
Development and Infrastructure Department

REQUEST FOR QUOTATION

Contract # ID-11-2026

Quotations for: Supply and Installation of an HVAC System – Work Yard 3

As Described Herein and Addressed:

Attention Clerk, Ramara Township
By Courier or Drop off
Township of Ramara Administration Building
Box 130, 2297 Highway 12, Brechin, ON L0K 1B0

Please submit completed proposal in person or by mail in a sealed envelope quoting the above quotation number and closing date.

Electronic Submissions will also be accepted and may be forwarded to both clerks@ramara.ca and infrastructure@ramara.ca, and shall include all pages of the tender, as well as all supporting documentation. Please include the Contract ID in the subject line of the email.

BID SUBMISSION DEADLINE

DATE: October 1, 2026

TIME: 10:00 AM Eastern Local Time

QUESTION SUBMISSION DEADLINE:

September 25, 2026

11:00 AM Eastern Local Time

LOCATION: Township of Ramara Administration Building
Box 130, 2297 Highway 12, Brechin, ON L0K 1B0

LATE SUBMISSIONS WILL NOT BE ACCEPTED

The Corporation of the Township of Ramara reserves the right to accept or reject all or part of any Bid and reserves the right to accept other than the lowest Bid and to cancel this Call for Bid at any time.

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INSTRUCTIONS TO BIDDERS

1. DEFINITIONS

The following definitions apply to the interpretation of the Request for Quotation;

1. **“Addendum”** means a written change, addition, alteration, correction or revision to a bid, proposal or contract document. Addendum/Addenda may be issued following a pre-bid site meeting/conference or as a result of a specification or work scope change to the solicitation.
2. **“Bidder”** means a person or legal entity that is submitting a Tender in response to the Tender Process.
3. **“Bid Form”** is the standard forms provided by the Township. Bidders must complete and submit the forms in order to provide the necessary information for the evaluation of the bids and to create a legally binding bid.
4. **“Bid Price”** means the total price proposed by a Bidder in its Bid Submission for the performance of the Work.
5. **“Bid Submission”** means the information submitted by a Bidder in response to this Request for Tender, also referred to as Bid or Submission.
6. **“Bid Submission Deadline”** is the closing date and time that is provided in the Call for Bid document that a Bidder’s submission must be received by the Township.
7. **“Constructor”** means the successful person or company engaged in the construction business.
8. **“Contract”** means an agreement to be signed between the Owner and a Successful Bidder pursuant to the tender process.
9. **“Contractor”** means the Successful Bidder pursuant to the Tender Process that has extended a contract.
10. **“Contract Administrator”** means a person authorized or appointed by the Township to act on behalf of the Owner in any particular capacity.
11. **“Closing Time”** Time and Date of Tenders has the meaning ascribed thereto in section ii of these instructions to bidders.

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12. **“General Manager, Development and Infrastructure”** means the General Manager, Development and Infrastructure for the Township of Ramara or such other person, partnership or corporation as may be authorized by the Council to act on their behalf in any particular capacity.
13. **“Month”** means the calendar month.
14. **“OPS”** means the current Ontario Provincial Standards published by the Ontario Standards organization.
15. **“Request for Tender”** means the Call for Bid document issued by the Township.
16. **“Semi-Annually”** means twice per calendar year, approximately 6-months apart.
17. **“Start Work Order”** means the document in writing, referred to in the tender, form that is issued by the Contract Administrator or the Engineer that authorizes the Contractor to begin the work.
18. **“Successful Bidder(s)”** means a Bidder whose Bid(s) has been awarded by the Township.
19. **“Tender”** means the tender documents issued by the Owner in respect of a specific opportunity and also refers to the documents submitted by a Bidder in response to this Tender Process.
20. **“Tender Documents”** means the documents listed in section iii of these Instructions to Bidders.
21. **“Week”** means the 7-day cycle starting on Sunday and ending on Saturday. The cycle shall not be repeated no less than 5 days apart or no more than 10 days apart.
22. **“Work”** means the work to be performed by a Contractor pursuant to a Contract issued as a result of this tender as described in the Contract Documents and includes, but is not limited to, the work generally described in Section ii of these Instructions to Bidders.

2. GENERAL OVERVIEW

INTRODUCTION

The Corporation of the Township of Ramara is seeking quotations from qualified contractors to supply and install a new HVAC system at Work Yard 3, located at 7305 County Road 169.

FORM OF TENDER

All quotations must be on the Bid Forms provided, clearly marked with **Supply and Installation of an HVAC System – Yard 3**.

TIMELINE

Steps in RFQ process	Date	Time (if applicable)
Bid Posting	September 14, 2026	10:00 a.m.
Site Visit (Mandatory)	September 23, 2026	10:00 a.m.
Deadline for Questions	September 25, 2026	11:00 a.m.
Deadline for Issuing Addenda	September 29, 2026	
Deadline for Submission	October 1, 2026	10:00 a.m.
Award Date	Early October	
Completion of Work Date	November 30, 2026	

SITE VISIT

A mandatory site visit will be held at the site on September 23, 2026, at 10:00 a.m. The site is located at 7305 County Road 169, Washago. All bidders will be required to attend in order for any submission to be considered.

Visitors will be required to wear steel toed boots. Photographs of the site and the area will be allowed, provided no persons are in the photos. The roof is accessible by an interior fixed ladder only.

TENDER DEPOSIT

A tender deposit is not required for this Quotation.

FREEDOM OF INFORMATION

All submissions to the Township become the property of the Township and such are subject to the *“Municipal Freedom of Information and Protection of Privacy Act.”*

BRIBERY/FRAUD

Should any bidder or any of their agents give or offer any gratuity or attempt to bribe any employee of The Township, or to commit fraud, the Township shall be at liberty to cancel the prospective bidder's submission or contract.

BUY ONTARIO ACT

No preference will be given to any business for goods and/or services provided to the Township and/or Commission, except as required under the Buy Ontario Act. This project will comply, as necessary, with this legislation.

Included in this document are three schedules:

- Schedule IV – List of Major Goods and Services (completed by the Township of Ramara)
- Schedule V – Domestic Supply Chain Commitment Plan (to be completed by the Bidder and submitted with all bids)
- Schedule VI – Domestic Supply Chain Commitment Plan Compliance Declaration (to be completed by the Successful Bidder and submitted with all invoices).

Failure to complete Schedule V with the bid will result in a non-compliant bid. Failure to submit Schedule VI with all invoices will result in held payments until submission. Failure to meet these requirements will result in termination of the contract.

INSURANCE

The Successful Bidder(s) shall maintain and pay for Comprehensive General Liability Insurance with an insurer acceptable to the Township. The coverage shall include premises and all operations liability to be performed by the bidder. This insurance coverage shall be subject to limits of not less than **Five Million Dollars (\$5,000,000.00)** inclusive **per occurrence** for bodily injury, death and damage to property including loss of use thereof for any one occurrence.

The policy shall include **The Corporation of the Township of Ramara** as an additional insured in respect of all operations performed by or on behalf of the Bidder.

The Bidder(s) shall be entirely responsible for the cost of any deductible that is maintained in any insurance document.

The Insurance Policy shall not be altered, canceled or allowed to expire or lapse, without thirty (30) days prior written notice to the Township.

The Liability Insurance shall not contain any exclusion of limitations in respect of shoring, underpinning, rising or demolition of any building or structure, pile driving, caisson work, collapse of any structure or land from any cause.

Where applicable the bidder(s) shall carry standard automobile and non-owned automobile liability insurance and shall protect them against all liability arising out of the use of owned or

leased vehicles, used by the Bidder(s), its employees or agents. The limits of the liability for both owned and non-owned vehicles shall not be less than **Two Million Dollars (\$2,000,000.00)** per occurrence.

WORKPLACE SAFETY AND INSURANCE BOARD (WSIB)

The successful bidder(s) shall supply a Certificate from the Workplace Safety and Insurance Board prior to the start of the contract indicating that all of the assessments the bidder(s) or subcontractor(s) is liable to pay under *Worker's Safety Insurance Board Act* or successor legislation have been paid and they are in good standing with the Board.

Effective January 1, 2013, Bill 119 legislates that all Contractors and Sub-Contractors categorized under class G: construction, shall have WSIB account and clearance coverage prior to commencing any contract.

Alternatively, if the successful Bidder(s) is an Independent Operator and is not categorized under Class G: Construction, the Bidder(s) shall submit a letter, from the WSIB, confirming that s/he has Independent Operator Status under the WSIB Act for work to be carried out for the Township of Ramara. If the Bidder(s) does not have Independent Operator Status, the Bidder shall.

- I. Complete an Independent Operator Status Questionnaire upon being awarded the contract; and,
- II. Fund all costs associated with any appeal of a determination by WSIB that the Bidder is not an Independent Operator; and,
- III. Provide proof of Employer's Liability Insurance (provided either by WSIB or the Contractor's insurance provider.

The Bidder(s) acknowledges and agrees that the Township is not hiring an employee(s) to perform the work associated with this Tender. As such the Township reserves the right to terminate all Contracts associated with this Tender if all appeals have been exhausted and the bidder(s) are determined by WSIB or court or tribunal of competent jurisdiction to be an employee. Any and all monies to be paid to the bidder(s) shall be returned regardless of the extent of work that has been completed to that point, and all material and documents associated with the Tender, as well as Township property, shall be returned to the Township.

The bidder(s) acknowledges and agrees that any work completed to the date the appeal process has been completed, and an unfavorable determination is made will be provided to the Township for free and without any expectation of compensation. The risk associated with completing any work while there is an appeal process underway is entirely born by the bidder(s).

LIABILITY AND DAMAGES

The Contractor shall take full responsibility for any and all damages caused during the execution of the work, whether to private property, public property, municipal infrastructure, utilities, roadways, or landscaping.

- The Contractor shall, at their own expense, make good any such damage to the satisfaction of the Township.
- If the Contractor fails to make good on damages within a reasonable timeframe, the Township reserves the right to carry out the repairs and deduct the costs from monies owed to the Contractor.
- The Contractor shall indemnify and hold harmless the Township, its officers, employees, and agents from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or resulting from the Contractor's performance of the work.

ACCESSIBILITY

The Bidder(s) shall comply with the provisions of the *Accessibility for Ontarians with Disabilities Act 2005*, S.O. 2005, chapter 11 and the Regulations with regard to provision of the goods and/or services contemplated herein, including, without limitation, section 6 of Ontario Regulation 429/07, Accessibility Standards for Customer Service, as amended. The Bidder(s), when applicable, shall ensure that its employees, agents, volunteers and representatives receive training regarding the provision of the goods and services to person with disabilities. The Bidder(s) acknowledges that the Corporation of the Township of Ramara, in deciding to purchase goods or services through its procurement process, is required to consider the accessibility for persons with disabilities, when applicable and practical to do so.

HEALTH & SAFETY

All work performed under this contract must be carried out in accordance with the terms and conditions of the Ontario Occupational Health and Safety Act (OHSA or the Act), applicable Regulations, applicable standards, and other applicable legal requirements.

Unless otherwise stated, the successful bidder, for the purposes of the Act, shall be designated as the 'Constructor' for this project. The constructor has complete control of the work on behalf of the Township and is responsible for regulatory compliance and safe work procedures on the job site.

Any requirement for a Notice of Project to be submitted to the Ministry of Labour (MOL) is the sole responsibility of the constructor.

The Constructor further acknowledges and agrees that any breach or breaches of the Occupational Health and Safety Act, applicable Regulations, Standards, Environmental Protection Act, other legal requirements, and/or their own Health & Safety Policies and Procedures whether by the Constructor or any of its subcontractors may result in:

- The termination of the contract,
- The immediate removal of the Constructor and/or sub-contractor's equipment from the site,
- The forfeiture of all sums owing the constructor/or sub-contractor by the Township of Ramara.

The Constructor's health and safety responsibilities will include the following:

- where hazardous materials, physical agents and/or designated substances are used in the performance of the required work, the successful bidder shall ensure that the requirements of the Occupational Health and Safety Act, applicable Regulations and environmental requirements are complied with,
- ensure workers are aware of the hazardous substances that may be in used at the workplace,
- ensure workers are provided with and wear the appropriate personal protective equipment required for the area when engineering controls aren't practicable,
- demonstrate the establishment and maintenance of health and safety program, with objectives and standards and will provide qualified workers and meet all applicable legislation,
- The Constructor acknowledges that they are familiar with the Occupational Health and Safety Act, applicable Regulations, applicable Standards and other legal requirements that applies to the work being conducted,
- The Contractor covenants and agrees to observe strictly and faithfully the provisions of the Occupational Health and Safety Act, applicable Regulations, and rules circulated there under together with the Constructor's Health and Safety Policies and Procedures.
- The Constructor agrees to indemnify and save the Township of Ramara harmless for damages or fines arising from any breach or breaches of the said Occupational Health and Safety Act and other applicable legal requirements.
- The Constructor agrees to have a competent supervisor on site at all times when work is in progress, and that this supervisor enforces safe work practices.
- The Constructor shall allow access to the work site on demand to representatives of the Township of Ramara to inspect work sites.

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- The Constructor agrees that any damages or fines that may be assessed against the Township of Ramara by reason of a breach or breaches of the Occupational Health and Safety Act and applicable Regulations by the Constructor or any of its sub-contractors will entitle the Township of Ramara to off-set the damages so assessed against any monies that the Township of Ramara may from time to time owe the Constructor under this contract or under any other contract whatsoever.
 - Where any portion of the work or services in this Contract is contracted to a sub-contractor, the Constructor agrees that the provisions of this section (**Health & Safety**) will apply to the sub-contractor and the Constructor will enforce said provisions.
 - The Township of Ramara may consider previous OHSA violations as grounds for rejection and the Township of Ramara may terminate any contract arising from this document if the Bidder is continuously in violation of OHSA requirements.

Proof of the above may be required by the Township at any time from tendering to project completion.

Township staff reserve the right to stop work if safety concerns are identified.

ASSIGNMENT OF CONTRACT

The Successful Bidder(s) shall not assign transfer, convey, sublet or otherwise dispose of this contract or his/her right, title or interest therein, or his/her power to execute such contract, to any other person, company or City, without the previous consent, in writing, of the Township's officials, which consent shall not be unreasonably withheld.

SPECIFICATIONS

All work shall be completed in accordance with Appendix A - Mechanical Drawings attached to this document and the associated project specifications.

SCOPE OF WORK

Provide all labour, materials, equipment, supervision, permits, t shownesting, commissioning, and closeout documentation required for the installation of a new propane-fired HVAC system, including corner-mounted heating units and associated building services, together with the installation of a new mezzanine guard, in accordance with the. engineered drawings and specifications attached as Appendix A.

1. General Requirements

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- Complete all work in accordance with the engineered drawings, specifications, applicable codes, standards, and manufacturer's requirements.
 - Coordinate construction activities with the Township to minimize disruption to building operations. This facility is an active Works Yard and will need to remain in operation. The Township will work with the Contractor to allow for work to proceed, however, in the event of an emergency, Operations may require the work to be paused while working in the building. The Contractor must provide the Township with a proposed schedule to allow for time to adjust operations, if needed.
 - Obtain all required permits and inspections. All costs associated with the permits and inspections are the responsibility of the Contractor.
 - Protect existing building components, building contents including parts, equipment, and tools, and repair any damage resulting from construction activities.
 - Maintain building security when accessing and leaving site, access control code will be provided.

2. Demolition and Removal

- Safety disconnect existing electrical, oil and control systems.
- Remove and dispose of furnace, oil tank and associated duct work, as appropriate, following all required legislation for the disposal of remaining fuel.
- Remove and leave on site the two propane tube heaters so that they remain intact and functional. These items are to remain protected for the remainder of the project. These are to be reused by the Township in the future.

3. HVAC System Installation

- Supply and install new propane-fired corner heating units as specified in the engineered drawings and specifications.
- Provide all associated equipment supports, brackets, hangers, and mounting hardware.
- Install all required ductwork, grilles, diffusers, dampers, and accessories.
- Install combustion air and venting systems as required by equipment manufacturers and applicable codes.
- Coordinate equipment placement and clearances, as specified..

4. Propane System

- Supply and coordinate new propane tank installation and piping from the designated service area shown on site plan in Appendix A, to the new HVAC equipment.
- Pressure test and commission the propane distribution system.
- Ensure all gas installations comply with applicable fuel safety regulations and codes.

5. Electrical Work

- Provide all electrical work required for the new HVAC equipment.
- Modify existing electrical services and distribution equipment as required.
- Complete functional testing of all electrical components and connections.

6. Controls and Commissioning

- Supply and install all controls necessary for the operation of the new HVAC system.
- Program, calibrate, and test all control components.

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- Commission the complete HVAC system and verify proper operation in accordance with the engineer's specified sequences of operation.

7. New Mezzanine Guardrail

- Supply and erect a new mezzanine guardrail system at locations identified on the engineered drawings.
- Guardrail system shall comply with the Ontario Building Code and all applicable health and safety requirements.
- Securely anchor the guard system to the existing structure in accordance with the engineer's details.
- Finish guard components as specified on the drawings and specifications.

9. Testing and Start-Up

- Perform all required testing of mechanical, gas, electrical, and control systems.
- Complete manufacturer's start-up procedures for all HVAC equipment.
- Verify equipment performance and operational requirements.
- Correct deficiencies identified during testing and commissioning.

10. Closeout Documentation

- Submit equipment operating and maintenance manuals.
- Provide start-up reports, testing records, and commissioning documentation.
- Provide warranty documentation for all equipment, materials, and workmanship.

Deliverables

- Complete and operational propane-fired HVAC system installed and commissioned in accordance with the drawings and specifications of this document.
- Complete installation of the new code compliant mezzanine guard as per drawings.
- Submission of all closeout documents, warranties, testing reports, and as-built drawings.
- Successful final inspection and acceptance by the Township.

COMPLETION OF WORK

The work shall be completed before November 30, 2026.

AWARD OF QUOTATION

1) The Corporation reserves the right, in its sole discretion, to reject any or all bids, and the lowest or highest bid, as the case may be, will not necessarily be accepted.

2) Notwithstanding and without restricting the generality of the statement immediately above, the Township of Ramara shall not be required to award or accept a tender, and may choose to either cancel the call for tenders or recall the tenders at a later date:

- a) when only one bid has been received as the result of a tender call;
- b) where the lowest responsive and responsible bidder substantially

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- exceeds the estimated cost of the goods or service;
 - c) when all bids received fail to comply with the specifications of tender terms and conditions;
 - d) when a change in the scope of work or specifications is required.

The award of this tender may take the following factors into consideration:

- Compliance with the submission requirements of this document;
- Compliance with Ontario's procurement requirements, including Buy Ontario Act (as applicable); and
- Tendered price.

PAYMENT

Payment at the Tendered price shall be paid upon submission of an invoice after completion. All submitted invoices must include Schedule V – Domestic Supply Chain Commitment Plan – Compliance Declaration.

HOURS OF WORK

The Contractor will be allowed to carry out operations only during daylight hours between 9:00 a.m. and 4:30 p.m., Monday through Friday, except Statutory or Civic Holidays, unless otherwise approved or directed by the General Manager, Development and Infrastructure.

As this work will require disruption to the heating/cooling of the facility, as well as increased traffic and noise, the Contractor must provide at least five (5) business days written notice to the Building Maintenance Supervisor prior to the work being performed.

TERM OF CONTRACT

The Township intends to award the contract for the completion of the work described in the scope of work. It is expected that the Contractor will have all work completed no later than November 30, 2026.

Additional Conditions:

- Failure to Respond: The Township reserves the right to engage alternate contractor if the Contractor is unable to meet the required timeframe, or if the Contractor declines work assigned.

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- Performance Reviews: The Township will periodically review Contractor performance, safety practices, and responsiveness. Continued poor performance may result in non-renewal or early termination of the contract.

QUALIFICATIONS

The Successful Bidder shall be a company of recognized standing with a minimum of five (5) years of demonstrated experience in this type of work.

The bidder must employ or retain:

- Electricians licensed in the Province of Ontario and authorized under the Electrical Safety Authority (ESA), in accordance with the Electricity Act and Ontario Electrical Safety Code; and
- Gas fitters licensed in Ontario and certified under the Technical Standards and Safety Authority (TSSA), in accordance with applicable provincial regulations.

A copy of the employees license/ certification is to be enclosed in this tender bid.

All work shall be carried out in full compliance with applicable Ontario legislation, codes, and standards.

SUB-CONTRACTORS

1. List of Subcontractors

The Tenderer shall provide with their submission a complete list of all subcontractors proposed to be employed in the performance of the Work, including the nature and scope of each subcontract. The Owner reserves the right to reject any proposed subcontractor and require the Tenderer to substitute an acceptable subcontractor at no additional cost.

2. Changes to Subcontractors

No changes to the list of subcontractors will be permitted without the prior written consent of the Owner. Such consent shall not be unreasonably withheld.

3. Responsibility

The Tenderer acknowledges that they remain fully responsible for the acts and omissions of their subcontractors and for the satisfactory performance of all work, regardless of subcontracting arrangements.

4. Submission Form

The Tenderer shall complete the “Subcontractor Information Form” attached to the Form of Tender. Failure to provide the list of subcontractors at the time of tender submission may result in the Tender being declared informal or non-compliant.

3. SUBMISSION FORMAT AND CONTENTS

GENERAL FORMAT OF SUBMISSION

The Township **will not** accept any other format of the Schedule I Items and Prices other than that provided within this Request for Quotation. Schedule I Items and Prices are to be completed **in full** as provided in this document with no modifications, additions or deletions. **Failure to complete Schedule I as stipulated, may result in disqualification of the Bid Submission.**

CONTENTS OF SUBMISSION

The Request for Tender Bid Submission **MUST** include the following information and shall be submitted in the same sequence provided:

- I. Completed Bidder Information Form**
- II. Schedule I – Items and Prices**
- III. Schedule II - Sub-Contractor Information Form**
- IV. Completed Schedule III – Ability and Experience Form**
- V. Schedule IV – List of Goods and Services**
- VI. Completed Schedule V – Domestic Supply Chain Commitment Plan**
- VII. Complete Schedule VI – Domestic Supply Chain Commitment Plan – Compliance Declaration**
- VIII. Provide a completed Declaration of Accessibility Compliance form**
- IX. Health and Safety:**
 - Provide a current and valid certificate of clearance from WSIB.

BID FORM

THE CORPORATION OF THE TOWNSHIP OF RAMARA SUPPLY AND INSTALLATION OF AN HVAC SYSTEM – YARD 3

DOCUMENTS TO BE ENCLOSED WITH THIS FORM INCLUDING BUT NOT LIMITED TO:

- i. Bidder Information Form**
- ii. Schedule I – Items and Prices**
- iii. Sub-Contractor Information Form**
- iv. Schedule II – Ability and Experience Form**
- v. Schedule III – List of Major Good & Services**
- vi. Schedule IV – Domestic Supply Chain Supply Commitment Plan**
- vii. Schedule V – Domestic Supply Chain Commitment Plan –
Compliance Declaration**
- viii. Declaration of Accessibility Compliance Form**
- ix. Health & Safety Information**

BIDDER INFORMATION FORM

**BIDDERS MUST COMPLETE THIS FORM AND INCLUDE WITH THEIR SUBMISSION
PLEASE ENSURE ALL INFORMATION IS LEGIBLE.**

Company Name	
Bidder's Main Contact Individual	
Address (Including postal code)	
Office Phone #	
Toll Free#	
Cellular#	
Fax#	
E-Mail Address	
Website	
HST Account #	

**I CERTIFY THAT ALL PRICES IN SCHEDULE I CONSTITUTE THE OFFICAL BID
SUBMISSION AND PRICING.**

NAME: _____
(PRINT)

AUTHORIZED SIGNATURE: _____

DATE: _____

SCHEDULE I – ITEMS AND PRICES

Any modifications of this form will result in the bid being disqualified. This Bid Form must be completed in full.

REQUIRED WORKS

ITEM	WORK	DESCRIPTION	PRICE
1.			\$
<i>Subtotal</i>			\$
<i>HST (13%)</i>			\$
<i>Total</i>			\$

Initials: _____ Date: _____

The Corporation of the Township of Ramara reserves the right to accept or reject all or part of any Bid and reserves the right to accept other than the lowest Bid and to cancel this Call for Bid at any time.

SCHEDULE II - SUB-CONTRACTORS INFORMATION FORM

(To be completed for all sub-contractors representing a portion of this Bid Submission)

Sub-Trade	Proposed Sub-Contractor	Address / Phone #	Approximate Value of Sublet Work

SCHEDULE III – ABILITY AND EXPERIENCE FORM

The Bidder shall provide below three (3) separate References, **not including the Township of Ramara**, having purchased a similar size and design of goods and/or services as specified herein for a previous three (3) year period from the issuance of this document.

REFERENCE #1	
Customer	
Contact Name & Phone Number	
Date of Purchase	
Description of Goods or Services Provided	
REFERENCE #2	
Customer	
Contact Name & Phone Number	
Date of Purchase	
Description of Goods or Services Provided	
REFERENCE #3	
Customer	
Contact Name & Phone Number	
Date of Purchase	
Description of Goods or Services Provided	

REFERENCE RELEASE FORM

I _____ (authorised signatory for the submitting firm) authorize the Township to contact the person and/or organization listed on the ABILITY & EXPERIENCE FORM, for the purpose of obtaining information relating to the bidder.

The Township reserves the right to call references if in its sole discretion finds a need to do so. The Township reserves the right to check other references other than listed herein.

SCHEDULE IV – LIST OF MAJOR GOODS AND SERVICES

Project No:	ID-11-26
Project Name:	Supply and Installation of an HVAC System – Yard 3
Bidder Name:	

For the purposes of the Domestic Supply Chain Commitment Plan, the major goods and services for this Quotation may include, as applicable to the Work:

1. Propane Corner-Mounted Heating Units – As per specifications of this document.
2. Labour – Removal and disposal of furnace, oil tank and associated duct work, installation of the new corner-mounted heating units, connect to fuel supply, test and commission units. Install new guard system around mezzanine as per specifications in this document

The Bidder shall ensure that its Domestic Supply Chain Commitment Plan applies to all categories relevant to the Work.

SCHEDULE V – DOMESTIC SUPPLY CHAIN COMMITMENT PLAN

Project No:	ID-11-26
Project Name:	Supply and Installation of a HVAC System – Yard 3
Bidder Name:	

1. Bidder Commitment

The bidder confirms that, if awarded the Contract, it will meet or exceed the following minimum domestic content requirement for the major goods and services identified by the Township in the Quotation Documents:

Minimum Commitment: 40%

This commitment applies to the total value of the major goods and services identified by the Township for this Quotation, including applicable goods and services supplied by subcontractors, suppliers, manufacturers, and fabricators.

2. Applicable Commitment Basis

Ontario and Canada

The minimum commitment will consist of Ontario-Made Goods and Ontario Services together with Canadian-Made Goods and Canadian Services.

3. Bidder Acknowledgement

The bidder acknowledges and agrees that:

1. This Domestic Supply Chain Commitment Plan is a mandatory eligibility requirement of the Quotation and is not scored;
2. Failure to submit this completed form may result in the Quotation being declared non-compliant and excluded from any and all further evaluation;
3. If awarded the Contract, this commitment will form part of the Contract;
4. The Bidder is responsible for ensuring that its subcontractors, suppliers, manufacturers, and fabricators support the commitment made in this form;
5. The Township may request clarification or supporting documentation before, during, and/or after award for the purpose of verifying compliance; and
6. Any material misrepresentation in this form, or failure to comply with the commitment during and/or after award, may result in disqualification or the exercise of contractual remedies by the Township.

4. Bidder Declaration

The Bidder certifies that the information provided in this Domestic Supply Chain Commitment Plan is complete and accurate to the best of its knowledge and is based on the Bidder's proposed performance of the Work.

Authorized Signing Officer: _____

Title: _____

Signature: _____

Date: _____

SCHEDULE VI – DOMESTIC SUPPLY CHAIN COMMITMENT PLAN – COMPLIANCE DECLARATION

To Accompany All Progress Payment Application/Invoice

1.Contract Information

Project Number:	ID-11-26
Project Name:	Supply and Installation of an HVAC System – Yard 3
Contractor Name:	
Progress Payment Application/Invoice No:	
Payment Period Covered:	
Date of Declaration:	

2.Contractor Declaration

I, _____, in my capacity as _____ of the Contractor named above, and being duly authorized to bind the Contractor, hereby declare and certify to the Township of Ramara as follows:

1. The Contractor has performed the Work during the payment period identified above in a manner consistent with the Contractor's Domestic Supply Chain Commitment Plan submitted with its quotation and incorporated, by reference, into the Contract.
2. With respect to the goods, material, equipment, fabrication, manufacturing, and services supplied or incorporated into the Work for which payment is requested in this progress payment application, the Contractor is in compliance with its Domestic Supply Chain Commitment Plan, except as expressly disclosed in this Declaration.
3. Except as disclosed in this Declaration, the Contractor has not made any actual or anticipated change affecting the Domestic Supply Chain Commitment Plan, including any change to supplier, manufacturer, or place of service delivery, that has not already been reported to the Township in writing in accordance with the Contract.
4. Except as disclosed in this Declaration, the Contractor has not made any material change that would reduce, impair, or invalidate its domestic supply chain commitment without the Township's prior written approval.
5. The Contractor has taken reasonable steps to ensure that its subcontractors, suppliers, manufacturers, fabricators, and service providers supporting the Work during this payment period have performed in a manner consistent with the Contractor's Domestic supply Chain Commitment Plan.
6. The information set out in this Declaration, including any attached schedules or supporting documents, is complete and accurate to the best of the Contractor's knowledge, information, and belief.

-
7. The Contractor has created and maintained records supporting domestic supply chain compliance for the Work covered by this progress payment application and will provide supporting record satisfactory to the Township upon request.

3. Disclosure of Changes or Exception (from original bid)

Please check one.

☐ A. No Changes or Exceptions

The Contractor confirms that there are no changes, substitutions, exceptions, or compliance issues to disclose for this payment period that may affect the Domestic Supply Chain Commitment Plan.

☐ B. Changes or Exceptions Disclosed

The Contractor discloses the following actual or anticipated changes, substitutions, exceptions, or other matters that may affect the Domestic Supply Chain Commitment Plan:

If box B is checked, the Contractor must complete the Disclosure of Changes or Exceptions Chart attached as the final page of this Schedule. If box A is checked, the final-page chart does not need to be completed.

4. Supporting Documentation

Please check all that apply:

- ☐ Supplier invoices
- ☐ Purchase orders
- ☐ Manufacture or fabricator certifications or letters
- ☐ Bills of lading or shipping records
- ☐ Subcontractor confirmations
- ☐ Service provider declarations
- ☐ Updated domestic supply chain tracking sheet
- ☐ Other: _____
- ☐ No attachments included with this submission; records will be provided upon request

5. Acknowledgement

- This Declaration is provided in support of a progress payment application under the Contract;
- The Township may request clarification or supporting documentation to verify compliance with the Domestic Supply Chain Commitment Plan; and
- Failure to provide this Declaration, failure to provide supporting records when requested, or failure to comply with Domestic Supply Chain Commitment Plan

requirements will result in delay or withholding of payment in accordance with the terms of the Contract.

6. Signature

Name of Authorized Signing Officer:	
Title:	
Contractor Name:	
Signature:	
Date:	

Disclosure of Changes or Exceptions

Item/ Major Good or Service	Originally Identified Supplier/ Manufacturer/ Service Provider	Location of Manufacturer/ Fabrication/ Service Delivery	Reason for Change	Date Township Notified	Township Approval (Staff)

DECLARATION OF ACCESSIBILITY COMPLIANCE FORM

Company Name: _____
Print Name: _____
Title: _____
Date: _____

I acknowledge that I am required to comply with the accessibility requirements set out in the Integrated Accessibility Standards Regulation (Ontario Regulation 191/11) made under the *Accessibility for Ontarians with Disabilities Act, 2005*. I confirm that my employees, agents, volunteers and representatives who are required to receive training under the Act have completed the required. I will provide to The Corporation of the Township of Ramara any further documentation that confirms this training upon its request.
I will indemnify the Corporation of the Township of Ramara from and against any costs, expenses, fines, penalties, damages or losses that may arise or may be incurred as a result of my failure to comply with these requirements.

I declare that I have read, understood and will meet all enacted accessibility standards as amended from time to time.

I further declare that if applicable I will undertake to ensure any sub-contractors hired by

(insert company name)

for the completion of work contracted by the Township will also comply with the above requirements.

Authorized Signature
I have authority to bind the Corporation

Date

APPENDIX A - DRAWINGS



ALL UNITS IN SI METRIC (MILLIMETRES) U.N.O

CMU	-CONCRETE MASONRY UNIT
CONT.	-CONTINUOUS
DIM.	-DIMENSION
D.O	-DO OVER (DITTO)
E/W	-EACH WAY
EL.	-ELEVATION
EQ.	-EQUAL
FFE	-FINISHED FLOOR ELEVATION
H	-HORIZONTAL
ID	-IDENTIFICATION
MAX	-MAXIMUM
MIN	-MINIMUM
N/A	-NOT APPLICABLE
N/R	-NOT REQUIRED
No.	-NUMBER
OC	-ON CENTRE
O.D.	-OUTSIDE DIAMETER
	-PLATE
SM.	-SIMILAR
SOG	-SLAB ON GRADE
T/O	-TOP OF
TBC	-TO BE CONFIRMED
TYP.	-TYPICAL
U/S	-UNDERSIDE
U.N.O.	-UNLESS NOTED OTHERWISE
V	-VERTICAL
W/H	-WITH
W/O	-WITHOUT

1. ALL DESIGN WORK IN CONFORMANCE WITH THE ONTARIO BUILDING CODE AND R.R.O. 1990, REG. 851 INDUSTRIAL ESTABLISHMENTS UNDER THE OCCUPATIONAL HEALTH AND SAFETY ACT.

1. REMOVE AND DISPOSE OF EXISTING RAILING SYSTEM AND REPLACE WITH NEW.

2. NEW GUARDRAILS SHALL BE MANUFACTURED FROM
a. NEW STEEL PIPE TO ASTM A53 D40 STD (SCHEDULE 40, 48.3mm O.D.), HSS48X3.2 (TO ASTM A550 GRADE C, OR CAN/CSA G40.20/G40.21) MAY BE USED AS AN APPROVED ALTERNATIVE. CHAULTER DIAMETER PIPE OR HDS AS REQUIRED FOR CONNECTIONS.
b. NEW STEEL ANGLE AND PLATE TO CAN/CSA G40.21.
3. WELDING SHALL BE COMPLETED TO CSA W59 AND SHALL BE PERFORMED BY A CONTRACTOR SHOP TO CSA W47.1.
4. SHOP DRAWINGS SHALL BE SUPPLIED BY THE CONTRACTOR FOR APPROVAL AND SHALL INCLUDE THE DESIGN OF ALL WELDED CONNECTIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED BY THE PROVINCE OF ONTARIO. ALL ON SITE DIMENSIONS SHALL BE FULLY VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLING FABRICATIONS.

5. RAILINGS SHALL BE SHOP FABRICATED IN THE LARGEST SEGMENTS PRACTICAL FOR TRANSPORTATION AND ERECTION. RAILINGS SHALL BE FULLY SHOP ASSEMBLED AND FULLY PRIMED (1 COAT) AND PAINTED (2 COATS) WITH FIELD TOUCH UP WHERE REQUIRED AND DIRECTED. COLOUR TO BE SELECTED BY THE OWNER.

8. ONSITE CONNECTIONS AS INDICATED SHALL BE COMPLETED WITH:

1. ANCHORS FOR CONNECTION TO WOOD STRUCTURES SHALL BE ASTM A307 GRADE A BOLTS AND NUTS.
2. SPECIALTY ANCHORS FOR CONNECTIONS TO CONCRETE SHALL BE AS MANUFACTURED BY HELIX CORPORATION.
3. GROUT FOR CONCRETE AND MASONRY WORK SHALL BE SIKAGROUT - 212 AS MANUFACTURED BY Sika AG.
4. EQUAL ALTERNATIVES ONLY WHERE THE APPROVAL OF TATHAM HAS BEEN OBTAINED PRIOR TO INSTALLATION.

1. EXISTING PLATED TRUSS ROOF SYSTEM HAS BEEN REVIEWED ONLY WHERE READILY ACCESSIBLE. DIFFERENT CONFIGURATIONS OF TRUSSES HAVE BEEN NOTED IN THREE (3) DISTINCT TYPES:

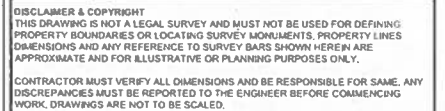
- EXISTING PLATED TRUSS ROOF SYSTEM HAS BEEN REVIEWED ONLY WHERE READILY ACCESSIBLE. DIFFERENT CONFIGURATIONS OF TRUSSES HAVE BEEN NOTED IN THREE (3) DISTINCT TYPES
1. 2×6 C/SPACING IN THE EASTERN PART OF THE ROOF. THESE TRUSSES ARE ASSUMED TO BE IDENTICAL TO THE CIRCA 1960 TYPE AND SHOULD HAVE BEEN DESIGNED FOR ALL APPLICABLE ROOF AND CEILING LOADS INCLUSIVE OF A 10psf (0.5psf) ATTIC LIVE LOAD.
 2. 2×6 C/SPACING IN THE WESTERN PART OF THE ROOF. THESE TRUSSES ARE ASSUMED TO PREDATE THE 1990 ADDITION.
 3. 2×6 C/SPACING OF THE ADDED TRUSSES IN THE WESTERN PART OF THE ROOF. THESE TRUSSES ARE ASSUMED TO HAVE BEEN ADDED AFTER THE ORIGINAL CONSTRUCTION OF THE WESTERN PART OF THE BUILDING. THESE TRUSSES HAVE BEEN ADDED WITHIN THE SPACE BETWEEN THE TYPE 1 AND TYPE 2 TRUSSES. THESE TRUSSES SHOULD BE ASSUMED TO HAVE BEEN ADDED IN THE SPACE BETWEEN THE TYPE 2 TRUSSES. THESE TRUSSES ARE ASSUMED TO DATE TO CIRCA 1990 AND SHOULD HAVE BEEN DESIGNED FOR ALL APPLICABLE ROOF AND CEILING LOADS.

2. INSULATION WAS OBSERVED TO BE MOUNDED NEAR THE CENTRE OF THE WEST ROOF AREA. EXCESS INSULATION SHALL BE REMOVED OR REDISTRIBUTED PRIOR TO THE INSTALLATION OF UNIT HEATERS.

3. ONLY TYPE 1 AND TYPE 3 TRUSSES ARE TO BE USED FOR SUPPORT OF SUSPENDED UNIT HEATER INSTALLATIONS WITHIN THE CAPACITY OF THE REGULATORY 10psf ATTIC LIVE LOAD. DUE TO THE NOTED TRUSS SPACING, ALL CEILINGS SHALL BE REMOVED IN THE AREA OF ALL UNIT HEATER INSTALLATIONS TO FACILITATE CONNECTIONS AND FURTHER REVIEW OF THE CONDITION OF THE ROOF STRUCTURE. ALL INSTALLATIONS SHALL BE REVIEWED BY THE ENGINEER. ALL CEILINGS, INSULATION ETC. SHALL BE REINSTATED UPON COMPLETION OF THE WORK.

4. SUPPORT FRAMING FOR UNIT HEATERS SHALL BE AS FOLLOWS

- USE P1000T - 1/2" X 1/4" 12 GAUGE UNISTRIP BY ATKORE (AS SUPPLIED BY NORTHBRIAR INDUSTRIES ETC.)
2. UNISTRIP SHALL BE INSTALLED IN 10' MINIMUM LENGTHS, PERPENDICULAR TO TRUSSES AT A MINIMUM SPACING OF 2'-0". PROVIDE ADDITIONAL UNISTRIP SEGMENTS AS REQUIRED TO MAINTAIN MINIMUM SPACING OF 2'-0" THROUGHOUT ENTIRE HEIGHT OF CEILING.
3. UNISTRIP SHALL BE INSTALLED ON TOP OF BOTTOM CHORD OF TYPE 1 TRUSSES. UNISTRIP SHALL BE INSTALLED OVER A MINIMUM OF THREE (3) TYPE 1 TRUSSES OR A MINIMUM OF TWO (2) TYPE 1 TRUSSES AND ONE (1) EXTERIOR WALL. UNIT HEATERS SHALL BE INSTALLED NEAREST THE CENTROID OF THE SUPPORTS. WOOD BLOCKING SHALL BE PROVIDED TO ENSURE UNISTRIP IS EVENLY SUPPORTED AT ALL LOCATIONS. ENSURE UNISTRIP IS NOT LOCATED OVER OR NEAR PLATED TRUSS CONNECTION. UNISTRIP SHALL BE FASTENED TO TOP OF TRUSSES. UNISTRIP SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER PRIOR TO REINSTATEMENT OF CEILING.
4. UNISTRIP SHALL BE INSTALLED ON TOP OF BOTTOM CHORD OF TYPE 3 TRUSSES. UNISTRIP SHALL BE INSTALLED OVER A MINIMUM OF FOUR (4) TYPE 3 TRUSSES OR A MINIMUM OF FOUR (4) TYPE 3 TRUSSES AND ONE (1) EXTERIOR WALL. UNIT HEATERS SHALL BE INSTALLED NEAREST THE CENTROID OF THE SUPPORTS. WOOD BLOCKING SHALL BE PROVIDED TO ENSURE UNISTRIP IS EVENLY SUPPORTED AT ALL LOCATIONS. ENSURE UNISTRIP IS NOT LOCATED OVER OR NEAR PLATED TRUSS CONNECTION. UNISTRIP SHALL BE FASTENED TO TOP OF TRUSSES USING SUITABLE MEANS. INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO REINSTATEMENT OF CEILING.
5. CEILING SHALL BE REINSTATEMENT WITH 1/2" X 1/4" 12 GAUGE UNISTRIP PRIOR TO UNISTRIP INSTALLATION. REINSTATE VAPOUR BARRIER, CEILING FINISH AND INSULATION.



TATHAM ENGINEERING LIMITED CLAIMS COPYRIGHT TO THIS DRAWING WHICH MAY NOT BE USED FOR ANY PURPOSE OTHER THAN THAT PROVIDED IN THE CONTRACT BETWEEN THE OWNER/CLIENT AND THE ENGINEER WITHOUT THE EXPRESS CONSENT OF TATHAM ENGINEERING LIMITED.

VERSION	DATE
1 ISSUED FOR CLIENT REVIEW	2026-08-28
2 ISSUED FOR TENDER/PERMIT	2026-09-11

DESIGN BY HSH	DRAWN BY HSH	CHECKED BY MAS
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TATHAM
ENGINEERING

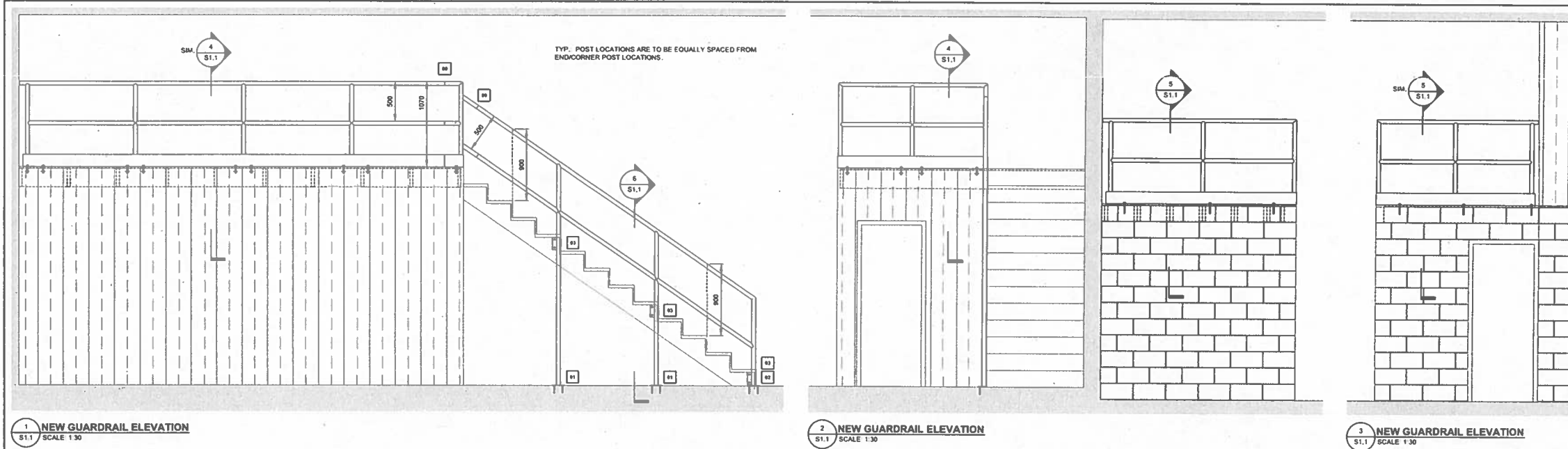
COLLINGWOOD - BRACEBRIDGE - ORILLIA - BARRIE - OTTAWA - GUELPH

RAMARA YARD 3 HVAC UPGRADES

DRAWING TITLE

OBC MATRIX STRUCTURAL NOTES AND PLANS

PROJECT	SCALE	DRAWING
326019-06	AS NOTED	S1.0



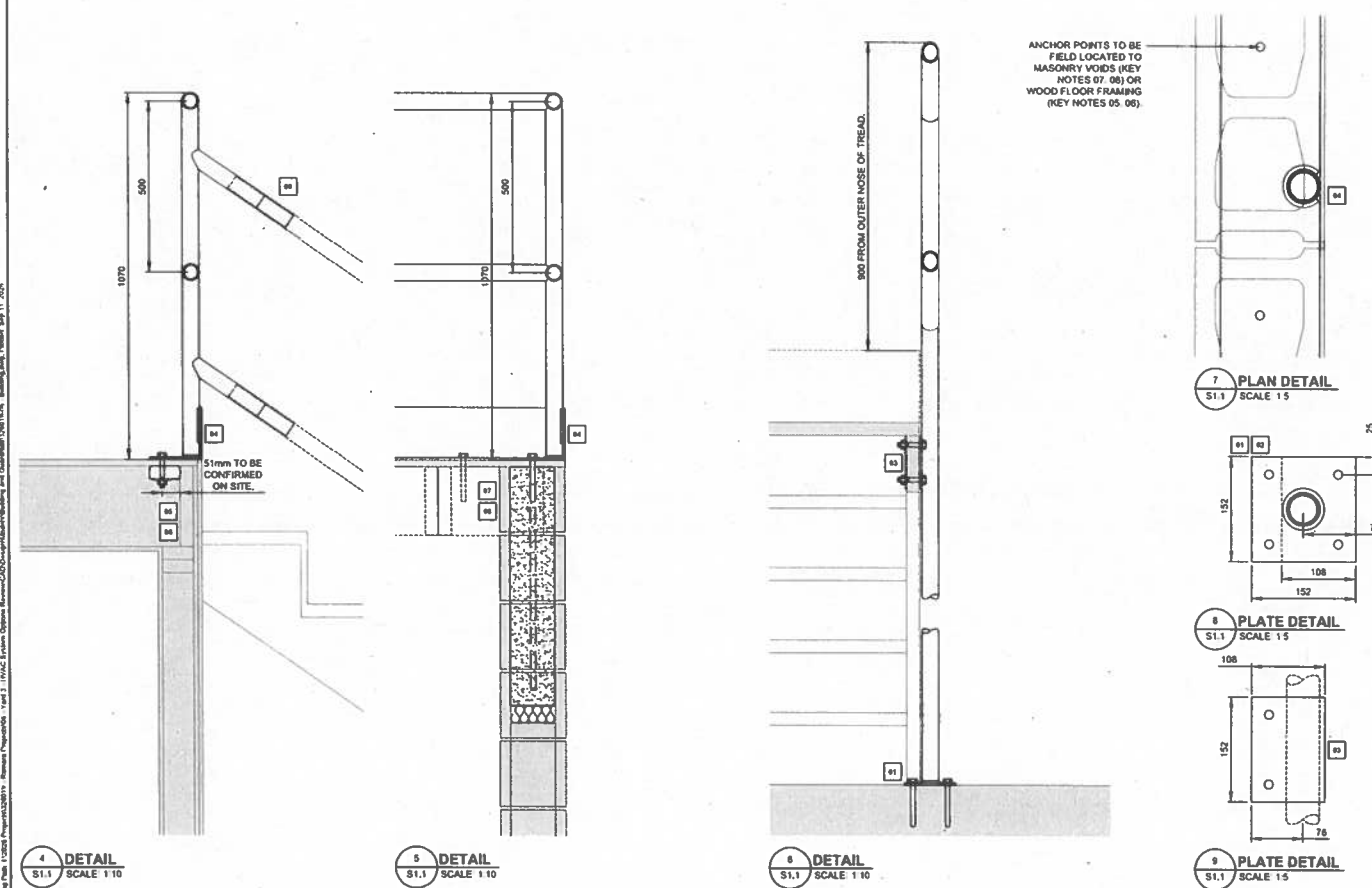
1 NEW GUARDRAIL ELEVATION
S1.1 SCALE 1:30

2 NEW GUARDRAIL ELEVATION
S1.1 SCALE 1:30

3 NEW GUARDRAIL ELEVATION
S1.1 SCALE 1:30

KEY NOTES

- 1. 1152X152X6.4 POST BASE C/W FOUR (4) 3/8" ANCHORS. SHOP CONNECT POST TO PLATE W/ ALL AROUND FILLET WELD. FIELD CONNECT BASE TO CONCRETE 800MM 3/8" DIA. DUAL ACTION ANCHORS (4) USING 10MC KWH-X CAPSULE AND WHEZ-CRC (GALVANIZED) SCREW ANCHOR. ENSURE PREVIOUS ANCHORS ARE FULLY REMOVED (BY JACK HAMMER OR OTHER SUITABLE MEANS) AND CONCRETE SLAB IS RECONSTITUTED WITH GROUT PRIOR TO ANCHOR INSTALLATION. ASSUME 300X300 BU FULL DEPTH OF SOG FOR COSTING PURPOSES. ALLOW GROUT TO FULLY CURE PRIOR TO OTHER WORK.
- 2. 1152X108X6.4 POST BASE C/W TWO (2) 3/8" ANCHORS. ANCHORS AS INDICATED IN KEY NOTE 01 ABOVE.
- 3. 1152X108X6.4 POST TO STRINGER PLATE WELDED TO POST SIDE. WITH TWO PLATE LOCATED AT US OF STAIR TREAD. 1152X51X3.2 BACKER PLATE BOTH C/W TWO (2) 3/8" ANCHORS. PROVIDE 1152X51X3.2 BACKER PLATE FOR THROUGH STRINGER. BOLTED CONNECTION 3/8" GALVANIZED BOLTS AND NUTS (2). INSTALL 2 - #10 X 3 1/2" WOOD SCREW REINFORCING TREAD TO STRINGER CONNECTION AT EACH PLATE LOCATION. WOOD SCREWS TO ASME B18.5.1.
- 4. CONT. 1152X152X6.4 BASE/TOE-BOARD. SHOP CONNECT POST TO ANGLE WITH FILLET (POST TO HLEG) AND FLARE BEVEL (POST TO V-LEG) WELDS. ANGLE TO FLOOR CONNECTIONS (3/8" DIA FASTENERS TYP.) SHALL BE FIELD LOCATED AND DRILLED. ANGLE SHALL BE MITRE WELDED AT CORNER POST LOCATIONS. WITH FIELD CONNECTION POINTS OFFSET FROM CORNER LOCATIONS.
- 5. WOOD FLOOR CONSTRUCTION ASSUMED. REMOVE SUFFICIENT CEILING FINISH TO ACCESS US OF FLOOR STRUCTURE. REPORT FLOOR STRUCTURE TO TATHAM FOR FURTHER DIRECTION. PROCEED WITH KEY NOTE 06 UNLESS DIRECTED OTHERWISE. CEILING FINISH TO BE REINSTITUTED BY CONTRACTOR UPON COMPLETION OF WORK.
- 6. FIELD LOCATE TWO (2) ANCHORS BOTH SIDES OF POST LOCATIONS (ONE BOLT LOCATION AT END POST). INSTALL NEW 38X89 (STUD GRADE OR BETTER) WOOD BLOCKING FLAT TO US OF PLYWOOD FLOOR SHEATHING. TIGHT TO RIM BOARD. SPACED TO AVOID FLOOR JOISTS. AT EACH BOLT LOCATION. DRILL HOLES FOR 3/8" FASTENERS THROUGH BASE ANGLE AND WOOD BLOCKING. PROVIDE 151X51X3.2 SQUARE WASHER AT NUT LOCATION. LOOSE-FASTEN CONNECTIONS DURING RAILING ERECTION. FULLY TIGHTEN CONNECTIONS ONLY AFTER RAILING SYSTEM HAS BEEN FULLY SQUARED AND PLUMBED.
- 7. MASONRY WALL VOID CONSTRUCTION TO BE CONFIRMED BY REMOVAL OF PLYWOOD FLOOR SHEATHING IN FULL SHEETS. REPORT WALL CONSTRUCTION TO TATHAM FOR FURTHER DIRECTION. PROCEED WITH WORK UNDER KEY NOTE 08 UNLESS DIRECTED OTHERWISE. PLYWOOD FLOOR SHEATHING TO BE REINSTITUTED SUBSEQUENT TO GROUT WORK AND PRIOR TO RAILING INSTALLATION.
- 8. ENSURE GROUT FILLED MASONRY VOIDS PRIOR TO RAILING INSTALLATION. NEW GROUT SHALL BE PROVIDED FOR THE FULL DEPTH OF THE TOP THREE MASONRY COURSES (TWO OVER DOOR) FOR ALL MASONRY VOIDS OVER WHICH THE NEW RAILINGS WILL BE INSTALLED. WIRE BRUSH AND OTHERWISE CLEAN OUT VOIDS TO GROUT SUPPLIER'S WRITTEN DIRECTION. USE BATT INSULATION WITH OTHER SUITABLE MATERIAL AS BACKING FOR GROUTING OF VOIDS. SUSPEND ONE 15M - 600MM LONG REBAR AT CENTRE OF EACH VOID MINIMUM 50MM FROM INSULATION. ALLOW GROUT TO FULLY CURE PRIOR TO OTHER WORK. DO NOT FULLY INSTALL ANCHORS UNTIL RAILING HAS BEEN SECURELY SQUARED AND PLUMBED.
- 9. USE SLEEVED FIELD CONNECTIONS AT HORIZONTAL RAILING ELEMENTS ONLY.



4 DETAIL
S1.1 SCALE 1:10

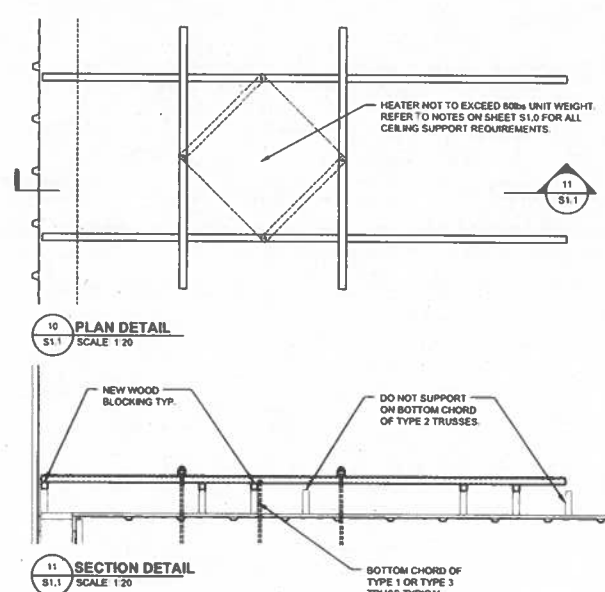
5 DETAIL
S1.1 SCALE 1:10

6 DETAIL
S1.1 SCALE 1:10

7 PLAN DETAIL
S1.1 SCALE 1:5

8 PLATE DETAIL
S1.1 SCALE 1:5

9 PLATE DETAIL
S1.1 SCALE 1:5



10 PLAN DETAIL
S1.1 SCALE 1:20

11 SECTION DETAIL
S1.1 SCALE 1:20



DISCLAIMER & COPYRIGHT
THIS DRAWING IS NOT A LEGAL SURVEY AND MUST NOT BE USED FOR DEFINING PROPERTY BOUNDARIES OR LOCATING SURVEY MONUMENTS. PROPERTY LINES DIMENSIONS AND ANY REFERENCE TO SURVEY BARS SHOWN HEREIN ARE APPROXIMATE AND FOR ILLUSTRATIVE OR PLANNING PURPOSES ONLY.

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

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1 ISSUED FOR CLIENT REVIEW	2026-08-28
2 ISSUED FOR TENDER/PERMIT	2026-09-11

DESIGN BY HSH DRAWN BY HSH CHECKED BY MAS

STAMP

REGISTERED PROFESSIONAL ENGINEER
2026-09-11
H. S. HUTCHESON
100084818
PROVINCE OF ONTARIO

TATHAM ENGINEERING

COLLINGWOOD - BRACEBRIDGE - ORILLIA - BARRIE - OTTAWA - GUELPH

PROJECT TITLE

**RAMARA YARD 3
HVAC UPGRADES**

DRAWING TITLE

**STRUCTURAL DRAWING
GUARDRAIL REPLACEMENT
ELEVATIONS AND DETAILS**

PROJECT	SCALE	DRAWING
326019-06	AS NOTED	S1.1

THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS PREPARED BY ALL CONSULTANTS PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

2 FOLLOW ALL SECTIONS, DETAILS, AND STATEMENTS NOTED AS "TYPICAL," UNLESS OTHERWISE NOTED ON DRAWINGS. TYPICAL DETAILS SHOW STRUCTURAL INTENT RATHER THAN ACTUAL CONDITIONS FOR THE PROJECT. TYPICAL DETAILS APPLY TO SIMILAR CONDITIONS THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.

3 USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN, DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR PERMIT AND/OR CONSTRUCTION"

4 DO NOT USE INFORMATION ON THESE DRAWINGS FOR ANY OTHER PROJECT OR WORKS.

5 THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND CONTRACT DOCUMENTS PRIOR TO AND DURING CONSTRUCTION TO ENSURE THAT THE ASSUMPTIONS MADE IN THE DRAWINGS REFLECT THE REQUIREMENTS OF CONSTRUCTION AND FIELD CONDITIONS ENCOUNTERED, WHERE DISCREPANCIES ARISE OR THE CONTRACTOR FINDS AN ERROR OR OMISSION RELATING TO THE CONTRACT, THE CONTRACTOR SHALL PROMPTLY REPORT IT TO THE ENGINEER AND SHALL NOT PROCEED WITH THE ACTIVITY AFFECTED UNTIL RECEIVING DIRECTION FROM THE ENGINEER.

6 THE DRAWINGS SHOW THE COMPLETED STRUCTURE, THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND FOR THE SITE AND FOR DESIGN, INSTALLATION AND SUPERVISION OF ALL TEMPORARY BRACING AND FALSEWORK TO SUIT THE CONSTRUCTION METHODS AND TO SUPPORT THE SUPERIMPOSED CONSTRUCTION LOADS. DESIGN AND FIELD REVIEW OF ALL TEMPORARY WORKS TO BE CARRIED OUT BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED AND INSURED IN THE PROVINCE OF ONTARIO.

7 ALL WORK AND MATERIALS SHALL CONFORM TO REQUIREMENTS SET OUT IN THE 2024 ONTARIO BUILDING CODE.

8 ALL CODES AND STANDARDS REFERENCED SHALL BE THE LATEST EDITION REFERENCED BY THE 2024 ONTARIO BUILDING CODE (OBC, DIV. 8, 1.3.1.2).

9 ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT OF ONTARIO.

10 SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO COMMENCEMENT OF FABRICATION. DIGITAL DRAWING FILES OF THE STRUCTURAL PLANS WILL NOT BE MADE AVAILABLE TO THE CONTRACTOR FOR THE PURPOSE OF PREPARING SHOP DRAWINGS. REFER TO SHEET S.1.0 FOR SHOP DRAWING REQUIREMENTS.

11 SUBMITTED SHOP DRAWINGS SHALL

- BE SEAL, SIGNED AND DATED BY AN ENGINEER AS REQUIRED BY SPECIFICATIONS
- INCLUDE ALL CORRECTIONS REQUIRED BY PREVIOUS REVIEWS BEFORE ANY RESUBMISSION. ALL CHANGES AND ADDITIONS TO BE CLEARLY INDICATED. SUBMISSIONS NOT CONFORMING WILL BE MARKED "RESUBMIT" AND RETURNED WITHOUT BEING REVIEWED.

12 REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANT'S OR PROFESSIONAL'S RESPONSIBILITIES RELATIVE TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS.

13 REVIEW OF SHOP DRAWINGS IS ON A RATIONAL SAMPLING BASIS, FOR GENERAL CONFORMITY WITH THE INTENT OF THE STRUCTURAL CONTRACT DOCUMENTS, IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR MAKING THE WORK ACCURATE AND IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

14 ALLOW A MINIMUM OF 10% WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS IN THE STRUCTURAL OFFICE. ALLOW MORE TIME WHEN LARGE QUANTITIES OF SHOP DRAWINGS ARE SUBMITTED ALONG WITH A PRIORITY LIST OF SUBMITTALS. SUBMIT IN ORDER WITH THE ANTICIPATED SEQUENCE OF CONSTRUCTION.

15 DO NOT COMMENCE FABRICATION UNTIL RETURNED SHOP DRAWINGS HAVE BEEN EXAMINED.

16 PROVIDE FINAL RECORD SHOP DRAWINGS AFTER ALL CORRECTIONS ARE MADE.

17 ALL PROPRIETARY PRODUCTS SPECIFIED ON THESE DRAWINGS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS. ALTERNATIVE PRODUCTS MAY ONLY BE USED WITH THE PRIOR APPROVAL OF THE STRUCTURAL CONSULTANT. CONTRACTOR IS RESPONSIBLE FOR OBTAINING WRITTEN DETAILED VERIFICATION AND SPECIFICATIONS AS REQUIRED BY STRUCTURAL CONSULTANT FOR EVALUATION OF SUITABILITY OF ALTERNATE PRODUCTS.

18 THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING LOCATES FOR ALL UTILITIES AND UNDERGROUND SERVICES PRIOR TO COMMENCING WORK AND SHALL COORDINATE WORK WITH SERVICES AND UTILITIES ADJACENT TO OR WITHIN THE AREA OF WORK.

19 COORDINATE ALL OPENING LOCATIONS AND DIMENSIONS WITH THE APPROPRIATE CONSULTANT AND THE SUB-CONTRACTOR PRIOR TO CONSTRUCTION.

20 DO NOT CUT OR DRILL ANY OPENINGS IN STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL CONSULTANT UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS

1. WHERE NOTED EXISTING STRUCTURAL INFORMATION IS ASSUMED BASED ON FIELD REVIEW OF EXISTING FINISHED CONDITIONS, THE CONTRACTOR SHALL REMOVE FINISHES AS REQUIRED TO VERIFY THE EXISTING STRUCTURAL INFORMATION PRIOR TO COMMENCING WORK. REPORT ALL VARIATIONS TO THE STRUCTURAL CONSULTANT PRIOR TO COMMENCING WORK
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK AND REPORT ALL VARIATIONS TO THE STRUCTURAL CONSULTANT IMMEDIATELY
3. THE CONTRACTOR SHALL TAKE PRECAUTIONS AS REQUIRED TO PROTECT EXISTING STRUCTURE FROM DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING STRUCTURES RESULTING FROM THE CONTRACTOR'S OPERATIONS
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLANNING, DESIGN, CONSTRUCTION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY WORKS REQUIRED TO SHORE THE EXISTING STRUCTURE DURING CONSTRUCTION. ALL TEMPORARY WORKS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN ONTARIO
5. THE DESIGN OF TEMPORARY WORKS SHALL ACCOUNT FOR ALL ANTICIPATED CONSTRUCTION LOADS AND THE GEOTECHNICAL CONDITIONS
6. WHERE REQUIRED FOR THE DESIGN OF TEMPORARY WORKS, RETAIN A GEOTECHNICAL ENGINEER TO PROVIDE THE NECESSARY GEOTECHNICAL RECOMMENDATIONS



DISCLAIMER & COPYRIGHT
THIS DRAWING IS NOT A LEGAL SURVEY AND MUST NOT BE USED FOR DEFINING PROPERTY BOUNDARIES OR LOCATING SURVEY MONUMENTS. PROPERTY LINES DETERMINED BY THIS DRAWING ARE FOR INFORMATION PURPOSES ONLY. IT IS NOT APPROPRIATE AND ANY REFERENCE TO SURVEY BASIS SHOWN HEREIN ARE APPROPRIATE AND FOR ILLUSTRATIVE OR PLANNING PURPOSES ONLY.

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED

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PROJECT TITLE	
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RAMARA YARD 3 HVAC UPGRADES

DRAWING TITLE

STRUCTURAL DRAWING
GUARDRAIL REPLACEMENT
GENERAL NOTES

PROJECT	SCALE	DRAWING
326019-06	AS NOTED	S1.2

MECHANICAL LEGEND	
DOMESTIC COLD WATER PIPING	----
DOMESTIC HOT WATER PIPING	----
DOMESTIC HOT WATER RE-CIRCULATION PIPING	----
NATURAL GAS PIPING PIPING	----
SANITARY WASTE PIPING (ABOVE GRADE)	----
SANITARY WASTE PIPING (BELOW GRADE)	---- NYS ----
SANITARY VENT	----
STORM WASTE PIPING (ABOVE GRADE)	----
STORM WASTE PIPING (BELOW GRADE)	---- FLS ----
HEATING WATER SUPPLY PIPING	----
HEATING WATER RETURN PIPING	----
REFRIGERANT LIQUID PIPING	----
REFRIGERANT SUCTION PIPING	----
FUEL OIL SUPPLY	---- FOS ----
FUEL OIL RETURN	---- FOR ----
FUEL OIL FILL	---- FOF ----
FUEL OIL VENT	---- FOV ----
PIPE UP	○
PIPED DOWN	○
ISOLATION VALVE	✕
FLOW BALANCING VALVE	✕
CHECK VALVE	✕
BACKFLOW PREVENTER	✕
PRESSURE RELIEF VALVE (PRV)	✕
WATER METER	✕
NATURAL GAS METER	✕
CLEANOUT AT ABOVE	✕ CO
CLEANOUT AT BELOW	✕ CO
CONNECT TO EXISTING	✕
AIR FLOW DIRECTION	→
FLEXIBLE DUCT CONNECTOR	✕
EXISTING SERVICES OR EQUIPMENT	✕
EXISTING SERVICES OR EQUIPMENT TO BE REMOVED	✕
CIRCULATOR	✕
FLOOR DRAIN C/W TRAP	✕
SUPPLY DUCT UP/DOWN	✕
RETURN DUCT UP/DOWN	✕
EXHAUST DUCT UP/DOWN	✕
ROUND DUCT UP/DOWN	✕
FIRE DAMPER	FD
BALANCING DAMPER	BD
MOTORIZED DAMPER	MD
THERMOSTAT	①
THERMOSTAT HEATING (DIV. 1B)	①H
THERMOSTAT VENTILATION (DIV. 1B)	①V
HUMIDISTAT (DIV. 1B)	①H
CARBON DIOXIDE SENSOR	①CO
CARBON MONOXIDE SENSOR	①CO-1
NITROGEN DIOXIDE SENSOR	①NO2-1
CONTROL WIRE (LOW VOLTAGE)	①
SYMBOL INDICATES MODIFICATION OR NEW WORK	①
SYMBOL INDICATES NOTE DEMOLITION/ REMOVAL WORK	①
DETAIL NUMBER	②
SHEET NUMBER/ DETAIL LOCATION	② M2
TYPE OF DIFFUSER/GRILLE OR SEE SCHEDULE	②
SIZE IMPERIAL IN METRIC MM	② XX
AIR FLOW IMPERIAL CFM METRIC L/S	② XX
ABBREVIATIONS	
AFF ABOVE FINISHED FLOOR	HRV HOT WATER HEATER
AHU AIR HANDLING UNIT	HRV HEAT RECOVERY
ALT ALTERNATE	LV VENTILATOR
AP ACCESS PANEL	LV LAVATORY
AS AIR SEPARATOR	MBH 1000 BTU/HOUR
B8H ELECTRIC BASE BOARD	MD MOTORIZED DAMPER
BTU HEATER	MDA MOTORIZED DAMPER
BTU BRITISH THERMAL UNIT	MPR ACTUATOR
BV BALANCE VALVE	MPR MULTI-PUMP RELAY
CA COMBUSTION AIR	MOP MOP SINK
CB CATCH BASIN	MS NATURAL GAS
CO CLEANOUT	MS OUTSIDE AIR
COND CONDENSATE	OED OPEN ENDED DUCT
CHV HYDRAONIC CONVECTOR	PRV PRESSURE REDUCING
CS COUNTER SINK	PRV VALVE
CU CONDENSING UNIT	RA RETURN AIR
CW COMPLETE WITH	RG RETURN GRILLE
DCW DOMESTIC COLD WATER	RP REDUCED PRESSURE
DHW DOMESTIC HOT WATER	RP BACKFLOW PREVENTER
DX DIRECT EXPANSION	RVV ROOF INTAKE VENT
COOLING COIL	RVV ROOF RELIEF VENT
EA EXHAUST AIR	SA SUPPLY AIR
EG EXHAUST GRILLE	SAN SANITARY
EF EXHAUST FAN	SG SUPPLY GRILLE
ESP EXTERNAL STATIC	SPD SPLITTER DAMPER
ET PRESSURE	SR SUPPLY REGISTER
EXPANSION TANK	TP TRAP PRIMER LINE
FD FLOOR DRAIN OR FIRE	TYP TYPICAL
DAMPER	UH UNIT HEATER- HYDRONIC
FFH FORCED FLOW HEATER	UR URINAL
FTR HYDRAONIC FINNED TUBE	VS VENT STACK
RADIATION	VR VENT THRU ROOF
GC GENERAL CONTRACTOR	WC WATER CLOSET
HB HOSE BIBB	WH WATER HYDRANT
HX HEAT EXCHANGER	WS WASTE STACK
HWT HOT WATER TANK	

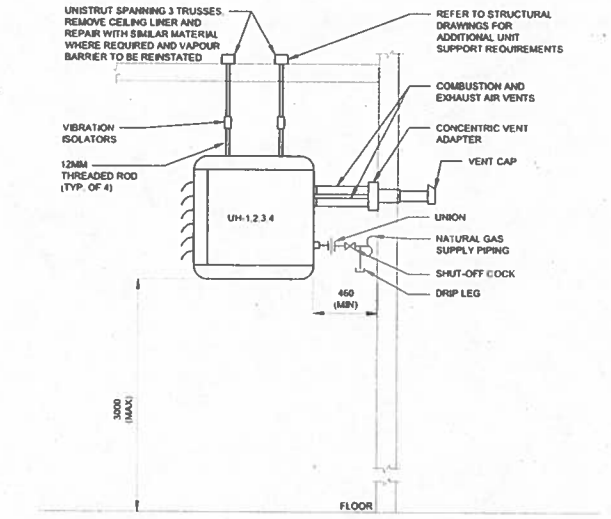
ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
○	SINGLE PHASE MOTOR
✕	CONTROL STATION OR PANEL
✕	SINGLE PHASE MANUAL STARTER SWITCH WITH LOCK-OFF AND PILOT LIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

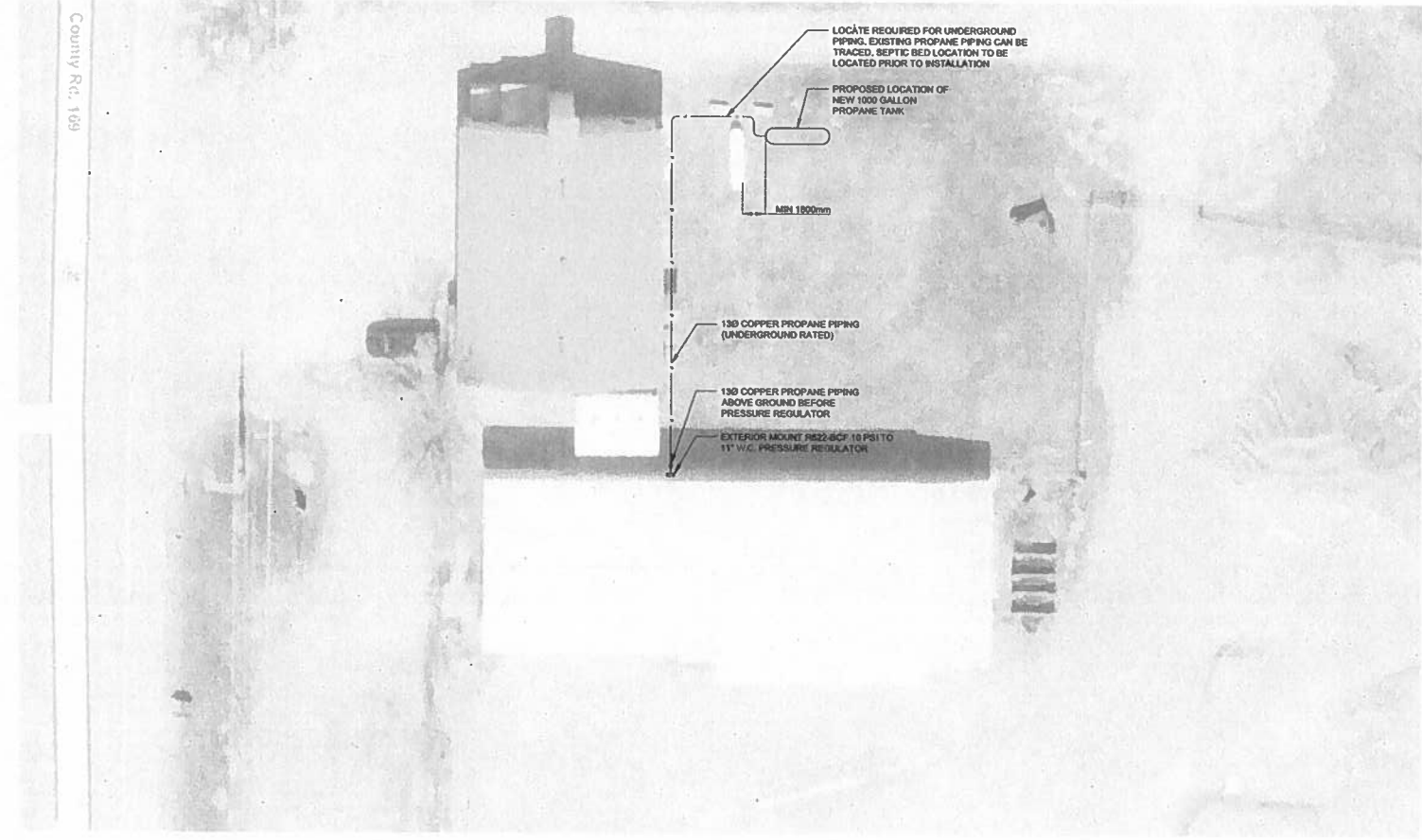
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DRAWINGS DO NOT PORTRAY ALL LOCATIONS FOR SEAL FITTINGS. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL SEAL FITTINGS AS REQUIRED AS PER SECTION 16 OF THE OSEC.

ELECTRIC HEATER SCHEDULE									
TAG	MAKE	MODEL	DESCRIPTION	CAPACITY kW (BTU/H)	ELECTRICAL		WEIGHT (kg)	DIMENSIONS (L x W x H)	ACCESSORIES/REMARKS
					VOLTS	AMPS			
UH-1	MODINE	HD560	PROPANE UNIT HEATER	17.5	120/1/60	4.2	36	660x460x640	C/W THERMOSTAT, LOW VOLTAGE CONTROL TRANSFORMER, 3" TYPE B VENT W/ HORIZONTAL CONCENTRIC VENT KIT AND 30" DOWNWARD AIR DEFLECTOR HOOD, 1/2" GAS CONNECTION, PROVIDE TYPE B VENT PIPE.
UH-2	MODINE	HD560	PROPANE UNIT HEATER	17.5	120/1/60	4.2	36	660x460x640	C/W THERMOSTAT, LOW VOLTAGE CONTROL TRANSFORMER, 3" TYPE B VENT W/ HORIZONTAL CONCENTRIC VENT KIT AND 30" DOWNWARD AIR DEFLECTOR HOOD, 1/2" GAS CONNECTION, PROVIDE TYPE B VENT PIPE.
UH-3	MODINE	HD560	PROPANE UNIT HEATER	17.5	120/1/60	4.2	36	660x460x640	C/W THERMOSTAT, LOW VOLTAGE CONTROL TRANSFORMER, 3" TYPE B VENT W/ HORIZONTAL CONCENTRIC VENT KIT AND 30" DOWNWARD AIR DEFLECTOR HOOD, 1/2" GAS CONNECTION, PROVIDE TYPE B VENT PIPE.
UH-4	MODINE	HD560	PROPANE UNIT HEATER	17.5	120/1/60	4.2	36	660x460x640	C/W THERMOSTAT, LOW VOLTAGE CONTROL TRANSFORMER, 3" TYPE B VENT W/ HORIZONTAL CONCENTRIC VENT KIT AND 30" DOWNWARD AIR DEFLECTOR HOOD, 1/2" GAS CONNECTION, PROVIDE TYPE B VENT PIPE.
FFH-1	OUELLET	OVRU0502	FORCED FAN HEATER	0.5	120/1/60	4.2	4	410x80x210	CONTROL BY INTEGRAL THERMOSTAT



2 TYPICAL PROPANE UNIT HEATER WITH CONCENTRIC VENT DETAIL
ME1.0 NTS



1 SITE PLAN AND PROPANE TANK LOCATION
ME1.0 1:250



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VERSION	DATE
1 ISSUED FOR CLIENT REVIEW	2026 08 28
2 ISSUED FOR TENDER/PERMIT	2026 09 11

DESIGN BY: RJS DRAWN BY: RJS CHECKED BY: JT/ST

STAMP

LICENCED PROFESSIONAL ENGINEER
S. R. S. TAYLOR
100518503
SEP 11, 2026
PROVINCE OF ONTARIO

FOR MECHANICAL ONLY

LICENCED PROFESSIONAL ENGINEER
S. R. S. TAYLOR
100518503
SEP 11, 2026
PROVINCE OF ONTARIO

FOR ELECTRICAL ONLY

TATHAM ENGINEERING

COLLINGWOOD - BRACEBRIDGE - ORILLIA - BARRIE - OTTAWA - GUELPH

PROJECT TITLE

**RAMARA YARD 3
HVAC UPGRADES**

DRAWING TITLE

**MECHANICAL AND ELECTRICAL
LEGENDS, DETAIL, SITE PLAN AND
SCHEDULES**

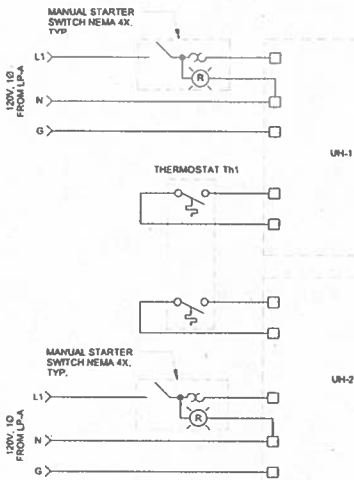
PROJECT: 326019-06 SCALE: AS NOTED DRAWING: ME1.0



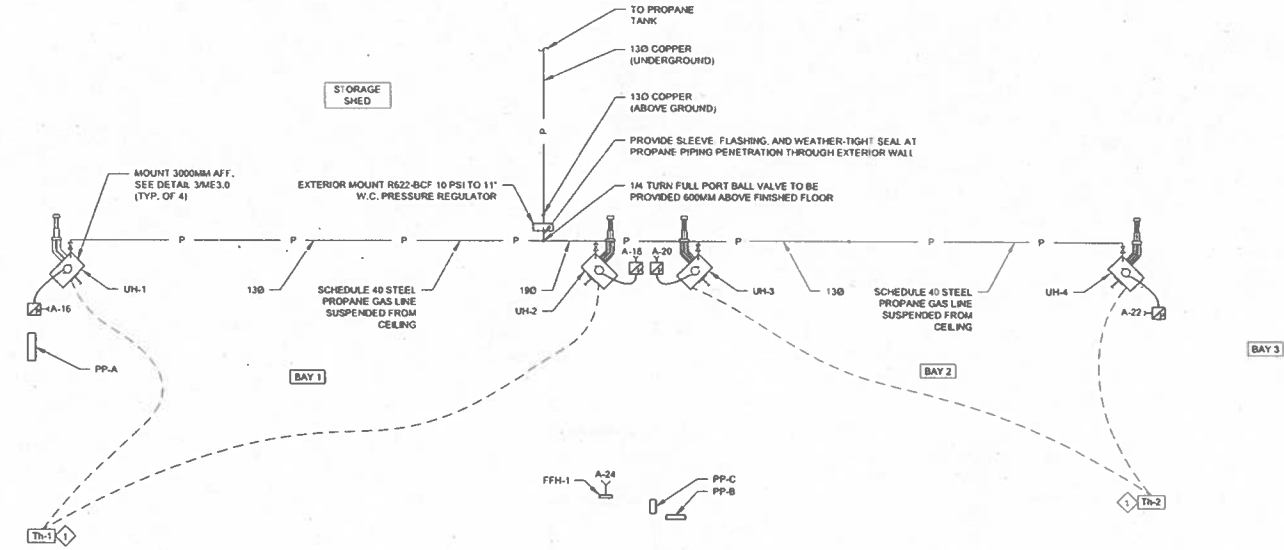
PROJECT	SCALE	DRAWING
326019-06	AS NOTED	ME2.0

PANEL TAG NAME: 'PP-A'		120/240V 1PH 3W				MOUNTING SURFACE	
		MAIN BREAKER 200A 2P		LOCATION BAY 1			
LOAD-W	CIRCUIT DESCRIPTION	PROT.	CIRCUITS	PROT.	CIRCUIT DESCRIPTION	LOAD-W	
	SPARE	15A	1 A 2	15A	OUTSIDE PLUG		
	FURNACE	20A	3 B 4	20A	OUTSIDE PLUG		
	HOT WATER	30A	5 A 6	20A	UNKNOWN		
	UH-1/2/3/4	2P	7 B 8	100A	MAIN TO NEW BUILDING		
	WELDER	15A	9 A 10	2P			
	UNKNOWN	60A	11 B 12	100A	EAST SHOP WELDER		
		2P	13 A 14	2P			
		15A	15 B 16	15A	PROPANE UNIT HEATERS UH-1	504	
		2P	17 A 18	15A	PROPANE UNIT HEATERS UH-2	504	
	GRINDER	15A	19 B 20	15A	PROPANE UNIT HEATERS UH-3	504	
	OFFICE LIGHTS BATH	2P	21 A 22	15A	PROPANE UNIT HEATERS UH-4	504	
	BLOCK HEATER	15A	23 B 24	15A	BATHROOM FORCED FAN HEATER FFH-1	500	
	BLOCK HEATER	15A	25 A 26	15A	SPARE		
	GAS PUMP	15A	27 B 28	15A	SPARE		
	UNKNOWN	15A	29 A 30	15A	SPARE		
	OFFICE HEATER	15A	31 B 32	15A	SPARE		
	SPARE	30A	33 A 34	15A	SPARE		
	SPARE	2P	35 B 36	2P	NEW AIR COMPRESSION		
	SPARE	15A	37 A 38	2P			
	SPARE	15A	39 B 40	15A	NEW EXHAUST FAN		
	SPARE	15A	41 A 42	2P			

2 EXISTING POWER PANEL 'PP-A' SCHEDULE
ME3.0 NTS



3 DUAL HEATER CONTROL WIRING DIAGRAM
ME3.0 TYPICAL DIAGRAM FOR UH-1, UH-2, AND Th-1
SIMILAR DIAGRAM FOR UH-3, UH-4, AND Th-2



1 HVAC AND ELECTRICAL LAYOUT
ME3.0 1/100

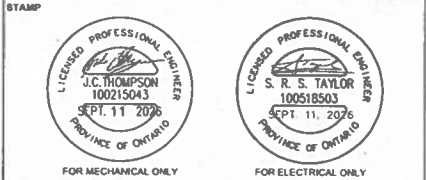
DRAWING NOTES

- 1 PROVIDE CONDUIT AND WIRING (LOW VOLTAGE THERMOSTAT WIRING) TO CONNECT HEATING THERMOSTAT (Th) TO ASSOCIATED PROPANE UNIT HEATERS.
- 2 PROVIDE NEW BREAKER IN EXISTING PANEL, MATCH EXISTING IAC SHORT CIRCUIT RATING.

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COLLINGWOOD - BRACEBRIDGE - ORILLIA - BARRIE - OTTAWA - GUELPH

PROJECT TITLE
**RAMARA YARD 3
HVAC UPGRADES**

DRAWING TITLE
**MECHANICAL HVAC AND
ELECTRICAL LAYOUT**

PROJECT: 326019-06 SCALE: AS NOTED DRAWING: ME3.0

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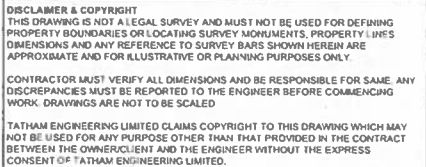
2.3. **Modeling of the**

- 4 Size wiring as per electrical code for all leads, with minimum #12AWG wire size
 - 5 Control conductors (120V) single conductor, Class B standard copper, minimum size #14AWG, 600V rated, RVW90 evaluation for installations in conduit. Include an insulated green conductor for ground wire
 - 6 Contractor to verify voltage drop per rating for each load from panel board
- 2.3 Rigid PVC Duct
- 1 Direct Buried ducts Rigid PVC conduit, schedule 40 pipe dimensions, complies with CSA C22.2 No 211 2-08
 - 2 Concrete encased ducts PVC type DB2 conduit, complies with CSA C22.2 No 211 1-08
- 2.4 PVC Duct Fittings
- 1 PVC, composite solvent welded type couplings, bell and fittings, plugs, caps, adaptors, split ducts as required to make complete installation
 - 2 Expansion joints and wobble joints
 - 3 PVC angle compounds, 90°, 45° and 22.5° bends with 915mm diameter radius bends (long sweeps)
 - 4 Solvent weld compound for all PVC duct joints
- 2.6 Markers
- 1 Concrete type cable markers, 800 x 600 x 100 mm, with the words "cable," "joint" or "conduit" impressed in top surface, with arrows to indicate change in direction of duct runs
- 2.8 Duct Splices
- 1 Rigid reinforcing plastic material for the conduit diameters and spacing required on drawings
- 2.9 Cable Pulling Equipment
- 1 6 mm standard nylon pull rope with tensile strength of 5 kN installed in all duct/banks
- 2.7 Disconnect Switches
- 1 Fuseable and non-fuseable disconnect switch, size as indicated, enclosure rated for applicable area (see Clause 2.1)
 - 2 Service entrance as noted on drawings
 - 3 Provision for padlocking in "on" and "off" switch position
 - 4 Mechanically interlocked door to prevent opening when handle in ON position
 - 5 Fuses: size as indicated
 - 6 Fuseholders suitable without adaptors for type and size of fuse indicated
 - 7 Quick-make, quick-break action, non-leakable mechanism with visible blade - dead front construction
 - 8 ON/OFF switch position indication on switch enclosures cover
 - 9 Early break auxiliary contact (switch), as indicated on drawings
 - 10 Acceptable manufacturers: Allen-Bradley, Cutler-Hammer, Siemens, GE and Square D (Schneider)
- 2.8 Power Panels/boards
- 1 Panels/boards, product of one manufacturer
 - 2 Designed for service entrance (as indicated); w/ main breaker rated 22kVAC; Main and feeder breakers must be series rated for 22kVAC
 - 3 Panelboard bus and feeder breakers rated for 10,000 A (symmetrical) interrupting capacity or as indicated
 - 4 Sequence phase bussing with odd numbered breakers on left and even on right, with each breaker

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- ## Electrical Specifications
- Page 8 of 10
- 2.10 Testing and Commissioning
- 1 Provide testing and commissioning of all electrical work. Notify the Consultant at least three working days before the testing and commissioning is scheduled to start. The Consultant may request repetition of any test for which due notification was not received.
 - 2 Provide insulation test using 500V megger on the utility supply cables.
- END OF SECTION



DESIGN BY	RJS	DRAWN BY	RJS	CHECKED BY	JT / ST
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TATHAM
ENGINEERING

COLLINGWOOD • BRACEBRIDGE • ORILLIA • BARRIE • OTTAWA • GUELPH

PROJECT TITLE

RAMARA YARD 3 HVAC UPGRADES

DRAWING TITLE

ELECTRICAL SPECIFICATIONS

PROJECT	SCALE	DRAWING
326019-06	AS NOTED	ME4.0

1. GENERAL SPECIFICATIONS:

- 1.1. REVIEW WORK AREA AND READ DRAWINGS IN CONJUNCTION WITH ALL DISCIPLINES BEFORE COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN PLANS AND POTENTIAL ISSUES ON WORK-SITE. NO ADDITIONAL PAYMENTS WILL BE MADE RELATED TO CLAIMS FOR ITEMS THAT WOULD HAVE BEEN APPARENT IF THE WORK AREA AND ALL PLANS WERE REVIEWED PRIOR TO PRICING THE WORKS.
- 1.2. THE GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR NECESSARY PERMITS PERTAINING TO THE INSTALLATION OF THEIR WORK AND PROVIDE ANY CERTIFICATES AND SIGN-OFFS AS CIRCUMSTANCES REQUIRE.
- 1.3. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM TO THE OWNER SUPPLIED AND INSTALLED BY THE GENERAL CONTRACTOR OR SUB-CONTRACTORS.
- 1.4. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, OCCUPATIONAL HEALTH AND SAFETY ACT AND AUTHORITIES HAVING JURISDICTION. MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE CANADIAN STANDARDS ASSOCIATION AND AUTHORITIES HAVING JURISDICTION. STANDARDS SET OUT IN DESIGN DRAWINGS SHALL NOT BE REDUCED BY CONFORMANCE TO APPLICABLE CODES AND STANDARDS. MAKE ALL MINOR MODIFICATIONS AS REQUIRED BY AUTHORITIES HAVING JURISDICTION AT NO COST TO THE OWNER.
- 1.5. SUBMIT ELECTRONIC SHOP DRAWINGS FOR EQUIPMENT LISTED ON THE SCHEDULES FOR REVIEW PRIOR TO ORDERING. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES TO PROVIDE A COMPLETE WORKING SYSTEM CONSISTENT WITH THE INTENT OF THE DESIGN DRAWINGS. CONTRACTOR SHALL REVIEW DESIGN DRAWINGS, EQUIPMENT SCHEDULES AND SHOP DRAWINGS FOR ERRORS AND OMISSIONS AND ELEMENTS RELATING TO WORKS/ASSEMBLY ON-SITE.
- 1.6. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL PROVIDE OPERATION AND MAINTENANCE MANUALS, THE FIRST PAGE OF THE OPERATION AND MAINTENANCE MANUAL SHALL BE A TYPE WRITTEN DOCUMENT EXPLAINING THE DETAILED MAINTENANCE REQUIREMENTS AND SCHEDULE FOR THE SYSTEM AND ANY OTHER INFORMATION THAT IS SPECIFIC TO THIS PROJECT. GENERIC OPERATIONS AND MAINTENANCE MANUALS WITH NO PROJECT SPECIFIC INFORMATION WILL NOT BE ACCEPTED.
- 1.7. KEEP ONE SET OF ALL APPLICABLE CONTRACT (INCLUDING UPDATES) AND SHOP DRAWINGS AT THE SITE.
- 1.8. ENSURE THAT THE LATEST ISSUE DRAWINGS ARE MARKED UP TO REFLECT THE WORK AS INSTALLED AND HAVE THESE AVAILABLE FOR THE TOWNSHIP'S REVIEW AT SITE.
- 1.9. UPON COMPLETION OF THE WORK, TRANSFER ALL REVISIONS TO A CLEAN SET OF PRINTS AND SUBMIT TO CONSULTANT FOR "AS-BUILT" RECORD AS PART OF THE FINAL JOB DOCUMENTATION.
- 1.10. PROVIDE TRAINING FOR THE OPERATOR OR OWNER'S REPRESENTATIVE. PROVIDE COMMISSIONING SERVICES AS REQUIRED.
- 1.11. LABEL ALL EQUIPMENT, PIPING, CONDUIT ETC.
- 1.12. THE CONTRACTOR IS RESPONSIBLE FOR STORAGE AND SECURITY OF MATERIALS AND EQUIPMENT ON THE JOB SITE.
- 1.13. THE OWNER'S PROPERTY MUST BE KEPT IN TIDY CONDITION. PROMPTLY REMOVE GARBAGE FROM THE SITE. CLEAN WORK AREA PRIOR TO ALL INSPECTIONS AND KEEP SITE IN A SAFE CONDITION.
- 1.14. DESIGN DRAWINGS ILLUSTRATE THE GENERAL LAYOUT OF THE WORK ONLY. COORDINATE THE INSTALLATION OF WORK WITH OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LAYOUT OF EQUIPMENT AND MATERIALS AND ENSURING THERE ARE NO INTERFERENCES WITH OTHER SYSTEMS.
- 1.15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF THEIR WORK.
- 1.16. EQUIPMENT SHALL BE INSTALLED, STARTED, TESTED, AND ADJUSTED AS PER THE MANUFACTURER'S INSTRUCTIONS, AND AS NECESSARY TO ENSURE OPTIMUM PERFORMANCE. EQUIPMENT SHALL BE INSTALLED TO ALLOW FOR EASY ACCESS AND MAINTENANCE.
- 1.17. THE CONTRACTOR SHALL GUARANTEE WORK PERFORMED UNDER THIS CONTRACT FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. ENSURE THAT ALL EQUIPMENT IS WARRANTED BY THE MANUFACTURER FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- 1.18. MATERIALS AND EQUIPMENT SHALL BE NEW, TOP QUALITY AND SPECIFICATION GRADE EXCEPT WHERE NOTED OTHERWISE.
- 1.19. THIS SPECIFICATION SHALL BE CONSIDERED TO BE THE BASE BID SPECIFICATION AND CONTRACTORS MUST CARRY THE BASE BID MANUFACTURERS IN THEIR QUOTATION. ALTERNATE MANUFACTURERS OF EQUIPMENT CAN ONLY BE OFFERED AS PROPOSED ALTERNATES WITH THE CORRESPONDING PRICE REDUCTIONS PASSED ALONG TO OWNER.
- 1.20. THE CONTRACTOR SHALL NOT WELD TO OR MAKE A HOLE IN A STRUCTURAL MEMBER WITHOUT REVIEW FROM THE STRUCTURAL ENGINEER. ATTACHMENTS TO STRUCTURAL MEMBERS SHALL BE MADE WITH SUITABLE CLAMPS OR CLIPS.
- 1.21. THE GENERAL CONTRACTOR SHALL PROVIDE ALL OPENINGS AND REINFORCEMENT FRAMING AS REQUIRED.
- 1.22. ALL MATERIALS IN CEILING SPACE USED FOR RETURN AIR PLENUM MUST BE PLENUM RATED.
- 1.23. CONFIRM FIRE SEPARATIONS WITH ARCHITECTURAL DRAWINGS AND GENERAL CONTRACTOR. ALL PENETRATIONS THROUGH FIRE SEPARATIONS SHALL BE FITTED WITH EXPANSION SLEEVES AND UL-C CERTIFIED FIRE STOPPING. ACCEPTABLE MATERIAL: HLT10 OR APPROVED EQUIVALENT.
- 1.24. THE OWNER RESERVES THE RIGHT TO MAKE MINOR ALTERATIONS TO THE LOCATION OF EQUIPMENT ETC AT NO ADDITION TO THE CONTRACT AMOUNT.
- 1.25. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND INTENDED TO SERVE AS A GUIDE SHOWING QUANTITIES AND GENERAL ARRANGEMENTS AND ARE NOT NECESSARILY WORKING DRAWINGS FROM WHICH MEASUREMENTS CAN BE TAKEN. EXCEPT WHERE DIMENSION FIGURES ARE SPECIFICALLY SHOWN, INFORMATION INVOLVING ACCURATE MEASUREMENTS OF BUILDING SHALL BE TAKEN FROM ARCHITECTURAL BUILDING DRAWINGS OR FROM THE SITE.
- 1.26. MAINTAIN ADEQUATE LIABILITY INSURANCE TO PROTECT OWNER AND ALL CONTRACTORS.
- 1.27. TEMPORARY LIGHTING AND POWER FOR CONSTRUCTION BY GENERAL CONTRACTOR.
- 1.28. ALL EQUIPMENT, PIPING, CONDUIT, WIRING, JUNCTION BOXES, HARDWARE, ETC. INSTALLED IN OPEN CEILING SPACES SHALL BE INSTALLED IN AN ARCHITECTURALLY AND AESTHETICALLY PLEASING MANNER UP TO THE SOLE DISCRETION OF THE OWNER AND ENGINEER. ALL EQUIPMENT, PIPING, CONDUIT, WIRING, JUNCTION BOXES, HARDWARE SHALL BE INSTALLED IN CHASES, ABOVE ADJACENT CEILINGS WHERE POSSIBLE.
- 1.29. PAINT ALL EXPOSED DUCTWORK, PIPING, CONDUIT, CABLE TRAYS, JUNCTION BOXES, HANGERS, HARDWARE ETC. REFER TO ARCHITECT OR INTERIOR DESIGNER'S DRAWINGS.
- 1.30. SUITABLE ACCESS DOORS MUST BE PROVIDED WHERE NECESSARY TO ACCESS VALVES, JUNCTION BOXES, CLEAN OUTS, FIRE DAMPERS, AND OTHER EQUIPMENT AND APPURTENANCES. ALL ITEMS REQUIRING ACCESS PANELS ARE NOT NECESSARILY SHOWN. CARRY A REASONABLE COST ALLOWANCE. COORDINATE EXACT LOCATION OF COMPONENTS REQUIRING ACCESS AND SELECT SIZES WHICH ARE SUITABLE FOR MAINTENANCE.
- 1.30.1. FOR GYPSUM WALLS AND CEILINGS IN OCCUPIED AREAS, PROVIDE CONCEALED DOORS WITH 5/8" RECESS TO RECEIVE DRYWALL. ACCEPTABLE MATERIAL: FOR STANDARD CEILINGS AND WALLS ACUOR (DW-501) OR EQUIVALENT, FOR 90 MINUTE FIRE RATING ACUDOR FW(90-501) OR EQUIVALENT, FOR GREATER RATING, CONTACT ENGINEER AND ARCHITECT.
- 1.30.2. FOR GYPSUM PLASTER, MASONRY OR T&E WALLS AND CEILINGS IN UTILITY AND STORAGE AREAS, PROVIDE UNIVERSAL FLUSH ACCESS DOOR. ACCEPTABLE MATERIAL: FOR STANDARD CEILINGS AND WALLS ACUOR U-5000 OR EQUIVALENT, FOR 90 MINUTE FIRE RATING ACUDOR FW-5000, FOR GREATER RATING, CONTACT ENGINEER AND ARCHITECT.
- 1.31. PAY FOR AND COORDINATE ALL UTILITY LOCATES AS REQUIRED.
- 1.32. PROVIDE WATER-PROOFING OF BUILDING OPENINGS RELATED TO THE WORK OF ALL TRADES.
- 1.33. SHOP DRAWINGS ARE REQUIRED FOR ALL EQUIPMENT SHOWN ON THE MECHANICAL SCHEDULES.

2. COMBUSTION AIR AND FLUE VENTING SPECIFICATIONS

- 2.1. ALL COMBUSTION AND FLUE GAS VENT PIPING SHALL BE SELECTED AND INSTALLED PER THE REQUIREMENTS OF B149 AND MANUFACTURER'S RECOMMENDATIONS.
- 2.2. ANY PIPING IN PLENUM SPACE SHALL BE PLENUM RATED (IPEX 636, ETC.).
- 2.3. VENTS SHALL NOT TERMINATE:
 - 2.3.1. LESS THAN 7' ABOVE PUBLIC SIDEWALKS OR DRIVEWAYS;
 - 2.3.2. WITHIN 10' OF AIR INTAKES EXCLUDING THE COMBUSTION AIR INTAKE FOR THE SAME APPLIANCE;
 - 2.3.3. ABOVE A REGULATOR WITHIN 3' HORIZONTALLY OF THE REGULATOR VENT UNLESS GREATER THAN 15' ABOVE;
 - 2.3.4. LESS THAN 3' ABOVE GRADE LEVEL;
 - 2.3.5. WITHIN THE FOLLOWING DISTANCES OF WINDOWS/DOORS/OPENINGS AND COMBUSTION AIR INTAKES FOR OTHER APPLIANCES:
 - 2.3.5.1. 6" FOR UP TO 100MBH;
 - 2.3.5.2. 12" FOR UP TO 100MBH;
 - 2.3.5.3. 3' FOR ABOVE 100MBH.
 - 2.3.6. UNDERNEATH ANY OVERHANGS UNLESS FULLY OPEN ON TWO SIDES AND MINIMUM DISTANCE OF 1' BELOW OVERHANG.

3. PROPANE PIPING SPECIFICATIONS:

- 3.1. CONTRACTOR SHALL COORDINATE PIPING INSTALLATION WITH PROPANE UTILITY PROVIDER.
- 3.2. PROPANE PIPING SYSTEMS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH CSA B149.1.
- 3.3. ABOVE GROUND PIPING:
 - 3.3.1. PIPING: SCHEDULE 40, ASTM A53 OR A106, GRADE B
 - 3.3.2. FITTINGS: ASME B16.3
 - 3.3.3. FLANGES AND FLANGED FITTINGS: ASME B16.5
 - 3.3.4. UNIONS: MALLEABLE IRON
 - 3.3.5. NIPPLES: SCHEDULE 40, ASTM A53 OR A106, GRADE B
 - 3.3.6. VALVES: CSA APPROVED FOR PROPANE SERVICE
- 3.4. UNDERGROUND PIPING:
 - 3.4.1. COPPER SEAMLESS TUBING FOR UNDERGROUND USE SHALL BE EITHER TYPE L OR G, EXTERNALLY COATED WITH EXTRUDED POLYETHYLENE OR PVC RESIN AT THE TIME OF MANUFACTURE, OR TYPE K, AND ANY PORTION OF THE COPPER TUBING THAT EXTENDS ABOVE GROUND SHALL BE PROTECTED AGAINST PHYSICAL DAMAGE.
 - 3.4.2. UNDERGROUND TUBING SYSTEMS SHALL BE JOINED OR CONNECTED BY BRAZING, APPROVED MECHANICAL COMPRESSION OR APPROVED FLARED OR PRESS-CONNECTED FITTINGS.
 - 3.4.3. PIPING AND TUBING SHALL BE LOCATED IN A TRENCH THAT IS PROPERLY GRADED TO PREVENT A SAG IN THE PIPING OR TUBING.
 - 3.4.4. BACKFILL MATERIAL SHALL BE FREE OF SHARP OBJECTS, LARGE STONE, OR ANY OTHER MATERIAL THAT CAN DAMAGE THE PIPING OR TUBING.
- 3.5. PIPING OR TUBING SHALL NOT BE SUPPORTED BY OTHER PIPING OR TUBING, AND SHALL BE INSTALLED WITH INDIVIDUAL SUPPORTS OF SUFFICIENT STRENGTH AND QUALITY. SUPPORTS SHALL BE SPACED IN ACCORDANCE WITH CSA B149.1, TABLE 6.2.
- 3.6. IDENTIFICATION OF PIPING OR TUBING: YELLOW COATING WITH MARKINGS SPECIFYING "PROPANE" SHALL BE USED, WHERE THE PIPING OR TUBING PRESSURE IS IN EXCESS OF 14" W.C. BOTH THE PIPING OR TUBING AND THE PRESSURE SHALL BE IDENTIFIED AT SHUT-OFF VALVES.
- 3.7. TESTING OF PIPING SYSTEM SHALL BE COMPLETED IN ACCORDANCE WITH CSA B149.1, SECTION 6.2.2 TESTING OF PIPING, TUBING, HOSE AND FITTINGS.

4. PROPANE STORAGE TANK SPECIFICATIONS:

- 4.1. CONTRACTOR SHALL COORDINATE PIPING INSTALLATION WITH PROPANE UTILITY PROVIDER.
- 4.2. PROPANE STORAGE TANK SHALL BE DESIGNED, FABRICATED AND INSTALLED IN ACCORDANCE WITH CSA B149.2.
- 4.3. PROPANE STORAGE TANK SIZING AND SELECTION SHALL BE VERIFIED BY PROPANE UTILITY PROVIDER.
- 4.4. THE LOCATION OF THE ABOVE-GROUND PROPANE STORAGE TANK SHALL COMPLY WITH THE MINIMUM SEPARATION DISTANCES IN CSA B149.2, TABLE 7.4.

5. HVAC SPECIFICATIONS

- 5.1. DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, AND THE ASHRAE AND SMACNA STANDARDS.
- 5.2. DUCTS MUST BE SEALED TO PREVENT AIR LEAKAGE. SEAL TO SMACNA AND ASHRAE 90.1 STANDARDS. FOR UNPAINTED DUCTS INSTALLED IN VISIBLE SPACES, THE DUCT MASTIC IS TO BE APPLIED TO THE INTERIOR OF DUCT JOINTS AND PENETRATIONS SHALL NOT BE VISIBLE FROM THE EXTERIOR. MASTIC MAY BE APPLIED TO THE EXTERIOR OF DUCTS ONLY IN AREAS WHERE IT IS NOT VISIBLE TO OCCUPANTS. EXPOSED MASTIC SHALL BE PAINTABLE AND IS TO BE APPLIED HEAVY WITH THE EXCESS REMOVED. REFER TO ARCHITECT'S DRAWINGS TO CONFIRM WHETHER OR NOT DUCTS ARE TO BE PAINTED.
- 5.3. PROVIDE TWO (2) SETS OF FILTERS FOR EQUIPMENT. ONE (1) SET FOR USE DURING CONSTRUCTION AND ONE (1) SET TO BE INSTALLED IMMEDIATELY PRIOR TO BALANCING.
- 5.4. PIPES AND EQUIPMENT MUST BE INSTALLED SO AS TO MINIMIZE THE TRANSFER OF VIBRATION TO THE BUILDING AND ALSO TO ALLOW FOR EXPANSION AND CONTRACTION AS NECESSARY.
- 5.5. EQUIPMENT SHALL BE ASHRAE 90.1 COMPLIANT.
- 5.6. LINE VOLTAGE STARTERS, CONTROLS AND EQUIPMENT SAFETY SWITCHES SHALL BE SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED ON DESIGN DRAWINGS. LOW VOLTAGE STARTERS AND CONTROLS SHALL BE SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR.
- 5.7. ELECTRICAL WIRING: CONDUIT, JUNCTION BOXES, BACK BOXES, MOUNTING HARDWARE ETC. ABOVE 24V TO BE SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. CONTROLS WIRING, CONDUIT, JUNCTION BOXES, BACK BOXES, MOUNTING HARDWARE ETC. 24V AND BELOW TO BE INSTALLED BY MECHANICAL CONTRACTOR (MECHANICAL CONTRACTOR MAY SUB-CONTRACT THIS WORK TO ELECTRICAL CONTRACTOR).
- 5.8. THE MECHANICAL CONTRACTOR SHALL INSTALL PIPE WITH SLEEVES IN ORDER TO PREVENT CONTACT WITH CONCRETE, MASONRY OR SIMILAR MATERIALS.
- 5.9. ROOF CURBS AND FLASHINGS ARE TO BE SUPPLIED BY THE MECHANICAL CONTRACTOR. INSTALLED BY THE GENERAL CONTRACTOR/PROPER.
- 5.10. THE MECHANICAL CONTRACTOR SHALL PROVIDE SEISMIC BRACING AND RESTRAINT SYSTEMS FOR MECHANICAL EQUIPMENT, DUCTWORK AND PIPING AS REQUIRED BY APPLICABLE LOCAL BUILDING CODES. PROVIDE ENGINEERED, SEALED SHOP DRAWINGS FOR ANY REQUIRED AND INSTALLED SEISMIC BRACING. PROVIDE A SEALED LETTER OF CONFORMANCE UPON COMPLETION.
- 5.11. ALL EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT MANUFACTURER'S RECOMMENDED CLEARANCES ARE MAINTAINED. THE CONTRACTOR SHALL LAY OUT THE WORK BASED ON THE MANUFACTURER'S RECOMMENDED CLEARANCES AND ADVISE ENGINEER IMMEDIATELY IF ANY SITE CONDITIONS NEGATIVELY AFFECT THE PROPER INSTALLATION OF ALL EQUIPMENT.
- 5.12. THE CONTRACTOR SHALL REVIEW AND CONFIRM ALL EXISTING INDOOR METALLIC PIPING SYSTEMS ARE BONDED. PROVIDE BONDING FOR ALL NEW INDOOR METALLIC PIPING SYSTEMS AND EXISTING SYSTEMS WITHOUT PROPER BOND. BONDING SHALL BE INSTALLED TO THE REQUIREMENTS OF OESC 10-406. THE GENERAL CONTRACTOR SHALL DETERMINE IF BONDING IS BY MECHANICAL OR ELECTRICAL.
- 5.13. ALL COMBUSTION AND FLUE GAS VENT PIPING SHALL BE SELECTED AND INSTALLED PER THE REQUIREMENTS OF B149 AND MANUFACTURER'S RECOMMENDATIONS. ANY PIPING IN PLENUM SPACE SHALL BE PLENUM RATED (IPEX 636, ETC.).
- 5.14. GRADE B.
- 5.14.1. PIPING AND FITTINGS UP TO AND INCLUDING 2" (50MM) SHALL HAVE SCREWED ENDS WITH COUPLING.
- 5.14.2. PIPING AND FITTINGS 2-1/2" (63MM) AND LARGER SHALL HAVE WELDED JOINTS AND SHALL BE SUPPLIED WITH ENDS BEVELED AT AN ANGLE.
- 5.14.3. PIPING AND FITTINGS ANY SIZE: VICTALUC STYLE 107N RIGID COUPLINGS. CONTRACTOR TO SELECT GASKET TYPE FOR GYCOOL USE.
- 5.15. THOROUGHLY REAM ALL CUT PIPE ENDS, ANY PIPING WHICH IS FOUND TO BE INSTALLED WITHOUT BEING FULLY REAMED SHALL BE SUFFICIENT REASON FOR COMPLETE REMOVAL OF ALL JOINTS FOR INSPECTION AT THE SUBCONTRACTOR'S EXPENSE.
- 5.16. TAKE OFF UP FEED RUNS OUT OF THE TOP OF THE MAN AT AN ANGLE OF 90° OR 45° TO THE HORIZONTAL. DOWN FEEDS SHALL BE TAKEN OFF THE SIDE IN A SIMILAR MANNER. SEE DETAIL ON DRAWINGS.
- 5.17. SPECIALTY FITTINGS, EQUIPMENT, SIMILAR ITEMS AND INTERNAL PARTS THEREOF WHICH ARE COMPONENTS OF THE LINE OR LINES TO BE TESTED AND WHICH ARE NOT DESIGNED TO WITHSTAND THE SPECIFIED TEST PRESSURE SHALL BE REMOVED, DISCONNECTED OR BYPASSED AS APPLICABLE DURING THE TEST. DURING THE TEST PERIOD THE WATER PRESSURE PUMP OR OTHER SOURCE OF TEST PRESSURE SHALL BE DISCONNECTED FROM THE PIPING SYSTEM.
- 5.18. PRESSURE TESTS SHALL BE MADE WITH COLD WATER, AND, IN ADDITION TO THE FOREGOING, SHALL BE MADE IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS:
 - 5.18.1. WHERE IT IS PRACTICAL, TO TEST EACH SYSTEM AS A WHOLE. IT MAY BE TESTED IN SECTIONS.
 - 5.18.2. PIPING SYSTEMS SHALL BE TESTED AT 125 PSIG FOR 10 MINS. IF LEAKS ARE FOUND, THEY SHALL BE ELIMINATED BY TIGHTENING, REPAIR, OR REPLACEMENT, AS APPROPRIATE, AND THE HYDROSTATIC TEST REPEATED UNTIL NO LEAKAGE IS FOUND.
 - 5.18.3. BOILER PRESSURE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION MANUAL RECOMMENDATIONS.
- 5.19. INSTALL PIPING SO AS TO BE FREE FROM STRAIN AND DISTORTION DUE TO EXPANSION AND CONTRACTION.
- 5.20. RANGERS FOR HORIZONTAL PIPING SHALL BE BLACK OR COPPER, AS APPROPRIATE. CLEVIS HANGERS MANUFACTURED BY ANVI OR MYATT.
- 5.21. HANGERS FOR VERTICAL PIPING SHALL BE BLACK OR COPPER, AS APPROPRIATE. RISER CLAMPS MANUFACTURED BY ANVI OR MYATT.
- 5.22. THE MAXIMUM SPACING BETWEEN HANGERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH ASME B31.1 AND VICTAULK'S SUGGESTED PIPE SUPPORT SPACING.
- 5.23. PROVIDE INHIBITOR LEVEL TEST REPORT AT COMPLETION OF WORK.
- 5.24. ELECTRICAL WIRING ABOVE 24V AND STARTERS TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. CONTROLS WIRING 24V AND BELOW BY THE MECHANICAL CONTRACTOR.
- 5.25. THE CONTRACTOR SHALL REVIEW AND CONFIRM ALL EXISTING INDOOR METALLIC PIPING SYSTEMS ARE BONDED. PROVIDE BONDING FOR ALL NEW INDOOR METALLIC PIPING SYSTEMS AND EXISTING SYSTEMS WITHOUT PROPER BOND. BONDING SHALL BE INSTALLED.
- 5.26. TO THE REQUIREMENTS OF OESC 10-406. GC SHALL DETERMINE IF BONDING IS BY MECHANICAL OR ELECTRICAL.

6. HVAC SEQUENCE OF OPERATIONS:

- 6.1. PROPANE UNIT HEATERS (UH-1, 2): PROPANE UNIT HEATERS SHALL OPERATE FROM WALL THERMOSTAT (TH-1) TO MAINTAIN A SPACE TEMPERATURE SET POINT OF 18°C.
- 6.2. PROPANE UNIT HEATERS (UH-3,4): PROPANE UNIT HEATERS SHALL OPERATE FROM WALL THERMOSTAT (TH-2) TO MAINTAIN A SPACE TEMPERATURE SET POINT OF 18°C.

7. DEMOLITION GENERAL NOTES

- 7.1. DUCTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE, ONTARIO FIRE CODE, AND THE ASHRAE AND SMACNA STANDARDS.
- 7.2. CONTRACTOR SHALL VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK OF THIS SECTION. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY CONSTRUED BY EXPERIENCED OBSERVERS.
- 7.3. PRIOR TO COMMENCING WORK OF THIS SECTION, EXAMINE SITE AND CONDITIONS UNDER WHICH WORK WILL BE PERFORMED. DETERMINE EXACT LOCATIONS OF EXISTING EQUIPMENT, PIPING AND CONTROLS. REPORT TO OWNER ANY CONDITIONS THAT MIGHT ADVERSELY AFFECT WORK. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS AND PREPARATORY WORK.
 - 7.4. COMPLY WITH ALL STATE AND LOCAL CODES AS TO REMOVAL AND DISPOSAL OF EQUIPMENT REMOVED FROM THE SITE.
 - 7.5. COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE BEGINNING SELECTIVE DEMOLITION.
 - 7.6. COMPLY WITH HAULING AND DISPOSAL REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
 - 7.7. COMPLY WITH ANSI A10.8 (SAFETY REQUIREMENTS FOR DEMOLITION OPERATIONS) AND NFPA 241 (STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS).
 - 7.8. PERMITS: GIVE ALL REQUIRED NOTICES, FILE ALL REQUIRED PLANS AND SPECIFICATIONS RELATING TO THE WORK OF THIS SECTION WITH THE PROPER AUTHORITIES AND PAY FOR ANY REQUIRED PERMITS.
 - 7.9. ALL EQUIPMENT AND SYSTEMS TO BE DEMOLISHED UNDER THIS SECTION AND NOT DESIRED BY OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE ALL SUCH EQUIPMENT FROM THE SITE PROMPTLY AFTER DETACHMENT FROM BUILDING STRUCTURE.
 - 7.10. STORAGE OR SALE OF REMOVED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED.
 - 7.11. IT IS UNKNOWN WHETHER HAZARDOUS MATERIALS WILL BE ENCOUNTERED IN THE IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY ARCHITECT AND OWNER.



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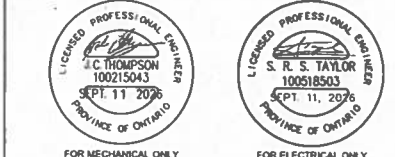
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PROJECT TITLE

RAMARA YARD 3
HVAC UPGRADES

DRAWING TITLE

MECHANICAL SPECIFICATIONS

PROJECT	SCALE	DRAWING
326019-06	AS NOTED	ME5.0