



Request for Quotations

For

Judith Nyman Secondary School Exterior Wall and Soffit Repairs

Request for Quotations No.: **RFQMA24-5041**

Issued: **April 23, 2024**

Submission Deadline: **May 10, 2024, at 3:00 p.m. local time**

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PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

1.1 Invitation to Respondents

This Request for Quotations (the “RFQ”) is an invitation by Peel District School Board (“the Board”) to prospective respondents to submit non-binding quotations for **Judith Nyman Secondary School Exterior Wall and Soffit Repairs** as further described in Section A of the RFQ Particulars (Appendix D) (the “Deliverables”).

1.2 RFQ Contact

For the purposes of this procurement process, the “RFQ Contact” will be:

John Marinescu

Email: john.marinescu@peelsb.com

Respondents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of the Board, other than the RFQ Contact, concerning matters regarding this RFQ. Failure to adhere to this rule may result in the disqualification of the respondent and the rejection of the respondent’s quotation.

1.3 Type of Contract for Deliverables

The selected respondent will be requested to enter into a contract for the provision of the Deliverables on the terms and conditions set out in the Form of Agreement (Appendix A) (the “Agreement”). It is the Board’s intention to enter into a contract with one (1) legal entity, the lowest compliant bidder. The term of the contract is to be for a period of **Date of Award to August 30, 2024**.

1.4 Timetable

Issue Date of RFQ	April 23, 2024
Recommend Site Visit	May 1, 2024 Judith Nyman Secondary School at 10:00 A.M. 1305 Williams Pky, Brampton ON L6S 3J8 All potential Respondents to meet at the front entrance and await direction from the Board representative(s).
Deadline for Questions	May 2, 2024, 4:00 PM local time All questions must be submitted through Opportunity Q&A in Bonfire. See section 3.2.1 for details.
Deadline for Issuing Addenda	May 3, 2024, 4:00 PM local time
Submission Deadline	May 10, 2024, 3:00 PM local time
Anticipated Execution of Agreement	May, 2024

The RFQ timetable is tentative only, and may be changed by the Board at any time.

1.5 Submission of Quotations

1.5.1 Quotations to be Submitted at Prescribed Location

The Board will use the BonfireHub portal to accept and evaluate quotes digitally for this Request for Quote.

Please contact Bonfire at support@gobonfire.com for questions related to the uploading of your submission.

Upload your Submission at: <https://peelsb.bonfirehub.ca/opportunities>

Your Submission must be uploaded prior to the Submission Deadline established for this Quote.

- (a) Uploading large documents may take significant time, depending on the size of the file(s) and Respondent's internet connection speed.
- (b) Onus and responsibility rests solely with the Respondent to deliver its Quote as indicated in the details on or before the Submission Deadline. The Board does not accept any responsibility for submissions delivered to any other location by the Respondent or its delivery agents. Respondents are advised to make submissions well before the deadline. Respondents making submissions near the deadline do so at their own risk. Submissions shall be deemed to be received once they enter into the Bonfire system and a confirming email is returned to the submitting party. Respondent will receive an email from Bonfire with a unique confirmation receipt once they finalize their submission.
- (c) Only the number of files indicated in the Bidding System can be uploaded for each Requested Document. If an uploaded document(s) needs to be changed, the Respondent will need to first delete the old file before re-uploading a new file.
- (d) Respondent should not embed any documents within uploaded files as they will not be accessible.
- (e) Each submission file uploaded is instantly sealed and will only be visible after the closing date and time.
- (f) Each file has a maximum size of 1000MB. Any requested documents exceeding this limit will not be accepted by Bonfire.
- (g) Minimum system requirements: Internet Explorer 8/9/10+, Google Chrome, or Mozilla Firefox. Javascript must be enabled and Adobe Flash Player version 9+ installed.
- (h) There is no cost to the Respondent for uploading submission on Bonfire

1.5.2 Quotations to be Submitted on Time

Quotations must be submitted on or before the Submission Deadline. Quotations submitted after the Submission Deadline will not be accepted. Respondents are advised to make submissions well before the deadline. Respondents making submissions near the deadline do so at their own risk.

1.5.3 Quotations to be Submitted in Prescribed Format

All respondents shall have a Bidding System vendor account and be registered as a plan taker for this opportunity, which will enable the respondent to download the solicitation document, to receive addenda email notifications, download addenda and submit their quotations electronically through the Bidding System.

Respondents are cautioned that the timing of their submission is based on when the quotation is received by the Bidding System, not when a quotation is submitted by a respondent, as transmission can be delayed due to file transfer size, transmission speed or other technical factors.

For the above reasons, the Board recommends that respondents allow sufficient time to upload their submission and attachment(s) (if applicable) and to resolve any issues that may arise. The closing date and time shall be determined by the Board's Bidding System web clock.

Respondents should contact the RFQ Contact at least twenty-four hours prior to deadline if they encounter any problems. The Bidding System will send a confirmation email to the respondent advising when the quotation was submitted successfully. If respondents do not receive a confirmation email, they should contact the RFQ Contact immediately.

To ensure receipt of the latest information and updates via email regarding this opportunity, or if a respondent has obtained this solicitation document from a third party, the onus is on the respondent to create a Bidding System Vendor account and register as a plan taker for the opportunity at <https://peelsb.bonfirehub.ca>.

1.5.4 Amendment of Quotations

Respondents may amend their quotations prior to the Submission Deadline. However, the respondent is solely responsible for ensuring that the amended quotation is received by the Bidding System by the Submission Deadline.

1.5.5 Withdrawal of Quotations

Respondents may withdraw their quotations prior to the Submission Deadline. However, the respondent is solely responsible for ensuring that the withdrawn quotation is withdrawn through the Bidding System by the Submission Deadline.

[End of Part 1]

PART 2 – EVALUATION AND AWARD

2.1 Stages of Evaluation

The Board will conduct the evaluation of quotations in the following stages:

2.2 Stage I – Mandatory Submission Requirements

Stage I will consist of a review to determine which quotations comply with all of the mandatory submission requirements. Quotations that fail to satisfy the mandatory submission requirements will be rejected. The mandatory submission requirements are listed in Section C of the RFQ Particulars (Appendix D).

2.3 Stage II – Mandatory Technical Requirements

The Board will review the quotations to determine whether the mandatory technical requirements as set out in Section D of the RFQ Particulars (Appendix D) have been met. Questions or queries on the part of the Board as to whether a quotation has met the mandatory technical requirements will be subject to the verification and clarification process set out in Part 3.

2.4 Stage III – Pricing

Stage III will consist of an evaluation of the submitted pricing in each qualified quotation in accordance with the price evaluation method set out in Pricing (Appendix C). The evaluation of price will be undertaken after the evaluation of mandatory requirements has been completed.

2.5 Selection of Top-Ranked Respondent

After the completion of Stage III, compliant respondents will be ranked based on the price evaluation. Subject to the process rules contained in the Terms and Conditions of the RFQ Process (Part 3), the top-ranked respondent will be invited to enter into the Agreement in accordance with Part 3. In the event of a tie, the selected respondent will be determined by way of best and final offer. The selected respondent will be notified in writing and will be expected to satisfy any applicable conditions of this RFQ, including the pre-conditions of award listed in Section E of the RFQ Particulars (Appendix D), and enter into the Agreement within the timeframe specified in the selection notice. Failure to do so may result in the disqualification of the respondent and the selection of another respondent or the cancellation of the RFQ.

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE RFQ PROCESS

3.1 General Information and Instructions

3.1.1 Respondents to Follow Instructions

Respondents should structure their quotations in accordance with the instructions in this RFQ. Where information is requested in this RFQ, any response made in a quotation should reference the applicable section numbers of this RFQ.

3.1.2 Quotations in English

All quotations are to be in English only.

3.1.3 No Incorporation by Reference

The entire content of the respondent's quotation should be submitted in a fixed form, and the content of websites or other external documents referred to in the respondent's quotation but not attached will not be considered to form part of its quotation.

3.1.4 References and Past Performance

In the evaluation process, the Board may include information provided by the respondent's references and may also consider the respondent's past performance or conduct on previous contracts with the Board or other institutions.

3.1.5 Information in RFQ Only an Estimate

The Board and its advisers make no representation, warranty or guarantee as to the accuracy of the information contained in this RFQ or issued by way of addenda. Any quantities shown or data contained in this RFQ or provided by way of addenda are estimates only, and are for the sole purpose of indicating to respondents the general scale and scope of the Deliverables. It is the respondent's responsibility to obtain all the information necessary to prepare a quotation in response to this RFQ.

3.1.6 Respondents to Bear Their Own Costs

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

3.1.7 Quotation to be Retained by the Board

The Board will not return the quotation or any accompanying documentation submitted by a respondent.

3.1.8 No Guarantee of Volume of Work or Exclusivity of Contract

The Board makes no guarantee of the value or volume of work to be assigned to the successful respondent. The contract with the selected respondent will not be an exclusive contract for the provision of the described Deliverables. The Board may contract with others for goods and

services the same as or similar to Deliverables or may obtain such goods and services internally.

3.2 Communication after Issuance of RFQ

3.2.1 Respondents to Review RFQ

Respondents should promptly examine all of the documents comprising this RFQ and may direct questions to or seek additional information from the RFQ Contact on or before the Deadline for Questions. All questions and communications by respondents may only be sent through the Opportunity Q&A in the Bonfire Portal. The Board will not answer any questions submitted by any other means. The Board will provide answers to any questions through the Bonfire Portal only.

The Board is under no obligation to provide additional information, and the Board is not responsible for any information provided by or obtained from any source other than RFQ Contact. It is the responsibility of the respondent to seek clarification from the RFQ Contact on any matter it considers to be unclear. The Board is not responsible for any misunderstanding on the part of the respondent concerning this RFQ or its process.

3.2.2 All New Information to Respondents by Way of Addenda

This RFQ may be amended only by addendum in accordance with this section. If the Board, for any reason, determines that it is necessary to provide additional information relating to this RFQ, such information will be communicated to all respondents by addendum. Each addendum forms an integral part of this RFQ and may contain important information, including significant changes to this RFQ. Respondents are responsible for obtaining all addenda issued by the Board. In the Submission Form (Appendix B), respondents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

3.2.3 Post-Deadline Addenda and Extension of Submission Deadline

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

3.2.4 Verify, Clarify and Supplement

When evaluating quotations, the Board may request further information from the respondent or third parties in order to verify, clarify or supplement the information provided in the respondent's quotation, including but not limited to clarification with respect to whether a quotation meets the mandatory technical requirements set out in Section D of the RFQ Particulars (Appendix D). The Board may revisit, re-evaluate and rescore the respondent's response or ranking on the basis of any such information.

3.3 Notification and Debriefing

3.3.1 Notification to Other Respondents

Once an agreement is executed by the Board and a respondent, the other respondents may be notified directly in writing and will be notified by public posting in the same manner that this RFQ was originally posted of the outcome of the procurement process.

3.3.2 Debriefing

Respondents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be in writing to RFQ Contact and must be made within sixty (60) days of such notification.

3.3.3 Procurement Protest Procedure

If a respondent wishes to challenge the RFQ process, it should provide written notice within 10 days of debriefing to the RFQ Contact in accordance with the Board's procurement protest procedures and any applicable trade agreement or other applicable bid protest procedures. The notice must provide a detailed explanation of the respondent's concerns with the procurement process or its outcome. The Board will respond in accordance with Section 14 of its Procurement Regulations.

3.4 Conflict of Interest and Prohibited Conduct

3.4.1 Conflict of Interest

For the purposes of this RFQ, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFQ process, the respondent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the Board in the preparation of its quotation that is not available to other respondents, (ii) communicating with any person with a view to influencing preferred treatment in the RFQ process (including but not limited to the lobbying of decision makers involved in the RFQ process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFQ process or render that process non-competitive or unfair; or
- (b) in relation to the performance of its contractual obligations under a contract for the Deliverables, the respondent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.

3.4.2 Disqualification for Conflict of Interest

The Board may disqualify a respondent for any conduct, situation or circumstances, determined by the Board, in its sole and absolute discretion, to constitute a Conflict of Interest as defined above.

3.4.3 Disqualification for Prohibited Conduct

The Board may disqualify a respondent, rescind notice of selection or terminate a contract subsequently entered into if the Board determines that the respondent has engaged in any conduct prohibited by this RFQ.

3.4.4 Prohibited Respondent Communications

Respondents must not engage in any communications that could constitute a Conflict of Interest and should take note of the Conflict of Interest declaration set out in the Submission Form (Appendix B).

3.4.5 Respondent Not to Communicate with Media

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

3.4.6 No Lobbying

Respondents must not, in relation to this RFQ 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 respondent(s).

3.4.7 Illegal or Unethical Conduct

Respondents must not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Respondents must not 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 the Board; deceitfulness; submitting quotations 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 RFQ.

3.4.8 Past Performance or Past Conduct

The Board may prohibit a Respondent (or any individual that owns, controls, operates, manages or directs the Respondent) from participating in a procurement process 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 Respondent to honour its submitted pricing or other commitments; or
- (c) any conduct, situation or circumstance determined by the Board, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest;
- (d) litigation history.

3.5 Confidential Information

3.5.1 Confidential Information of the Board

All information provided by or obtained from the Board in any form in connection with this RFQ either before or after the issuance of this RFQ

- (a) is the sole property of the Board and must be treated as confidential;

- (b) is not to be used for any purpose other than replying to this RFQ and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from the Board; and
- (d) must be returned by the respondent to the Board immediately upon the request of the Board.

3.5.2 Confidential Information of Respondent

A respondent should identify any information in its quotation or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the Board. The confidentiality of such information will be maintained by the Board, except as otherwise required by law or by order of a court or tribunal. Respondents are advised that their quotations will, as necessary, be disclosed, on a confidential basis, to advisers retained by the Board to advise or assist with the RFQ process, including the evaluation of quotations. If a respondent has any questions about the collection and use of personal information pursuant to this RFQ, questions are to be submitted to the RFQ 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 bidding process and will instead be governed by the law applicable to direct commercial negotiations. For greater certainty and without limitation:

- (a) this RFQ 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 the respondent nor the Board will have the right to make any claims (in contract, tort, or otherwise) against the other with respect to the award of a contract, failure to award a contract or failure to honour a quotation submitted in response to this RFQ.

3.6.2 No Contract until Execution of Written Agreement

This RFQ process is intended to solicit non-binding quotations for consideration by the Board and may result in an invitation by the Board to a respondent to enter into the Agreement. No legal relationship or obligation regarding the procurement of any good or service will be created between the respondent and the Board by this RFQ process until the execution of a written agreement for the acquisition of such goods and/or services.

3.6.3 Non-binding Price Estimates

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

3.6.4 Cancellation

The Board may cancel or amend the RFQ process without liability at any time.

3.7 Governing Law and Interpretation

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

- (i) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (j) 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
- (k) are to be governed by and construed in accordance with the laws of the province of Ontario and the federal laws of Canada applicable therein.

[End of Part 3]

APPENDIX A – FORM OF AGREEMENT

Appendix A consists of:

- Appendix A1 - PDSB Standard Terms and Conditions
- Appendix A2 - General Conditions

The PDF files for both documents are available for download on the Bonfire™ Bidding System Website under **RFQMA24-5041** at <https://peelsb.bonfirehub.ca>.

APPENDIX B – SUBMISSION FORM

1. Respondent Information

Please fill out the following form, naming one person to be the respondent's contact for the RFQ process and for any clarifications or communication that might be necessary.	
Full Legal Name of Respondent:	
Any Other Relevant Name under which Respondent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (if any):	
Respondent Contact Name and Title:	
Respondent Contact Phone:	
Respondent Contact Fax:	
Respondent Contact Email:	

2. Acknowledgment of Non-binding Procurement Process

The respondent acknowledges that the RFQ process will be governed by the terms and conditions of the RFQ, 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 the Board and the respondent unless and until the Board and the respondent execute a written agreement for the Deliverables.

3. Ability to Provide Deliverables

The respondent has carefully examined the RFQ documents and has a clear and comprehensive knowledge of the Deliverables required. The respondent represents and warrants its ability to provide the Deliverables in accordance with the requirements of the RFQ for the rates set out in its quotation.

4. Non-binding Pricing

The respondent has submitted its pricing in accordance with the instructions in the RFQ and in Pricing (Appendix C) in particular. The respondent confirms that the pricing information provided is accurate. The respondent acknowledges that any inaccurate, misleading or incomplete

information, including withdrawn or altered pricing, could adversely impact the acceptance of its quotation or its eligibility for future work.

5. Addenda

The bidder agrees that it is the bidder’s responsibility to obtain all addenda issued by the Board in the Board Bidding System Bonfire portal. The bidder hereby confirms it has received and accepted all addenda issued by the Board for the RFQ and its pricing assumptions and rate calculations have taken into consideration all the addenda for the RFQ.

6. No Prohibited Conduct

The respondent declares that it has not engaged in any conduct prohibited by this RFQ.

7. Conflict of Interest

Respondents must declare all potential Conflicts of Interest, as defined in section 3.4.1 of the RFQ. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the quotation; **AND** (b) were employees of the Board within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the respondent will be deemed to declare that (a) there was no Conflict of Interest in preparing its quotation; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

Otherwise, if the statement below applies, check the box.

- The respondent declares that there is an actual or potential Conflict of Interest relating to the preparation of its quotation, and/or the respondent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

If the respondent declares an actual or potential Conflict of Interest by marking the box above, the respondent must set out below details of the actual or potential Conflict of Interest:

8. Disclosure of Information

The respondent hereby agrees that any information provided in this quotation, even if it is identified as being supplied in confidence, may be disclosed where required by law or by order of a court or tribunal. The respondent hereby consents to the disclosure, on a confidential basis, of this quotation by the Board to the advisers retained by the Board to advise or assist with the RFQ process, including with respect to the evaluation this quotation.

Signature of Respondent Representative

Name of Respondent Representative

Title of Respondent Representative

Date

I have the authority to bind the respondent.

APPENDIX C – PRICING

1. Instructions on How to Provide Pricing

- Respondents should provide the information requested under section 3 below (“Required Pricing Information”) by reproducing and completing the table below in their quotations, or, if there is no table below, by completing the attached form and including it in their quotations.
- Rates must be provided in Canadian funds, inclusive of all applicable duties and taxes except for HST, which should be itemized separately.
- Rates quoted by the respondent must be all-inclusive and must include all labour and material costs, all travel and carriage 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.
- Price ranges will not be accepted. All rates must be rounded to two (2) decimal places. Partial bids are not permitted. If an item is no charge or \$0.00 respondent shall indicate “0”.
- Additional work formally approved by the Board will be based on hourly rates. Hourly rates to apply to work completed during regular business hours, after hours, weekends and/or statutory holidays. No other charges to apply. HST is extra.
- THE TOTAL MARK-UP to the Board FOR ANY APPROVED MATERIALS is not to exceed 5% of the net cost of materials. The Board reserves the right to audit the cost by requesting copies of invoices for the materials purchased by the selected respondent(s). In addition, the Board reserves the right to source, purchase, and supply materials to the selected respondent(s) for any work awarded under this bid.

THE TOTAL MARK-UP to the Board FOR ANY SERVICES is not to exceed 15% of the net cost of labour (10% for overhead and 5% for profit) regardless of whether the labour is provided by the selected respondent or its subcontractors. The Board reserves the right to audit the cost by requesting copies of invoices for labour provided either by the respondent or its subcontractors.

Prices are to remain firm for the duration of the contract upon the execution of a written contract as a result of the RFQ.

2. Evaluation of Pricing

- (a) The grand total for Appendix 1 – Rate Bid Form will be used for evaluation.
- (b) Appendix 1 – Supplementary Bid will not to be evaluated. However, the Board reserves the right to negotiate submitted pricing for Provisional Items (Hourly Rates), if deemed not competitive in the opinion of the Board.

3. Required Pricing Information

APPENDIX 1 – RATE BID FORM (Bid Table **BT-13QD** in the Bonfire Bidding System).

APPENDIX D – RFQ PARTICULARS

A. THE DELIVERABLES

Judith Nyman Secondary School Exterior Wall and Soffit Repairs

The provision of the Deliverables will be governed by the terms and conditions set out in Appendix A – Form of Agreement and Appendix G, Specifications and Drawings.

B. MATERIAL DISCLOSURES

The total estimated contract value is \$400,000,

1. GENERAL CONDITIONS

The General Conditions form part of this RFQ document, and it is understood by the Respondent that attaching signature in Appendix B, the Respondent acknowledges having read and understood the General Conditions, Section – 01000, pages 1 - 34 as posted on Bonfire Bidding System. See Appendix A2 – General Conditions.

2. CONSTRUCTION LIEN ACT PAYMENT TERMS IN GENERAL CONDITIONS

The General Conditions have been revised to include changes related to the new Construction Act.

3. AWARDING OF WORK

The Board reserves the right to award contractors only the amount of work to which the Board is confident can be completed on schedule by the successful Respondent. In order to expedite the completion of work within the Term of Contract, the Board may distribute awards from bids at its sole and unfettered discretion. The decision of the Board will be final.

4. HAZARDOUS BUILDING MATERIALS

Hazardous building materials may be present in the vicinity. Please view the assessment and required abatement work located in Appendix F – Specifications and Drawings.

5. SAMPLES

Samples, when required, must be submitted strictly in accordance with instructions. Samples must be furnished free of charge and must be accompanied by descriptive memorandum invoices indicating if the Respondent requires their return, provided they have not been used or made useless by tests. Samples will be held at Respondent's risk and subject to the Respondent's expense.

6. RFQ DOCUMENT AND BONFIRE SYSTEM

If the word "Contract" is found in sections of the specifications and drawings it shall mean after the award of a contract to the successful respondent.

A respondent may not make any changes to any of the forms. Any submission containing any such changes, whether on the face of the form or elsewhere may result in the non-consideration of your submission.

7. PERFORMANCE SURETY OR AGREEMENT TO BOND

If the total value of the bid per location excluding all applicable taxes is less than \$500,000.00 then a Performance Surety is required. If greater than \$500,000.00 bonding is required. Refer to Pre-Conditions of Award for details.

8. Facility Key(s) Deposit

Pursuant to Maintenance Services Department General Conditions Section 01000, all facility key(s) will be issued by Maintenance Services Department to the successful general contractor following the receipt of facility key deposit(s) issued by the successful general contractor.

Upon completion of project work and/or the end of term of the contract, all applicable facility key deposit(s) will be returned by the Board to the successful general contractor in a form of direct deposit. Facility key deposit(s) issued by sub-contractor(s) will not be accepted by the Board.

C. MANDATORY SUBMISSION REQUIREMENTS

1. Submission Form - Appendix B

Each quotation must include a Submission Form (Appendix B) completed and signed by an authorized representative of the respondent.

2. Pricing Rate Bid Form - Appendix 1 (Bid Table BT-13QD in the Bonfire Bidding System)

Each quotation must include pricing information that complies with the instructions contained in Pricing (Appendix C).

3. Supplementary Bid – Questionnaire - Appendix 2 – (Questionnaire Q-17VZ in the Bonfire Bidding System) – Not to be evaluated.

Each quotation must include above mentioned questionnaire.

D. MANDATORY TECHNICAL REQUIREMENTS

N/A

E. PRE-CONDITIONS OF AWARD

Respondent under consideration must provide the following information within (7) seven calendar days of notification or as otherwise agreed by the Board:

a) INSURANCE

The Respondent shall provide Commercial General Liability insurance coverage and Third Party Liability insurance coverage for both owned and non-owned motor vehicles in accordance to the Board's Standard Terms and Conditions – Form of Agreement under Appendix A.

b) WORKPLACE SAFETY AND INSURANCE BOARD (WSIB)

The Respondent shall provide proof of WSIB coverage in accordance to the Board's Standard Terms and Conditions – Form of Agreement under Appendix A.

c) CONTRACTOR ASBESTOS AWARENESS TRAINING

All contractor's employees and staff, including subcontractors where applicable, who will work at any PDSB facilities are required to complete the Contractor Asbestos Awareness Training at Contractor Asbestos Awareness Training Video Link :

https://drive.google.com/file/d/1dpmv5apl3CmiF-tp_-NMtyx-0Lq54-JP/view prior to beginning of the work at the Board. It is the contractor's responsibility to ensure that all their personnel receive this training timely and all training records, if applicable, are kept on file and are available upon Board request.

c) AGREEMENT TO BOND (If project is greater than \$500,000)

Agreement to Bond from an approved bonding company for a 50% performance bond and a 50% labour and material bond.

The respondent acknowledges and agrees to comply with the special provisions specified with respect to the wording/and or conditions under which the Performance bond may be invoked and remain in force as a Maintenance bond.

The latest editions of Forms 31 (Labour and Material Bond) and Form 32 (Performance Bond) to be submitted.

d) PERFORMANCE SURETY (If project is less than \$500,000)

The Performance Surety requirement from the successful Respondent will be in the amount of 10% of the dollar award excluding all applicable taxes.

The successful Respondent will secure an original Irrevocable Letter of Credit or a Certified Cheque or Money Order or Bank Draft payable to Peel District School Board, which has been issued by a Canadian Chartered Bank or Trust Company, in the appropriate amount. If the Irrevocable Letter of Credit is the vehicle chosen for the Performance Surety, it must be identical to the form as presented in this RFQ document, Appendix 1 attached. The

Performance Surety, either an Irrevocable Letter of Credit or a Certified Cheque, Money Order or Bank Draft will be deposited with and held by the Board prior to the commencement of the contract. The Performance Surety may be drawn on by the Board at any time to secure the due performance and observation of the contract; the payment of all claims, liabilities and obligations incurred by the successful Respondent during the performance of the contract. Such Performance Surety will not be released until sixty (60) days after substantial performance of the contract and the full discharge of all claims, liabilities and obligations incurred by the successful Respondent during the performance of this contract. The successful Respondent further covenants and agrees that, where the contract has been terminated or cancelled by virtue of the successful Respondent's default, the said Performance Surety will not be revoked or cancelled, and the Board may draw from the Performance Surety to compensate for such damages, losses or expenses incurred, or to be incurred, for which the Board may not be otherwise liable. Should the said damages, losses or expenses be in excess of the amounts drawn, the successful Respondent shall be liable to the Board for such excesses.

The Performance Surety is to guarantee that the successful Respondent will complete the contract in a proper and satisfactory manner in accordance with the terms and conditions of the RFQ and must be presented by the successful Respondent to the Board as requested at the time of the award. Failure to provide the proper surety may result in the rescission of the Board's notice of selection. No interest will be either charged or retained by or to the Board in relation to the Performance Surety.

APPENDIX E – LETTER OF CREDIT

(BANK) _____ NO. _____

(BRANCH) _____ (DATE) _____

TO:

WE HEREBY AUTHORIZE YOU TO DRAW ON (BANK)
FOR ACCOUNT OF
UP TO AN AGGREGATE AMOUNT OF
AVAILABLE BY DRAFTS AT SIGHT
GUARANTEE AS FOLLOWS:

Pursuant to the request of our customer, _____
we, (Bank) _____ hereby establish and give to
you an Irrevocable Letter of Credit in your favour in the total amount of \$ _____ which may be
drawn on by you at any time and from time to time upon written demand for payment made upon us by you, which
demand we shall honour without enquiring whether you have a right as between yourself and our said customer to
make such demand and without recognizing any claim of our said customer.

PROVIDED, however, that you are to deliver to (Bank) _____
at such time as a written demand for payment is made upon us, a certificate signed by the Associate Director of
Corporate Services of The Peel District School Board agreeing and/or confirming that monies drawn pursuant to this
Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred by you with
reference to (description of services or projects) _____

This Letter of Credit shall commence on _____ and shall expire on _____
_____ subject to the conditions of automatic extension, as set out herein.

IT IS A CONDITION of this Letter of Credit that it shall be automatically extended without amendment for one year
from the expiry date, and thereafter from year to year unless sixty days prior to the present or future expiry date we
shall notify the Associate Director of Operational Support Services of The Peel District School Board in writing that we
elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice;
you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn
will be retained and used by you to meet obligations incurred or to be incurred by you in connection with (description
of services or projects) _____.

THE DRAFTS DRAWN UNDER THIS CREDIT ARE TO BE ENDORSED HEREON AND SHALL STATE ON THEIR
FACE THAT THEY ARE DRAWN UNDER (BANK) _____
(BRANCH) _____ LETTER OF CREDIT NO. _____
(DATE) _____

WE HEREBY AGREE WITH THE DRAWERS, ENDORSERS OF THE BILLS DRAWN IN COMPLIANCE WITH THE
TERMS OF THIS CREDIT THAT THE BILLS SHALL BE DULY HONOURED UPON PRESENTATION AT THE
DRAWEE BANK.

(Accountant)

(Manager)

APPENDIX F - BONDING

1. The Contractor, after receiving written notification from the Board representative *or where the Contract Price exceeds \$500,000*, shall furnish and deliver to the Board within ten (10) days of such notification, and/or prior to the signing of the Contract: (1) a *Labour and Material Bond, with a coverage limit of at least 50% of the Contract Price, which extends its protection to any Subcontractors supplying labour and materials to the Work*; and (2) a *Performance Bond, with a coverage limit of at least 50% of the Contract Price*, and guaranteeing the faithful performance of the Contract in accordance with the Contract Documents including the requirements of **WARRANTY** and the payment of all obligations incurred in the event of the Contractor's default. Obligations incurred in the event of the Contractor's default shall include, but not be necessarily limited to the following:
2. The payment of all legal, accounting, architectural, engineering and other Consultants' expenses incurred by the Board in determining the extent of the Work executed, and any additional work required as a result of the interruption of the Work, and
3. The payment of additional expenses to the Board in the form of watchmen's services, light, heat, power, etc., payable over the period between the default of the Contract and the commencement of the Work under the terms of this Contract Requirement.
4. Without limiting the foregoing in any way, the Performance Bond shall indemnify and hold harmless the Board from and against any and all costs and expenses (including legal and architectural services and court costs) arising out of or as a consequence of any default of the Contractor under the Contract.
5. The Bonds shall be in the most recent form approved by the Canadian Construction Association modified as may be necessary to incorporate the requirements stated herein. For the amount of the Bonds, refer to the **MATERIAL DISCLOSURES** section of RFQ document.
6. The Contractor shall be responsible for notifying the surety company of any changes made to the Contract during the course of construction.
7. The premiums for all Bonds called for in the RFQ shall be included in the Contract Price.
8. Should the Board require provisions of any additional Bonds by the Contractor after the receipt of RFQ for the Work, the Contract Price shall be increased by all costs attributed to providing such Bonds. The Contractor shall promptly provide the Board through the Consultant, with any such Bonds that may be required.
9. The Bonds required hereunder must be issued by an insurer licensed under the Insurance Act to write surety and fidelity insurance and be approved by the Board.

BID DOCUMENT

1305 WILLIAM PARKWAY, BRAMPTON, ON

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

ISSUED FOR BIDDING
APRIL 18, 2024

Engineering Link Project Number: 23-0487-00
PDSB Project Number: SG-404-23/24-2

INTRODUCTORY INFORMATION

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DIVISION 01 – GENERAL REQUIREMENTS

Section 01 11 13 – Work Covered by Bid Documents

1.1 GENERAL

- .1 Bids shall be based on the materials and methods as outlined in the bid documents. If the contractor cannot meet the requirements, no bid shall be entered.
- .2 Refer to the technical specifications and drawings sections for products, and technical requirements.

1.2 SCOPE OF WORK

- .1 The work outlined herein is a general description. The specific requirements for the execution of the Work shall be as described in the bid documents. The itemized tasks of work outlined below correspond with the items outlined in the Rate Bid Form.

1.3 PURPOSE OF WORK

- .1 The purpose of the work is to complete brick and stone masonry crack repairs throughout the building, both interior and exterior. Refer to the plans and elevations.

1.4 SCHEDULE

- .1 The work shall commence upon award of the bid and proceed in a single phase of work until completion. All work shall be performed on site from 7AM to 9PM Monday to Sunday during the school summer holiday. All work shall be completed by August 31, 2024.
- .2 In the event that all work cannot be completed by August 31, 2024, the awarded contractor will be responsible to continue work at alternate times stated by Peel District School Board so as not to impact the daily functioning of the school. Work done during the regular school year shall be performed from 4PM to 9PM Monday to Friday and 7AM to 9PM on weekends and holidays. Restrictions of work may vary and shall be determined during the pre-construction meeting. All remaining work must be completed no later than October 14, 2024. General Contractor to include all costs that may result in extended after-hours work. There will be no extra claims/premium rates allowed.
- .3 Submit a project schedule within two weeks of project award.
- .4 All mockups of repair items (brick masonry unit replacement, brick mortar, stone masonry unit replacement, stone mortar, paint samples, etc.) shall be ready for review within two weeks of project award.
- .5 The required shop drawings (including shoring, soffits) are to be submitted by the Contractor, for review by the Consultant, within two weeks of the project award.

1.5 BASE BID

- .1 Mobilization
 - .1 Mobilize on site all plant, tools, equipment, and labour required to carry out this Work.
- .2 General Requirements
 - .1 Provide all the necessary labour, plant, equipment, and materials necessary to conform to all requirements as specified in the Bid Documents. This includes, but is not limited to

temporary lighting, access (interior and exterior as required to facilitate work), shoring, etc. Install all necessary fencing, hoarding, barriers and signage to protect staff, building elements, vehicular and pedestrian traffic in accordance with the Occupational Health and Safety Act. Include all necessary construction signage and coordination. Signage is to be properly lettered and visible. In addition to preventing injury, all work areas must be protected from damage due to equipment. Provide temporary support to existing structural loads, where required, to ensure the building is maintained in a safe condition and damage is not caused to building elements. Any damage as a result of inadequate shoring or support shall be rectified at no additional cost to the Owner.

- .2 Provide tree protection for all trees on the property within the working area, lay down areas or access routes. City trees proximal to the work or access are to be provided with tree protection as well. Tree protection is to be provided as per the City of Brampton standards (<https://www1.brampton.ca/EN/residents/Trees/pages/tree-regulations.aspx>). All Tree Protection Zones are to be signed as per the City of Brampton standards.
- .3 Obtain and pay for all Federal, Provincial and Municipal permits necessary for this work, with the exception of the building permit, which will be obtained by the Owner (if required).
- .4 Include all necessary construction signage and coordination. Signage is to be properly lettered and visible.
- .5 Maintain all building fire exits from the building at all times during construction. Any work at exit doors is to be limited to after-hours work. Post all necessary signage to indicate construction and erect all barricades/hoarding protection necessary to direct pedestrians through the construction area.
- .6 Provide Hoarding/Overhead Protection at all entrances and fire exits that are within the vicinity of the work without obstructing access to the buildings.
- .7 Erect all necessary barriers to keep pedestrians from gaining access on the scaffolding at the end of each workday. Plywood hoarding at the base of the scaffolding to be 12 feet high and non-climbable.
- .8 In addition to preventing injury, all work areas must be protected from damage due to equipment.
- .9 Provide temporary support to existing structural loads, where required, to ensure the building is maintained in a safe condition and damage is not caused to building elements. Any damage as a result of inadequate shoring or support shall be rectified at no additional cost to the Owner.
- .10 Allow for a scaffolding system that spans the low roofs. Application of scaffold loads to low roofs will not be permitted.
- .11 If the contractor deems it necessary to temporarily remove any permanent exterior furnishings such as fencing, benches, bollards, exterior metal exit stairs, etc. to facilitate façade access, the cost to remove and reinstate or replace such elements shall be borne by the contractor.
- .12 Remove and reinstate any exterior wall mounted accessories including but not limited to light fixtures, conduit, security cameras, speakers, drainage gutter & downspouts, etc. as required to complete the work. Removal and reinstatement of exposed surface mounted

mechanical and electrical equipment is considered to be part of the Base Bid. Only hidden mechanical and electrical that could not be seen at the time of the bid walkthrough can be drawn against the cash allowance.

- .13 The Contractor is to submit a dust control plan for review by the Consultant and Owner. The dust control plan should include:
 - a. standard operating procedures for working within a live environment.
 - b. drawings confirming the construction of dust control partitions.
 - c. maintenance plan for the dust control partitions throughout construction.
 - .14 Provide all necessary temporary protection to ensure the building remains in a watertight condition and protected from all external environmental elements.
 - .15 Include the manufacture and installation of all necessary material and performance of site mock-ups that will be required to the satisfaction of the Owner and Consultant. Make allowances during construction for down time made necessary for access to and review of the Work by Consultant.
 - .16 Make allowance to accommodate carrying out noisy work outside of normal working operation hours. Note that the building will be in operation.
 - .17 Provide periodic construction progress pictures via email upon request by consultant.
 - .18 Make allowances during construction for down time made necessary for access to and review of the Work by Consultant.
 - .19 Provide **daily** progress updates to the Consultant and Owner by sending emails in the morning before the start of the work. The email is to include the work area, number of workers on site and the work to be completed in full detail.
 - .20 The contractor is completely and **solely responsible for tracking repair quantities** to ensure they do not exceed bid form quantities without written permission from the Consultant. Contractor to provide bi-weekly quantity updates to consultant.
 - .21 Unless otherwise stated, removal is to include disposal off site in accordance with local environmental regulations.
- .3 Demobilization and Site Cleanup
- .1 Demobilize all plant, tools, equipment, and labour for this Work from site. Upon completion of Work, and immediately before the Consultant's final review for Total Performance of the work, all areas of the building affected by this bid document shall be thoroughly cleaned. Include the dismantling and removal of the scaffolding at the completion of the project. Remove all temporary protection, equipment, waste, and surplus materials from site and leave in neat, tidy condition to the satisfaction of the Owner.
 - .2 Make good any landscaping and landscaping elements (asphalt, concrete sidewalk, fencing, fence posts, etc.) damaged or removed during repairs. Replace damaged asphalt with hot-mix asphalt, and replace damaged grass with new sod.

.4 Localized Brick Masonry Replacement

- .1 This includes all materials, labour and equipment to survey walls and mark all spalled, scaled and cracked brick masonry units within the work area. Provide sufficient notice for Consultant to review quantity (area) prior to proceeding with removals. Upon confirmation by consultant, remove damaged brick masonry units and full depth of mortar joints at perimeter of replacement unit (or area), clean the surface of adjacent units and place new brick masonry units, bedding and pointing mortar. Include brick masonry unit and mortar joint removal and disposal and the supply and installation of the new brick masonry units, bedding and pointing mortar. Include all labour, materials, and equipment to rake out the bedding mortar to the specified depth and the supply and installation of pointing mortar as per Specifications. This includes the staging of the work, as required. Bedding and pointing mortar associated with replacement bricks (all four sides), is considered part of brick replacement quantity. Where replacing in excess of four bricks in one area, install masonry ties to bond the facing with backup wythes of masonry. This also includes field staining of the brick face in order to obtain a close match to the existing.
- .2 The total estimated number of localized brick masonry unit replacement throughout the Work area is: 600 units.
 - a. North Elevation: 100 units
 - b. South Elevations: 40 units
 - c. East Elevations: 30 units
 - d. West Elevations: 30 units
 - e. Partial South, East and West Elevations: 180 units
 - f. Roof and Courtyard: 220 units
- .3 The breakup of quantities provided for each elevation is for information and coordination purposes only. Unused quantities of bricks from one elevation shall be used at other locations determined by the consultant.
- .4 Supply and install new masonry ties at rebuilt areas and as directed by consultant. Horizontal and vertical spacing shall be as indicated in the drawings or directed by consultant and are to be set on staggered centers. Repoint tie holes using colour matched mortar. The total estimated number of ties throughout the Work area is: 100.
- .5 If necessary, provide temporary shoring to support brick masonry above the openings. The shoring shop drawings shall be stamped by a Professional Engineer licensed to practice in the Province of Ontario for the Consultant's review.

.5 Localized Mortar Joint Repointing

- .1 This includes all materials, labour and equipment to survey walls and mark all scaled, weathered and cracked mortar joints within the work area. Provide sufficient notice for consultant to review quantity (area) prior to proceeding with removals. Upon confirmation by consultant, cut out and rake deteriorated mortar, clean brick masonry surfaces, and install new pointing mortar and tool joint as per Specifications. This includes the staging of the work, as required. Colour and texture of mortar and tooling of joint to match existing.

- .2 At localized wall areas on which the existing signage is mounted, repoint the brick masonry only where joints are accessible. Do not remove the existing signage.
- .3 The total estimated quantity of repointing throughout the work area is: 3,250 Feet (“FT”).
 - a. North Elevation: 160 FT.
 - b. South Elevations: 280 FT.
 - c. East Elevations: 100 FT.
 - d. West Elevations: 80 FT.
 - e. Partial South, East and West Elevations: 1,150 FT.
 - f. Roof and Courtyard: 1480 FT.
- .4 The breakup of quantities provided for each elevation is for information and coordination purposes only. Unused quantities of bricks from one elevation shall be used at other locations determined by the consultant.
- .6 Masonry Movement Joint Sealant Replacement
 - .1 Remove and replace the vertical construction/movement brick control joints between the different eras of construction, rout out joint to a depth of 1” minimum and install backer rod and sealant. Include the replacement of interface sealant between windowsill flashing and brick masonry. Window perimeter sealant replacement is not part of the scope.
 - .2 Sealant colour to match adjacent brick mortar and to have sand broadcast into the wet sealant.
 - .3 The total estimated quantity of sealant replacement throughout the work area is: 1,000 FT.
 - a. North Elevation: 250 FT.
 - b. South Elevations: 125 FT.
 - c. East Elevations: 150 FT.
 - d. West Elevations: 60 FT.
 - e. Partial South, East and West Elevations: 60 FT.
 - f. Roof and Courtyard: 355 FT.
 - .4 The breakup of quantities provided for each elevation is for information and coordination purposes only. Unused quantities of bricks from one elevation shall be used at other locations determined by the consultant.
- .7 Dust Collector Wing Wall Demolition, Re-roofing and Parapet Rebuild
 - .1 This includes all materials, equipment, labour, and shoring required to demolish the existing wing walls, chain-link fence at the abandoned dust collector wing walls at west elevation as shown in drawings. The building’s exterior perimeter walls should be repaired/made good with salvaged brick as required.
 - .2 Remove the foundation wall to at least 1 block course below grade (to depth of 50mm surrounding asphalt). Fill the foundation wall voids with Quikrete prebagged concrete and compact sufficiently to prevent any settlement. Remove and dispose raised concrete slab

- outside wingwall. Patch asphalt with cold patch as required to make it flush with adjacent asphalt pavement.
- .3 Include demolishing of parapet wall in the roof level, removing existing metal stepped cap flashing on the either side of wing wall and metal counter flashing along the scope area.
 - .4 Salvage and reuse undamaged/undeteriorated bricks from the wing walls for completing the localized brick replacement at other locations. Include for capping of the vertical face of soffit/sloped metal cladding on either side of wing wall using new corrugated metal siding to match slope metal panel profile and colour, or as approved by the consultant.
 - .5 Remove existing pea gravel in the roof (approximately for 1 m) adjacent to demolished parapet wall to allow for new roof membrane tie-in. Install new wood blocking and 2-ply modified bitumen flashing membrane (cold adhesive applied) as shown in drawing detail.
 - .6 Acceptable 2-ply modified bitumen tie-in flashing membranes:
 - a. Base Sheet Flashing Membrane: Sopraply Stick Duo by Soprema or approved equivalent.
 - b. Cap Sheet Flashing Membrane: Colply Traffic Cap with Sopratack Flashing Adhesive by Soprema or approved equivalent.
 - .7 Install new prefinished metal cap flashing and resurface the pea-gravel.
 - .8 Ensure that roof assembly is watertight at the end of each workday. Any damage to existing floors, furniture, equipment, and other interior furnishings due to water leaks from roof shall be promptly repaired by the Contractor at no additional cost.
- .8 Soffit Panel Replacement
- .1 This includes all materials, equipment, labour, and shoring required for full replacement of existing soffit panel along the exterior wall (including walls in the roof) and at entrance canopy locations throughout the school.
 - .2 Provide shop drawings specific to project scope stamped by a professional engineer licensed in the province of Ontario for the support framing and metal panel system for consultant's review prior to actual installation.
 - .3 A Designated Substances Survey (DSR) is provided as part of this package. Carry out abatement and disposal in accordance with any recommendations. Existing soffit panels are confirmed to be asbestos containing and are to be abated from abatement allowance. Coordinate with the environmental consultant during the abatement to review the work and provide reports. Complete all necessary PDSB documentation prior to commencement of any abatement.
 - .4 Acceptable Product: ALPOLIC® Materials, Metal Composite Panels
 - .5 Remove and dispose the existing metal furring framing system. Install new metal channel framing system, perimeter trim, threaded rod accessories to support new soffit panels as required.
 - .6 Install new soffit panel system.
- .9 Prefinished Drip Metal Flashing Installation and Steel Angle Support
- .1 This includes installation of 1.6 mm thick new prefinished aluminum drip flashings at locations indicated on drawings.

- a. Type 1: At flat masonry wall surface as in drawing R501.
- b. Type 2: At wall corner locations as in drawing R501. Allow for wrapping/extending the drip flashing along the wall corners (extend to 2 or 3 sides of the wall).

Include trimming of existing metal siding bottom flashings, removal and replacement of eaves troughs, etc. needed to install the new drip flashings.

- .2 Include for localized pressure washing of stained areas in masonry walls.
- .3 Remove rust byproducts from all existing cantilever steel supports at locations shown on drawings. Apply new anti-corrosion paint over the steel angles.
 - a. Acceptable Products by Sherwin-Williams:
 - Macropoxy 646 FC – 1 coat
 - Acrolon 7300 Topcoat – 1 coat

.10 Foundation Wall Parging Repair

- .1 At localized locations indicated on drawings, perform concrete parging repairs on the foundation wall.
 - a. Acceptable Product: Sika Top 121
- .2 Total estimated Quantity for parging repairs is 100 sq.ft.
- .3 Quantities provided are for contractor pricing only. Unused quantities of parging repairs shall be used at other locations determined by the consultant.

.11 ACM and/or Hazardous Work:

- .1 Refer to Designated Substance Survey Report Document provided by Fisher Engineering for locations of ACM.
- .2 Complete abatement of ACMs as outlined in Abatement of Asbestos Specification document.

1.6 ALTERNATIVE PRICES

There are no Alternative Prices for this scope of work.

1.7 SEPARATE PRICES

There are no Separate Prices for this scope of work.

END OF SECTION

1 STRUCTURE DEMOLITION

- .1 The WMC is responsible for fulfillment of reporting requirements.
- .2 Prior to beginning of Work on site submit detailed Waste Reduction Workplan and indicate:
 - .1 Descriptions of and anticipated quantities of materials to be salvaged, reused, recycled and landfilled.
 - .2 Schedule of selective demolition.
 - .3 Number and location of dumpsters.
 - .4 Name and address of waste facilities.
- .3 Prior to beginning of Work, submit a detailed plan of demolition procedures as requested by the Contract Document.
- .4 Where required by Consultant, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning. Submit drawings stamped and signed by qualified professional engineer registered or licensed in Ontario of Canada.

2 MASONRY

2.1 SAMPLES

- .1 Two (2) weeks prior to the commencement of work, submit two (2) samples of the brick masonry units, concrete masonry units, and mortar to illustrate the finish colour and the texture, for approval by the Owner.
- .2 Submit a 12" x 12" (300mm x 300mm) sample of the paint colour proposed from the Manufacturers standard colour range.
- .3 Submit colour charts for masonry units and mortar.
- .4 Submit the information directly to the Consultant.

2.2 MOCK-UPS

- .1 Construct a typical mock-up two (2) weeks prior to commencing with the work at a location agreed with the Consultant to show the brick-and-mortar colour, tooling, anchor and tie placement, installation, and bond. The mock-up shall be at least 1000 mm by 1000 mm.
- .2 Upon receipt of written confirmation from the Consultant, the mock-up may remain as part of the finished work.
- .3 The Contractor must receive written confirmation of the mock-up acceptance prior to commencing with the work.
- .4 Approved mock-up shall serve as the standard to which all related work shall be evaluated.
- .5 Rejected mock-ups will be removed and disposed of at the expense of the Contractor.

- .6 The mock-up shall be completed using the specified mortar and supplied masonry. Upon completion and written confirmation of the mock-up and written confirmation from the Consultant, the mix proportions should be altered in order to provide the minimum bond and performance requirements.

3 METAL CLADDING – SOFFITS

3.1 SAMPLES AND SHOP DRAWINGS

- .1 Two (2) weeks prior to starting the work, the contractor shall submit the following:
 - .1 Product data: submit manufacturer's printed product literature, specifications and data sheet.
 - .2 Submit duplicate, minimum 6" x 6" samples cladding material, type and colour to be used for the project. Submit samples of concealed panel clip, fasteners, field applied sealants and all other system components.
 - .3 Shop drawings of soffit panel and metal framing system with all required accessories in sections and details. Shop drawings to indicate dimensions, profiles, thickness, attachment methods, schedule of wall elevations, trim and closure pieces, soffits, fascia, metal furring, and related work. Indicate location and detail of joints including joints necessary to accommodate thermal movement. Indicate attachment clips, joint extrusion system and installation details.
 - .4 Shop drawing should also identify member sizing, spacing and anchors that reflect tie into various existing conditions. The submittal must be site verified to assess existing conditions prior to shop submittal.
 - .5 The shop drawings should be stamped by a professional engineer licensed in province of Ontario.
 - .6 Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.
 - .7 Submit manufacturer's installation instructions and written letter of recommendations for nailable substrate and fasteners.
- .2 At the Consultant's request, submit samples, including available colours, of the materials to be used on the project.

3.2 MOCK UP

- .1 Construct mock-ups two (2) weeks prior to commencement of the work to complete a working mock-up install of soffit panel with new framing system.
- .2 Upon receipt of written confirmation from the Consultant, the mock-up may remain as part of the finished work.
- .3 The approved mock-up shall be the standard to which all work shall be performed.

- .4 The mock-up shall be performed prior to the pre-installation conference.

4 SHEET METAL FLASHING AND TRIM

4.1 SUBMITTAL AND MOCK UP

- .1 Submit duplicate 300 x 300 mm samples of each type of sheet metal material, colour and finish. The colour of metal drip flashing should match the existing sloped metal cladding.
- .2 Complete a working mock-up two (2) weeks prior to commencement of the work at location specified by consultant.
- .3 Upon receipt of written confirmation from the Consultant, the mock-up may remain as part of the finished work.
- .4 The approved mock-up shall be the standard to which all work shall be performed.

5 SEALANT

5.1 SUBMITTAL AND MOCK UP

- .1 Two (2) weeks prior to starting the work, the contractor shall submit the following:
 - .1 List of the materials to be provided under this section.
 - .2 Manufacturer's product data and specifications for each material.
 - .3 Sealant manufacturer's written project recommendations.
- .2 At the Consultant's request, submit samples, including available colours, of the materials to be used on the project.
- .3 Construct mock-ups two (2) weeks prior to commencement of the work to demonstrate all of the joints encountered in this project.
- .4 The mock-ups shall be 1 m in length for each type of sealant and substrate.
- .5 The mock-ups shall demonstrate the surface preparation prior to the sealant installation and the location, size, shape, colour, depth of joints, and adhesion and cohesion, complete with back-up material, primer, and new sealant.
- .6 Upon receipt of written confirmation from the Consultant, the mock-up may remain as part of the finished work.
- .7 The approved mock-up shall be the standard to which all work shall be performed.
- .8 The mock-up shall be performed prior to the pre-installation conference.

6 WARRANTIES

6.1 GENERAL

6.1.1 The contractor shall provide a written guarantee for all work against defects in labour, materials and workmanship for a period of two (2) years unless otherwise noted.

6.2 STRUCTURE DEMOLITION

6.2.1 Repair and/or replace any work judged defective by the Board Designee/Engineer and any other work damaged due to faulty or defective work at no additional cost during the term of the warranty.

6.3 MASONRY

.1 The Contractor shall submit a warranty of the work of this section covering a period of not less than two (2) years from the date of Substantial Performance of the Contract. Substantial completion shall be determined by the Consultant and the Owner.

.2 Defective work shall include, but is not limited to, cracking, crumbling, loss of adhesion, loss of cohesion, discolouration, premature deterioration and out of plane movement.

6.4 METAL CLADDING – SOFFIT

.1 Manufacturer's standard 20-year finish warranty covering checking, crazing, peeling, chalking, fading, and adhesion of the pre-painted sheet metal materials. The warranty includes delamination of panels and defective materials under normal weathering and fabricated to manufacturers instructions.

.2 Installer's 2-year warranty covering against defects or deficiencies in the soffit panel system in materials or installation.

.3 Warranties shall commence from date of substantial performance.

6.5 SHEET METAL FLASHING AND TRIM

.1 Contractor shall provide a warranty by the sheet metal installer covering a period of two (2) years for all labour and materials from the date of Substantial Performance of the contract agreeing to furnish sheet metal to repair or replace those that do not comply with performance and other requirements specified in this Section within the specified warranty period.

.2 Defective work shall include, but is not limited to, premature corrosion, warping, failed anchors, fasteners, and welds, and leakage through seams.

6.6 SEALANT

.1 Contractor shall provide a warranty by the sealant manufacturer covering a period of twenty (20) years for all labour and materials from the date of Substantial Performance of the contract agreeing to furnish sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within the specified warranty period. The written

warranty shall be in a form approved by the Owner. The warranty shall cover all components of the sealant.

- .2 Defective work shall include, but is not limited to, joint leakage, cracking, crumbling, melting, running, loss of adhesion or loss of cohesion, and substrate staining.
- .3 The manufacturer shall supply all labour, materials, tools and equipment to repair and/or replace any material defects, at no additional cost to owner.

END OF SECTION 01 34 00

DIVISION 2 – SITE WORK

Section 02 41 16 – Structure Demolition

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Methods and procedures for demolition of structures, parts of structures.

1.2 RELATED SECTIONS

- .1 01 11 13 Work Covered By Bid Documents

1.3 REFERENCES

- .1 Canadian Standards Association (CSA International).
 - .1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
- .2 Department of Justice Canada (Jus).
 - .1 Canadian Environmental Assessment Act (CEAA), 1992, c. 37.
 - .2 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
 - .1 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
 - .3 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.
- .3 Underwriters' Laboratories of Canada (ULC).
 - .1 ULC/ORD-C107.19-1992, Secondary Containment of Underground Piping.
 - .2 ULC/ORD-C58.15-1992, Overfill Protection Devices for Underground Tanks.
 - .3 ULC/ORD-C58.19-1992, Spill Containment Devices for Underground Tanks.
- .4 U.S. Environmental Protection Agency (EPA)/Code of Federal Regulations (CFR), Title 40 - Protection of Environment, Chapter 1, Subchapter C - AIR, Part 86 - CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES.
 - .1 EPA CFR 86.098-10, Emission standards for 1998 and later model year Otto-cycle heavy-duty engines and vehicles.
 - .2 EPA CFR 86.098-11, Emission standards for 1998 and later model year diesel heavy-duty engines and vehicles.

1.4 DEFINITIONS

- .1 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: asbestos, poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, mould or other material that can endanger human health or well being or environment if handled improperly.
- .2 Waste Management Coordinator (WMC): contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.

- .3 Waste Audit (WA): detailed inventory of materials in building. Involves quantifying by volume/weight amounts of materials and wastes generated during construction, demolition, deconstruction, or renovation project. Indicates quantities of reuse, recycling and landfill.
- .4 Waste Reduction Workplan (WRW): written report which addresses opportunities for reduction, reuse, or recycling of materials. WRW is based on information acquired from WA.

1.5 QUALITY ASSURANCE

- .1 Regulatory Requirements: Ensure Work is performed in compliance with Canadian Environmental Protection Act (CEPA) and applicable Provincial and Municipal regulations.
- .2 Meetings:
 - .1 Prior to start of Work arrange for site visit with Consultant to examine existing site conditions adjacent to demolition work.
 - .2 Hold project meetings upon request from the Consultant.
 - .3 Ensure site supervisor and subcontractor representatives attend.
 - .4 The site supervisor must provide written report on status of waste diversion activity and removal of hazardous material at each meeting.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling before diverting excess materials from landfill to site approved by Consultant.

1.7 ENVIRONMENTAL PROTECTION

- .1 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .2 Fires and burning of waste or materials is not permitted on site.
- .3 Do not bury rubbish waste materials.
- .4 Do not dispose of waste or volatile materials including but not limited to: mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.
 - .1 Ensure proper disposal procedures are maintained throughout project.
- .5 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .6 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with applicable regulations.
- .7 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .8 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .9 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

1.8 EXISTING CONDITIONS

- .1 Should any material resembling spray or trowel applied asbestos or other designated substance listed as hazardous be encountered in course of demolition, stop work, take preventative measures, and notify Consultant immediately. Do not proceed until written instructions have been received.
- .2 Structures to be demolished to be based on their condition at time of examination prior to bidding.

2.0 PRODUCTS

2.1 EQUIPMENT

- .1 Equipment and heavy machinery to:
 - .1 On-road vehicles to meet applicable emission requirements as prescribed in CEPA-SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
 - .2 Off-road vehicles to meet applicable emission requirements as prescribed in EPA CFR 86.098-10 and EPA CFR 86.098-11.
- .2 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

3.0 EXECUTION

3.1 PROTECTION

- .1 Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades, and parts of existing building to remain.
 - .1 Provide bracing, shoring, and underpinning as required.
 - .2 Repair damage caused by demolition as directed by Consultant.
- .2 Support affected structures and, if safety of structure being demolished, or adjacent structures or services appears to be endangered, take preventative measures, stop Work and immediately notify Consultant.
- .3 Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.
- .4 If working from heights, carry out protection to ensure safety below working area and on the ground to prevent any falling hazard.

3.2 PREPARATION

- .1 Disconnect and re-route electrical, mechanical equipment, telephone service lines and etc, entering buildings or adjacent to work areas to be demolished.
 - .1 Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
- .2 Disconnect and cap designated mechanical services.

- .1 Air conditioning units: temporarily remove for reinstatement in accordance with Bid document.
- .2 Gas sensor: temporarily remove for reinstatement in accordance with Bid document.
- .3 Natural gas supply lines: remove in accordance with gas company requirements.
- .4 Sewer and water lines: remove to property line in accordance with authority having jurisdiction as directed by Consultant.
- .3 Do not disrupt active or energized utilities traversing premises designated to remain undisturbed.
- .4 Remove rodent and vermin as required by Departmental Representative.

3.3 SAFETY CODE

- .1 Blasting operations are not permitted during demolition.

3.4 DEMOLITION

- .1 Demolish parts of structures listed in the Bid Document to permit construction of addition as indicated. Notify the Consultant of any discrepancies in on site conditions and the Bid Documents. Do not proceed until written acceptance is given from the Consultant.
- .2 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .3 At end of each day's work, leave Work in safe and stable condition.
 - .1 Protect interiors of parts not to be demolished from exterior elements at all times.
- .4 Demolish to minimize dusting by keeping materials wetted.
- .5 Demolish masonry and concrete walls in pieces.
- .6 Remove structural framing.
- .7 Contain fibrous materials (e.g. Insulation) to minimize release of airborne fibres while being transported within facility.
- .8 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.

3.5 STOCKPILING

- .1 Label stockpiles, indicating material type and quantity.
- .2 Do not stockpile hazardous material.
- .3 Designate appropriate security resources/measures to prevent vandalism, damage and theft.
- .4 Locate stockpiled materials convenient for use in new construction. Eliminate double handling wherever possible.
- .5 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing,

or hauling procedures.

- .6 Separate from general waste stream each of following materials. Stockpile materials in neat and orderly fashion in location. Stockpile materials in accordance with applicable fire and safety regulations.
 - .1 Wiring and conduit.
 - .2 Outlets/switches.
 - .3 Metal duct work, baffles, HVAC equipment.
 - .4 Demountable partitions.
 - .5 Drapes.
 - .6 Tracks and blinds.
 - .7 Insulation batts.
 - .8 Miscellaneous metals.
- .7 Supply separate, clearly marked disposal bins for categories of waste material.

3.6 REMOVAL FROM SITE

- .1 Remove stockpiled material when it interferes with operations of project construction.
- .2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
- .3 Transport material designated for alternate disposal using approved haulers /receiving organizations listed in and in accordance with applicable regulations.
 - .1 Written authorization from Consultant is required to deviate from haulers/facilities/ receiving organizations listed in Waste Reduction Workplan.
- .4 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.
 - .1 Disposal facilities must be those approved of and listed in Waste Reduction Workplan.
 - .2 Written authorization from Consultant is required to deviate from disposal facilities listed in Waste Reduction Workplan.

END OF SECTION 02 41 16

DIVISION 4 – MASONRY

Section 04 90 00 – Masonry

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Clay Face Brick Masonry
- .2 Brick Masonry Mortar
- .3 Concrete Block Masonry
- .4 Concrete Block Mortar
- .5 Stabilization Anchors
- .6 Reinforcing and Connectors
- .7 Accessories

1.2 DEFINITIONS

- .1 As defined in CSA A371 “Masonry Construction for Buildings”:
 - .1 Repointing: Removing deteriorated mortar from the joints of a masonry wall and filling and finishing with new mortar.
 - .2 Tooling: Compressing and shaping the face of a masonry joint with a special tool to provide final contour.

1.3 REFERENCES

- .1 CAN/CSA-A23.1: Concrete Materials and Methods of Concrete Construction
- .2 CAN/CSA-A23.2: Methods of Testing for Concrete
- .3 CAN/CSA-A23.3: Design of Concrete Structures
- .4 CAN/CSA-A82-06 (R2011): Fired Masonry Brick Made From Clay or Shale
- .5 CSA A179: Mortar and Grout for Unit Masonry
- .6 CAN/CSA-A165 SERIES: CSA Standards on Concrete Masonry Units
- .7 CSA-S304.1: Design of Masonry Structures
- .8 CAN/CSA-A371: Masonry Construction for Buildings
- .9 CAN/CSA-A370: Connectors for Masonry

1.4 QUALITY ASSURANCE

- .1 Perform the work in accordance with the most recent version of CAN/CSA-A370 and CAN/CSA-A371.

1.5 QUALIFICATIONS

- .1 The installer shall be a company specializing in masonry work with a minimum of three (3) years proven experience for projects of similar size and complexity.

.2 Use single masonry Contractor for all masonry work.

1.6 HELICAL TIE TESTING

.1 Provide pull tests by an independent testing agency selected by the helical tie manufacturer to demonstrate the ultimate pull out strength of the tie.

.2 A total of 2 ties per building elevation where ties are used are to be tested. Locations to be chosen by the Consultant.

1.7 DELIVERY, STORAGE AND PROTECTION

.1 Provide weather protection and construction protection in accordance with CSA-S304.1.

.2 Store cementitious materials and aggregates in accordance with CSA Standard A23.1

.3 Store mortar in a cool dry place so as not to be in contact with earth and to be protected from elements.

.4 Keep the materials dry and protected from the weather, freezing and contamination.

.5 Ensure that the labels and seals on all materials are intact upon delivery.

.6 Remove rejected or contaminated materials from the site.

1.8 ENVIRONMENTAL REQUIREMENTS

.1 General:

.1 All work shall be performed in strict accordance with manufacturer's written requirements for all products specified in the specification.

.2 Should a conflict arise between the requirements of this section and the manufacturer's requirements, the more stringent requirements shall govern.

.2 Masonry Construction:

.1 Execute the work when the ambient temperature is above four (4) degrees Celsius. When the ambient temperature is below four (4) degrees Celsius, use care and heat as directed by the Consultant. Refer to section 3.4.

.2 Brace the masonry walls as necessary to resist wind pressure and other lateral forces during construction.

1.9 EXISTING CONDITIONS

.1 The Contractor shall provide all required support to safely support all the loads.

.2 The decision to replace and repoint the existing masonry is based on cracked mortar joints, loose and spalled faces. Should any other masonry deterioration be detected during the execution of the work that is unrelated to the noted visual defects, immediately inform the Consultant.

.3 Report, in writing to the Consultant, any areas of deteriorated masonry revealed that are not a part of this work. Obtain the Consultant's approval and instruction for the repair and replacement of the masonry units before proceeding with the repair work.

.4 Assist in the investigation of possible structural problems and report prior to commencing with the masonry work.

- .5 Study pointing styles and methods and reproducing them and submit a sample for approval before starting the work.
- .6 Examine horizontal and vertical joints to determine which were struck first and whether they are the same style, as well as the other aspects of workmanship, which establish the authenticity of the original work.

1.10 ALTERNATIVES

- .1 Obtain the Consultant's approval before changing the manufacturer's brands or supply sources of mortar materials during the entire contract or other methods of mixing mortar specified elsewhere in this specification.

2.0 PRODUCTS

2.1 CLAY FACE BRICK MASONRY

- .1 New brick masonry to match the existing texture, size, colour, and physical properties. Acceptable manufacturer: Brampton Brick or approved alternate. New brick masonry to conform to CAN/CSA-A82-06 (R2011).
 - .1 Finish: Colour, sheen, appearance, and texture to match existing.
 - .2 Brick Unit Size: Ontario size bricks to match existing.
- .2 Existing brick masonry can be removed from the wing walls being demolished or at other locations directed by Consultant for referencing.

2.2 BRICK STAINING

- .1 If required, stain the face of the replacement brick to match the colour and sheen of the existing. Stain material to be mineral based, UV resistant, penetrating, mold, fungus, mildew and weather resistant.
- .2 Acceptable Manufacturers:
 - .1 PermaTint Limited
 - .2 Nawkaw Corporation

2.3 BRICK PATCHING MORTAR

- .1 All core holes to be filled with Sika 123.
- .2 Existing brick finish to be replicated using a finish glaze. Acceptable stain/coating manufacturer: Refer to section 2.2.

2.4 BRICK MASONRY MORTAR

- .1 Pre-bagged mortar mixed in strict accordance with the manufacturer's instructions.
- .2 Mortar Type N.
- .2 Acceptable products:
 - .1 Betomix Plus Type N as manufactured by Daubois Inc.
 - .2 King 1-1-6 Type N as manufactured by King Packaged Materials Company.

- .3 The colour of the mortar shall match the existing. Colouring pigments shall be used in accordance with the manufacturer's written recommendations.
 - .1 Acceptable product: Inorganic mineral oxide colouring pigments as supplied by Elementis Pigments Inc. Toronto, ON. A sample of the mortar shall be provided to the Consultant prior to commencement of the work.
 - .2 Liquid pigments are not acceptable.
- .4 Admixtures shall not be added to the mortar.
- .5 Use same brand of materials for the entire project.

2.5 CONCRETE BLOCK MASONRY

- .1 New concrete block masonry, compressive strength = 15.0 MPa minimum on net area. New concrete block masonry to conform to CAN/CSA-A165 SERIES.
- .2 All materials shall be neatly stored on pallets in a location designated by the Owner.

2.6 CONCRETE BLOCK MORTAR

- .1 Pre-bagged mortar mixed in strict accordance with the manufacturer's instructions.
- .2 Acceptable products:
 - .1 King Block Mortar, as manufactured by King Packaged Materials Company.
 - .2 Bloc Mix, as manufactured by Daubois Inc.
- .3 Type S for loadbearing walls unless noted.
- .4 Conform to CAN/CSA-A179, 15 MPa minimum compressive strength at 28 days, 250mm (10") slump, maximum aggregate size 10mm (3/8").

2.7 REINFORCING AND CONNECTORS

- .1 All reinforcing and connectors shall be in conformance with CAN/CSA A370.
- .2 Reinforcing connectors shall be installed in accordance with the manufacturer's instructions.
- .3 All reinforcing and connectors shall have a corrosion protection level of III as specified in CAN/CSA A370.
- .4 Ties shall be 8 mm Helifix 304 Stainless Steel Wall Ties manufactured by Helifix or approved alternate. The tie length and spacing to match existing.

2.8 ACCESSORIES

- .1 Thru-Wall Flashing for Walls: Modified bitumen membrane reinforced with non-woven polyester mat, self adhesive type membrane covered with plastic film on one side, self adhesive polyethylene protective film on the other. Minimum thickness 1.2 mm (47 mils)
 - .1 Acceptable Products: Blueskin TWF as manufactured by Bakor Inc., Sopraseal Stick 1600 as manufactured by Soprema or ExoAir TWF as manufactured by Tremco Inc.
 - .2 All products to include seam sealer and primer as required in accordance with the manufacturer's written recommendations.

- .2 Metal Flashing: 24-gauge pre-finished aluminum, colour and profile to match the existing sheet metal flashing.
- .3 Weep Hole Vents:
 - .1 Spacing: At every third brick head joint.
 - .2 Approved Products:
 - .1 Polyvinyl brick vents standard size 63.5 mm (2-1/2") Size and colour to suit brick veneer. Acceptable Product: Cell Vent as manufactured by Blok-Lok Ltd. or approved equal.
 - .2 Williams-Goodco PVC Brick Vent, polyvinyl brick vents size to match existing colour grey, as manufactured by Williams Products Inc.
 - .3 Sure Cavity and Cavity Weep as manufactured by Masonry Technology Incorporated.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Verify that surfaces and conditions are ready to accept the work of this section.
- .2 Commencing with the installation means acceptance of the existing substrates by the Contractor.
- .3 The Contractor shall sound and identify all masonry wall areas covered under contract for deteriorated mortar and brick. The Contractor shall commence with the repairs upon receipt of approval by the Consultant in writing.

3.2 PREPARATION

- .1 Protect adjacent finished materials from marking or damage due to the work.
- .2 Seal and protect all openings, doors, windows, and adjacent areas to minimize the potential for damage and the spread of dust, water or other materials into the building or adjacent sidewalks and properties.
- .3 Brace all openings to remain plumb.
- .4 All projections should be covered with rigid protection, secured into the joints for the duration of the work.
- .5 Any part of the scaffolding/swing stage shall not directly bear against the masonry. The Contractor to provide any isolating materials required to prevent damage to the existing masonry.
- .6 Provide and install the safety devices and signs near the work area.
- .7 Install temporary shoring, bracing or other supports as necessary to support loading in the area of work.
- .8 The top surface of uncompleted masonry and openings in the building during the work shall be completely covered and protected with non-staining waterproofing covers when the construction is not in process.

3.3 GENERAL

- .1 Build masonry plumb, level, and true to line with vertical joints in alignment.
- .2 Layout coursing and bond to achieve correct coursing heights, and continuity of bond above and below openings, with minimum of cutting.
- .3 Tolerances shall conform to CAN3-A371.

3.4 COLD WEATHER PROTECTION

- .1 When laying masonry in ambient temperature below 4 deg C (40 deg F), use heat and maintain temperature of masonry materials. Protect completed work from freezing to satisfaction of the Consultant. Heat and maintain temperature of masonry materials to at least 4 deg C (40 deg F), but not more than 48 deg C (120 deg F) and maintain air temperature above 4 deg C (40 deg F) on both sides of masonry for period of at least 72 hours.
- .2 Do not use scorched sand. Do not use salts or anti-freezes. Use approved smokeless heaters.
- .3 Heat water to a minimum temperature of twenty (20) degrees Celsius and a maximum of thirty (30) degrees Celsius.
- .4 Use warm water and use less mix water in winter; cover sand to keep dry; heat sand and ensure no frozen lumps; use small batches; provide temporary heat and weather protection enclosure at area of masonry work; cover top of all unfinished work to prevent water or ice getting into masonry work.
- .5 When the temperature is ten (10) degrees Celsius or less, store cements and sands for immediate use within a heated enclosure. Allow these materials to reach a minimum temperature of ten (10) degrees Celsius or a temperature that is in equilibrium with the air in the enclosure.
- .6 At the time of the use, the temperature of the mortar is to be a minimum of fifteen (15) degrees Celsius and a maximum of thirty (30) degrees Celsius.

3.5 HOT WEATHER REQUIREMENTS

- .1 Do plan for hot weather construction. Protect freshly laid masonry from drying too rapidly, by means of waterproof, non-staining coverings.
- .2 Avoid using dry masonry in hot weather conditions. Use predampened brick nominally saturated, but surface dry at time of laying. Do not dip brick in a bucket of water.
- .3 Do spread only enough mortar to permit soft setting of masonry units; do not over mix mortar materials; do not retemper mortar after 2 hours of use; do not retemper pigment coloured mortar; do not spread more than 900 mm (3') of mortar for placement of brick.
- .4 Do not mix cement with water or with aggregate or with water-aggregate mixtures having a temperature higher than thirty (30) degrees Celsius.
- .5 When the air temperature is above thirty-eight (38) degrees Celsius or thirty-two (32) degrees Celsius with a wind velocity greater than 13 km/h, the spread of the mortar beds shall be less than 1.2 m and the masonry units shall be set within one (1) minute of spreading the mortar.

3.6 PROTECTION

- .1 Protect laid masonry from damage by weather. At end of each day or shutdown period, cover exposed tops of masonry with canvas or strong waterproof membrane securely clamped down and overhanging on each side of wall at least 600 mm (2'). Use wire spring clamps which extend 200 mm (8") down each side of wall, spaced 2400 mm (8') maximum or other approved method.
- .2 Provide temporary bracing to masonry work during erection to prevent damage due to winds or other lateral loads until permanent structure provides adequate bracing.
- .3 Contractor must maintain the exterior walls watertight at all times to prevent moisture penetration into the wall fabric. The Contractor shall be responsible for all costs associated with damage associated with moisture penetration resulting from inadequate protection as determined by the Consultant.

3.7 MORTAR REMOVAL

- .1 Mortar is defective when it is cracked, spalled, chalked, or otherwise crumbling.
- .2 The Contractor shall mark the locations of defective mortar joints throughout the scope of work area which has to be removed for verification by the Consultant prior to commencing with the removal process. Any mortar joint repointed without approval from Consultant cannot be counted for the progress payment.
- .3 Brick replacement locations are localized and are throughout scope of work areas identified in the drawings. Contractor is responsible for providing access to complete the replacement.
- .4 Consultant Review
 - .1 The Contractor shall provide access, permit inspection correct any defects and obtain written approval of all raked joints prior to commencing with the pointing.
- .5 Where mortar is found to be defective beyond the specified raking depth, the Contractor shall continue raking until solid mortar is encountered. Remove all loose mortar, dirt, and other undesirable material.
- .6 Be aware that additional raking beyond specified depths will be necessary and that voiding can be expected. Back pointing will be required at these locations prior to repointing.
- .7 If masonry unseats or the bond is broken, remove the unit and reset in accordance with the work outlined in this section.
- .8 Tools and Techniques
 - .1 Tools used for cutting out of the mortar joints shall be narrower than the joint.
 - .2 Cutting out of the joint shall be performed using the following techniques:
 - .1 Handheld rotary saws or any type of grinder or wheel are permitted.
 - .3 The joints shall be cleaned back for the full depth. All mortar should be removed on the masonry surfaces to a square surface of existing mortar at the back of the joint.
 - .4 All loose particles in the mortar joints shall be removed with compressed air and left open for review by the Consultant.

- .9 Damage
 - .1 The Contractor shall take all reasonable precautions in order to prevent damage to the masonry units resulting from the removal process.
 - .2 Such damage to the masonry includes but is not limited to the widening of the joints, nicks, gouges, and chipped or scratched surfaces from the cutting out tools due to improper workmanship.
 - .3 The Contractor shall replace or repair all damaged units to the satisfaction of the Consultant with no change in the contract price or schedule.
- .10 Depth of Raking
 - .1 The depth of the raking shall be carried out to at least twice the width of the joint to a minimum depth of one inch (1") measured from the face of the masonry unit and beyond the existing depth of repointing.

3.8 BACK POINTING OF JOINTS

- .1 Obtain written acceptance from the Consultant of the raked-out work prior to commencing with pointing operations.
- .2 Where the cut-out joints are deeper than raking out depths specified, back point joints to bring the mortar face to the specified depth for raked out joints in preparation of finish pointing. Fill with mortar voids that cannot be filled with conventional back pointing.
- .3 Immediately prior to pointing, thoroughly wet the joints in order to control absorption.
- .4 Allow water to soak into masonry and mortar, leaving no standing water but remaining wet. Should the surfaces dry prior to pointing, the joints should be wet.
- .5 For back pointing, fill all joints full with pointing mortar. Compact the mortar firmly into the joints to ensure positive adhesion to all inner surfaces. Place mortar in layers, with a maximum thickness of one and one quarter (1-1/4) inches and a minimum of one half (1/2) inch. Each layer should be set to thumb print hard before placing the next layer. Bring the face of the mortar in back pointed joints to the specified depth for raked out joints, measured from the face of the masonry unit. Leave the joint ready for the final pointing.
- .6 Prevent the mortar from being placed or smeared onto the face of the masonry to minimize the potential for staining during back pointing.
- .7 Keep the work area clean; remove all droppings as the work proceeds, and again at the end of each day.

3.9 POINTING OF JOINTS

- .1 Obtain the Consultant's written acceptance of raked out and back pointed work prior to commencing with the pointing operation.
- .2 Prevent the mortar from being placed or smeared on to the face of the stone or masonry to minimize the potential for staining on the faces during the pointing.
- .3 Immediately prior to pointing, thoroughly wet the joints in order to control absorption.

- .4 Allow water to soak into masonry and mortar, leaving no standing water but remaining wet. Prior to pointing, the joints should be wet.
- .5 Fill all bed and head joints full with pointing mortar, compact joints firmly to ensure positive adhesion to all inner surfaces.
- .6 Thoroughly compact the mortar into the joints.
- .7 At initial set, finish neatly the joints to match the existing pointing style.
- .8 Keep the work area clean; remove all droppings as the work proceeds, and again at the end of each day.
- .9 Protection at Completion
 - .1 Protect newly laid mortar from frost, rainfall or rapid drying conditions for a minimum period of three (3) weeks.
 - .2 Cut out and replace all joints that dry prematurely and are lighter than the surrounding joints and have shrinkage cracks.

3.10 REPLACEMENT OF DETERIORATED BRICK

- .1 The Contractor shall mark the locations of masonry to be removed for verification by the Consultant prior to commencing with the removal process. Any bricks replaced without approval from Consultant cannot be counted for the progress payment.
- .2 Brick replacement locations are localized and are throughout scope of work areas identified in the drawings. Contractor is responsible for providing access to complete the replacement.
- .3 In any area, should the amount of deteriorated brick rise above 5% of the quantity approved by the Consultant, the Contractor must stop all work and notify the Consultant immediately. The Contractor must obtain written approval from the Consultant prior to replacing amounts of brick totaling above 5% of the approved quantity. If the Contractor proceeds above 5% without written approval from the Consultant, payment will not be received for all brick quantities above 5% of the approved quantity.
- .4 The brick is damaged or deteriorated when it is cracked, chipped, spalled or the outer face is hollow, detached or missing.
- .5 The Contractor shall maintain the stability of the structure/masonry wall at all times.
- .6 The Contractor shall cut out all damaged backup brick and prepare for the replacement of the new brick. Clean and remove all dust and brick fragments from the masonry. All loose material shall be removed from the adjacent substrates.
- .7 Localized Brick Replacement (less than 4 bricks per location)
 - .1 Bond, coursing and jointing to match the existing.
 - .2 Immediately prior to placing the masonry, thoroughly wet the adjacent substrates in order to control absorption.
 - .3 Allow water to soak into the masonry, leaving no standing water but remaining wet. Should the surfaces dry prior to pointing, the substrates should be wet again.

- .4 Set the brick in a full bed of mortar, true to line, and level with the adjacent units. Bedding and pointing mortar (all four sides of the brick) associated with the replacement brick cannot be counted towards repointing quantity.
- .5 Ensure that the cavity to the rear of the brick is kept free of mortar and debris to maintain the existing air space.
- .6 Tool the mortar joints flush to match the existing.
- .8 Rebuilding Areas of Brickwork
 - .1 Where replacing in excess of four bricks in one area, install masonry ties to bond the facing with backup wythes of masonry.
 - .2 The ties shall not be installed in advance of the masonry coursing.
 - .3 The ties should be randomly installed in rebuilt areas, except where areas are sufficiently large for the tie to be set every twelve (12) inches horizontally and every twelve (12) inches vertically with staggered centres.
 - .4 Drill entry hole into the block backup in accordance with the Manufacturer's recommended embedment length and hole diameter
 - .5 Drive the tie into position.
 - .6 Ensure that the ties are solidly set in the back-up wythe.
 - .7 Bend the excess of the tie 90 deg with the Manufacturer's specified bending equipment prior to being wet set into the mortar joint.
 - .8 General Procedures
 - .1 Slushing of the joints after the bricks are placed is not permitted.
 - .2 In the summer, if the initial rate of absorption of the brick is greater than 30 g/min:194 cm², the bricks shall be thoroughly wetted for a period of three (3) to twenty-four (24) hours prior to use.
 - .3 Full head joints shall be obtained by double buttering of the ends of each brick being installed.
 - .4 Mortar joint thickness and brick coursing shall match the existing. Variation in the brick size shall be evenly distributed in the wall so that the size is consistent.
 - .5 Feathered edges and mortar smears onto adjacent masonry surfaces are not acceptable.

3.11 METAL FLASHING INSTALLATION AT THE ROOF INTERFACE

- .1 Where required to complete the work, remove and retain existing sheet metal flashing at the parapet and masonry wall interface. The Contractor shall replace damaged material at no cost to the Owner.
- .2 Where required to complete the work, provide new membrane flashing tie-in with existing roofing material in a colour to match the existing condition.

- .3 Reinstall flashing to match the existing condition, extending onto the wall surface and providing a drip edge.
- .4 Where new flashing is required due to damage during the removal, provide S-lock joints and concealed fasteners.
- .5 Exposed fasteners will not be permitted, except in areas accepted by the Owner's Representative.

3.12 FIELD QUALITY CONTROL

- .1 All shop and field materials and workmanship shall be subject to review by the Owner or the Owner's Representative at all times. These reviews shall not relieve the Contractor from the obligations to provide materials conforming to all requirements of the bid documents.
- .2 Promptly remove any defective, damaged, or otherwise rejected material from the site. Installed materials which are damaged, or which in the opinion of the Owner do not conform to the bid documents, shall be removed and replaced with acceptable material at no additional cost to the Owner.

3.13 CLEANING

- .1 Clean masonry as work progresses using soft, clean cloths within few minutes after being placed. Upon completion, when mortar has set, so that it will not be damaged by cleaning, clean with soft sponge or brush and clean water. Polish with soft, clean cloths.
- .2 Clean masonry as work progresses. Allow mortar droppings on masonry to partially dry then remove by means of a trowel, followed by rubbing lightly with a masonry unit and brushing.
- .3 All holes in the mortar joints shall be filled with mortar and tooled.
- .4 Dry brush the masonry surfaces at the end of each days work and after the final pointing.
- .5 Remove mortar smears and droppings from the surfaces after they have dried.
- .6 Clean the finished brickwork. Remove all mortar stains on any exposed brickwork and clean the masonry with low pressure clean water and a soft bristle brush.
- .7 Remove all equipment and materials from the site upon completion of the work. Surfaces damaged during the course of the work shall be replaced by the Contractor at no cost to the Owner.

END OF SECTION 04 90 00

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

Section 07 46 16 – Metal Cladding Soffit System

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Metal Composite Panels

1.2 RELATED SECTIONS

- .1 Section 07 90 00 - Sealant

1.3 GENERAL REQUIREMENTS

- .1 All work necessary for completion of work of this section, including but not limited to setting up of scaffolding, swing-stages, boom lift to access the work areas. Work described in this section includes concealed clip, interlocking performed metal wall/soffit panel system complete with perimeter.

1.4 REFERENCES

- .1 ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method (NRC)
- .2 ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
- .3 ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C.
- .4 ASTM E283-04 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- .5 ASTM E331-00 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- .6 ASTM E1477 - Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers (LRV).
- .7 ASTM E2768-11(2018) – Standard Test Method for Extended Duration Surface Burning Characteristics for Building Materials (30 min Tunnel Test). Results: Zero Flame Spread, Smoke Developed Index of 5. Meets criteria for Class A fire rating.
- .8 ASTM A653M-20 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy (Galvannealed) by Hot Dip Process
- .9 UL 723, Standard Method of Test for Surface Burning Characteristics of Building Materials.
- .10 CAN/ULC S102, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
- .11 CAN/ULC S114, Standard Test Method for determination of non-combustibility in building materials.
- .12 CSA-S136 for the design of Cold Formed Steel Structural Members.
- .13 CAN3-S157 for the design of Strength Design in Aluminum.
- .14 CGSB 71-GP-24M – Standard for: Adhesive, Flexible, for Bonding Cellular Polystyrene.

- .15 CAN/ULC-S702-15 – Standard for Mineral Fibre Thermal Insulation for Building.
- .16 AAMA 2605 - Voluntary Specification, Performance requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
- .17 AAMA 2604 - Voluntary Specification, Performance requirements and Test Procedures for High Performing Organic Coatings on Aluminum Extrusions and Panels.
- .18 AAMA 509 - Voluntary Test and Classification Method for Drained and Back Ventilated Rainscreen Wall Cladding Systems.
- .19 AAMA 501.1-17 - Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure.
- .20 International Code Council Evaluation Service (ICC-ES) Evaluation Report

1.5 QUALITY ASSURANCE AND INSTALLER QUALIFICATIONS

- .1 Engage an experienced metal wall panel contractor (erector) to install wall panel system who has a minimum of three (3) years of experience specializing in the installation of metal wall systems.
- .2 Contractor must be certified by manufacturer specified as a supplier of the metal soffit system and obtain written certification from manufacturer that installer is approved for installation of the specified system.
- .3 Successful contractor must obtain all components of soffit system from a single manufacturer. Any secondary products that are required which cannot be supplied by the specified manufacturer must be recommended and approved in writing by primary manufacturer prior to bidding.
- .4 Fabricator/Installer shall submit work experience and evidence of adequate financial responsibility. Architect reserves the right to inspect fabrication facilities in determining qualifications.

1.6 PRE-INSTALLATION CONFERENCE

- .1 Convene a pre-installation conference at least one (1) week prior to commencing the work of this section.
- .2 All parties directly affecting work of this section must be in attendance.
- .3 All submittals, mock-ups and procedures will be reviewed at this meeting.

1.7 DELIVERY, STORAGE AND PROTECTION

- .1 Inspect material upon delivery.
- .2 Handle materials to prevent damage.
- .3 Store materials off ground providing for drainage; under cover providing for air circulation; and protected from any debris.

1.8 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials. Labelling and provision of MSDS sheets shall be acceptable to Labour Canada.
- .2 Ensure that all materials, containers, rags, etc. are disposed of in accordance with the local Waste Management Plan and hazardous material disposal regulations and requirements.

1.9 PROJECT CONDITIONS

- .1 Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal wall panel work to be performed according to manufacturer's written instructions and warranty requirements.
- .2 Field Measurements: Verify actual dimensions of construction contiguous with metal wall panels by field measurements before fabrication.

1.10 COORDINATION

- .1 Coordinate sizes and locations of windows, doors, and wall penetrations with actual equipment provided.
- .2 Coordinate metal wall panels with rain drainage work, flashing, trim, and construction of other adjoining work to provide a leak proof, secure, and noncorrosive installation.

1.11 ALTERNATIVES

- .1 Alternatives to manufacturer's brands or supply sources of materials will not be accepted.

1.12 CONSULTANT REVIEW

- .1 The Contractor shall provide access, permit inspection, correct any defects, and obtain written approval to proceed from the Consultant prior to commencing with each phase of work.
- .2 The Consultant's general review during construction is undertaken to inform the Owner of the Contractor's performance and shall in no way augment the Contractor's quality control or relieve the Contractor of contractual responsibility.
- .3 The Contractor shall always provide a third lifeline on each swing-stage/boom/scissor lift to facilitate the Consultant's review of the work.
- .4 Should additional work and/or visits by the Consultant be required because of the Contractor's failure to perform in accordance with the bid documents, or if additional design or drafting time is required by the Consultant to provide/review corrective measures caused by the Contractor's failure to perform in accordance with the bid documents, the Contractor shall reimburse the Consultant at the rate of direct personnel expense plus 150% overhead plus travel, equipment and material costs plus H.S.T. where applicable.

2.0 PRODUCTS

2.1 ALUMINIUM COMPOSITE METAL PANELS

- .1 Type: Aluminium Composite Metal
- .2 Acceptable Manufacturer
 - .1 ALPOLIC FR
 - .2 Thickness: 4 mm Core: Fire rated core

- .3 Finish: as approved by sample/colour selection by owner.

2.2 SEALANT

- .1 Sealant Tape: Sealant Tape: Non-curing, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1-inch- (13-mm-) wide and 1/16-inch- (3-mm-) thick.
- .2 Exposed Sealant: ASTM C 920; elastomeric tripolymer, polyurethane, or other advanced polymer sealant; of type, grade, class, and use classifications required to seal joints in metal wall panels and remain weathertight; and as recommended in writing by metal wall panel manufacturer.

2.3 MISCELLANEOUS METAL FRAMING

- .1 Remove and dispose existing metal furring and sub grit system. Install new metal channel framing system, perimeter trim, threaded rod accessories to support new soffit panels. Type to be unistrut or equivalent bar type system. Channel system to suit existing masonry, metal cladding and deck conditions.
- .2 Miscellaneous Metal Framing, General: ASTM C 645, cold-formed metallic-coated steel sheet, ASTM A 653, G90 (Z275) hot-dip galvanized.
 - .1 Subgirts: Manufacturer's standard C- or Z-shaped sections, (16 gauge) (1.4-mm) nominal thickness.
 - .2 Hat-Shaped, Rigid Furring Channels:
 - .1 Nominal Thickness: As required to meet performance requirements.
 - .2 Depth: 1-1/2 inches (38 mm).
 - .3 Top flange: 1-1/8 inches (28.5 mm) minimum.
 - .3 Z-shaped Furring: With slotted or nonslotted web, face flange of 1-5/8 inches (41 mm) minimum and depth as required to fit insulation thickness indicated.
 - .1 Nominal Thickness: As required to meet performance requirements, but not less than 0.043 inch (18 gauge) (1.1 mm).
 - .2 Fasteners for Miscellaneous Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten miscellaneous metal framing members to substrates as indicated.

2.4 MISCELLANEOUS MATERIALS

- .1 Concealed fasteners: Corrosion resistant steel screws, #10 minimum diameter x length appropriate for substrate, low profile pancake head. Use self-drilling, self-tapping for metal substrate or A-point for plywood substrate.
- .2 Exposed fasteners: 316 series stainless steel screws (cadmium or zinc coatings are not acceptable) with neoprene sealing washer, or 1/8-inch-(3-mm-) diameter stainless steel rivets.

2.5 FABRICATION

- .1 Fabricate and finish metal soffit panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill

indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

- .2 Form flashing components from full single width sheet in minimum 10'-0" (3 m) sections. Provide mitered trim corners, joined using closed end pop rivets and butyl-based, solvent released one-part sealant.
- .3 Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
 - .1 Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - .2 Sealed Joints: Form nonexpanding but movable joints in metal to accommodate butyl-based sealant to comply with SMACNA standards.
 - .3 Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - .4 Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA's "Architectural Sheet Metal Manual" or by metal wall panel manufacturer for application, but not less than thickness of metal being secured.

2.6 FINISHES

- .1 Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- .2 Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- .3 Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of the Work.
- .2 Examine primary and secondary wall framing to verify that girts, studs, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal wall panel manufacturer.
- .3 Examine solid ceiling sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal soffit panel manufacturer.

- .4 Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- .5 For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- .6 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- .1 Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.
- .2 Miscellaneous Framing: Install sub-framing, furring, and other miscellaneous wall panel support members and anchorage according to metal wall panel manufacturer's written instructions.
- .3 Establish straight, side and crosswise benchmarks.
- .4 Use proper size and length fastener for strength requirements. A low profile fastener head of approximately 1/8 inch (3 mm) maximum is allowable beneath the panel.
- .5 All walls shall be checked for square and straightness. Inside and outside corners may not be plumb; set a true line for the corner flashing with string line.
- .6 Measure the wall lengthwise to confirm panel lengths and verify clearances for thermal movement.

3.3 NAILABLE SUBSTRATE INSTALLATION

- .1 Provide manufacturer's written letter of recommendations for nailable substrate.

3.4 INSTALLATION OF SOFFIT PANELS

- .1 All details will be shown on in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.

3.5 APPLICATION

- .1 The Contractor shall have a trained representative on site at all times who is responsible for all sealant applications.
- .2 Isolate dissimilar metals and masonry or concrete from metals with bituminous coating. Use gasketed fasteners where required to prevent corrosive action between fastener, substrate, and panels.
- .3 Limit exposed fasteners to extent indicated on contract drawings.
- .4 Seal laps and joints in accordance with wall panel system manufacturer's product data.
- .5 Coordinate flashing and sheet metal work to provide weathertight conditions at wall terminations. Fabricate and install in accordance with standards of SMACNA Manual.
- .6 Provide for temperature expansion/contraction movement of panels at wall penetrations and wall mounted equipment in accordance with system manufacturer's product data and design calculations.

- .7 Installed system shall be true to line and plane and free of dents, and physical defects. Oil canning is a cause for rejection.
- .8 Remove damaged work and replace with new, undamaged components.
- .9 Touch up exposed fasteners using paint furnished by the panel manufacturer and matching exposed panel surface finish.
- .10 Clean exposed surfaces of wall panels and accessories after completion of installation. Leave in clean condition at date of substantial completion. Touch up minor abrasions and scratches in finish.
- .11 Provide airspace as indicated on drawings.

3.6 ERECTION TOLERANCE

- .1 Installation Tolerances: Shim and align metal wall panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) at location lines as indicated and within 1/8-inch(3-mm) offset of adjoining faces and of alignment of matching profiles.

3.7 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Service: Engage a factory-authorized service representative to inspect metal wall panel installation, including accessories. Report results in writing.
- .2 Remove and replace applications of metal wall panels where inspections indicate that they do not comply with specified requirements.
- .3 Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.8 CLEAN UP

- .1 Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.
- .2 Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touch-up or similar minor repair procedures.

END OF SECTION 07 90 00

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

Section 07 62 00 – Sheet Metal Flashing and Trim

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Galvanized Steel Sheet Metal
- .2 Prefinished Aluminum Flashing
- .3 Zinc Coated Steel Sheet

1.2 RELATED SECTIONS

- .1 Section 01 11 13 – Work Covered by Bid Documents
- .2 Section 04 90 00 - Masonry
- .3 Section 07 90 00 - Sealant

1.3 REFERENCES

- .1 ASTM B 370 - Standard Specification for Copper Sheet and Strip for Building Construction
- .2 The Aluminum Association Inc. (AAI)
 - .1 AAI-Aluminum Sheet Metal Work in Building Construction.
 - .2 AAI DAF45 - Designation System for Aluminum Finishes.
- .3 ASTM B209M - Aluminum and Aluminum-Alloy Sheet and Plate
- .4 American Society for Testing and Materials (ASTM)
 - .1 ASTM A 591/A 591 - Specification for Steel Sheet, Electrolytic Zinc-Coated, for Light Coating Mass Applications.
 - .2 ASTM A 606 - Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
 - .3 ASTM A 653/A 653 - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .4 ASTM A 792/A 792 - Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- .5 Canadian Roofing Contractors Association (CRCA).
 - .1 Roofing Specifications Manual.
- .6 CSA B111 - Wire Nails, Spikes and Staples.
- .7 SMACNA (Sheet Metal and Air Conditioning Contractors' National Association) - Architectural Sheet Metal Manual.

1.4 QUALIFICATIONS

- .1 The sheet metal work shall be performed by a recognized specialized fabricator and installer, having at least three (3) years of experience, with experienced mechanics, thoroughly trained and experienced in all phases of the work.

2.0 PRODUCTS

2.1 GALVANIZED SHEET STEEL

- .1 Zinc coated steel sheet: 24-gauge, commercial quality to ASTM A 653/A 653M, with Z275 designation zinc coating.
- .2 Cross checked sheet metal at masonry corner area interface with existing metal cladding and at parapet areas as per drawings.

2.2 JOINTING

- .1 Linear mating of Cap flashings and Parapet flashings shall be with an "S" lock joint.
- .2 Corner mating shall be completed with a standing seam.

2.3 ACCESSORIES

- .1 Starter Strips
 - .1 Same material as sheet metal, minimum 50mm (2") wide with bent to accept cap flashing.
 - .2 Thickness to be minimum of 0.8mm (20ga).
- .2 Touch-up paint
 - .1 As recommended by prefinished material manufacturer.
- .3 Isolation Coating
 - .1 Bituminous Paint to meet CGSB1-GP-108.
 - .2 Fasteners:
 - .1 Metal Substrates: 304-stainless-steel #10 hex head self-drilling screws complete with stainless steel and neoprene washers.
 - .2 Masonry Substrates: ¼" stainless-steel masonry fastener with minimum 1" embedment. Maximum spacing to be 36" o/c.
 - .3 Wood Substrates: #12 stainless-steel wood screws with minimum 1" embedment. Maximum spacing to be 24".
- .4 Sealant
 - .1 Refer to Section 07 90 00 – Sealant.

2.4 FASTENERS

- .1 All fasteners shall be stainless steel or include an acceptable corrosion resistant coating.
- .2 Fastener type and spacing to be in accordance with Factory Mutual Loss Prevention Data Sheet 1-49. The following table is a general guideline for fastener types and spacing:

Element	Substrate	Fastener	Min. Embedment	Max. Spacing	
				<8' from outside corner	>8' from outside corner
Starter strip (exterior face)	Wood	No. 10 screw	3/4"	24"	24"
Starter strip (exterior face)	Metal	No. 10 screw	3/8"	24"	24"
Starter strip (exterior face)	Concrete or Masonry	1/4" tapcon screw	1"	24"	24"
Starter strip (interior face)	Wood	No. 10 screw w/ neoprene washer	1"	30"	30"
Starter strip (interior face)	Concrete or Masonry	1/4" tapcon screw	1"	30"	30"
Wood blocking	Wood	No. 12 screw	1-1/4"	2 rows staggered, 12" o/c per row	2 rows staggered, 24" o/c per row
Wood blocking	Concrete or masonry	1/4" tapcon screw	1"	24"	36"
Counter flashing	Masonry	1/4" tapcon screw	1"	36"	36"

2.5 FABRICATION

- .1 Form pieces in 8 foot (2400 mm) maximum lengths. Make allowance for expansion at joints by use of "S-lock" joints one end. "S-lock" to have a 1-inch (25mm) sleeve for mating with free end of consecutive flashing.
- .2 Hem exposed edges on underside 1/2" (12 mm).
- .3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .4 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

3.0 EXECUTION

3.1 INSTALLATION

- .1 The fastener type to be utilized, and fastener spacing shall be in accordance with Factory Mutual Loss Prevention Data Sheet 1-49.
- .2 Install continuous starter strips where indicated or required to present a true, non-waving, leading edge. Anchor to wood blocking, concrete or masonry substrate to provide rigid, secure installation.
- .3 Install cap flashing by locking into starter strip, pull back tight and screw into blocking. Nail flange of "S-lock" into blocking. Face nailing of joints will not be permitted.
- .4 The second cap flashing will follow same procedure locking into the "S-lock" a minimum of 20mm of previous component.
- .5 Paint the mating surfaces of aluminum and galvanized steel with bituminous or zinc chromate primers. Taping or gasketing with non-absorptive materials or sealants is also acceptable.

- .6 Corners shall be mated with a standing seam joint. Provide a bead of sealant along the inner flange of the seam before crimping tight.
- .7 Use concealed fastenings except where approved before installation.
- .8 Protect material from electrolytic action when dissimilar metals are in contact with one another.

3.2 BUTT JOINT INSTALLATION

- .1 Where flashings connect at a 90° angle with a lower flashing adjoining a higher flashing the following will apply:
 - .1 Cut vertical slots into the higher flashing to match the lower flashing profile, bending the bottom flange out,
 - .2 The lower flashing will have vertical flange fabricated and will be installed on the inside of the higher flashing.
 - .3 Provide a sealant joint full length of the mated joint on the lower flashing bedding the top flashing.

3.3 CLEANING

- .1 Daily as the work proceeds and on completion, remove all surplus materials and debris resulting from the foregoing work.
- .2 Remove all stains, caulking or other adhesive from all affected surfaces.

END OF SECTION 07 62 00

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

Section 07 90 00 – Sealant

1.0 GENERAL

1.1 SECTION INCLUDES

- .1 Sealant
- .2 Foam Backer Rod

1.2 RELATED SECTIONS

- .1 Section 07 90 00 - Sealant

1.3 GENERAL REQUIREMENTS

- .1 All work necessary for completion of work of this section, including but not limited to setting up of scaffolding, swing-stages, permits, authorization from utilities, etc. The cost associated with these items will not be paid for separately but will be considered incidental to work of this section.

1.4 REFERENCES

- .1 ASTM C 510 Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants.
- .2 ASTM C 661 Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer
- .3 ASTM C 719 Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
- .4 ASTM C 794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
- .5 ASTM C 834 Standard Specification for Latex Sealants.
- .6 ASTM C 920 Standard Specification for Elastomeric Joint Sealants.
- .7 ASTM C 1087 Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
- .8 ASTM C 1330 Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants
- .9 ASTM C 1135 Standard Test Method for Determining Tensile Adhesion Properties of Structural Sealants
- .10 ASTM C 1184-00 Standard Specification for Structural Silicone Sealants
- .11 ASTM C 1193 Standard Guide for Use of Joint Sealants.
- .12 ASTM C 1247 Standard Test Method for Durability of Sealants Exposed to Continuous Immersion in Liquids.
- .13 ASTM C 1248 Standard Test Method for Staining of Porous Substrate by Joint Sealants.
- .14 ASTM C 1311 Standard Specification for Solvent Release Sealants.
- .15 ASTM C1564-04 Standard Guide for Use of Silicone Sealants for Protective Glazing Systems

- .16 ASTM D 412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
 - .17 ASTM D 2203 Standard Test Method for Staining from Sealants.
 - .18 ASTM D 2240 Standard Test Method for Rubber Property—Durometer Hardness
 - .19 ASTM D 3960 Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
 - .20 ASTM E 119 Standard Test Methods for Fire Tests of Building Construction and Materials
- 1.5 QUALITY ASSURANCE
- .1 Perform the work in accordance with the manufacturer’s written project recommendations.
 - .2 Obtain each type of joint sealant through one source from a single manufacturer.
- 1.6 QUALIFICATIONS
- .1 The installation of the sealant work shall be performed by a recognized specialized applicator, having at least three (3) years of experience, with experienced mechanics, thoroughly trained and experienced in all phases of the work.
- 1.7 PRE-INSTALLATION CONFERENCE
- .1 Convene a pre-installation conference at least one (1) week prior to commencing the work of this section.
 - .2 All parties directly affecting work of this section must be in attendance.
 - .3 All submittals, mock-ups and procedures will be reviewed at this meeting.
- 1.8 DELIVERY, STORAGE AND PROTECTION
- .1 Deliver all materials to the job-site in their original unopened containers with labels indicating manufacturer, product name and designation, colour, expiration date, pot life, curing time, and mixing instructions for multi-component materials.
 - .2 Store all materials in strict accordance with the manufacturer’s recommendations.
 - .3 Keep the materials dry and protected from the weather, freezing and contamination.
 - .4 Ensure that the labels and seals on all materials are intact upon delivery.
 - .5 Remove rejected or contaminated materials from the site.
- 1.9 ENVIRONMENTAL REQUIREMENTS
- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials. Labelling and provision of MSDS sheets shall be acceptable to Labour Canada.
 - .2 Ensure that all materials, containers, rags, etc. are disposed of in accordance with the local Waste Management Plan and hazardous material disposal regulations and requirements.
- 1.10 ALTERNATIVES
- .1 Alternatives to manufacturer’s brands or supply sources of materials will not be accepted.
- 1.11 CONSULTANT REVIEW

- .1 The Contractor shall provide access, permit inspection, correct any defects and obtain written approval to proceed from the Consultant prior to commencing with each phase of work.
- .2 The Consultant's general review during construction are undertaken to inform the Owner of the Contractor's performance and shall in no way augment the Contractor's quality control or relieve the Contractor of contractual responsibility.
- .3 The Contractor shall provide a third life line on each swing-stage at all times to facilitate the Consultant's review of the work.
- .4 Should additional work and/or visits by the Consultant be required because of the Contractor's failure to perform in accordance with the bid documents, or if additional design or drafting time is required by the Consultant to provide/review corrective measures caused by the Contractor's failure to perform in accordance with the bid documents, the Contractor shall reimburse the Consultant at the rate of direct personnel expense plus 150% overhead plus travel, equipment and material costs plus H.S.T. where applicable.

1.12 ANTICIPATED FIELD-TESTING PROGRAM

- .1 Material and adhesion tests shall be conducted at the discretion of the Consultant on a random basis to show that properties are appropriate to the particular sealant and proper bond is achieved.
- .2 Extent of testing shall be as follows:
 - .1 Ten (10) tests for the first 1 000 feet (300 m) of joint length for each type of elastomeric sealant and joint substrate.
 - .2 One (1) test for each 1 000 feet (300 m) of joint length therefore or one test per each floor per elevation.
- .3 The Contractor shall repair all test areas as part of the work in accordance with this section.
- .4 All sealant installation failing material and adhesion tests shall be rectified in accordance with manufacturer and Consultant approved methods. Rectified areas will be retested until results confirm compliance with the manufacturer's written requirements.

2.0 PRODUCTS

2.1 SEALANT

- .1 Porous Substrates (Clay Brick, Concrete, Stone, etc.)
 - .1 Dow Corning 790 Silicone Building Sealant manufactured by Dow Corning Corporation.
 - .2 Dow Corning 756 SMS; Silicone Building Sealant manufactured by Dow Corning Corporation.
 - .3 Spectrem 1 manufactured by Tremco Ltd.
 - .4 Spectrem 2 manufactured by Tremco Ltd.
- .2 Non-porous Substrates (Glass, Metal, etc.)
 - .1 Dow Corning 791 manufactured by Dow Corning Corporation.
 - .2 Dow Corning 795 manufactured by Dow Corning Corporation.
 - .3 Spectrem 2 manufactured by Tremco Ltd.
- .3 Porous Substrate/Metal Substrate

- .1 Dow Corning 756 SMS Silicone Building Sealant manufactured by Dow Corning Corporation.
 - .2 Dow Corning 790 Silicone Building Sealant manufactured by Dow Corning Corporation.
 - .3 Dow Corning Contractors Weatherproofing Sealant (CWS)
 - .4 Spectrum 1 manufactured by Tremco Ltd.
 - .5 Spectrem 2 manufactured by Tremco Ltd.
- .4 Sealant Contact with Roofing membrane.
- .1 M1 Sealant by Chemlink.
 - .2 Sopra mastic SP2 by Soprema.
- .5 The colour of the sealant to match existing as approved by the Owner. Custom colour may be required if the manufacturer's range of standard colours is not suitable.
- .6 The Contractor shall obtain written confirmation of the sealant suitability for this project. A copy of this confirmation shall be forwarded to the Consultant prior to commencing with the work of this section.

2.2 PRIMERS

- .1 Primer shall be as specified by the sealant manufacturer.

2.3 JOINT BACKING

- .1 Butt Joint and Bridge Joint Applications
 - .1 Cylindrical Sealant Backing, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance. Material shall be of type that will not adhere to the specified sealant:
 - .1 Closed-cell material (i.e. polyethylene) with a surface skin. Do not puncture backer; rod may cause bubbling in sealant.
 - .2 Bi-cellular material with a surface skin.
 - .3 Open-cell material OR Open cell foam backer rod shall not be used on this project.
 - .2 Where the joint size cannot accommodate foam rod, polyethylene tape or other joint backing material recommended by sealant manufacturer shall be used.
- .2 Fillet Joint Applications
 - .1 Bond breaker tape, polyethylene tape or other plastic tape recommended by the sealant manufacturer shall be used to prevent adhesion to the specified sealant or to the back of joint.

2.4 CLEANING AGENT

- .1 The cleaning material for the surfaces to receive the sealant shall be as recommended by the manufacturer of the sealant.

2.5 MASKING TAPE

- .1 Non-staining, non-absorbent material compatible with joint sealant and surface adjacent to joints.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Verify that surfaces and conditions are ready to accept the work of this section.
- .2 Commencing with the installation means acceptance of the existing substrates by the Contractor.
- .3 Examine the areas and conditions under which the work will be performed. Review the planned operating procedures with the Consultant. Do not proceed with work until any unsatisfactory conditions are corrected in a manner acceptable to both the Owner and the Consultant.
- .4 Verify that the specified environmental conditions exist before commencing with the work.
- .5 The Contractor shall arrange for the sealant Manufacturer's representative to visit the site and review the surface preparation and installation procedures at the start of the work.

3.2 PROTECTION

- .1 The Contractor is responsible for maintaining the work weather tight during the course of the project. At the end of each workday or when stoppage occurs, provide necessary protection to prevent water penetration through the exterior walls.
- .2 Seal and protect all openings, doors, windows and adjacent areas to minimize the potential for damage and the spread of dust, water or other materials into the building or adjacent sidewalks and properties.
- .3 Protect adjacent finished materials from marking or damage during the work.
- .4 Protect completed sealant installation during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes such that sealant is without deterioration or damage at time of substantial completion. If, despite such protection, damage or deterioration occurs, such sealant shall be rectified immediately.

3.3 SURFACE PREPARATION

- .1 Consult and follow the sealant manufacturer's project recommendations.
- .2 Remove the existing sealant around the penetrations without causing damage to the substrates.
- .3 Remove dust, paint, loose mortar and other foreign matter, and dry joint surfaces.
- .4 Where necessary to protect the adjacent surfaces, mask by suitable means prior to priming and sealant installation.
- .5 Report in writing to the Consultant, any conditions which may be detrimental to the proper performance of the work. Proceeding with the work shall be taken as acceptance of the existing surfaces and conditions.
- .6 The joints shall be clean, dry and free of frost and foreign matter prior to surface application.
- .7 Butt and Bridge Joint Applications
 - .1 Examine the joint sizes and correct as required to allow for the anticipated movement and to achieve proper width / depth ratio in accordance with the manufacturer's recommendations for the specified sealant unless indicated differently on the drawings, or by the Consultant.

- .2 Should joint width correction be required, ensure that the correction is distributed appropriately to each side of joint.

- .8 Fillet Joint Applications

- .1 Remove oil, grease and other coatings from non-ferrous metals with an approved cleaning solvent or abrasive technique. Obtain approval from the Consultant prior to commencing.

3.4 PRIMING

- .1 Prime all substrates as directed by the sealant manufacturer's recommendations.
- .2 Prime sides of the joint using the two-cloth method in accordance with the manufacturer's directions, immediately prior to sealant installation.
- .3 Primers that require application by the wipe of a clean, soft cloth, shall be poured onto the cloth. Do not dip the cloth into the primer container.
- .4 Prime only as much area as can be sealed in the same working day.

3.5 INSTALLATION OF THE BACK-UP MATERIAL

- .1 Cylindrical Sealant Backing:

- .1 Install the backer rod without stretching, twisting, braiding or puncturing the outer skin. Do not leave gaps between ends of sealant backings.
 - .2 Use an approved installation tool that is blunt surfaced and is designed accurately to place the backer rod.
 - .3 Using the approved tool, smoothly and uniformly place the backer rod to the recommended joint depth and rod compression.
 - .4 The minimum compression of the foam backer rod is twenty-five (25) percent. Vary backer rod size as required to achieve specified compression.

- .2 Bond Breaker Tape:

- .1 Install bond breaker tape without stretching, twisting or puncturing the tape.
 - .2 Use an approved installation tool that is blunt surfaced and is designed accurately to place tape within the joint.
 - .3 Width of bond breaker tape shall fit exactly the width of the joint.
 - .4 Install tape at the back of the joint.
 - .5 Do not leave gaps between ends of bond breaker tape.

- .3 Three-sided adhesion is not permitted.

- .4 Foam backer rod shall only be installed in areas that can be sealed in the same working day.

3.6 APPLICATION

- .1 The Contractor shall have a trained representative on site at all times who is responsible for all sealant applications.
- .2 Perform all work in strict accordance with the manufacturer's printed instructions. The Contractor shall provide the Consultant a copy of these instructions prior to commencing with the injection and sealing operations.

- .3 Mix multi-component sealant such that air pocket formation is minimized in accordance with the manufacturer's recommendation.
- .4 The sealant must be applied continuously to ensure that all voids and joints are completely filled.
- .5 Tool the sealant with light pressure immediately after application to ensure positive and complete contact of the sealant to the interface. Only tooling agents that are approved in writing by the sealant manufacturer and that do not discolour sealants or adjacent surfaces shall be used.
- .6 Neatly tool the surface to form a slight concave profile. The surface of the sealant shall be smooth, free from ridges, wrinkles, air pockets and embedded impurities.

3.7 TWO-STAGE SEALANT JOINT

- .1 A two-stage sealant bead consists of two sealant beads separated by a drained air space with each sealant bead having its own appropriate joint backing material.
- .2 The interior sealant bead shall be allowed to fully cure prior to the installation of the exterior bead. Sealant cut tests to confirm adhesive properties must be completed by the Consultant and repaired by the Contractor prior to the installation of the exterior bead. Obtain written confirmation from the Consultant prior to proceeding with the installation of the exterior bead.
- .3 A minimum of 25 mm must be maintained between the exterior face of the interior sealant bead and the back of the joint backing material for the exterior bead.
- .4 The Contractor is to ensure that the installation of a primer or surface preparation procedures for the interior sealant bead do not inhibit the adhesion of the exterior sealant bead.
- .5 At the intersection of horizontal and vertical sealant joints, return the horizontal interior sealant bead to interface with the exterior sealant bead closing the air space between sealant beads.
- .6 Install gap in the exterior vertical sealant joint at all intersections of horizontal and vertical sealant joints as per the details.

3.8 ROUT AND SEAL REPAIRS

- .1 Grind sides of crack to a minimum width of 6mm and depth of 6mm (1/4 inch).
- .2 Apply bond breaker tape inside the joint.
- .3 Fill the joint with sealant. Tool sealant following application.

3.9 CLEAN UP

- .1 Clean the adjacent surfaces immediately and leave the work area neat and clean. All excess (sealant and primer) and droppings shall be removed using the recommended cleaners as the work progresses.
- .2 All masking shall be removed immediately after tooling the joints. Sealant affected by the masking removal shall be retooled to achieve proper joint configuration.

END OF SECTION 07 90 00

APPENDIX A

PRE-RENO DESIGNATED SUBSTANCE SURVEY



ENGINEERING



Professional Engineers
Ontario

LABORATORY



CALA

Canadian Association for
Laboratory Accreditation Inc.

PRE-RENO

DESIGNATED SUBSTANCE SURVEY

Exterior Masonry Wall & Soffit Repairs

Judith Nyman Secondary School

1305 Williams Parkway, Brampton, ON



Prepared for:

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Project No. FE 24-13725

March 22, 2024

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EXECUTIVE SUMMARY

Fisher Engineering Limited ('Fisher') was retained by Engineering Link Incorporate, to carry out a pre-renovation Designated Substances Survey (DSS) for the exterior masonry wall and soffit repair project for Judith Nyman Secondary School, located at 1305 Williams Parkway, Brampton, Ontario (hereinafter referred to as the "Site").

The scope of the DSS consisted of a review of existing environmental reports (where available); visual inspection for the presence of designated substances within the work areas; collection and analysis of the materials suspected to contain hazardous building materials, particularly asbestos and lead; and to provide recommendations for the safe handling or abatement of these materials prior to any renovation work. The fieldwork was conducted by Mr. Muhammad Junayed, on February 28, 2024.

A summary of the designated substances identified during the survey is presented below:

Asbestos

Sampling was conducted of building materials which were suspected to contain asbestos and expected to be impacted by planned construction activities. A total of eighteen (18) bulk samples were collected and submitted to Fisher Environmental Laboratories for Polarized Light Microscopy (PLM) analysis, as outlined in NIOSH Method 9002.

- Asbestos-containing Transite board was found on the soffit on the exterior of the building.

If work activities for the exterior masonry wall and soffit repair project disturb the above-listed asbestos-containing material, the material should be removed by the following operations:

- Removal of asbestos-containing Transite boards will require Type 1 asbestos abatement procedures, as per O. Reg. 278/05. If the Transite board would be disturbed using power tools during removal, abatement must be performed using Type 3 procedures.

Lead

One (1) bulk sample was collected and submitted to Fisher Environmental Laboratories for inductively coupled plasma (ICP) analysis, as outlined in NIOSH method 7300.

- Elevated concentrations of lead were not found in the collected sample for analysis.

Mercury

- Mercury is present as a vapour in fluorescent light bulbs.
- No immediate recommendations are warranted with regard to mercury.

- ❑ If work activities affect the fluorescent light bulbs, Fisher recommends that the presumed mercury-containing fluorescent light tubes be removed and disposed of in accordance with O. Reg. 558/00.

Silica

- ❑ Crystalline silica is a constituent of all concrete and masonry products at the Site.
- ❑ Renovation works that are likely to generate silica-containing dust shall be carried out in accordance with the following regulations and guidelines:
 - Guideline: Silica on Construction Projects (issued by Ontario Ministry of Labour);
 - Designated Substances Regulation, O. Reg. 490/09; and
 - Regulation for Construction Projects, O. Reg. 213/91.

Other Designated Substances

- ❑ The other designated substances (acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride) would not be expected to be present at the Site and were not observed during the current survey.
- ❑ No recommendations are warranted with regard to these other designated substances.

1.0. INTRODUCTION

Fisher Engineering Limited ('Fisher') was retained by Engineering Link Incorporate, to carry out a pre-renovation Designated Substances Survey (DSS) for the exterior masonry wall and soffit repair project for Judith Nyman Secondary School, located at 1305 Williams Parkway, Brampton, Ontario (hereinafter referred to as the "Site").

The scope of the DSS consisted of a review of existing environmental reports (where available); visual inspection for the presence of designated substances within the scope of the work areas; collection and analysis of the materials suspected to contain hazardous building materials, particularly asbestos and lead; and to provide recommendations for the safe handling or abatement of these materials prior to any renovation work. The fieldwork was conducted by Mr. Muhammad Junayed, on February 28, 2024.

The following work areas were included in the current survey:

- ✓ Exterior of the building

DSS reports are required prior to any construction, demolition or restoration project that can take place in Ontario. As per Section 30 of the Ontario Occupational Health and Safety Act (OHSA), designated substances and other potentially hazardous building materials must be identified prior to any work being done that may disturb these materials and result in unnecessary exposure of workers and building occupants. The designated substances include:

Asbestos	Coke Oven Emissions	Mercury
Acrylonitrile	Ethylene Oxide	Silica
Arsenic	Isocyanates	Vinyl Chloride
Benzene	Lead	

2.0. METHODOLOGY

Fisher followed the protocols outlined in Ontario OHSA for collecting and analyzing bulk samples of materials suspected to contain asbestos or lead. Visual assessment of the material was the primary method of identification with occasional physical contact to collect bulk samples or examine for underlying layers.

Representative bulk samples were collected of materials suspected of containing asbestos or lead. The tools used by the investigator to collect the bulk samples were cleaned after each

sample was collected to avoid cross-contamination. Samples were placed in plastic sealable containers, marked with a unique sample number and transported to an independent accredited laboratory for analysis.

Where applicable, samples of suspect materials were collected to establish asbestos or lead content. Samples were grouped according to the similarity of appearance (“homogeneous” materials). The frequency at which the samples were collected was sufficient to obtain a general representation of the presence of these materials at the Site. Samples collected are presumed to be representative of the respective building materials in place at the Site. However, due to potential past renovations, alterations, repairs, or phases of construction, individual materials may not be representative of the samples collected.

The laboratory certificate of analysis is included in Appendix A. Site plans to indicate the project scope of work areas, bulk sample locations and any areas of asbestos or lead abatement are included in Appendix B. Representative photos of Site conditions encountered at the time of the current survey are included in Appendix C.

3.0. DOCUMENT AND REPORT REVIEW

A document review was conducted to assist in understanding the scope of work. This included a review of the drawings design package for the proposed exterior masonry wall and soffit repair project prepared by Engineering Link, Project no. 23-0487, issued on Jan.05, 2024 and provided to Fisher on February 16, 2024.

Additionally, two site drawings and an ACM Inventory data sheet prepared by the Peel District School Board were provided to Fisher on February 28, 2024.

4.0. FINDINGS

Asbestos-Containing Materials

Sampling was conducted of building materials which were suspected to contain asbestos and expected to be impacted by planned construction activities. A total of eighteen (18) bulk samples were collected and submitted to Fisher Environmental Laboratories for Polarized Light Microscopy (PLM) analysis, as outlined in NIOSH Method 9002. The results of the PLM analysis are summarized in Table 1, below.

Table 1 - Summary of Bulk Asbestos Sample Analysis (Polarized Light Microscopy)

Sample No.	Sample Location	Sample Description	Asbestos Content (% by Weight/Type)
24-2493-1 to 3	Soffit, Exterior	Transite Board	25-50% Chrysotile
24-2493-4 to 6	Between bikes, Exterior	Orange Sealant	None Detected
24-2493-7 to 9	Around Panels, Exterior	Dark Grey Caulking	None Detected
24-2493-10 to 12	Brick, Exterior	Mortar	None Detected
24-2493-13 to 15	Wall, Exterior	Cement Parging	None Detected
24-2493-16 to 18	Under Black Coating, Exterior	Cream Caulking	None Detected

Ontario Regulation 278/05 - Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05) defines an “asbestos-containing” material with an asbestos content equal to or greater than 0.5% by weight.

Based on the laboratory analysis by the PLM method, the Transite board on the exterior soffit was found to contain 25-50% Chrysotile asbestos.

In addition to the above findings, the following observations were noted.

Sampling of roofing materials was not part of the current scope of work. If roofing materials are likely to be disturbed by the planned renovation activities at the subject location, the materials should be assumed to contain asbestos until proven otherwise through bulk sampling and analysis.

Based on the findings of the current survey conducted within the scope of the work areas, asbestos was not identified in the following building materials:

- Orange Sealant in between the bikes,
- Dark Grey Caulking around the panels and Cream Caulking,
- Mortar on the Bricks,
- Cement Parging on the Walls.

ACM may be present at the Site which may have not been identified in this report. Should additional suspected ACM not outlined in this report be discovered, it should be presumed as ACM until sample analysis determines asbestos content. Precautions should be taken when dismantling solid wall or ceiling finishes, or any other building surfaces which may conceal

potential ACM. Such precautions include but are not limited to, isolation measures and appropriate personal protective equipment.

Lead-Containing Materials

One (1) bulk sample was collected and submitted to Fisher Environmental Laboratories for inductively coupled plasma (ICP) analysis, as outlined in NIOSH method 7300. The results of the sample analysis are summarized in Table 2, below.

Table 2 - Summary of Lead Sample Analysis

Sample No.	Sample Location	Sample Description	Lead Content (ppm and % by Weight)
24-2493-19	Exterior	Mortar	<10 ppm (<0.0010%)

The Ontario Ministry of Labour (MOL) has not prescribed criteria defining “lead-containing” materials. Further, the MOL has not established a lower limit for concentrations of lead, below which precautions do not need to be considered during construction projects. However, except for aggressive disturbance of painted finishes, (e.g., abrasive blasting, torch cutting, or grinding), Fisher believes that a lead content below 0.1% by weight (1,000 ug/g or 1000 ppm) represents a concentration in which lead content is not the limiting hazard for construction hygiene purposes.

The lead concentration of the mortar was determined to be below the limit of detection for the analytic method used. Therefore, the planned renovation activities do not require any prior lead abatement procedures.

Other Designated Substances

During the current survey, no sampling for mercury was conducted. However, fluorescent light tubes (known to contain mercury) were observed at the Site. No other building materials or components suspected to contain mercury were noted during the building survey.

Crystalline silica is a constituent of all concrete and masonry products present at the Site. While the cutting, grinding, or demolition of materials containing silica is not anticipated at the Site, these activities should be completed in accordance with Ontario MOL Guidelines for Silica on Construction projects. Specifically, the Guideline prescribes respiratory protection, site isolation, and the use of wetting to control dust emissions during the cutting, grinding, drilling, or demolition of silica-containing materials. Please refer to the Guideline for details concerning Silica on Construction Projects.

No other designated substances or other potentially hazardous building materials were identified in the proposed project scope areas. If additional suspected designated substances or other

potentially hazardous building materials not identified in this report pertaining to the Site are discovered, work should be stopped and the material(s) in question should be sampled for determination of content.

5.0. RECOMMENDATIONS

Based on the observations and findings outlined above, Fisher recommends are as follows:

Asbestos:

If work activities for the exterior masonry wall and soffit repair project disturb the above-listed asbestos-containing material, the material should be removed by the following operations:

- Removal of asbestos-containing Transite boards will require Type 1 asbestos abatement procedures, as per O. Reg. 278/05. If the Transite board would be disturbed using power tools during removal, abatement must be performed using Type 3 procedures.

Lead:

- No immediate recommendations for lead removal are warranted at this time.

Mercury:

- No immediate recommendations are warranted with regard to mercury.
- However, if the disturbance of the identified fluorescent light tubes presumed to contain mercury is planned as part of the anticipated construction activities, Fisher recommends that these items be removed and disposed of in accordance with O. Reg. 558/00.

Silica:

- Renovations and/or demolition operations that are likely to generate silica-containing dust shall be carried out in accordance with the following requirements:
 - Guideline: Silica on Construction Projects (issued by Ontario MOL);
 - Designated Substances Regulation, O. Reg. 490/09; and
 - Regulation for Construction Projects, O. Reg. 213/91.

6.0. LIMITATIONS

Fisher Engineering Limited accepts responsibility for the competent performance of its duties in executing this assignment within the normal standards of the profession, but disclaims responsibility for consequential damages, if any.

The scope of the survey is based on prior agreement with the client, and the rationale given in this report. The building survey findings rely on the professional interpretation of selective sampling and analysis. Sample analysis results have been applied to homogenous materials in

unsampled locations; it was not within the scope of work to carry out an exhaustive sampling and analysis program.

This report was prepared for Engineering Link Incorporated. The scope of services performed may not be appropriate for the purposes of other users, and any use or reuse of this document or its findings or recommendations represented herein is at the sole risk of any other user.

We trust that the information provided in the report meets your current requirements. If you have any questions or concerns, please do not hesitate to contact the undersigned.

Prepared by:



Muhammad Junayed, B.Sc., EP
Project Manager

Reviewed by:



David A. Fisher, B.A.Sc., C.Chem., P.Eng.
Principal

APPENDIX A – LABORATORY CERTIFICATE OF ANALYSIS



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Client: Engineering Link Inc.
Address:

Tel.: 647-685-4458
Attn: Harshavardhan Saravanan
Email:

F.E. Job #: 24-2493
Project Name: Pre-Reno DSS
Project ID: FM 24-13725
Date Sampled: 28-Feb-2024
Date Received: 4-Mar-2024
Date Reported: 11-Mar-2024
Location: 1305 Williams Parkway
Brampton, ON

Certificate of Analysis

Analysis Requested:	Asbestos, Lead
Sample Description:	19 Bulk Sample(s)

Client Sample ID	Lab Sample ID	Sample Matrix	Fibre Type	Asbestos Content
1A - Transite Board, Soffit, Exterior	24-2493-1	Transite	Chrysotile	25-50%
1B- Transite Board, Soffit, Exterior	24-2493-2	Transite	Chrysotile	25-50%
1C - Transite Board, Soffit, Exterior	24-2493-3	Transite	Chrysotile	25-50%
2A - Sealant, Orange, between Bikes, Exterior	24-2493-4	Sealant		Not Detected
2B - Sealant, Orange, between Bikes, Exterior	24-2493-5	Sealant		Not Detected
2C - Sealant, Orange, between Bikes, Exterior	24-2493-6	Sealant		Not Detected
3A - Caulking, Dark Grey, around Exterior Panels	24-2493-7	Caulking		Not Detected
3B - Caulking, Dark Grey, around Exterior Panels	24-2493-8	Caulking		Not Detected
3C - Caulking, Dark Grey, around Exterior Panels	24-2493-9	Caulking		Not Detected

Certificate of Analysis

Analysis Requested:	Asbestos, Lead
Sample Description:	19 Bulk Sample(s)

Client Sample ID	Lab Sample ID	Sample Matrix	Fibre Type	Asbestos Content
4A - Mortar, Brick, Exterior	24-2493-10	Mortar		Not Detected
4B - Mortar, Brick, Exterior	24-2493-11	Mortar		Not Detected
4C - Mortar, Brick, Exterior	24-2493-12	Mortar		Not Detected
5A - Cement Parging, Exterior Wall	24-2493-13	Parging		Not Detected
5B - Cement Parging, Exterior Wall	24-2493-14	Parging		Not Detected
5C - Cement Parging, Exterior Wall	24-2493-15	Parging		Not Detected
6A - Caulking Cream, under Black Coat, Exterior	24-2493-16	Caulking		Not Detected
6B - Caulking Cream, under Black Coat, Exterior	24-2493-17	Caulking		Not Detected
6C - Caulking Cream, under Black Coat, Exterior	24-2493-18	Caulking		Not Detected

Fisher Engineering Laboratories (Lab ID #: 2745) is accredited by CALA (Canadian Association for Laboratory Accreditation Inc.) for asbestos analysis by PLM.

ANALYTICAL METHOD:

Asbestos has been done in accordance with normal professional standard using the following Fisher Engineering Lab Method: Asbestos by PLM (Polarized Light Microscope) F-26, Rev.2.2.

Certificate of Analysis

Analysis Requested:	Asbestos, Lead			
Sample Description:	19 Bulk Sample(s)			
Client Sample ID	Lab Sample ID	Sample Matrix	Lead (ppm)	Comments
LP101 - Mortar	24-2493-19	Mortar	<10	

QA/QC Report

Parameter	Blank (ppm)		LCS (%)		CRM (%)	
	Result	RL	Recovery	AR	Recovery	AR
Lead	<10	10	105	80-120	101	70-130


Parameter	Duplicate (%)					
	RPD	AR				
Lead	1.0	0-30				

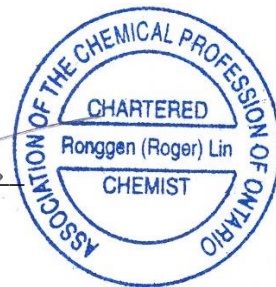
LEGEND:

- RL - Reporting Limit
- LCS - Laboratory Control Sample
- MS - Matrix Spike
- AR - Acceptable Range
- RPD - Relative Percent Difference

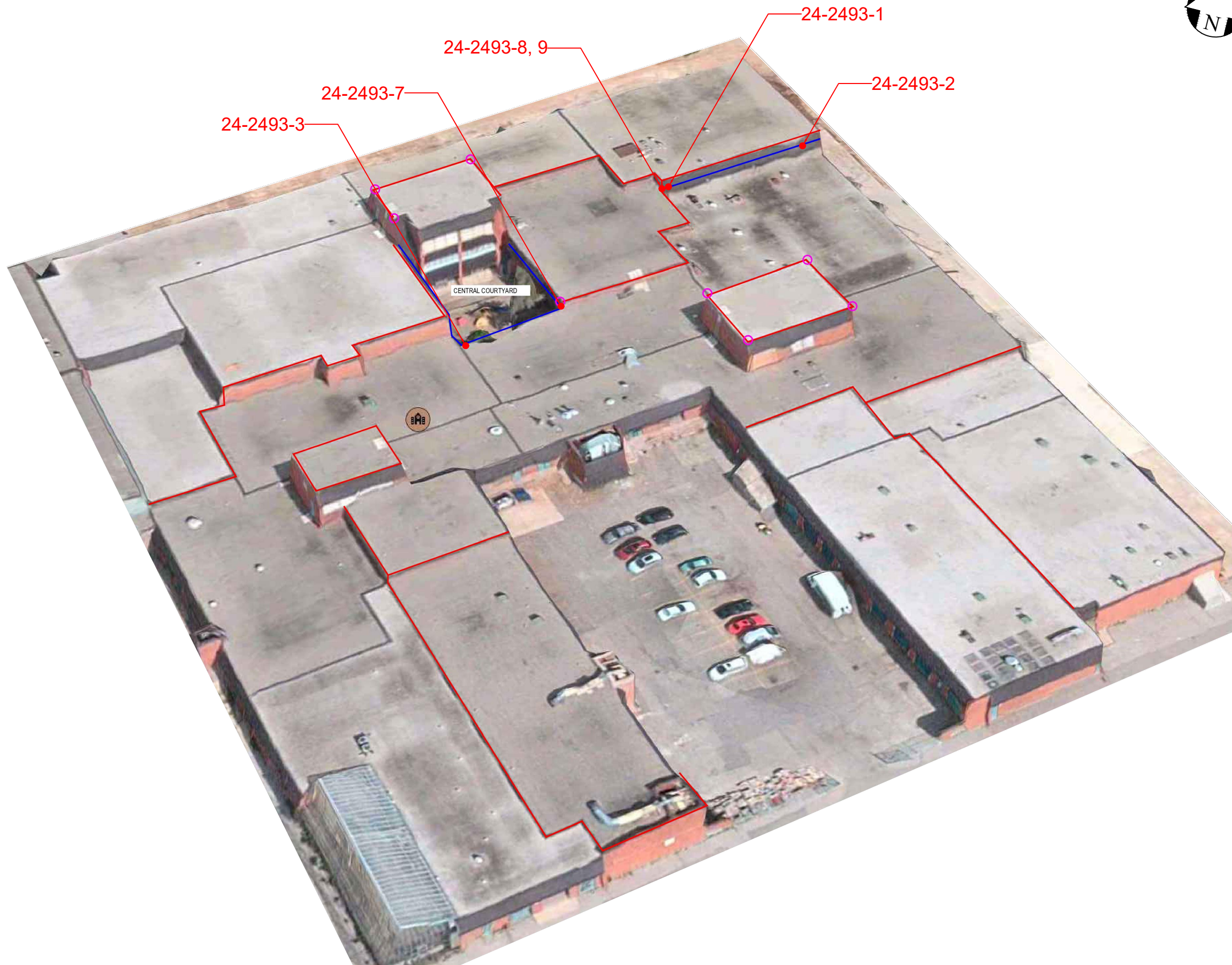
ANALYTICAL METHODS:

Metals (Lead) - Method # F-1, Rev. 4.5, Standard Operation Procedure for determination of Metals by the Inductively Coupled Plasma- Optical. Method used by Fisher Engineering Lab complies with the Standard Methods for the Examination of Water and Wastewater, 20th Ed 3120-B.

Authorized by: 
 Roger Lin, Ph. D., C. Chem.
 Laboratory Manager



APPENDIX B – SITE PLANS



Legend

● Asbestos Sample Location

Figure 1

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Roof Floor

CLIENT: Engineering Link

PROJECT NUMBER: FE 24-13725	DATE: March 2024	DRW BY: T.L.
CAD FILE: FIG1	SCALE: Not to Scale	CHK BY: M.J.



Legend

● Asbestos Sample Location

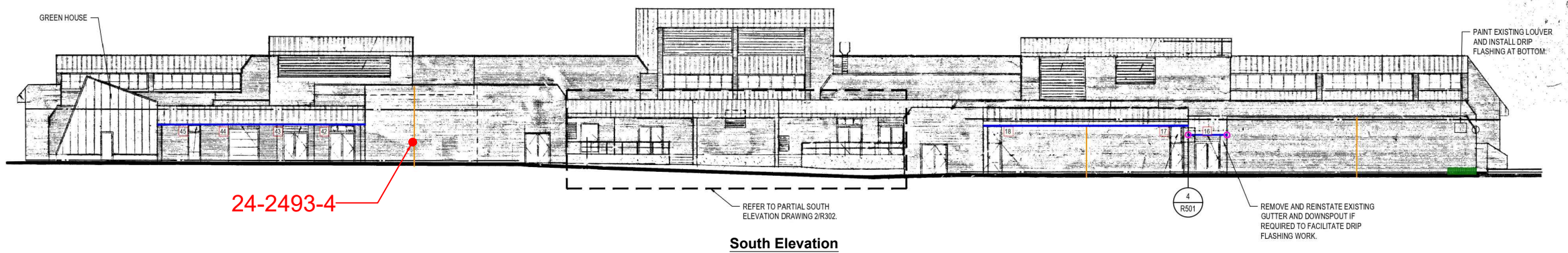
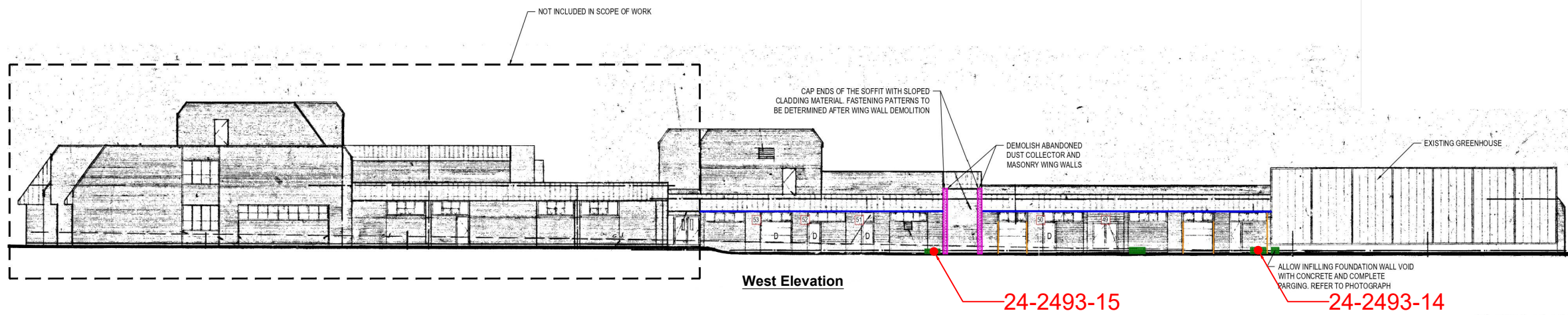
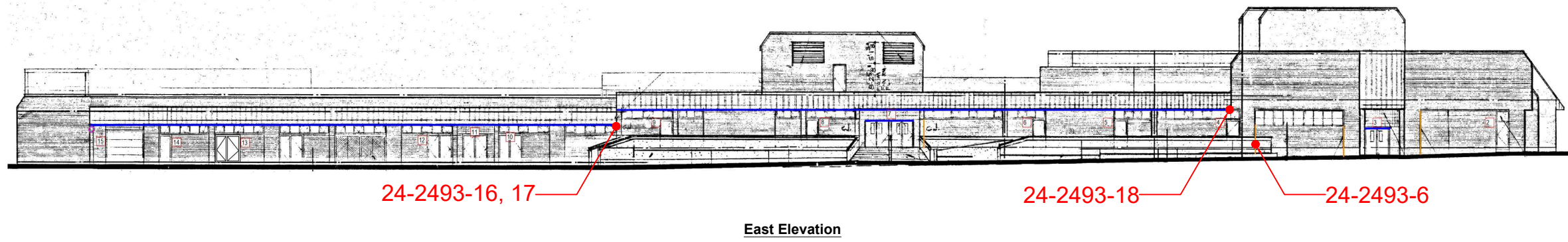
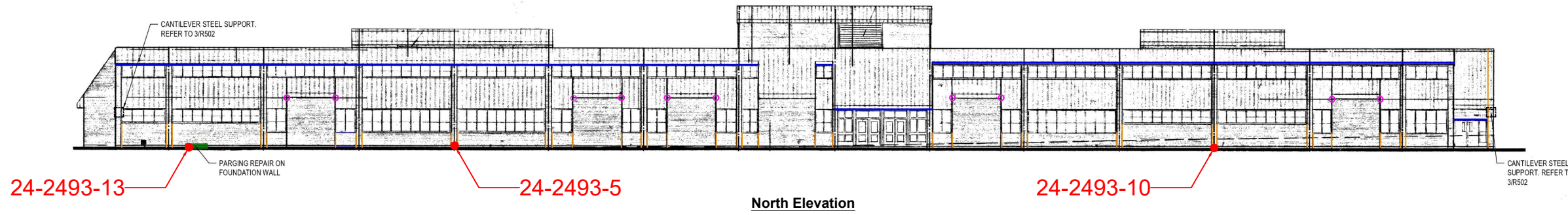


Figure 2

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

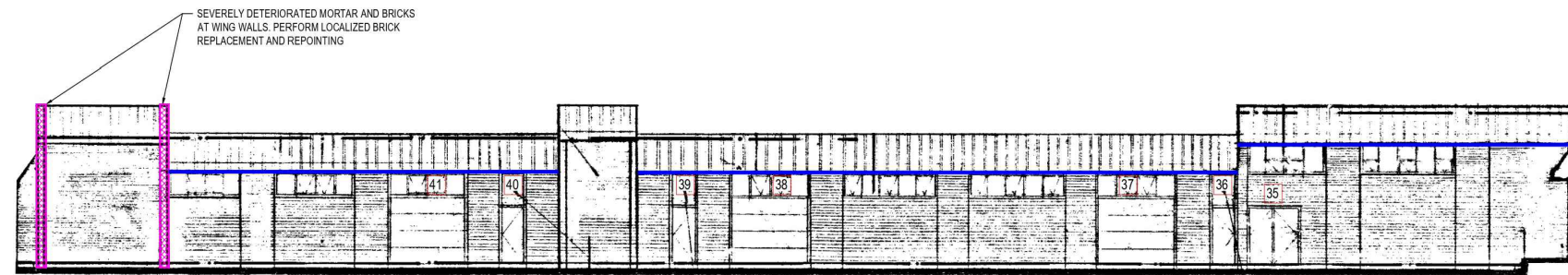
BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Exterior Wall

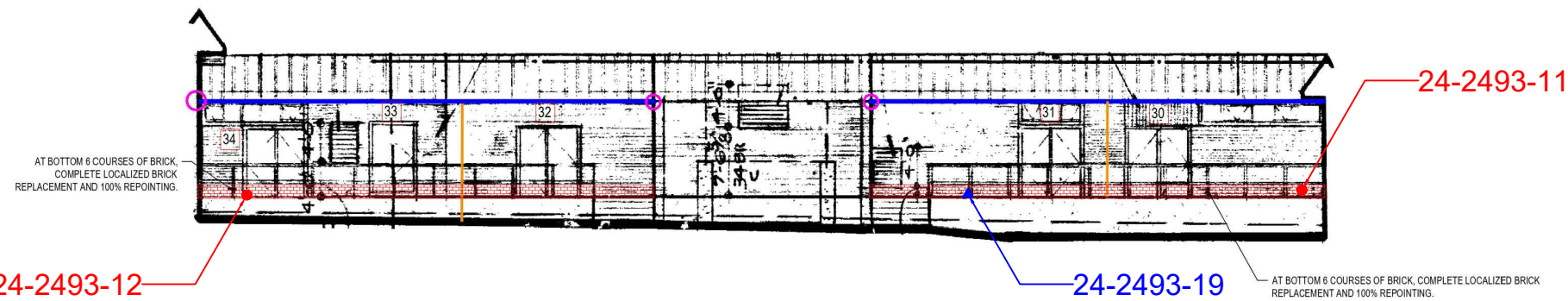
CLIENT: Engineering Link

PROJECT NUMBER: FE 24-13725	DATE: March 2024	DRW BY: T.L.
CAD FILE: FIG2	SCALE: Not to Scale	CHK BY: M.J.

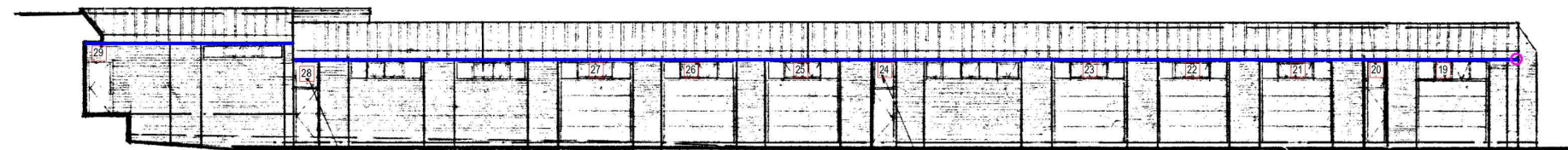




Partial East Elevation



Partial South Elevation



Partial West Elevation

Legend

- Asbestos Sample Location
- ▲ Lead Sample Location

Figure 3

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Partial Exterior Wall

CLIENT: Engineering Link

PROJECT NUMBER: FE 24-13725	DATE: March 2024	DRW BY: T.L.
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CAD FILE: FIG3	SCALE: Not to Scale	CHK BY: M.J.
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APPENDIX C – SITE PHOTOGRAPHS



Photo 1 – View of asbestos-containing Transite board on the exterior soffit.



Photo 2 – Another view of asbestos-containing Transite board on the exterior soffit.



Photo 3 – View of non-asbestos and non-lead-containing mortar on the bricks.

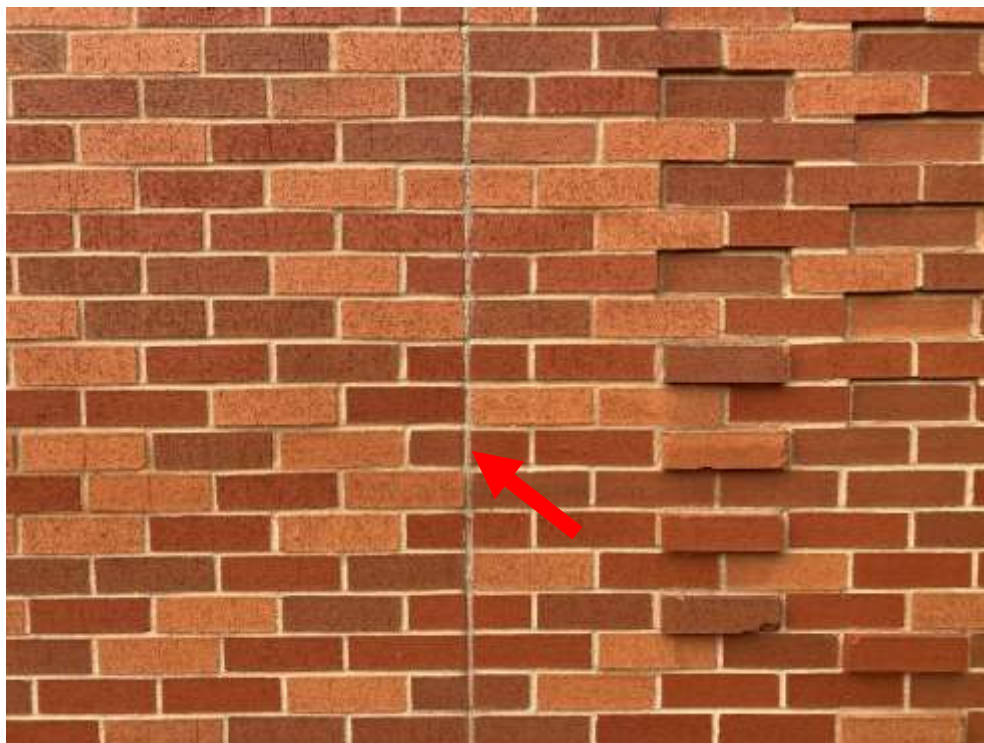


Photo 4 – View of non-asbestos-containing orange sealant.



Photo 5 – View of non-asbestos-containing dark grey caulking.



Photo 6 – View of non-asbestos-containing cement parging.

Asbestos Abatement Specification Document



Legend


 Asbestos Transite Location

Figure 1

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Roof Floor


CLIENT: Engineering Link

PROJECT NUMBER: FE 24-13725 **DATE:** March 2024 **DRW BY:** T.L.

CAD FILE: FIG1 **SCALE:** Not to Scale **CHK BY:** M.J.

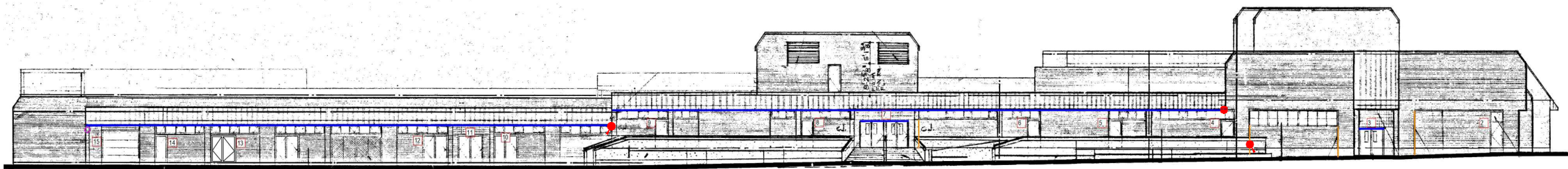


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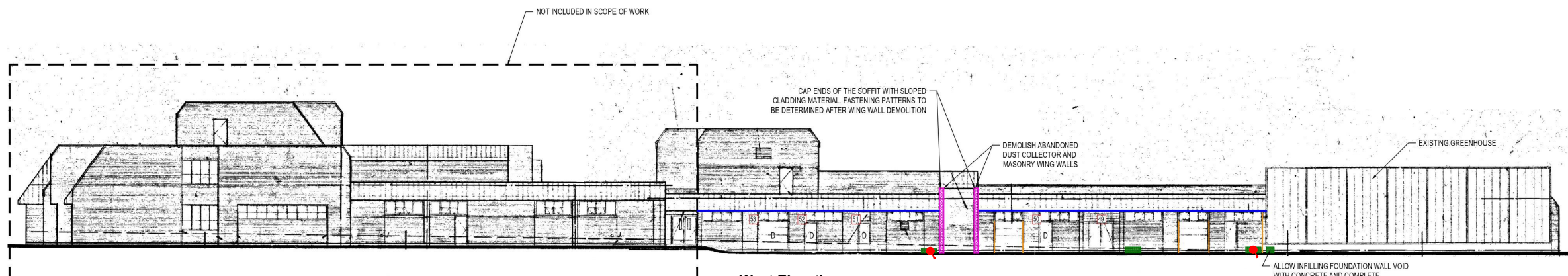
 Asbestos Transite Location



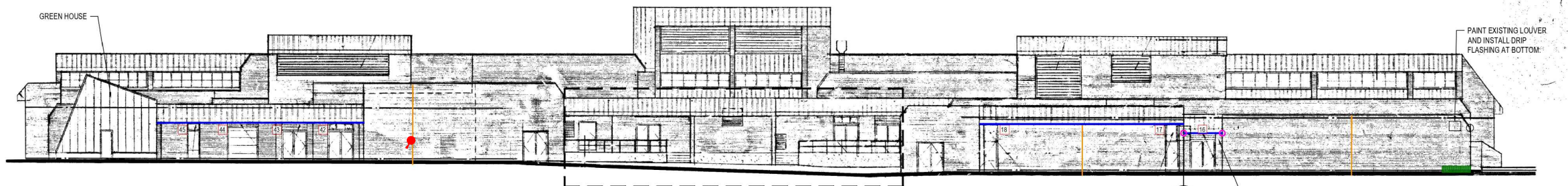
North Elevation



East Elevation



West Elevation



South Elevation

Figure 2

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Exterior Wall

CLIENT: Engineering Link

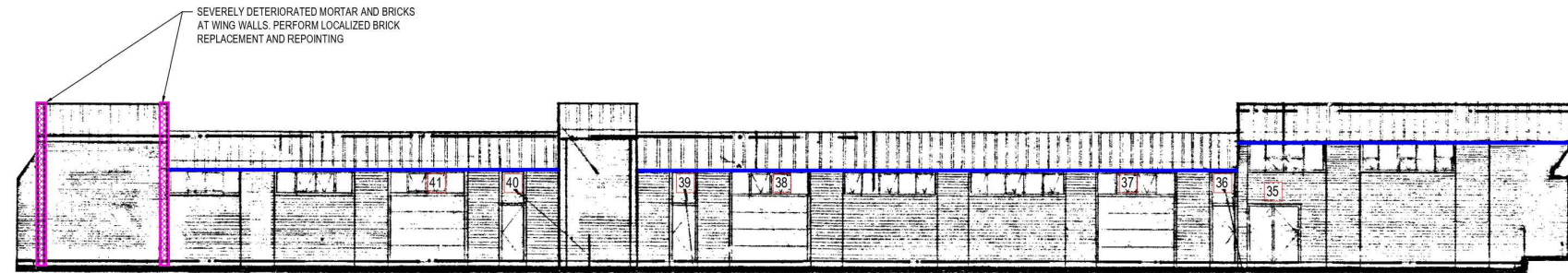
PROJECT NUMBER: FE 24-13725 **DATE:** March 2024 **DRW BY:** T.L.

CAD FILE: FIG2 **SCALE:** Not to Scale **CHK BY:** M.J.

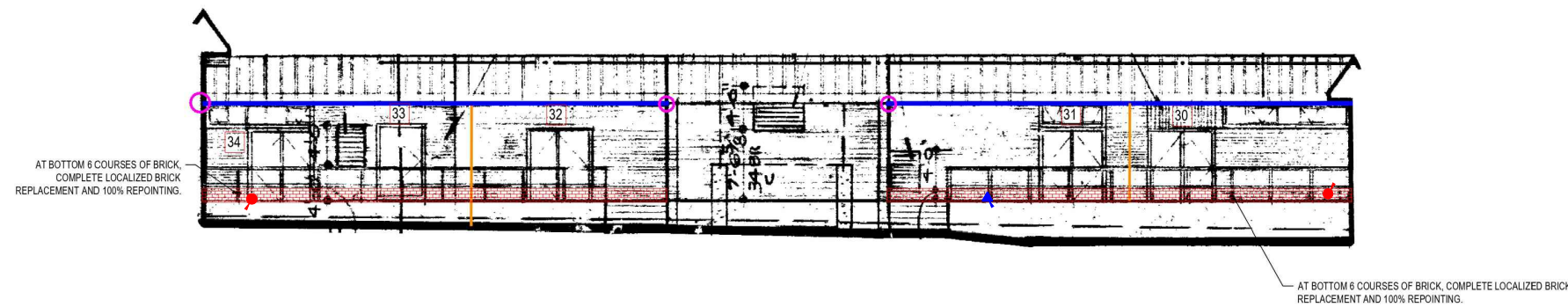


Legend

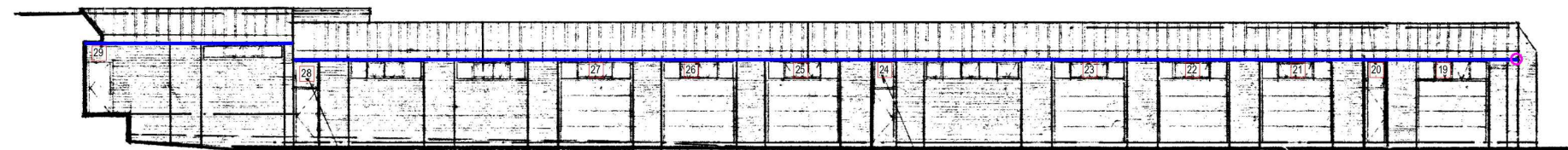
 Asbestos Transite Location



Partial East Elevation



Partial South Elevation



Partial West Elevation

Figure 3

LOCATION:
1305 Williams Parkway,
Brampton, Ontario

BUILDING NAME:
Judith Nyman Public School

Asbestos and Lead Sample Locations -
Partial Exterior Wall

CLIENT: Engineering Link

PROJECT NUMBER: FE 24-13725	DATE: March 2024	DRW BY: T.L.
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CAD FILE: FIG3	SCALE: Not to Scale	CHK BY: M.J.
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PART 1 – About Asbestos

1.1 What is Asbestos

Asbestos is a carcinogenic mineral. It consists of flexible fibres resistant to heat, electricity, and corrosion. These qualities make the mineral useful in many products. They also contribute to asbestos exposure toxicity. Construction materials contained asbestos because it is an effective insulator. Asbestos in cloth, paper, cement, plastic, and other materials makes them stronger. Inhaling or ingesting asbestos causes fibres to become trapped in the body. Over decades, trapped asbestos fibres can cause inflammation, scarring and cancer.

Based on their physical and chemical properties, there are two major groups of asbestos: serpentine and amphibole.

Serpentine: Serpentine fibres are long, flexible, and curved. These fibres can be woven together. The main type of serpentine asbestos is chrysotile (white asbestos), the main type used in manufacturing.

Amphibole: Amphibole fibres are straight and stiff. These fibres are generally brittle and rod- or needle-shaped, which limits their commercial usefulness. There are 5 sub-types of amphibole asbestos, including:

- Crocidolite (blue asbestos)
- Amosite (brown asbestos)
- Actinolite
- Anthophyllite
- Tremolite

1.2 Asbestos-Containing Materials (ACM)

Because it has heat-resistant and insulating properties, asbestos was used in a wide range of manufactured products. Before 1990, asbestos was mainly used for insulating buildings and homes against cold weather and noise, and fireproofing. Asbestos was used by industry, construction, and commercial sectors in products such as:

- Building materials (roofing shingles, roof sealants, ceiling and floor tiles, paper products and felts, house siding, and asbestos-containing cement and plaster products).
- Friction materials (automobile clutch pads, brake linings, pads and shoes, and transmission parts).
- Fire and heat protection wear.
- Industrial furnaces and heating systems.
- Asbestos textiles (fabrics).
- Heat, electrical, and sound insulation, or wrappings.
- Insulation for hot and cold areas.
- Packing materials, gaskets, linings, and coatings.
- Reinforcement of plastic products, thermosets and thermoplastic resins.
- Filler in resins, plastics, caulking and in asphalt road surfacing.

1.3 Health Hazard of Asbestos

The human health effects from long-term unsafe asbestos exposure are well documented. Asbestos fibres are easily inhaled and carried into the lower regions of the lung where they can cause fibrotic lung disease (asbestosis) and changes in the lining of the chest cavity (pleura). These diseases can lead to reduced respiratory function and death. Long-term inhalation of asbestos fibres also increases the risk of lung cancer and mesothelioma.

Enlargement of the heart can also occur as an indirect effect from the increased resistance of blood flow through the lungs. People are more likely to experience asbestos-related disorders if they:

- are exposed to high concentrations of asbestos,
- are exposed for longer periods of time, and/or
- are exposed to asbestos more frequently.

1.4 Industry Terms/ Definition

- 1.4.1 Abatement: Procedures to control fibre release from asbestos-containing building materials. Includes encapsulation, enclosure, and removal.
- 1.4.2 Amended Water: Water containing a wetting agent or surfactant that is to reduce water surface tension to allow proper wetting of asbestos material.
- 1.4.3 Asbestos: The term includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, and any of these that have been chemically treated and/or altered.
- 1.4.4 Area Monitoring: Sampling of asbestos fibre concentrations within the asbestos control area and outside the asbestos control area which is representative of the airborne concentrations of asbestos fibres which may reach the breathing zone.
- 1.4.5 Asbestos Work/Control Area: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibres, or debris.
- 1.4.6 Air Monitoring: The process of measuring the asbestos fibre content of a specific volume of air in a stated period of time.
- 1.4.7 Asbestos Containing Material (ACM): Any material analyzed and found to contain 0.5 percent more asbestos either alone or mixed with other fibrous or nonfibrous materials.
- 1.4.8 Asbestos Fibres: For this specification, asbestos fibres are those fibres 5 microns or longer having an aspect ratio of at least 3:1.
- 1.4.9 Barrier: Any surface that closes up the work area to prevent the movement of fibres.
- 1.4.10 Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.
- 1.4.11 Contractor/Supervisor: An individual who supervises asbestos abatement work and has the proper qualifications and training as specified in this document.
- 1.4.12 Control Area: An area which is considered uncontaminated and is suitable for regular occupancy.
- 1.4.13 Disposal: Procedures necessary to transport and deposit the asbestos-contaminated material stripped and removed from the building, piping, and equipment in an approved waste disposal site in compliance with the applicable environmental regulations.
- 1.4.14 Demolition: The razing, removing, or wrecking of any building component, assembly or system together with any associated handling operations.
- 1.4.15 Dioctylphthalate (DOP) Test: A test method that uses Dioctylphthalate aerosol to challenge a HEPA filter-equipped negative pressure unit to determine its integrity and effectiveness to filter
- 1.4.16 Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labelled as containing asbestos waste and used for transporting asbestos waste from containment to disposal site.
- 1.4.17 Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM.
- 1.4.18 Enclosure: All herein specified procedures are necessary to complete enclosure of all hazardous materials behind airtight, impermeable, permanent barriers.
- 1.4.19 Friable Asbestos Material: Material that when dry can be crumbled, pulverized, or powdered by hand pressure and includes material that is crumbled, pulverized or powdered.
- 1.4.20 HEPA Filter Equipment: High-efficiency particulate air filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibres. Filters shall be capable of trapping and retaining at least 99.97 percent of 0.3 micrometre diameter particles.

- 1.4.21 Non-friable Asbestos Material: Material that contains asbestos in which the fibres have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not release fibres during any appropriate use, handling, demolition, storage, transportation, processing, or disposal.
- 1.4.22 Negative Pressure Respirator: A respirator in which the air inside the respiratory inlet covering is negative during inhalation in relation to the air pressure of the outside atmosphere and positive during exhalation in relation to the air pressure of the outside atmosphere.
- 1.4.23 Personal Monitoring: Sampling of asbestos fibre concentrations within the breathing zone (within 12 inches of the mouth) of an employee.
- 1.4.24 Personnel: Supervisors, Contractor employees, subcontractor employees.
- 1.4.25 Positive Pressure Respirator: A respirator that maintains a positive pressure inside the facepiece during inhalation and exhalation in relation to the atmospheric pressure.
- 1.4.26 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- 1.4.27 Tape-Sealed Polyethylene Sheets: Rip-proof polyethylene sheets or polyethylene sheets of type and thickness as specified, sealed with tape along the edges, around objects, over cuts and in other locations as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage and damage by sealant and to prevent the escape of asbestos fibres through the sheeting into a clean area.
- 1.4.28 Wet Cleaning: The process of eliminating asbestos from building surfaces and objects by using cloths, mops, or other cleaning tools dampened with water.
- 1.4.29 Work Decontamination Enclosure System: A decontamination system for workers, consisting of a clean room, a shower room, and an equipment room. One entrance to the clean room shall be outside of the contaminated area. One entrance to the equipment room shall be connected directly to the contaminated area.
- 1.4.30 Work: Includes all labour, supervision, materials, and equipment required for the complete execution of the project as specified in the contract.

PART 2 – Abatement Specification Document – Asbestos-Containing Transite Board

2.1 *General Conditions and Related Work*

- 2.1.1 This abatement specification document was prepared based on the findings from the Designated Substance Survey reports completed by Fisher Engineering Limited; “Pre-reno Designated Substance Survey, Judith Nyma Secondary School, 1305 Williams Parkway, Brampton, ON, Project No. 24-13725, dated March 22, 2024.
- 2.1.2 The following document will serve as the scope of work for the asbestos-containing Transite board, if this material is impacted during planned renovations. The scope of work details all work activities to be included and the methodology to be employed.
- 2.1.3 It is the intent to repair the exterior masonry wall and soffit, therefore, the work performed as outlined in this section will result in the removal and disposal of asbestos-containing transite board and materials that become contaminated by asbestos, as a result of the work.
- 2.1.4 If the asbestos-containing transite board becomes disturbed during the renovation works, the abatement Contractor is required to follow the **Type 1 Operation procedures** for the removal and disposal of asbestos-containing transite board. This procedure must adhere to the guidelines outlined in the Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
- 2.1.5 **The Type 1 Operation Procedure:**
- Installing or removing non-friable asbestos-containing material, other than ceiling tiles, if the material is installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.
 - Breaking, cutting, drilling, abrading, grinding, sanding, or vibrating non-friable asbestos-containing material if,
 - the material is not wetted to control the spread of dust or fibres, and
 - the work is done only by means of non-powered hand-held tools.
- 2.1.6 The Contractor shall comply with all local, provincial, and federal requirements (regulations, codes, standards and guidelines) relating to asbestos abatement and other work activities being carried out.
- 2.1.7 Perform work following the requirements of the various regulations and guidelines in effect at the time the work is being carried out.
- 2.1.8 The regulations, codes, standards, and guidelines shall include, but are not limited to:
- Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05;
 - Designated Substances Regulation, Ontario Regulation 490/09;
 - Ontario Occupational Health and Safety Act;
 - Ministry of Labour Occupational Health and Safety Act Ontario Regulation 213/91 Construction Projects, as amended to O. Reg. 628/05; and
 - WHMIS Regulations.
- 2.1.9 In cases of conflict between procedures outlined in this document, the more stringent requirement will apply.

2.2 Work Area – Exterior Soffit:

- Asbestos-containing transite board was found on the soffit on the exterior of the building.
- 2.2.1 The contractor shall remove and dispose of asbestos-containing transite board **following the Type 1 Operation procedures**, as per the Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05, and the procedures are as follows:
- 2.2.1.1 Pre-clean and protect all unaffected surfaces in the immediate vicinity of the work area by HEPA vacuuming and the use of poly sheeting respectively. This includes securing a poly drop sheet to the floor directly below the work area.
- 2.2.1.2 For the Type 1 operations, signs should be posted in sufficient numbers to warn of the asbestos operations. There should be a sign, at least, at each entrance to the work area. The signs should display the following information in large, clearly visible letters:
- a) Caution: Asbestos Exposure
 - b) Access to the work area is restricted to authorized persons; and
 - c) Respirators must be worn in the work area.
- 2.2.1.3 Workers are not permitted to eat, drink, chew gum or smoke in the work area.
- 2.2.1.4 The spread of dust from the work area shall be controlled by measures appropriate to the work to be done, including the use of drop sheets of polyethylene or other suitable material that is impervious to asbestos.
- 2.2.1.5 Protective clothing shall be provided by the employer and worn by every worker who enters the work area, and the protective clothing,
- shall be made of a material that does not readily retain nor permit penetration of asbestos fibres,
 - shall consist of head covering and full body covering that fit snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing,
 - shall include suitable footwear, and
 - shall be repaired or replaced if torn.
- 2.2.1.6 The material shall be wet before and kept wet during the work to control the spread of dust or fibres unless wetting would create a hazard or cause damage.
- 2.2.1.7 A wetting agent shall be added to the water that is to be used to control the spread of dust and fibres.
- 2.2.1.8 Dust and waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste bag.
- 2.2.1.9 Compressed air shall not be used to clean up and remove dust from any surface.
- 2.2.1.10 Remove all waste generated by the abatement work, including, but not limited to, building debris, disposable coveralls, respirator cartridges, and plastic sheeting. Seal all waste into 6 mil nominal disposal bags. Wet wipe or clean the bags with a HEPA vacuum and finally double-bag in a second clean 6 mil nominal bag or suitable sealed container.
- 2.2.1.11 Clean all equipment used in the abatement work (e.g., vacuum cleaner, knives, saws) using a HEPA vacuum and wet wiping. Equipment that cannot be readily cleaned (e.g., vacuum hose or wire brushes) shall be HEPA vacuumed and sealed in 6 mil polyethylene bags or a suitable sealed container before removal from the work area.
- 2.2.1.12 Dispose of the waste materials in compliance with local, provincial, and federal regulations.
- 2.2.1.13 Wash face and hands, and clean and maintain respirator after completion of asbestos abatement. Contractors will be required to provide any water for washing and cleaning hands and face for workers leaving the work area.

2.2.1.14 All the waste generated in the Work Area shall be double bagged using asbestos-labelled yellow bags and disposed of as asbestos waste.

2.2.1.15 The abatement Contractor shall be responsible for the disposal of all waste generated as part of the project. This includes the costs related to the procurement of waste bins and the associated handling, transportation, and disposal fees.

2.3 Regulations

2.3.1 The Contractor shall comply with all local, provincial, and federal requirements relating to asbestos.

2.3.2 In case of conflict among the above-mentioned requirements or with these specifications, the more stringent requirements shall apply.

2.3.3 Perform work following the requirements of the various regulations in effect at the time the work is being carried out.

2.3.4 The regulations shall include but are not limited to:

2.3.4.1 Ontario Occupational Health and Safety Act.

2.3.4.2 Ontario Regulation 278/05, Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations.

2.3.4.3 The Designated Substances Regulation, Ontario Regulation 490/09.

2.3.4.4 Ontario Ministry of Environment Regulation 347 (as amended) for the disposal of asbestos waste made under the Environmental Protection Act.

2.3.4.5 Standard Construction Document, Canadian Construction Association, CCA 82 - 2004.

2.3.4.6 Regulations respecting the Handling, Offering for Transport and Transportation of Dangerous Goods.

2.3.4.7 WHMIS Regulations.

2.4 Proscriptions

2.4.1 The use of compressed air for removal or clean-up of asbestos dust and debris from any surface is not allowed.

2.4.2 Smoking, eating, drinking, or chewing is not allowed in the work area.

2.4.3 Unauthorized persons or persons not using proper personal protective equipment shall not be allowed to enter the work area.

2.5 Worker and Visitor Protection

2.5.1 Instruct all personnel (workers and visitors) in all aspects of work procedures and protective equipment before allowing entry into the asbestos abatement work areas.

2.5.2 A competent person (as defined by the Occupational Health and Safety Act) shall provide all the training and instructions.

2.5.3 Instructions and training shall include, but shall not be limited to, the following:

2.5.3.1 Entry and exit from asbestos abatement work areas.

2.5.3.2 Work practices and personal hygiene.

2.5.3.3 The use, cleaning and care of respirators and protective clothing.

2.5.3.4 Protective measures and work procedures.

2.5.4 Asbestos work area entry and exit procedures shall be posted.

2.5.5 Respiratory Protection:

2.5.5.1 All personnel required to wear respirators shall be fit tested either by a qualitative or quantitative fit testing method.

- 2.5.6 Each worker or visitor required to enter an asbestos abatement work area shall be provided with a personally issued respirator that is:
 - 2.5.6.1 Appropriate for the work that is being carried out.
 - 2.5.6.2 Acceptable to the Ministry of Labour, Occupational Health, and Safety Division.
 - 2.5.6.3 The worker shall be responsible for wearing a respirator that is issued by the Contractor.
- 2.5.7 The following criteria, outlined in Table 1, shall be followed when selecting an appropriate respirator:

Table 1: Respirators – Asbestos

Column 1	Column 2
Work Category	Required respirator
Type 1 Operations	
Worker requests that the employer provide a respirator to be used by the worker, as described in paragraph 12 of section 14	Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter

- 2.5.8 Protective Clothing:
 - 2.5.8.1 The Contractor shall provide every worker and authorized visitor with full-body disposable coveralls.
 - 2.5.8.2 All personnel shall wear protective coveralls before they are allowed to enter the asbestos removal work area.
 - 2.5.8.3 Coveralls shall be equipped with head covering (hood), foot covering and tight-fitting cuffs at the neck, ankles, and wrists.
 - 2.5.8.4 The disposable coveralls shall be made up of materials that do not readily permit the penetration of asbestos fibres.
 - 2.5.8.5 Disposable coveralls shall be immediately repaired (using duct tape) or replaced once torn.
 - 2.5.8.6 Coveralls shall be disposed of as asbestos waste once they are worn inside an asbestos abatement area.
 - 2.5.8.7 Workers are allowed to wear reusable protective clothing provided that the clothing is left in the equipment room until the end of the asbestos abatement project. The clothing shall then be disposed of as asbestos waste.
- 2.5.9 Safety shoes, hard hats and additional body protection equipment shall be used as necessary to meet the requirements of applicable safety regulations.

2.6 Waste Transport and Disposal

- 2.6.1 All hazardous materials, including but not limited to, asbestos-containing materials, existing asbestos-contaminated materials and materials that become contaminated by asbestos as a result of the work, shall be disposed of as prescribed by Ontario Regulation 347, Waste Management Regulation, made under the Environmental Protection Act and the provincial and federal regulations for the Transportation of Dangerous Goods.
- 2.6.2 All non-asbestos-containing waste generated during abatement activities inside an asbestos work area shall be treated as asbestos waste.
- 2.6.3 Non-porous materials that can be washed and properly cleaned can be disposed of as clean waste.
- 2.6.4 The waste must be stored and transported in an enclosed, lockable waste bin.
- 2.6.5 Every vehicle used for the transportation of asbestos waste shall display a Class 9 Label.

- 2.6.6 Both sides of the vehicle used for the transportation of asbestos waste and every waste bag and container shall display the word CAUTION in letters not less than 10 cm in height and the words:

CONTAINS ASBESTOS FIBRES

Avoid Creating Dust

Asbestos May Be Harmful to Your Health

Wear Approved Protective Equipment

- 2.6.7 The transport vehicle must be properly equipped to deal with asbestos waste spills. Equipment shall include, but is not limited to, respiratory protective equipment, disposable protective clothing, 6 mil polyethylene bags, shovel and broom and wetting agent.
- 2.6.8 For asbestos waste of unknown material or an asbestos type other than Chrysotile, the words Asbestos, Blue, and Product Identification Number must be displayed on every waste container.
- 2.6.9 For Chrysotile asbestos, the words Asbestos, White, and Product Identification Number must be displayed on every waste container.

PART 3 – EXECUTION – ASBESTOS ABATEMENT

3.1 ***Type 1 Removal Operation***

3.1.1 Initial Preparation and Isolation of Work Areas: Unless specified, work carried out as part of this phase shall proceed as follows:

3.1.1.1 Survey the work areas to compile an inventory of existing damages and provide a copy to the Client.

3.1.1.2 The Contractor is responsible for moving materials and objects which are present in the work areas.

3.1.1.3 Prevent the spread of dust from the work area using measures appropriate to the work to be done.

3.1.1.4 Shut off, lockout and seal all ventilation duct vents with the application of one layer of 6 mil (0.15mm) thick clear polyethylene sheet sealed with tape.

3.1.1.5 Use polyethylene drop sheets on all flooring in work areas where dust and contamination cannot otherwise be thoroughly cleaned.

3.1.1.6 Use one layer of 6 mil (0.15 mm) thick clear polyethylene sheets to cover walls.

3.1.1.7 Separate parts of the building required to remain in use from the work area by polyethylene drop sheets at the perimeter of the work area.

3.1.1.8 Separate the work area with clearly visible warning signs advising of the hazards of asbestos dust and that entry is restricted to authorized trained personnel wearing personal protective equipment.

3.1.2 Entry and Exit Procedures from Asbestos Removal Work Areas: the following general procedures shall be adhered to when entering and exiting from asbestos abatement work areas:

3.1.2.1 Work Area Entry Procedures:

3.1.2.1.1 Every worker and visitor planning to enter the work area should remove all street clothing and should store them in a designated clean change room.

3.1.2.1.2 The person shall then put on a disposal coverall with head covering, respirators with clean filters and foot covering and shall proceed to the work area.

3.1.2.2 Work Area Exit Procedures:

3.1.2.2.1 Each worker shall decontaminate their protective clothing, boots, and respirator by first HEPA vacuuming and then by damp wiping using soap and water.

3.1.2.2.2 The removed disposable coveralls shall be disposed of as asbestos waste in a 0.15 mm (6 mil) labelled waste bag. Respirator filter inlets shall be sealed in tape or disposed of as asbestos waste.

3.1.3 Asbestos Removal Procedures

3.1.3.1 Asbestos Removal shall not commence until:

3.1.3.1.1 The work area is effectively separated from the clean areas of the building.

3.1.3.1.2 Warning signs are posted outside the removal work areas.

3.1.3.1.3 All surfaces which are not possible to clean are sealed with polyethylene sheeting and tape.

3.1.3.1.4 Arrangements have been made for waste disposal, the landfill site operator has been contacted and the storage bin is on site.

3.1.3.1.5 Tools equipment and materials are on hand and in the work area.

3.1.3.1.6 Facilities for the washing of hands and face are available for workers leaving the work area.

- 3.1.3.2 Before beginning work remove visible dust from surfaces in the work area where dust is likely to be disturbed during the course of work. Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate. Do not use compressed air to clean up or remove dust from any surface.
- 3.1.3.3 Wet materials containing asbestos to be cut, ground, abraded, drilled, or otherwise disturbed with amended water. Use a garden-type low-velocity fine mist sprayer. Perform work in a manner to reduce dust creation to the lowest levels practicable. Spray asbestos material repeatedly during the work process to minimize asbestos fibre release.
- 3.1.3.4 Remove material in sections as intact as possible.
- 3.1.3.5 Frequently during the work and immediately after completion of the work, clean up dust and waste containing asbestos using a HEPA vacuum or by damp wiping.
- 3.1.4 Final Clean
- 3.1.4.1 When removal is complete, clean the entire work area with HEPA vacuuming and wet wiping.
- 3.1.4.2 The work area shall be deemed clean when there is no visible residue, dirt, film, stain, or discolouration resulting from either asbestos removal or cleaning activities.
- 3.1.4.3 After completion of the initial cleaning, spray sealant on all surfaces in the work area, including, but not limited to:
 - 3.1.4.3.1 Where asbestos material has been removed.
 - 3.1.4.3.2 Polyethylene sheeting used on walls, floors, and ceilings.
 - 3.1.4.4 Sealant should be sprayed using a garden reservoir type low-velocity fine mist sprayer. The sprayer cannot be used if the nozzle is partially obstructed, or if a uniform fine mist spray cannot be obtained.
- 3.1.4.5 After the area is declared clean and approval to proceed has been received:
 - 3.1.4.5.1 Dismantle boundaries and isolate barriers as asbestos waste. Drop sheets shall be wetted and folded to contain dust and then placed in waste bags.
 - 3.1.4.5.2 Immediately before their removal from the work area, and disposal, clean each filled labelled waste bag using damp cloths or a HEPA vacuum and place it in a second clean clear polyethylene waste bag.
 - 3.1.4.5.3 Dispose of waste as per procedures specified in subsection 2.6 Waste Transport and Disposal.
- 3.1.4.6 Repair or replace objects damaged in the course of the work. Re-establish objects moved to temporary locations during the work, in their proper positions. Re-secure mounted objects removed in the course of the work in their former positions.

The End

APPENDIX G - DRAWINGS

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON., L6S 3J8

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05
1	ISSUED FOR TENDER	2024-04-18

LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE
R000	TITLE PAGE
R100	SITE PLAN
R300	NORTH AND EAST ELEVATIONS
R301	WEST AND SOUTH ELEVATIONS
R302	PARTIAL ELEVATIONS
R303	COURTYARD ELEVATIONS
R304	ROOF ELEVATIONS
R500	TYPICAL DETAILS
R501	FLASHING AND SOFFIT DETAILS
R502	DETAILS
R600	PHOTOGRAPHS
R601	PHOTOGRAPHS

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON., L6S 3J8

Designed By:	H.S. / T.P.	Scale:	AS NOTED
Drawn By:	S.C.	Date:	2023-12-15

Drawing Title

TITLE PAGE

Drawing Number

R000

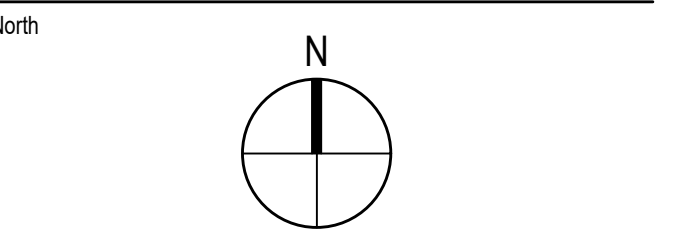
No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

WILLIAMS PARKWAY

BOLD LINE INDICATES BUILDING PERIMETER
 EXTERIOR WALL SCOPE AREA. REFER TO
 R304 FOR ROOF WALLS SCOPE

BUILDING ADDITION
 NOT PART OF SCOPE

CENTRAL
 COURTYARD



Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

Drawing Title

SITE PLAN

Drawing Number

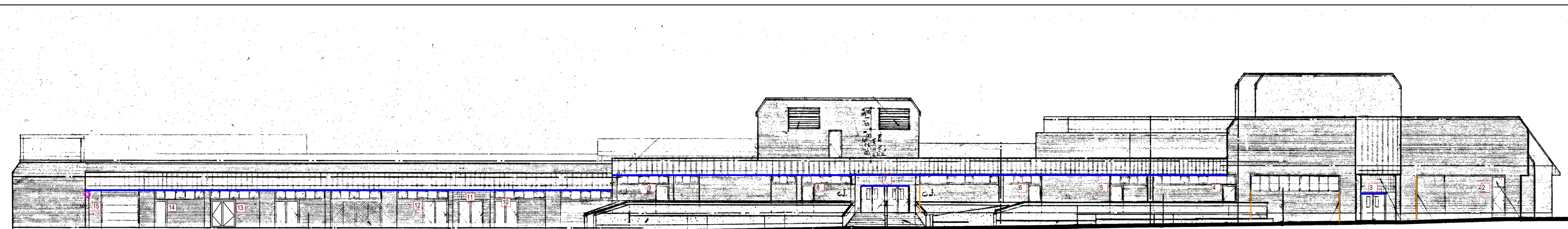
R100

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

LEGEND	
	NEW METAL DRIP FLASHING
	MASONRY CONTROL JOINT SEALANT REPLACEMENT
	SOFFIT PANEL REPLACEMENT
	FOUNDATION WALL PARGING REPAIR



1 NORTH ELEVATION
SCALE: N.T.S.



2 EAST ELEVATION
SCALE: N.T.S.

- | UNIT RATE REPAIRS: | |
|--------------------|---|
| 1. | CONTRACTOR IS COMPLETELY AND SOLELY RESPONSIBLE FOR TRACKING REPAIR QUANTITIES TO ENSURE THEY DO NOT EXCEED BID FORM QUANTITIES WITHOUT WRITTEN PERMISSION BY THE CONSULTANT. |
| 2. | CONTRACTOR TO PROVIDE BI-WEEKLY QUANTITY UPDATES TO CONSULTANT. |
| 3. | SEE SPECIFICATIONS FOR MORE INFORMATION REGARDING UNIT RATE QUANTITIES. |
-
- | GENERAL NOTES: | |
|----------------|--|
| 1. | READ DRAWINGS IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS. |
| 2. | THIS DRAWING IS FOR CONTRACTOR INFORMATION AND COORDINATION PURPOSES ONLY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING ALL ON-SITE DIMENSIONS AND CONDITIONS PRIOR TO TENDER CLOSE. ANY VARIATIONS ARE TO BE REPORTED TO THE CONSULTANT AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH WORK. |
| 3. | EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME THE DRAWINGS WERE PREPARED. CONTRACTOR IS RESPONSIBLE FOR MARKING BRICK REPLACEMENT AND MORTAR REPOINTING REPAIR LOCATIONS AND GETTING APPROVAL FROM CONSULTANT PRIOR TO PROCEEDING WITH ANY REPAIRS. |
| 4. | NO ADDITIONAL COSTS DUE TO CONTRACTOR OMISSIONS WILL BE CONSIDERED AFTER TENDER CLOSE. |
| 5. | ALL REPAIR SIZES ARE APPROXIMATE. CONTRACTOR TO SITE VERIFY EXACT MEASUREMENTS. |

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON., L6S 3J8

Designed By:	H.S. / T.P.	Scale:	AS NOTED
Drawn By:	S.C.	Date:	2023-12-15

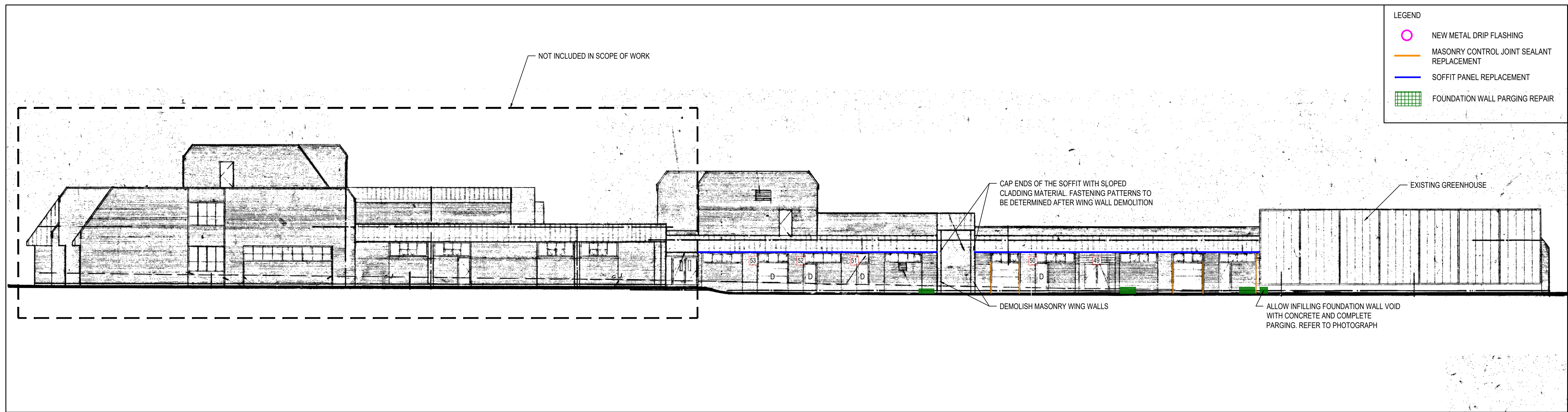
Drawing Title

NORTH AND EAST ELEVATIONS

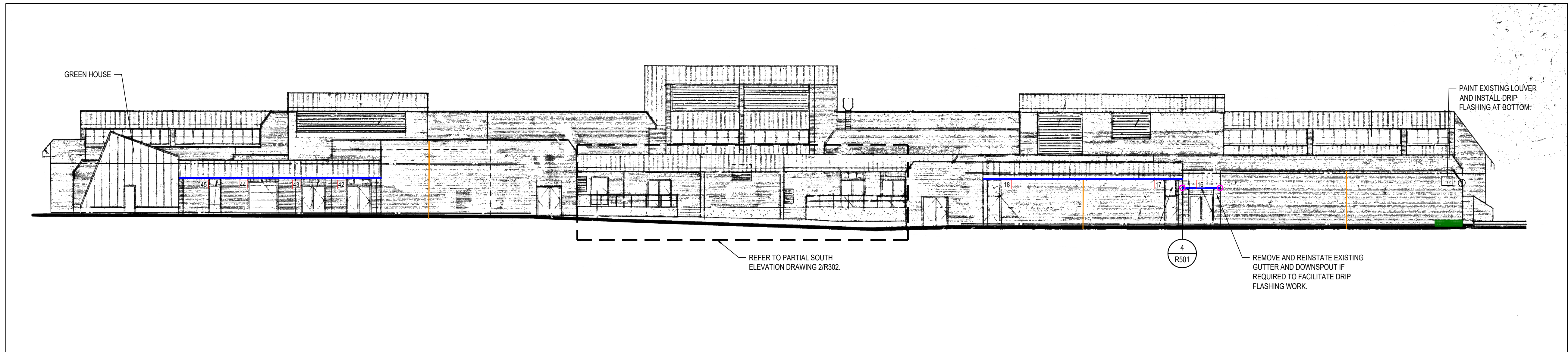
Drawing Number

R300

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05



1 WEST ELEVATION
R301 SCALE: N.T.S.



2 SOUTH ELEVATION
R301 SCALE: N.T.S.

UNIT RATE REPAIRS:

1. CONTRACTOR IS COMPLETELY AND SOLELY RESPONSIBLE FOR TRACKING REPAIR QUANTITIES TO ENSURE THEY DO NOT EXCEED BID FORM QUANTITIES WITHOUT WRITTEN PERMISSION BY THE CONSULTANT.
2. CONTRACTOR TO PROVIDE BI-WEEKLY QUANTITY UPDATES TO CONSULTANT.
3. SEE SPECIFICATIONS FOR MORE INFORMATION REGARDING UNIT RATE QUANTITIES.

GENERAL NOTES:

1. READ DRAWINGS IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
2. THIS DRAWING IS FOR CONTRACTOR INFORMATION AND COORDINATION PURPOSES ONLY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING ALL ON-SITE DIMENSIONS AND CONDITIONS PRIOR TO TENDER CLOSE. ANY VARIATIONS ARE TO BE REPORTED TO THE CONSULTANT AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH WORK.
3. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME THE DRAWINGS WERE PREPARED. CONTRACTOR IS RESPONSIBLE FOR MARKING BRICK REPLACEMENT AND MORTAR REPOINTING REPAIR LOCATIONS AND GETTING APPROVAL FROM CONSULTANT PRIOR TO PROCEEDING WITH ANY REPAIRS.
4. NO ADDITIONAL COSTS DUE TO CONTRACTOR OMISSIONS WILL BE CONSIDERED AFTER TENDER CLOSE.
5. ALL REPAIR SIZES ARE APPROXIMATE. CONTRACTOR TO SITE VERIFY EXACT MEASUREMENTS.

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

Drawing Title

WEST AND SOUTH ELEVATIONS

Drawing Number

R301

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

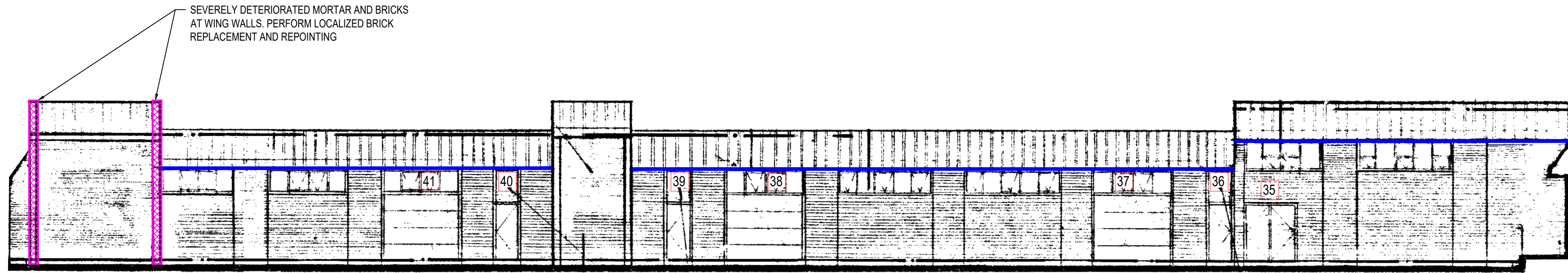
- LEGEND**
-  NEW METAL DRIP FLASHING
 -  MASONRY CONTROL JOINT SEALANT REPLACEMENT
 -  SOFFIT PANEL REPLACEMENT
 -  FOUNDATION WALL PARING REPAIR

GENERAL NOTES:

1. READ DRAWINGS IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
2. THIS DRAWING IS FOR CONTRACTOR INFORMATION AND COORDINATION PURPOSES ONLY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING ALL ON-SITE DIMENSIONS AND CONDITIONS PRIOR TO TENDER CLOSE. ANY VARIATIONS ARE TO BE REPORTED TO THE CONSULTANT AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH WORK.
3. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME THE DRAWINGS WERE PREPARED. CONTRACTOR IS RESPONSIBLE FOR MARKING BRICK REPLACEMENT AND MORTAR REPOINTING REPAIR LOCATIONS AND GETTING APPROVAL FROM CONSULTANT PRIOR TO PROCEEDING WITH ANY REPAIRS.
4. NO ADDITIONAL COSTS DUE TO CONTRACTOR OMISSIONS WILL BE CONSIDERED AFTER TENDER CLOSE.
5. ALL REPAIR SIZES ARE APPROXIMATE. CONTRACTOR TO SITE VERIFY EXACT MEASUREMENTS.

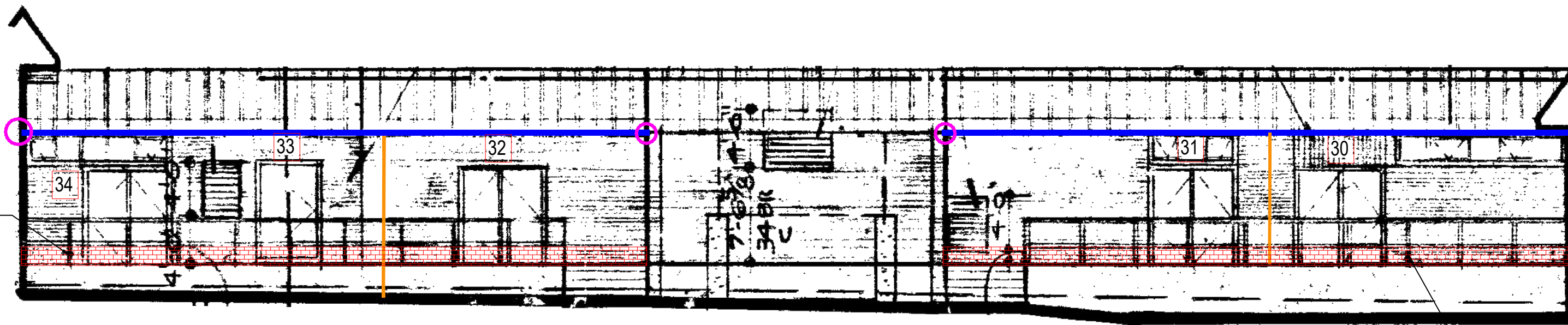
UNIT RATE REPAIRS:

1. CONTRACTOR IS COMPLETELY AND SOLELY RESPONSIBLE FOR TRACKING REPAIR QUANTITIES TO ENSURE THEY DO NOT EXCEED BID FORM QUANTITIES WITHOUT WRITTEN PERMISSION BY THE CONSULTANT.
2. CONTRACTOR TO PROVIDE BI-WEEKLY QUANTITY UPDATES TO CONSULTANT.
3. SEE SPECIFICATIONS FOR MORE INFORMATION REGARDING UNIT RATE QUANTITIES.



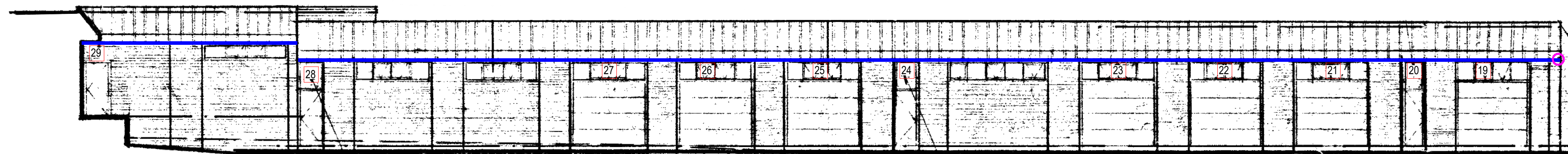
1 PARTIAL EAST ELEVATION
SCALE: NTS

AT BOTTOM 6 COURSES OF BRICK, COMPLETE LOCALIZED BRICK REPLACEMENT AND 100% REPOINTING.



AT BOTTOM 6 COURSES OF BRICK, COMPLETE LOCALIZED BRICK REPLACEMENT AND 100% REPOINTING.

2 PARTIAL SOUTH ELEVATION
SCALE: NTS



3 PARTIAL WEST ELEVATION
SCALE: NTS

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

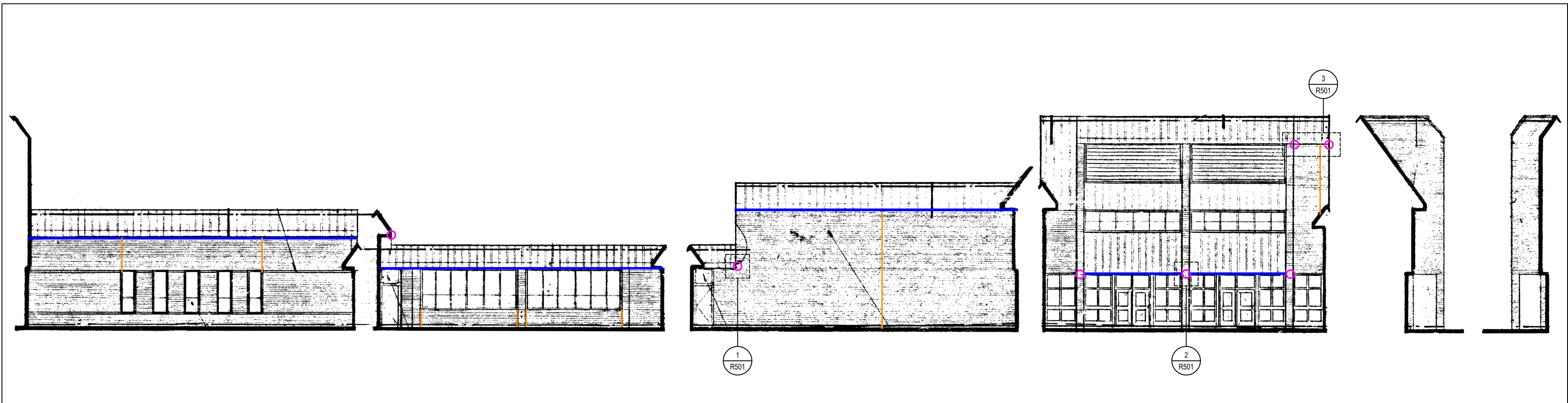
Drawing Title

PARTIAL ELEVATIONS

Drawing Number

R302

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05



1 CENTRAL COURTYARD ELEVATIONS
 R303 SCALE: NTS

LEGEND

	NEW METAL DRIP FLASHING
	MASONRY CONTROL JOINT SEALANT REPLACEMENT
	SOFFIT PANEL REPLACEMENT
	FOUNDATION WALL PARGING REPAIR

- GENERAL NOTES:
1. READ DRAWINGS IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
 2. THIS DRAWING IS FOR CONTRACTOR INFORMATION AND COORDINATION PURPOSES ONLY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING ALL ON-SITE DIMENSIONS AND CONDITIONS PRIOR TO TENDER CLOSE. ANY VARIATIONS ARE TO BE REPORTED TO THE CONSULTANT AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH WORK.
 3. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME THE DRAWINGS WERE PREPARED. CONTRACTOR IS RESPONSIBLE FOR MARKING BRICK REPLACEMENT AND MORTAR REPOINTING REPAIR LOCATIONS AND GETTING APPROVAL FROM CONSULTANT PRIOR TO PROCEEDING WITH ANY REPAIRS.
 4. NO ADDITIONAL COSTS DUE TO CONTRACTOR OMISSIONS WILL BE CONSIDERED AFTER TENDER CLOSE.
 5. ALL REPAIR SIZES ARE APPROXIMATE. CONTRACTOR TO SITE VERIFY EXACT MEASUREMENTS.

- UNIT RATE REPAIRS:
1. CONTRACTOR IS COMPLETELY AND SOLELY RESPONSIBLE FOR TRACKING REPAIR QUANTITIES TO ENSURE THEY DO NOT EXCEED BID FORM QUANTITIES WITHOUT WRITTEN PERMISSION BY THE CONSULTANT.
 2. CONTRACTOR TO PROVIDE BI-WEEKLY QUANTITY UPDATES TO CONSULTANT.
 3. SEE SPECIFICATIONS FOR MORE INFORMATION REGARDING UNIT RATE QUANTITIES.

Project Title:
JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

Drawing Title

COURTYARD ELEVATIONS

Drawing Number
R303



LEGEND

- NEW METAL DRIP FLASHING
- LOCALIZED BRICK REPLACEMENT, RE-POINTING AND SEALANT
- REPLACEMENT SCOPE AREAS (ENTIRE WALL BELOW THE LINE IS CONSIDERED TO BE PART OF THE SCOPE)
- SOFFIT REPLACEMENT SCOPE AREA

- GENERAL NOTES:**
1. READ DRAWINGS IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
 2. THIS DRAWING IS FOR CONTRACTOR INFORMATION AND COORDINATION PURPOSES ONLY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING ALL ON-SITE DIMENSIONS AND CONDITIONS PRIOR TO TENDER CLOSE. ANY VARIATIONS ARE TO BE REPORTED TO THE CONSULTANT AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH WORK.
 3. EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME THE DRAWINGS WERE PREPARED. CONTRACTOR IS RESPONSIBLE FOR MARKING BRICK REPLACEMENT AND MORTAR REPOINTING REPAIR LOCATIONS AND GETTING APPROVAL FROM CONSULTANT PRIOR TO PROCEEDING WITH ANY REPAIRS.
 4. NO ADDITIONAL COSTS DUE TO CONTRACTOR OMISSIONS WILL BE CONSIDERED AFTER TENDER CLOSE.
 5. ALL REPAIR SIZES ARE APPROXIMATE. CONTRACTOR TO SITE VERIFY EXACT MEASUREMENTS.
 6. RED SOLID LINE REPRESENTS PERIMETER WALL UNDER SCOPE OF WORK FOR LOCALIZED BRICK, MORTAR AND MASONRY TIE REPLACEMENT.

Professional Seal

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

Project Title:
JUDITH NYMAN PUBLIC SCHOOL
EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By:	H.S. / T.P.	Scale:	AS NOTED
Drawn By:	S.C.	Date:	2023-12-15

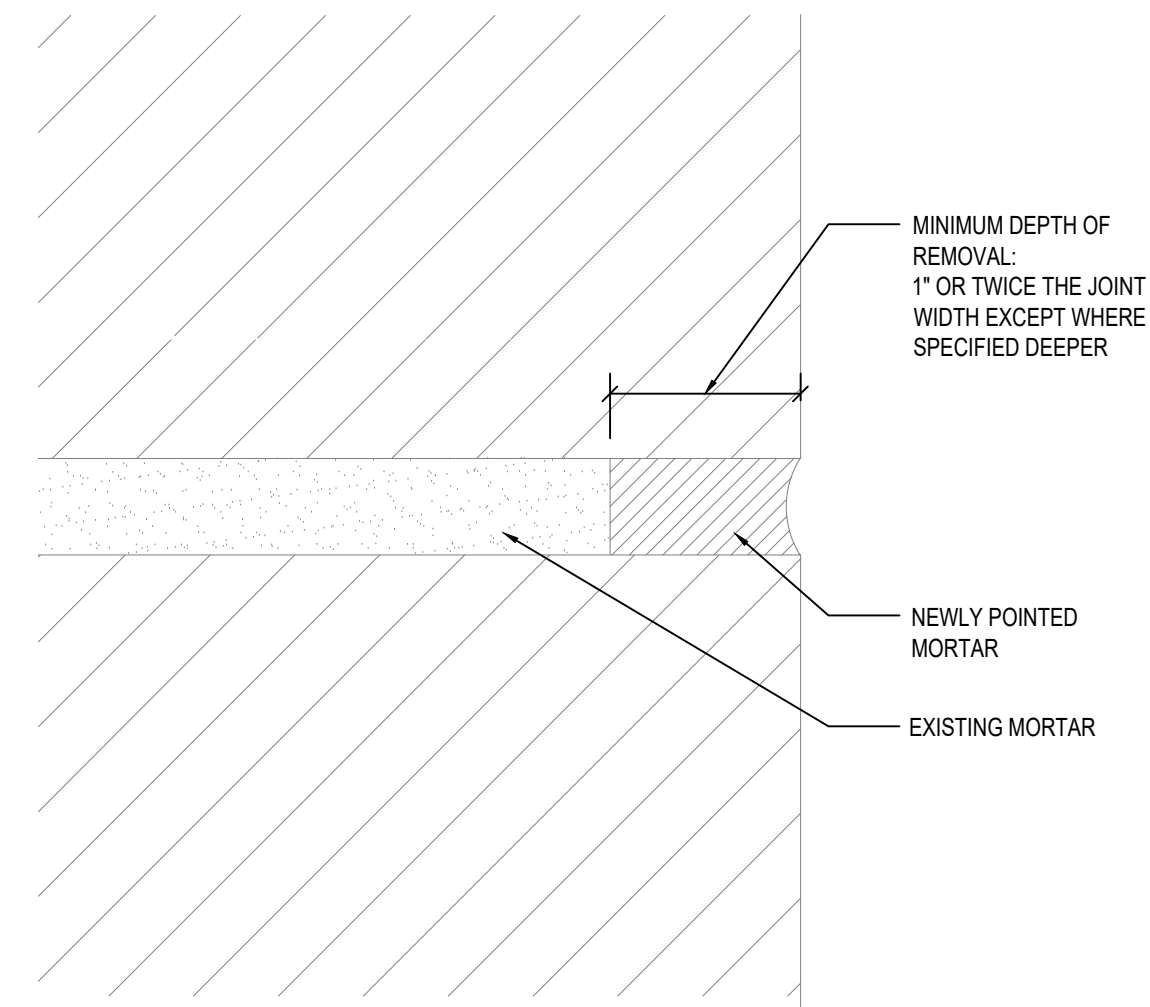
Drawing Title

ROOF ELEVATIONS

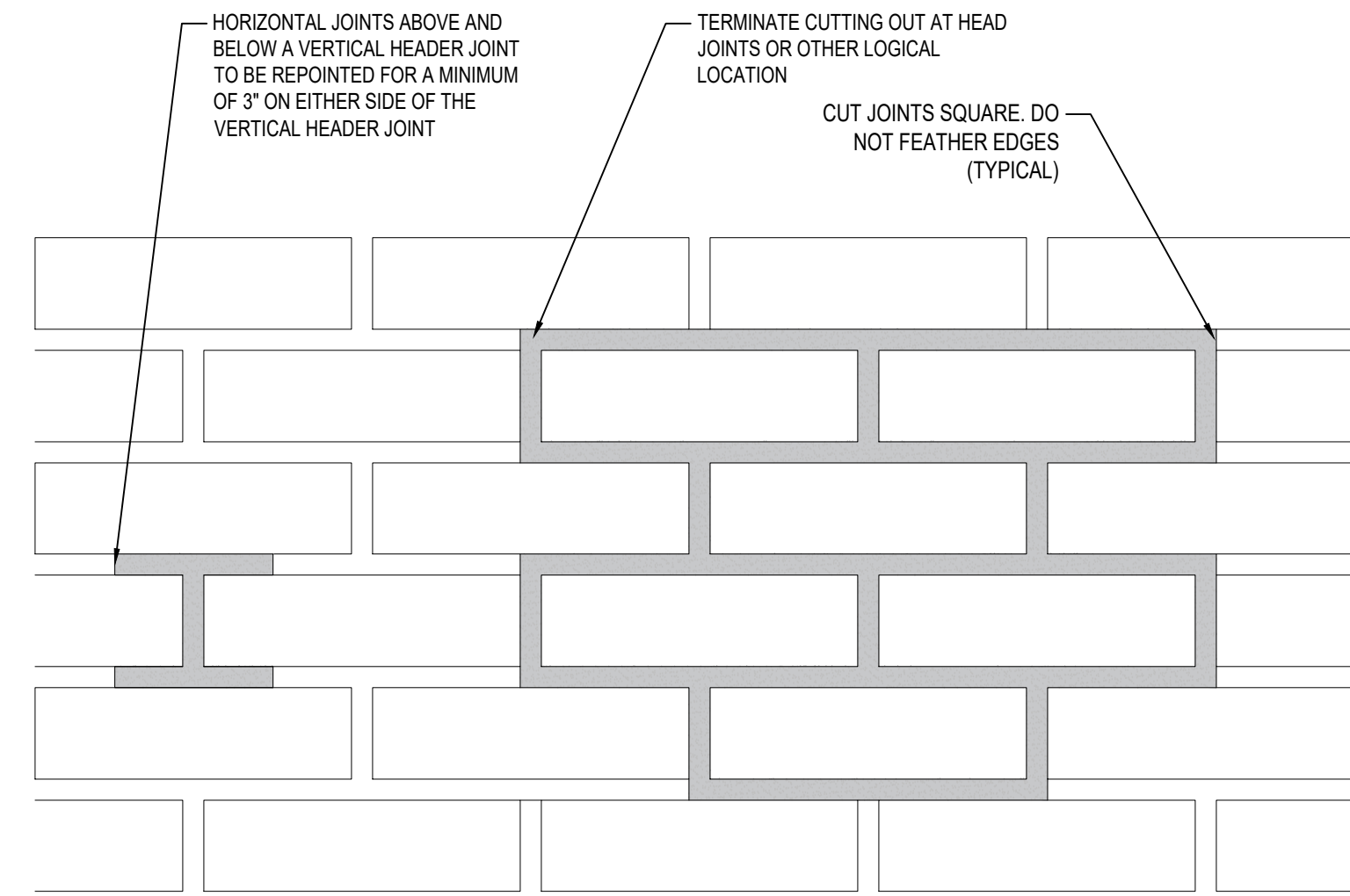
Drawing Number
R304

2024-05-29 (12:47:50 PM)

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

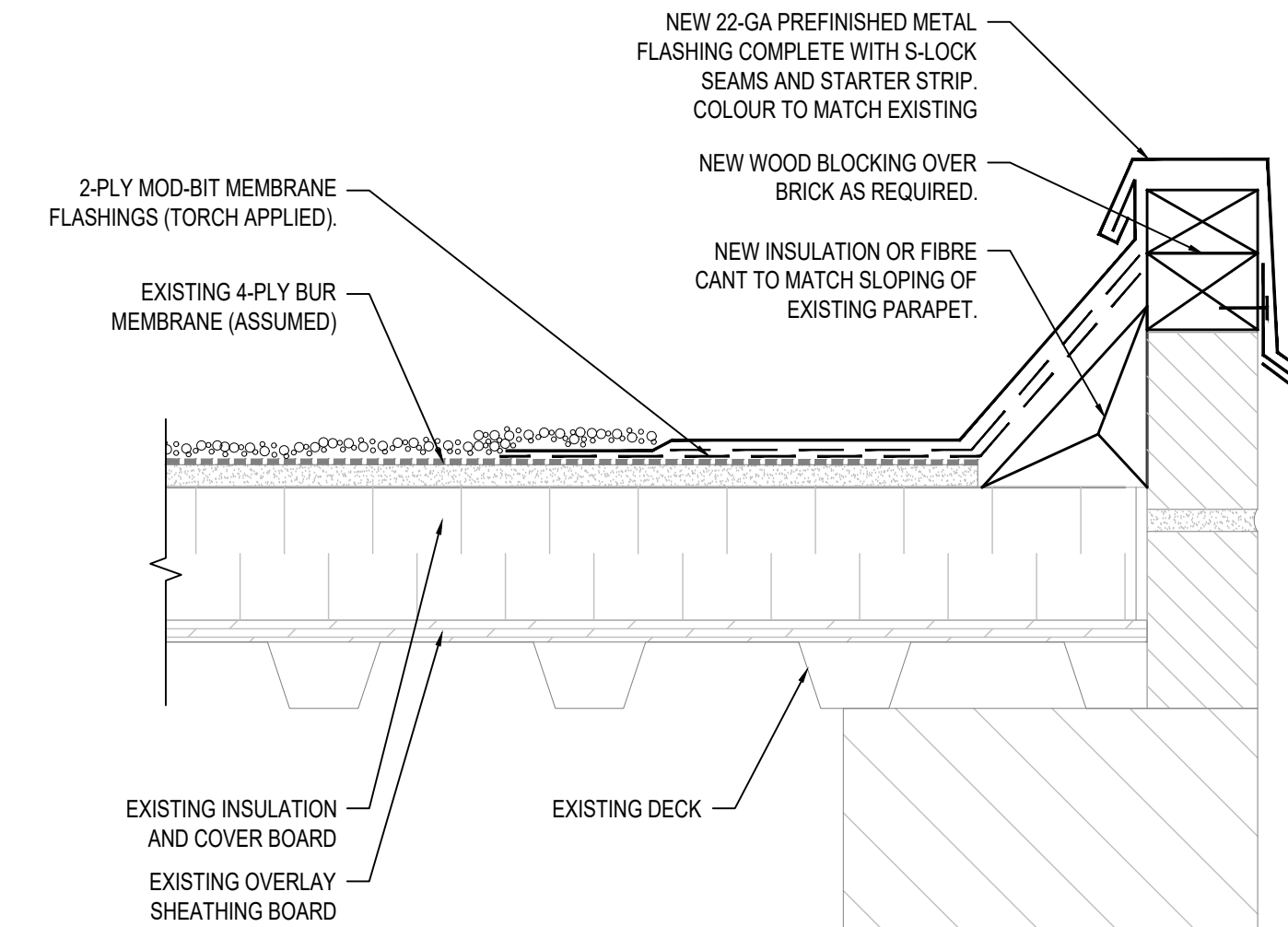


1 TYPICAL MORTAR REPOINTING
R500 SCALE: NTS

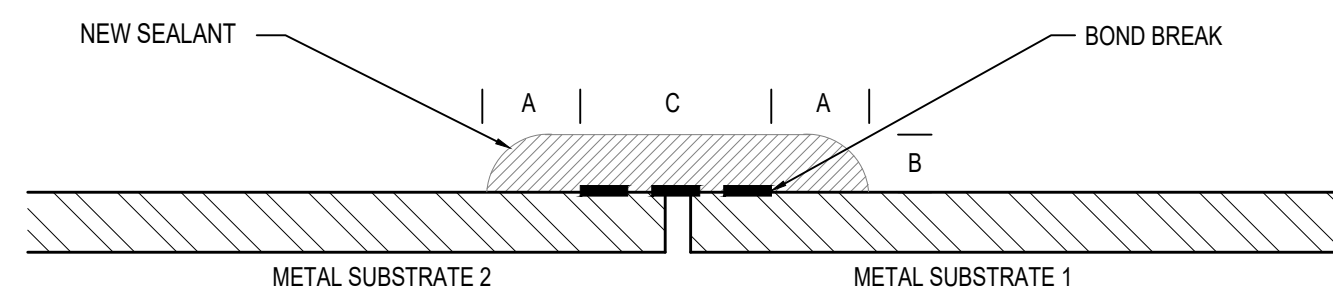


NOTE:
CENTRE CUT HORIZONTAL JOINTS ONLY. DURING CUTTING OUT, USE HAND TOOLS TO REMOVE REMAINING MORTAR.

2 TYPICAL BRICK MASONRY REPOINTING
R500 SCALE: NTS

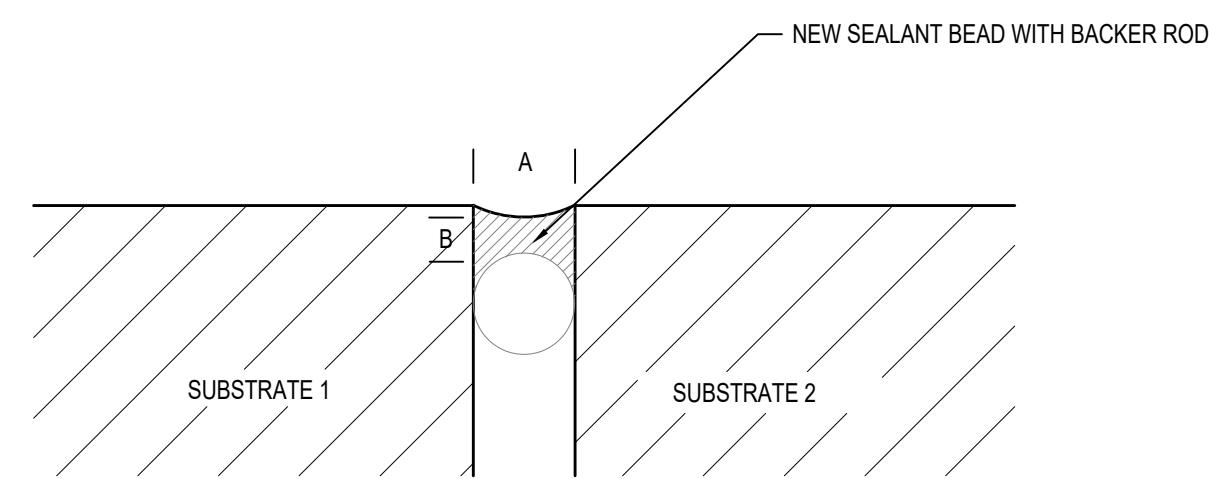


3 PARAPET DETAIL AT DEMOLISHED DUST COLLECTOR WING WALLS
R500 SCALE: NTS



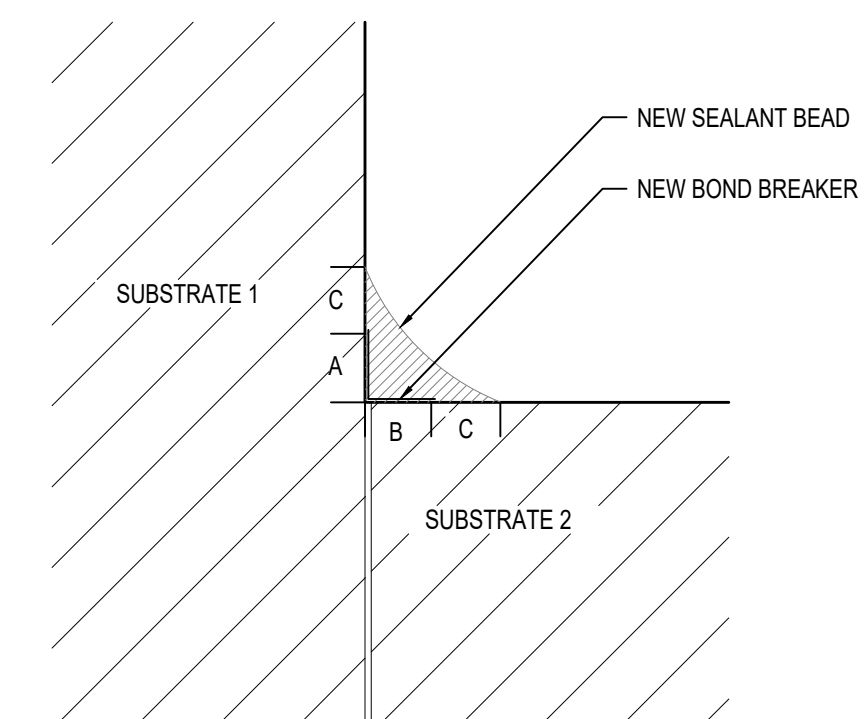
- NOTES:
- DIMENSIONS A AND B MUST BE MINIMUM $\frac{1}{4}"$ (6mm)
 - DIMENSION C MUST BE MIN $\frac{1}{2}"$ (12mm) CENTERED ON JOINT
 - CLEAN SUBSTRATES WITH SOLVENT WIPE (2 CLOTH METHOD)
 - PRIME PER MANUFACTURER'S REQUIREMENTS

4 TYPICAL METAL TO METAL SEALANT DETAIL
R500 SCALE: N.T.S.



- NOTES:
- DIMENSIONS A AND B MUST BE AT LEAST $\frac{1}{4}"$
 - RATIO OF A:B MUST BE 2:1 MINIMUM

5 TYPICAL SEALANT BUTT JOINT DETAIL
R500 SCALE: N.T.S.



- NOTES:
- DIMENSIONS A, B, AND C MUST BE AT LEAST $\frac{1}{4}"$

6 TYPICAL SEALANT FILLET BEAD DETAIL
R500 SCALE: N.T.S.

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

Drawing Title

TYPICAL DETAILS

Drawing Number

R500

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05



1 COURTYARD CORNER FLASHING
 R501



2 COURTYARD ENTRANCE FLASHING
 R501



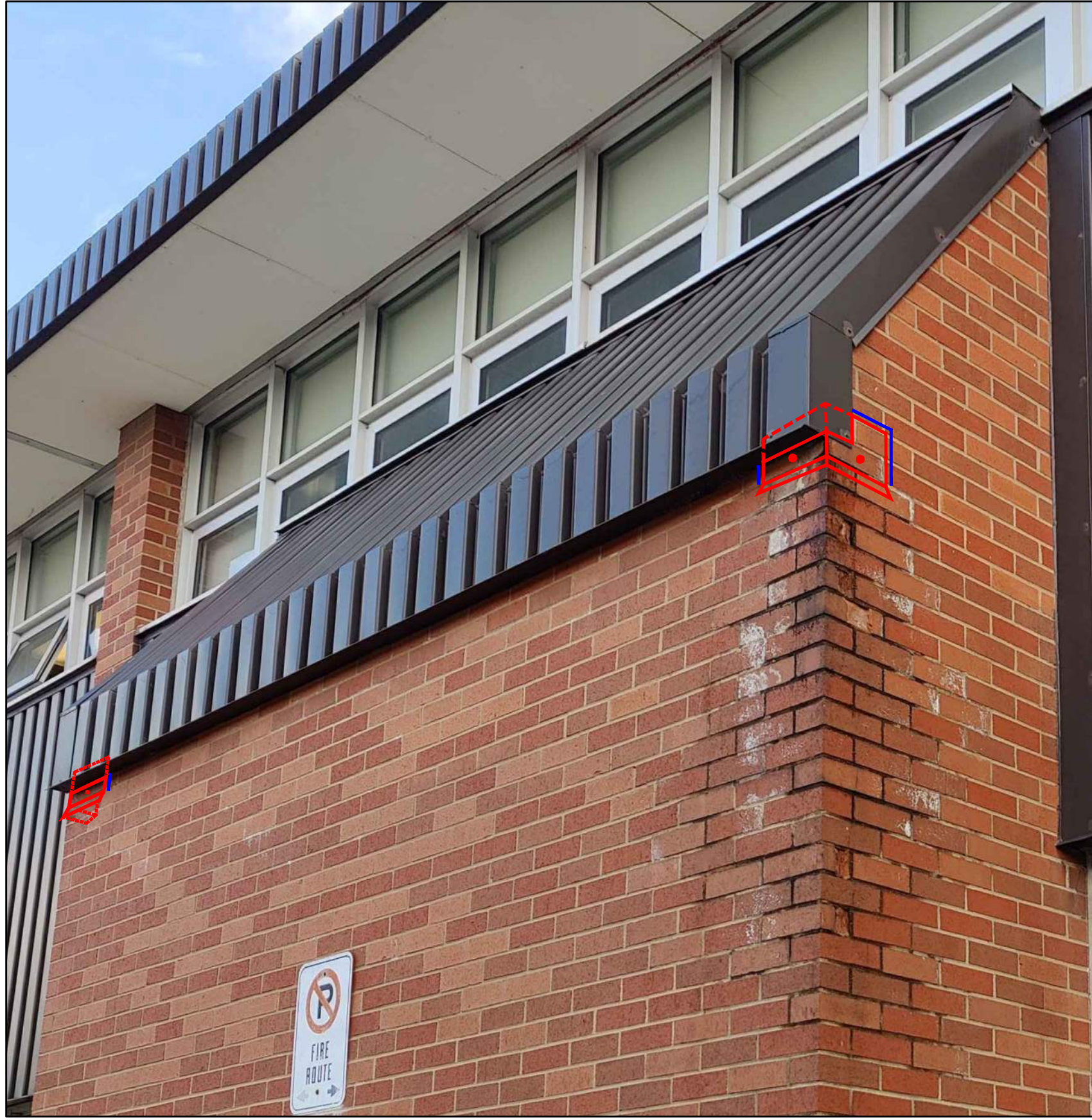
3 COURTYARD HIGH WALL FLASHING
 R501



4 SOUTH ELEVATION ENTRANCE 16 - FLASHING
 R501



5 SOUTH-EAST CORNER FLASHING
 R501



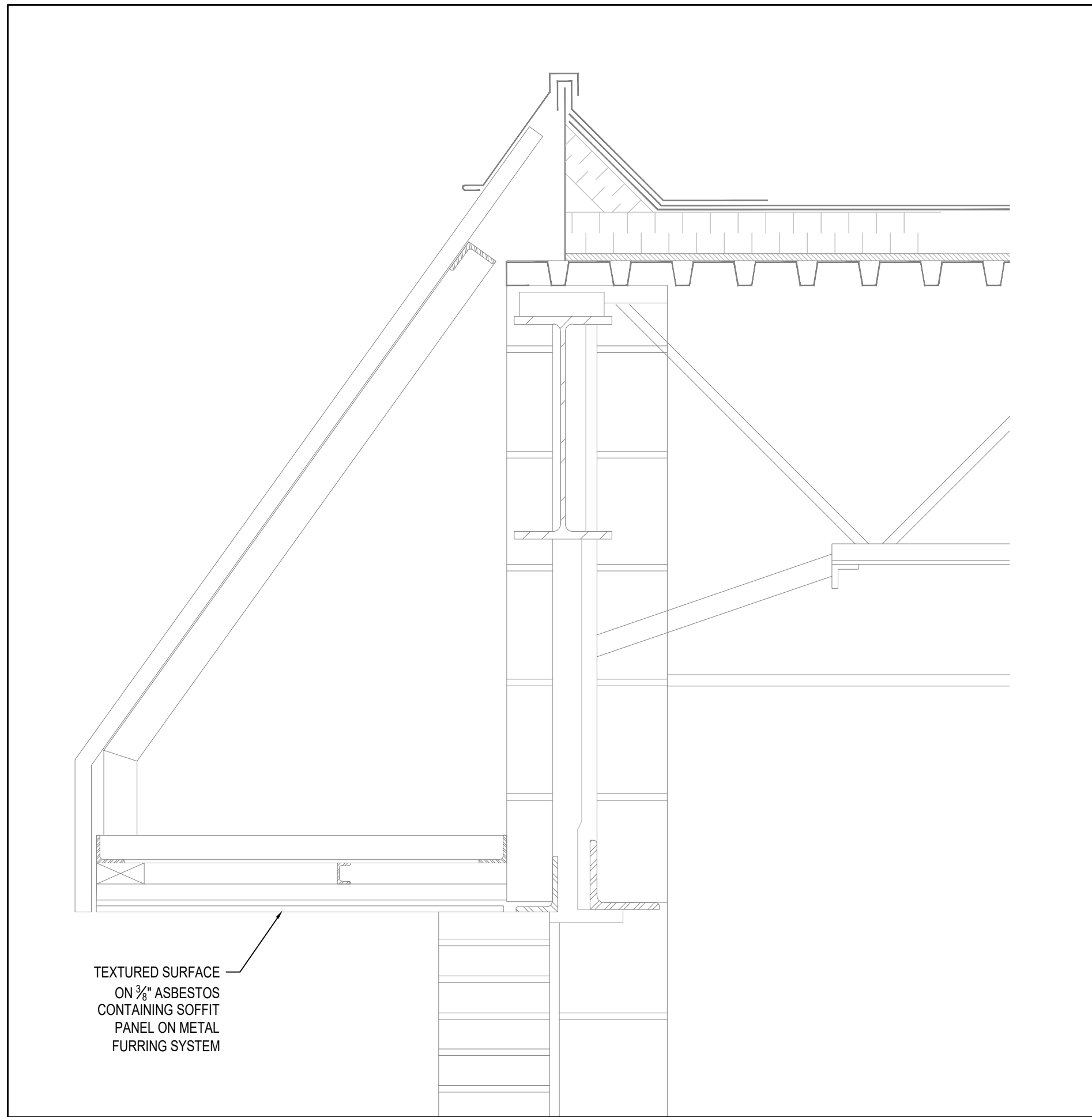
6 NORTH ELEVATION FLASHING
 R501

Project Title:
JUDITH NYMAN PUBLIC SCHOOL
 EXTERIOR WALL AND SOFFIT REPAIRS
 1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8
 Designed By: H.S. / T.P. Scale: AS NOTED
 Drawn By: S.C. Date: 2023-12-15
 Drawing Title

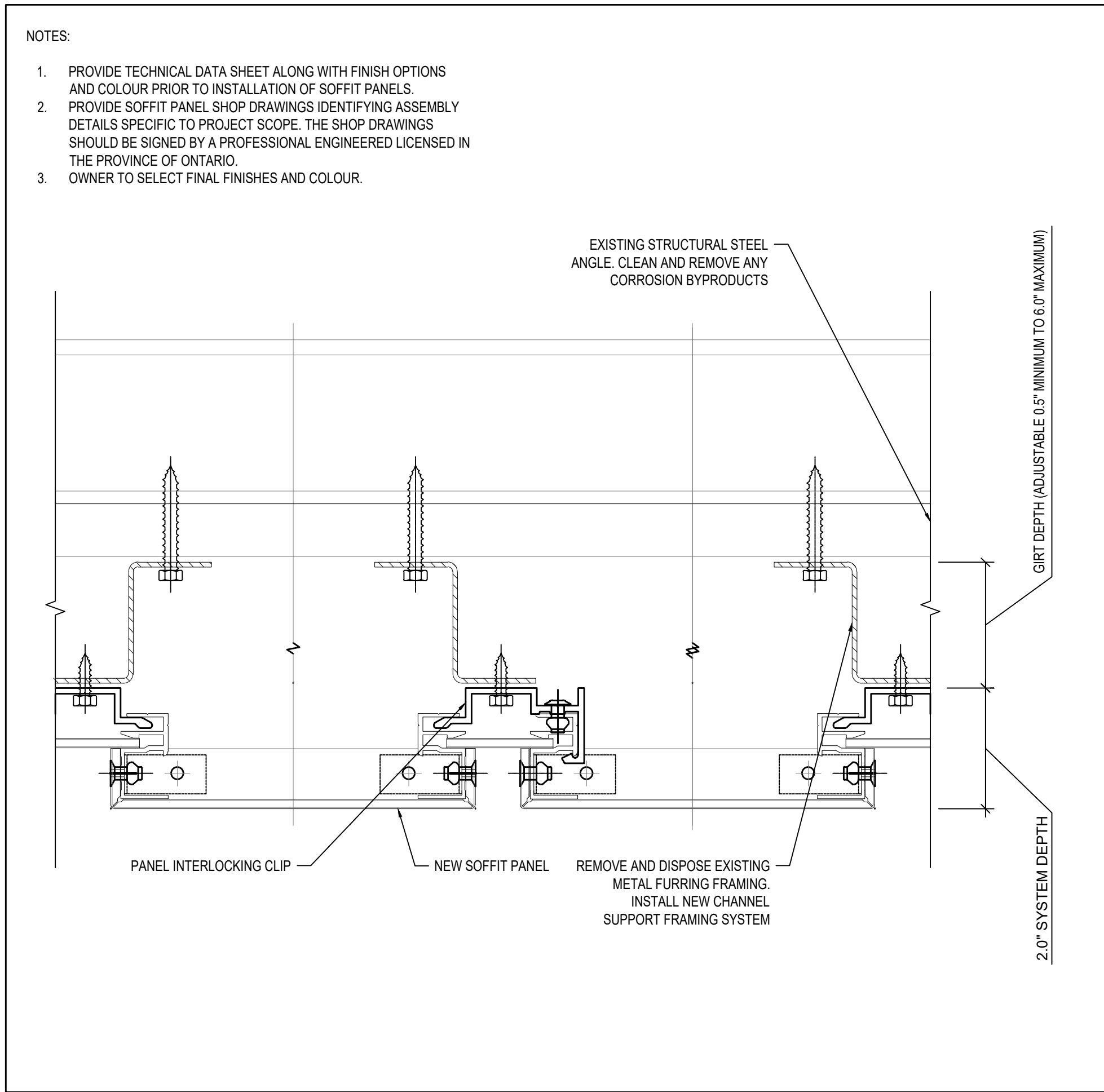
DRIP EDGE FLASHING DETAILS

Drawing Number
R501

2024-05-29 (12:47:42 PM)



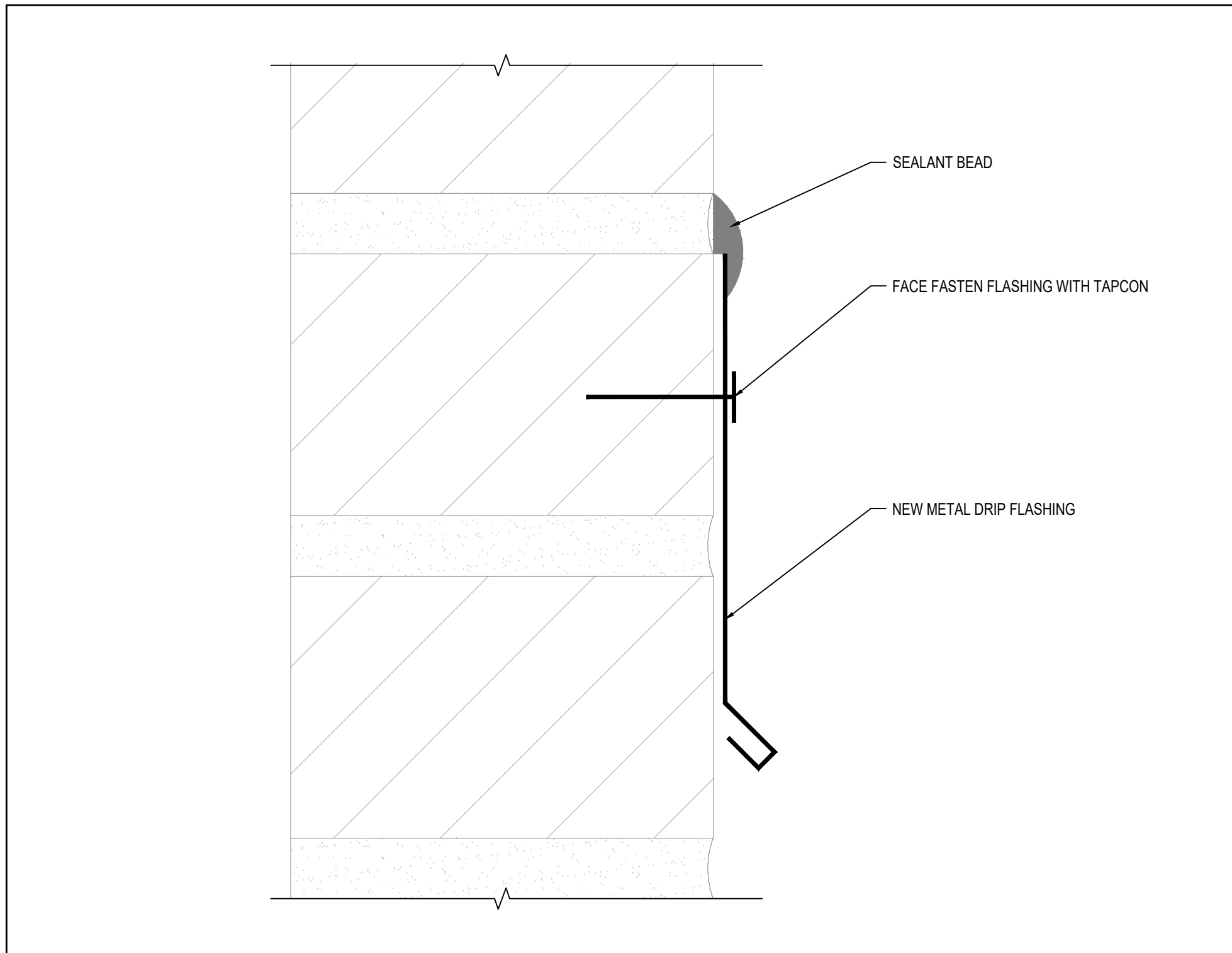
1 EXISTING SOFFIT DETAIL
SCALE: N.T.S.



2 NEW SOFFIT DETAIL
SCALE: N.T.S.



3 EXISTING CANTILEVER STEEL SUPPORT AT NORTH ELVATION
SCALE: N.T.S.



4 METAL DRIP FLASHING DETAIL
SCALE: N.T.S.

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

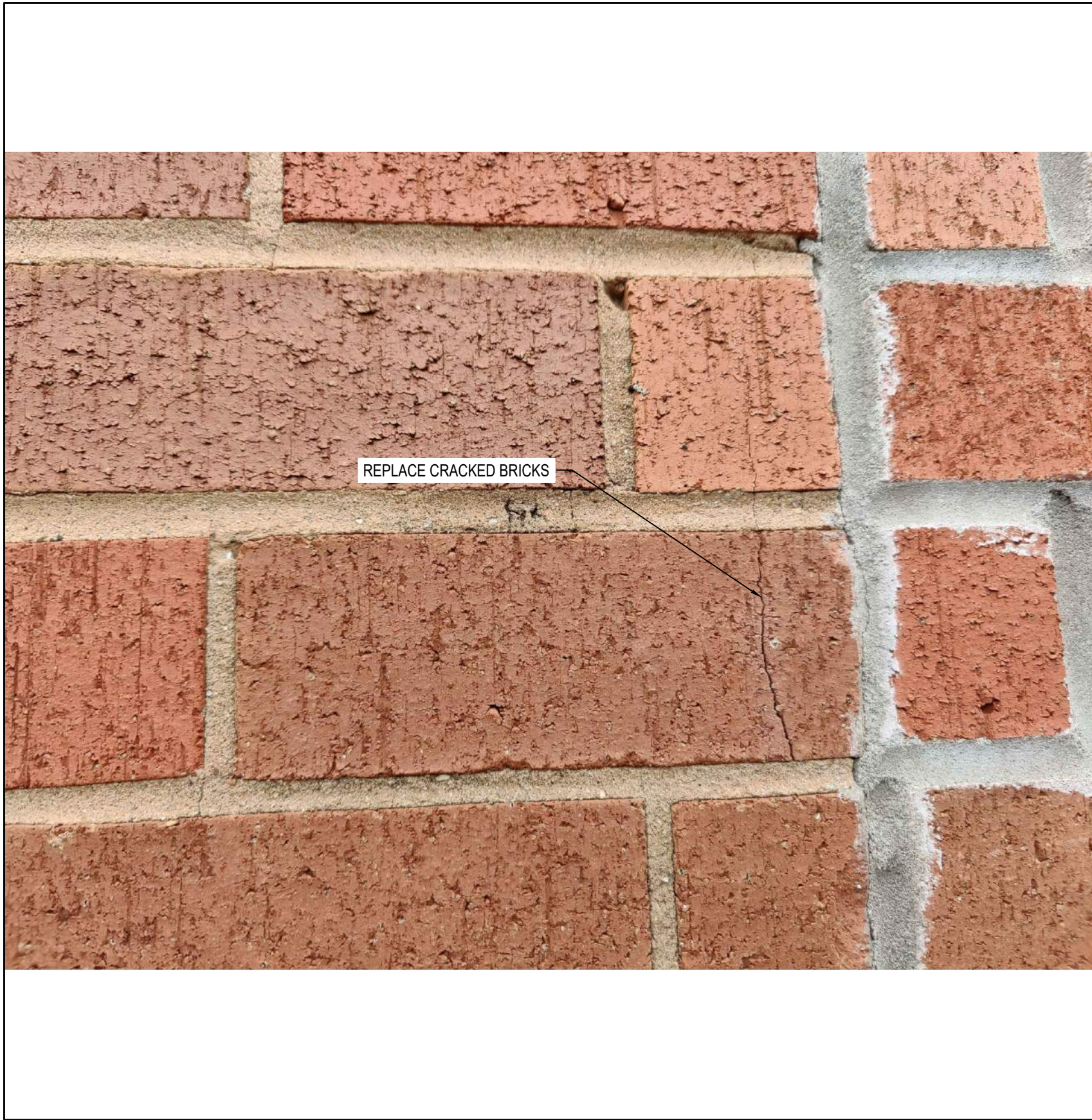
Drawing Title

SOFFIT DETAILS

Drawing Number

R502

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05



1 TYPICAL BRICK REPLACEMENT
R600



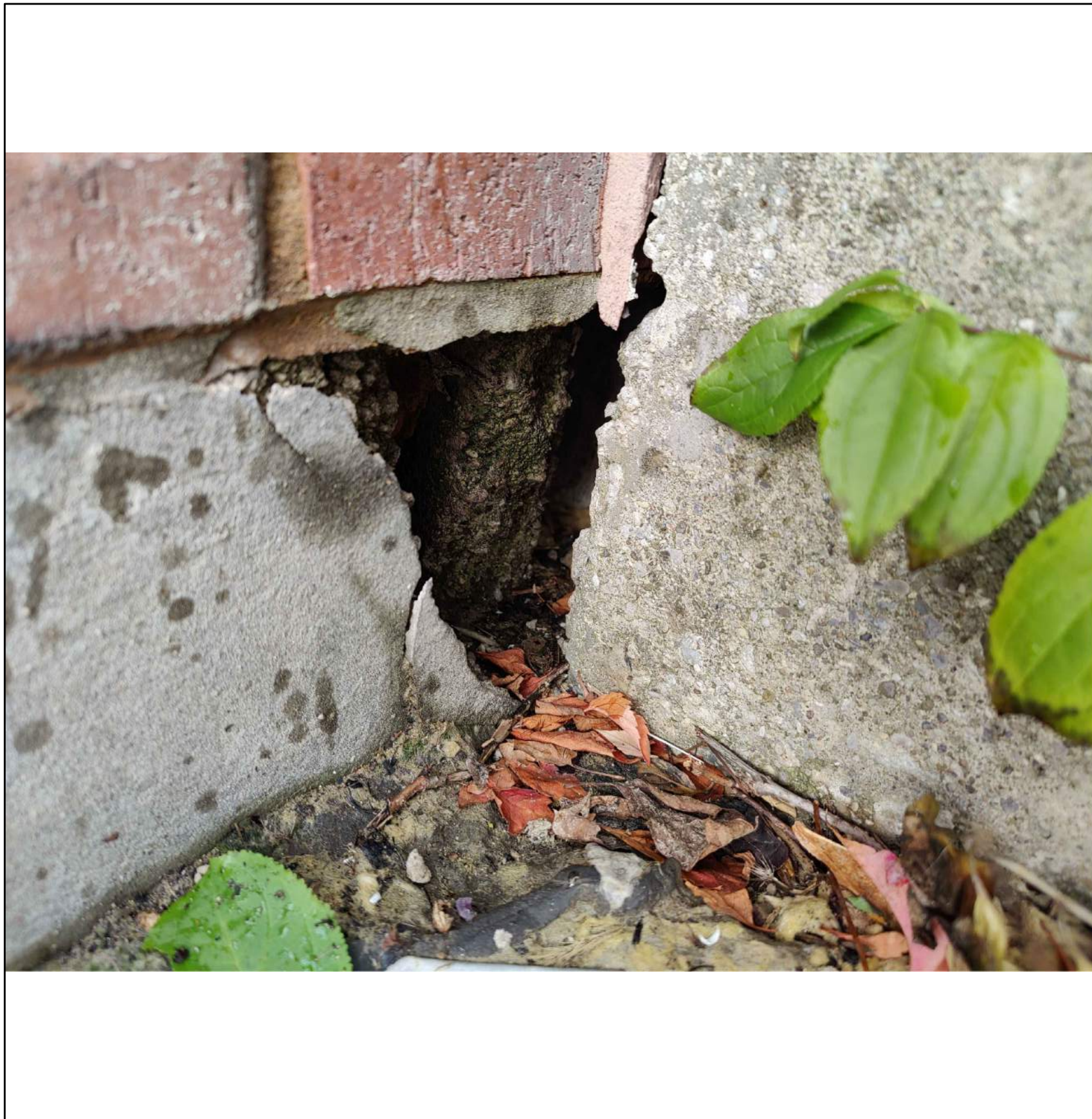
2 DETERIORATED MORTAR JOINT
R600



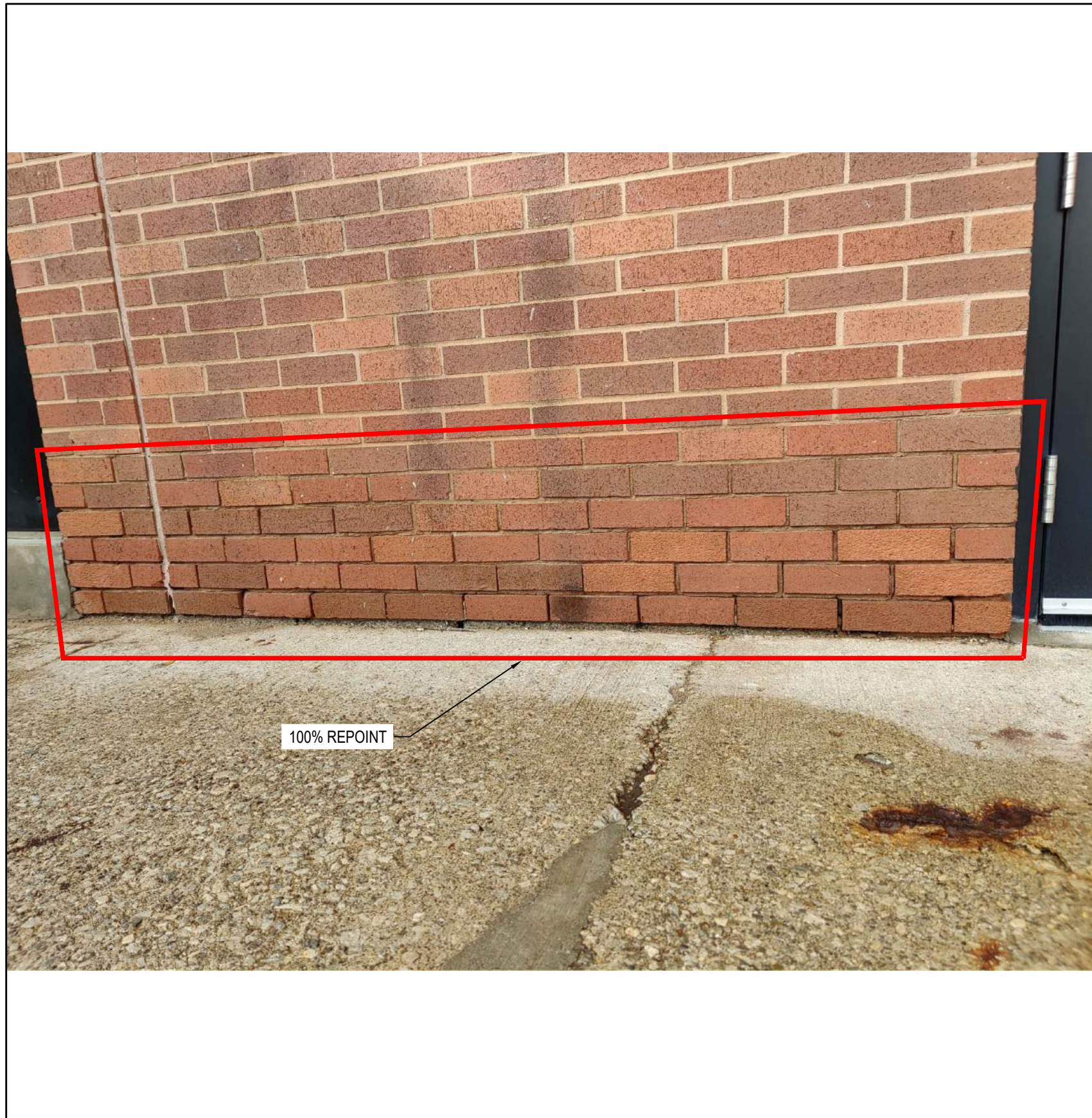
3 FAILED SEALANT JOINT
R600



4 TYPICAL PARGING REPAIR
R600



5 FOUNDATION WALL VOID INFILL AT WEST ELEVATION
R600



6 PARTIAL SOUTH ELEVATION BOTTOM COURSE REPOINTING
R600

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

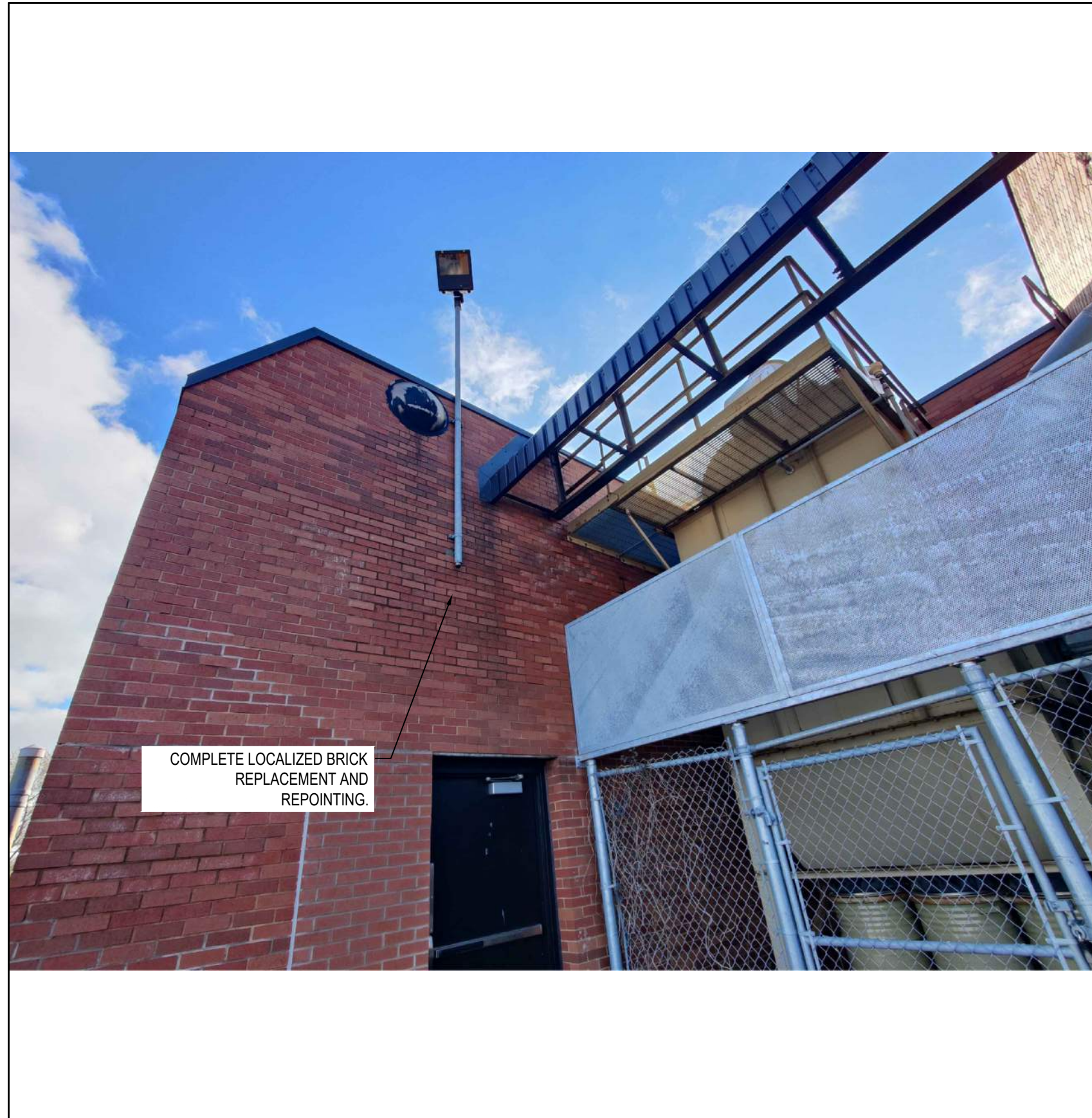
Drawing Title

PHOTOGRAPHS

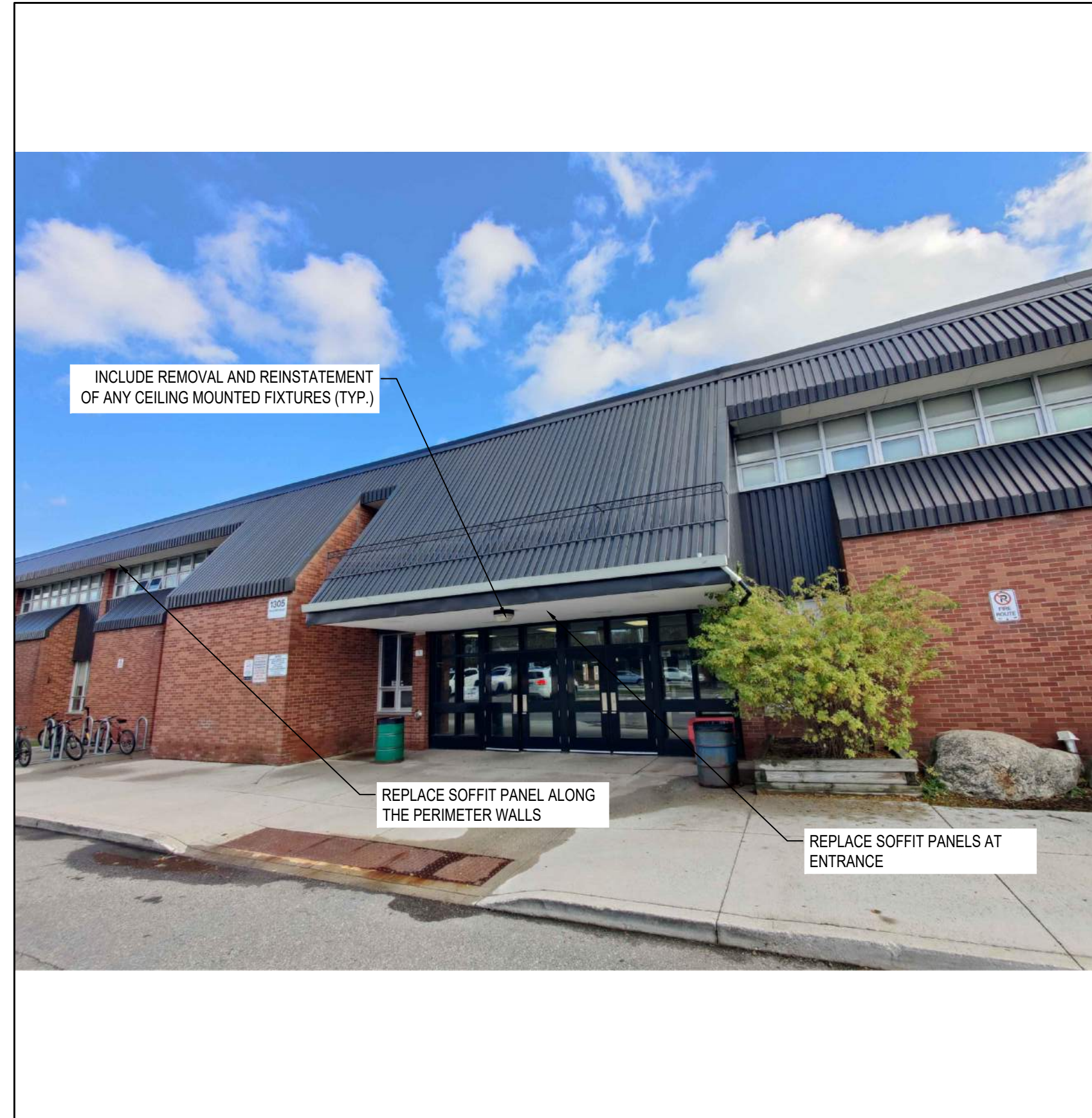
Drawing Number

R600

No.	Issue Description	YYYY-MM-DD
0	ISSUED FOR CLIENT REVIEW	2024-01-05



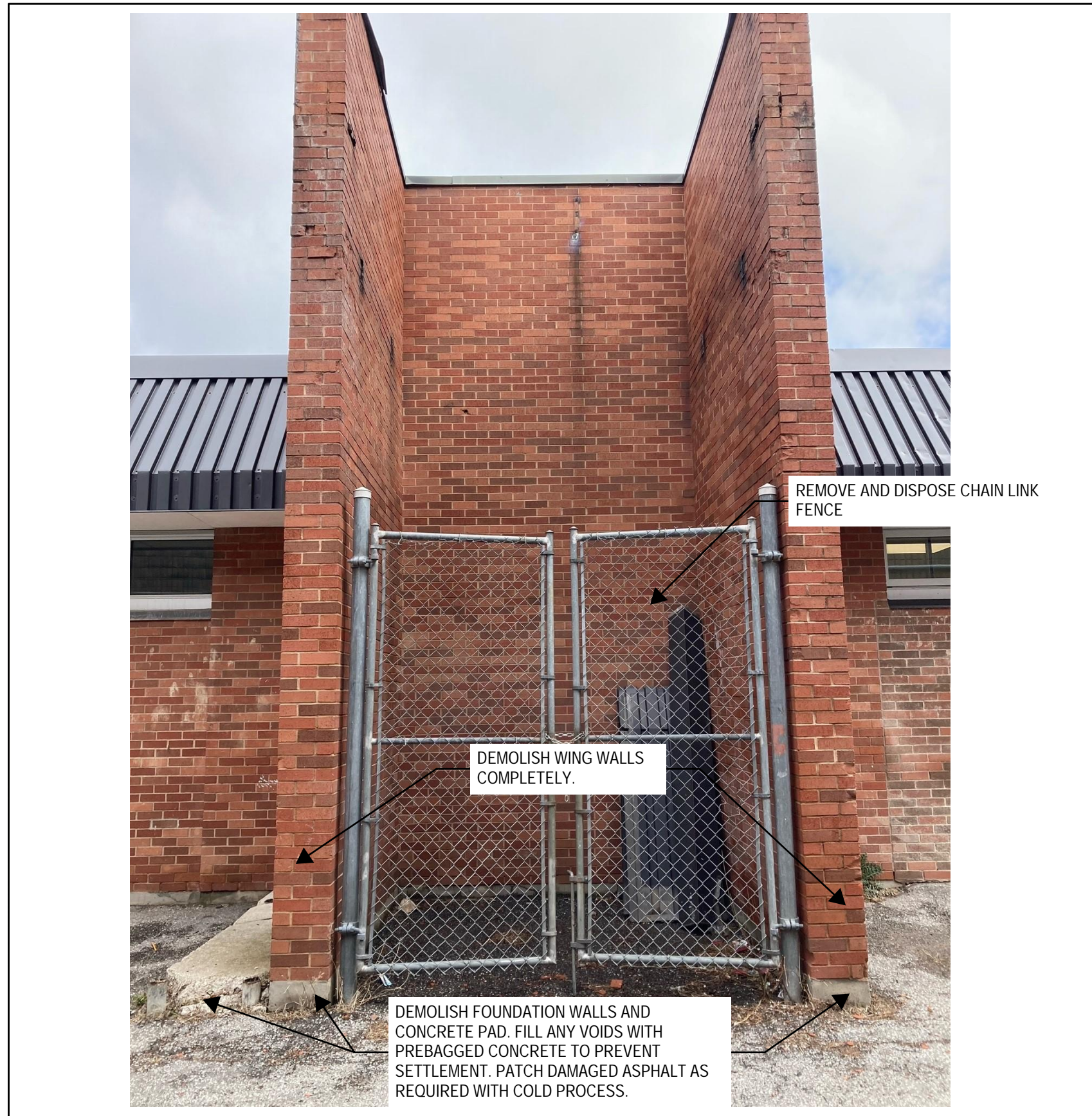
1 PARTIAL EAST ELEVATION - DETERIORATED WING WALL
R601



2 NORTH ELEVATION SOFFIT REPLACEMENT SCOPE
R601



3 EXISTING SOFFIT OPENING
R601



4 WEST ELEVATION - ABANDONED DUST COLLECTOR WING WALLS
R601



5 WEST ELEVATION - DUST COLLECTOR PARAPET FROM ROOF
R601

Project Title:

JUDITH NYMAN PUBLIC SCHOOL

EXTERIOR WALL AND SOFFIT REPAIRS

1305 WILLIAMS PARKWAY, BRAMPTON, ON, L6S 3J8

Designed By: H.S. / T.P. Scale: AS NOTED

Drawn By: S.C. Date: 2023-12-15

Drawing Title

PHOTOGRAPHS

Drawing Number

R601