. Proposals received after the Submission Deadline may be deemed non-compliant by MN-S and not evaluated further. The onus and responsibility rest solely with the Proponent to deliver its proposal to the correct email indicated in this RFP on or before the Submission Deadline. MN-S does not accept any responsibility for submissions delivered to any other location by the Proponent or its delivery agents. Proponents are advised to make submissions well before the deadline. Proponents making submissions near the deadline do so at their own risk.

1.6.3 Proposals to be Submitted in Prescribed Format

Proponents should submit one (1), PDF package of their proposal. No hardcopy submission is required for this RFP. Proposals should be prominently marked with the RFP title and number (see RFP cover), with the full legal name and return email of the Proponent.

The proposal is to be submitted to:

Melissa Pederson, Acting Director of Infrastructure Email: Procurement@mns.work

1.6.4 Proponent Ineligibility

a) Submissions that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of MN-S, be declared non-compliant and not evaluated further.

b) Submissions with forms and enclosures which are improperly prepared may, at the discretion of MN-S, be declared non-compliant and not evaluated further.

c) Submissions that fail to include required bonding or insurance requirements may, at the discretion of MN-S, be declared non-compliant and not evaluated further.

1.6.5 Submission Withdrawal

a) Proponents may withdraw their submission at any time up to RFP Closing time on request in writing, addressed to, and received by the RFP Contact at the email address provided above.b) Withdrawn submissions may be resubmitted in accordance with this RFP providing the resubmitted submission is received at the location indicated, prior to RFP Closing time.



c) MN-S is under no obligation to return withdrawn proposals.

1.6.6 Modifications

a) Modifications may be made at any time prior to RFP Closing time.

b) Modifications shall be made only in writing, addressed to the RFP Contract at the email address above and indicating the name of the Project in the email subject line.

c) MN-S will not accept responsibility for the content of modifications or modifications that are, for any reason, delayed, illegible, or otherwise improperly received.

d) Late or improperly received proposal modifications may not be considered by MN-S.

1.6.7 Consent of Surety

a) Each Proponent must be able to obtain consent of surety, stating that the surety is willing to supply performance and labour and material payment bonds specified prior to contract finalization.

b) The Proponent shall include the cost of bonds in the Proposal Price if needed. Failure to obtain proper bonding may result in MN-S disqualifying the proponent.

1.6.9 Submission Signing

The Proponent's submission shall be signed by the Proponent in a form reasonably satisfactory to MN-S, with MN-S's expectation being the following:

i) Sole Proprietorship: Signature of the sole proprietor in presence of witnesses who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.

ii) Partnership: Signature of all partners in presence of witnesses who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.

iii) Corporation: Signature of duly authorized signing officer(s) in normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix corporate seal. If the submission is signed by officials other than the President and Secretary of the company, or President-Secretary-Treasurer of the company, a copy of the by-law resolution of the Board of Directors authorizing them to do so must also be submitted with the submission.

iv) Joint Venture: Each party of a joint venture must execute the submission under respective seals in a manner appropriate to such party as described above, similar to the above requirements pertaining to a Partnership.

1.6.10 Information Submittal Forms

a) The Proponent is required to fill out Form #8– List of Subcontractors and Suppliers and Price Breakdown for Each. Own forces must be identified on this form.

[End of Part 1]



PART 2 – EVALUATION AND NEGOTIATION

2.1 Stages of Evaluation and Negotiation

MN-S will evaluate proposals and negotiations in the following stages:

Stage I – Requirements

Stage II – Evaluation

Stage III – Pricing

Stage IV – Contract Negotiations

2.2 Stage I – Requirements

2.2.1 Submission Forms (Appendix B)

Each proposal should include all Submission Forms outlined by the Checklist (Form 1) at the beginning of Appendix B, and where required be completed and signed by an authorized representative of the Proponent.

2.2.2 Submission (Pricing) Form #9 (Single) or Pricing Form #10 (Multiple)

Each proposal shall include a Submission (Pricing) Form #9 (Single Submission) or Pricing Form #10 (Multiple Submission), or a document containing the information requested by the Pricing Form, completed in accordance with the instructions contained in the form.

2.3 Stage II – Evaluation

MN-S will evaluate each qualified proposal on the basis of the rated criteria as set out in Section C of the RFP Particulars in Appendix A.

2.3.1 Initial Ranking of Proponents

After the completion of Stage I, all scores from previous stages will be added together and the Proponents will be ranked based on their total scores. After the completion of Stage II, each Proponent's score from Stage II will be added together and the Proponents will be ranked based on their total scores.

2.4 Stage III – Pricing

Stage III will consist of scoring the submitted pricing in accordance with the price evaluation method set out in Proposal Form #9. The evaluation of the price will be undertaken after the evaluation of requirements and rated criteria have been completed.

2.6 Stage IV - Contract Finalization

2.6.1 Contract Finalization Process

Any negotiations will not constitute a legally binding offer to enter into a contract on the part of MN-S or the Preferred Proponent and there will be no legally binding relationship created with any Proponent

prior to the execution of the Agreement. The terms and conditions contained in Form #4 are intended to be included in the final negotiated agreement with the selected Proponent. The finalization process may include requests by MN-S for supplementary information from the Preferred Proponent to verify, clarify or supplement the information provided in its proposal or to confirm the conclusions reached in the evaluation and may include requests by MN-S for improved pricing, performance, or contractual terms from the Preferred Proponent.

2.6.2 Time Period for Negotiations

MN-S intends to conclude negotiations and finalize the agreement within 10 days of providing the written notice to the Preferred Proponent described in section 2.5.3 above. The Preferred Proponent should, therefore, be prepared to provide requested information in a timely fashion and to respond to any matters raised in the contract finalization expeditiously.

2.6.3 Failure to Enter into Agreement

If MN-S and the Preferred Proponent cannot conclude to finalize the agreement for the Deliverables within 10 days, MN-S may, at its sole discretion and consideration of its own best interests may: (a) extend the period for finalization of the Agreement with the Preferred Proponent

(b) discontinue negotiations with the Preferred Proponent and may invite any other Proponent to enter into the finalization process, utilizing the same process described above.

(c) terminate this RFP process entirely or proceed with some or all of the project in some other manner, including using other contractors.

2.6.4 Notification to Other Proponents

Other Proponents that may become eligible to finalize the Agreement with MN-S will be notified at the commencement of the negotiation process with the top-ranked Proponent. Once an agreement is finalized and executed by MN-S and a Proponent, the other Proponents will be notified in accordance with the Terms and Conditions of the RFP Process (Part 3).

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE RFP PROCESS

3.1 General Information and Instructions

3.1.1 Proponents to Follow Instructions

Proponents should structure their proposals in accordance with the instructions in this RFP. Where information is requested in this RFP, any response made in a proposal should reference the applicable section numbers of this RFP.

3.1.2 Proposals Language

All proposals are to be in English only.

3.1.3 No Incorporation by Reference

The entire content of the Proponent's proposal should be submitted in a fixed form, and the content of websites or other external documents referred to in the Proponent's proposal but not attached may not be considered to form part of its proposal. If Proponents wish to reference websites or external documents, they should obtain the approval of the RFP Contact prior to the Submission Date. Proponents are responsible for ensuring that all external content that is referenced is accurate, and are to provide notice to MN-S of any changes that may arise after submission. MN-S may, at any time, require a Proponent to provide a hard copy of some or all of the external content referenced.

3.1.4 References and Past Performance

In the evaluation process, MN-S may consider information provided by the Proponent's references and may also consider information independently obtained by MN-S about the Proponent or its proposal in the course of MN-S's own due diligence, including any previous dealings or experience, if any, with a Proponent. MN-S may contact any of the Proponent's customers who MN-S believes may be able to provide information about the Proponent that would be pertinent to this RFP.

3.1.5 Information in RFP Only an Estimate

MN-S and its advisers make no representation, warranty, or guarantee as to the accuracy of the information contained in this RFP or issued by way of addenda. Any quantities shown or data contained in this RFP or provided by way of addenda are estimates only and are for the sole purpose of indicating to Proponents the general scale and scope of the Deliverables. It is the Proponent's responsibility to obtain all the information necessary to prepare a proposal in response to this RFP.

3.1.6 Proponents to Bear Their Own Costs

The Proponent will bear all costs associated with or incurred in the preparation and presentation of its proposal, including, if applicable, costs incurred for interviews or demonstrations.

3.1.7 Proposal to be Retained by MN-S

MN-S will not return the proposal or any accompanying documentation submitted by a Proponent.

3.1.8 No Guarantee of Exclusivity of Contract

The agreement to be negotiated with the selected Proponent will not be an exclusive contract for the provision of the described Deliverables. MN-S may contract with others for goods and services the same as or similar to the Deliverables or may obtain such goods and services internally.

3.2 Communication after Issuance of RFP

3.2.1 Proponents to Review RFP

Proponents should promptly examine all of the documents comprising this RFP, and may direct questions or seek additional information, by email to the RFP Contact on or before the Deadline for Questions. No such communications are to be directed to anyone other than the RFP Contact. MN-S is under no obligation to provide additional information, and MN-S is not responsible for any information provided by or obtained from any source other than the RFP Contact. It is the responsibility of the Proponent to seek clarification from the RFP Contact on any matter it considers to be unclear. MN-S is not responsible for any misunderstanding on the part of the Proponent concerning this RFP or its process.

3.2.2 All New Information to Proponents by Way of Addenda

MN-S may, at its discretion through the Contact Person, amend this RFP at any time by issuing a written addendum modifying this RFP (**"Addendum"** or **"Addenda"**). Written Addenda are the only means of amending or clarifying this RFP, and no other form of communication whether written or oral, will be included in, or in any way amend, this RFP. No other employee or agent of MN-S is authorized to amend or clarify this RFP. Written Addenda will be forwarded to all known Proponents and posted on MN-S website.

3.2.3 Post-Deadline Addenda and Extension of Submission Deadline

If MN-S determines that it is necessary to issue an Addendum after the Deadline for Issuing the Addenda, MN-S may extend the Submission Deadline for a reasonable period of time.

3.2.4 Verify, Clarify, and Supplement

When evaluating proposals, MN-S may at its sole discretion request further information from the Proponent or third parties in order to verify, clarify or supplement the information provided in a proposal. The response received by MN-S shall, if accepted by MN-S, form an integral part of the Proponent's proposal.MN-S may consider information independently obtained by MN-S about the Proponent or its proposal in the course of MN-S's own due diligence, including any previous dealings or experience by it or others, if any, with a Proponent.

3.2.5 Time Disputes

In the event of a dispute regarding time, MN-S's time clock will govern.

3.3 Notification to Unsuccessful Proponents

3.3.1 Notification to Other Proponents

Once an agreement is signed by MN-S and a Proponent, the other Proponents will be notified in writing.



3.4 Conflict of Interest and Prohibited Conduct

3.4.1 Conflict of Interest

MN-S may disqualify a Proponent, or take any other action it deems appropriate in its sole discretion, for any conduct, situation or circumstances, determined by MN-S, in its sole and absolute discretion, to constitute a Conflict of Interest.

3.4.2 Disqualification for Prohibited Conduct

MN-S may disqualify a Proponent, rescind an invitation to negotiate or terminate a contract subsequently entered into, or take such other action it may deem appropriate if MN-S, in its sole and absolute discretion, determines that the Proponent has engaged in any conduct prohibited by this RFP.

3.4.3 Prohibited Proponent Communications

Proponents should not engage in any communications that could constitute a Conflict of Interest.

3.4.4 Proponent Not to Communicate with Media

Proponents should not at any time directly or indirectly communicate with the media in relation to this RFP or any agreement entered into pursuant to this RFP without first obtaining the written permission of the RFP Contact.

3.4.5 No Lobbying

Proponents should not, in relation to this RFP or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful Proponent(s).

3.4.6 Illegal or Unethical Conduct

Proponents are not to engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Proponents are not to engage in any unethical conduct, including lobbying, as described above, or other inappropriate communications; offering gifts to any employees, officers, agents, elected or appointed officials or other representatives of MN-S; deceitfulness; submitting proposals containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFP.

3.4.7 Past Performance or Past Conduct

MN-S may prohibit a Proponent from participating in this or future procurement processes based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

- (a) illegal or unethical conduct as described above;
- (b) the refusal of the Proponent to honour its submitted pricing or other commitments; or
- (c) any conduct, situation or circumstance determined by MN-S, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest.

3.5 Confidential Information

3.5.1 Confidential Information of MN-S

By submitting a proposal under this RFP, a Proponent understands and agrees that all information provided by or obtained from MN-S in any form in connection with this RFP either before or after the issuance of this RFP:

- (a) is the sole property of MN-S and must be treated as confidential;
- (b) is not to be used for any purpose other than replying to this RFP and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from MN-S; and
- (d) must be returned by the Proponent to MN-S immediately upon the request of MN-S.

3.5.2 Confidential Information of Proponent

Proposals will be accepted in confidence, as they contain financial, commercial, scientific, technical and/or labour relations information, except as may be otherwise provided herein. The confidentiality of such information will be maintained by MN-S, except as otherwise required by law or by order of a court or tribunal.

Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to advisers retained by MN-S, to advise or assist with the RFP process, including the evaluation of proposals. If a Proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the RFP Contact.

3.6 Procurement Process Non-Binding

3.6.1 No Contract A and No Claims

This procurement process is not intended to create and will not create a formal, legally binding proposal process and will instead be governed by the law applicable to direct commercial negotiations. For greater certainty and without limitation:

- (a) this RFP will not give rise to any Contract A based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and
- (b) neither MN-S nor any of its employees, officers, agents, elected or appointed officials, advisors or representatives will be liable, under any circumstances, for any claim arising out of this proposal process including but not limited to costs of preparation of the proposal, loss of profits, loss of opportunity or for any other claim; and
- (c) the Proponent waives any claim for any compensation of any kind whatsoever, including claims for costs of preparation of the proposal, loss of profit or loss of opportunity by reason of MN-S's decision to not accept the proposal submitted by the Proponent, to enter into an agreement with any other Proponent or to cancel this proposal process, and the Proponent shall be deemed to have agreed to waive such right or claim.



3.6.2 No Contract until Execution of Written Agreement

This RFP process is intended to identify prospective Proponents for the purposes of negotiating potential agreements. No legal relationship or obligation regarding the procurement of any good or service will be created between a Proponent and MN-S by this RFP process. A legal relationship will not arise until the successful negotiation and execution of a written agreement (CCDC 5B).

3.6.3 Non-Binding Price Estimates

While the pricing information provided in proposals will be non-binding prior to the execution of a written agreement, such information will be assessed during the evaluation of the proposals and the ranking of the Proponents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation or ranking or the decision of MN-S to enter into an agreement for the Deliverables.

3.6.4 Effect of this RFP

This RFP process does not in any way restrict or limit MN-S's pre-existing rights to engage in commercial negotiations with any vendor or to procure the Deliverables from any vendor through any other process. Without limiting the generality of the foregoing, MN-S may:

- (a) choose whether to evaluate any proposal;
- (b) modify this RFP or RFP process, including any technical, commercial or contractual terms;
- (c) re-issue this RFP, either in the same form, or with modifications;
- (d) begin or end negotiations with any Proponent for some or all of the Deliverables;
- (e) reject any proposal;
- (f) abandon its plans to obtain any of the Deliverables;
- (g) invite anyone (including any Proponent) to give it an offer to provide some or all of the Deliverables under any terms;
- (h) require any Proponent to submit further information not requested in this RFP to verify the Proponent's ability to perform the contract, including financial data, references to support assertions of past relevant experience, information about the Deliverables, and proof of the Proponent's legal capacity to perform the contract;
- (i) inspect the Proponent's equipment and facilities that will be used to perform the contract to verify the Proponent's technical or commercial capacity to perform the contract;
- (j) select a Proponent other than the Proponent whose proposal reflects the lowest cost to MN-S;
- (k) waive formalities and accept proposals that substantially comply with the requirements of this RFP;
- (I) verify with any Proponent or with a third party any information set out in a proposal;
- (m) check references other than those provided by any Proponent;
- (n) disqualify any Proponent whose proposal contains misrepresentations or any other inaccurate or misleading information;
- (o) disqualify any Proponent or the proposal of any Proponent who has engaged in conduct prohibited by this RFP;
- (p) cancel the RFP process without liability at any time.

3.7 Governing Law and Interpretation

These Terms and Conditions of the RFP Process (Part 3):

- (a) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (b) are non-exhaustive and must not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations; and
- (c) are to be governed by and construed in accordance with the laws of the Province of Saskatchewan and the federal laws of Canada applicable therein.

[End of Part 3]



APPENDIX A – RFP PARTICULARS

A. The Deliverables

Métis Nation–Saskatchewan (MN-S) currently requires the design, construction, and related site work of three (3) Ma Faamii Service Centres. The intent of this RFP is to obtain an offer to perform work to supply one (1) Ma Faamii building located in Beauval, under a single **CCDC 5B Construction Management Contract** – for Services and Construction (the "Agreement") through a public request for proposals. MN-S intends for this one (1) centre to be provided through site built, hybrid or modular building practices. The building contains approximately 4, 294 sq. ft. of building area on one level. The work is to be initiated immediately after execution of the Agreement takes place. Work is to be performed within the timeline that is negotiated between MN-S and the Proponent prior to execution of the Agreement, based on the successful Proponent's RFP submission. Exterior signage and wayfinding elements will be unique on each project to distinguish them. All submissions shall be prepared and submitted, and the RFP process administered, in accordance with the following requirements.

All submissions shall be prepared and submitted, and the RFP process administered in accordance with the following requirements. The following deliverables form the basis of the scope of work for this project:

- + Design and Provision of 4,294 sq. ft Site Built, Hybrid or Modular NR3 Beauval Ma Faamii Building
- + Transportation of the Modular Units to sites listed above and craning/placing of the unit onto foundations if modular methods are used. MN-S may entertain the idea of a flat roof c/w tapered insulation and membrane over both office wing sections as a cost savings due to the redundant roof structure created by modular units. If the roof design is changed in the proposal this must be indicated clearly
- + Required Rezoning and Permit Applications (Costs to be the responsibility of MN-S for Rezoning and Building/Development Permits)
- + Required Site Work, including foundations and Site preparation required for placement of the unit onto foundations
- + Office furniture is out of scope and the responsibility of MN-S
- + Work is to commence Fall of 2024
- + All other items related to the design, engineering and construction of the above buildings
- + 1-Year warranty on all buildings from date of Substantial Performance
- + The new building is expected to conform to A.2. Building Performance Requirements
- + The new building is expected to conform to A.1. Proposed Building Program
- + SOLO and the Owner will work with the successful proponent to ensure that the building is within the budget



A.1. Proposed Building Program

The below table outlines the proposed building program. Circulation and Exiting will depend on the final floor plan proposed by the Proponent/Consultant. Full code review will be completed by the consultant prior to permit drawings.

Room		Area	
Number	Program Element	Sq/Ft.	Description/Notes
	Ma Faamii Program Wing		
11	Office	112	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
12	Office	107	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
13	Office	107	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
14	Office	107	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
15	Hall/Copy	234	Data Connections Provided, Printer, Millwork with Counter
18	Janitor	29	Wash Basin, Storage, NBC Fire-Rated
17	Women's W/C	150	1 Accessible, 1 Standard, 1 Lavatory
16	Men's W/C	149	1 Accessible, 1 Urinal, 1 Lavatory
	Estimated Gross Floor Area of		
	Program Space	995	
	Shared Program		
2	Board Room	380	Seating for 16 people, video-conferencing capabilities, acoustic treatment
269	Community Kitchen	296	Light Duty Commercial/Residential Kitchen
10	Community Hall/Event Space	859	Space must have open spans with no columns/partitions
4	Reception	97	Receptionists Desk and Chair, 6 Waiting Spaces and End Tables.
21	Mechanical Room	152	Required Mech. Equipment Varies by Location.
22	Table/Chair Storage	107	Storage for Tables and Chairs for Event Space



1	Vestibule	75	NBC Code Compliant
	Estimated Gross Floor Area of Shared Space	1966	
	Elected Office Wing		
9	Office	105	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
8	Office	107	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
7	Office	107	L-Shaped Desk, Filing, Office Chair and 2 Visitor Chairs
3	Lunchroom	63	Fridge, Microwave, Undermount Sink and Millwork
5	Copy/Print/Hall	273	Data Connections Provided, Printer, Millwork with Counter
6	Accessible W/C	71	NBC Code Compliant W/C with Turning Radius
	Estimated Gross Floor Area of Office Space	726	
	Gross Floor Area sq.ft. of Both Spaces	3687	
	Net Floor Area sq.ft. Outside of Wall	4294.79	





A.2. Building Performance Requirements

The following section is a guideline specification to illustrate the design intent of the project put forth by the owner. Detailed specifications and material choices will be made as part of the CCDC 5B Process in consultation with SOLO and the Owner. The materials and specifications listed below are subject to revision, value engineering and substitution to ensure the project remains within the set project budget. Should there be questions regarding the following section, proponents are encouraged to ask the owner questions and these will be answered as part of an addendum. The project is not geared directy towards modular or site-built. It is a flexible design that can be constructed as a site-built, hybrid or modular building.

DIVISION 1 – GENERAL REQUIREMENTS

- + The design and construction of the modular buildings shall conform to the National Building Code of Canada 2020 and the National Energy Code of Canada for Buildings 2020, the Occupational Health and Safety Act and Regulations (Saskatchewan), and the Uniform Building and Accessibility Standards Act (Saskatchewan).
- + These buildings are to be provided using site-built, hybrid or modular construction practices.
- + If a modular structure is used, it must be designed to be moved to the site and craned into place onto a foundation.
- + The Proponent is responsible for the engineering, design, and construction of the modular units and is expected to work with the design consultant who will work within the CCDC 5B contract to ensure cultural and technical excellence in design is achieved.
- + Drawings must be designed and sealed by Structural, Civil, Electrical, and Mechanical Engineers who are qualified and licensed to practice in the Province of Saskatchewan. This is the responsibility of the proponent.
- + If modular building practices are used, the building will be connected together on-site, local trades and labour must be used where possible and employment and training opportunities for Local Indigenous people must be considered and provided.
- + The buildings must be energy-modeled and must conform to the requirements of NECB 2020.
- + The Proponent must work with MN-S/SOLO and their team to ensure the proposed building plan meets the needs of MN-S.
- + The Proponent is responsible for coordination with Engineering and Architectural Disciplines.
- + SOLO will complete payment certification through a field review process.
- + The Proponent must provide Maintenance and Operation Manuals in both electronic and print format to the client.
- + The Proponent must have experience in modular and sustainable building methods with a proven track record.
- + Warranty information must be provided to MN-S by the Proponent.
- + The payment schedule will be negotiated during the negotiation phase.

ARCHITECTURAL DIVISIONS 2-14 BUILDING SPECIFICS

- + In general, equivalent products that meet the performance requirements will be considered.
- + Interior Ceiling height is to be a minimum of 9' clear. The portion over the community hall is to be vaulted at a slope of 3/12.
- + The roof slope is to be 6/12 on the main roof and gable dormers.
- + The building should exceed the minimum energy code (NECB 2020) by 25% performance. An energy model will need to be provided to validate this. This may be subject to value engineering to bring the project within budget.
- + The building's ground floor level is to be at grade where suggested foundation methods permit to allow for an accessible entry.
- + The roof must be engineered to allow for a future solar array installation.
- Workmanship, materials, and products are to be warrantied for a minimum period of one (1) year from the date of claimed substantial performance of the contract as determined by the payment certifier/architect.
- Any changes to the contract price after the Construction Documentation phase must first be reviewed through standard Contract Administration processes (Proposed Change Order, Change Order, Shop Drawing Review) by MN-S and their Advisor.
- + If using modular units, the roof height and vaulted space must be maintained. A clear and open floor plan in the community hall space must also remain. It is recommended that this portion be site-built.
- + Where available, sustainable building materials should be used in favour of less sustainable options. This includes low VOC products, lower embodied energy products, locally sourced materials.
- + Building materials must all be new and be approved by the Authority Having Jurisdiction ("AHJ") to be installed in our climate.
- + The foundation system is to be proposed by the Proponent to MN-S for review. It must meet all applicable codes and requirements of the AHJ where it is built. It must be designed and sealed by a qualified structural engineer.
- + Floor systems must be engineered to withstand live, dead, dynamic, and snow loads that are applicable where each project is intended to be located.
- + Exterior Walls should be insulated to be at least 25% better than NECB 2020 code. The walls are to have plywood sheathing on both sides (if modular), exterior air barrier, vapour barrier, and be designed as a rain screen wall system. The wall section should be designed to minimize thermal bridging through structural members. The Proponent is free to propose a wall system to MN-S for review and approval.
- + The floor system should be insulated to be at least 25% better than NECB 2020 code.
- + Exterior cladding is to be a mix of commercial-grade finishes: 22ga prefinished metal cladding, Engineered Wood Siding/Fisher True Grain Cement Siding, Cedar Shake, and EIFS.
- + Proponents are required to meet NECB 3.2.4.2. Air Barrier System of an air leakage rate not greater than 1.50 L/S x m₂) when tested in accordance with ASTM E3158, "Standard Test Method for Measuring the Air Leakage Rate of a Large or Multizone Building," at a pressure differential of 75 Pa using the following criteria:

a) the building shall be prepared in accordance with the building envelope test described in the standard,



b) the air leakage test shall be conducted under both pressurized and depressurized conditions, and

c) the air leakage area used to determine the normalized air leakage rate shall include all the surfaces separating conditioned space from unconditioned space.

- Interior wall finishes are ½" drywall. If there are NBC requirements for fire safety for rated assemblies, these are in scope. There will be some locations where there is some interior wood shiplap/T+G installed.
- + Ceilings will be a combination of ACT, Drywall, and Shiplap/T+G finish. Where wood is used, drywall is to be used as backing to retain the FRR of assembly.
- + Roofs are to be engineered for all live, dead, dynamic, and snow loads.
- + Roof is finished with a black metal 24ga. snaplock system, full ice and water shield below.
- + Roofs should be insulated to be at least 25% better than NECB codes.
- + Windows are to achieve a Metric U-Value (Uw) of 1.20 or better throughout and be triple pane Argon Filled with Low-E Coatings or equivalent. They are to have operable sections that have handles and bug screens. The exterior colour is to be black. Frames may be Aluminum, Vinyl or Fiberglass but must be thermally broken. Windows must be considered Commercial Grade.
- + Exterior doors are to be specified as aluminum storefront units with clear glass. The door colour is to be black. Doors must be considered commercial grade.
- + Exterior doors are to be provided with all hardware, closers, keying, and accessibility operators as required by the NBC. All hardware must be commercial grade.
- + Interior doors are to be commercial birch/maple finish with black steel frame and commercial grade door hardware, closers, locksets, and closers are to be provided where applicable as per NBC. Interior doors are to be clear coated with a water-based, semi-gloss finish that is professionally applied. Glass is to be included on interior doors between vestibule spaces and the Ma Faamii Program, Boardroom and Elected Office Wing Reception area.
- + Millwork is to be constructed of Maple/Birch wood in shaker style. Soft closing hardware is to be provided. Hardware is to be black finish and commercial grade. The interiors of cabinetry are to be white melamine-coated particle board. Changes to a more cost-effective millwork package may be approved as a cost saving measure. Please indicate in your proposal if you are proposing an alternative specification for millwork.
- + Interior walls are to be painted OC-117 Simply white with a Mid Grade Paint.
- + The interior woodwork is to be clear-coated with a water-based varathane finish.
- + Entry walk off carpet is to be provided in the vestibule to collect any excess moisture due to entry into the building.
- + Flooring throughout the building is a combination of carpet tile and vinyl flooring. All flooring must be commercial grade and warrantied. Common areas are to be vinyl sheet flooring, bathrooms and vestibule to be sheet vinyl/LVT, kitchen to be vinyl flooring and office spaces and board rooms to be carpet tile. The entry vestibule is to be walk off carpet tile.
- + Carpet tile will be a culturally specific carpet tile from Miliken Remix Remastered or a Beadwork Pattern Carpet tile that is in development.
- + Bathrooms are to have FRP tile pattern 4' up the wall.
- + Bathrooms must include a changing table.
- + All exterior windows are to have commercial-grade roller blinds.

Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)



- + The boardroom must be provided with technology and data hookups for a TV conferencing system.
- + Specialties (Division 10) are the responsibility and are within the scope of the Proponent.
- + A whiteboard is to be integrated into the design of the boardroom.
- + Traffic signage within the parking lot is to meet applicable codes and regulations within each AHJ.
- + Kick Plates are to be installed where applicable on high-traffic doors.
- + A flagpole is to be provided at the main entrance. The flag pole should be 25' high and be constructed of aluminum and be installed as per the manufacturer's specifications.
- + All signage is to meet accessibility standards. Interior room signs are to be 5" x 8" Plexiglass on standoffs. These will be designed by a Métis Designer and will reflect culture.
- + Toilet and bath accessories are to meet NBC requirements and be of a stainless finish throughout.
- + The below points outline equipment requirements as per Division 11
 - + 2x High-Quality Home Professional Grade 30" Convection Slide in Ranges
 - + 60" Professional Series Range Hood is to be included. The range hood should be capable of 1000 cfm or greater.
 - + Undermount Sink
 - + 2x 24" Semi Commercial Grade Dishwasher
 - + 36" Fridge
 - + 36" Stand Up Freezer
 - + Large Microwave
 - + The below points outline furnishing requirements as per Division 12
 - + The kitchen is to be a community style kitchen and the provision of custom Commercial Kitchen Casework is not needed. Cupboards are to be of solid birch/maple construction and countertops to be mid level Quartz or stainless finish.
 - + Furniture is the responsibility and is within the scope of the Proponent. Mid-grade furniture to match the level of finish throughout the building shall be priced and provided as per the functional programming document.

DIVISION 21-25 – MECHANICAL

Mechanical Systems in the Ma Faamii Buildings must meet or exceed the standards and codes listed below:

- + ASHRAE Standard 62, Current Edition Ventilation for Acceptable Indoor Air Quality
- + Canadian Plumbing Code, 2015 (CPC)
- + CSA B149-2005 Natural Gas and Propane Installation Code
- + National Building Code of Canada, 2015 (NBC)
- + National Energy Code of Canada for Buildings, 2020. (NECCB)
- + National Fire Code of Canada, 2015 (NFC)
- + NFPA 10, Standard for Portable Fire Extinguishers, 2007
- + NFPA 13, Standard for the Installation of Sprinkler Systems, 2007
- + Saskatchewan Plumbing and Drainage Regulations, 1996
- + SMACNA HVAC Duct Construction Standards

Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)



- + The Occupational Health and Safety Act and Regulations (Sask)
- + The Uniform Building and Accessibility Standards Act (Sask)

Divisions 21-25 are the responsibility and are within the scope of the Proponent. All mechanical work must also adhere to the AHJ's standards. Where Natural Gas is readily available it will be the preferred method of energy delivery to the site. Mechanical equipment's performance must be at a minimum 25% better than the code standard (NECB 2020).

- + The proposed Mechanical system must meet climate design criteria and future predicted climate data for a 100-year period.
- + Fire protection system must be installed if it is a code requirement. The system must be designed and sealed by a competent designer/engineer. Shop drawings and as-built drawings must be provided.
- + Plumbing fixtures are to be mid-grade and code compliant. MN-S will work with the Proponent to select mid-grade equipment.
- + HVAC system design is the responsibility of the Proponent. This system must be designed by a professional engineer and reviewed by MN-S through a formal shop drawing process.
- + Mechanical maintenance manuals must be provided in print and digital formats to the client where available.
- + The Proponent must commission the mechanical equipment on site to ensure the systems are functioning correctly.
- + A preliminary energy model is not required to form part of the proposal. Fee's to complete an energy model should be included in the price of your proposal. Coordination and design changes to ensure the building meets 25% better performance than the energy code (NECB 2020) are the responsibility of the proponent as well as the costs associated with the changes.

DIVISION 26-28 – ELECTRICAL

Electrical Systems in the Ma Faamii Buildings must meet or exceed the standards and codes listed below:

- + Canadian Electrical Code 2021
- + CSA Standards (All that are applicable)
- + National Building Code of Canada 2015
- + National Energy Code for Buildings 2020
- + National Fire Code of Canada 2015
- + Occupational Health and Safety Act and Regulations (Sask)
- + Uniform Building and Accessibility Standards Act (Sask)

Divisions 26-28 are the responsibility and are within the scope of the Proponent. All electrical work must also adhere to the AHJ's standards. Electrical equipment's performance must be at least 25% better than the code standard.

- + Networking Infrastructure to offices, boardrooms, reception, and copy areas.
- + Video surveillance and necessary networking infrastructure to Server Room.
- + Intrusion detection System and necessary networking infrastructure to Mechanical Room.

- + Fire Detection and Alarm as per codes listed above.
- + Access Control System via keyless entry.
- + Lighting must conform to the codes listed above.
- + Any powered signage to meet accessibility requirements.
- + Electrical and Networking infrastructure to be provided for video conferencing in each boardroom.
- + Lighting fixtures shall be 3500k in temperature.
- + Fixtures must be LED where possible and come with a 72,000 minimum life cycle with a minimum 5-year warranty.
- + Lighting levels and placement are to be determined by a qualified engineer.
- + Supply of all necessary electrical infrastructure for mechanical systems.
- + Electrical system design is the responsibility of the Proponent. This system must be designed by a professional engineer and reviewed by MN-S through a formal shop drawing process.
- + Electrical maintenance manuals must be provided in print and digital formats to the client where available.
- + The Proponent must commission the Electrical equipment on site to ensure the systems are functioning correctly.

31-EARTHWORKS

- + Earthworks are the responsibility and are within the scope of the Proponent. All earthworks must adhere to the AHJ and follow best environmental practices when possible. Earthworks must adhere to any conservation requirements in the jurisdiction they are executed. Earthworks must meet or exceed NBC.
- + Adequate parking to meet the requirements of MN-S and the AHJ must be provided.

32-EXTERIOR IMPROVEMENTS

- + Exterior Improvements are the responsibility and are within the scope of the Proponent. Support from the Owner's Advisor will be provided to help plan and recommend native, edible, and medicinal plant species that are significant to the Métis community. Preference will be given to native plantings by the client. All exterior improvements must adhere to the AHJ and any conservation requirements where each project is constructed. Exterior Improvements must meet or exceed NBC.
- + Scope of work is to be determined as per provided site plan. Changes may occur due to zoning requirements.

33-UTILITIES

+ Utilities are the responsibility and are within the scope of the Proponent. Specific costs related to site servicing (Hydro, Sewer, and Water) are the responsibility, and costs incurred directly to service the site are the responsibility of the client at no markup by the contractor.

MISCELLANEOUS

+ Proponent to identify any miscellaneous items.

EXCLUSIONS AND CLARIFICATIONS

- + Computer Equipment is excluded from the contract and will be client furnished.
- + Power service and permit fees will be the financial responsibility of MN-S.

B. Material Disclosures

At this time, MN-S has purchased the land for this project. Details regarding the location, address, and status of the building site is outlined in Appendix C - Project Locations and Information.

B.1. Geotechnical Conditions

Geotechnical Investigation has not been completed on this site at this time. The Proponent is required to exercise prudent professional diligence in assuming ordinary geotechnical conditions that can be reasonably anticipated for a project of this nature at the Project Site. In the event that geotechnical investigations discover conditions that significantly differ from conditions that could have been reasonably anticipated, there will be an opportunity to negotiate a Change Order between the Proponent and MN-S at MN-S's discretion.

B.2. Legal Land Survey

Legal land surveys have been provided where available to Proponents. MN-S will work with Proponents to procure additional information as needed to complete the project within reason. MN-S is responsible for the fees associated with procuring legal land surveys.

B.3. Unusual Site Conditions

The Proponent should exercise professional diligence in assuming ordinary site conditions that could be reasonably anticipated for a project of this nature at the project site. Unforeseeable, unavoidable, and unusual site conditions may, at MN-S's discretion allow for the negotiation of a Change Order in accordance with the terms of the Agreement.

B.4. Unknown Access to Utilities

MN-S will work with the successful Proponent and municipalities to determine what utilities are available on the project site. For the purposes of this RFP, the Proponent is to assume utilities are available at curbside.

B.5. Unusual Processes or Procedures

No unusual processes or procedures are seen at this time by MN-S regarding the delivery of this project.

B.6. Delivery or Performance Restrictions

This project can be delivered using a site built, modular or hybrid building approach as long as it meets the design intent and specifications of the project.

B.7. Conditions of Award or Performance

Award of this contract by no way guarantees any form of future work beyond what is outlined in the Agreement.



C. Rated Criteria

The following is an overview of the categories and weighting for the rated criteria of the RFP. Proponents' submissions that do not meet the minimum threshold score for any category may be deemed non-compliant and not evaluated further.

Rated Criteria Category	Weighting (Points)	Minimum Threshold
C.1 Experience, Qualifications, and Company Capacity	30	15
C.2 References	15	7.5
C.3 Company/Factory Location, Labour Force and Indigenous Participation	30	15
C.4 Pricing	75	37.5
C.5 Delivery Plan and Schedule	30	15
C.6 Warranty (Structure, Service, Repair)	20	10
Total Points	200	100

A Proponent must meet the minimum threshold in all criteria set forth in the Rated Criteria to advance to the negotiating stage. Should there only be one (1) Proponent to negotiate with, MN-S will negotiate solely with that Proponent.

The below criteria will be used to evaluate Proponents.

Rated Criteria Category

C.1 Experience, Qualifications, and Company Capacity – 30 Points

Please provide examples of 3 previous projects that are similar in scale and scope that demonstrate your team's ability to perform the requested work. At a minimum, include the following information for each project: Client, Project Name and Location, Date, Size, Contract Budget, Actual Final Construction Budget, and Photographs of the Completed Project.

Provide a company profile that at minimum outlines the vision of the company, the number of employees, and the business location.

Provide CV's for company team members who will be involved in this project.

In considering scores for this section, MN-S may also consider references and past performance as described in section 3.1.4 References and Past Performance of the RFP.

Please indicate the company size and capacity to competently perform these projects in light of previous experience, current workloads, and staffing levels.

C.2 References – 15 Points

Each Proponent is requested to provide three (3) references, satisfactory to MN-S, in its sole discretion, from clients who have obtained goods or services similar to those requested in this RFP from the Proponent in the last 5 years. These references are to be related to a project completed by your team. Please use Form #5 to complete this section. In considering scores for this section, MN-S may also consider references and past performance as described in section 3.1.4 References and Past Performance of the RFP.

C.3 Company/Factory Location, Labour Force, and Indigenous Participation – 30 Points

MN-S is committed to economic development and growth within their home territory in the Province of Saskatchewan. Please outline how you will approach economic development through these projects in the Province. Indicate where your company/factory is located and outline your plan to support as many local suppliers and labourers as possible through this project.

Also, provide information regarding the quality, health, and safety measures in place to protect your labour force.

Indigenous capacity development in trades is a critical area of economic development in our province. Please outline how your team would approach training and employment opportunities both at your factory and on-site in local communities through these projects. Form #3 Indigenous Participation will also score in this category. Please provide a description and plan that demonstrates your companies commitment to engage local Métis trades in the construction of these projects. To meet the minimum threshold in this category, the proponent must demonstrate their ability to hire local Métis companies as subcontractors. Use Forms #3 and #8 to demonstrate the amount of Indigenous participation and list of subcontractors as well as the description of a trades hiring plan to support this section.

C.4 Pricing / CM Fee Structure – 75 Points

Competitive pricing /CM Fee Structure is very important for MN-S. The Construction Manager's fee will be factored into the evaluation criteria. Pricing will be scored based on a relative pricing formula using the rates set out in the Submission Form. Each Proponent will receive a percentage of the total possible points allocated to price for the CM Fee, which will be calculated in accordance with the following formula:

lowest % *÷proponents* % × *weighting* = *proponents pricing points*

C.5 Delivery Plan and Schedule – 30 Points

Up to 40 points may be awarded in this category. Please provide a proposed delivery plan and detailed schedule for these projects. The construction schedule submitted by the Proponent will be used as a basis to evaluate this section.

C.6 Warranty (Structure, Service, Repair) – 20 Points

Please provide your information regarding your company's warranty program and length for these projects. Preference will be given to Proponents with more robust warranty programs and guaranteed levels of service and repair times. Please attach your company's warranty policy to your submission form for review by MN-S.



D. RFP Enclosures/Requirements Each Proponent must provide the following in its proposal:

- 1. Checklist Form
- 2. Proponent Information Form
- 3. Indigenous Participation Form
- 4. Proposed Agreement Form
- 5. Proponent Experience/Reference Form
- 6. Proposed Project Manager Form
- 7. Proposed Construction Schedule Form
- 8. Subcontractors Form
- 9. Submission Form (Single)
- 10. Submission Form (Multiple)
- 11. Consent of Surety Form
- 12. Proof of Insurance
- 13. Letter of Good Standing Form
- 14. Health & Safety Program

A checklist has been provided in the following section at the beginning of Appendix B.

Detailed descriptions of the requirements of each form are included at the beginning of each form. If questions arise, please contact the RFP contact.

E. Offer Duration

.1 Duration of Offer

.1 Proposals shall remain open to acceptance, and irrevocable for a **period of thirty (30)** days after the RFP closing date.

F. Qualifications

.1 Subcontractors

.1 MNS reserves the right to reject a proposed subcontractor for reasonable cause.

[End of Appendix A]

APPENDIX B – SUBMISSION FORMS

1. Checklist Form

This checklist is recommended for Proponent use to ensure that all required items are submitted and help eliminate errors in their proposal. Below is a table of the forms, along with instructions that Proponents should complete and submit with their proposal.

Form Name	Form #	Submission Instructions	Compliance Confirmed
Checklist Form	1	Fill in Form and Attach as PDF file.	
Proponent Information	2	Fill in Form and Attach as PDF file.	
Indigenous Participation Form	3	Fill in Form and Attach as PDF file.	
Proposed Agreement Form	4	Fill in Form and Attach as PDF file.	
Proponent Experience/Reference Form	5	Fill in Form and Attach as PDF file.	
Proposed Project Manager Form	6	Fill in Form and Attach as PDF file.	
Proposed Construction Schedule Form	7	Attach Gantt Chart as PDF File.	
Subcontractors Form	8	Fill in Form and Attach as PDF file.	
Proposal Form (Single)	9	Attach as a PDF file if applicable.	
Proposal Form (Multiple)	10	Attach as a PDF file if applicable.	
Consent of Surety	11	Attach PDF File indicating proponent is eligible.	
Current Proof of Insurance	12	Attach Copy of Proof of Insurance as PDF file.	
Proof of Good Standing with WCB	13	Letter of Good Standing with WCB attached as PDF file.	
Health & Safety Program	14	Attach Copy of your HSE Table of Contents.	

[End of Form]



2. Proponent Information Form

Please fill out the following form, naming one person to be the Proponent's primary contact (Office Project Manager) for the RFP process and for any clarifications or communication that might be necessary. The client requests a single point of contact.		
Full Legal Name of Proponent:		
Any Other Relevant Name under which Proponent Carries on Business in Saskatchewan:		
Street Address:		
City, Province:		
Postal Code:		
Phone Number:		
Company Website:		
Proposed Project Manager Contact Name:		
Proponent Contact Phone:		
Proponent Contact Email:		

Important Note: The Proponent must be registered with the Saskatchewan Ministry of Finance to collect and report provincial sales taxes (PST) whether a resident business or not. For more information please follow this link:

https://www.saskatchewan.ca/business/taxes-licensing-and-reporting/provincial-taxes-policies-and-bulletins/provincial-sales-ta x/apply-for-a-pst-number

The Proponent acknowledges the RFP process will be governed by the terms and conditions of the RFP, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal, legally binding bidding process (and for greater certainty, does not give rise to a Contract A bidding process contract) and that no legal relationship or obligation regarding the procurement of any good or service will be created between MN-S and the Proponent unless and until MN-S and the Proponent execute the Agreement for the Deliverables.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date

[End of Form]



3. Indigenous Participation Form

Definitions

In this form:

"Indigenous Person" means an individual who resides in Saskatchewan who is a status Indian under the Indian Act (Canada), a Métis Person or an Inuit;

"Indigenous Ownership" means a business that is:

(a) a limited, non-profit, or professional corporation with at least 51% of its shares beneficially owned by Indigenous Persons;

(b) a sole proprietorship conducted by an Indigenous Person;

(c) a partnership in which at least 51% beneficial interest belongs to Indigenous Persons;

(d) a cooperative in which Indigenous Persons have at least 51% of the beneficial interest of the cooperative;

(e) a Band as defined in the Indian Act (Canada) located in Saskatchewan; or

(f) joint venture of entities described in subclauses (a) through (e), or of a non-Indigenous business and at least one of the entities described in subclauses (a) through (e), as long as Indigenous Persons have at least 51% of the beneficial interest in the joint venture

"Indigenous Supplier" means a business that is:

(a) a limited, non-profit, or professional corporation with at least 51% of its shares beneficially owned by Indigenous Persons;

(b) a sole proprietorship conducted by an Indigenous Person;

(c) a partnership in which at least 51% beneficial interest belongs to Indigenous Persons;

(d) a cooperative in which Indigenous Persons have at least 51% of the beneficial interest of the cooperative;

(e) a Band as defined in the Indian Act (Canada) located in Saskatchewan; or

(f) a joint venture of entities described in subclauses (a) through (e), or of a non-Indigenous business and at least one of the entities described in subclauses (a) through (e), as long as Indigenous Persons have at least 51% of the beneficial interest in the joint venture.

"Inuit" means an individual who:

(a) self-identifies as a Inuit person; and

(b) are the Indigenous people of Arctic Canada -- (Labrador); Nunavik (Quebec); Nunavut; and the Inuvialuit Settlement Region of the Northwest Territories.

"Métis Person" means an individual who:

(a) self-identifies as a Métis person;

(b) has an ancestral connection to a historic Métis community of distinctive peoples of mixed ancestry with their own customs, practices, traditions, and recognizable group identities separate from their Indian, Inuit and European ancestors that have existed continuously since Europeans established effective control of the area in which the community is located; and

(c) is accepted as a member of the Métis community



Indigenous Ownership

The Proponent meets the criteria for Indigenous Ownership as defined above:

- Yes
- No

Indigenous Person Hours

In this section:

"Indigenous Person Hours" is the number of Person Hours performed by Indigenous Persons;

and

"Person Hour" means the amount of directly employed work performed by the average worker in one hour.

The Proponent is to complete the table below using its best available estimates:

ltem #	Description	Amount of Hours
1	Total Person Hours (Indigenous and non-Indigenous) performing the Work as set out in this proposal:	
2	Total Person Hours by Indigenous Persons performing the Work as set out in this proposal:	
3	% of Indigenous Person Hours: (Amount of hours listed in Item #2 divided by the amount of hours listed in Item #1 x 100)	
4	% of total contract price comprised of Indigenous Supplier(s):	

Note to Proponents

If the Proponent is awarded the Contract for the Work, the Contract shall include the Indigenous Participation Specifications (set out in Appendix A) which will contain contractual obligations to maintain Indigenous Person Hours and to regularly report on Indigenous Person Hours and Indigenous Supplier content.

Below, the Proponent should include its plan to hire local Métis companies and ensure the above stated Indigenous participation commitments are met, including how the Construction Manger will verify that work has been performed by Indigenous companies and workers, and what contractual



consequences the Construction Manager is willing to accept for failure to meet the committed level of Indigenous participation. Attach additional pages if necessary.



By signing this Declaration, the Proponent hereby declares that the information above is true and accurate.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date

[End of Form]

Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)



4. Proposed Agreement Form

MN-S intends to employ the use of a CCDC 5B -2010 - 2010 Construction Management Contract – for Services and Construction between the Proponent and MN-S. MN-S will retain SOLO Architecture Ltd. as a consultant under this contract to act as an advocate architect to bring cultural knowledge of Métis ways of building, contract administration services, aid in shop drawing review, revise specifications, and provide payment certification. MN-S expects the terms and conditions set forth in the Form of Agreement (CCDC 5B) in Scheule A1 (Services and Compensation) as well as General and Supplementary Conditions put forth by MN-S to be included in the final agreement with the selected Proponent. The Proponent will have an opportunity to negotiate these conditions and schedules prior to finalizing the contract.

It is intended that the proponent will agree to Article 5.2.2 a percentage amount of the Construction Cost Estimate for their construction manager fee. Final reconciliation payments shall be adjusted based on a Class A Construction Cost Estimate.

The Owner (MN-S) is open to negotiating options under Article A-8 (A-8.2 GMP, A8.3 GMP Plus % Cost Saving or A8.4 Stipulated Price Option) options with the successful proponent.

The Proponent accepts the form of Agreement (CCDC 5B) as put forth in the Appendices of this RFP. Circle your answer.

- Yes
- No

If the Proponent answered "No", please include a redlined copy of the Form of Agreement with the RFP Submission which clearly indicates the Proponent's revisions, conditions, or exceptions to the terms and conditions set forth in this RFP.

By signing this Declaration, the Proponent hereby declares that the form of agreement outlined above is acceptable, subject to any noted revisions, conditions, or exceptions provided in the Proponent's RFP Submission.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date

[End of Form]



5. Proponent Experience/Reference Form

Each Proponent is requested to provide three (3) references, satisfactory to MN-S, in its sole discretion, from clients who have obtained goods or services similar to those requested in this RFP from the Proponent in the last 5 years. These references are to be related to a project completed by your team.

Reference 01 //		
Project Name:		
Project Address:		
City, Province:		
Project Size:		
Estimated Project Budget:		
Actual Construction Budget:		
Reference Name:		
Reference Contact Phone:		
Reference Contact Email:		

Reference 02 //	
Project Name:	
Project Address:	
City, Province:	
Project Size:	
Estimated Project Budget:	
Actual Construction Budget:	
Reference Name:	
Reference Contact Phone:	
Reference Contact Email:	



MNS-2024-101

Reference 03 //		
Project Name:		
Project Address:		
City, Province:		
Project Size:		
Estimated Project Budget:		
Actual Construction Budget:		
Reference Name:		
Reference Contact Phone:		
Reference Contact Email:		

By signing this Declaration, the Proponent hereby declares that the project experience and Reference information provided is accurate to the best of the Proponent's knowledge.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date



6. Proposed Project Manager Form

Please identify a qualified person from your team who will lead the Project Manager Role and be the main point of contact for MN-S during this project:

Personnel Name	Number of Years of Experience	

Please identify a qualified person from your team who will lead the On-Site Manager Role during this project:

Personnel Name	Number of Years of Experience

Should either the Project Manager or Site Manager change throughout the project, the Proponent must notify the client in writing of this change.

7. Proposed Construction Schedule Form

Please provide a detailed proposed construction schedule as part of the RFP submission. A Gantt chart that includes mobilization through to the final inspection is recommended which is supported by a written description of the plan. Important milestone dates such as the start of construction, substantial completion/performance of the contract, and final inspection date should also be included. Please attach the proposed schedule as a PDF to the submission.



8. Subcontractors Form //

Note: Where the Proponent does not intend to employ a subcontractor they shall insert "Own Forces" in the space provided. If the item of Work is not applicable to the project insert "N/A". Please indicate if the subcontractor is Métis, First Nations, Inuit on this form. Please indicate whether you plan to use Own Forces or a subcontractor below.

<u>Item of Work</u>	Subcontractor or Supplier
DIVISION 1 – GENERAL REQUIREMENTS	
General Requirements	
Mobilization	
Insurance and Warranties	
DIVISION 2 – 14 ARCHITECTURAL DIVISIONS	
Division 2-14	
DIVISION 21-25 – MECHANICAL	
Mechanical	
DIVISION 26-28 – ELECTRICAL	
Electrical	
DIVISION 31-EARTHWORKS	
Earthworks	
DIVISION 32-EXTERIOR IMPROVEMENTS	
Exterior Improvements	

Notes Regarding Rates:

(a) Proponent is required to obtain 3 quotes on each portion of work listed above, even in cases where the contactor is planning to use own forces. This is to ensure competitive pricing is obtained for the owner.

36



MNS-2024-101

(b) The Proponent is responsible to ensure that pricing is all-inclusive and must include all labour and material costs, all travel and mobilization costs, all insurance costs, all costs of delivery, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law.

SIGNATURE OF AUTHORIZED REPRESENTATIVE Corporate Seal





MNS-2024-101

9. Proposal Form (Single Submission Form)

This form is to be completed if the proponent is submitting only on one of the three Ma Faamii Builds (Yorkton, Beauval or North Battleford). If the proponent is submitting on either two or three of the builds they are to use form #10 Proposal Form (Multiple Submissions). This allows the proponent to share proposed cost savings for repeat design/construction management fees/bulk purchasing power across builds. If the proponent is submitting on multiple builds, please write Not Applicable on this form.

PROPONENT:_	 	
(Legal Name)		

(Street Address)

(City, Province, Postal Code)

Part 1 Construction Manager % Fee

1.1 Having examined the project Sites, the RFP Documents, and Addenda numbered _____ to _____ issued by the RFP Contact. (*Proponent to fill in blanks for addenda received*)

1.2 We have included herewith, the required Consent of Surety as required by the RFP.

1.3 We confirm that our Proposal Price is based on specified provisions only.

1.4 Confirm that our Proposal Price includes Goods and Services Tax (GST) and Saskatchewan Provincial Sales Tax (PST).

1.5 Any Cash Allowances are included in the Proposal Price and are to be listed by the Proponent.

1.6 The maximum project budget inclusive of the Construction Manager's Fee and Costs associated with completing the work is \$1.6M CAD. This does not include Taxes.

1.7 It is assumed that if the proponent is interested in also submitting a proposal for the other two project sites, they will gain economies of scale by completing identical builds and these savings will be translated to the CM Fee % as a saving for the owner. This will be taken into consideration when reviewing the RFP.

1.8 As per Article A-5 Construction Manager's Fee under 5.2.2. please indicate your percentage-based Construction Manager's Fee to complete the work put forth by the RFP Documents in Canadian Dollars.



CONSTRUCTION MANAGERS FEE %: (CM in a percentage)

1.7 Submitted this ______ day of ______ , 20_____ .

Part 2 Declarations

2.1 We propose to attain Substantial Performance of the Work on or before: ______.

2.2 We state that no person, firm or corporation other than the undersigned has any interest, financial or otherwise, in this RFP or in the proposed Agreement for which the proposal is made.

2.3 We hold that this proposal shall be held irrevocable and is open to acceptance by MN-S until 30 days after the RFP closing date.

2.4 We agree to be bound by the entire RFP including all of the terms and conditions, all documents listed in the RFP and any and all Addenda.

2.5 We agree that all forms and supplements called for by the RFP Documents form an integral part of this submission.

2.6 The Proponent's representative identified below is fully authorized to represent the Proponent in any and all matters related to this proposal, including but not limited to providing clarifications and additional information that may be requested in association with this RFP.

2.7 The Form of Agreement provided by MN-S is in a form acceptable to the Proponent, subject to the exceptions included in this proposal.

2.8 We agree that we are bound by all statements and representations in our proposal.

Part 3 Attachments

3.1 This Proposal includes the following:

- 1. Checklist Form
- 2. Proponent Information Form
- 3. Indigenous Participation Form
- 4. Proposed Agreement Form
- 5. Proponent Experience/Reference Form
- 6. Proposed Project Manager Form
- 7. Proposed Construction Schedule Form
- 8. Subcontractors Form
- 9. Submission Form (Single Submission)
- 10. Submission Form (Multiple Submission)

Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)



MNS-2024-101

- 11. Consent of Surety Form
- 12. Proof of Insurance
- 13. Letter of Good Standing Form
- 14. Health & Safety Program

Part 4 Signatures

SIGNED, SEALED, AND SUBMITTED for and on the behalf of:

Signature of Proponent's Authorized Representative

Witness's Signature or Corporate Seal

Title or Status of Person Signing Above

(Print or Type)

[End of Form]



Name and Title of Witness

10. Proposal Form (Multiple Submission Form)

This form is to be completed if the proponent is submitting on either two or three Ma Faamii Builds (Yorkton, Beauval and/or North Battleford). If the proponent is submitting a single submission only, they are to use Form #9 Proposal Form (Single Submission) and indicate not applicable on the below form. This allows the proponent to share proposed cost savings for repeat design/construction management fees/bulk purchasing power across builds.

PROPONENT:	F:	
(Legal Name)	e)	

(Street Address)

(City, Province, Postal Code)

Please indicate below which builds are being submitted for by checking the box.

- 2024-101 Beauval
- 2024-102North Battleford
- 2024-100 Yorkton

Part 1 Construction Manager % Fee

1.1 Having examined the project Sites, the RFP Documents, and Addenda numbered _____ to _____ issued by the RFP Contact. (*Proponent to fill in blanks for addenda received*)

1.2 We have included herewith, the required Consent of Surety as required by the RFP.

1.3 We confirm that our Proposal Price is based on specified provisions only.

1.4 Confirm that our Proposal Price includes Goods and Services Tax (GST) and Saskatchewan Provincial Sales Tax (PST).

1.5 Any Cash Allowances are included in the Proposal Price and are to be listed by the Proponent.

1.6 The maximum project budget inclusive of the Construction Manager's Fee and Costs associated with completing the work is \$1.6M CAD. This does not include Taxes.

MNS-2024-101

1.7 It is assumed that if the proponent is interested in also submitting a proposal for the other two project sites, they will gain economies of scale by completing identical builds and these savings will be translated to the CM Fee % as a saving for the owner. This will be taken into consideration when reviewing the RFP.

1.8 As per Article A-5 Construction Manager's Fee under 5.2.2. please indicate your percentage-based Construction Manager's Fee to complete the work put forth by the RFP Documents in Canadian Dollars.

CONSTRUCTION MANAGERS FEE %: (CM in a percentage)

1.7 Submitted this _____ day of _____ , 20____ .

Part 2 Declarations

2.1 We propose to attain Substantial Performance of the Work on or before: _____

2.2 We state that no person, firm or corporation other than the undersigned has any interest, financial or otherwise, in this RFP or in the proposed Agreement for which the proposal is made.

2.3 We hold that this proposal shall be held irrevocable and is open to acceptance by MN-S until 30 days after the RFP closing date.

2.4 We agree to be bound by the entire RFP including all of the terms and conditions, all documents listed in the RFP and any and all Addenda.

2.5 We agree that all forms and supplements called for by the RFP Documents form an integral part of this submission.

2.6 The Proponent's representative identified below is fully authorized to represent the Proponent in any and all matters related to this proposal, including but not limited to providing clarifications and additional information that may be requested in association with this RFP.

2.7 The Form of Agreement provided by MN-S is in a form acceptable to the Proponent, subject to the exceptions included in this proposal.

2.8 We agree that we are bound by all statements and representations in our proposal.

MNS-2024-101

Part 3 Attachments

3.1 This Proposal includes the following:

- 1. Checklist Form
- 2. Proponent Information Form
- 3. Indigenous Participation Form
- 4. Proposed Agreement Form
- 5. Proponent Experience/Reference Form
- 6. Proposed Project Manager Form
- 7. Proposed Construction Schedule Form
- 8. Subcontractors Form
- 9. Submission Form (Single Submission)
- 10. Submission Form (Multiple Submission)
- 11. Consent of Surety Form
- 12. Proof of Insurance
- 13. Letter of Good Standing Form
- 14. Health & Safety Program

Part 4 Signatures

SIGNED, SEALED, AND SUBMITTED for and on the behalf of:

Signature of Proponent's Authorized Representative

Title or Status of Person Signing Above

Name and Title of Witness

Witness's Signature or Corporate Seal

(Print or Type)



11. Consent of Surety

The Proponent confirms that they are able to procure a Surety which includes both a Contract Performance Bond, and a Labour and Material Payment Bond in the amount of 50% of the overall contract price from a surety company licensed to do business in Saskatchewan and reasonably acceptable to MN-S prior to finalizing the contract if the proponent is successful. This document must be dated, signed and sealed by the surety company and be legally binding for the Proponent.

Attach as one (1) PDF file containing a letter stating that Consent of Surety (Performance and Labour/Material Bond) can be acquired, or attach a Consent of Surety to this submission.

By signing this Declaration, the Proponent hereby declares that the Proponent has/can obtain the Consent of Surety (Performance and Labour/Material Bond) in the amount set out above.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date

12. Proof of Insurance

The Proponent must provide a signed "Undertaking of Insurance" on a standard form provided by the insurance company stating the intention to provide insurance to the Proponent in accordance with insurance requirements of the General Conditions of the Agreement. The Proponent must carry insurance that includes Commercial General Liability, Automobile Liability and Umbrella Liability. The insurance should cover Broad Form Bodily Injury & Property Damage, Personal & Advertising Injury, Cross Liability, Tenant's Legal Liability, Employers Liability, Blanket Contractual Liability, Employees as Additional Insureds, and Contingent Employers Liability. The insurance document must be provided as part of the RFP submission.

By signing this Declaration, the Proponent hereby declares that the Proponent states that they carry adequate insurance that is to remain in place for the entirety of the project and warranty period.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date

13. Letter of Good Standing with WCB Saskatchewan

MN-S is committed to promoting and providing safe working environments in its own operations and that of engaged contractors/consultants. The request for a letter of Good Standing with the Saskatchewan Workers' Compensation Board demonstrates MN-S's commitment to safety.

Proponents must provide a letter from the WCB that outlines their current status with the Saskatchewan Workers' Compensation Board. It must state that the Proponent's account(s) is/are in good standing with the Saskatchewan WCB. This letter must have a confirmation number and date.

By signing this Declaration, the Proponent hereby declares that the Proponent states that their account(s) is/are in good standing with the Saskatchewan Workers' Compensation Board.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

Date



14. Health & Safety Program

MN-S is committed to promoting and providing safe working environments in its own operations and that of engaged contractors/consultants. The request for a copy of a Health & Safety Program demonstrates MN-S's commitment to safety. If a proponent is COR - Certified, they are encouraged to submit this. COR certification is not a requirement, but an HSE Program is.

Proponents must provide at minimum a table of contents of their Health & Safety Program that outlines that they have developed and implemented a health and safety program. If the proponent is successful, a full Health & Safety Program must be provided prior to finalizing the contract.

By signing this Declaration, the Proponent hereby declares that the Proponent states that they have a HSE Program in place.

Signature of Proponent Representative

Title of Proponent Representative

Name of Proponent Representative

[End of Form]

[End of Appendix B]



Ma Faamii Service Centre Building - Beauval Métis Nation-Saskatchewan (MN-S)

Date

APPENDIX C – PROJECT LOCATION AND INFORMATION

Project Location	Site Description
NR3 Beauval	4801 Lavoie St.

NR3 Beauval

Site Description: This site is located on the North side of Lavoie St. between Highway 165 and Smith Ave. The Northern Village of Beauval office as well as other commercial buildings are adjacent to the site. The lot is vacant and ready to build. It encompasses approximately 0.25 ha. and the legal description for the Parcel is #129190619, #129190620 & #159190664 It is zoned as C-1 Commercial. Further zoning information can be found on the attached site plan.

Site Photograph:



Legal Land Survey: Not provided at this time.

Rezoning Required: Not required.

[End of Appendix C]



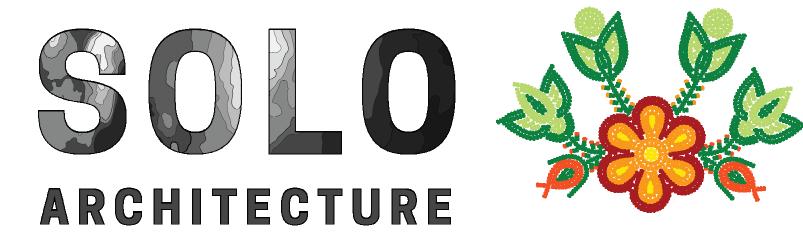


REMOTE MA FAAMI

MÉTIS NATION - SK







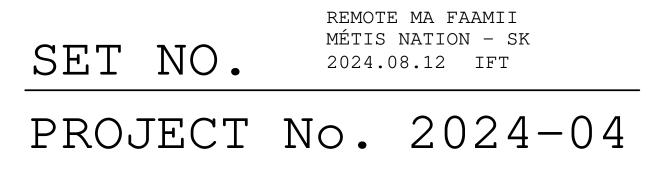


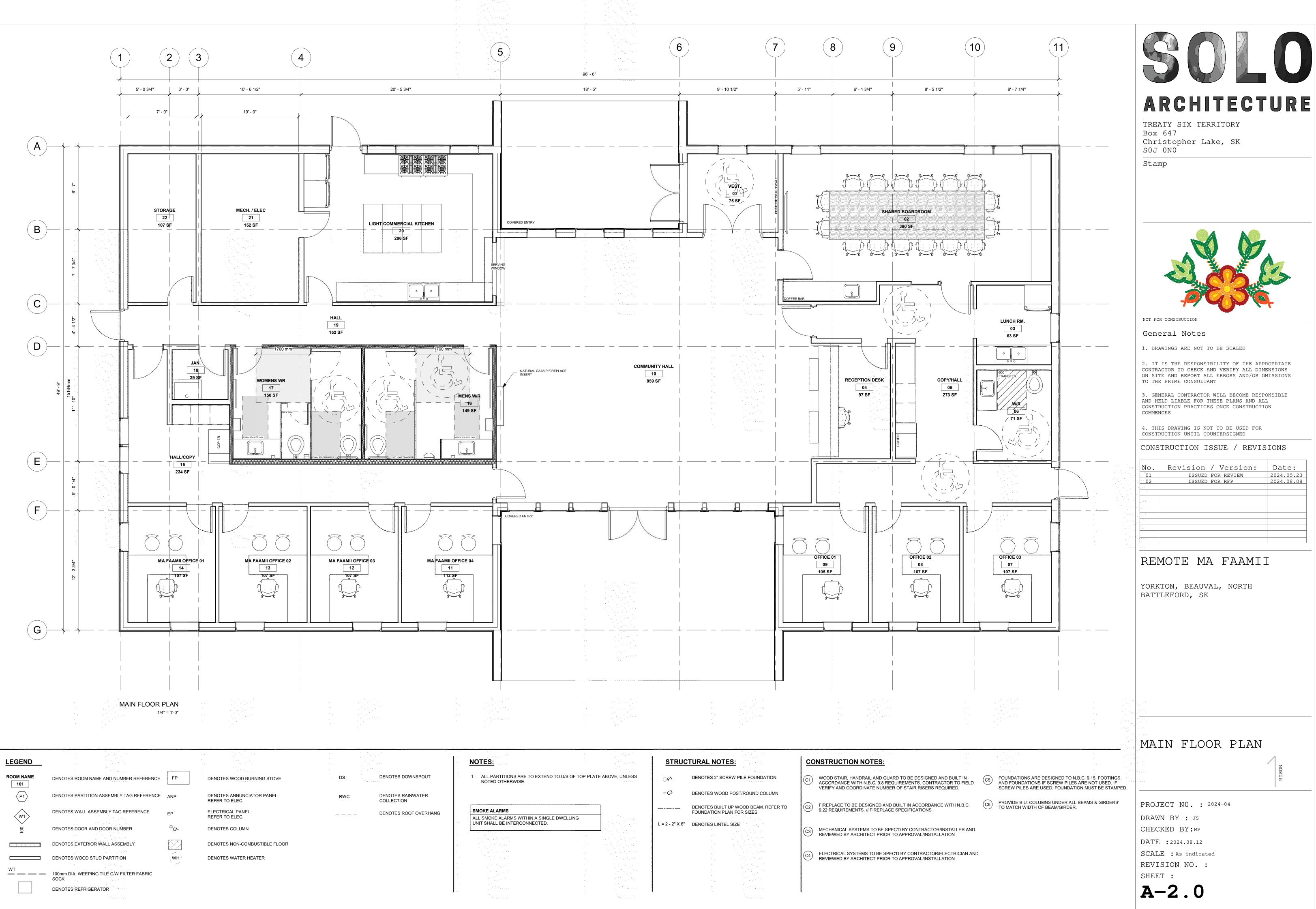












NOTES:		STRUC	CTURAL NOTES:	CONSTRUCTION NOTES:
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				C4 ELECTRICAL SYSTEMS TO BE SPEC'D BY REVIEWED BY ARCHITECT PRIOR TO APP



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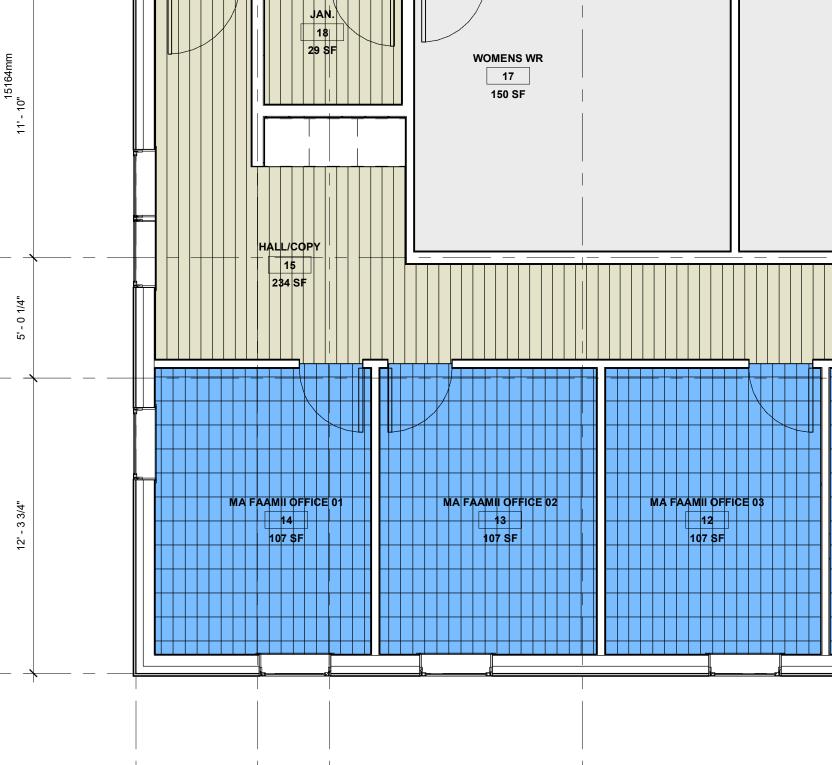
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CONC. 1.0 // EXPOSED CONCRETE

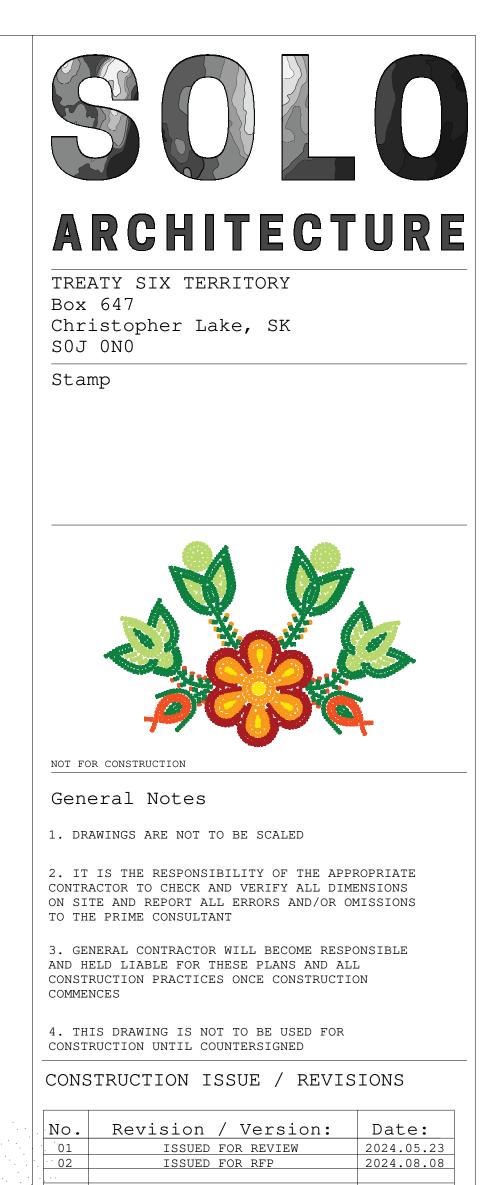
CPT 1.0 // WALK OFF CARPET TILE

1/4" = 1'-0"









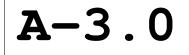
NO.	Revision / Version:	Date:
01	ISSUED FOR REVIEW	2024.05.23
·· 02	ISSUED FOR RFP	2024.08.08
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REMOTE MA FAAMII

YORKTON, BEAUVAL, NORTH BATTLEFORD, SK

MAIN FLOOR FINISHES PLAN

PROJECT NO. : 2024-04 DRAWN BY : JS CHECKED BY:MP DATE :2024.08.12 SCALE : 1/4" = 1'-0" REVISION NO. : SHEET :



8' - 7 1/4" 8' - 5 1/2" 6' - 1 3/4" 5' - 11" 6 8 T/0 N WALL 5 9' - 8 1/32" 10 T/0 S WALL 8' - 11 9/32" 9— 2)-(7)-1 GFP ---GRADE -0' - 10" (2) USE BLACK GALV. FLASHING OVERTOP ALL EXTERIOR DOORS & WINDOWS UNLESS OTHERWISE INDICATED BY DOOR/WINDOW MANUFACTURER. MUST BE END DAMNED NORTH ELEVATION 1/4" = 1'-0"

(10)

(9)

(7

8

ELEVATION MATERIALS LEGEND

WHITE EIFS FINISH - OC - 117 SIMPLY WHITE FINISH (1)HARDIE PANEL - SMOOTH FINISH - MIDNIGHT BLACK 2 WITH COLOUR MATCHED FASTENERS 3 FISHER COATINGS TRUEGRAIN CEDARTONE LAP SIDING 7.25" WIDE PLANK

(11

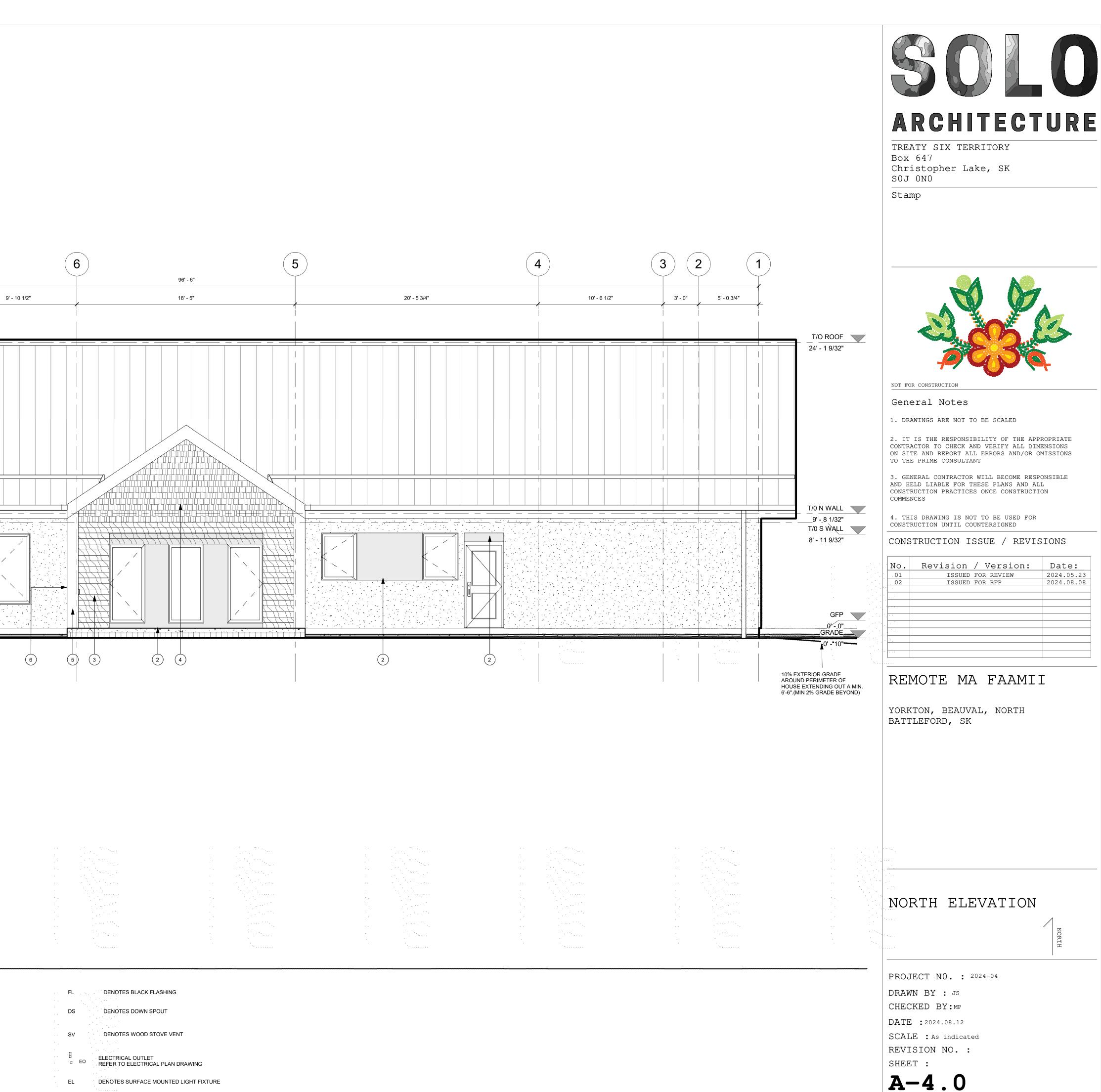
- WATKINS SAWMILLS HERITAGE CUT DESIGNER SHINGLES 4
- HARDIETRIM LAP SIDING SMOOTH USED AS FASCIA ABYSS BLACK 5
- BLACK 24 GA GALVANIZED METAL ROOFING SNAPLOCK PROFILE 12" OR 16" RIB
- (7) BLACK GALVANIZED DOWNSPOUT

8 BLACK GALVANIZED 5" EAVESTROUGH

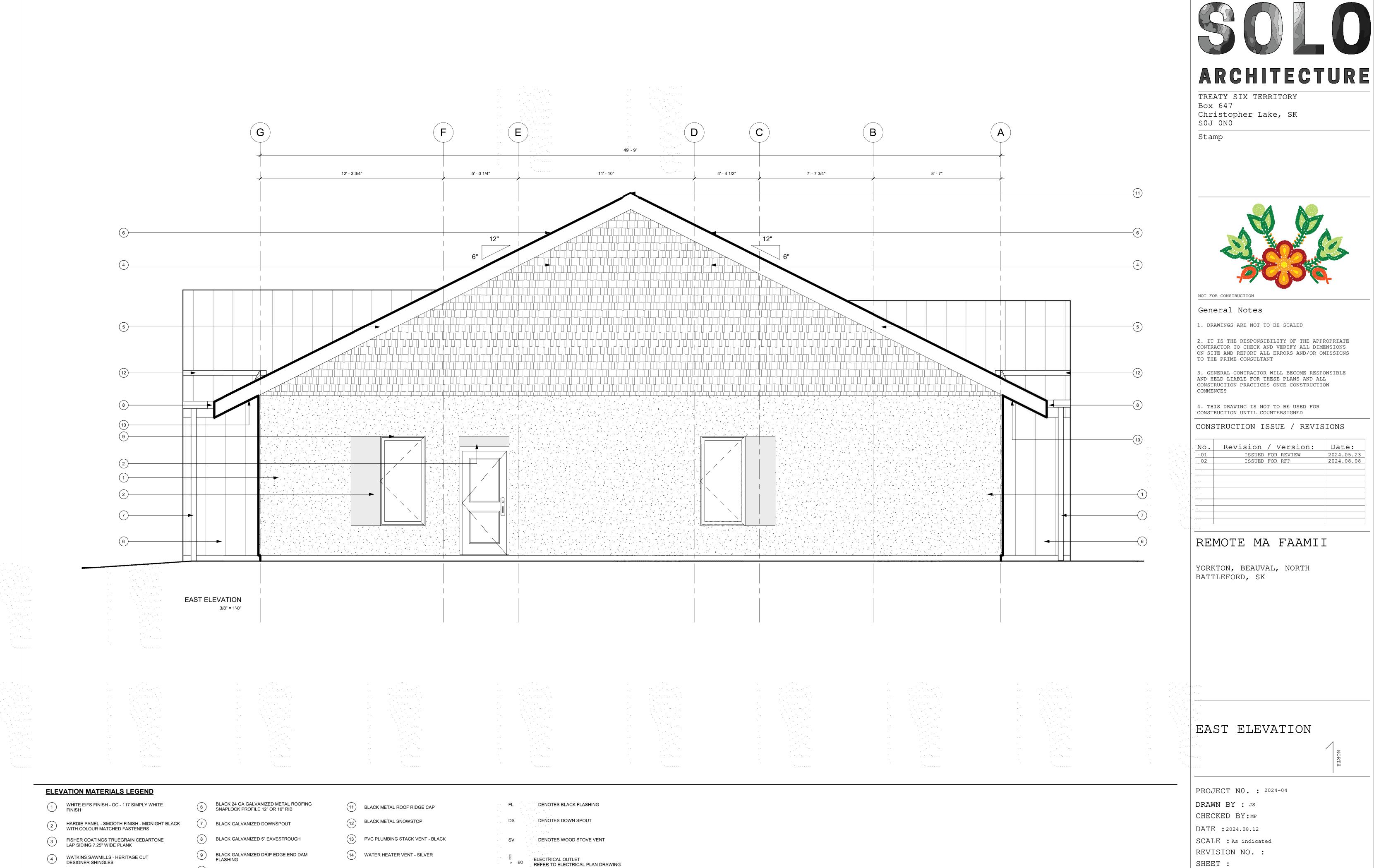
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- 9 BLACK GALVANIZED DRIP EDGE END DAM
- FLASHING (10) PREFINISHED BLACK METAL VENTED SLOPED SOFFIT
- 11 BLACK METAL ROOF RIDGE CAP (12) BLACK METAL SNOWSTOP
- (13) PVC PLUMBING STACK VENT BLACK
- (14) WATER HEATER VENT SILVER

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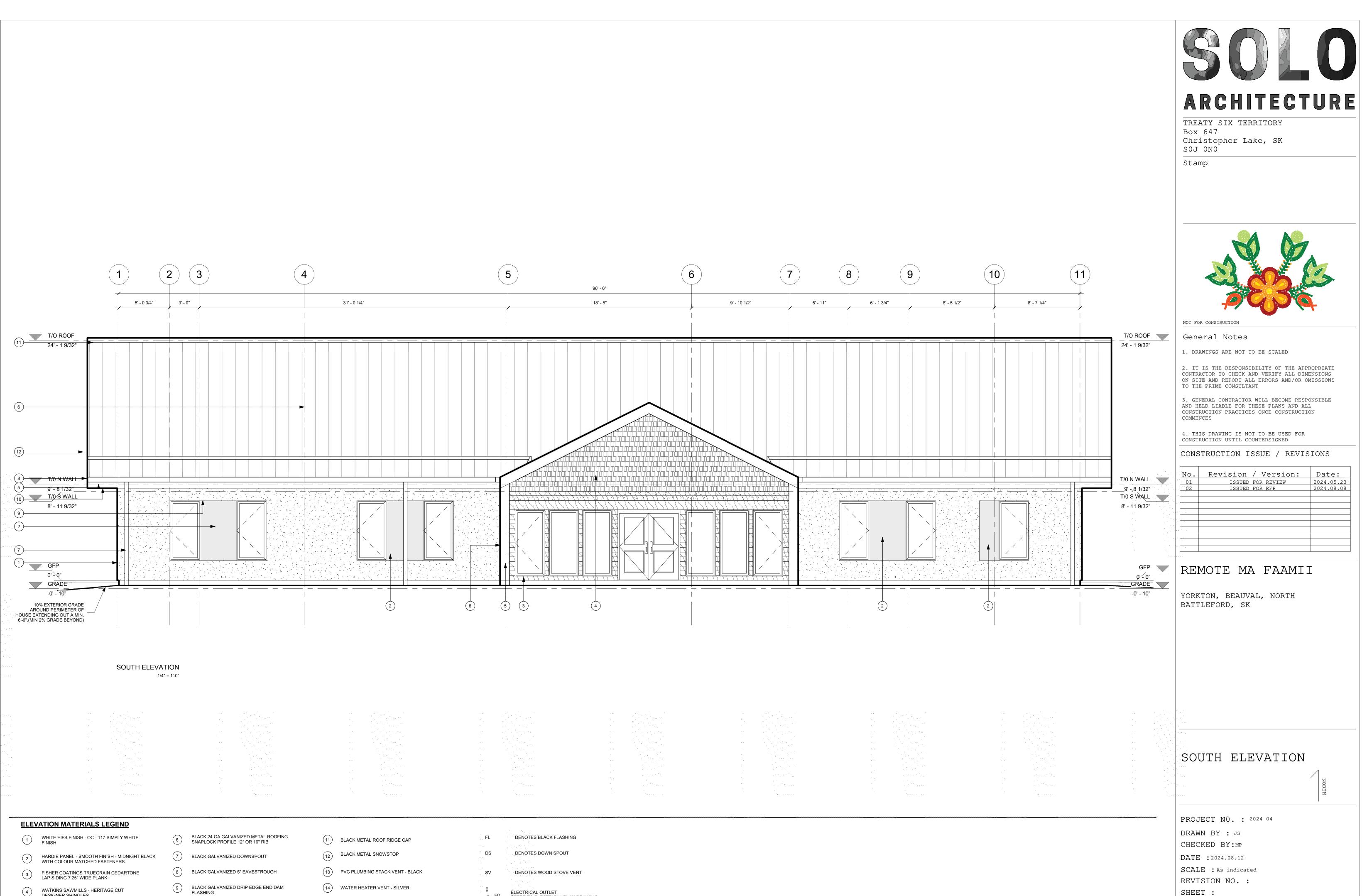
EL DENOTES SURFACE MOUNTED LIGHT FIXTURE



- HARDIETRIM LAP SIDING SMOOTH USED AS FASCIA ABYSS BLACK 5
- 10 PREFINISHED BLACK METAL VENTED SLOPED SOFFIT

DENOTES SURFACE MOUNTED LIGHT FIXTURE EL

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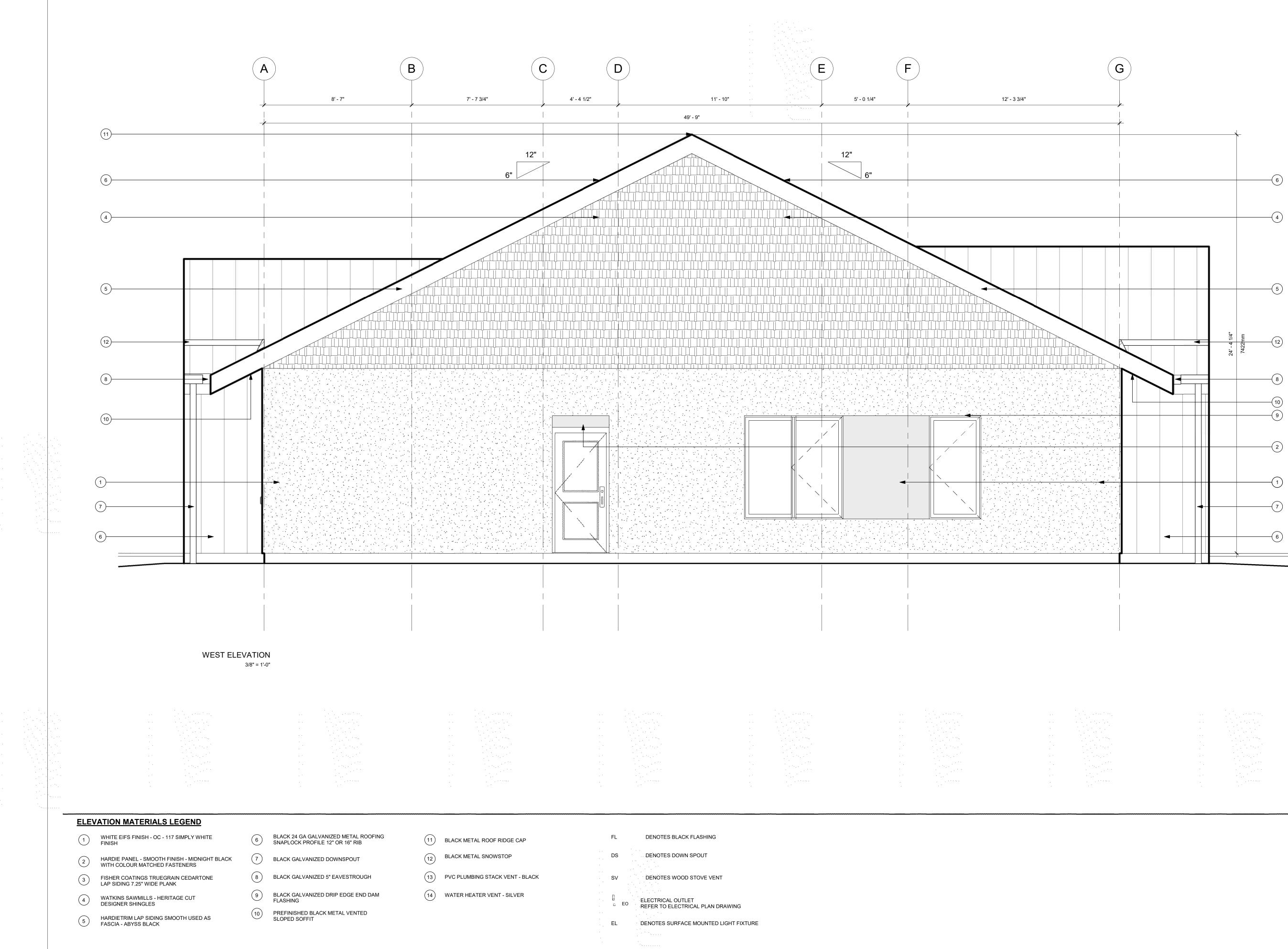
- 4 WATKINS SAWMILLS - HERITAGE CUT DESIGNER SHINGLES
- HARDIETRIM LAP SIDING SMOOTH USED AS 5 FASCIA - ABYSS BLACK

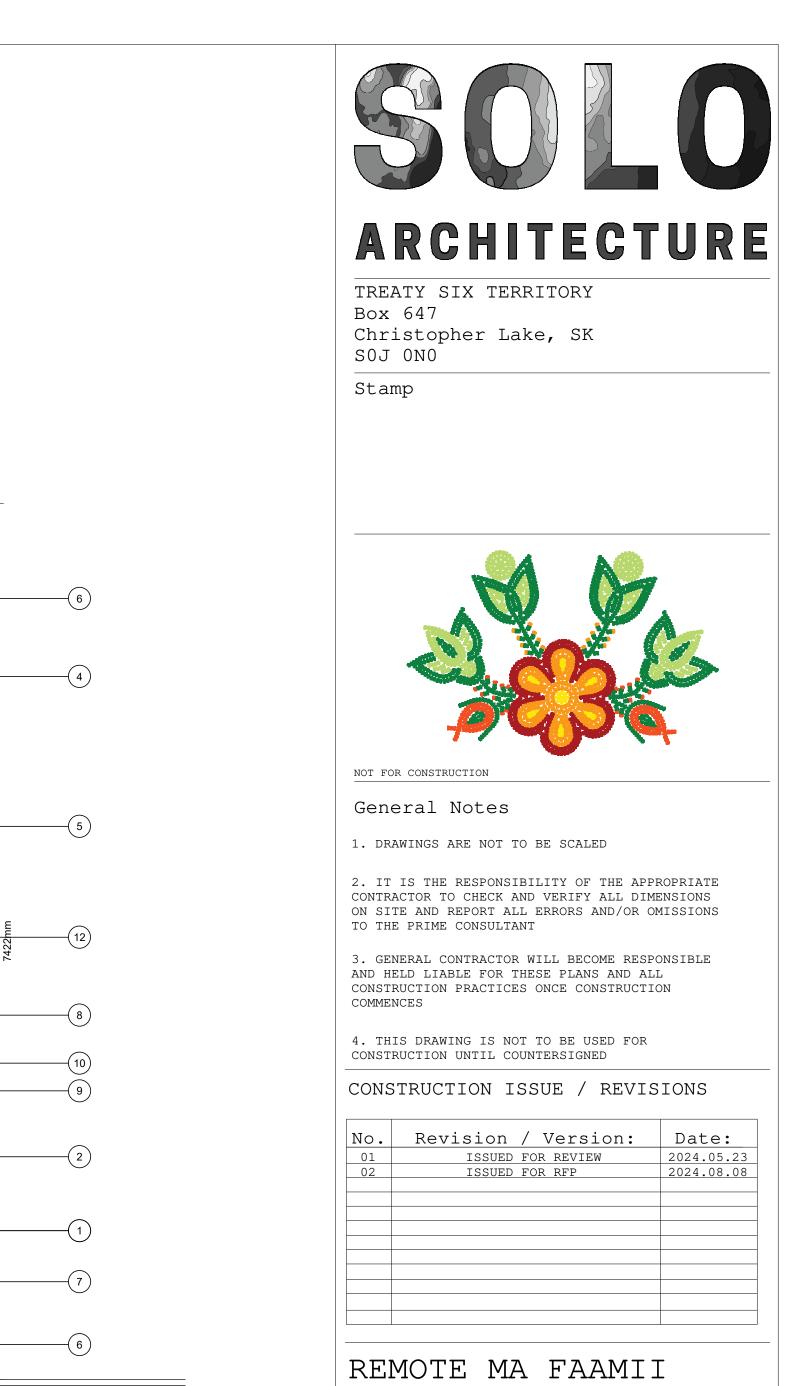
- FLASHING
- 10 PREFINISHED BLACK METAL VENTED SLOPED SOFFIT

ELECTRICAL OUTLET REFER TO ELECTRICAL PLAN DRAWING 🗅 EO

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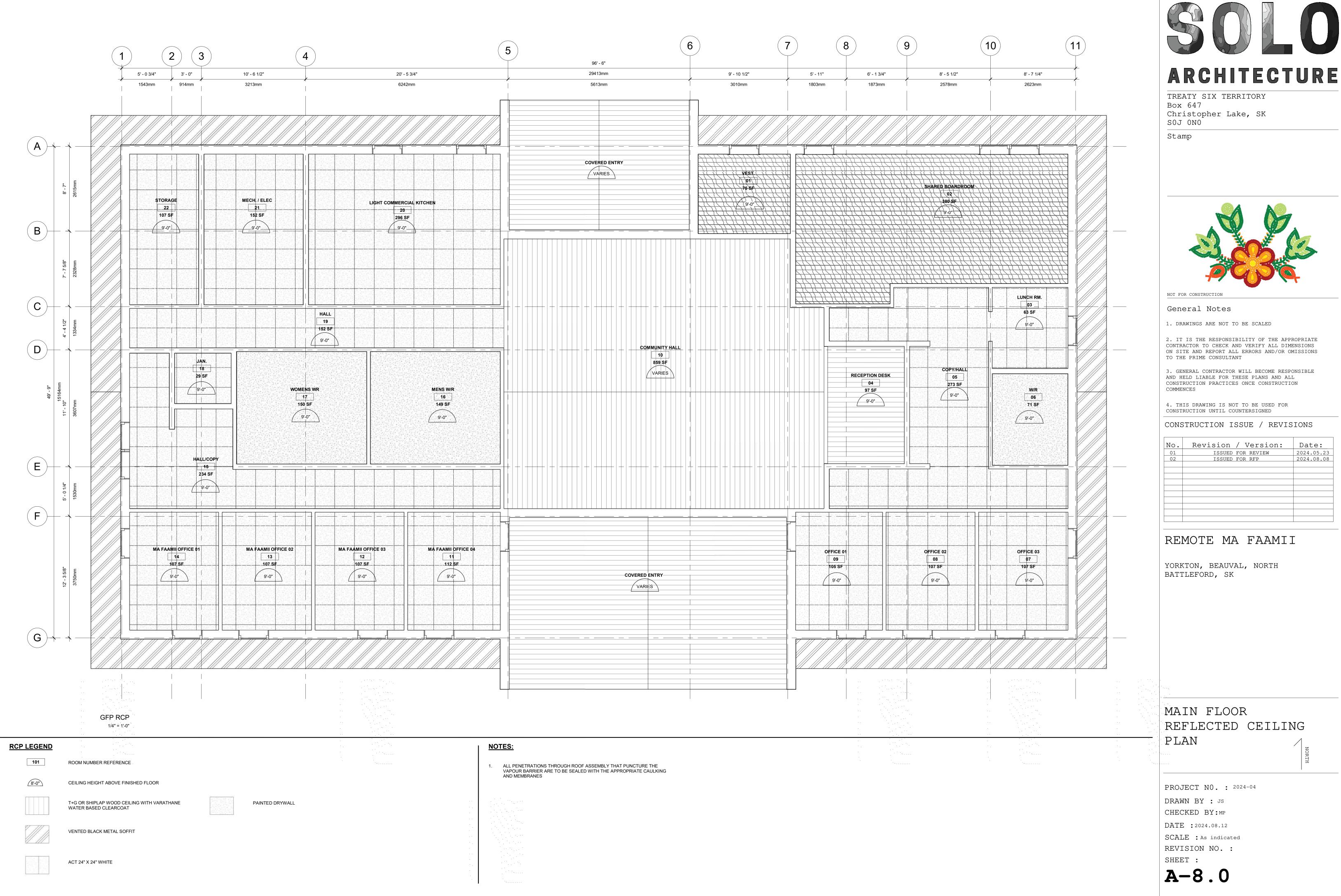


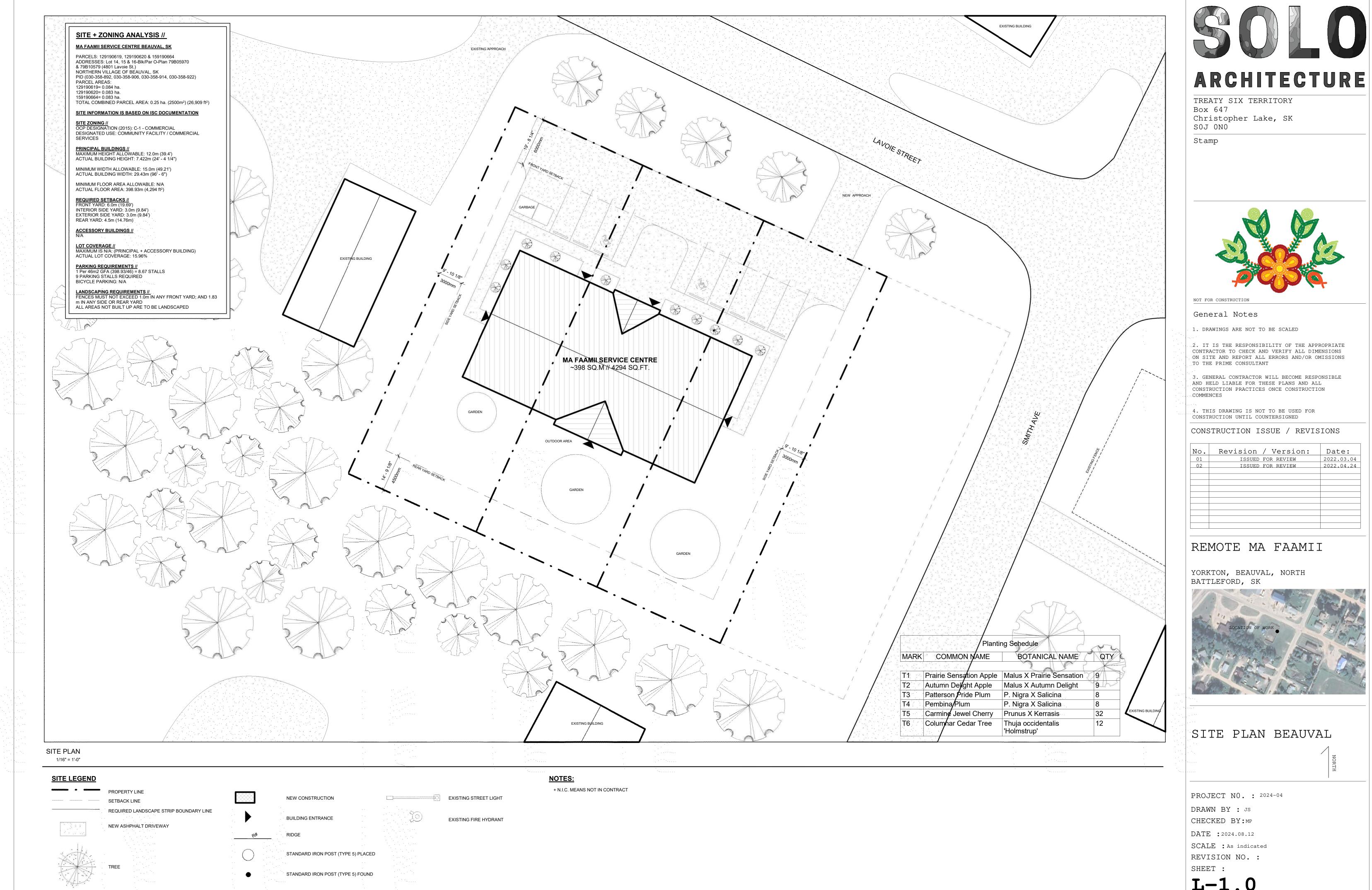


YORKTON, BEAUVAL, NORTH BATTLEFORD, SK

WEST ELEVATION

PROJECT NO. : 2024-04 DRAWN BY : JS CHECKED BY:MP DATE :2024.08.12 SCALE : As indicated REVISION NO. : SHEET :





2022.03.04



Information™ Services Corporation

Profile Report

Entity Number: 602811 Entity Name: M.S.S. LOCAL NO. 37 DEVELOPMENT CORPORATION Page 1 of 4 Report Date: 20-Dec-2022

Entity Details

Entity Type	Business Corporation
Entity Subtype	Saskatchewan Corporation
Entity Status	Inactive (Struck Off)
Status Effective	31-Jul-2002
Incorporation Date	01-Feb-1993
Annual Return Due Date	31-Mar-2002
Nature of Business	OFFICE & CLASSROOM RENTALS
MRAS indicator	No

Registered Office/Mailing Address

 Physical Address
 NORTHERN VILLAGE, BEAUVAL, Saskatchewan, Canada, S0M0G0

 Mailing Address
 M.S.S. LOCAL NO. 37 DEVELOPMENT CORPORATION, BOX 238, BEAUVAL, Saskatchewan, Canada, S0M0G0

Directors/Officers

CAROL B. EDQUIST (Officer)				
Physical Address:	BOX 246, BEAUVAL, Saskatchewan, Canada, S0M0G0			
Mailing Address:	BOX 246, BEAUVAL, Saskatchewan, Canada, S0M0G0	Office Held:	VICE PRESIDENT	
		Effective Date:	18-Jan-2001	
DORTHY ALCROW (Officer)				
Physical Address:	BOX 196, BEAUVAL, Saskatchewan, Canada, S0M0G0			
Mailing Address:	BOX 196, BEAUVAL, Saskatchewan, Canada, S0M0G0	Office Held:	SECRETARY	
		Effective Date:	18-Jan-2001	

Saskatchewan Corporate Registry

Information[™] Services Corporation

Profile Report

Entity Number: 602811 Page 2 of 4 Report Date: 20-Dec-2022 ALEX MAURICE (Officer) **Physical Address:** BOX 197, BEAUVAL, Saskatchewan, Canada, S0M0G0 Mailing Address: BOX 197, BEAUVAL, Office Held: PRESIDENT Saskatchewan, Canada, S0M0G0 Effective Date: 10-Sep-1999 **FLORENCE HANSEN (Officer) Physical Address:** BOX 45, BEAUVAL, Saskatchewan, Canada, S0M0G0 Mailing Address: BOX 45, BEAUVAL, Office Held: SECRETARY-TREASURER Saskatchewan, Canada, S0M0G0 10-Sep-1999 Effective Date: **ROCKY HANSEN (Director)** Physical Address: BOX 165, BEAUVAL, Resident Canadian: No Saskatchewan, Canada, S0M0G0 BOX 165, BEAUVAL, Mailing Address: Saskatchewan, Canada, S0M0G0 Effective Date: 10-Sep-1999 **ALEX MAURICE (Director)** Resident Canadian: Physical Address: BOX 197, BEAUVAL, Yes Saskatchewan, Canada, S0M0G0 Mailing Address: BOX 197, BEAUVAL, Saskatchewan, Canada, S0M0G0 Effective Date: 10-Sep-1999 **FLORENCE HANSEN (Director)** Resident Canadian: Physical Address: BOX 45, BEAUVAL, Yes Saskatchewan, Canada, S0M0G0 Mailing Address: BOX 45, BEAUVAL,

Saskatchewan, Canada,

S0M0G0

Effective Date:

10-Sep-1999

Entity Name: M.S.S. LOCAL NO. 37 DEVELOPMENT CORPORATION

Saskatchewan Corporate Registry

Profile Report

			i i onne i kepore	
Entity Number: 602811	Page 3 of 4			
Entity Name: M.S.S. LOCAL NO. 37 DEVELOPMENT CORPORATION			Report Date: 20-Dec-2022	
BEV HANSEN (Director)				
Physical Address:	BOX 116, BEAUVAL, Saskatchewan, Canada, S0M0G0	Resident Canadian:	Yes	
Mailing Address:	BOX 116, BEAUVAL, Saskatchewan, Canada, S0M0G0			
		Effective Date:	10-Sep-1999	
CAROL B. EDQUIST (Direct	or)			
Physical Address:	BOX 246, BEAUVAL, Saskatchewan, Canada, S0M0G0	Resident Canadian:	Yes	
Mailing Address:	BOX 246, BEAUVAL, Saskatchewan, Canada, S0M0G0			
		Effective Date:	18-Oct-1999	
BOBBY A. BUFFIN (Director)				
Physical Address:	BOX 164, BEAUVAL, Saskatchewan, Canada, S0M0G0	Resident Canadian:	Yes	
Mailing Address:	BOX 164, BEAUVAL, Saskatchewan, Canada, S0M0G0			
		Effective Date:	18-Oct-1999	

Shareholders

Information™ Services Corporation

Shareholder Name	Mailing Address	Share Class	Shares Held
ALEX MAURICE	BOX 197, BEAUVAL, SK, CANADA, S0M0G0	СОМА	15
BEV HANSEN	BOX 116, BEAUVAL, SK, CANADA, S0M0G0	СОМА	14
BOBBY A. BUFFIN	BOX 164, BEAUVAL, SK, CANADA, S0M0G0	СОМА	14
CAROL B. EDQUIST	BOX 246, BEAUVAL, SK, CANADA, S0M0G0	СОМА	15
DORTHY ALCROW	BOX 196, BEAUVAL, SK, CANADA, S0M0G0	СОМА	14
FLORENCE HANSEN	BOX 45, BEAUVAL, SK, CANADA, S0M0G0	СОМА	14
ROCKY HANSEN	BOX 165, BEAUVAL, SK, CANADA, S0M0G0	СОМА	14

Profile Report

Entity Number: 602811 Entity Name: M.S.S. LOCAL NO. 37 DEVELOPMENT CORPORATION

Articles

Minimum Number of Directors: 3 Maximum Number of Directors: 9

Share Structure:

Class Name	Voting Rights	Authorized Number	Number Issued
СОМА	Yes	Unlimited	100
СОМВ	Yes	Unlimited	
PREF	No	Unlimited	

Event History

Туре

Business Corporation - Restoral

Date 18-Jan-2001

Page 4 of 4 Report Date: 20-Dec-2022





Surface Parcel Number: 129190619

REQUEST DATE: Wed Mar 15 11:56:46 GMT-06:00 2023



Owner Name(s): M.S.S. Local No. 37 Development Corporation Municipality : NORTHERN VILLAGE OF BEAUVAL Title Number(s): 120088649 Parcel Class : Parcel (Generic) Land Description: Lot 16-Blk/Par O-Plan 79B05970 Ext 0 Source Quarter Section : Commodity/Unit: Not Applicable

Area: 0.084 hectares (0.21 acres) Converted Title Number: 98B11129 Ownership Share: 1:1



Surface Parcel Number: 129190620

REQUEST DATE: Wed Mar 15 11:56:27 GMT-06:00 2023



 Owner Name(s): M.S.S. Local No. 37 Development Corporation

 Municipality: NORTHERN VILLAGE OF BEAUVAL
 Area: 0.083 hectares (0.2 acres)

 Title Number(s): 120088997
 Converted Title Number: 98B11128.

 Parcel Class: Parcel (Generic)
 Ownership Share: 1:1

 Land Description: Lot 15-Blk/Par O-Plan 79B10579 Ext 0
 Source Quarter Section:

 Commodity/Unit: Not Applicable
 Commodity/Unit: Not Applicable

DIDCLAINER: THIC IS NOT A PLAN OF DURVEY It is a consolidation of clara to assist in identifying the location, size and shape of a parcel in relation to other parcels. Parcel boundaies and area may have been adjusted to fit with adjacent parcels. To determine actual boundaries, dimensions or area of any parcel, refer to the plan, or consult a surveyor



Surface Parcel Number: 129190664

REQUEST DATE: Wed Mar 15 11:55:54 GMT-06:00 2023



 Owner Name(s): M.S.S. Local No. 37 Development Corporation

 Municipality: NORTHERN VILLAGE OF BEAUVAL
 Area: 0.083 hectares (0.2 acres)

 Title Number(s): 120088975
 Converted Title Number: 98B11132

 Parcel Class: Parcel (Generic)
 Ownership Share: 1:1

 Land Description: Lot 14-Blk/Par O-Plan 79B10579 Ext 0
 Source Quarter Section:

 Commodity/Unit: Not Applicable
 Commodity/Unit: Not Applicable

DIDOLAINER: THIS IS NOT A PLAN OF DURVEY It is a consolidation of plans to assist in identifying the location, size and shape of a parcel in relation to other parcels. Parcel boundaies and an a may have been adjusted to fit with adjacent parcels. To determine actual boundaries, dimensions or area of any parcel, refer to the plan, or consult a surveyor



June 1st, 2023

OPINION OF VALUE

Lot 14, 15 & 16-Blk/Par O-Plan 79B05970 & 79B10579

0,35

22

35,

SPR

Beauval, SK

PREPARED FOR:

METIS NATION SASKATCHEWA

PREPARED BY:

Scott Friesen

President | Broker 306 270 8492 scott.friesen@saskatoon.com

OPINION OF VALUE

Comments

Lot 14, 15 & 16-Blk/Par O-Plan 79B05970 & 79B10579 Beauval, SK

The subject land is located on the corner of Smith Ave and Lavoie directly across from Subway and just off HWY-165. Currently sitting on the parcels is an outdoor community rink.

BROKER INFORMATION

Firm Name	Cushman & Wakefield Saskatoon
Broker Preforming Analysis	Scott Friesen
Company Address	215 350 3 rd Ave North, Saskatoon, SK
Telephone	306-270-8492
Email	Scott.Friesen@CWSaskatoon.com

Aerial Photo



OPINION OF VALUE

Lot 14, 15 & 16-Blk/Par O-Plan 79B05970 & 79B10579 Beauval, SK

SITE PHOTOS







Appendix

Land Use Bylaw

Title Information

Zoning Bylaw

6.5 C1 – General Commercial District

6.5.1 Purpose

a) The purpose of this District is to regulate and encourage commercial and business enterprises in concentrated areas that are easily accessible.

6.5.2 Permitted Uses

- a) artisan shop
- b) automotive and recreation vehicle sales and rental
- c) beverage room
- d) club
- e) commercial entertainment establishment
- f) commercial services
- g) community facility
- h) contractor services
- i) cultural institution
- j) day care centre
- k) education services
- fleet services
- m) government services
- n) health services
- o) hotel
- p) medical treatment facility
- q) motel
- r) neighbourhood retail store
- s) parking lot
- t) personal service shop
- u) public parks and green space
- v) radio, television and communication facility
- w) religious assembly
- x) restaurant
- y) retail store
- z) service or repair shop
- aa) service station
- bb) undertaking establishment
- cc) veterinary services
- dd) warehouse sales
- 6.5.3 Discretionary Uses
 - a) car wash
 - b) dwellings at or above grade
 - c) marina

Zoning Bylaw

- 6.5.4 Discretionary Use Standards and Evaluation Criteria
 - applications are subject to section 3.7 <u>Discretionary Use Evaluation Criteria</u> and section 4 <u>General Regulations;</u>
 - b) marinas are subject to section 4.16 Marinas and Float Plane Docks.
 - c) car wash:
 - applicants shall provide to Council as a minimum a description of operations including:
 - complete site plan indicating all points of traffic access and egress, natural and planned drainage works;
 - b. description of operations including facilities, loading areas, anticipated noise, odour, dust, storage of materials;
 - c. environmental management and mitigation plan; and
 - d. waste disposal and litter management plan.
 - d) dwellings at or above grade:
 - i) shall have a main entrance separate from the principal use;
 - cannot encompass more than 50% of the total floor area on the ground level, or more than 80% of the entire building;
 - iii) principal uses shall always be on the lower or same storey as the dwelling;
 - iv) shall not front the street on the ground level;
 - shall be separated from the adjoining use by a fire resistant wall or floor; and shall not be permitted on lots or parcels where the principal use is a hotel, motel, service station, public park and green space, or a parking lot.
- 6.5.5 Accessory Buildings and Uses
 - accessory buildings and uses that are an integral part of the principal use, and are secondary, subordinate and lesser in extent to the principal permitted or approved discretionary use, are permitted in this District.
 - b) caretaker's units are permitted, subject to section 4.9 Caretaker's units
- 6.5.6 Regulations

Zoning Bylaw

a) lot requirements:

Table 12 – General Commercial Minimum Lot Requirements

Parcel	Frontage		Depth	Maximum Building Height	
Permitted Uses	Rectangular	Non-rectangular	t.		
Hotel Motel Services Station Warehouse Sales	21 m (70 ft)	15 m (49.2 ft) *mean width minimum: 21 m	30 m (98.4 ft)	12 m (39.4 ft)	
Public Parks and Green Space		2	142	7.5 m (24.6 ft)	
All Other Permitted Uses	15 m (49.2 ft)	11 m (36.1 ft) *mean width minimum: 15 m	30 m (98.4 ft)	12 m (39.4 ft)	
Discretionary Uses	- du				
All Discretionary Uses	15 m (49.2 ft)	11 m (36.1 ft) *mean width minimum: 15 m	30 m (98.4 ft)	7.5 m (24.6 ft)	
Accessory Buildings		5.	1.51	12 m (39.4 ft)	

b) required yards:

Table 13 – General Commercial Minimum Setback Requirements

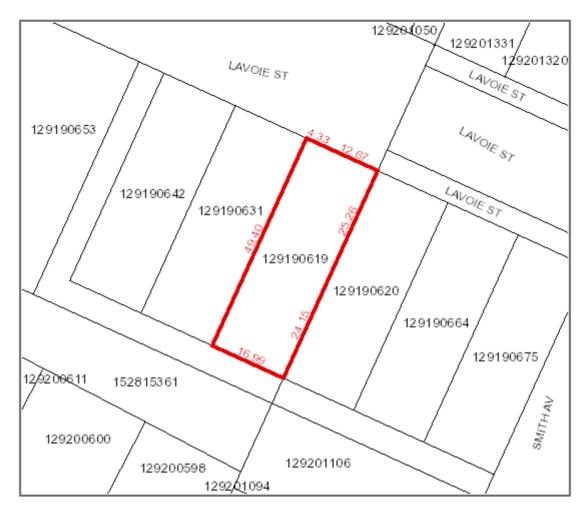
Use	Front Yard	Side Yard	Rear Yard
Permitted Uses			
Hotel Motel Service Station Undertaking Establishment	6 m (19.7 ft)	3 m (9.8 ft)	6 m (19.7 ft)
Public Parks and Green Space	1.2	120	
All Other Permitted Uses	6 m (19.7 ft)	3 m (9.8 ft)	4.5 m (14.8 ft)
Discretionary Uses			
All Discretionary Uses	6 m (19.7 ft)	3 m (9.8 ft)	<u></u>
Accessory Buildings	6 m (19.7 ft)	1.5 m (4.9 ft)	1.5 m (4.9 ft)

Parcel	Owner	Acres	Lot	BLK/Plan
				Blk-O-Plan
129190619	Northern Village of Beauval	0.21	16	79B05970
				Blk-O-Plan
129190620	Northern Village of Beauval	0.20	15	79B05970
				Blk-O-Plan
129190664	Northern Village of Beauval	0.20	14	79B10579
		0.61		

ISC

Surface Parcel Number: 129190619

REQUEST DATE: Wed Mar 15 11:56:46 GMT-06:00 2023



Owner Name(s): M.S.S. Local No. 37 Development Corporation
Municipality: NORTHERN VILLAGE OF BEAUVAL
Area: 0.084 hectares (0.21 acres)

Title Number(s): 120088649

Parcel Class: Parcel (Generic)

Land Description : Lot 16-Blk/Par O-Plan 79B05970 Ext 0

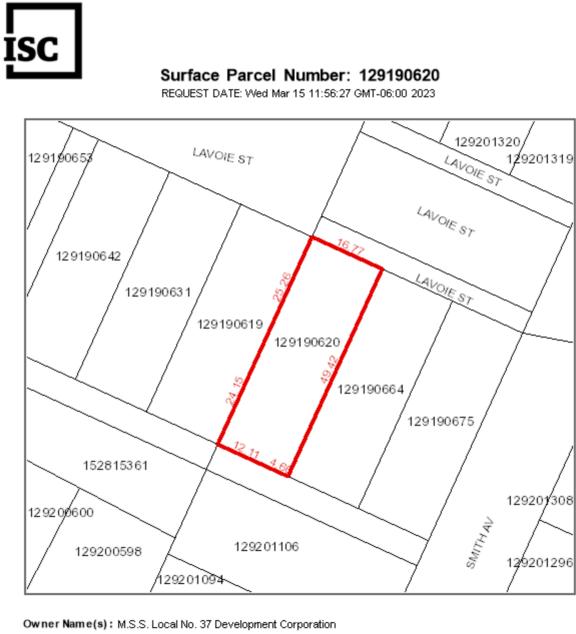
Source Quarter Section :

Commodity/Unit: Not Applicable

DISCLAIMER: THIS IS NOT A PLAN OF SURVEY It is a consolidation of plans to assist in identifying the location, size and shape of a parcel in relation to other parcels. Parcel boundates and area may have been adjusted to fit with adjacent parcels. To determine actual boundaries, dimensions or area of any parcel, refer to the plan, or consult a surveyor.

Converted Title Number: 98B11129

Ownership Share: 1:1



Municipality: NORTHERN VILLAGE OF BEAUVAL Area: 0.083 hectares (0.2 acres)

Title Number(s): 120088997

Converted Title Number: 98B11128 Ownership Share: 1:1

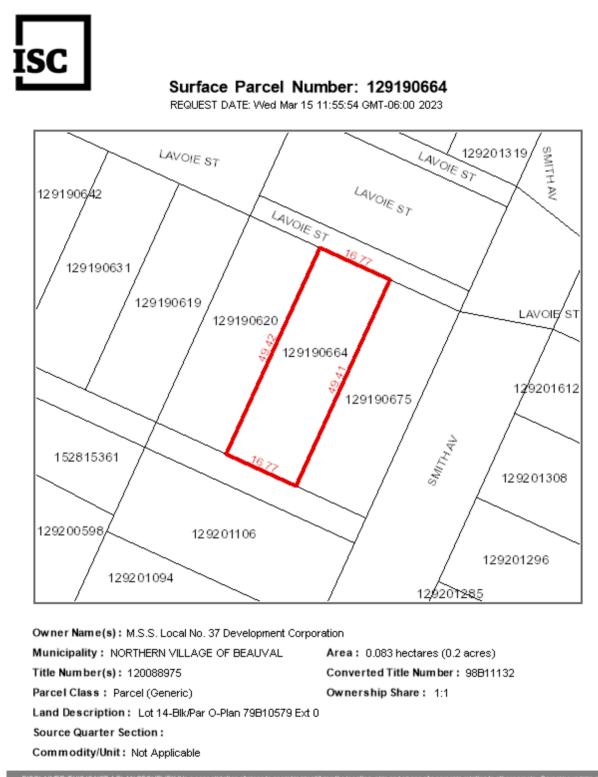
Parcel Class: Parcel (Generic)

Land Description: Lot 15-Blk/Par O-Plan 79B10579 Ext 0

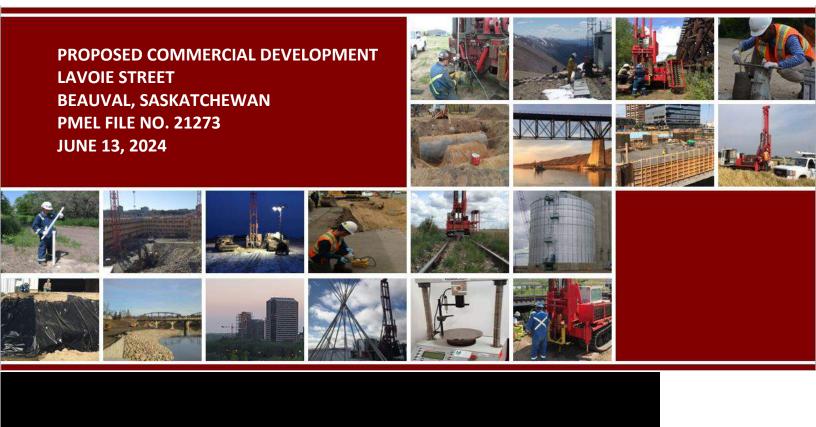
Source Quarter Section :

Commodity/Unit: Not Applicable

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P.MACHIBRODA ENGINEERING LTD.

PROJECT:	Geotechnical Investigation
	Proposed Commercial Development
	Lavoie Street
	Beauval, Saskatchewan
	PMEL File No. 21273
	June 13, 2024

- PREPARED FOR:Metis Nation Saskatchewan Secretariat Inc. $310 20^{th}$ Street EastSaskatoon, SaskatchewanS7K 0A7
- ATTENTION: Melissa Pederson, A. Sc. T., Acting Director of Infrastructure
- DISTRIBUTION: Metis Nation Saskatchewan Secretariat Inc. Digital Copy P. Machibroda Engineering Ltd. – Digital Copy

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1 INTRODUCTION

1.1 GENERAL

The following report has been prepared on the subsurface soil conditions existing at the site of the proposed commercial development to be constructed in Beauval, Saskatchewan.

The terms of reference for this investigation were presented in P. Machibroda Engineering Ltd. (PMEL) Proposal No. 21273, dated February 12, 2024. Authorization to proceed with this investigation was provided in the signed consulting agreement between Metis Nation – Saskatchewan Secretariat Inc. and PMEL, dated May 1, 2024.

1.2 SITE LOCATION AND DESCRIPTION

The proposed commercial development is located at the southwest corner of the intersection of Lavoie Street and Smith Avenue in Beauval, Saskatchewan. The site is undeveloped but was formerly occupied by an outdoor skating rink (has since been removed). The former rink area is a low-lying area that was flooded due to heavy rainfall at the time of the field investigation (refer to Figure 1). A Site Plan showing the location of the study area has been shown on Drawing No. 21273-1.



FIGURE 1 PHOTOGRAPH OF FLOODED FORMER RINK AREA



2 FIELD INVESTIGATION

The field investigation was conducted on May 22, 2024.

The coordinates at each borehole location were determined using a handheld GPS. The ground surface elevation at each borehole location was referenced to the top bolt of a fire hydrant, located approximately as shown on the Site Plan, Drawing No. 21273-1. A datum elevation of 100.0 m was assumed for the top of the bolt.

Nine boreholes, located as shown on the Site Plan, Drawing No. 21273-1, were dry drilled using our track-mounted, continuous flight auger drilling rig. The boreholes were 150 mm in diameter and extended to depths of 3.0 to 10.9 m below the existing ground surface. Borehole logs, as shown on the attached Drawing Nos. 21273-2 to 10, inclusive, were compiled during test drilling to record the soil stratification, the groundwater conditions, the position of unstable sloughing soils and the depths at which cobblestones and/or boulders were encountered.

Disturbed samples of auger cuttings, collected during test drilling, were sealed in plastic bags to minimize moisture loss. The soil samples were taken to our laboratory for analysis.

Standard penetration tests (SPT), utilizing a safety hammer with automatic trip were performed during test drilling.

Monitoring wells (50 mm diameter, slotted PVC pipe) were installed in BH's 24-6 and 24-8 for groundwater monitoring purposes. Groundwater monitoring was completed on May 24, 2024.

3 SOIL AND GROUNDWATER CONDITIONS

3.1 SOIL PROFILE

The general soil profile consisted of sand and/or silt (to a depth of about 0.9 to 3 m) overlying sand and/or silt till (to a depth of about 7.8 to 8 m), followed by sand, which extended to a depth of at least 10.9 m, the maximum depth investigated.

The silt was firm to stiff, low to medium plastic and moist to wet. The surficial sand was loose and wet. It is noted that the silt and sand deposits were wet in some areas due to heavy rainfall just prior to the field investigation (i.e., flooded/ponded water). The till was compact to dense/hard, non-plastic/low plastic, damp to moist and contained cobbles/boulders throughout. The deeper sand deposits were very dense and damp.

3.2 GROUNDWATER CONDITIONS, SLOUGHING

Perched groundwater conditions were encountered in the surficial sand and silt deposits (i.e., ponded water/flooding due to heavy rainfall events just prior to the field investigation). The monitoring wells installed in BH's 24-6 and 24-8 were dry (i.e., groundwater greater than 3 m below grade) on May 24, 2024. Higher water levels should be expected during and/or following spring snowmelt and/or periods of precipitation.



3.3 COBBLESTONES AND BOULDERS

Cobblestones and/or boulders were encountered throughout the till and sand deposits, as shown on the borehole logs. Auger refusal was encountered on cobbles/boulders at a depth of 7 m in BH's 24-1 and 24-3.

Glacial till consists of a heterogeneous mixture of gravel, sand, silt and clay-sized particles. Glacial till inherently contains sorted deposits of the above particle sizes as well as a random distribution of larger particle sizes in the cobblestone range (60 to 200 mm) and boulder-sized range (larger than 200 mm). Inter/intra till deposits of cobblestones, boulders, boulder pavements and isolated deposits of saturated sand or gravel should be anticipated.

It should be recognized that the statistical probability of encountering cobbles/boulders in the small diameter boreholes drilled at this site was low. The frequency of encountering such deposits will increase proportionately with the volume of soil excavated/number and depth of piles installed.

4 LABORATORY ANALYSIS

The soil classification and index tests performed during this investigation consisted of a visual classification of the soil, moisture contents, unit weights, Atterberg limits, grain size distribution analysis and water-soluble sulphate contents.

The results of the soil classification and index tests conducted on representative samples of soil have been plotted on the borehole logs alongside the corresponding depths at which the samples were recovered, as shown on Drawing Nos. 21273-2 to 10, inclusive.

The results of the grain size distribution analyses have been shown plotted in Appendix B.

5 DESIGN RECOMMENDATIONS

Based on the foregoing outline of soil test results, the following foundation considerations and design recommendations have been presented.

5.1 **DESIGN CONSIDERATIONS**

It is understood that a commercial development will be constructed at the site (details are unknown at this time). It is anticipated that the development will include at-grade buildings and associated traffic areas.

The subsurface soil conditions consisted of sand and/or silt overlying till, followed by sand. Cobbles/boulders were encountered throughout the sand and till deposits during test drilling. The groundwater table was situated below a depth of 3 m on May 24, 2024. Perched groundwater conditions were encountered in the surficial sand and silt deposits (i.e., ponded water/flooding due to heavy rainfall events just prior to the field investigation).



The subgrade soils are considered frost susceptible, and the potential depth of frost penetration could range from approximately 2.2 to 3.2 m, depending on surface cover, severity of winter and heat loss affects beneath/adjacent buildings.

A footing foundation based within naturally deposited, undisturbed till or sand should perform satisfactorily.

Alternately, a deep foundation system consisting of drilled, cast-in-place concrete piles could be considered. Cobbles/boulders will cause construction difficulties (potentially severe) and coring will likely be required to advance past boulders at some locations.

Recommendations have been prepared for site preparation; limit states resistance factors and serviceability; footings; deep foundations; grade-supported concrete slabs; foundation concrete; site classification for seismic site response; and, traffic structures.

5.2 SITE PREPARATION

All vegetation, topsoil, organics and deleterious materials should be removed from the construction area. Staining and root intrusion from the original/overlying organic material and roots may be encountered during excavation within the subsurface mineral soils. If these conditions are suspected, a representative of the Geotechnical Consultant should inspect the site during excavation to verify the depth of organic topsoil which should be removed in preparation of the site for construction.

The general intent of initial site preparation is to make the subgrade suitably stable for construction activities. It is recommended that the subgrade soils within the development footprint are compacted to the following densities:

Building Areas96 percent standard Proctor density at optimum moisture content;Traffic Areas96 percent standard Proctor density at optimum moisture content;Landscape Areas90 percent standard Proctor density at optimum moisture content.

Soils which meet the required compaction level should be stable to support construction activities. It is anticipated that conventional site preparation (scarifying, moisture conditioning and re-compacting the soils) will suffice at this site. Soils which are unstable during site preparation and fail to achieve the required compaction will require additional treatment, which may include over-excavation and replacement and/or geosynthetic stabilization. The need for additional treatment should be reviewed by the Geotechnical Consultant during the field construction with respect to the actual conditions and project requirements.

In areas with variable subgrade soils, proof rolling may be an acceptable alternative to density testing and should be reviewed by the Geotechnical Consultant.

All proposed fill materials should be approved by the Geotechnical Consultant prior to placement. The fill should be placed in thin lifts (maximum 150 mm loose) and uniformly compacted to the above-mentioned densities.



Fill will be susceptible to settlement, the magnitude of which will be directly related to the level of compaction and fill thickness. Well compacted fills will settle a small percentage of the fill thickness whereas poorly compacted fills can settle appreciably, particularly if frozen soils are utilized/incorporated in the fill.

The site should be graded to provide positive site drainage away from all work areas and structures prior to, during and following construction.

This report has been prepared on the premise that significant alterations to the site will not occur (i.e., appreciable cut/fill activities). If appreciable quantities of fill will be placed on the site, settlement of the fill and underlying soils will occur which may affect the long-term performance of foundations, slabs, pavements etc.

If site alterations are planned as part of site development, PMEL should be contacted to assess the impact this may have on the design recommendations and proposed site development. Based on the magnitude of site alterations, the design recommendations may need to be amended.

5.3 LIMIT STATES RESISTANCE FACTORS AND SERVICEABILITY

The National Building Code of Canada (NBCC, 2020) requires the use of limit states design for the design of buildings and their structural components, including the design of shallow and deep foundations. It is expected that the designer is familiar with the limit states design method and only a brief discussion will be presented. For a detailed discussion, it is recommended to review the NBCC (2020) and/or the Canadian Foundation Engineering Manual (CFEM, 2023).

Limit states are defined as those conditions under which a structure ceases to fulfill the function for which it was designed (i.e., unsatisfactory performance). In limit states design, two conditions are assessed with respect to performance, these are:

- ultimate limit states (ULS), and
- serviceability limit states (SLS)

Ultimate limit states are concerned with the collapse mechanisms of the structure (i.e., safety), whereas serviceability limit states consider mechanisms that restrict or constrain the intended use, function or occupancy of the structure.

As per NBCC (2020), the factored soil resistance utilized for foundation design may be determined using the following resistance factors applied to the ultimate resistance values presented in the following subsections of the report.

Shallow foundations:

- Compressive Resistance, $\Phi = 0.5$
- Sliding, Based on Friction (c=0), Φ= 0.8

Deep foundations:

- Compressive Resistance, $\Phi = 0.4$
- Tensile Resistance, Φ = 0.3



The above resistance factors have been provided to reflect that semi-empirical methods were used to derive the soil bearing resistances presented in this report using the laboratory and in-situ data collected during this investigation.

To satisfy serviceability limit states, a settlement analysis of the foundation must also be evaluated to ensure the structures are not negatively impacted by excessive settlement at the design load. Estimated foundation settlements have been provided in Sections 5.4 and 5.5.3.

Piles exposed to lateral loads are typically designed to restrict lateral deflection of the pile head to tolerable limits. Lateral pile head deflection can be determined using the concepts presented in Section 5.5.4.

5.4 FOOTINGS

A footing foundation based within naturally deposited, undisturbed till or sand should perform satisfactorily. If the foundation is constructed during freezing conditions, the subgrade soil at the design footing elevation must be protected from freezing. If it is not practical to keep the subgrade from freezing then a deep foundation system should be constructed.

The following minimum recommendations should be incorporated into the design of a footing foundation supporting a continually heated building. The recommendations are applicable to footings supporting vertical concentric loading only; footings subject to eccentric/unbalanced loading will require additional assessment.

- 1. Footings should be founded on naturally deposited, undisturbed till or sand. Footings should not be based on silt soils.
- 2. For a permanently heated, at-grade structure where heat loss to the foundation is permitted, the footings should be based at a minimum depth of 2 m below finished grade. This minimum depth is applicable only where the building envelope insulation is designed to allow heat loss to the foundation. If insulation is placed beneath the floor slab, an uninsulated strip width of at least 1 m is recommended adjacent to all exterior grade beams/foundation caps. In unheated areas and/or where heat loss from the building to the foundation is not allowed, footings should be based below the potential depth of frost penetration (i.e., 3.2 m) or protected against frost action with strategically placed extruded polystyrene insulation (PMEL can provide insulation recommendations upon request if shallower foundation depths than recommended are desirable).
- 3. The footing excavations should be conducted strategically to minimize the lateral extent of the excavation under the floor slab as much as possible. If personnel are entering the excavations, sideslopes should be no steeper than 1H:1V, whereas if personnel are not entering the excavations, steeper sideslopes may be feasible.



- 4. Footings based on naturally deposited, undisturbed soil may be designed to exert an unfactored ULS bearing pressure of 600 kPa and an SLS bearing pressure of 150 kPa (to limit settlements to less than 25 mm). A maximum spread footing dimension of 3 m and a maximum strip footing width of 1 m was considered to determine the SLS bearing pressure; for larger footing sizes, an updated settlement analysis will be required. Both ULS and SLS should be assessed and the condition which results in the larger foundation should be utilized for design (i.e., limiting condition).
- 5. A representative of the Geotechnical Consultant should inspect the footing excavations prior to construction of the footings to verify that adequate soil conditions exist. Placement of a mud slab over the prepared foundation level would be beneficial to provide protection from disturbance.
- 6. A minimum strip footing width of 500 mm is recommended. A minimum dimension of 1,000 mm is recommended for square and rectangular footings.
- 7. If the subgrade soil is disturbed during excavation below the design depth, then the disturbed soil should be removed to an undisturbed, level surface. Fill, required to raise the subgrade elevation to the underside of the footings, should be concrete or fillcrete.
- 8. Footings should not be constructed on desiccated, frozen or wet subgrade soil. Frost should not be allowed to penetrate beneath the footings prior to, during or after construction.
- 9. The finished grade should be landscaped to provide for positive site drainage away from the structure.

5.5 DEEP FOUNDATIONS

5.5.1 FROST JACKING OF DEEP FOUNDATIONS

Frost jacking is a process that can cause progressive upward movement of piles due to adfreeze bond stresses (adfreeze) between the soil and the pile shaft within the depth of frost penetration. Frost jacking requires exposure to freezing conditions and frost-susceptible soils. Silty, weak or wet soils and shallow groundwater conditions typically amplify the potential for and severity of frost jacking.

The subgrade soils are frost susceptible and the potential depth of frost penetration could range from about 2.2 m (lower bound) to 3.2 m (upper bound), depending on surface cover, severity of winter and heat loss effects beneath/adjacent to buildings.

Piles in unheated/intermittently heated areas (particularly those supporting negligible to light loads) are particularly suspectable to frost jacking and must be designed to resist frost jacking forces resulting from the upper bound frost penetration depth.

Interior piles which are never exposed to frost action (i.e., installed during non-freezing conditions and installed below continually heated areas) will be unaffected by frost jacking.



Perimeter piles installed below continually heated areas will experience reduced frost jacking forces (as compared to unheated areas), provided that the building envelope is designed to allow heat loss to the foundation (i.e., where the floor slab is insulated, an uninsulated strip at least 1 m wide should be provided adjacent to the perimeter foundation). In this case, the perimeter piles should be designed to resist frost jacking forces resulting from the lower bound frost penetration depth (i.e., 2.2 m). If heat loss to the foundation is not allowed (i.e., fully insulated building envelope), the perimeter piles should be designed to resist frost jacking be designed to resist frost jacking forces to the foundation is not allowed (i.e., fully insulated building envelope), the perimeter piles should be designed to resist frost jacking forces due to the upper bound frost penetration depth (i.e., 3.2 m).

Adfreeze values are difficult to quantify accurately and can vary depending on many factors. For the purposes of this report, an adfreeze value of 100 kPa is recommended for concrete piles.

Piles subject to frost action can resist frost jacking in two ways:

- 1. Structural resistance due to pile self-weight plus sustained (unfactored) structural loading applied to the pile head; and,
- 2. Geotechnical resistance due to soil/pile interaction below the depth of frost penetration.

To determine the maximum frost jacking force, the structural designer should consider the maximum adfreeze value and the recommended design frost penetration depth, as discussed above. The frost jacking force that the pile should be designed to resist would be equal to the maximum frost jacking force minus the structural resistance (i.e., point 1 above).

To determine the geotechnical resistance of the pile to resist frost jacking (point 2 above), the structural designer should consider the unfactored ULS resistance values presented in the following sections of this report (i.e., resistance factor of 1.0) applied to the soils below the recommended design frost penetration depth.

The potential for frost jacking can be reduced through prudent design and good construction practices. Such measures may include:

- Provide adequate site drainage (overland and/or subsurface) to minimize water accumulation adjacent to foundations;
- Maintain uniform pile shaft cross sections; avoid enlarged/tapered pile tops which can increase the surface area for frost to act on;
- Reduce the potential depth of frost penetration by heating and/or insulating the area; and,
- Utilize bond breakers between the pile and the soil within the depth of frost penetration (e.g., Sonotube forms, polyethylene sleeves, plastic wrapping, low friction coatings etc.). It is noted that some bond breakers will not be suitable for piles subject to lateral loading due to a gap between the soil and the pile.



5.5.2 DRILLED, CAST-IN-PLACE CONCRETE PILES

Cobbles/boulders will cause construction difficulties (potentially severe) and coring will likely be required to advance past boulders at some locations. High powered drilling equipment is recommended due to the presence of hard / dense soil conditions and cobbles/boulders.

Drilled, cast-in-place, straight shaft concrete piles should be designed on the basis of shaft resistance only. The ULS and SLS resistance values for design of drilled piles have been presented below.

Zone / Depth (m) ¹	Shaft Resistance (kPa)		
zone y Depth (m)	Unfactored ULS	SLS	
Neglect Zone ²	0	0	
Below Neglect Zone to 4.5	75	30	
Below 4.5	125	50	

TABLE I SHAFT RESISTANCE (DRILLED PILES)

Notes:

- 1. For the purposes of this report, design depths have been referenced to existing grade. The structural engineer must consider finished grade elevation relative to existing grade. If existing grade is altered significantly, PMEL should be consulted to confirm the design parameters.
- 2. The shaft resistance in the zone from finished ground surface to a depth of 2 m below finished ground surface (i.e., neglect zone) should be ignored in terms of axial capacity.
- 3. Minimum pile lengths should take into account the depth required to resist frost action. Piles exposed to frost action may need to be longer and should be designed to resist frost jacking forces (refer to Section 5.5.1).
- 4. Piles should be reinforced to withstand all axial and lateral forces within the pile.
- 5. A minimum pile diameter of 400 mm is recommended for the primary structural loads. Larger pile diameters may be required to allow for the removal of cobbles and boulders in some pile holes.
- 6. The pile holes should be filled with concrete as soon as practical after drilling.
- 7. Casing will be required where groundwater seepage and sloughing conditions are encountered to maintain the pile holes open for placing of the reinforcing steel and concrete. The annular space between the casing and drilled hole must be filled with concrete. As casing is extracted, concrete in casing must have adequate head to displace all water in the annular space.
- 8. Due to the hard/dense nature of the subsurface deposits and the presence of cobbles/boulders, high-powered piling equipment is recommended.



- 9. A minimum centre-to-centre pile spacing of not less than three pile diameters is recommended.
- 10. A representative of the Geotechnical Consultant should inspect and document the installation of the drilled, cast-in-place concrete piles.

5.5.3 PILE SETTLEMENT

With regards to serviceability of pile foundations, assuming good construction practices are followed and the appropriate resistance factors are applied; the settlement of individual piles at the design load will be small and should be within tolerable limits. The estimated pile settlement at working loads should be in the order of 5 to 10 mm for straight shaft piles.

The above is applicable to individual piles and small pile groups. Although not anticipated, foundation settlement should be evaluated where large pile groups are employed to carry the foundation load (i.e., breadth of foundation or pile cap is a similar dimension as depth of piles).

Pile foundations designed utilizing the provided SLS bearing capacities would perform similarly to pile foundations designed using the provided ULS capacities.

5.5.4 LATERAL THRUST FORCES

Pile deflection typically governs the design of laterally loaded piles. Subgrade reaction theory may be utilized to estimate lateral pile deflection. The estimated coefficients of horizontal subgrade reaction of the subgrade soils have been presented in Table II.

Depth (m)	Coefficient of Horizontal Subgrade Reaction, Ks, (kN/m ³)
0 to 1.5D	0
1.5D to 2	5,000/D
2 to 4.5	25,000/D
Below 4.5	40,000/D

 TABLE II
 ESTIMATED COEFFICIENTS OF HORIZONTAL SUBGRADE REACTION

Where D = pile diameter (m). For large diameter piles (i.e., exceeding 1 m) the zone of zero horizontal subgrade reaction should not exceed 1.5 m.

For the purposes of this report, design depths have been referenced to existing grade. The structural engineer must consider finished grade elevation relative to existing grade. If existing grade is altered significantly, PMEL should be consulted to confirm the design parameters.

The response of a pile to lateral loads is highly nonlinear. Methods that assume linear behaviour, such as horizontal subgrade reaction theory, are only applicable where pile deflections are small, loading is static and pile materials are linear; these conditions do not exist in most cases and soil-pile interaction modeling (i.e., p-y method) is required to accurately model the pile behaviour. If a more detailed lateral analysis is deemed warranted, PMEL can model the interaction between the soil and the pile, in accordance with the p-y method. Specific pile details (i.e., loading, type, diameter, length, etc.) will be required in order to perform the analysis.



5.5.5 GRADE BEAMS AND PILE CAPS

Grade beams and pile caps should be reinforced at both top and bottom throughout their entire length/cross section. Grade beams (and pile caps exposed to frost action) should be constructed to allow for a minimum of 150 mm of net void space between the underside of the grade beam and the subgrade soil (compressible void form). The finished grade/floor finish adjacent to all pile caps and grade beams should be such that water runoff is not allowed to infiltrate and collect in the void space.

5.6 GRADE-SUPPORTED CONCRETE SLABS

5.6.1 SLABS IN HEATED AREAS

The near-surface subgrade soils consisted of sand and/or silt. Grade-supported concrete slabs should perform satisfactorily at this site.

The following minimum provisions should be incorporated into the design of conventional, heated, grade-supported, cast-in-place, at-grade reinforced concrete slabs subject to light loading.

- 1. Prepare the site in accordance with Section 5.2. Level and compact the upper 150 mm of subgrade soil to 96 percent of standard Proctor density at optimum moisture content.
- 2. Soft subgrade areas should be excavated and replaced with suitable soil compacted to 96 percent of standard proctor density at optimum moisture content. High-strength geogrid/geotextile may be required to provide soil stabilization and separation where soft/wet soil conditions are encountered. The need for special measures (i.e., over-excavation, geotextile, geogrid, and/or additional gravel fill) in soft/wet areas must be subject to review by the Geotechnical Consultant during field construction.
- 3. If fill is required to raise the existing subgrade surface to the design slab elevation, locally available soils are considered suitable; sand or till are preferable to silt, and the soils may require moisture-conditioning. The fill should be placed in thin lifts (150 mm loose, maximum) and uniformly compacted to 98 / 96 percent of standard Proctor density at optimum moisture content for sand or till / silt soils, respectively.
- 4. The uppermost portion of the fill immediately below the slab should consist of crushed granular base course material (150 mm minimum).
- 5. Isolate the slab from foundation walls, columns, etc., by means of separation joints.
- 6. Reinforce the concrete slab and articulate the slab at regular intervals to provide for controlled cracking.
- 7. Provide positive site drainage away from the proposed structure. Extend downspouts at least 3 m away from the foundation.
- 8. Floor slabs should not be constructed on desiccated, wet, or frozen subgrade soil or base.
- 9. Frost should not be allowed to penetrate beneath the floor slab just prior to, during or after construction.



10. A soil gas membrane (i.e., radon gas and moisture resistant) should be installed between the underside of the floor slab and the granular fill.

5.6.2 SLABS EXPOSED TO FREEZING CONDITIONS

Grade-supported concrete slabs exposed to freezing conditions (i.e., exterior slabs/sidewalks, etc.) will be subject to differential movements associated with frost action. The potential for differential movements associated with frost action can be minimized by placing sub-horizontal extruded polystyrene insulation below the slabs/sidewalks.

Where applicable, the insulation should butt-up to the foundation to direct heat to the underside of the slab. The insulation should have a minimum thickness of 125 mm and should extend sub-horizontally to a minimum distance of 2.1 m beyond the outer edges of the slab. If differential movements cannot be tolerated, the slab should be structurally supported on piles.

5.6.3 SOIL GAS (RADON) MITIGATION

Within human-occupied areas, measures to mitigate radon gas should be incorporated into the overall design of the proposed building. This could include a sub-slab depressurization system (i.e., radon rock, drainage pipes, suction pit etc.), radon gas membrane and/or adequate ventilation system. The design of the radon mitigation system should be undertaken by qualified designers and should be in accordance with all applicable regulations and building codes. If a sub-slab depressurization system is installed, the design should be reviewed by the Geotechnical Consultant.

If radon rock is incorporated into the design, it should be placed below the granular base course layer of the floor slab structure. The radon rock should be fully encapsulated in non-woven geotextile, capable of transmitting a flow of not less than 50 litres per second per square metre (ASTM D-4491).

5.7 FOUNDATION CONCRETE

The results water-soluble sulphate testing on representative soil samples recovered from the subject site have been summarized in Table III.

Borehole No.	Depth (m)	Soil Type	Water Soluble Sulphate (%)	Class of Exposure	Degree of Sulphate Exposure
24-5	3	Till	<0.05		Negligible
24-7	6	Till	<0.05		Negligible

As shown in Table III, the measured sulphate concentration of the tested soils was less than 0.05 percent, which is considered negligible in terms of potential degree of sulphate attack.

Based on the test results, general use cement (CSA designation GU) may be used for all foundation concrete in contact with the subgrade soils. All concrete at this site should be manufactured in accordance with current CSA standards.



It should be recognized that water soluble sulphate salts, combined with moist soils or low pH soils could render the soil highly corrosive to some types of metals in contact with the soil

5.8 SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE

Based on the consistency of the subgrade soils encountered at this site and Table 4.1.8.4A of the 2020 National Building Code, the site classification for seismic site response falls within Class D.

5.9 TRAFFIC STRUCTURES

5.9.1 ASPHALT CONCRETE PAVEMENT STRUCTURE THICKNESS

The near surface subgrade soils at the site consisted of sand and/or silt. Based on the results of the laboratory analysis, the CBR (California Bearing Ratio) rating of the compacted subgrade soil was estimated to be in the order of 4.

Design traffic volumes were not provided to PMEL for the subject site. As such, the assumed traffic volumes presented in Table IV were utilized to develop the pavement structures presented in the following section.

Truck Traffic Volume	Equivalent Single Axle Load (ESAL)	Approximate Equivalent Annual Average Daily Truck Traffic (AADTT) ¹ – Single Unit Trucks
Low	40,000	Minimal to None
Moderate	120,000	5
High	700,000	35

TABLE IV Assumed Traffic Volume

¹ AADTT based on single unit trucks with a load equivalency factor of 1.2 (as per AASHTO 1993) and pavement design life of 15 years. The AADTT provided is for conceptual purposes only and will vary depending on actual truck traffic types (i.e., single unit trucks, tractor semi-trailer combinations, super B trucks, etc.).

The following pavement structures are recommended for pavement structures subjected to low, moderate, or high truck traffic volumes, consistent with the assumed traffic volumes presented in Table IV.



TABLE V	THICKNESS DESIGN FOR PAVEMENT STRUCTURES									
	Thickness (mm) Truck Traffic Volume									
Pavement Structure Layer										
	High	Moderate	Low							
Asphalt Concrete	120	85	65							
Granular Base	175	150	125							
Granular Sub-Base	215	175	150							
Geotextile/Geogrid ¹	As Required	As Required	As Required							
Prepared Subgrade	(150)	(150)	(150)							
Total Thickness (mm)	510	410	340							

¹Geogrid/geotextile may be required where soft/wet/loose subgrade soil conditions are encountered.

Notes:

- 1. If the parking lot (or portions of the parking lot) will be subject to traffic volumes and/or truck types varying, or in excess of, those presented in Table IV, PMEL should be notified to review our recommendations. A detailed traffic volume analysis may be required. Depending on the actual traffic volume, the recommended pavement structure may be adjusted.
- 2. It should be noted that the low truck traffic pavement structure is the minimum pavement structure recommended for the parking/driving areas.
- 3. Traffic should be appropriate for the pavement structure (i.e., do not allow heavy traffic on light structures) or premature distress/failure may occur.

5.9.2 PAVEMENT STRUCTURE CONSTRUCTION

The following minimum recommendations should be incorporated into the construction of the pavement structures.

- 1. Prepare the site in accordance with Section 5.2, Site Preparation. Level and compact the upper 150 mm of subgrade soil to 96 percent of standard Proctor density at optimum moisture content.
- 2. If minor site grading is required to create a level subgrade surface, locally available soils may be utilized as fill. The fill should be placed in thin lifts (150 mm loose, maximum) and uniformly compacted to 96 percent of standard Proctor density at optimum moisture content. If significant site grading is required, PMEL should be contacted to reassess the design recommendations.



- 3. It is recommended that PMEL conduct a visual site assessment and proof roll on the prepared subgrade prior to construction of the traffic structures presented in Table V. Remediation (i.e., over-excavation and replacement or geotextile/geogrid) will be required for areas of the roadway where deflection/rutting of the subgrade is observed at the time of the proof roll. The amount of over-excavation required will be dependent upon the severity of the deficiency observed. Recommendations for remediation, if required, would be provided based on the field conditions observed at the time of the visual assessment.
- 4. All granular fill placed above the prepared subgrade should be placed in thin lifts (150 mm loose) and compacted to 98 percent of standard Proctor density at optimum moisture content. The granular sub-base and base course material should meet the aggregate gradation requirements provided in Table VI. If available/economical, Type 31 base and Type 6 sub-base materials are considered preferable, particularly for gravel-surfaced structures.

		Percent	Passing	
Grain Size (mm)	Type 33 Base- Course ¹	Type 31 Base- Course ¹	Type 8 Sub-Base Course ²	Type 6 Sub-Base Course ²
50.0			100	100
31.5		100		
18.0	100	75 – 90		
12.5	75 – 100	65 – 83		
5.0	50 – 75	40 - 69		
2.0	32 – 52	26 – 47	0 – 90	0 - 80
0.900	20 – 35	17 – 32		
0.400	15 – 25	12 – 22	0 – 60	0 – 45
0.160	8 – 15	7 – 14	0 – 25	0 - 20
0.071	6-11	6-11	0 – 15	0 – 6
Plasticity Index (%)	0 – 6	0 – 7	0 – 6	0 – 6
CBR (Min)	65	65	20	20
% Fracture (Min)	50	50		

 TABLE VI
 Aggregate Gradation Requirements

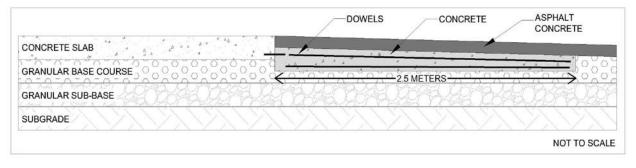
¹MHI base course.

² MHI sub-base course.

- 5. Positive surface drainage is recommended to reduce the potential for moisture infiltration through the pavement structure.
- 6. Surface water should be prevented from seeping back under the outer edges of the traffic structure.
- 7. Where possible, grades should be designed such that the granular materials can freely discharge into ditches or into a sub-surface drainage system; this will provide a capillary break to maintain an unsaturated condition in the overlying traffic structure (this is especially important in low-lying/wetland areas).



- 8. Periodic maintenance such as crack sealing will be required for asphalt concrete pavement.
- 9. If concrete catch basins are installed, a series of small holes (25 mm diameter minimum) should be drilled through the catch basin to allow for drainage of free water which may collect adjacent to the catch basin. A layer of non-woven geotextile should be used to encapsulate the catch basin and the surrounding (free-draining) backfill material to prevent clogging of the drainage holes.
- 10. Damage to the pavement related to frost heave around structures constructed within the pavement (i.e., manholes, curbs, backs of curbs, etc.) may occur. Consideration could be given to constructing 3H:1V frost tapers (constructed with granular fill) at these structures which should reduce the potential for pavement cracking around the structure. Frost tapers are also recommended at transitions between high, moderate, and low truck traffic pavement structures.
- 11. Damage to the pavement related to a change in stiffness where asphalt concrete pavements transition into concrete (i.e., at the location of the loading dock/pump island/garbage bin slab/etc.) is common. To reduce the potential for damage, a stiffness transition zone could be constructed at the transition between pavement types. The suggested configuration of the stiffness transition zone has been shown in Figure 2.





If soil embankments are constructed, the following additional recommendations should be considered.

- 1. All common borrow used for embankment construction should consist of imported granular material or locally available soils; sand or till are preferable to silt.
- 2. Positive surface drainage is recommended to minimize the potential for moisture infiltration into the subgrade soil. Ditches and culverts should be provided where necessary to provide adequate site drainage. Surface water should be prevented from seeping back under the outer edges of the road structure. The embankments should be constructed with a shoulder height of at least 1.2 m above ditch bottom elevation.
- 3. For locally sourced borrow materials, embankment and ditch slopes should be no steeper than 3 Horizontal to 1 Vertical (3H : 1V).
- 4. Erosion protection is recommended for all embankment sideslopes. The slopes should be covered with topsoil and seeded to encourage vegetation growth. Alternately, erosion control products or hydromulch could be installed.



5. The final road grade should be elevated a minimum of 600 mm above the average terrain to minimize snow accumulation on the road.

5.9.3 GRAVELLED TRAFFIC STRUCTURE CONSIDERATIONS

If gravel surfacing is utilized instead of asphalt concrete, the structure thicknesses presented in Table V should suffice if site drainage is adequate and regular maintenance/grading is completed to maintain the traffic structure at the desired condition. Type 31 base course is recommended for the driving surface. If drainage is insufficient and maintenance is inadequate, premature traffic structure failure may occur. If a lesser structure is utilized, more frequent maintenance will be required, and premature failure may occur.

If additional longevity/lesser maintenance is desired, the structure thickness should be increased and geosynthetics should be utilized at the base of the structure to provide material separation. PMEL can review the proposed gravelled traffic structures upon request to confirm suitability for the intended usage.

In staging/laydown areas subject to very infrequent traffic, a thin wearing course of traffic gravel may suffice provided that site drainage is sufficient, adequate maintenance is performed and heavy traffic does not travel on the gravel during soft subgrade conditions (i.e., during/following periods of precipitation and while soils are softened during spring thaw).

6 LIMITATIONS

The presentation of the summary of the borehole logs and design recommendations has been completed as authorized. Nine, 150 mm diameter boreholes were dry drilled using our continuous flight solid stem auger drilling equipment. Borehole logs were compiled during test drilling which, we believe, were representative of the subsurface conditions at the borehole locations at the time of test drilling.

Variations in the subsurface conditions from that shown on the borehole logs at locations other than the exact test location should be anticipated. If conditions should differ from those reported here, then we should be notified immediately in order that we may examine the conditions in the field and reassess our recommendations in the light of any new findings.

The Terms of Reference for this investigation did not include any environmental assessment of the site. No detectable evidence of environmentally sensitive materials was detected during the actual time of the field test drilling program. If, on the basis of any knowledge, other than that formally communicated to us, there is reason to suspect that environmentally sensitive materials may exist, then additional boreholes should be drilled and samples recovered for chemical analysis.



The subsurface investigation necessitated the drilling of deep boreholes. The boreholes were backfilled at the completion of test drilling. Please be advised that some settlement of the backfill materials will occur which may leave a depression or an open hole. It is the responsibility of the client to inspect the site and backfill, as required, to ensure that the ground surface at each borehole location is maintained level with the existing grade.

It is recommended that all monitoring wells should be decommissioned once they are no longer needed. PMEL will not accept any future liability associated with inadequate decommissioning of monitoring wells. Costs for decommissioning monitoring wells can be provided by PMEL upon request.

This report has been prepared for the exclusive use of Metis Nation – Saskatchewan Secretariat Inc. and their agents for specific application to the proposed commercial development be constructed in Beauval, Saskatchewan. It has been prepared in accordance with generally accepted geotechnical engineering practices and reflects PMEL's understanding of the project based on information available at the time of preparation of this report. No other warranty, expressed or implied, is made.

The report should be referenced in its entirety, in order to properly understand the suggestions, design considerations and recommendations provided in this report. Any use which a Third Party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such Third Party. Governing Agencies such as municipal, provincial, or federal agencies having jurisdictions with respect to this development and/or construction of the facilities described herein have full jurisdiction with respect to the described development. Any other unspecified subsequent development would be considered Third Party and would, therefore, require prior review by PMEL. PMEL accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

Prior to completion of the final design drawings/specifications, PMEL should be retained to review the geotechnical aspects of the project plans and documents to confirm that they are consistent with the intent of this report.

The acceptance of responsibility for the design/construction recommendations presented in this report are contingent on PMEL providing field documentation and review services at the time of construction. Field reviews are necessary for PMEL to provide letters of assurance in accordance with requirements of local regulatory authorities. PMEL will not accept any responsibility on this project for any unsatisfactory performance if adequate and/or full-time inspection is not performed by a representative of PMEL.

If this report has been transmitted electronically, it has been digitally signed and secured with personal passwords to lock the document. Due to the possibility of digital modification, only those reports sent directly by PMEL can be relied upon without fault.



We trust that this report fulfills your requirements for this project. Should you require additional information, please contact us.

P. MACHIBRODA ENGINEERING LTD.

Cory Zubrowski, P.Eng.

K. Pardal

Kelly Pardoski, P.Eng. CZ/JKP



DRAWINGS



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j M	E	NGINEERING LTD.	DRAWING NUMBER: 21273-2												
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SAMPLE TYPE: CUTTINGS SPLIT SPOON SHELBY TUBE																	
(w) HLd 2 0 1 1 2 3 4 5 6 7 8 9 10 11 12 12	STRATIGRAPHY STRATIGRAPHY	Mottled gree SILT, som wet, mottle GLACIAL T well graded	Drilling g Drilling me silt, loo sy/brown, s e clay, trac d brown an fILL, sand d, fine to co	seepage, slo ce sand, firm nd grey, oxic l and silt, tra parse graine	ded, fine ughing. n to stiff, I de stained ce grave ed, moist, ne clay, tra	to medium gra	ompact, stained.		7 50/150	(%) 17.0 19.2 27.2 10.0 8.3 11.6 10.9	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	222.4	COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm ²)	_▼.	(E) HLdad 0
NOTES: 1. Boreh		oughed to 5.8	m Immediat	ely After Drillir	ng.												
																SHEE	Г 1 OF 1

2	ŢF	P.MAC	В	OR	EHC	DLE		24-4									
jM	E	NGINE	ERI	NG L	D	DRAWING NUMBER: 21273-5											
PROJE	PROJECT: PROPOSED COMMERCIAL DEVELOPMENT																
LOCA	TION	:LAVOIE ST	REET, E	BEAUVAL,	SK												
NORTHING (m): 6114242 EASTING (m): 333461 ELEVATION (m): 99.5 DATE DRILLED:														D: MAY	22/24		
SAMP	LE T	YPE: 💋 🛛	CUTTIN	GS	\square	SPLIT S	POON			SHEL	.BY T	UBE					
DEPTH (m)	STRATIGRAPHY	WATER LEN ▼ After Dril ▼ During D	ling	DESCR	RIPTIO	N		SAMPLE TYPE	SPT (N) BLOWS/ 300 mm	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	UNIT WEIGHT (kN/m³)	COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm²)		DEPTH (m)
0 1 2	「大	SILT, some of brown/grey, o rootlets to 0. GLACIAL TIL well graded, f	xide stair 3 m. L, sand a	ned.	ce gravel	, trace clay	. compact.			26.4 23.1 28.5 3.5							0-
3 4 5	大大									4.9]	3
6 7 8 9																	6 7 8 9
10 10 11 11 12																	10 11 11
NOTES:		en and dry Imme	diately Aft	er Drilling.													
																SHEE	Г 1 OF 1

2	Ţ	P.MACHIBRODA	В	OR	EHO	DLE		24-5				
jM	Ē	NGINEERING LTD.	D	RAWI	NG N	UMB	ER:	2127	3-6			
PROJ	ECT:	PROPOSED COMMERCIAL DEVELOPMENT										
LOCA	TION	:LAVOIE STREET, BEAUVAL, SK										
NORT	HING	i (m) : 6114239 EASTING (m) : 333473 ELEV	ΑΤΙΟ	N (m)	: 99.3			DAT	E DR	ILLE	D: MAY	22/24
SAMP	LE T	YPE: CUTTINGS SPLIT SPOON			SHEL	BY T	UBE			-		
0 DEPTH (m) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		WATER LEVELS ▲ After Drilling During Drilling SAND, silty, loose, well graded, fine to medium grained, wet, mottled black/grey, organics, rootlets. SILT, some clay, stiff, medium plastic, moist, brown, oxide stained. GLACIAL TILL, silt, sandy, trace gravel, trace clay, hard, low plastic, moist, brown, oxide stained. cobbles and boulders 2 to 3 m. damp below 4.5 m.		/SMOJB (N) LdS	(%) 23.1 24.2 27.0 15.4 9.4 6.5 6.0 8.6	(%) TIQUID LIMIT (%)	12 PLASTIC LIMIT (%)		COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm²)		0 DEPTH (m) 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		en and dry Immediately After Drilling.									0000	
											SHEE	Г 1 OF 1

2] F	P.MACHIE	BRODA						BC	RE	НО	LE 24-6	
	E	NGINEERI	NG LTD						DRA	WIN	G NU	MBER: 21273-7	
PROJE	CT:	PROPOSED COMM	ERCIAL DEVE	LOP	MEN	Т							
LOCAT	ION	LAVOIE STREET, E	BEAUVAL, SK										
NORTH	IING	i (m): 6114227	EASTING (m	ı): 3	33498	3	EL	EVA	TION	(m):	99.1	DATE DRILLED: N	/IAY 22/24
SAMPL	.Е Т`		GS 🛛 🖂] :	SPLIT	SPO	ON			s	HELB	Y TUBE	
(m) HLH 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	文文文文文 STRATIGRAPHY	WATER LEVELS ▲ After Drilling During Drilling DESCRIP SILT, some clay, firm, moist to wet, brown, or -stiff, moist below 0.5 GLACIAL TILL, sand clay, trace gravel, com graded, fine to coarse brown, oxide stained, or boulders.	, low plastic, xide stained. m. and silt, trace pact, well grained. moist.	N N N SAMPLE TYPE	SPT (N) BLOWS/	(%) 24.9 11.5 7.1 5.1 6.5	(%) LIWIT CINDI 28	12 PLASTIC LIMIT (%)		% LINES	POCKET PEN. (kg/cm ²)	MONITORING WELL: BH24-6 ELEV.: 100.1 m BENTONITE SEAL 50 mm diam. SCH 40, PVC RISER PIPE CUTTINGS 50 mm diam. MACHINE SLOTTED SCH 40 PVC WELL SCREEN	(E) HLd30 0- 1- 2- 3- 3- 4- 5- 6- 7- 8- 9- 10- 11- 11-
													12-
NOTES: 1. Boreho		en and dry Immediately Afl lonitoring Well groundwate		24, 20)24.							Sł	HEET 1 OF 1

2	ŢF	P.MACHIBRODA	В	OR	EHO	OLE		24-7				
ίM	E	NGINEERING LTD.	D	RAWI	NG N	UMB	ER:	2127	'3-8			
PROJ	ECT:	PROPOSED COMMERCIAL DEVELOPMENT										
LOCA	TION	LAVOIE STREET, BEAUVAL, SK										
NORT	HING	(m): 6114227 EASTING (m): 333457 ELEV	ΑΤΙΟ	N (m)	: 99.5			DAT	E DR	ILLEC	D: MAY	22/24
SAMP	LE T	YPE: CUTTINGS SPLIT SPOON			SHEL	BY T	UBE					
DEPTH (m) 0 DEPTH (m) 2 2 2 DEPTH (m)	STRATIGRAPHY STRATIGRAPHY	WATER LEVELS ▲ After Drilling ↓ During Drilling DESCRIPTION SILT, some clay, stiff, medium plastic, moist, brown, oxide stained. rootlets to 0.05 m GLACIAL TILL, sand and silt, trace clay, trace gravel, very dense, well graded, fine to coarse grained, damp to moist, brown, cobbles and boulders.	X N X N SAMPLE TYPE	/SMOTI (N) LdS	(%) WATENT 20.8 28.7 28.4 5.1 7.3	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	UNIT WEIGHT (kN/m ³)	COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm²)		(E) DEPTH (E)
6	:	GLACIAL TILL, silty, sandy, some clay, trace gravel, hard, low plastic, damp, brown, oxide stained. SAND, silty, very dense, well graded, fine to medium grained, damp, light brown, oxide stained. cobbles and boulders 8.0 to 9.0 m.		50/100	4.7			22.8				6 7 8 9 10 11
											SHEE	Г 1 OF 1

2	7 F	P.MACHIE	BRODA						BC	RE	HO	LE 24-8	
iM	Ē	P.MACHIE	NG LTD						DR/	WIN	g nu	MBER: 21273-9	
PROJE	СТ:	PROPOSED COMM	ERCIAL DEVE	LOP	MEN	Т							
LOCAT	ION	LAVOIE STREET, E	BEAUVAL, SK										
NORTH	HING	(m): 6114217	EASTING (m	i): 3:	33476	6	EL	EVA	TION	(m): 🤅	99.7	DATE DRILLED: M	AY 22/24
SAMPL	.E T`		GS 🛛] 8	SPLIT	SPO	ON			S	HELB	Y TUBE	
(m) HLd 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	STRATIGRAPHY STRATIGRAPHY	WATER LEVELS ▲ After Drilling ☑ During Drilling ☑ DESCRIP SILT, some sand, sor medium plastic, moist. organics/rootlets to 0 SAND, some silt, trac compact, well graded, grained, damp, brown.	ne clay, stiff, brown. .2 m. e gravel, fine to medium	N N N N SAMPLE TYPE	SPT (N) BLOWS/ 300 mm	(%) 23.7 24.0 22.5 3.3 3.7		PLASTIC LIMIT (%)		COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm²)	MONITORING WELL: BH24-8 ELEV.: 100.7 m BENTONITE SEAL 50 mm diam. SCH 40, PVC RISER PIPE CUTTINGS 50 mm diam. MACHINE SLOTTED SCH 40 PVC WELL SCREEN	(E) HLd JO 0
10 11 11													- 10 - 11 -
12-												I	12-
	ole op	en and dry Immediately Afl onitoring Well Groundwate		24, 20	024.							SHE	ET 1 OF 1

2	ŢF	P.MACHIBRODA	В	OR	EHC	DLE		24-9				
ΪM	E	NGINEERING LTD.	D	RAW	NG N	UMB	ER:	2127	3-10			
PROJ	ECT:	PROPOSED COMMERCIAL DEVELOPMENT										
LOCA	TION	:LAVOIE STREET, BEAUVAL, SK										
NORT	HING	EASTING (m): 333489 ELEV	ΑΤΙΟ	N (m)	: 99.5			DAT	E DR	ILLEC	D: MAY	22/24
SAMP	LET	YPE: CUTTINGS SPLIT SPOON			SHEL	.BY T	UBE					
DEPTH (m)	STRATIGRAPHY	WATER LEVELS ▼ After Drilling ▼ During Drilling DESCRIPTION	 SAMPLE TYPE	SPT (N) BLOWS/ 300 mm	WATER CONTENT (%)	LIQUID LIMIT (%)	PLASTIC LIMIT (%)	UNIT WEIGHT (kN/m³)	COMPRESSIVE STRENGTH (kPa)	POCKET PEN. (kg/cm²)		DEPTH (m)
		SILT, some clay, stiff, low to medium plastic, moist, brown. GLACIAL TILL, sand and silt, trace clay, trace gravel, compact, well graded, fine to coarse grained, moist, brown, oxide stained. GLACIAL TILL, silt, some sand, some clay, trace gravel, very stiff, low plastic, moist, brown, oxide stained. sandy, hard below 5.7 m. SAND, some silt, very dense, well graded, fine to medium grained, damp, light brown.		97 50/125	21.7 24.7 22.9 5.8 11.2 7.2 7.8			22.4		2.0		0 1 2 3 4 5 6 7 8 8 9
12- NOTES 1. Bore		en and dry Immediately After Drilling.										12-
											SHEET	1 OF 1

APPENDIX A

Explanation of Terms on Borehole Logs



CLASSIFICATIONOFSOILS

Coarse-Grained Soils: Soils containing particles that are visible to the naked eye. They include gravels and sands and are generally referred to as cohesionless or non-cohesive soils. Coarse-grained soils are soils having more than 50 percent of the dry weight larger than particle size 0.080 mm.

Fine-Grained Soils: Soils containing particles that are not visible to the naked eye. They include silts and clays. Finegrained soils are soils having more than 50 percent of the dry weight smaller than particle size 0.080 mm.

Organic Soils: Soils containing a high natural organic content.

Soil Type Particles of Size Clay < 0.002 mm</td> Silt 0.002 – 0.060 mm Sand 0.06 – 2.0 mm Gravel 2.0 – 60 mm Cobbles 60 – 200 mm Boulders >200 mm

Soil Classification By Particle Size

TERMS DESCRIBING CONSISTENCY OR CONDITION

Coarse-grained soils: Described in terms of compactness condition and are often interpreted from the results of a Standard Penetration Test (SPT). The standard penetration test is described as the number of blows, N, required to drive a 51 mm outside diameter (O.D.) split barrel sampler into the soil a distance of 0.3 m (from 0.15 m to 0.45 m) with a 63.5 kg weight having a free fall of 0.76 m.

Compactness Condition	SPT N-Index (blows per 0.3 m)
Very loose	0-4
Loose	4-10
Compact	10-30
Dense	30-50
Very dense	Over 50

Fine-Grained Soils: Classified in relation to undrained shear strength.

Consistency	Undrained Shear Strength (kPa)	N Value (Approximate)	Field Identification
Very Soft	<12	0-2	Easily penetrated several centimetres by the fist.
Soft	12-25	2-4	Easily penetrated several centimetres by the thumb.
Firm	25-50	4-8	Can be penetrated several centimetres by the thumb with moderate effort.
Stiff	50-100	8-15	Readily indented by the thumb, but penetrated only with great effort.
Very Stiff	100-200	15-30	Readily indented by the thumb nail.
Hard	>200	>30	Indented with difficulty by the thumbnail.

Organic Soils: Readily identified by colour, odour, spongy feel and frequently by fibrous texture.

DESCRIPTIVE TERMS COMMONLY USED TO CHARACTERIZE SOILS

Poorly Graded Well Graded Mottled	 predominance of particles of one grain size. having no excess of particles in any size range with no intermediate sizes lacking. marked with different coloured spots.
Nuggety Laminated	- structure consisting of small prismatic cubes. - structure consisting of thin layers of varying colour and texture.
Slickensided Fissured Fractured	 having inclined planes of weakness that are slick and glossy in appearance. containing shrinkage cracks. broken by randomly oriented interconnecting cracks in all 3 dimensions



		MAJOR	DIVISIO	N	GROUP SYMBOL		TYPICAL	DESCRIPT	ION		LABORATORY CLASSIFICATION CRITERIA	۱		
Image: Process of the constraint of the co		HIGHLY OF	GANIC SC	DILS	Pt	PEAT	AND OTHER	HIGHLY ORG	GANIC SOIL	_S	STRONG COLOUR OR ODOUR AND OFTEN FIBROUS TEXTURE			
Note: Note: <th< td=""><td>R THAN</td><td>fraction ve size</td><td>CLF</td><td>AN GRAVELS</td><td>GW</td><td colspan="3"></td><td>MIXTURES</td><td>5%</td><td colspan="3">$C_{u} = \frac{D_{c}}{\frac{bU}{2}} > 4 C_{c} = \frac{(D_{c})^{2}}{\frac{2U}{2}} = 1 \text{ to } 3$$D_{10} \qquad D_{60} \times D_{10}$</td></th<>	R THAN	fraction ve size	CLF	AN GRAVELS	GW				MIXTURES	5%	$C_{u} = \frac{D_{c}}{\frac{bU}{2}} > 4 C_{c} = \frac{(D_{c})^{2}}{\frac{2U}{2}} = 1 \text{ to } 3$ $D_{10} \qquad D_{60} \times D_{10}$			
Non-State Classical PRES Classical Image: State Image: Sta	HT LARGEI	iRAVELS nalf coarse n No. 4 sie			GP		ED GRAVELS /	AND GRAVEI	-SAND MI	XTURES	NOT MEETING ALL ABOVE REQUIREMENTS FOR GW	V		
Note: Note: <th< td=""><td>WEIGH</td><td>G e than h ger thar</td><td>DI</td><td></td><td>GM</td><td>SILTY GRAVELS,</td><td>, GRAVEL-SAN</td><td>D-SILT MIX</td><td>TURES >12</td><td>% FINES</td><td>ATTERBERG LIMITS BELOW "A" LINE OR PI < 4</td><td></td></th<>	WEIGH	G e than h ger thar	DI		GM	SILTY GRAVELS,	, GRAVEL-SAN	D-SILT MIX	TURES >12	% FINES	ATTERBERG LIMITS BELOW "A" LINE OR PI < 4			
Set 50 CLAYS ALTS Set 50 CLAYS CLAYS <th colsp<="" td=""><td>HALF BY E SIZE)</td><td>More</td><td>Dir</td><td>GRAVELS</td><td>GC</td><td></td><td>LS, GRAVEL-S</td><td>AND-CLAY N</td><td>1IXTURES</td><td>>12%</td><td>ATTERBERG LIMITS ABOVE "A" LINE WITH PI > 7</td><td></td></th>	<td>HALF BY E SIZE)</td> <td>More</td> <td>Dir</td> <td>GRAVELS</td> <td>GC</td> <td></td> <td>LS, GRAVEL-S</td> <td>AND-CLAY N</td> <td>1IXTURES</td> <td>>12%</td> <td>ATTERBERG LIMITS ABOVE "A" LINE WITH PI > 7</td> <td></td>	HALF BY E SIZE)	More	Dir	GRAVELS	GC		LS, GRAVEL-S	AND-CLAY N	1IXTURES	>12%	ATTERBERG LIMITS ABOVE "A" LINE WITH PI > 7		
Mondamic suits AND VERY FINE SANDS, ROCK FLOUR, SILTY WL < 50 SUITS Below "A' line on plasticity durt; negligible organic content ML NORGANIC SUITS MICACIOUS OR DIATOMACTOUS, FINE WL < 50 CLAYS Above 'A' line on plasticity durt; negligible organic content CLAYS CLAYS CLAYS OF MEDIUM PLASTICITY, GRAVELLY, SANDY, CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS WL > 30 ON ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS WL > 30 ON ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS OF HOW WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC SULS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC SULS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC SULS OF HIGH PLASTICITY WL > 50 ORGANIC SULS OF FINE GRAINED SOLLS. <th c<="" td=""><td>AORE THAN I NO. 200 SIEV</td><td>ion smaller ze</td><td>CI</td><td>EAN SANDS</td><td>SW</td><td></td><td>SANDS, GRAV</td><td>VELLY SANDS</td><td>5 MIXTURE</td><td>S <5%</td><td>$C_{u} = \frac{D_{c0}}{D_{10}} > 6 \qquad C_{c} = \frac{(D_{a0})^{2}}{D_{c0} \times D_{10}} = 1 \text{ to } 3$</td><td></td></th>	<td>AORE THAN I NO. 200 SIEV</td> <td>ion smaller ze</td> <td>CI</td> <td>EAN SANDS</td> <td>SW</td> <td></td> <td>SANDS, GRAV</td> <td>VELLY SANDS</td> <td>5 MIXTURE</td> <td>S <5%</td> <td>$C_{u} = \frac{D_{c0}}{D_{10}} > 6 \qquad C_{c} = \frac{(D_{a0})^{2}}{D_{c0} \times D_{10}} = 1 \text{ to } 3$</td> <td></td>	AORE THAN I NO. 200 SIEV	ion smaller ze	CI	EAN SANDS	SW		SANDS, GRAV	VELLY SANDS	5 MIXTURE	S <5%	$C_{u} = \frac{D_{c0}}{D_{10}} > 6 \qquad C_{c} = \frac{(D_{a0})^{2}}{D_{c0} \times D_{10}} = 1 \text{ to } 3$		
NORGANIC SUITS AND VERY FINE SANDS, ROCK FLOUR, SLETY WL < 50 SUITS Below "A' line on plasticity dourt, negligible organic content ML NORGANIC SUITS, MICACIOUS OR DIATOMACTOUS, FINE WL < 50 CLAYS Above 'A' line on plasticity dourt, negligible organic content CLAYS CLAYS WL < 30 CLAYS Above 'A' line on plasticity dourt, negligible organic content CLAYS OF MEDIUM PLASTICITY, SANDY, CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS WL > 30 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY, SILTY CLAYS WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY WL > 50 ORGANIC SUIS & ORGANIC CLAYS OF HIGH PLASTICITY 0 <td>D SOILS(N</td> <td>NDS arse fract 4 sieve si:</td> <td></td> <td></td> <td>SP</td> <td>POORLY-GRADI</td> <td>ED SANDS OR</td> <td>GRAVELLY</td> <td>SANDS <</td> <td>5% FINES</td> <td>NOT MEETING ALL GRADATION REQUIREMENTS FOR</td> <td>sw</td>	D SOILS(N	NDS arse fract 4 sieve si:			SP	POORLY-GRADI	ED SANDS OR	GRAVELLY	SANDS <	5% FINES	NOT MEETING ALL GRADATION REQUIREMENTS FOR	sw		
Note of the constant of the	E-GRAINE	SA an half co than No.			SM		AND-SILT MIX	(TURES		>12%	ATTERBERG LIMITS BELOW "A" LINE OR PI < 4			
MIL SANDE OF SLIGHT FLASTICITY MIL SANDE OF SLIGHT FLASTICITY MIL MIL MIL MIL MIL	COARS	More th.		INTE SAINDS	SC		, SAND-CLAY	MIXTURES			ATTERBERG LIMITS ABOVE "A" LINE WITH PI >7			
Negligible organic content MH INDRCANUC SUITS MICACOUS RD IAITOMACEOUS, FINE W() > 50 USB 303 0000 CLAYS CLAYS CLAYS W() > 50 OBGANIC SLITS & ORGANIC CLAYS OF MEDIUM PLASTICITY, FAT CLAYS W() > 50 OBGANIC SLITS & ORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS W() > 50 OBGANIC SLITS & ORGANIC CLAYS OF HIGH PLASTICITY W() > 50 OBGANIC SLITS & ORGANIC CLAYS OF HIGH PLASTICITY W() > 50		Bolow "A			ML				, ROCK FLO	OUR, SILTY	W _L < 50			
ORGANIC CLAYS PERSINCITY Below "A" line on plasticity chart OH OR GANIC CLAYS OF HIGH PLASTICITY WL > 50	SSING				МН			US OR DIAT	OMACEOU	S, FINE	W _L > 50			
ORGANIC CLAYS PERSINCITY Below "A" line on plasticity chart OH OR GANIC CLAYS OF HIGH PLASTICITY WL > 50	SUILS /EIGHT PA SIZE)				CL				GRAVELLY,	SANDY,	W _L < 30			
ORGANIC SLITS & ORGANIC CLAYS PLASTICITY Below "A" line on plasticity chart ORGANIC CLAYS OF HIGH PLASTICITY WL > 50	GRAINED IALF BY M 200 SIEVE		" line on p	plasticity chart;	CI	INORGANIC CL/	AYS OF MEDI	UM PLASTIC	ITY, SILTY (CLAYS	W _L >30 < 50			
ORGANIC SLITS & ORGANIC CLAYS PLASTICITY Below "A" line on plasticity chart ORGANIC CLAYS OF HIGH PLASTICITY WL > 50	E THAN H				СН	INORGANIC CL/	AYS OF HIGH	PLASTICITY,	FAT CLAYS		W _L > 50			
OH DRGANIC CLAYS OF HIGH PLASTICITY WL > 50	(MOR				OL		AND ORGAN	IIC SILTY CLA	YS OF LOV	V	W _L < 50			
PLASTICI Y CHART FOR CLASSIFICATION OF FINE GRAINED SOILS. 40 40 40 40 40 40 40 40 40 40		Below "A	" line on j	plasticity chart	ОН	ORGANIC CLAY	S OF HIGH PL	ASTICITY			W _L > 50			
FOR CLASSIFICATION OF FINE GRAINED SOILS. 40 40 40 40 40 40 40 40 40 40			60											
CL CL CL CL CL CL CL ML or OL CL ML or OL CL ML or OL				FOR CLAS	SIFICATIO									
CL CL CL CL CL CL CL CL CL CL														
20 CL 10 7 4 CL-ML ML or OL														
20 CL 10 7 4 CL-ML ML or OL			DEX (P								CH "A"LINE			
20 CL 10 7 4 CL-ML ML or OL			× 30 .											
20 CL 10 7 4 CL-ML ML or OL			LASTI				(CI			MH or OH			
7 4 CL-ML ML or OL			20		CL									
7 4 CL-ML ML ar OL														
4														
			4		CL-ML ML		'	ML or OL						
				0 1		20	30	40		n	60 70 80 90 44			



APPENDIX B

Grain Size Distribution Analysis Test Results



AASHTO T 88: PARTICLE SIZE ANALYSIS OF SOILS

Project:	Proposed Co	ommercial De	velopment
Location:	Beauval, SK		
Project No.:	21273		
Date Tested:	May 30, 202	24	
Borehole No.:	24-1		
Sample No.:	43		
Depth (m):	1.5		
Sieve Analysis:	Sieve	Diameter	%

1.5"

1"

3/4"

1/2"

3/8"

#4

10

20

40

#60

100

200

Finer

100

100

100

100

100

100

99

98

97.1

95.7

94.3

93.0

mm

38.100

25.400

19.100

12.700

9.500

4.750

2.000

0.850

0.425

0.250

0.150

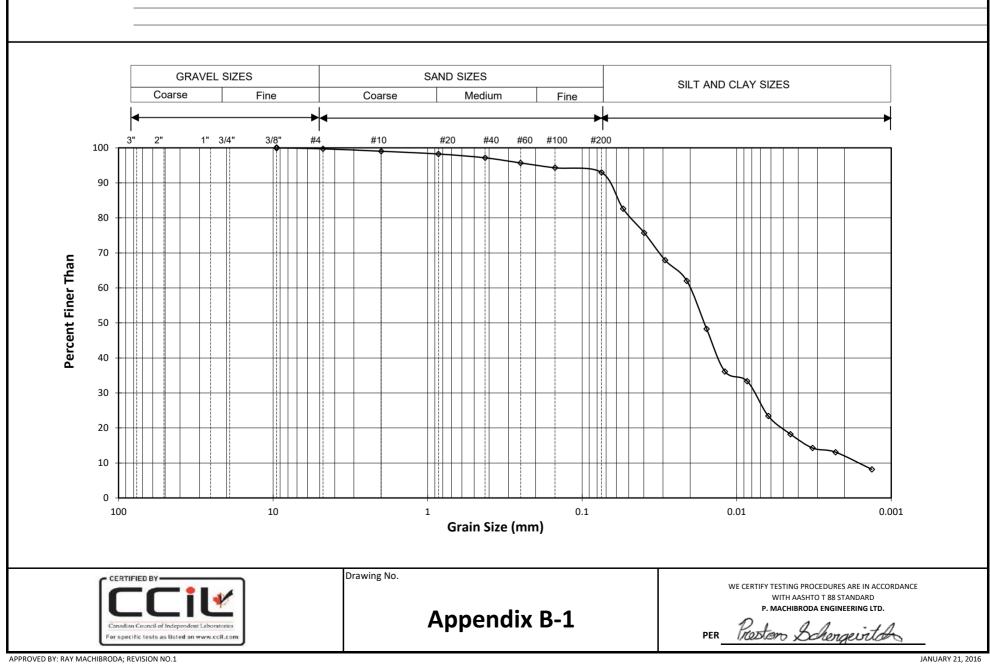
0.075

Hydrometer Analysis:	Diameter	%
	mm	Finer
Dispersing Agent:	0.0543	82.6
Sodium Hexametaphosphate	0.0397	75.7
	0.0290	67.9
	0.0210	62.0
	0.0157	48.3
	0.0119	36.1
	0.0085	33.3
	0.0062	23.4
	0.0045	18.2
	0.0032	14.3
	0.0023	13.1
	0.0013	8.2

Material Description:

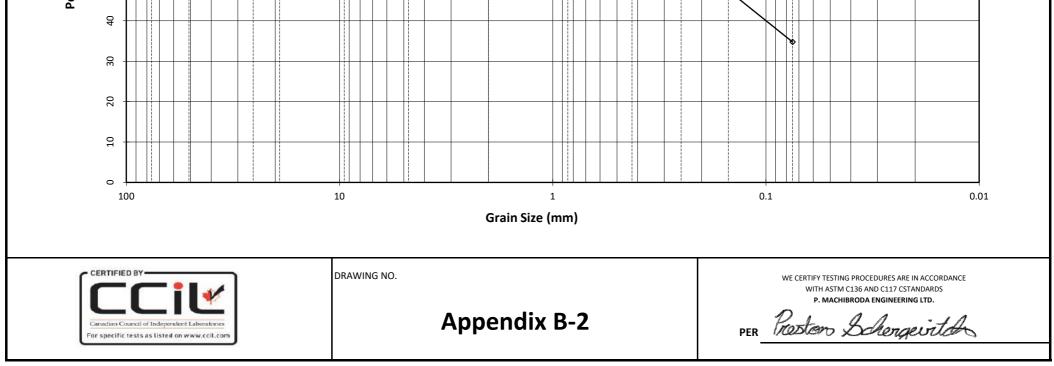
% Gravel Sizes	% Sand Sizes	% Silt Sizes	% Clay Sizes
0	0	88	12

Remarks:



ASTM C136: GRAIN SIZE ANALYSIS

Project:	Propose	d Commerci	ial Develo	opment										
ocation:	Beauval,	SK												
Project No.:	21273													
Date Tested:	May 31,	2024												
Borehole No:	24-3													
Sample No.:	32													
Depth:	3.0													
ieve Analysis:	Sieve	Diameter	%											
		mm	Finer	_										
		76.200	100											
		63.500	100											
		50.000	100											
		37.500	100											
		25.000	100											
		19.000	100											
		12.500 9.500	96 96											
		4.750	93											
		2.000	90											
		0.850	85											
		0.425	75											
		0.250	60											
		0.150 0.075	47 35											
Matorial Doscrir	ation.	0.150	47											
Material Descrip	otion:	0.150 0.075	47 35											
Material Descrip	otion:	0.150 0.075 % Gravel	47 35			%	Sand Sizes			% Silt	and Cla	y Sizes]
	otion:	0.150 0.075	47 35			%	Sand Sizes 58			% Silt	and Cla 3	y Sizes 5]
Material Descrip Remarks:	otion:	0.150 0.075 % Gravel	47 35			%	Sand Sizes 58			% Silt	and Cla 3	y Sizes 5]
	otion:	0.150 0.075 % Gravel	47 35			%	Sand Sizes 58			% Silt	and Cla 3	y Sizes 5]
	otion:	0.150 0.075 % Gravel 7	47 35 Sizes			% 5	58			% Silt	and Cla 3	y Sizes 5]
	otion:	0.150 0.075 % Gravel 7	47 35 Sizes	ine		% s Coarse	Sand Sizes 58 SAND SIZ	ES		% Silt	and Cla 3	5	ID CLAY SIZE]
	otion:	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes	ine			58				and Cla 3	5	ID CLAY SIZI]
Remarks:		0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		 #4		58		#60		and Cla 3	5	ID CLAY SIZI]
		0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		→ #4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5	ID CLAY SIZI	
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5	ID CLAY SIZI	
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes			Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Remarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes		#4 #4	Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		
Vemarks:	3"	0.150 0.075 % Gravel 7 GRAVE	47 35 Sizes			Coarse	58 SAND SIZ	Medium	#60	Fine	3	5		



APPROVED BY: RAY MACHIBRODA; REVISION NO. 2

DECEMBER 13, 2018

AASHTO T 88: PARTICLE SIZE ANALYSIS OF SOILS

Project:	Proposed Commercial Development
Location:	Beauval, SK
Project No.:	21273
Date Tested:	May 30, 2024
Borehole No.:	24-5
Sample No.:	51
Depth (m):	3.0
Sieve Analysis:	Sieve Diameter %

1.5"

1"

3/4"

1/2"

3/8"

#4

10

20

40

#60

100

200

Finer

100

100

100

95

94

90

87

82

75.2

66.8

59.9

53.2

mm

38.100

25.400

19.100

12.700

9.500

4.750

2.000

0.850

0.425

0.250

0.150

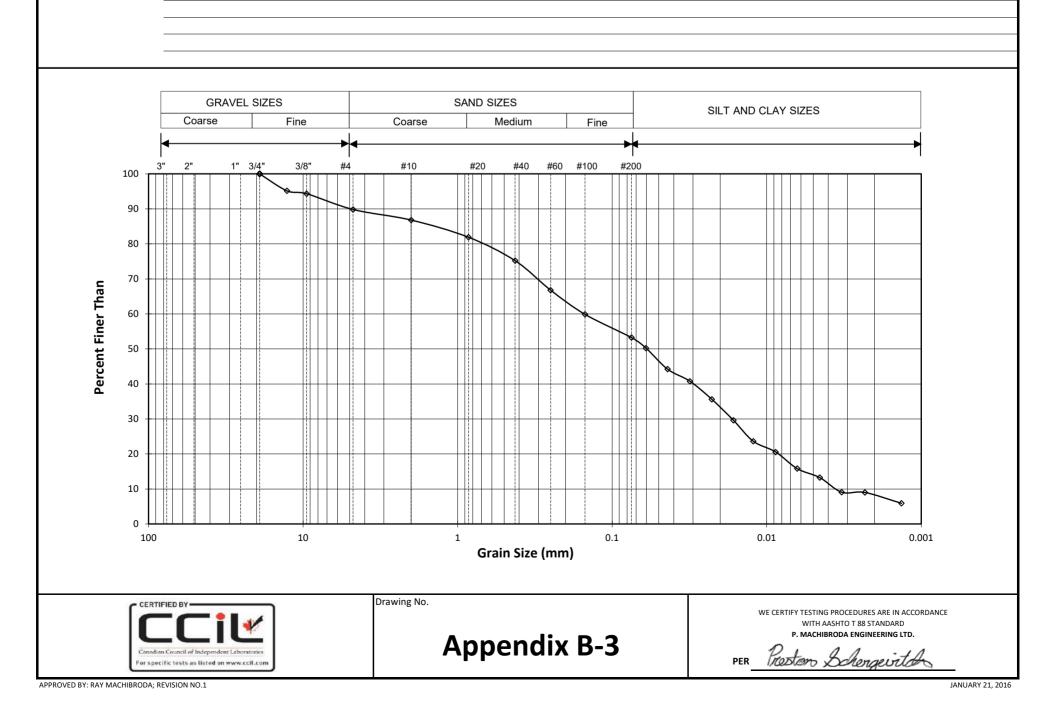
0.075

Hydrometer Analysis:	Diameter	%
	mm	Finer
Dispersing Agent:	0.0604	50.2
Sodium Hexametaphosphate	0.0438	44.2
	0.0314	40.8
	0.0227	35.6
	0.0164	29.6
	0.0122	23.6
	0.0087	20.6
	0.0064	15.8
	0.0045	13.2
	0.0033	9.1
	0.0023	9.0
	0.0013	5.9

Material Description:

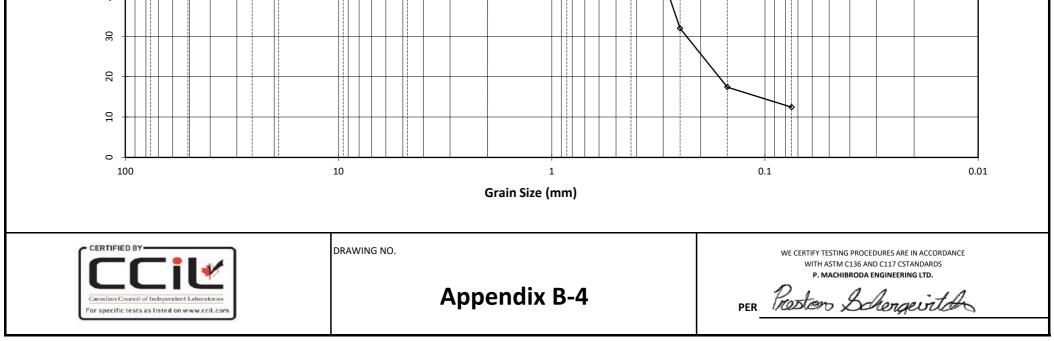
% Gravel Sizes	% Sand Sizes	% Silt Sizes	% Clay Sizes
10	37	45	8

Remarks:



ASTM C136: GRAIN SIZE ANALYSIS

Project:	Proposed Commercial Developmer	nt	
Location:	Beauval, SK		
Project No.:	21273		
Date Tested:	May 31, 2024		
Borehole No:	24-8		
Sample No.:	13		
Depth:	2.0		
Sieve Analysis:	Sieve Diameter %		
	mm Finer		
	76.200 100		
	63.500 100		
	50.000 100		
	37.500 100		
	25.000 100		
	19.00010012.50098		
	9.500 97		
	4.750 95		
	2.000 94		
	0.850 88		
	0.425 68 0.250 32		
	0.150 17		
	0.075 12		
Material Descrip	otion:		
	% Gravel Sizes	% Sand Sizes	% Silt and Clay Sizes
	5	83	12
Remarks:			
	GRAVEL SIZES	SAND SIZES Coarse Medium	SILT AND CLAY SIZES
1	Coarso		Fine
	Coarse Fine		
		#4 #10 #20 #40	¥60 #100 #200
100		#4 #10 #20 #40	#60 #100 #200
	3" 3/4" 3/8"	#4 #10 #20 #40	#60 #100 #200
90 100	3" 3/4" 3/8"	#4 #10 #20 #40	#60 #100 #200
	3" 3/4" 3/8"	#4 #10 #20 #40	#60 #100 #200
6	3" 3/4" 3/8"		#60 #100 #200
06	3" 3/4" 3/8"		
i t Finer Than 60 70 80 90	3" 3/4" 3/8"		



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