

## **Notice to Potential Proponents Request for Tenders**

RFT Date: **March 9, 2023**

RFT Solicitation #**2023-025**

RFT Title: **Water Treatment Plant Makeup Air Handling Unit Replacement**

Please review the attached document and submit your Tender to the email address noted below by the closing deadline of 2:00 PM (as recorded by the receiver) on **April 4, 2023**.

Tenders will not be considered unless:

1. Received by the date and time specified above; and
2. Received at the Email address specified below
  - a. [purchasing@drumheller.ca](mailto:purchasing@drumheller.ca)

Submission by hard copy or Facsimile will NOT be accepted.

Site Meeting Details: March 16, 2023, at 1:00 pm, 2490 South Railway Avenue, Drumheller, Alberta.  
Deadline for Questions: Must be received in writing (email) prior to 4:30 pm (local time) on March 23, 2023.  
Town Contact: Reg Bennett  
Facilities Manager  
224 Centre Street  
Drumheller Alberta, T0J 0Y4  
[purchasing@drumheller.ca](mailto:purchasing@drumheller.ca)



**Table of Contents**

1.0	Overview.....	3
1.1	Project Background.....	3
1.2	Existing Conditions.....	3
1.3	Project Schedule.....	3
2.0	Scope of Work and Submission Requirements.....	3
2.1	Scope of Work.....	3
	2.1.1 Perform the modification to the make up air unit as indicated on the Drawings.....	4
	The following is General Description and must not be construed as limiting the scope of work:.....	4
2.2	Pre-Bid Meeting and Site Inspection.....	4
2.3	Terms and Conditions.....	5
2.3.1	General Information.....	5
2.3.2	Communications During RFT.....	5
2.3.3	Conflict of Interest.....	5
2.4	Submission Requirements.....	5
2.4.1	Tender Submittal Location.....	6
2.4.2	Tender Submittal Format.....	6
2.4.3	Amendment of Tenders.....	6
2.4.4	Withdrawal of Tenders.....	6
2.5	Bid Bond.....	6
2.6	Contractor Certifications.....	7
3.0	Evaluation Process.....	7
3.1	Overview.....	7
3.2	Scoring Template.....	7
3.2.1	Technical Tender Evaluation.....	8
3.2.2	Cost Tender Evaluation.....	8
3.3	Review by Committee.....	8
3.4	Clarifications.....	8
3.5	Interview.....	8
3.6	Evaluation Results.....	9
4.0	Town of Drumheller Responsibilities.....	9
4.1	General.....	9
5.0	Contract Details.....	9
5.1	Insurances and Bonding.....	9
5.2	Warranty.....	9
5.3	Negotiations and Agreement.....	9
5.4	Payment.....	10
	Appendix A: COST SUBMISSION FORM.....	11
	Appendix B: Relative Documents.....	13
	Appendix C: Drawings.....	14

## 1.0 Overview

### 1.1 Project Background

Town of Drumheller water treatment plan contains multiple ventilation units. This project will consist of the removal and replacement one of the MUA units, 'MUA-7', as a maintenance procedure to provide a new 'like-for-like' make-up air unit. This new unit will be suspended at the location of the old obsolete unit and will be tied into the existing controls network to maintain the sequence of operations.

### 1.2 Existing Conditions

The Town of Drumheller Water Treatment Plant is located at 2490 South Railway Avenue, Drumheller, Alberta. The site includes multiple make up air units which were installed in 1985.

The 'MUA-7' has reached the end-of-life period and the Town intends to replace 'MUA-7' as per this project. The 'MUA-7' is a ceiling suspended unit at a high level and equipped with two gas-fired furnaces installed in series.

The unit has an outdoor air connection at the back of the unit, return air connection at the bottom and front supply air connection. It is planned to replace the existing 'MUA-7' with a 'like-for-like' unit from Engineered Air that can match the existing dimensions, weight and performance capacity.

The equipment is suspended above existing water piping that shall remain and be protected throughout the entire duration of construction.

### 1.3 Project Schedule

The schedule for this project is as follows:

Item	Date
RFT Issuance	March 9, 2023
Mandatory Pre-Bid Meeting	March 16, 2023, at 1:00 pm 2490 South Railway Avenue, Drumheller, Alberta
Deadline for Questions	March 23, 2023 at 4:30 pm
Closing Date	April 4, 2023 at 2:00 pm
Project Start or Delivery Date	June 2023
Construction Period	October 2023 (approximately 4 months)
Substantial Completion	October 2023
Warranty Period	October 2025

## 2.0 Scope of Work and Submission Requirements

### 2.1 Scope of Work

The following is a summary of the expected work but should not be considered an exhaustive list. Tasks required to complete the deliverables but not listed here shall be included where necessary.



## **2.11 Perform the modification to the make up air unit as indicated on the Drawings.**

The following is General Description and must not be construed as limiting the scope of work:

- .1 All work as indicated on drawings.
- .2 Demolish existing make up air unit, supports, wiring, duct work, and accessories. Include power and control wiring and accessories and make it safe. The Town of Drumheller will dispose of the old obsolete make up air unit.
- .3 Temporary heating should be provided to the building during the construction period as required to satisfy the clients requirements.
- .4 Contractor shall carry all costs to deliver the equipment into the site and protect all existing services on site.
- .5 Supply and install new make up air unit, support, duct work, and accessories.
- .6 Modify existing gas piping, fitting, and valves to suit the new installation.
- .7 Provide new control wiring to new make up air unit and modify existing wiring to suit the new installation.
- .8 Insulate the new duct work as per specifications.
- .9 Reconnect the power wiring to the new unit. Include for any modifications to the breaker to suit the new unit requirements.
- .10 Contractor to balance once the new equipment and submit report to the engineer for review.
- .11 Connect the new make up air unit with existing flue vent duct work. Provide the necessary fitting and accessories for a complete installation.
- .12 All work shall comply with codes having jurisdiction, including but not limited to NBC, CSA, ESA, NFPA.
- .13 Ensure to provide 72-hour notice to site and owner for any water and power shut-down.
- .14 Following installation, commission all new equipment as per manufacturer requirements. Provide start up reports to Engineer.
- .15 The Contractor is responsible to apply and coordinate with all required utilities to obtain any available incentives for the owner.
- .16 Provide a full comprehensive, one (1) year warranty on all labour and materials for entire project, following substantial completion of work. Also, provide and honor manufacturer warranty on all material as indicated.
- .17 Contractor shall be responsible for hotel, travel, and expenses.
- .18 Contractor shall be responsible for boom, lift or hoists, etc.

## **2.2 Pre-Bid Meeting and Site Inspection**

A mandatory site meeting will be held at:

1:00 pm on March 16, 2023, at 2490 South Railway Avenue, Drumheller, Alberta.

All Proponents must complete and provide the attached Mandatory Site Tour Attendance Form in Appendix B to the Project Manager at the time of the meeting.



## **2.3 Terms and Conditions**

### **2.3.1 General Information**

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

All Tenders are to be in English only.

Any information provided through the RFT, and associated Addenda, is for information only and does not guarantee the accuracy of information or quantities. It is the Proponent's responsibility to obtain all the information necessary to prepare a Tender in response to this RFT.

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

### **2.3.2 Communications During RFT**

Proponents should promptly examine all of the documents comprising this RFT and may direct questions or seek additional information in writing by email to the RFT Contact on or before the Deadline for Questions. Information sent to any individual other than the RFT Contact will be deemed as not received and a response will not be provided.

Submitted queries will be answered by Addendum only. Questions may be answered in part, or in whole, at the discretion of the Town and not all queries will be responded to if deemed to not be relevant to the RFT submission.

If an Addendum is issued following the Deadline for Issuing Addenda, the Town may extend the Submission Deadline for a reasonable period of time.

### **2.3.3 Conflict of Interest**

A Proponent may not have a direct or perceived Conflict of Interest with submitting a response to this RFT. This includes, but is not limited to: having access to confidential information not available to other Proponents; communications with any person with a view to influencing preferred treatment in the RFT process; or engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFT process.

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

## **2.4 Submission Requirements**

All Proponents are expected to submit the following:

1. Cost Submission Form (Appendix A)
2. Mandatory Site Tour Attendance Form (Appendix B)
3. Labour and Equipment rates
4. Provide a list of sub-contractors and their contact information.
5. Proposed Schedule
6. Workers Compensation Board (WCB) Coverage Letter
7. Proof of Commercial Liability Insurance
8. Provide a copy of COR/SECOR or TLC certification as issued by the Alberta Construction Safety Association. A copy of the safety policy and a copy of the table of contents of the safety manual may be submitted in lieu of COR/SECOR or TLC certification as issued by the Alberta Construction Safety Association.



It is to be noted that the Town of Drumheller's email receiving limit is 100MB and as such if multiple emails are required the subject line should note email *part # of #* and the next email to subject line to include *part # of #*. This is to be added onto the subject Line title as identified in Section 2.3.1 Tender Submittal Location.

#### **2.4.1 Tender Submittal Location**

Tenders must be submitted by email to:

purchasing@drumheller.ca

#### **2.4.2 Tender Submittal Format**

Proponents should submit one (1) electronic copy, in PDF format. Submissions must be a maximum of 100 MZB in total size. Zip files will not be accepted. The body of the email should not indicate the details of the Tenders, specifically the costs submitted.

The title of the email should be as follows:

RFT SUBMISSION – [COMPANY NAME] – [PROJECT NAME]

The title of the PDF's should be as follows:

RFT SUBMISSION - [COMPANY NAME] – [PROJECT NAME]

#### **2.4.3 Amendment of Tenders**

Proponents may amend their Tenders prior to the submission deadline by submitting the amendment in an email with RFT title as set out above. Any amendment should clearly indicate which part of the Tender the amendment is intended to amend or replace.

#### **2.4.4 Withdrawal of Tenders**

At any time throughout the RFT process until the execution of a written agreement, a Proponent may withdrawal a submitted Tender. To withdraw a Tender, a notice of withdrawal must be sent to the RFT contact and must be signed by an authorized representative of the Proponent. The Town is under no obligation to return withdrawn Tenders.

### **2.5 Bid Bond**

#### Bid Bond

- a) Each submission must include a *Consent of Surety* and *Bid Bond* in the amount of 10% in a form containing equivalent obligations on the part of the surety company and the submitter, executed under seal by a surety company satisfactory to *The Town* and authorized by the laws of Alberta to issue bonds in Alberta. In lieu of a *Consent of Surety* or *Bid Bond*, *The Town* may, in its sole discretion, accept from a financial institution acceptable to *The Town*, one of the following:
  - i. a bank draft, certified cheque, irrevocable letter of credit, or guarantee, along with any additional documentation *The Town* may require; or
  - ii. a letter that a bank draft, certified cheque, irrevocable letter of credit, or guarantee, will be provided upon the request of *The Town*.
- b) Failure to include in the submission the required documentation will result in *The Town*, in its sole discretion, electing to discontinue consideration of the submission.

#### Performance Security

- a) No later than five *Days* following execution of the *Agreement*, the *Contractor* must deliver to *The Town* *Performance Security* as specified in the *Agreement*. The *Performance Security* must be in



the form required by *The Town* or in a form that is acceptable to *The Town*, and must be enforceable in the Province of Alberta.

- b) If the *Agreement* is amended or a *Change Order* is issued that increases the *Project Price*, the *Contractor* must also increase the *Performance Security* provided under the *Agreement* to an amount not less than 50% of the increased *Project Price* by obtaining and providing additional *Performance Security*, or a satisfactory rider or extension to the existing *Performance Security*, from the surety company. If the surety company declines consent or coverage for any amendment to the *Agreement* or for a *Change Order*, the *Contractor* must obtain and provide *The Town* with valid *Performance Security*, satisfactory to *The Town*, covering the *Work* specified in the amendment to the *Agreement* or in the *Change Order*. The *Contractor* will be compensated for the additional cost of such *Performance Security*.
- c) If there is a *Labour and Material Payment Bond* required by *The Town*, the *Contractor* must ensure that all *Subcontractors* have notice of the *Labour and Material Payment Bond*. The *Contractor* must post and maintain in a conspicuous location or locations on the *Project Site*, a copy of the *Labour and Material Payment Bond*. The agenda for the meetings held by the *Contractor* will include notice of the *Labour and Material Payment Bond*.

### 2.6 Contractor Certifications

Any consultant entering into any agreement with the Town of Drumheller is expected to have COR/SECOR or TLC certification as issued by the Alberta Construction Safety Association. A copy of the safety policy and a copy of the table of contents of the safety manual may be submitted in lieu of COR/SECOR or TLC certification as issued by the Alberta Construction Safety Association.

## 3.0 Evaluation Process

### 3.1 Overview

The Town of Drumheller reserves the right to accept/reject any or all Tenders in whole or in part. Proponents may be required to provide supplementary information after the closing date to support their Tender, when requested by the Town. The highest scoring or any Tender will not necessarily be awarded. The lowest cost or any Tender will not necessarily be awarded.

No Proponent shall have any claim for any compensation of any kind whatsoever (including, without limitation, the cost of preparing and submitting the Tender, and any anticipated profits and contributions to overhead) against the Town as a result of participating in this process, and by submitting a Tender each Proponent shall be deemed to have agreed that it has no claim. For greater certainty, the Proponent hereby waives any claim for damages or costs of any nature against the Town (including, without limitation, the cost of preparing and submitting the Tender, and any anticipated profits and contributions to overhead) arising out of the Town's use of its discretion under the Tender documents, and the Project Manager's advice to the Town.

### 3.2 Scoring Template

Tenders will be evaluated in 2 parts. The Cost Submission of the Tender will be weighted the highest followed by the proposed schedule weighted the lowest. Details as follows:

Item	Weighting
Cost Submission	70
Technical Evaluation (schedule, warranty)	30



### 3.2.1 Technical Tender Evaluation

The criteria that will be evaluated within the technical Tender section will be as follows:

Technical Evaluation Criteria	
Schedule	15
Warranty	15
<b>Technical Evaluation Total</b>	
	<b>30</b>

### 3.2.2 Cost Tender Evaluation

The Cost Tenders will be evaluated as follows:

Cost Tender Evaluation		70
Cost Tender Calculated Score	Calculation to be adjusted to include only the Companies which pass the technical evaluation. <b>Score = (Lowest Cost Submission/RFT Cost of Services) x 70</b>	

### 3.3 Review by Committee

All Tenders will be evaluated through a comprehensive review and analysis by an evaluation committee.

The Evaluation Committee may, at its sole discretion, retain additional committee members or advisors.

The intention of the Evaluation Committee will be to select one Tender which in its opinion meets the Town's requirements under this RFT and provides a satisfactory overall value to the Town.

By responding to this RFT, Proponents will be deemed to have agreed that the decision of the Evaluation Committee will be final and binding.

### 3.4 Clarifications

As part of the evaluation process the Evaluation Committee may make requests for further information with respect to the content of any Tender and/or to ascertain the understanding and responsiveness of the Proponent and to any of the project information and requirements.

The Evaluation Committee may request further information from one or more Proponents and not from others.

### 3.5 Interview

A Proponent whose Tender has received a high ranking may be invited to an interview with the Selection Committee, the results of which will be used by the Committee as a mechanism to revisit, revise, and finalize the score as necessary.

The representatives designated by the Selection Committee in its invitation to the Proponent must attend any interview scheduled as part of this evaluation process.

The representative of a Proponent at any interview scheduled is expected to be thoroughly versed and knowledgeable with respect to the requirements of this RFT and the contents of its Tender, and must have the authority to make decisions and commitments with respect to matters discussed at the interview, which may be included in any resulting agreement



### **3.6 Evaluation Results**

Upon conclusion of the evaluation process, a final recommendation will be made for award. Tender evaluation results should be the property of the Town and will not be shared with any Proponents.

Proponents should be aware that Council and individual Councillors have the right to view the responses provided that their requests have been made in accordance with the Town's procedures.

## **4.0 Town of Drumheller Responsibilities**

### **4.1 General**

The Town's staff will provide assistance to the successful Proponent by reviewing all submitted documents within approximately one week of receipt, depending on the magnitude of the submission.

The Town will designate a Project Manager to this project upon completion of the evaluation of the RFT and award of the project.

Best efforts will be made by the Town to provide relevant and available past documents to assist in the success of the project.

## **5.0 Contract Details**

### **5.1 Insurances and Bonding**

The Town of Drumheller requires that all Tenders include proof of \$5,000,000.00 Commercial Liability Insurance. Insurances must match that of the contract requirements (see item 2.4).

### **5.2 Warranty**

A warranty period of two (2) years is expected to be provided for this RFT. Proponents are to specify warranty details in Appendix A – Cost Submission Form.

### **5.3 Negotiations and Agreement**

Any award of an Agreement to a Proponent will be at the absolute discretion of the Town. The selection of a recommended Proponent will not oblige the Town to negotiate or execute an agreement with that recommended Proponent.

Any award of an Agreement resulting from this RFT will be in accordance with the bylaws, policies, and procedures of the Town.

The Town shall have the right to negotiate on such matter(s) as it chooses with any Proponent to which it has awarded an Agreement without obligation to communicate, negotiate, or review similar modifications with other Proponents. The Town shall incur no liability to any other Proponent as a result of such negotiation or alternative arrangements.

During negotiations, the scope of the service may be refined, issues may be prioritized, responsibilities among the Proponent, all staff provided by it and the Town may be settled and the issues concerning implementation may be clarified.

If negotiations between the Town and a successful Proponent do not result in an Agreement within thirty (30) days of receipt by the Proponent of notification of award, the Town may at its sole discretion terminate



such negotiations and either enter into negotiations with one or more other Proponents or terminate the RFT process.

The successful Proponent must obtain a valid Town of Drumheller business licence upon 3 days of project award. If the Proponent does not obtain a valid Town of Drumheller business license, the Town at its sole discretion may terminate the contract.

The Town shall be under no obligation to accept a Tender without amendment, alteration, counter-offer, or any change that may result from negotiations with the Proponent submitting the Tender.

The Town reserves the right to award a contract in whole or in part.

#### **5.4 Payment**

Payment for services will be made in a timely manner following receipt of the invoices subject to the invoice being submitted in an acceptable format and without conflicts to the original agreement. Payment will only be made on approved invoices as deemed by the Town of Drumheller.

For labour costs, payment will be on a time basis at approved hourly rates to the Upset Limit for each deliverable to be provided by the successful Proponent.

Payments for disbursements will be pro-rated based on the value of the work performed during a billable period.

For the Unit Price deliverables, payment will be at the unit price for each deliverable provided. The Town will determine how many of the “units” are required once the project has progressed sufficiently to make the decision.

Prices and staff rates submitted in a Tender are to be firm for the duration of the RFT process and the term of any resulting Agreement. Rates shall be inclusive of all burdens or deductions as applicable to the work.

All invoices must clearly show GST as a separate value and GST “registrant” number indicated.

The Town shall not be responsible for any unauthorized additional costs.



## Appendix A: COST SUBMISSION FORM

The following form must be filled out in its entirety and signed by a representative authorized by the company to do so. Scopes of work which are not being bid should be indicated so by writing "scope not included" within the price column of the bid form.

Values indicated below consist of all necessary labour, equipment, materials, and associated costs to complete the work in their entirety. Work includes, but is not limited to, any disposals, materials, and supervisions as required per the drawings and specifications.

**Company Name:** \_\_\_\_\_

**Addendum #s Received:** \_\_\_\_\_

### Project Costs:

Item	Task/Description	Qty	Unit	Unit Price	Total
1.0	MUA Equipment Cost inclusive of the following: - Manufacturer's site visit for measurement verification - Factory start-up and commissioning - Freight to site	1	LS		
	Demolition Work	1	LS		
	New & Remedial Mechanical, Electrical Work - Material for all ductwork, gas piping, etc. - Labour for all mechanical, electrical systems	1	LS		
	Controls (SERV-ALL Mechanical Services Ltd.) Work	1	LS		
	Crane and lifting/hoist machinery, etc.	1	LS		
	Hotel, Travel, and Expenses	1	LS		
<b>PROJECT TOTAL</b>					

The above prices are excluding GST.

Note: Each scope of work is mutually exclusive of the other and the Town reserves the right to award some or all of the scopes of work.

Item	Water Treatment Plant Makeup Air Handling Unit Replacement	Specify
1.0	Product Warranty (please specify):	
1.0	Estimated Delivery Date (please specify):	



**Company Certification:**

The following verifies that the information provided with this submission is accurate and inclusive of all requirements of the Request for Tender. The document must be signed by an authorized representative of the company in order to be accepted for consideration.

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_



## **Appendix B: Relative Documents**

The following information is attached to the RFT as additional information:

1. Mandatory Site Tour Attendance Form

## MANDATORY SITE TOUR ATTENDANCE

- .1 A site tour will be held at the time and place specified on the cover of this RFT.
- .2 Purpose is to provide Contractor's an opportunity to familiarize themselves with the required services under the Contract and with existing conditions. Town Representative's representative(s) will be present.
- .3 Attendance at the time and place specified is a mandatory prequalification requirement.
- .4 Each Contractor shall submit, with its prequalification submission, a copy of the attached Confirmation of Mandatory Site Tour Attendance. This form, when signed by the Town Representative's representative at the site tour, will attest to the attendance of the Contractor's representative. If this form is not submitted with the prequalification documents or is submitted improperly signed, and the Town Representative cannot otherwise verify a Contractor's attendance at the site visit, that Contractor will not be prequalified.

**FROM:**

---

(Name of Contractor)

---

(Address)

**TO:** Reg Bennett  
Facilities Manager  
Town of Drumheller  
224 Centre Street  
Drumheller, Alberta  
T0J 0Y4

Telephone: 1-403-823-1348  
e-mail: rbennett@drumheller.ca



**RE: Water Treatment Plant  
MUA Replacement**

It is understood that attendance at the site tour is a mandatory prequalification requirement. The undersigned hereby confirm that a representative of the above-named Contractor attended the site tour for the above name RFT, held on:

**March 16, 2023 @ 1:00pm**

**2490 South Railway Avenue,  
Drumheller, AB.**

CONTRACTOR'S  
REPRESENTATIVE:

SIGNATURE/STAMP OF  
TOWN REPRESENTATIVE

\_\_\_\_\_  
(Signature)

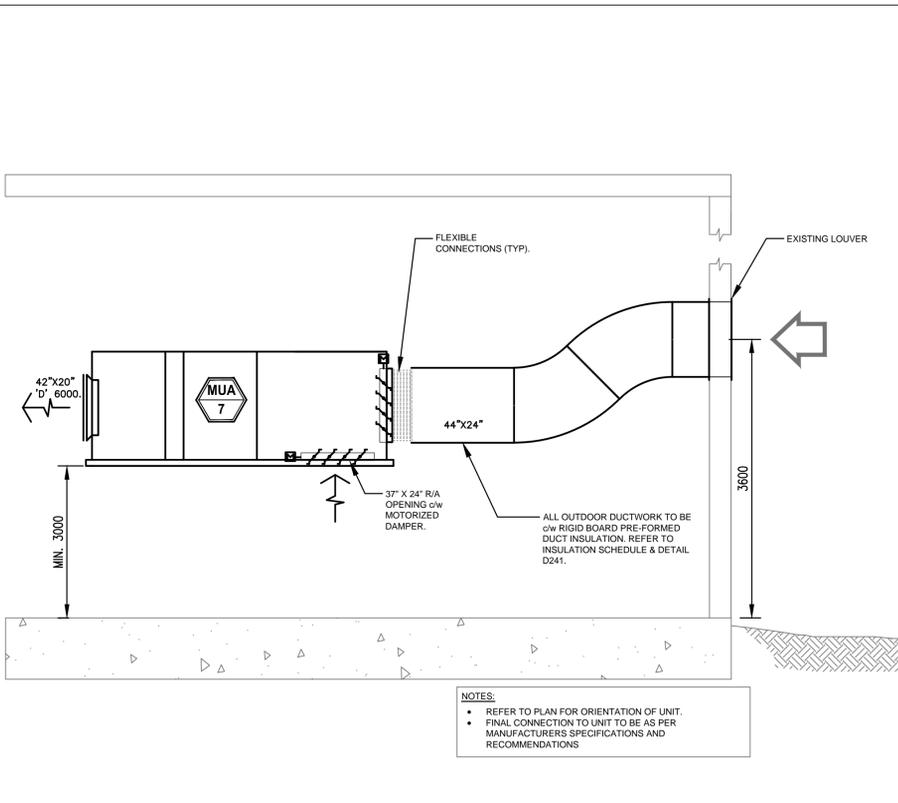
\_\_\_\_\_  
(Please Print Name of person signing)



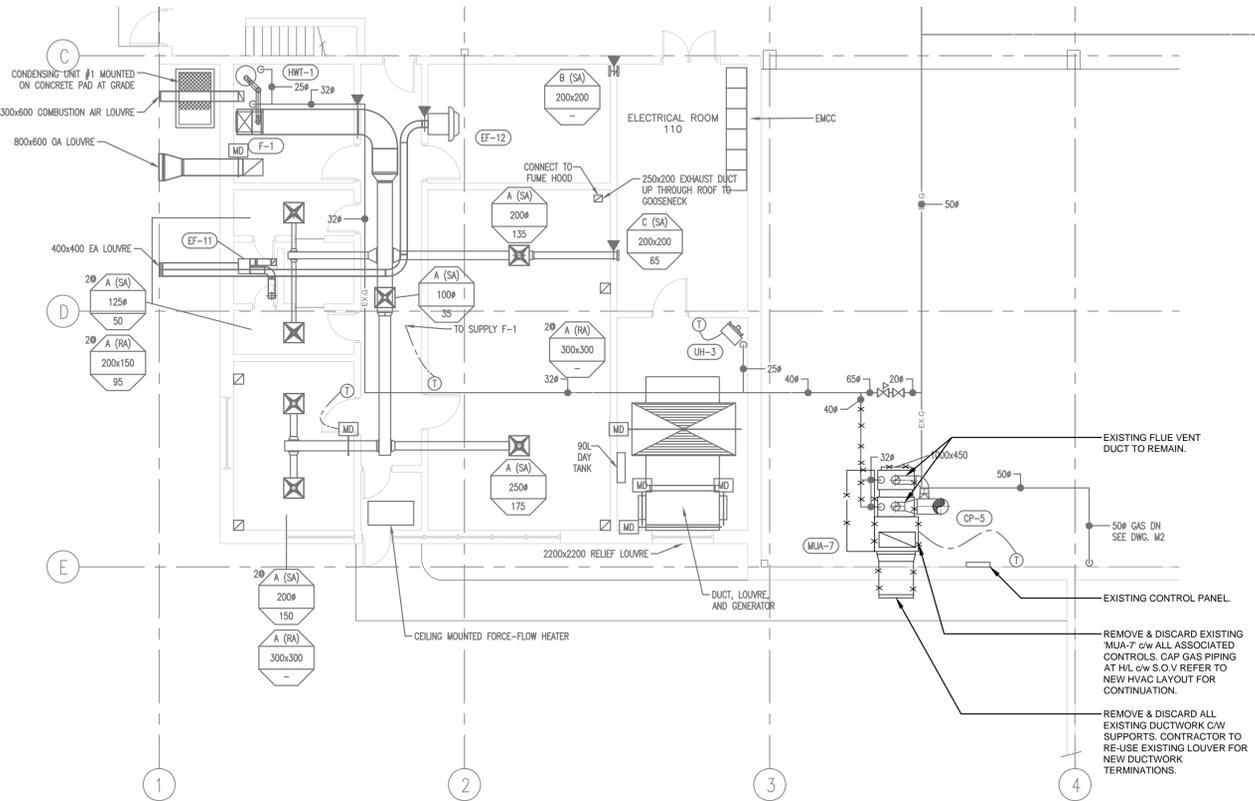
## **Appendix C: Drawings**



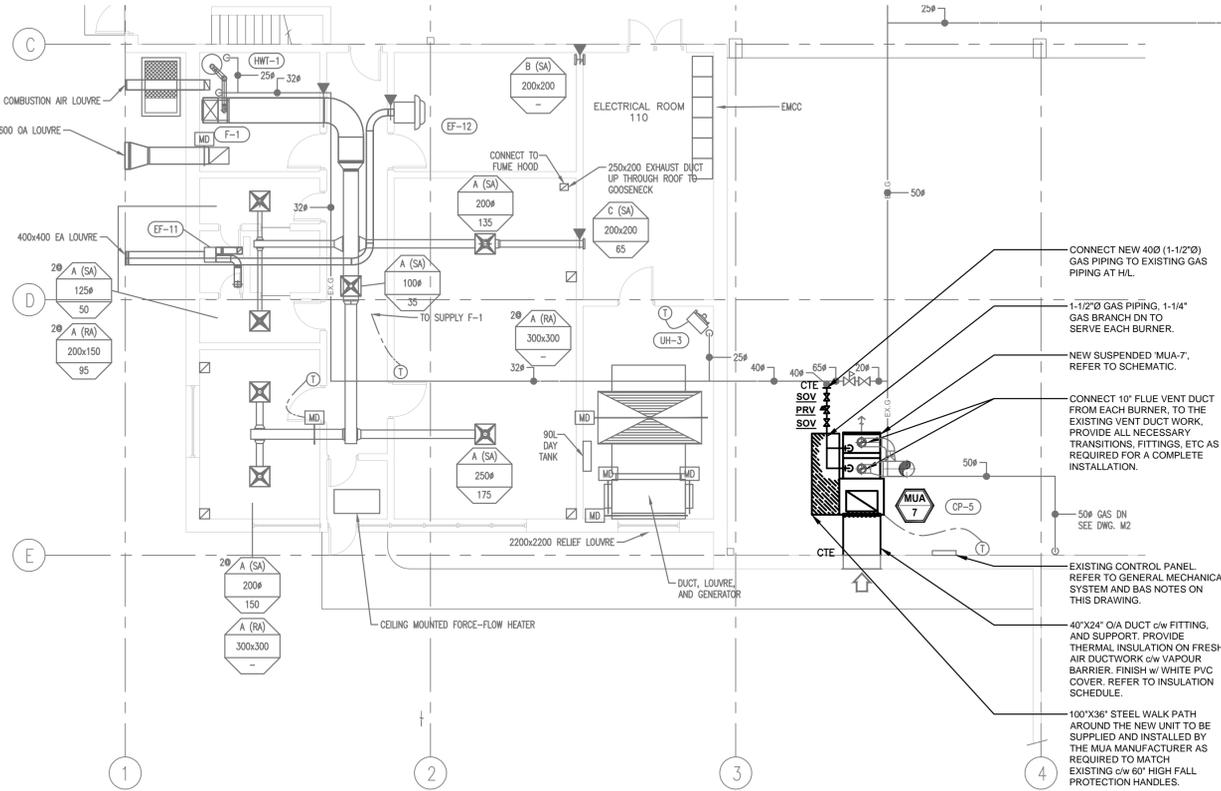
D1 PHOTO OF EXISTING 'MUA-7'  
SCALE: N.T.S



D2 SCHEMATIC OF 'MUA-7'  
SCALE: N.T.S



1 HVAC DEMO PLAN  
SCALE: 1:100



2 NEW HVAC PLAN  
SCALE: 1:100

DRAWING INDEX

- M01 NEW & REMEDIAL MECHANICAL LAYOUT
- M02 DETAILS, NOTES & SCHEDULES

LEGEND

SYMBOL	DESCRIPTION
	SHUT OFF VALVE
	P.R.V. PRESSURE REDUCING VALVE
	RIGID DUCTWORK
	FIRE DAMPER
	THERMOSTAT
	MOTORIZED DAMPER
	STARTER
	SENSOR
	U/S UNDERSIDE
	H/L HIGH LEVEL
	L/L LOW LEVEL

NOTES:

- PRIOR TO COMMENCING DEMOLITION, CONDUCT A SITE SURVEY TO CONFIRM ALL EXTENT OF MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. REQUIRED TO REMAIN IN SERVICE AND THAT WHICH IS REQUIRED TO BE DEMOLISHED. DO NOT REMOVE ANY EXISTING EQUIPMENT AND/OR SERVICES UNTIL VERIFIED TO BE NO LONGER REQUIRED. REPORT ALL DISCREPANCIES TO ENGINEER.
- GENERAL CONTRACTOR TO PROTECT SERVICE LINES AND IS RESPONSIBLE FOR REPAIRS IF DAMAGED.
- REMOVE ALL UNNECESSARY EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC., WHERE NOT UTILIZED WITH RENOVATED SYSTEMS. MECHANICAL CONTRACTOR SHALL REMOVE ALL REDUNDANT EQUIPMENT FROM SITE. ANY MECHANICAL EQUIPMENT IN REMODELED SECTIONS OR IN STRUCTURES REMOVED OR ALTERED ADJACENT TO NEW WORK, NECESSARY FOR THE OPERATION OF EXISTING SYSTEMS SHALL BE RELOCATED AS NECESSARY.
- REPAIR ALL WALL OPENINGS, AND MAKE GOOD ALL FINISHES WHERE MECHANICAL EQUIPMENT, PIPING, OR DUCTWORK HAS BEEN REMOVED AND/OR RELOCATED.
- MECHANICAL CONTRACTOR TO INCLUDE FOR ALL REQUIRED BALANCING AND ADDITIONAL COMFORT BALANCING AFTER PROJECT COMPLETION.
- CONTRACTOR TO INCLUDE FOR ALL OFFSETS AND ADDITIONAL TRANSITIONS AS REQUIRED TO SUIT SITE CONDITIONS. COORDINATE ROUTING OF DUCTWORK ON SITE TO AVOID CONFLICT WITH EXISTING EQUIPMENT, ETC.
- CONTRACTOR TO INCLUDE FOR ALL AFTER HOURS WORK REQUIRED.
- CONTRACTOR TO RETRO-FIT EXISTING CONTROL PANEL TO SUIT NEW 'MUA-7' REPLACEMENT. VERIFY EXTENT OF CONTROL POINTS DIRECTLY w/ EXISTING BAS VENDOR (SERV-ALL). REFER TO CONTROL NOTES ON THIS DRAWING.
- CONTRACTOR TO INCLUDE FOR SEPARATE ITEMIZED PRICING FOR NEW FLUE VENT ASSEMBLY THROUGH EXISTING ROOF STRUCTURE. REFER TO DETAIL D047.
- CONTRACTOR TO INCLUDE FOR ALL NECESSARY PROVISIONS TO MOUNT THE NEW EQUIPMENT AT THE LOCATION SPECIFIED. INCLUDE AND NOT LIMITED TO TEMPORARY SUPPORT, WORK PLATFORMS, SCAFFOLDING, CRANES OR LIFTING EQUIPMENT.
- CONTRACTOR SHALL VISIT SITE DURING TENDERING PERIOD AND ENSURE FULL EXTENT OF SCOPE IS UNDERSTOOD.
- EXISTING 'MUA-7' TO BE DISCONNECTED. EXTEND AND RE-USE EXISTING WIRING FOR NEW 'MUA-7'. CONNECT TO EXISTING 15A/100AF BREAKER FEEDING 'MUA-7' LOCATED IN MAIN ELECTRICAL ROOM PANEL, EMCC. VERIFY ON SITE EXACT CIR# AND FEEDS. MOTOR #19.

GENERAL MECHANICAL SYSTEM AND BAS NOTES:

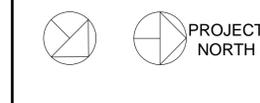
- MECHANICAL CONTRACTOR TO COMMISSION BAS CONTRACTOR (SERV-ALL SYSTEMS) FOR THE COMPLETE SYSTEM INSTALLATION AND REQUIRED INTERFACE WITH THE MECHANICAL SYSTEMS. CONTACT: JO-ANNE MACLEAN  
PHONE: (507-885-2446)  
EMAIL: JMACLEAN@SERV-ALL.CA
- ALL COSTS ASSOCIATED WITH SERV-ALL'S WORK SHALL BE COVERED BY THE MECHANICAL CONTRACTOR. THIS IS TO INCLUDE FOR, BUT NOT LIMITED TO, ALL NECESSARY MODIFICATIONS TO EXISTING BAS FOR A COMPLETE INSTALLATION.
- BAS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER SUPPLY TO THEIR RESPECTIVE EQUIPMENT. VISIT SITE AND OBTAIN ELECTRICAL DRAWINGS TO DETERMINE THE FULL SCOPE AND INCLUDE FOR ALL POWER FROM SPACE BREAKERS IN EXISTING PANELS. ADD PANELS WHERE NECESSARY SHOULD THIS BE UNAVAILABLE AT NO COST PREMIUM TO THE PROJECT.
- BAS CONTRACTOR SHALL:
  - VERIFY STATISC/CONDITION OF EXISTING CONTROLS PRIOR TO PROCEEDING WITH CONSTRUCTION TO ENSURE SYSTEM IS IN FULL WORKING CONDITION. NOTIFY THE ENGINEER (INVIRO) OF ANY DISCREPANCIES/IRREGULARITIES THAT MAY PROHIBIT THE OVERALL DESIGN INTENT AND ABILITY TO PROVIDE A FULL TURNKEY SOLUTION.
  - INCLUDE FOR ALL SOFTWARE AND PROGRAMMING FOR INTERLOCKING AND TO SATISFY THE SEQUENCE OF OPERATION.
  - INCLUDE FOR UPGRADES AND CHANGES TO THE CURRENT SOFTWARE SYSTEM IF REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.
  - INCLUDE FOR 3 RETURN VISITS AND REPROGRAMMING OF SCHEDULING AND SEQUENCE OF OPERATIONS WITHIN THE FIRST YEAR OF OPERATION.
  - INCLUDE FOR 1 DAY OF TRAINING AND RETRAINING AS REQUIRED FOR UP TO AN ADDITIONAL 3 VISITS (INDEPENDENT OF THE REQUIRED RETURN VISITS FOR REPROGRAMMING AND SCHEDULING).

'MUA-7' SEQUENCE OF OPERATION:

- ALARM WHEN SUPPLY AIR TEMPERATURE IS +/- 5°F DIFFERENT THAN SETPOINT.
- INTERLOCK WITH EXHAUST FAN.
- THE FOLLOWING TRENDS SHALL BE MADE AVAILABLE VIA BAS:
  - SUPPLY FAN STATUS.
  - HEATING STAGE 1 STATUS.
  - HEATING STAGE 2 STATUS.
  - SUPPLY AIR TEMPERATURE.
  - SUPPLY AIR TEMPERATURE SETPOINT (ADJUSTABLE).
  - SPACE AIR TEMPERATURE.
  - RETURN AIR TEMPERATURE.
  - OUTDOOR AIR TEMPERATURE.
  - OUTDOOR AIR DAMPER POSITION.
  - RETURN AIR DAMPER POSITION.

This drawing, as an instrument of service, is provided by and is the property of INVIRO ENGINEERED SYSTEMS LTD. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify INVIRO ENGINEERED SYSTEMS LTD. of any variations from the supplied information. This drawing is not to be scaled. The consultant is not responsible for the accuracy of survey, architectural, structural, electrical, etc. information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform to all applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked for construction must assume full responsibility and bear costs for any corrections or damages resulting from his work.

No.	Date:	Issued/Revision:	By
-	2023/03/04	ISSUED FOR TENDER	S.M.
-	2022/10/04	ISSUED FOR COORDINATION	S.M.



WATER TREATMENT PLANT  
CITY OF DRUMHELLER

NEW & REMEDIAL  
MECHANICAL LAYOUT

Proj no :	22-217	Date :	AUGUST 2022
Drawn by :	AK	Scale :	AS NOTED
Checked by :	SM		

North Arrow  
this text will not plot

**M01**

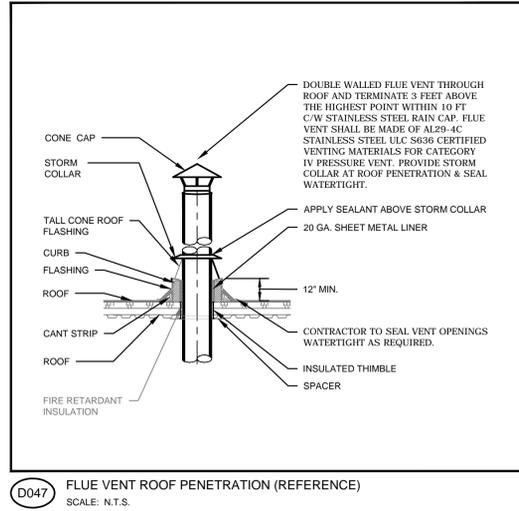
GENERAL NOTES	
1	IN CASES OF CONFLICT, MECHANICAL CONTRACTOR'S DRAWINGS SHALL SUPERCEDE WRITTEN SPECIFICATIONS.
2	OFFSHORE PRODUCTS ARE NOT ACCEPTABLE UNLESS PERMISSION IS PROVIDED BY INVIRO FOR EACH ITEM IN WRITING. THIS INCLUDES: PIPES, FITTINGS, SHEET METAL, FASTENERS, ETC.
3	SUPPLY ALL LABOUR AND MATERIALS TO PROVIDE A COMPLETE MECHANICAL INSTALLATION. ITEMS NOT EXPLICITLY ILLUSTRATED ON THE DRAWINGS ARE NOT TO BE EXCLUDED FROM THE SCOPE OF WORK IF REQUIRED AS PART OF A PROPER INSTALLATION. PERMITS, REGISTRATIONS, TESTING, BALANCING, AND OCCUPANT OPERATIONAL TRAINING WILL BE PART OF THE WORK. THE INSTALLATION IS TO BE IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
4	ALL MECHANICAL EQUIPMENT NOTED ON THE DRAWINGS IS TO BE BASE BID. IF MORE THAN ONE MANUFACTURER IS SHOWN THE CONTRACTOR CAN SELECT. IF ONLY ONE IS SHOWN IT SHALL FORM THE BASIS OF THE BID. ALTERNATES MAY BE SUBMITTED SEPARATELY IN WRITING ALONG WITH THE AMOUNT INCREASED OR SAVED PRIOR TO CLOSING OF THE TENDER.
5	NOTE THAT THE DESIGN AND DRAWINGS ARE BASED ON THE FIRST MANUFACTURER SHOWN. IF THE CONTRACTOR'S CHOICE IS OTHER THAN THE FIRST INDICATED THEN IT IS HIS RESPONSIBILITY TO IMMEDIATELY, AFTER CONTRACT AWARD, INFORM ALL AFFECTED TRADES SUCH AS ARCHITECTURAL, STRUCTURAL, ELECTRICAL, ETC. SINCE CHARACTERISTICS WILL DIFFER FROM EQUIPMENT INCLUDING SIZE, ROOF OPENINGS, WEIGHTS, ELECTRICAL CHARACTERISTICS ETC. COSTS ASSOCIATED WITH THIS SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. NO EXTRAS WILL BE ACCEPTED.
6	THE ENGINEER RESERVES THE RIGHT TO REJECT ALTERNATES/EQUALS WITHOUT QUESTION. FOR ANY/ALL APPROVED ALTERNATES/EQUALS, THE MECHANICAL CONTRACTOR ASSUMES FULL RESPONSIBILITY AND ASSOCIATED DESIGN/INSTALLATION COSTS FOR COORDINATION OF REVISED REQUIREMENTS (SUCH AS ELECTRICAL, STRUCTURAL, ETC.)
7	SUBMIT PDF OF SHOP DRAWINGS VIA EMAIL FOR APPROVAL FOR ALL EQUIPMENT AND FIXTURES. DO NOT SUBMIT ALTERNATES THAT ARE NOT SPECIFICALLY APPROVED PRIOR TO CONTRACT AWARD. DO NOT INSTALL ANY EQUIPMENT OR FIXTURES WITHOUT PRIOR APPROVAL.
8	SEND ALL SHOP DRAWINGS FOR APPROVAL. IN ONE PACKAGE. FAILURE TO SEND THE COMPLETED DRAWINGS IN ONE SUBMISSION WILL RESULT IN DELAY AT THE CONTRACTOR'S EXPENSE.
9	MISINTERPRETATION OF ANY REQUIREMENTS OF EITHER THE DRAWINGS OR THE SPECIFICATIONS SHALL NOT RESULT IN ANY ADDITIONAL CHARGES AFTER SUBMISSION OF TENDER. ENGINEER SHALL BE CONTACTED FOR WRITTEN CLARIFICATION OF ANY POINT PRIOR TO THE SUBMISSION OF TENDERS. OBTAIN ARCHITECTURAL, INTERIOR DESIGN, STRUCTURAL, SITE SERVICES, ELECTRICAL AND ANY OTHER DRAWINGS AND SPECIFICATIONS SO THAT THE FULL INTENT OF THE WORK IS UNDERSTOOD. VISIT THE SITE TO BECOME FURTHER INFORMED. MARK UP THE STRUCTURAL DRAWINGS AND CO-ORDINATE ALL ROOF, FLOOR, AND WALL OPENINGS. CONFIRMATION OF OPENINGS AND THEIR LOCATION IS THE RESPONSIBILITY OF THIS CONTRACTOR. THIS CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE DIMENSION AND COORDINATE THE FINAL PLACEMENT OF AND OPERATING WEIGHTS OF ALL HVAC AND PLUMBING SYSTEMS. THIS CONTRACTOR SHALL PROVIDE THIS DATA TO THE GENERAL CONTRACTOR AND STEEL FABRICATOR. THIS CONTRACTOR SHALL SEND THROUGH ALL FINAL ELECTRICAL REQUIREMENTS TO THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR PRIOR TO ANY WORK AND VERIFY THAT THERE ARE NO DISCREPANCIES.
10	ENSURE PRIOR TO THE INSTALLATION THAT ALL EQUIPMENT FIXTURES, DUCTWORK, PIPING ETC. WILL FIT INTO ALLOTTED SPACE. IMMEDIATELY INFORM THE ENGINEER IF THE INSTALLATION AS SHOWN IS NOT POSSIBLE.
11	ONLY A FIRST CLASS INSTALLATION IS ACCEPTABLE. EVALUATION RESTS WITH THE ENGINEER. REQUEST INSPECTIONS IF IN DOUBT.
12	AS REQUIRED, EXCAVATE AND BACKFILL TRENCHES, COMPACT TO 95 STD PROCTOR. IF EXCAVATED MATERIAL IS NOT SUITABLE, USE SAND AND COMPACT IN 6" LAYERS.
13	UPON COMPLETION SUPPLY 3 COPIES OF OPERATIONS AND MAINTENANCE MANUALS COMPLYING WITH ASHRAE GUIDELINE 4. INCLUDE IN THESE: THE GENERAL CONTRACTOR'S DATA, BALANCING REPORTS, BUILDING OFFICIAL'S REPORTS, START UP REPORTS, VALVE LISTS ETC. ALSO TO BE INCLUDED IN THE MAINTENANCE MANUALS ARE PROOF OF PURCHASE COMPLETE WITH MODEL AND SERIAL NUMBERS, INSTALLATION ADDRESS AND CLAMP ADDRESS, FOR ALL MAJOR MECHANICAL EQUIPMENT. FORWARD MAINTENANCE MANUALS ALONG WITH 3 SETS OF MARKED UP AS-BUILT DRAWINGS TO THE ENGINEER FOR APPROVAL. THE MARK UPS ON THE AS-BUILT DRAWINGS SHALL BE DONE IN RED INK.
14	FULLY GUARANTEE THE ENTIRE INSTALLATION FROM START UP TO ONE YEAR THEREAFTER. THE MECHANICAL CONTRACTOR IS TO REPAIR ANY FAULTS INCLUDING PARTS AND LABOUR AT HIS COST.
15	ALL EQUIPMENT, FIXTURES, AND MATERIALS ARE TO BE NEW AND FREE OF DEFECTS.
16	MECHANICAL CONTRACTOR SHALL CIRCULATE STAMPED REVIEWED SHOP DRAWINGS TO THE ELECTRICAL ENGINEER AND CONTRACTOR AS A CHECKPOINT FOR REVIEW AND COMMENTS PRIOR TO ORDERING EQUIPMENT. REPORT ANY CONFLICTS TO THE ENGINEER.
17	CLEAN AND DEGREASE ALL EXPOSED PIPING AND DUCTWORK IN PREPARATION OF PAINTING TO SUIT EXISTING FINISHES WITHIN FACILITY.
18	ADHESIVES USED THROUGHOUT PROJECT SHALL HAVE ZERO VOC CONTENT.
19	BALANCE ALL AIR AND HYDRONIC SYSTEMS TO QUANTITIES SHOWN. INCLUDE FOR REPLACEMENT OF DRIVE KITS IF REQUIRED. BALANCING PROCEDURES AND REPORTING TO BE COMPLETED BY 11-2008. SUBMIT A DETAILED REPORT UPON COMPLETION. ALL NECESSARY BALANCING DEVICES REQUIRED TO ACHIEVE NOTED AIR AND WATER QUANTITIES ARE TO BE INCLUDED AS PART OF THE WORK. INCLUDE COMFORT BALANCING AS PART OF THE SCOPE APPROXIMATELY ONE MONTH AFTER THE SPACE IS OCCUPIED. CONTACT THE ENGINEER SO THAT A REPRESENTATIVE CAN BE PRESENT TO WITNESS THE BALANCING.
20	AFTER ALL SYSTEMS ARE OPERATIONAL AND BALANCING IS COMPLETE, FULLY INSTRUCT THE OCCUPANT OR OWNER IN ALL ASPECTS OF THE OPERATION OF THE SYSTEMS AND EQUIPMENT. ENSURE THAT THE METHOD OF PROGRAMMING SET-BACK THERMOSTATS IS FULLY UNDERSTOOD.
21	CONSTRUCT SYSTEMS TO ALL S.M.A.C.N.A. STANDARDS AND ASHRAE 90.1.
22	ALL THERMOSTATS AND TEMPERATURE SENSORS ON EXTERIOR WALLS ARE TO BE MOUNTED ON 3/4" PLYWOOD.
23	THE ELECTRICAL CONTRACTOR IS TO PROVIDE DISCONNECTS, EXCEPT ON ROOFTOP AND MAJOR EQUIPMENT WHERE THEY ARE TO BE FACTORY INSTALLED. THE MECHANICAL CONTRACTOR IS TO PROVIDE ALL STARTERS. THE MECHANICAL CONTRACTOR IS TO DO ALL CONTROL WIRING, INCLUDING INTERLOCKS BETWEEN MAKE-UP AIR UNITS AND EXHAUST FANS, ROOFTOP UNITS AND EXHAUST FANS, AND MOTORIZED DAMPERS ETC. REGARDLESS OF VOLTAGE. ALL WIRING IS TO BE RUN IN CONDUIT. STARTERS LOCATED IN OFFICES OR ROOMS ARE TO BE LOCATED NEXT TO AND IN LINE WITH LIGHT SWITCHES. IDENTIFY SAME.
24	MECHANICAL CONTRACTOR SHALL MEET WITH ALL NECESSARY SUB-TRADES REQUIRED TO COORDINATE DUCTWORK AND SPRINKLER LINES IN CEILING SPACE. PRIOR TO CARRYING OUT ANY WORK. INCLUDE FOR ALL MODIFICATIONS REQUIRED.
25	ALL DUCTWORK AND EQUIPMENT OPENINGS SHALL BE FITTED WITH PROTECTIVE COVERINGS BY PRODUCTION FACILITY PRIOR DELIVERY TO SITE. PRIOR TO SITE STORAGE ALL SEALED ENDS SHALL BE VISUALLY INSPECTED AND IF DAMAGED RESEALED WITH AN APPROPRIATE MATERIAL. PROTECTIVE COVERINGS SHALL ONLY BE REMOVED IMMEDIATELY BEFORE INSTALLATION AND INSPECTED TO DETERMINE IF ADDITIONAL WIPEDOWN IS NECESSARY. OPEN ENDS ON COMPLETED DUCTWORK AND OVERNIGHT WORK-IN-PROGRESS SHALL BE SEALED.
26	ROOFTOP HEATING AND COOLING UNITS AND ROOFTOP HEATING UNITS ARE TO BE STARTED BY A QUALIFIED MECHANIC. HIS SIGNED START-UP REPORT IS TO BE SUBMITTED WITH THE MAINTENANCE MANUALS.
27	SUPPLY AND INSTALL HIGH-ALTITUDE KITS ON ALL APPLIANCES WHERE REQUIRED. COORDINATE WITH SUPPLIER/MANUFACTURER PRIOR TO ORDERING ALTERNATES AS REQUIRED.
28	NO AIR HANDLING EQUIPMENT IS TO BE USED DURING CONSTRUCTION.
29	ALL DUCTWORK TO BE VACUUMED AND CLEANED PRIOR TO SUBSTANTIAL COMPLETION.
30	SEAL ALL DUCTWORK WITH DUCT SEALER.
31	WHERE 1-1/2" RADIUS TURNS ON S.A. DUCTWORK ARE NOT POSSIBLE USE DOUBLE WIDTH TURNING VANES. DO NOT USE TURNING VANES ON R.A. OR E.A. DUCTWORK.
32	SUPPLY AND INSTALL FIRE DAMPERS FOR ALL DUCTS PASSING THROUGH FIRE RATED FLOORS AND WALLS.
33	ALL INDOOR GAS PIPING IS TO BE INSTALLED AT HIGH LEVEL ABOVE THE BOTTOM OF THE JOISTS. IF OBSTRUCTED, OFFSET THE GAS LINE AND IMMEDIATELY RISE BACK TO HIGH LEVEL. GAS LINE PENETRATION THROUGH THE ROOF TO BE WITH PURPOSE MADE DOGHOUSES.
34	PROVIDE EXPANSION JOINTS AND LOOPS AS PER GAS CODE (CAN/CSA-B149.1) AND NOT LIMITED TO THAT WHICH IS SHOWN ON PLANS, FOR ALL GAS PIPING.
35	FOR ALL NATURAL GAS FIRED UNITS: FOR EACH ROOFTOP UNIT PROVIDE A SEPARATE P.R.V. c/w RELIEF ON ROOF NEXT TO UNIT. FOR EACH INDOOR UNIT PROVIDE A SEPARATE P.R.V. c/w RELIEF PIPED TO OUTSIDE. PROVIDE CGA APPROVED RATED SHUT-OFF VALVE BEFORE ALL PRVs. SEE DETAIL D083. FOR ALL PRVs INSIDE THE BUILDING, THE RELIEF PIPE IS TO BE SECURELY CLAMPED TO THE DECK PRIOR TO ROOF PENETRATION.
36	ALL PLUMBING DOMESTIC WATER, STORM AND VENT PIPING IS TO BE INSTALLED AND SUPPORTED AS PER THE PLUMBING CODE AND AUTHORITY JURISDICTION.
37	ALL PIPING IS TO BE STRAIGHT, PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE. SLOPE ALL PIPING TO DRAIN POINTS.
38	GANG TRAPPING AND VENTING IS ACCEPTABLE IF LOCAL AUTHORITIES AND CODES PERMIT.
39	SUPPLY AND INSTALL ALL DUCTWORK AND PIPING SHOWN ON PLANS AS HIGH AS POSSIBLE AND AROUND ALL CONFLICTS SUCH THAT THE INTENT IS ACHIEVED. SUPPLY AND INSTALL ALL OFFSETS AND FITTINGS AS REQUIRED NOT LIMITED TO THAT WHICH IS SHOWN ON PLANS.
40	ALL EQUIPMENT, TERMINAL UNITS AS WELL AS THERMOSTATS AND SENSORS ARE TO BE SUPPLIED WITH LAMACOID IDENTIFICATION PLATES C/W 1/2" HIGH TEXT. IF EQUIPMENT IS LOCATED ABOVE T-BAR CEILING MARK THE LOCATION WITH A COLOURED DOT ON THE CEILING FRAME WORK. COORDINATE WITH OWNER.
41	THE MECHANICAL CONTRACTOR SHALL ENSURE THAT EVERY FIXTURE, PLUMBING APPLIANCE, INTERCEPTOR, CLEANOUT, VALVE, DEVICE OR PIECE OF EQUIPMENT SHALL BE LOCATED IN A MANNER THAT IT IS READILY ACCESSIBLE FOR USE, CLEANING, MAINTENANCE OR REPAIR. MECHANICAL CONTRACTOR SHALL PROVIDE ACCESS DOORS LARGE ENOUGH TO PERMIT EASY ACCESS TO CONCEALED FIXTURES, PLUMBING APPLIANCES, FIRE DAMPERS, INTERCEPTORS, CLEANOUTS, VALVES, DEVICES OR PIECES OF EQUIPMENT.
42	MECHANICAL CONTRACTOR AND PRODUCT SUPPLIERS ARE JOINTLY RESPONSIBLE TO INSURE THAT ALL PRODUCTS NOT MADE IN CANADA COMPLY WITH ALL CANADIAN STANDARDS INCLUDING BUT NOT LIMITED TO TSSA, CSA, ULC, ESA, CETL ETC. ALL COSTS FOR REPLACEMENT, NEW AND REMEDIAL WORK, VARIANCE APPLICATIONS, INSPECTIONS, FEES ETC SHALL BE CHARGED BACK TO THE MECHANICAL CONTRACTOR AND IS TO BE ACCEPTED WITHOUT QUESTION.
43	MECHANICAL CONTRACTOR SHALL OBTAIN MANUFACTURER'S INSTALLATION INSTRUCTIONS OF ALL EQUIPMENT AND SYSTEMS AND SHALL BE RESPONSIBLE TO SUPPLY AND INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS (NOT LIMITED TO WHAT IS SHOWN ON PLANS), INCLUDING AND NOT LIMITED TO THE FOLLOWING, ALL PARTS AND ACCESSORIES, PIPING, VALVES, HEADERS, DUCTWORK, CONTROLS AND CONTROL DEVICES, ETC. REGARDLESS OF WHAT STAGE IN CONSTRUCTION IT IS DISCOVERED AS DEFICIENT.

MECHANICAL EQUIPMENT SCHEDULE										
TAG	DESCRIPTION	HEATING		FAN		ELECTRICAL			WEIGHT	
		INPUT	OUTPUT	AIR VOLUME	ESP	VOLTAGE	MCA	MOCP		POWER
		MBH	MBH	CFM	IN.W.C	V-PH-F	AMP.	AMP.		HP/W
MUA-7	ENGINEERED AIR T-350 INDIRECT FIRED MAKE-UP AIR UNITS, HORIZONTAL DISCHARGE, BOTTOM RETURN, AND BACK OUTDOOR AIR CONNECTIONS, INDOOR UNIT c/w STAINLESS STEEL HEAT EXCHANGER, HINGED ACCESS DOORS c/w LEVER HANDLE, ELECTRONIC IGNITION, FREEZE/STAT, SPRING VIBRATION ISOLATORS, PROGRAMMABLE CONTROLLER TIED INTO BAS.	630	504	6000	0.50	575/3/60	5.10	15	3	2177

NOTES

- MECHANICAL CONTRACTOR TO LABEL ALL STARTERS AND EQUIPMENT ON SITE WITH LAMACOIDS AS DESCRIBED IN THE IDENTIFICATION SCHEDULE.
- MECHANICAL CONTRACTOR TO COORDINATE AND VERIFY ROOF/WALL OPENINGS AND ELECTRICAL REQUIREMENTS WITH THEIR RESPECTIVE SUB-CONTRACTORS.
- MECHANICAL CONTRACTOR TO PROVIDE A UNIT CEILING MOUNTING SUPPORT KIT C/W VIBRATION ISOLATOR SPRING AND HINGES

NEW AND REMEDIAL WORK	
1.	MECHANICAL CONTRACTOR WILL DO ALL CUTTING AND PATCHING WHERE REQUIRED FOR H.V.A.C. AND PLUMBING SYSTEMS.
2.	MECHANICAL CONTRACTOR TO COMMISSION A BUILDING AUTOMATION SYSTEM TECHNICIAN TO ENSURE THAT SYSTEMS ARE NOT INTERRUPTED AS A RESULT OF THE CONSTRUCTION. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMEDIAL WORK TO THE AUTOMATION SYSTEM IN ITS ENTIRETY AS REQUIRED.
3.	ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL PHASING PLANS.
4.	MECHANICAL CONTRACTOR SHALL VISIT SITE DURING THE TENDER PERIOD TO VERIFY EXISTING CONDITIONS NOT LIMITED TO THAT WHICH IS SHOWN ON THE PLANS OR WRITTEN TO THE SPECIFICATIONS AND INCLUDE FOR TO MAKE GOOD ALL REQUIREMENTS AS PER THE INTENT OF THESE CONTRACT DOCUMENTS FOR A FULLY OPERATIONAL TURN KEY INSTALLATION. IF ACCESS IS NOT PROVIDED FOR WHATEVER REASON, IT IS TO BE STATED IN THE TENDER QUOTATION IN CLEAR PRINT ACCORDINGLY.
5.	ALL WORKS SHOWN ON DRAWINGS ARE NEW AND TO BE CARRIED OUT BY THE MECHANICAL CONTRACTOR (PLUMBER INCLUDED), UNLESS OTHERWISE NOTED.
6.	MECHANICAL CONTRACTOR SHALL SUPPLY AND INSTALL NEW PLUMBING VENTS IN WALL AND CEILING SPACE WHERE EXISTING VENTS ARE REVEALED DURING DEMOLITION OF EXISTING PARTITIONS AND WALLS. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY & INSTALL NEW PLUMBING VENTS TO ACCOMMODATE NEW BUILDING DESIGN AND PARTITION LAYOUTS. ALL ASSOCIATED FLOOR CUTTING, IF REQUIRED, SHALL BE BY THE MECHANICAL CONTRACTOR.
7.	MECHANICAL CONTRACTOR TO MAKE ALL NECESSARY TEMPORARY PROVISIONS TO MAINTAIN H.V.A.C., PLUMBING AND DRAINAGE SYSTEMS FOR OCCUPIED AREAS DURING DEMOLITION AND CONSTRUCTION. ALL OF WHICH TO BE INCLUDED IN HIS CONTRACT. ALL ASSOCIATED NON MECHANICAL WORK, SUCH AS ELECTRICAL, TO BE CARRIED OUT BY THE GENERAL CONTRACTOR.
8.	CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES BEFORE COMMENCING WORK. USE ONLY THE LATEST APPROVED DRAWING FOR CONSTRUCTION. PRINTS ARE NOT TO BE SCALED.
9.	MECHANICAL CONTRACTOR TO MAKE ALL NECESSARY PROVISIONS TO COORDINATE WORK WITH ANY ROOFWORK, INCLUDING BUT NOT LIMITED TO: NEW SECTIONS OF GAS PIPING, PLUMBING VENTS AND RELIEF PIPES.
10.	MECHANICAL CONTRACTOR SHALL REBALANCE ALL EXISTING SYSTEMS AND UNITS BEING REUSED THAT HAVE BEEN ALTERED IN ANY WAY. REPLACE DRIVE KITS AND MOTORS WHERE REQUIRED. THE MECHANICAL CONTRACTOR WILL CLOSELY COORDINATE WITH THE ROOFING CONTRACTOR TO PREVENT ANY DAMAGE TO ROOF TOP EQUIPMENT.
11.	COMPLETELY REMOVE AND DISCARD ALL CROSSED H.V.A.C. UNITS, SYSTEMS INCLUDING DUCTWORK, THERMOSTATS AND CONTROL WIRING, UNLESS OTHERWISE NOTED.
12.	ALL CONTROL WIRING AND CONTROLS ARE TO BE REMOVED OR REPLACED BY THE MECHANICAL CONTRACTOR WHERE REQUIRED.
13.	SOME ASBESTOS REMOVAL MAY BE REQUIRED. PLUMBER TO VISIT SITE AND VERIFY PRIOR TO STARTING ANY WORK. REPORT ANY REMOVAL REQUIRED TO THE GENERAL CONTRACTOR AND INVIRO. ASBESTOS REMOVAL SHALL BE PART OF THIS CONTRACT FOR DEMOLITION OF PIPING AND INSULATION.
14.	EXISTING STORM & SANITARY LINES THAT ARE NOT SHOWN CROSSED TO BE PROTECTED DURING CONSTRUCTION.
15.	INCLUDE FOR PURGING OF NATURAL GAS SYSTEM AND THE RESTART OF ALL EXISTING GAS FIRED APPLIANCES.
16.	MECHANICAL CONTRACTOR TO CONTACT LOCAL GAS COMPANY TO INFORM THEM OF THE REVISED GAS LOAD REQUIREMENTS AT THE IMMEDIATE START OF THE PROJECT. MECHANICAL CONTRACTOR SHALL MAKE ALL NECESSARY APPLICATIONS AND COMPLETE FORMS TO SATISFY THE REQUIREMENTS OF THE GAS COMPANY. MECHANICAL CONTRACTOR SHALL COORDINATE REMEDIAL GAS METER WORKS WITHIN THE CONSTRUCTION SCHEDULE AND BE RESPONSIBLE FOR ANY DELAYS.
17.	MECHANICAL CONTRACTOR TO MAKE ALL NECESSARY PROVISIONS FOR RELOCATED THERMOSTATS.
18.	MECHANICAL CONTRACTOR TO INCLUDE FOR RELOCATION OF ALL STARTERS AND THERMOSTATS NOT SHOWN ON DRAWINGS. VISIT SITE PRIOR TO TENDER CLOSING TO CONFIRM EXTENT OF ALL WORK. COORDINATE WITH THE GENERAL CONTRACTOR AND DIVISION 16, TO ENSURE THAT ALL ASSOCIATED WORKS ARE INCLUDED IN THE CONTRACT.



GRILLE, REGISTER AND DIFFUSER SCHEDULE			
SYMBOL	ITEM	DESCRIPTION	ALTERNATE
	SUPPLY AIR REGISTER	E.H. PRICE MODEL 520D/F/LB12 C/W O.B. DAMPER. WHITE POWDER COAT FINISH DOUBLE-DEFLECTION SUPPLY GRILLE - 3/4\"/>	NAILOR MODEL 61D40S/A/A/A. C/W O.B. DAMPER. APPLIANCE WHITE FINISH DOUBLE-DEFLECTION SUPPLY GRILLE - 3/4\"/>

INSULATION SCHEDULE	
ITEM	INSTRUCTIONS
DUCTWORK PASSING THROUGH SPACE WITH NO MECHANICAL COOLING	SEAL JOINTS WITH DUCT SEALER. PROVIDE 2\"/>
F.A. DUCT WORK TO HRU (ERV) & EXHAUST DUCTWORK.	AFTER SEALING DUCTWORK USE 2\"/>

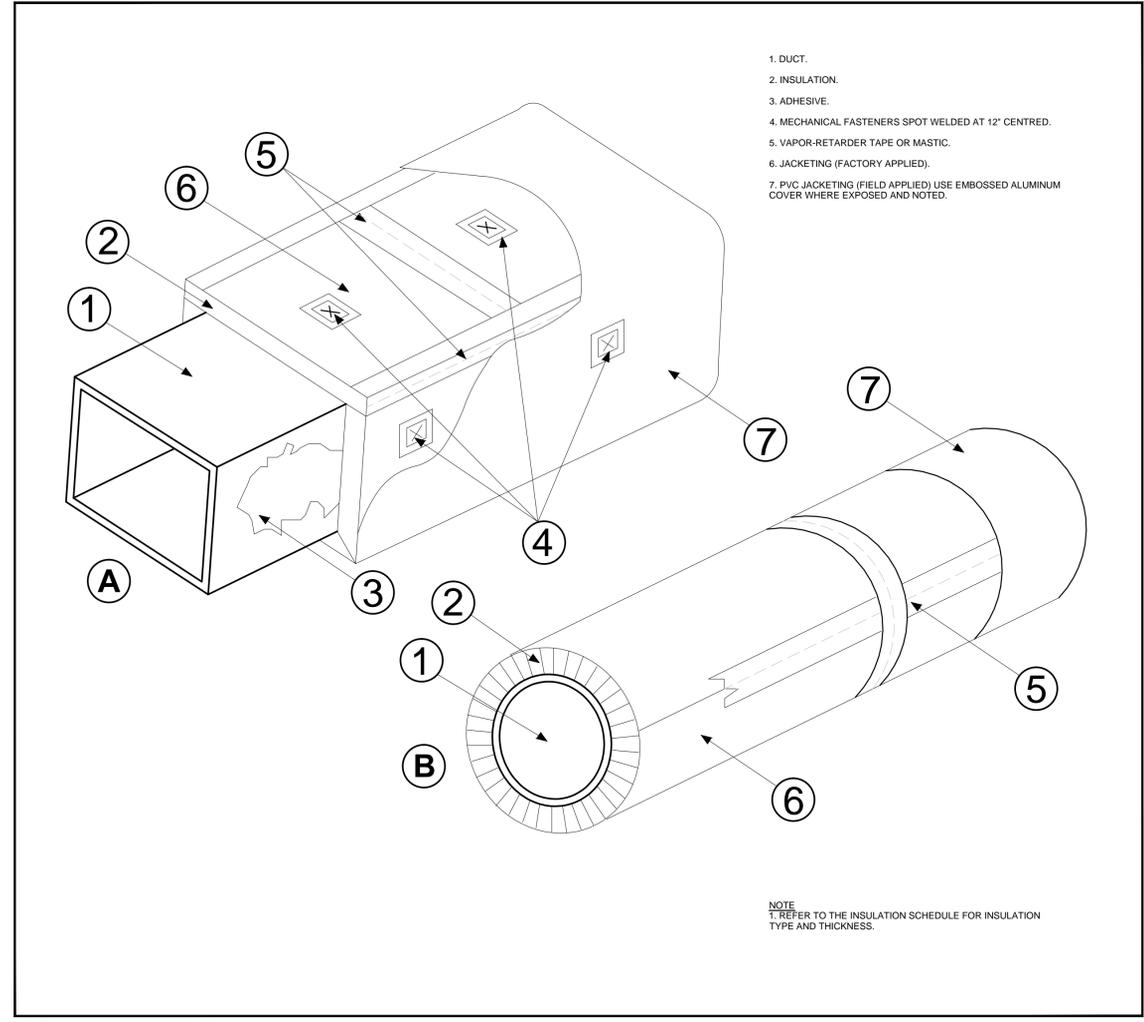
NOTES:

- ALL INSULATING PRODUCTS ARE TO BE EQUAL TO KNAUF, ICON, FIBERGLAS CANADA OR JOHNS-MANVILLE. THE APPLICATION IS TO BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE THERMAL INSULATION ASSOCIATION OF CANADA, AND AUTHORITIES HAVING JURISDICTION INCLUDING ASHRAE 90.1
- USE WHITE TAPE WHERE TAPE IS REQUIRED ON INSULATION.
- ALL EXPOSED INSULATION OF DUCTWORK, PIPING AND FITTINGS IN MECHANICAL ROOMS, BOILER ROOMS, FINISHED AREAS, UNFINISHED AREAS WHERE PIPING IS NOT CONCEALED BY A WALL OR CEILING IS TO BE FINISHED WITH WHITE PVC JACKET WITH PROPER FITTING COVERS EQUAL TO CHILDERS OR THERMO COVER. INSULATION IS TO BE APPLIED BY A SUB-CONTRACTOR SKILLED IN THIS TYPE OF WORK. USE ONLY PROPER FITTING COVERS FOR ELBOWS, TEES, VALVES, VICTAULIC JOINTS ETC.
- SEAL ALL DUCTWORK WITH ZERO VOC DUCT SEALANT.
- DUCT SEALING - ALL HVAC DUCTWORK AND PLENUMS SHALL BE SEALED AND LEAK TESTED IN CONFORMANCE TO SECTIONS 5.2.2.3 AND 5.2.2.4 OF MNEC/NECB, SECTION 6.4.4.2 OF ASHRAE 90.1, AND APPLICABLE SMACNA STANDARDS (LATEST YEAR). MECHANICAL CONTRACTOR SHALL SUBMIT TEST RESULTS TO THE MECHANICAL ENGINEER.

PIPE SCHEDULE		
SYMBOL	ITEM	DESCRIPTION
	NATURAL GAS LINE	ALL GAS PIPE FITTINGS SHALL BE WARD MANUFACTURING CONTACT GEORGE STEVENS OR BRYAN GABIN AT TELEPHONE: 877-517-9319 OR 905-564-6475. SCHEDULE 40 STEEL SCREWED 2\"/>
	COMBUSTIBLE PIPING PENETRATIONS	ALL COMBUSTIBLE PIPING PENETRATING THROUGH VERTICAL OR HORIZONTAL FIRE SEPARATIONS SHALL COMPLY WITH OBC 3.1.9.4.(1) THROUGH (8) AND PROVIDE A FIRE STOP SYSTEM TESTED AND LISTED TO CAN/ULC-S115-M WITH A PRESSURE DIFFERENTIAL OF 50 PA.

NOTES:

- OFFSHORE PRODUCTS ARE NOT ACCEPTABLE UNLESS PERMISSION IS PROVIDED BY INVIRO FOR EACH ITEM IN WRITING. THIS INCLUDES: PIPES, FITTINGS, SHEET METAL, FASTENERS, ETC.
- ALL PIPING MATERIALS AND INSTALLATION IS TO BE AS PER AUTHORITIES HAVING JURISDICTION AND APPLICABLE CODE.
- PIPING IS TO BE SUPPORTED USING CLEVIS HANGERS AND CLAMPS WITH SPACING AS RECOMMENDED BY THE MANUFACTURER OR AS DICTATED BY THE CODE WHICH EVER IS THE MOST STRINGENT. SUSPEND PIPING FROM STRUCTURAL STEEL OR CONCRETE. NOT FROM STEEL ROOF DECK.
- DOMESTIC HOT, COLD AND RE-CIRCULATION PIPING IS TO BE AS PER CAN/CSA-B64-10.
- REFER TO THE INSULATION SCHEDULE FOR PIPE COVERING.
- ALL PIPING IS TO BE STRAIGHT PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE. SLOPE ALL PIPING TO DRAIN POINTS.
- ALLOW FOR ADEQUATE EXPANSION CONTRACTION ON ALL PIPING. CONSULT PIPE SYSTEM MANUFACTURER FOR SPECIFIC DETAILS REGARDING APPROVED COMPENSATION METHODS.
- PROVIDE EXPANSION LOOPS AND ANCHORS ON GAS PIPING ON ROOF EVERY 100FT AS PER CGA/CSA B149.
- COMBUSTIBLE PIPING AND TUBING PRODUCTS ARE NOT PERMITTED IN A VERTICAL SHAFT AS PER OBC 3.1.9.4.(4) & (6).
- ENSURE INSTALLATION IS CONDUCTED AS PER MANUFACTURER'S DOCUMENTATION AND INSTALLATION MANUALS. ENSURE MANUFACTURER CAN PROVIDE FULL DOCUMENTATION CONFIRMING COMPLIANCE TO REQUIRED STANDARDS. TRADE CONTRACTOR TO CONTACT MANUFACTURER PRIOR TO INSTALLATION TO OBTAIN PRECISE INSTALLATION INSTRUCTIONS AND REQUIREMENTS.



This drawing, as an instrument of service, is provided by and is the property of INVIRO ENGINEERED SYSTEMS LTD. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify INVIRO ENGINEERED SYSTEMS LTD. of any variations from the supplied information. This drawing is not to be scaled. The consultant is not responsible for the accuracy of survey, architectural, structural, electrical etc., information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform to all applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.

No.	Date:	Issued/Revision:	By
-	2023/03/06	ISSUED FOR TENDER	S.M.
-	2022/10/04	ISSUED FOR COORDINATION	S.M.



WATER TREATMENT PLANT  
CITY OF DRUMHELLER

DETAILS, NOTES & SCHEDULES

Proj no:	22-217	Date:	AUGUST 2022
Drawn by:	AK	Scale:	N.T.S.
Checked by:	SM		

North Arrow  
this text will not plot

**M02**