

WC-1	CLOSET	215AA.104 C/W LINER & COVER LOCKING DEVICE 4188A.174	SUPPLY: DELTA COMMERCIAL 47P1316SD	12ø	_	/5ø	_	_	
LAV-1	WALL MOUNT LAVATORY	AMERICAN STANDARD LUCERNE 0355.027	FAUCET: DELTA COMMERCIAL 21C134 SUPPLIES: DELTA COMMERCIAL 47P2512SD OFFET WASTE: DELTA COMMERCIAL 33T290 P-TRAP: DELTA COMMERCIAL 33T311 P-TRAP INSULATION: McGUIRE PROWRAP BACK TO BACK CARRIER: JAY R. SMITH 0710D	12ø	_	32ø	32ø	_	
SK-1	S/S SINGLE BOWL DROP-IN SINK C/W LEDGE	KINDRED COMMERCIAL LBS4008P-1/3 (200mm CENTERSET)	FAUCET: DELTA COMMERCIAL 26C3934 SUPPLIES: DELTA COMMERCIAL 47P2512SD TAILPIECE & BASKET STRAINER: McGUIRE 151 P-TRAP: ABS OR PVC	12ø	12ø	40ø	40ø	_	
S-1	SUMP	LIBERTY PUMPS PRO370-SERIES MODEL P372LE41	_	-	_	75ø	50ø	REFER TO DOMESTIC HOT WATER TANKS PIPING DETAIL ON DRAWING MP2	
CO-1	CEILING SPACE CLEANOUT	JAY R. SMITH 4420C	_	_	_	SEE PLAN	-	REFER TO CEILING SPACE CLEANOUT DETAIL ON DRAWING MP2	
FD-1	FUNNEL FLOOR DRAIN	JAY R. SMITH 3510Y-B-P050-U (FIG. 3590)	P-TRAP: PVC	_	_	75ø	-	REFER TO TYPICAL FLOOR DRAIN DETAIL ON DRAWING MP2	
WH-1	WATER HAMMER ARRESTOR	JAY R. SMITH SERIES 5000	_	SEE PLAN	_	_	_	_	
DHWT-2	DOMESTIC HOT WATER TANK	GIANT 130E-3R7N (22 GAL./208V/2.25KW)	FLOOR STAND: HOLDRITE 40-S-22-A	20ø	20ø	_	_	REFER TO DOMESTIC HOT WATER TANKS PIPING DETAIL ON DRAWING MP2	
								REFER TO DOMESTIC	. -

SCHEDULE

TYPE	DESCRIPTION	ACCEPTABLE MATERIAL — OR APPROVED EQUAL
SWING CHECK	50mm AND UNDER, SOLDERED	KITZ NO. 23, NIBCO NO. S-413, TOYO RED & WHITE FIG. 237, JENKINS 4093J, CRANE FIG. 1342
VALVE		NIBCO T-413, APOLLO VALVES 161T-LF, RED-WHITE VALVES 236AB
		NIBCO T-685-80-LF, APOLLO VALVES 70LF-200, RED-WHITE VALVES 5044AB
BALL VALVE	50mm AND UNDER, SOLDERED	NIBCO S-FP-600A, MA STEWART B-2F, JENKINS 202J, BONOMI 1715, CRANE NO. 9202
	25mm AND UNDER, PEX MECHANICAL CONNECTION	NIBCO PX-CP400-LF, RED-WHITE VALVES 5010AB

PIPING IDENTIFICATION SCHEDILE (PLUMBING)

	LTOMDIM	<i>x j</i>
PIPING	NAME ON TAG	BACKGROUND COLOUR
DOMESTIC COLD WATER SUPPLY	DOM. COLD WATER	GREEN
DOMESTIC HOT WATER SUPPLY	DOM. HOT WATER	GREEN
DOMESTIC HOT WATER RECIRCULATION	DOM. H.W. RECIRC.	GREEN
PLUMBING VENT	SAN. VENT	GREEN
SANITARY DRAINAGE	SAN. DRAIN	GREEN

HOT WATER TANKS

PIPING DETAIL ON THIS DRAWING MP2

REFER TO TYPICAL

TRAP PRIMER DETAIL ON

DRAWING MP2

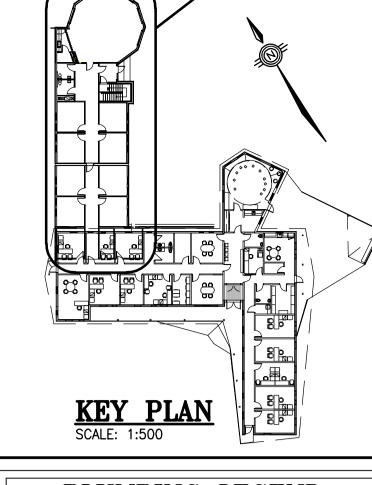
20ø

12ø

12ø

		INSULATION VAPOUR LOCATION OF			IDUCTIVITY OF ATION	NOMINAL PIPE	MINIMUM THICKNESS OF PIPING		
J, F,	PIPING	TYPE			CONDUCTIVITY RANGE, W/m C	MEAN RATING TEMPERATURE C	DIAMETER (mm)	INSULATION (mm)	
	DOMESTIC COLD	RIGID MOULED	FACTORY	N/A	N/A N/A N/A		RUNOUTS	25ø	
	WATER	MINERAL FIBRE	APPLIED	.,,			ALL PIPING	25ø	
,						RUNOUTS < OR = 50ø			
$\parallel \parallel$				CONDITIONED SPACE	0.035-0.040	70	< OR = 25ø	25ø	
						38	32ø TO 50ø		
╝		RIGID					64ø TO 100ø	40ø	
	DOMESTIC	MOULED	NONE				> OR = 125ø	109	
	HOT WATER	MINERAL FIBRE	NONE				RUNOUTS < OR = 50ø	40ø	
]]				UNCONDITIONE			< OR = 25ø	64ø	
				D SPACE	0.046-0.049	38	32ø TO 50ø	04Ψ	
							64ø TO 100ø	75ø	
							> OR = 125ø	90ø	

1. REFER TO SECTION 6.2.3.1 OF THE NATIONAL ENERGY CODE OF CANADA FOR BUILDING FOR EXTRA CLARIFICATIONS TO THIS TABLE. FOR CURRENT EDITION REFER TO GENERAL NOTES AND/OR SPECIFICATIONS.



WORK AREA

PLUMBING LEGEND

-DCW ----- DOMESTIC COLD WATER LINE - DOMESTIC HOT WATER LINE - SANITARY DRAIN LINE SANITARY UNDERGROUND OR BELOW FLOOR DRAIN LINE · VENT LINE TRAP PRIMER LINE TRAP PRIMER UNDERGROUND OR BELOW FLOOR LINE CEILING SPACE CLEANOUT

> PROPOSED FLOOR DRAIN FD-1 - INDICATES TYPE (REFER TO SCHEDULE) WATER HAMMER ARRESTOR

CO-1 - INDICATES TYPE

WH-1 - INDICATES TYPE

CHECK VALVE

→ CAP

(REFER TO SCHEDULE)

(REFER TO SCHEDULE) PROPOSED TRAP SEAL PRIMER TP-1 - INDICATES TYPE

(REFER TO SCHEDULE) — D LINE GOING DOWN □ REDUCER -O LINE GOING UP BALL VALVE TEE DOWN

TEE 90. ETBOM

> WALL BRACKET

FIRE EXTINGUISHER CABINET c/w FIRE EXTINGUISHER

- DRAWING NOTES:

 $\langle 1
angle$ DCW/DHW 12ø UP.

REFER TO DRAWING <2> DCW 20ø UP. MV1 FOR EXACT LOCATION OF <3> DCW/DHW 12ø DN. HRV-1 & AHU-1.

<4> DCW 20ø DN.

<5> SAN 50¢ DN.

<7> SAN 75¢ DN.

\$\square\$ SAN 75\tilde{\text{UP}}.

(9) VENT 50 UP. (1) VENT 50 DN.

DRAWING CLARITY.

HUMIDIFIER HUM-1.

VENT 500 UP, 750 THROUGH ROOF (REFER TO TYPICAL ROOF VENT DETAIL ON DRAWING MP2).

CONNECT TO EXISTING DOMESTIC WATER LINE IN MECHANICAL ROOM. EXACT POINT OF CONNECTION TO BE COORDINATED ON SITE.

REFER TO PIPE THROUGH CONCRETE WALL DETAIL ON DRAWING MP2.

4 HWT-1, *HRV-1 & *AHU-1 DRAINS TO BE PIPED AS REQUIRED AND DRAIN AT FLOOR DRAIN FD-1. EXACT LOCATION OF FLOOR DRAIN FD-1 TO BE COORDINATED WITH FOOTINGS FROM STRUCTURAL DRAWINGS. SHOWN AT THIS LOCATION FOR

5 DHWT-2 TO BE INSTALLED WITH ISOLATION BALL VALVES ON DCW & DHW BRANCHES. REFER TO DETAIL ON MP-2.

(6) ISOLATION BALL VALVE INSTALLED ON VERTICAL SECTION OF PIPE. 17 HUMIDIFIER HUM-1 TO DRAIN AT FD-1 IN SAME

ROOM. REFER TO HUMIDIFIER DETAIL ON DRAWING \$\sqrt{8}\ \text{SUMP SP-1 TO BE INSTALLED UNDERNEATH}

COPYRIGHT PROTECTED:

Copyright for the design and drawings prepared by or on behalf of the Architect belong to the Architect. These drawings and specifications are instruments of the Architect's service and shall remain the property of the Architect.

Submissions or distribution of the aforementioned to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of

the Architect's reserved rights. Except for reference purposes, the drawings and specifications shall not be used for additions or alterations to the Project or

GENERAL NOTES:

on any other project.

1. ALL WORK SHALL CONFORM TO THE NATIONAL BUILDING CODE OF CANADA EDITION 2015, NATIONAL PLUMBING CODE OF CANADA EDITION 2015, NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS EDITION 2011, AND TO THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

2. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LOCATIONS FOR MECHANICAL EQUIPMENT & PLUMBING. THIS CONTRACTOR SHALL VERIFY ALL EQUIPMENT LOCATIONS ON SITE PRIOR TO INSTALLATION AND SHALL COORDINATE THE LOCATIONS SO AS NOT TO CAUSE INTERFERENCE WITH THE WORK OF OTHER TRADES.

3. CONTRACTOR IS RESPONSIBLE TO VISIT THE JOB SITE TO VERIFY ALL EXISTING CONDITIONS WHICH COULD AFFECT THE WORK. NO EXTRA COST WILL BE ALLOWED DUE TO FAILURE TO TAKE SITE CONDITIONS INTO CONSIDERATION. BE FAMILIAR WITH ALL RELATED WORK TO AVOID CONFLICTS WITH OTHER TRADES. IF THERE IS ANY

4. THIS CONTRACTOR SHALL COORDINATE ALL FLOOR, CEILING AND WALL PENETRATIONS WITH GENERAL CONTRACTOR AND/OR THE OWNER PRIOR TO CUTTING.

CONFLICTS REPORT TO ENGINEER.

NO.	REVISION	DATE
Α	ISSUED FOR COORDINATION	2021/11/26
В	ISSUED FOR COORDINATION	2021/12/17
С	ISSUED FOR COORDINATION	2022/01/28
D		2022/02/03
0		2022/02/25

A DETAIL NUMBER

B REFERENCE DWG NO. C DETAIL DWG NO.

CONSULTANTS I / 506.7379730

125-21-MP1

13, rue Cosfigan Street

Edmundston (NB) E3V TWG

architects 13 Baltard 3 iZentilo INB L. C. IWZ

TCFSA Administration Building Addition

Tobique First Nation, NB

- MECHANICAL -

PLUMBING PLAN VIEWS, **KEY PLAN & LEGEND**

SCALE: AS SHOWN

November, 2021

A2135

MP1

EXPANSION

TRAP PRIMER

DOUBLE

CHECK VALVE

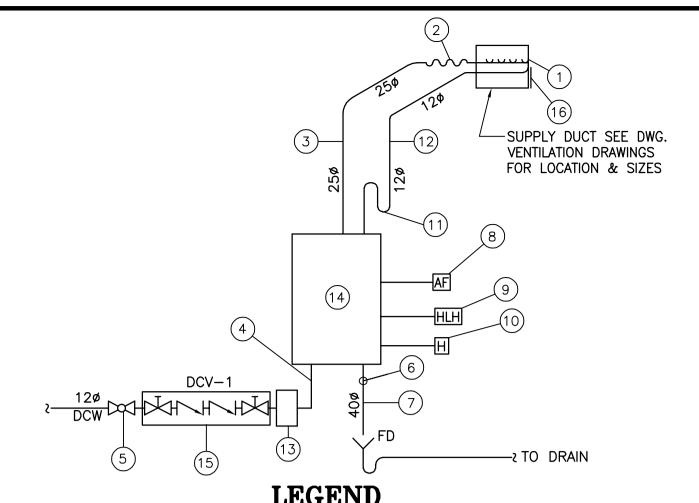
ASSEMBLY

WATTS PLT 5

P.P.P INC.

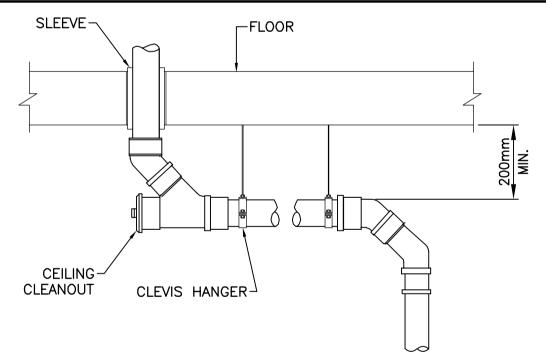
MPB-500-115V

WATTS LF007

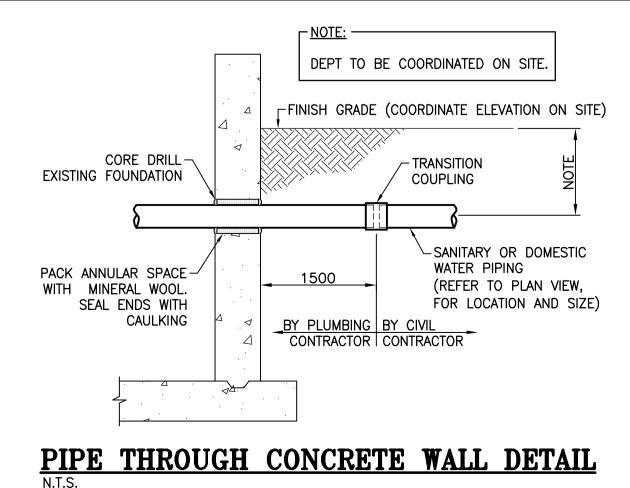


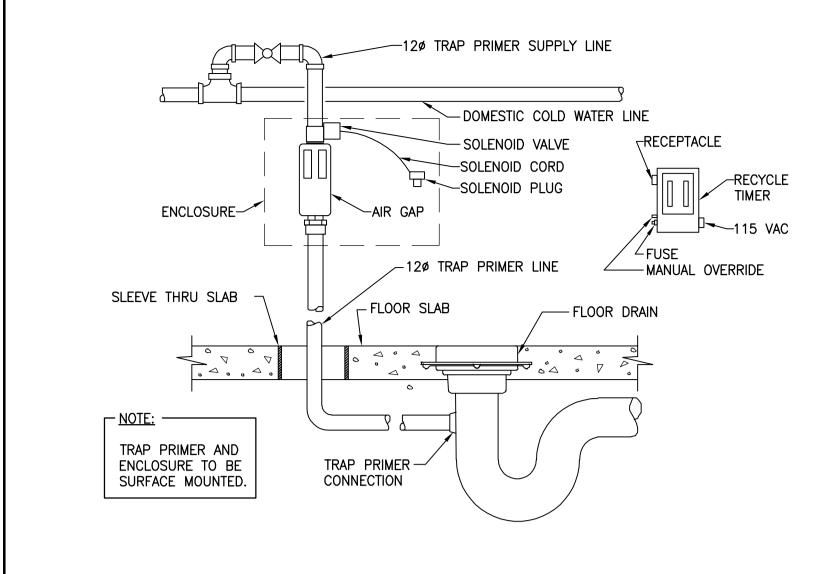
- **LEGEND**
- 1 STEAM MANIFOLD (FOLLOW MANUFACTURER'S RECOMMENDATIONS).
- (2) FLEXIBLE HOSE (SUPPLIED WITH HUMIDIFIER).
- 3 RIGID COPPER PIPING. USE LONG SWEEP ELBOWS.
- 4 TUBE COMPRESSION FITTING WATER SUPPLY.
- 5 BALL VALVE.
- 6 AIR GAP FITTING.
- (7) DRAIN CONNECTION.
- (8) AIR PROVING SWITCH IN SUPPLY AIR DUCT.
- 9 HIGH LIMIT HUMIDISTAT IN SUPPLY DUCT SET AT 80% RH.
- 10 HUMIDISTAT.
- 11) P-TRAP (200mm DEEP MIN. FOLLOW MANUFACTURER'S RECOMMENDATIONS).
- (12) DRAIN LINE RIGID COPPER.
- 13 INLINE WATER FILTER (SUPPLIED WITH HUMIDIFIER).
- 14 HUMIDIFIER (REFER TO SCHEDULE) OR APPROVED EQUAL.
- DOUBLE CHECK VALVE ASSEMBLY BACKFLOW PREVENTER. TO BE INSTALLED BETWEEN 750 TO 1500mm FROM FINISHED FLOOR (REFER TO PLUMBING SCHEDULE)
- (16) ACCESS DOOR IN WATER TIGHT DUCTWORK.

HUMIDIFIER DETAIL

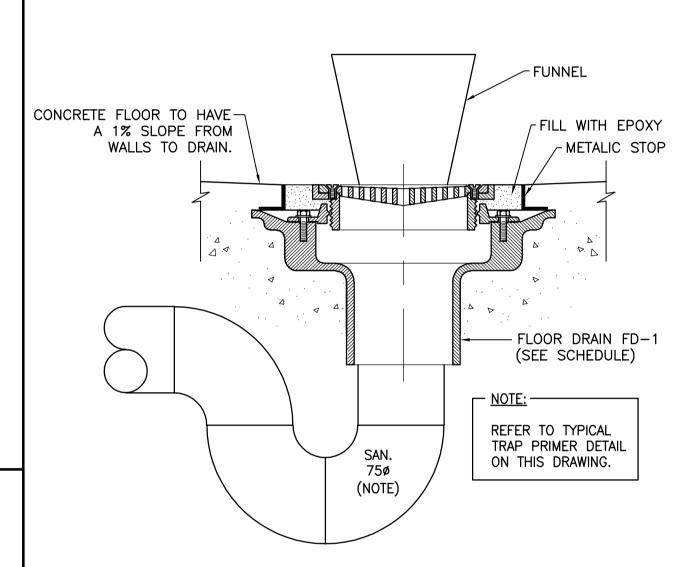


CEILING SPACE CLEANOUT DETAIL

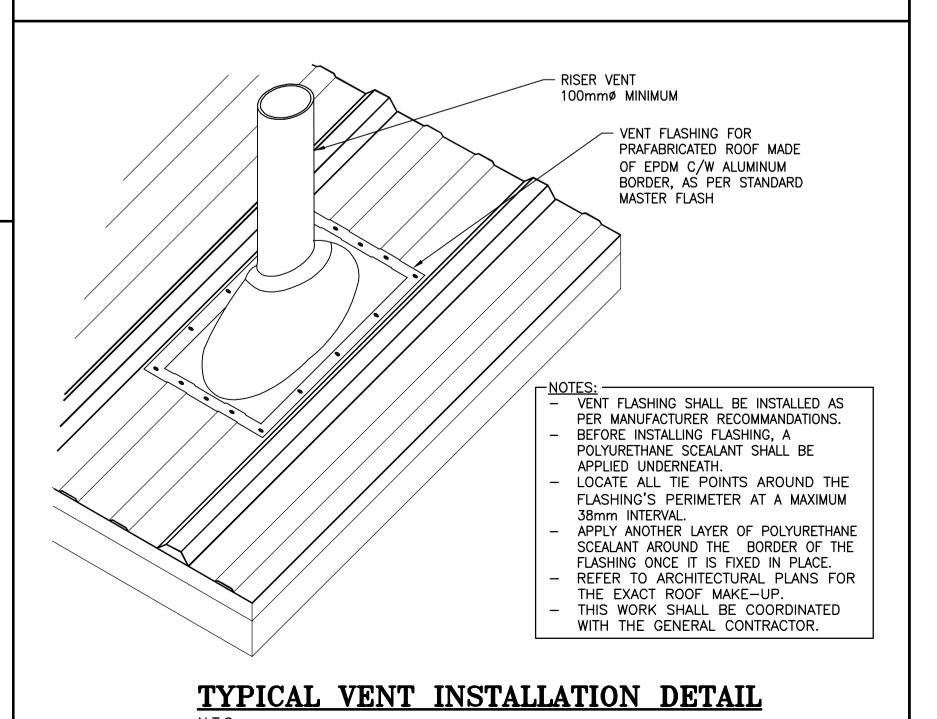


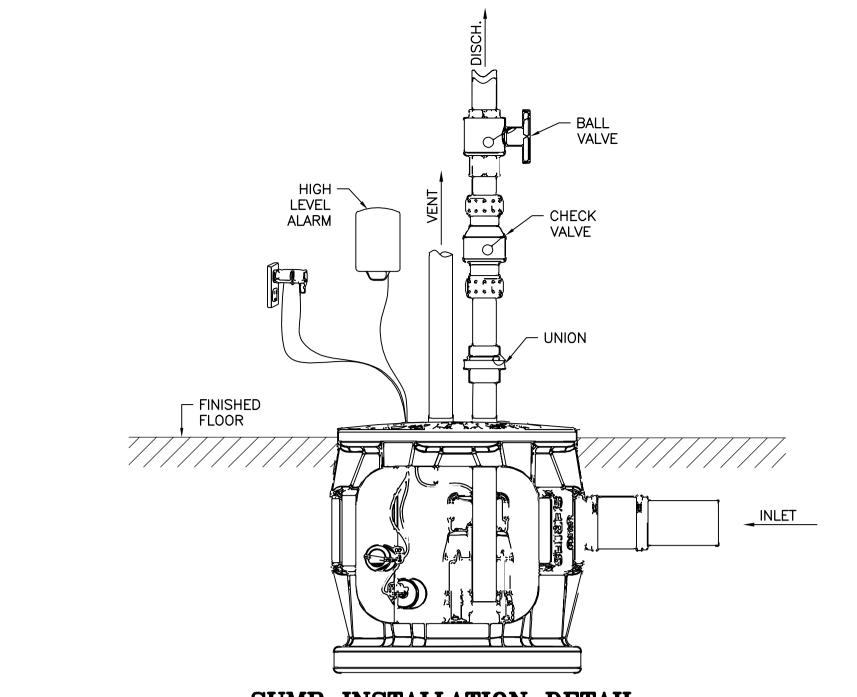


TYPICAL TRAP PRIMER DETAIL

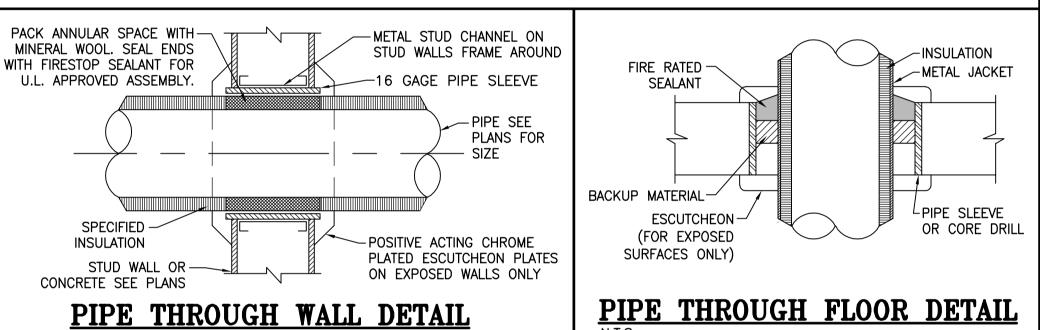


TYPICAL FLOOR DRAIN DETAILS

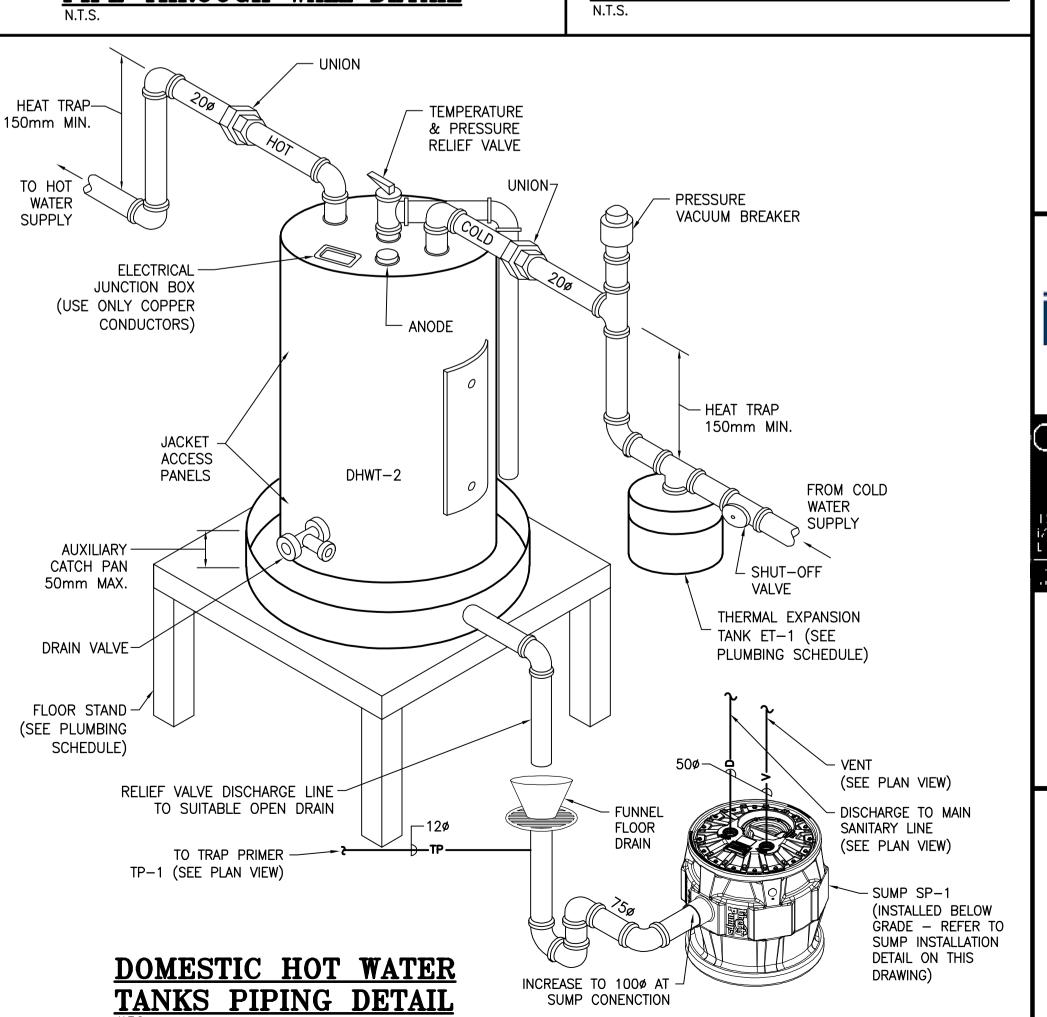




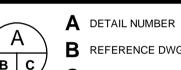
SUMP INSTALLATION DETAIL







O ISSUED FOR TENDER 2022/02/2 ISSUED FOR 99% REVIEW ISSUED FOR COORDINATION 2022/01/2 ISSUED FOR COORDINATION 2021/12/ A ISSUED FOR COORDINATION 2021/11/



REVISION

COPYRIGHT PROTECTED:

property of the Architect.

Copyright for the design and drawings prepared by or on behalf of the Architect

Submissions or distribution of the

the Architect's reserved rights.

on any other project.

belong to the Architect. These drawings and specifications are instruments of the Architect's service and shall remain the

aforementioned to meet official regulatory

construed as publication in derogation of

Except for reference purposes, the drawings

and specifications shall not be used for additions or alterations to the Project or

requirements or for other purposes in connection with the Project is not to be

B REFERENCE DWG NO. C DETAIL DWG NO.



architects 15 Biddlend 3 iZent für INB L. C. 1977

TCFSA Administration Building Addition

Tobique First Nation, NB

- MECHANICAL -

PLUMBING

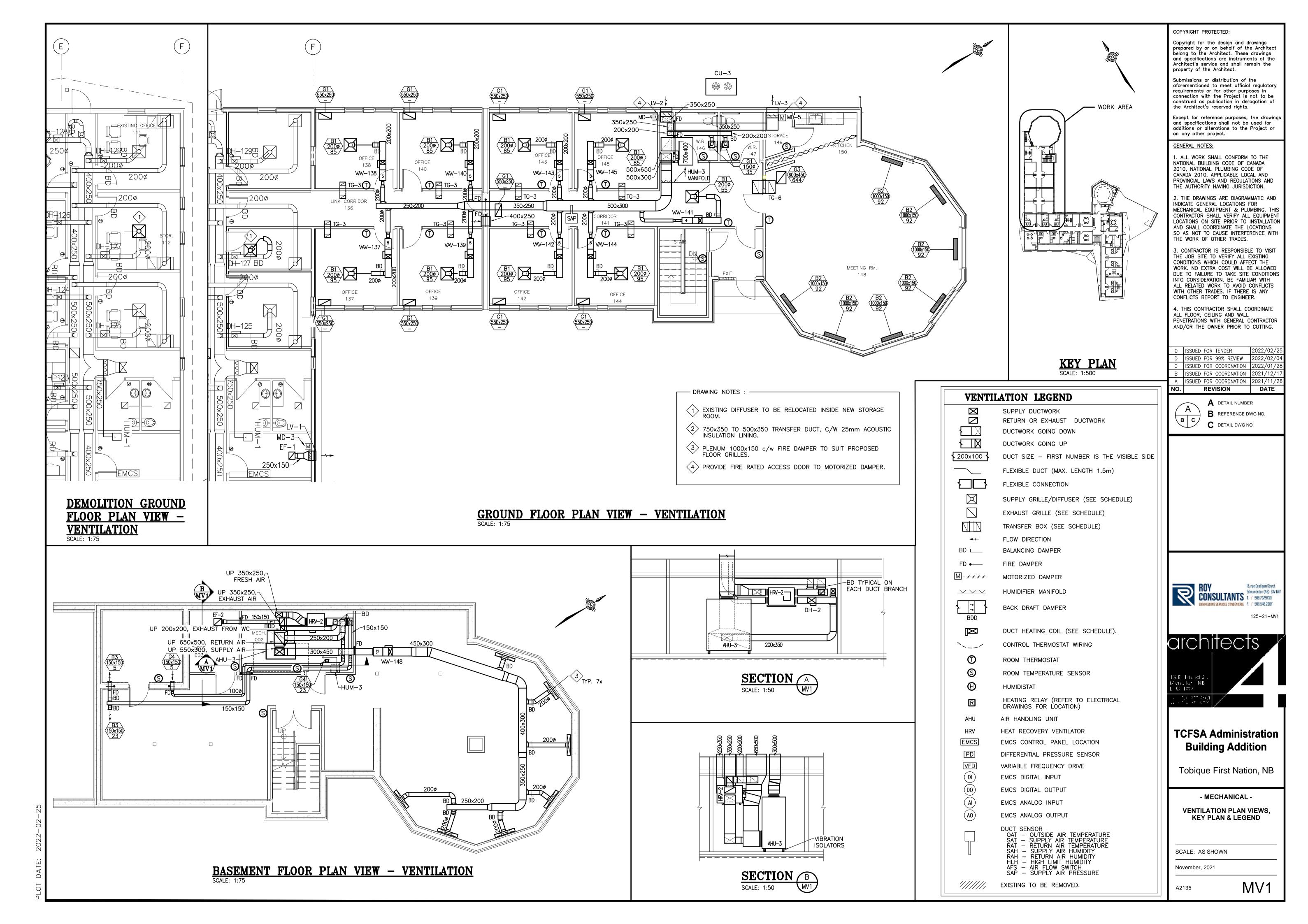
DETAILS

SCALE: AS SHOWN

November, 2021

A2135

MP2



	DUCT HEATING COIL SCHEDULE											
ITEM	AIR FLOW	DUCT SIZE	STAGES	HEATING	EL	ECTRIC	AL.	MANUFACTURER				
ITEM	L/S	DUCI SIZE	SIAGES	CAPACITY (KW)	٧	PH	HZ					
DH-2	198	350x200	SCR	10.0	208	3	60	NEPTRONICS, OR APPROVED EQUAL				
NOTES:	NOTES: 1. DUCT HEATERS SHALL BE SLIP—IN TYPE (REFER TO SPECIFICATIONS). 2. C/W BUILT—IN UNFUSED DISCONNECT SWITCH.											

EXHAUST FAN SCHEDULE ELECTRICAL MANUFACTURER & MODEL IDENTIFICATION DESCRIPTION REMARKS WATTS FLA PH ٧ EXISTING ELECTRICAL GREENHECK MODEL 105 EF-1 92 0.56 115 NOTE 1 ROOM SPA-250 GREENHECK MODEL ELECTRICAL ROOM 003 70 EF-2 65 50 0.46 115 NOTE 2 EXHAUST SPA-200

1. CONTRACTOR SHALL SUPPLY THE NEW EXHAUST FAN WITH NEW 15A-1P CIRCUIT IN PANEL "A" LOCATED IN THE EXISTING ELECTRICAL ROOM. IF PANEL HAS NO SPARE ROOM, REPLACE EXISTING 15A-1P BREAKER IN PANEL WITH A COMPATIBLE TANDEM 15A-1P BREAKER. 2. EXHAUST FAN SHALL BE COMPLETE WITH INSULATED CABINET, BACKDRAFT DAMPER, ALUMINUM GRILLE WITH WHITE ENAMEL FINISH AND HANGING VIBRATION ISOLATORS.

MOTORIZED DAMPER SCHEDULE											
IDENTIFICATION	SYSTEM	DESCRIPTION	L/S	MANUFACTURER MODEL NO.	DIMENSION (WXH)	ACTUATOR TYPE	REMARKS				
MD-3	LV-1	EF-1	105	TAMCO SERIE 9000	450x300	BELIMO MODEL NFB24	INSULATED LOW LEAKAGE				
MD-4	LV-2	HRV-1 FRESH AIR INTAKE	198	TAMCO SERIE 9000	350x600	BELIMO MODEL NFB24	INSULATED LOW LEAKAGE				
MD-5	LV-3	HRV-1 EXHAUST	198	TAMCO SERIE 9000	350×600	BELIMO MODEL NFB24	INSULATED				

	LOUVER SCHEDULE												
IDENTIFICATION	SYSTEM	DESCRIPTION	L/s	FREE AREA (sq.m) (MIN.)	MANUFACTURER MODEL NO.	DIMENSIONS (WXHXD)	REMARKS						
LV-1	EF-1	EXHAUST	105	0.04	E.H. PRICE DE439	450x300x100	NOTES 1,2,3						
LV-2	HRV-2	INTAKE	198	_	E.H. PRICE DE439	350x600x100	NOTES 1,2,3						
LV-3	HRV-2	EXHAUST	198	_	E.H. PRICE DE439	350x600x100	NOTES 1,2,3						

1. CLEAR ANODIZED ALUMINUM FINISH.

2. C/W ALUMINUM BIRDSCREEN AND ALUMINUM EXTENDED SILL. 3. INSERT TYPE (MOUNTING METHOD A).

		VA	V TEI	RMINAL	BOX SCHI	EDULI	<u>C</u>	
	FLOW	(L/s)		MIN. DIFF.		HEATING		
BOX NO.	MAX.	MIN.	INLET	STATIC (Pa)	MANUFACTURER NO.	COIL (kW)	ACOUSTIC PLENUM	REMARKS
VAV-141	55	28	100	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-148	642	192	300	62	E.H. PRICE SDV-5000	11.0	914mm-MOA	NOTES 1,2,3
VAV-145	85	25	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-143	85	25	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-140	85	25	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-138	85	25	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-137	95	28	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-139	95	28	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-142	95	28	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3
VAV-144	95	28	125	62	E.H. PRICE SDV-5000	1.0	914mm-MOA	NOTES 1,2,3

1. VAV TERMINALS SHALL BE COMPLETE WITH BUILT-IN AIRFLOW SENSORS. 2. VAV TERMINALS ACTUATOR AND CONTROLS SHALL BE SUPPLIED AND INSTALLED BY DIV.25. 3. VAV TERMINALS ELECTRIC HEATING COILS SHALL BE SUPPLIED WITH 208V/3PH/60HZ ELECTRICAL, BUILT-IN UNFUSED DISCONNECT SWITCH, AIRFLOW SWITCH, AUTOMATIC RESET THERMAL CUTOUT, PROPORTIONAL MODULATING CONTROL (SCR) AND INLET AND OUTLET SCREENS.

	HUMIDIFIER SCHEDULE											
TAG NO.	AIR FLOW (L/S)	ABSORPTION LENGTH (mm)	MAX. CAPACITY (lb/hr)	ELECTRICAL V PH Hz kW				MANUFACTURER & MODEL No.	NOTES			
HUM-3	775	610	15	208	3	60	7.5	CONDAIR EL 020	1,2			

1. HUMIDIFIER SHALL BE COMPLETE WITH STEAM DISTRIBUTION AS SERIES STEAM MANIFOLD, FLEXIBLE HOSE STEAM SUPPLY LINE, DUCT MOUNTED AIR PROVIDING SWITCH, DUCT MOUNTED HIGH LIMIT HUMIDISTAT, IN-LINE WATER FILTER AND ONE SPARE CYLINDER. \mid 2. HUMIDIFIER SHALL BE LIMITED TO THE MAXIMUM OUTPUT CAPACITY SHOWN IN THIS SCHEDULE.

	AIR HANDLING UNIT SCHEDULE											
	MANUFACTURER & MODEL No.		SUPPLY FAN									
ID.		DESCRIPTION	AIR FLOW (L/S)	EXT. STATIC PRESSURE	MOTOR				COOLING			
				(Pa)	HP	٧	PH	Hz	(MBH)			
AHU-3	YORK MODEL NL090	OFFICE AREA HVAC	1416	250	2	208	3	60	88.9			
NOTES: C/	NOTES: C/W INTELLISPEED VFD											

	CONDENSING UNIT SCHEDULE											
IDENTIFICATION	MANUFACTURER &		REFRIGERANT	HEATING CAPACITY	ELECTRICAL							
IDENTIFICATION	MODEL No.	(MBH)	TYPE	(MBH)	V	PH	Hz					
CU-3	YORK MODEL YC090	88	R410A	_	208	3	60					

NOTES: C/W DISCONNECT SWITCH AND UNIT REQUIRES A FIELD INSTALLED HOT GAS BY-PASS

	HEAT	REC	OVEF	RY V	ENTI	LATO	R U	NIT	SCH	EDUI	Œ	
			SUPPLY FAN		RETURN FAN			ELECTRICITY				
TAG NO.	MANUFACTURER & MODEL NO.	SYSTEM	L/S	EXT. S.P. (Pa)	L/S	EXT. S.P. (Pa)	٧	PH	HZ	WATTS	FLA	NOTES
HRV-2	FANTECH SHR 700	AHU-1	198	200	198	200	120	1	60	1272	10.6	1,2,4

1. SHOULD MANUFACTURER OF AN APPROVED EQUAL UNIT REQUIRE CHANGES SUCH AS DIFFERENT ELECTRICAL, SIZES, DUCT CONFIGURATION OR ANY OTHER MODIFICATION, ALL ADDITIONAL COST ASSOCIATED WITH THESES CHANGES SHALL BE PAID FOR BY MECHANICAL CONTRACTOR.

2. UNIT SHALL BE SUPPLIED WITH EXHAUST ONLY DEFROST CYCLE, ALUMINUM HEAT RECOVERY CORE, THREE SPEED MOTOR ON SUPPLY AND EXAUST FAN & VIBRATION ISOLATORS. 3. DISCONNECT SWITCH BY DIV.26.

YPE	DESCRIPTION	SERVICE	NECK SIZE (mm)	L/S	N.C. (MAX)	THROW T50 (m)	MANUFACTURER NO.	
B1 S		SUPPLY	150ø	0-60	19	2.1	E.H. PRICE 610x610/SPD/B12	
	SQUARE PLAQUE		200ø	61-120	19	2.7		
	DIFFUSER		250ø	121-160	19	3.0		
			300ø	161-200	19	3.3		
B2	HEAVY DUTY LINER BAR GRILLES	SUPPLY	1000x150	0-119	19	1.8	E.H. PRICE LBPH16A/1000/A/B15	
В3	LOUVERED SUPPLY	SUPPLY	150x150	0-52	19	5.7	E.H. PRICE 150x150/520/F/L/A/B12	
G1	PERFORATED DIFFUSER	PLENUM RETURN	550×250	0-288	-	-	E.H. PRICE 610x305/PDDR/B12	
G2	PERFORATED DIFFUSER	EXHAUST	150ø	0-60	19	-	E.H. PRICE 305x305/PDDR/B12	
G3	EGGCRATE FACE RETURN GRILLE	RETURN	600×450	0-787	_	_	E.H. PRICE 600×450/80/TB/B12	
G4	LOUVERED RETURN	RETURN	150×150	0-52	19	_	E.H. PRICE 150x150/530/F/L/A/B12	

COPYRIGHT PROTECTED:

TO OTHER BASEBOARD

BASEBOARD

(BY DIV.26)

AO.

SCR

ROOM THERMOSTAT

(REFER TO VENTILATION

PLAN VIEWS)

M MD-3

SET POINT

RELAYS IN THE SAME

ZONE (BY DIV.25)

BASEBOARD HEATERS (REFER

TO ELECTRICAL SCHEDULES

AND PLAN VIEWS)

DO

208 VAC

Al)

FLOW

SENSOR

TEMP.

(BY DIV.25)

ROOM TEMPERATURE SENSOR

(REFER TO VENTILATION

PLAN VIEWS)

(BY DIV.25)

(AO)

VARIABLE AIR VOLUME BOXES

(REFER TO VENTILATION

SCHEDULES AND PLAN VIEWS)

TEMP.

(BY DIV.26)

SUPPLY AIR

642 L/S

SUPPLY AIR

OUTSIDE AIR

TEMPERATURE SENSOR

(BY DIV.26)

EXHAUST AIR

105 L/S

Copyright for the design and drawings prepared by or on behalf of the Architect belong to the Architect. These drawings and specifications are instruments of the Architect's service and shall remain the property of the Architect.

Submissions or distribution of the aforementioned to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's reserved rights.

Except for reference purposes, the drawings and specifications shall not be used for additions or alterations to the Project or

GENERAL NOTES:

on any other project.

1. ALL WORK SHALL CONFORM TO THE NATIONAL BUILDING CODE OF CANADA 2010, NATIONAL PLUMBING CODE OF CANADA 2010. APPLICABLE LOCAL AND PROVINCIAL LAWS AND REGULATIONS AND THE AUTHORITY HAVING JURISDICTION.

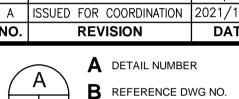
. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LOCATIONS FOR MECHANICAL EQUIPMENT & PLUMBING. THIS CONTRACTOR SHALL VERIFY ALL EQUIPMENT LOCATIONS ON SITE PRIOR TO INSTALLATION AND SHALL COORDINATE THE LOCATIONS SO AS NOT TO CAUSE INTERFERENCE WITH

THE WORK OF OTHER TRADES.

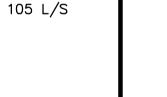
3. CONTRACTOR IS RESPONSIBLE TO VISIT THE JOB SITE TO VERIFY ALL EXISTING CONDITIONS WHICH COULD AFFECT THE WORK. NO EXTRA COST WILL BE ALLOWED DUE TO FAILURE TO TAKE SITE CONDITIONS INTO CONSIDERATION. BE FAMILIAR WITH ALL RELATED WORK TO AVOID CONFLICTS WITH OTHER TRADES. IF THERE IS ANY CONFLICTS REPORT TO ENGINEER.

4. THIS CONTRACTOR SHALL COORDINATE ALL FLOOR, CEILING AND WALL PENETRATIONS WITH GENERAL CONTRACTOR AND/OR THE OWNER PRIOR TO CUTTING.

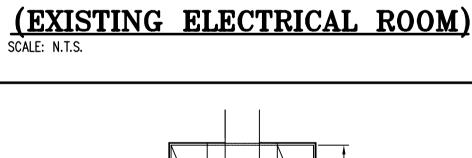
				DATE
Α	ISSUED	FOR	COORDINATION	2021/11/26
В	ISSUED	FOR	COORDINATION	2021/12/17
С	ISSUED	FOR	COORDINATION	2022/01/28
D	ISSUED	FOR	99% REVIEW	2022/02/04
0	ISSUED	FOR	TENDER	2022/02/25
	D C B	D ISSUED C ISSUED B ISSUED	D ISSUED FOR C ISSUED FOR B ISSUED FOR A ISSUED FOR	D ISSUED FOR 99% REVIEW C ISSUED FOR COORDINATION B ISSUED FOR COORDINATION



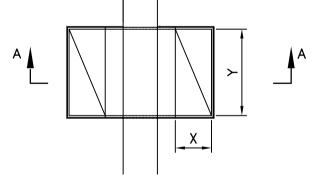
C DETAIL DWG NO.



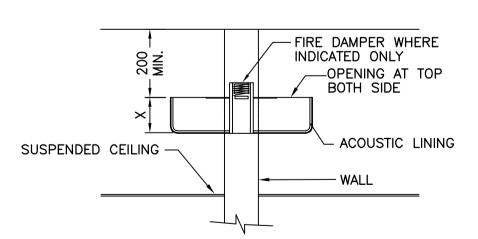
EXHAUST AIR



PROPOSED CONTROL DIAGRAM



TYPICAL ACOUSTIC TRANSFER DUCT



SECTION A-A

TRANSFER DUCT SCHEDULE							
ITEM	×	Y	NOTES				
TG-1	150	200	0-80 L/S				
TG-2	150	250	81-110 L/S				
TG-3	150	300	111-145 L/S				
TG-4	200	300	146-210 L/S				
TG-5	200	350	211-250 L/S				
TG-6	300	600	500-950 L/S				



CONSULTANTS T / 505.7379730

13, rue Cosfigan Street Edmundston (NB) E3V TW



iZent lori NB L. C. 1977

Tobique First Nation, NB

- MECHANICAL -

VENTILATION DIAGRAM, SCHEDULES & DETAILS

SCALE: AS SHOWN

November, 2021

MV2

A2135

MECHANICAL SPECIFICATION

- A) GENERAL REQUIREMENTS FOR MECHANICAL WORK
- 1.1 SUPPLY AND INSTALL ALL NEW PLUMBING FIXTURES, DOMESTIC HOT WATER TANK, SEWAGE PUMPING STATION, PIPING, SUPPORTS, VALVES, PIPE THERMAL INSULATION, ACCESSORIES, ETC. FOR A COMPLETE OPERATING SYSTEM. CONNECT BUILDING SANITARY DRAIN TO EXISTING SEPTIC TANK, COORDINATE EXACT LOCATION ON SITE.
- 1.2 SUPPLY AND INSTALL ALL NEW AIR HANDLING UNIT, CONDENSING UNIT, EXHAUST FAN, DUCTWORK, SUPPORTS, DUCT HEATING COILS, DAMPERS, LOUVERS, GRILLES AND DIFFUSERS, VAV TERMINAL UNITS, HEAT RECOVERY VENTILATOR, HUMIDIFIER, DUCT THERMAL INSULATION, ETC. FOR A COMPLETE OPERATING SYSTEM.
- 1.3 SUPPLY AND INSTALL ENERGY MANAGMENT AND CONTROL SYSTEMS (EMCS). HAVE EMCSS SUBCONTRACTOR ON SITE AT START-UP TO CERTIFY SYSTEMS ARE FUNCTIONING
- 1.4 TESTING, ADJUSTING, AND BALANCING SHALL BE BY AN INDEPENDENT TAB CONTRACTOR.
- 1.5 PROVIDE MARKED-UP AS-BUILT DRAWINGS, MAINTENANCE MANUALS AND SHOP DRAWINGS FOR REVIEW.
- 2.0 SPECIFIED PRODUCTS, LISTED PRODUCTS AND ALTERNATES
- SPECIFIED PRODUCTS PRODUCTS THAT WERE USED FOR THE DESIGN, THEY ARE INDICTAED WITH A MODEL NUMBER. LISTED PRODUCTS - PRODUCTS THAT CAN BE ACCEPTED AS EQUAL. THIS PRODUCT IS INDICATED BY MANUFACTURER NAME ONLY. ALTERNATIVE PRODUCTS - PRODUCTS THAT ARE NOT SPECIFIED AND NOT LISTED.
- TENDER PRICE WILL BE BASED USING SPECIFIED OR LISTED PRODUCTS ONLY. PROOF THAT LISTED PRODUCT IS EQUAL SHALL BE ESTABLISHED AFTER TENDER CLOSING. NO ALTERNATIVE PRODUCT SHALL BE INCLUDED IN TENDER PRICE.
- ALTERNATIVES CAN BE PROVIDED SEPARATELY WITH TENDER OR AFTER TENDER CLOSING FOR CONSIDERATION. ALTERNATIVE WILL BE CONSIDERED ONLY IF CREDIT IS APPLIED TO TENDERED PRICE. OWNER RESERVES THE RIGHT TO REJECT ALTERNATIVES.
- 3.0 EXAMINATION OF SITE AND INFORMATION
- 3.1 CONTRACTOR, BEFORE TENDERING, SHALL EXAMINE THE SITE, THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND HE SHALL FAMILIARIZE HIMSELF WITH THE BUILDING CONSTRUCTION AND FINISH IN ORDER THAT HIS TENDER MAY INCLUDE EVERYTHING NECESSARY FOR THE PROPER COMPLETION OF THE WORK.
- 4.0 RELATIONSHIP TO OTHER TRADES
- 4.1 CONTRACTOR SHALL CONFER WITH ALL OTHER CONTRACTORS INSTALLING EQUIPMENT, PLANT PIPING, OTHER WORK, FOUNDATIONS, ETC., WHICH MAY AFFECT HIS INSTALLATION, AND HE SHALL ARRANGE HIS EQUIPMENT, PIPING, ETC., IN PROPER RELATION WITH OTHER APPARATUS AND WITH THE BUILDING CONSTRUCTION. HE SHALL ALSO CONFIRM THE ELECTRICAL CHARACTERISTICS OF THE PROJECT AND ORDER EQUIPMENT ACCORDINGLY.
- 4.2 SPECIAL CARE SHALL BE TAKEN IN THE INSTALLATION OF ALL WORK TO SEE THAT THEY ALL COME WITHIN THE LIMITS ESTABLISHED BY THE FINISH LINES OF ALL WALLS, FLOORS, CEILINGS, ETC.
- 5.0 SHOP DRAWINGS
- 5.1 CONTRACTOR SHALL SUBMIT ONE (1) ELECTRONIC COPY (PDF) OF THE SHOP DRAWINGS FOR REVIEW OF MATERIAL, EQUIPMENT, AND APPARATUS BEING PROVIDED BY HIM.
- 5.2 THE ENGINEER'S REVIEW OF SHOP DRAWINGS AND MANUFACTURER'S SPECIFICATIONS OF ANY EQUIPMENT IS GENERAL AND IS NOT INTENDED TO SERVE AS FINAL CHECK AND IT SHALL NOT RELIEVE THE SUBCONTRACTOR OF THE RESPONSIBILITY FOR ERRORS OR OF THE NECESSITY OF CHECKING THE DRAWING HIMSELF, OR OF THE FURNISHING ANY OF
- THE MATERIALS AND PERFORMING THE WORK REQUIRED BY THE DRAWINGS AND SPECIFICATIONS TO THE FULL INTENT OF THIS SPECIFICATION. 5.3 BEFORE SUBMISSION, CONTRACTOR SHALL CHECK ALL SHOP DRAWINGS FOR ACCURACY OF DETAILS, DIMENSIONS, ETC. AND SHALL BE SATISFIED THAT THE DRAWINGS ARE CORRECT AND THAT THE EQUIPMENT WILL FIT PROPERLY IN THE ALLOTTED SPACE. THE SHOP DRAWINGS SHALL BE STAMPED BY THIS SUBCONTRACTOR WITH THE WORD "REVIEWED". THE DATE OF APPROVAL AND THE FIRM'S NAME PRIOR TO SUBMISSION.
- 6.0 REQUIREMENTS OF INSPECTION DEPARTMENTS
- 6.1 ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION IN EACH CASE, PARTICULARLY ALL AFFECTED DEPARTMENTS OF THE MUNICIPALITY AND PROVINCE, ELECTRICAL EQUIPMENT SUPPLIED MUST CONFORM TO THE REGULATIONS OF CSA AND THE LOCAL UTILITY. ANYTHING NECESSARY TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS SHALL BE PROVIDED BY THIS CONTRACTOR WITHOUT ADDITIONAL COST TO THE OWNERS IF IT REASONABLY COULD HAVE BEEN FORESEEN WHEN TENDERING.
- 7.0 CERTIFICATES, PERMITS, FEES
- 7.1 CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL REQUIRED PERMITS AND PAY ALL FEES, INCLUDING PAYMENT, IN ORDER THAT THE WORK HEREIN SPECIFIED MAY BE CARRIED OUT AND HE SHALL FURNISH ANY CERTIFICATES NEEDED AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH THE LAWS AND REGULATIONS OF THE
- 8.0 GUARANTEE
- 8.1 CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP USED IN THE WORK TO BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS OF BEST QUALITY AND TYPE OBTAINABLE TO GIVE FIRST-CLASS CONSTRUCTION AND PROPER AND EFFICIENT OPERATION, AND FREE FROM ANY DEFECTS. ANY SUCH DEFECTS WHICH MAY APPEAR IN ANY OF THE WORK WITHIN ONE YEAR AFTER WRITTEN ACCEPTANCE OF HIS WORK SHALL BE REPAIRED AND REPLACED BY THIS CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WHERE SUCH DEFECTS OCCUR, CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED IN MAKING THE DEFECTIVE WORK GOOD. THIS SHALL NOT OBSOLETE ANY LONGER WARRANTIES ON SPECIFIC ITEMS OF EQUIPMENT.
- 8.2 ALL INJURIES TO ADJACENT WORK, PARTICULARLY PLASTER, WOOD FINISHES OR OTHER MATERIAL, OR DAMAGE TO OTHER EQUIPMENT, CAUSED BY SUCH DEFECTS OF THIS CONTRACTOR'S WORK OR BY SUBSEQUENT REPLACEMENTS AND REPAIRS, SHALL BE MADE GOOD AT THE EXPENSE OF THIS CONTRACTOR. ALL REPAIR WORK SHALL BE DONE
- 8.3 CONTRACTOR SHALL PROVIDE ONE YEARS GUARANTEE OF THE WORK AS DESCRIBED HEREIN FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. DEFECTS WITHIN THIS PERIOD SHALL BE CORRECTED AT NO COST TO THE OWNER.
- 9.1 THE DRAWINGS SHOW THE APPROXIMATE LOCATION FOR THE SPECIAL APPARATUS AND THE MATERIALS THROUGHOUT THE BUILDING. THE ARRANGEMENT SHOWN ON THE DRAWINGS IS MORE OR LESS DIAGRAMMATIC AND AS SUCH APPROXIMATE ONLY, AND MAY BE ALTERED, AS APPROVED BY THE ENGINEER, TO MEET THE REQUIREMENTS OF THE APPARATUS, ETC., AND OF THE BUILDING. EACH CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL MEASUREMENTS FOR HIS WORK THROUGHOUT, AND HE SHALL ARRANGE HIS DUCTWORK, PIPING, WIRING AND APPARATUS TO CONFORM TO THE ARCHITECTURAL AND STRUCTURAL DETAILS IN A SATISFACTORY MANNER AND SHALL COOPERATE WITH OTHER CONTRACTORS TO ENSURE THAT WORK SHALL MEET ALL REQUIREMENTS OF DIVERSE CONTRACTS
- 9.2 ITEMS SHOWN ON THE DRAWINGS BUT NOT SPECIFIED OR SPECIFIED BUT NOT SHOWN SHALL BE INCLUDED.
- 9.3 ITEMS OBVIOUSLY REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM BUT NOT SPECIFIED NOR SHOWN SHALL BE INCLUDED.
- 10.0 OPERATING INSTRUCTIONS AND RECORD DRAWINGS
- 10.1 FOR EACH ITEM OF SPECIAL APPARATUS, OPERATING AND MAINTENANCE INSTRUCTIONS SHALL BE PROVIDED IN THREE (3) COPIES FOR OWNER'S USE. THESE SHALL INCLUDE: GENERAL ARRANGEMENT SHOP DRAWINGS
- COMPLETE EXPLANATION OF OPERATING PRINCIPLES AND SEQUENCE. COMPLETE PART LISTS WITH NUMBERS RECOMMENDED MAINTENANCE PRACTICES AND PRECAUTIONS
- COMPLETE WIRING AND CONNECTIONS DIAGRAMS.
- 10.2 OBTAIN TWO SETS OF MECHANICAL DRAWINGS WHITE PRINTS FROM THE OWNER AND KEEP A RECORD IN RED PENCIL OF ANY DEVIATION FROM THE DRAWN LOCATION O PIPES, DUCTS, ETC. ONE SET SHALL BE TURNED OVER TO THE OWNER WITH THE OPERATING INSTRUCTIONS, AND THE OTHER SET SHALL BE HANDED TO THE ENGINEER.
- 11.1 ALL POWER WIRING FOR MECHANICAL EQUIPMENT SHALL BE DONE BY THE ELECTRICAL DIVISION. ALL CONTROLS WIRING (LOW VOLTAGE) SHALL BE DONE BY THE MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED ELSEWHERE IN THIS SPECIFICATION, MATERIALS AND WORKMANSHIP MUST COMPLY WITH ELECTRICAL SPECIFICATIONS.
- 12.0 ACCESS DOORS
- 12.1 LOCATE ACCESS DOORS WHERE REQUIRED AND OF SUFFICIENT SIZE FOR SERVICING VALVES, DAMPERS, CLEANOUTS, ETC.
- 12.2 THESE SHALL BE FLUSH MOUNTING, SCREWDRIVER ACCESS, METAL TYPES, 16 GAUGE PRIMED STEEL.
- 12.3 PROVIDE ACCESS DOORS ON DUCTWORK AT FIRE DAMPERS AND AT HUMIDIFIER STEAM MANIFOLDS, DOORS TO BE INSULATED WHERE DUCT THERMAL INSULATION IS SPECIFIED..
- B) HEATING, VENTILATION AND AIR CONDITIONING
- 1.1 ALL HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT SHALL BE CSA LISTED, BEAR THE CSA SEAL, AND BE INSTALLED IN ACCORDANCE WITH CSA STANDARDS. 1.2 ALL DUCTWORK SHALL BE CONSTRUCTED, INSTALLED AND SUPPORTED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS AND SHALL BE FABRICATED FROM GALVANIZED
- STEEL SHEETS IN ACCORDANCE WITH NFPA-90A, ULC-S110, AND ASTM-A525, Z90 ZINC COATING. THICKNESS AND FABRICATION TO SMACNA. 1.3 FLAT AREAS OF DUCT OVER 18" WIDE SHALL BE STIFFENED BY CROSS BREAKING ACROSS THE CORNERS, AND ALL DUCTS SHALL BE SELF-SUPPORTING.
- 1.4 IN ADDITION TO THE PROVISION OF SENTENCE (3), ALL FLEXIBLE DUCTWORK SHALL BE SUBJECT TO NFPA-90A AND ULC-S110 STANDARDS FOR FLAME SPREAD AND SMOKE DEVELOPED, BE ULC LISTED, AND BEAR THE ULC SEAL. ALL CONNECTIONS SHALL USE JOINT TREATMENT TYPE AS DETAILED IN MANUFACTURER'S INSTRUCTIONS. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL BE 6'-0", USED ONLY IN HORIZONTAL RUNS, AND SHALL NOT PENETRATE FIRE SEPARATIONS
- 1.5 DUCTWORK SHALL BE MADE SUBSTANTIALLY AIR TIGHT THROUGHOUT AND SHALL HAVE NO OPENINGS OTHER THAN THOSE REQUIRED FOR PROPER OPERATION AND MAINTENANCE. ALL TRAVERSE JOINTS SHALL BE SEALED WITH JOINT TAPE MEETING THE FLAME RESISTANCE REQUIREMENTS OF ULC-S109.
- 1.6 ELBOWS SHALL BE CONSTRUCTED USING A RADIUS OF 1.5: HOLLOW TURNING VANES IN VANE RAILS SHALL BE USED WHEN THIS IS NOT POSSIBLE
- 1.7 BALANCING DAMPERS SHALL BE INSTALLED AT ALL TAKE-OFFS FROM BRANCH DUCTS ON DISCHARGE SIDE OF TERMINAL UNIT. AND ALL BRANCH DUCT CONNECTIONS TO MAIN DUCTS, BALANCING DAMPERS SHALL BE MANUALLY OPERATED OPPOSED BLADE TYPE, SPLITTER TYPE, OR BUTTERFLY TYPE, COMPLETE WITH LOCKING QUADRANT OPERATOR.
- 1.8 CONTRACTOR SHALL INSULATE ALL HRV/ERV FRESH AIR INLET DUCTWORK (INCLUDING DAMPER), ALL HRV/ERV EXHAUST AIR OUTLET DUCTWORK (INCLUDING DAMPER), ALL HRV/ERV SUPPLY AIR DUCTWORK UP TO FRESH AIR DUCT HEATING COIL (IF EQUIPPED) AND ALL SUPPLY AIR DUCTWORK DOWNSTREAM OF REFRIGERANT COILS (AIR CONDITIONING UNITS OR HEAT PUMPS) USING 25 mm MINERAL FIBRE THERMAL INSULATION WITH VAPOUR BARRIER, CONTRACTOR SHALL INSULATE ALL DUCTWORK LOCATED IN UNHEATED SPACES (EXTERIOR, ATTICS OR CRAWL SPACES) USING 50 mm MINERAL FIBRE THERMAL INSULATION WITH VAPOUR BARRIER ALL EXPOSED DUCTWORK IN MECHANICAL ROOM SHALL HAVE À CANVAS OR PVC JACKET. UNEXPOSED DUCTWORK IN CEILING SPACE WILL BE UNJACKETED.
- 2.0 TESTS AND BALANCING
- 2.1 AIR TEST AND BALANCE SHALL BE PERFORMED BY AN INDEPENDENT AIR BALANCING COMPANY.
- TESTING AND BALANCING BY A QUALIFIED TESTING COMPANY TO WITHIN 10% OF THE DESIGN AIR VOLUMES A TESTING AND BALANCING REPORT SHOWING ALL RESULTS INCLUDING PROJECT RECORD DRAWINGS AND SYSTEM SCHEMETICS.
- ONE (1) ELECTRONIC COPY OF THE FINAL TESTING AND BALANCING REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

 THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE HVAC SYSTEM FULLY OPERATIONAL INCLUDING THE REQUIREMENT TO INSTALL CLEAN FILTERS IN
- ALL RELATED HVAC EQUIPMENT BEFORE TIME OF AIR TESTING.
- 3.1 ACCEPTABLE MANUFACTURERS: DELTA CONTROLS. SYSTEM SHALL BE MADE OF BACNET CONTROL COMPONENTS AND TIED TO THE BUILDING'S EXISTING DELTA CONTROL SYSTEM. INSTALL SYSTEMS AND RELATED CONTROLS USING FACTORY TRAINED JOURNEYMAN CERTIFIED BY THE PROVINCE OF NEW BRUNSWICK.
- 3.2 PROVIDE ALL CONTROLS, INCLUDING WIRING, APPROVED PLENUM CABLE, FITTINGS, ZONE SENSORS AND ACCESSORIES AS REQUIRED FOR COMPLETELY OPERATIONAL SYSTEMS. PROVIDE ALL NECESSARY CONNECTIONS AND COMPONENTS FROM MAINS TO DAMPERS, ZONE SENSORS, AHU COMPONENTS, VAV OR ANY OTHER DEVICES AS REQUIRED.
- 3.3 ALL WIRING SHALL BE INSTALLED IN EMT CONDUIT UP TO CEILING.

- 3.4 PROVIDE AUXILIARY HEAT RELAYS TO POWER ELECTRIC BASEBOARD HEATERS OR FORCE FLOW HEATERS AS SHOWN. REFER TO ELECTRICAL DRAWINGS FOR LOCATION OF BASEBOARD HEATERS AND FORCE FLOW HEATERS.
- 3.5 PROVIDE DAMPER MOTORS SUCH AS BELIMO NFBUP ON FRESH AIR INTAKE LOUVER AND EXHAUST AIR LOUVER.
- 3.6 PROVIDE SYSTEM SOFTWARE DOWNLOADED ON TWO OWNER SUPPLIED COMPUTERS.
- 3.7 SEQUENCE OF OPERATION.
 - .1 AHU-3 SHALL BE PRE-SCHEDULED TO OPERATE IN OCCUPIED MODE AS INDICATED BELOW. OPERATOR SHALL BE ABLE TO MODIFY SCHEDULE TO ACCOUNT FOR HOLIDAYS, VACATIONS, WEEKENDS, MODIFIED OPERATING HOURS, ETC. .1 MONDAY TO FRIDAY - OCCUPIED FROM 7:00 AM TO 5:00 PM
 - .2 DURING UNOCCUPIED MODE, AHU-3 SUPPLY FAN SHALL STOP, HRV-2 SHALL BE TURNED OFF AND THE ASSOCIATED OUTSIDE AIR MOTORIZED DAMPER MD-4 AND EXHAUST AIR MOTORIZED DAMPER MD-5 SHALL CLOSE. .1 AIR HANDLER AHU-3 FAN SHALL OPERATE INTERMITTENTLY IN FULL RECIRCULATION WITH VAV-148 AT MAXIMUM FLOW, VAV-148 HEATING COIL AT MAXIMUM OUTPUT AND WITH ALL OTHER VAVS AT MINIMUM FLOW TO MAINTAIN ROOM 148 AT SETPOINT DURING UNOCCUPIED PERIODS. .2 AIR HANDLER AHU-3 AND CONDENSING UNIT CU-3 SHALL BE PERMITTED TO OPERATE IN FULL RECIRCULATION IN COOLING MODE DURING
 - UNOCCUPIED PERIODS IF THE TEMPERATURE OF A ZONE EXCEEDS 30°C. .3 AIR HANDLER AHU-3 AND VAVS SHALL BE PERMITTED TO OPERATE IN FULL RECIRCULATION IN HEATING MODE DURING UNOCCUPIED PERIODS IF THE TEMPERATURE OF A ZONE IS BELOW 15°C.

.3 DURING OCCUPIED MODE, AHU-3 SUPPLY FAN SHALL OPERATE CONTINUOUSLY, HRV-2 SHALL START AND THE ASSOCIATED OUTSIDE AIR MOTORIZED

- DAMPER MD-4 AND EXHAUST AIR MOTORIZED DAMPER MD-5 SHALL OPEN. .4 AHU-3 SUPPLY AIR FAN SF-3 SPEED SHALL MODULATE TO MAINTAIN SUPPLY AIR PRESSURE AT SETPOINT. COORDINATE EXACT SETPOINT WITH TAB CONTRACTOR, PRE-SET AT 200 PA (OPERATOR ADJUSTABLE).
- .5 CONDENSING UNIT CU-3 SHALL OPERATE IN COOLING MODE TO MAINTAIN AHU-3 SAT AT SETPOINT. SETPOINT SHALL BE RESET BY THE ZONES COOLING DEMANDS. A DEAD BAND SHALL BE PROGRAMMED TO PREVENT SHORT CYCLING OF THE COMPRESSOR. CONDENSING UNIT CU-3 SHALL NOT BE PERMITTED TO OPERATE IF AHU-3 SUPPLY AIR FAN IS OFF.
- .6 DUCT HEATING COIL DH-2 SHALL BE MODULATED TO MAINTAIN HRV-2 SUPPLY AIR TEMPERATURE AT SETPOINT, TEMPERATURE SHALL BE BASED ON THE FOLLOWING OUTSIDE AIR RESET SCHEDULE (OPERATOR ADJUSTABLE). DUCT HEATING COIL DH-2 SHALL NOT BE PERMITTED TO OPERATE IF HRV-2 SUPPLY AIR FAN IS OFF. DUCT HEATING COIL DH-2 SHALL NOT BE PERMITTED TO OPERATE IF CU-2 COMPRESSOR IS ON. .1 SAT = 20° C WHEN OAT $\leq 0^{\circ}$ C
- .2 SAT = 13° C WHEN OAT $\geq 13^{\circ}$ C .7 HUMIDIFIER HUM-3 SHALL BE MODULATED TO MAINTAIN AHU-3 RETURN AIR HUMIDITY AT SETPOINT, PRESET AT 30% RH (OPERATOR ADJUSTABLE). LIMIT THE HUMIDIFIER OUTPUT TO MAINTAIN MAXIMUM SUPPLY AIR HUMIDITY AT 60% RH. HUMIDIFIER SHALL BE LOCKED OUT WHEN OUTSIDE AIR TEMPERATURE EXCEEDS 15°C (OPERATOR ADJUSTABLE).
- .8 FILTER STATUS SHALL BE PROVIDED .9 ALL TEMPERATURE, RELATIVE HUMIDITY, CURRENT, FAULTS, PRESSURE, ETC. SHALL BE DISPLAYED.
- .10 AHU-3 SHALL SHUT DOWN AND AN ALARM SHALL BE REPORTED AT THE OPERATOR'S TERMINAL SHOULD SUPPLY AIR TEMPERATURE FALL BELOW LOW SAT SET POINT OF 5°C FOR MORE THAN 2 MINUTES. .2 EXHAUST FAN EF-2 (NEW ELECTRICAL ROOM)
- .1 IF NEW ELECTRICAL ROOM TEMPERATURE EXCEEDS 25°C (OPERATOR ADJUSTABLE), EXHAUST FAN EF-2 SHALL START AND EXHAUST AIR MOTORIZED DAMPER MD-5 SHALL OPEN. EF-2 SHALL STOP AND EXHAUST AIR MOTORIZED DAMPER MD-5 SHALL CLOSE 5 MINUTES (OPERATOR ADJUSTABLE)
- .1 MOTORIZED DAMPER MD-5 IS ALSO USED IN CONJUNCTION WITH HRV-2. IF HRV-2 IS OPERATING, MOTORIZED DAMPER MD-5 SHALL REMAIN OPEN WHETHER EXHAUST FAN EF-2 IS OPERATING OR NOT. .3 EXHAUST FAN EF-1 (EXISTING ELECTRICAL ROOM)
- .1 IF EXISTING ELECTRICAL ROOM TEMPERATURE EXCEEDS 25'C (OPERATOR ADJUSTABLE), EXHAUST FAN EF-1 SHALL START AND EXHAUST AIR MOTORIZED DAMPER MD-3 SHALL OPEN. EF-1 SHALL STOP AND EXHAUST AIR MOTORIZED DAMPER MD-3 SHALL CLOSE AFTER TEMPERATURE FALLS 2'C BELOW SET POINT.
- .4 SPACE HEATING AND COOLING .1 ON A CALL FOR HEAT FROM ANY SPACE THERMOSTAT OR SENSOR IN A ZONE NOT EQUIPPED WITH BASEBOARD HEATERS, THEN THE ASSOCIATED DUCT HEATING COIL SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE AT SET POINT. THE ASSOCIATED VAV AIRFLOW SHALL BE MODULATED TO
- MAINTAIN SAT AT 25°C (OPERATOR ADJUSTABLE) IN HEATING MODE. .2 ON A CALL FOR HEAT FROM ANY SPACE THERMOSTAT OR SENSOR IN A ZONE EQUIPPED WITH BASEBOARD HEATERS, THEN THE ASSOCIATED BASEBOARD HEATERS SHALL BE ENERGIZED. ON A FURTHER CALL FOR HEAT THE ASSOCIATED DUCT HEATING COIL SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE AT SET POINT. THE ASSOCIATED VAV AIRFLOW SHALL BE MODULATED TO MAINTAIN SAT AT 25°C (OPERATOR ADJUSTABLE) IN
- .3 ELECTRIC BASEBOARD HEATERS SHALL BE LOCKED OUT IF OUTSIDE AIR TEMPERATURE EXCEEDS 18'C (OPERATOR ADJUSTABLE). .4 ON A CALL FOR COOLING FROM ANY SPACE THERMOSTAT OR SENSOR IN A ZONE, THEN THE ASSOCIATED VARIABLE AIR VOLUME BOX SHALL
- MODULATE TO MAINTAIN ROOM TEMPERATURE AT SET POINT. ZONES COOLING DEMANDS SHALL BE USED TO RESET AHU-1 SUPPLY AIR TEMPERATURE
- .5 DURING UNOCCUPIED MODE, THE SPACE TEMPERATURE SET POINTS SHALL BE SET-BACK TO 18'C (OPERATOR ADJUSTABLE).
- .6 ALL TEMPERATURE, AIRFLOWS, POSITIONS, ETC. SHALL BE DISPLAYED. 3.8 POINTS LIST
- .1 REFER PLAN VIEWS AND DIAGRAMS SHOWN ON DRAWINGS.

- .1 PROVIDE TWO (2) HALF-DAY TRAINING SESSIONS FOR OPERATING STAFF. ONE HALF DAY AT TIME OF TURNING SYSTEM OVER TO OWNER AND ONE HALF DAY SIX MONTHS LATER. WRITTEN CONFIRMATION OF ALL TRAINING TO BE SIGNED OFF BY OWNER. .2 DEMONSTRATE AND CONFIRM THAT ALL SYSTEMS ARE PROGRAMMED AND OPERATING CORRECTLY.
- 4.1 ELECTRICAL HEATER COIL SIZED TO MATCH DUCT (VERIFY ON SITE), REFER TO DRAWING FOR OUTPUT AND ELECTRICAL REQUIREMENTS, MAGNETIC CONTACTOR, FLOW SWITCH, SCR, TOGGLE TYPE DISCONNECT SWITCH AS MANUFACTURED BY THERMOLEC OR NEPTRONIC.
- 5.1 ACCEPTABLE MANUFACTURERS: YORK MODEL NO NLO90 EVAPORATOR SECTION, MODEL NO. YCO90 CONDENSING UNIT OR APPROVED EQUAL BY TRANE.
- 5.2 VERTICAL EVAPORATOR BLOWER SECTION COMPLETELY ASSEMBLED AND INSULATED, COPPER TUBE ALUMINIUM FIN DX COIL, THROW AWAY FILTERS, ELECTRIC REHEAT COIL.
- 5.3 CONDENSING UNIT MOUNTED OUTDOORS, COPPER TUBE ALUMINIUM FIN COIL, TOP DISCHARGE, SINGLE STAGE COMPRESSOR INTERNALLY PROTECTED AGAINST HIGH PRESSURE
- 5.4 PERFORMANCE, REFER TO DRAWINGS
- 6.0 HRV
- 6.1 ACCEPTABLE MANUFACTURERS: FANTECH SHR-700 OR APPROVED EQUAL BY LIFEBREATH, NU-AIR, VENIMAR CES INC.
- 6.2 PACKAGED SENSIBLE HEAT RECOVERY UNIT, CSA, PRE-PAINTED CABINET, ALUMINIUM PLATE HEAT EXCHANGER, THREE SPEED BLOWERS, ONE POINT ELECTRICAL CONNECTION, DISCONNECT SWITCH, STANDARD MEDIUM EFFICIENCY FILTERS ON SUPPLY AND EXHAUST, EXHAUST ONLY DEFROST CYCLE.
- 6.3 PERFORMANCE: REFER TO DRAWINGS.
- 7.0 TERMINAL UNITS
- 7.1 ACCEPTABLE MANUFACTURERS: EH PRICE SDV 5000, OR EQUAL BY NAILOR
- C) REFRIGERATION
- 1.1 THE COMPLETE INSTALLATION/MODIFICATIONS OF THE REFRIGERATION, PLUMBING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL APPLICABLE CODES AND STANDARDS. WORK SHALL BE CARRIED OT BY QUALIFIED TRADESMEN.
- 1.2 THIS CONTRACTOR SHALL ENSURE THAT ALL REQUIRED CLEARANCES AS RECOMMENDED BY THE MANUFACTURER ARE PROVIDED TO ALLOW FOR PROPER OPERATION AND SERVICING OF MECHANICAL EQUIPMENT
- 1.3 ALL REQUIRED TESTS SHALL BE MADE IN THE PRESENCE OF THE AUTHORIZED INSPECTOR CERTIFYING THE TEST. UPON COMPLETION OF TEST, A WRITTEN REPORT SHALL BE GIVEN TO THE ARCHITECT, SUMMARIZING COMPLETE TEST DATA AND RESULTS.
- 1.4 THIS CONTRACTOR SHALL PROVIDE ALL LABOUR, MATERIALS & TOOLS REQUIRED FOR COMMISSIONING, CALIBRATION, ADJUSTMENT, AND FINAL INSPECTION TO THE SATISFACTION
- 1.5 PROVIDE SLEEVES WHERE PIPING PASSES THROUGH FOUNDATIONS, FLOORS, ROOFS, OR WALLS. SLEEVES SHALL BE SCHEDULE 40 GALVANIZED STEEL OR WROUGHT IRON PIPE, OR TYPE "L" OR "K" COPPER TUBE THROUGH FOUNDATIONS, FLOORS, OR ROOFS, AND OF 20 GAUGE GALVANIZED STEEL SHEET THROUGH ABOVE GRADE WALLS, SLEEVES ARE NOT REQUIRED FOR PLUMBING VENTS. ALL SLEEVES SHALL BE SIZED TO ACCEPT INSULATED PIPE.
- 1.6 HORIZONTAL PIPING SHALL BE SUPPORTED AT INTERVALS AS FOLLOWS: .1PIPE SIZES UP TO 1/2" 1830mm
- .2PIPE SIZES 1" TO 3" 2440mm
- .3PIPE SIZES 4" AND OVER 3660mm
- 1.7 PIPE HANGERS SHALL CONSIST OF GRINNEL NO. 260 CLEVIS HANGERS WITH THREADED RODS AND SUITABLE CLAMPING DEVICE, AT TOP END. GRAPPLER STRAP HANGERS ARE
- 1.8 WHERE SUPPORTING COPPER PIPE, THE PIPE SHALL BE ISOLATED FROM THE HANGER WITH ELECTROLYTIC ACTION TAPE OR EQUIVALENT.
- 1.9 VERTICAL PIPING SHALL BE SUPPORTED AT THE FLOOR AND/OR WITH INTERMEDIATE WALL SUPPORTS AT 10'-0" INTERVALS FOR PIPING 2" AND OVER, AND 6'-0" INTERVALS FOR PIPING UP TO 1-1/2". MORE FREQUENT SUPPORTS SHALL BE PROVIDED WHERE NECESSARY TO PREVENT MOVEMENT.
- 1.10 ALL PIPING SHALL BE INSTALLED TO MAKE PROVISION FOR THE EXPANSION AND CONTRACTION OR PIPES AND TO BE FREE FROM STRAINS AND DISTORTIONS. PROVIDE SWING JOINTS ON ALL BRANCH LINES, EXPANSION LOOPS ON ALL STRAIGHT RUNS OVER 100 FEET, AND ANCHORS TO LIMIT HORIZONTAL EXPANSION.
- 1.11 ALL SUCTION LINES SHALL BE INSULATED WITH 1/2" THICK FLEXIBLE ELASTOMERIC, UNICELLULAR INSULATION TO CAN-CCSB-51.40. INSULATION EXPOSED TO THE OUTDOORS SHALL RECEIVE A BRUSH COAT OF WEATHERPROOF MASTIC FINISH (WHITE).

1.12 ALL REFRIGERATION LINES AND FITTINGS SHOULD BE CLEANED AND PURGED. CONTRACTOR SHALL CLEAN AND WASH EXISTING COILS AND CONDENSING UNITS.

2.0 TESTING

2.1 ALL REFRIGERATION PIPING SHALL BE TESTED IN ACCORDANCE WITH CSA B52-M1991 PRIOR TO CONCEALING OR INSULATING LINES

2.2 PIPING SHALL MAINTAIN THE REQUIRED TEST PRESSURE WITHOUT LOSS FOR 4 HOURS UNLESS SPECIFIED OTHERWISE.

ARE NOT REQUIRED FOR PLUMBING VENTS. ALL SLEEVES SHALL BE SIZED TO ACCEPT INSULATED PIPE.

3660mm

- 2.3 CONDUCT TEST IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION AND/OR ENGINEER. GIVE 24 HOURS WRITTEN NOTICE OF TEST DATE. COPIES OF THE COMPLETE TEST REPORT SHALL BE SUBMITTED TO THE DEPARTMENT OF THE ENVIRONMENT AND THE OWNER AT COMPLETION OF THIS CONTRACT.
- 2.4 TEST SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROVINCIAL "OZONE DEPLETING SUBSTANCE" REGULATIONS UNDER THE CLEAN ACT ENVIRONMENT ACT.
- D) PLUMBING, DRAINAGE AND PIPING
- 1.1 WORK SHALL INCLUDE ALL PLUMBING AND DRAINAGE AS REQUIRED AND/OR SHOWN ON THE DRAWINGS. ALL WORK SHALL BE INSTALLED, TESTED AND INSPECTED IN
- 1.2 ALL REQUIRED TESTS SHALL BE MADE IN THE PRESENCE OF THE AUTHORIZED INSPECTOR CERTIFYING THE TEST. UPON COMPLETION OF TEST, WRITTEN REPORT TO THE ARCHITECT, SUMMARIZING COMPLETE TEST DATA AND RESULTS.
- 1.3 PROVIDE SLEEVES WHERE PIPING PASSES THROUGH FOUNDATIONS, FLOORS, ROOFS, OR WALLS. SLEEVES SHALL BE SCHEDULE 40 GALVANIZED STEEL OR WROUGHT IRON PIPE, OR TYPE "L" OR "K" COPPER TUBE THROUGH FOUNDATIONS, FLOORS, OR ROOFS, AND OF 20 GAUGE GALVANIZED STEEL SHEET THROUGH ABOVE GRADE WALLS, SLEEVES
- 1.4 HORIZONTAL PIPING SHALL BE SUPPORTED AT INTERVALS AS FOLLOWS: .1 COPPER PIPE SIZES UP TO 20mm .2 COPPER PIPE SIZES 25mm TO 75mm

.3 COPPER PIPE SIZES 100mm AND OVER

.4 PEX PIPE SIZES UP TO 50mm

- 1.5 PIPE HANGERS SHALL CONSIST OF GRINNEL NO. 260 CLEVIS HANGERS WITH THREADED RODS AND SUITABLE CLAMPING DEVICE, AT TOP END. GRAPPLER STRAP HANGERS ARE NOT ACCEPTABLE
- 1.6 WHERE SUPPORTING COPPER PIPE, THE PIPE SHALL BE ISOLATED FROM THE HANGER WITH ELECTROLYTIC ACTION TAPE OR EQUIVALENT.
- 1.7 VERTICAL PIPING SHALL BE SUPPORTED AT THE FLOOR AND/OR WITH INTERMEDIATE WALL SUPPORTS AT 10'-0" INTERVALS FOR PIPING 2" AND OVER, AND 6'-0" INTERVALS FOR PIPING UP TO 1-1/2". MORE FREQUENT SUPPORTS SHALL BE PROVIDED WHERE NECESSARY TO PREVENT MOVEMENT
- 1.8 ALL PIPING SHALL BE INSTALLED TO MAKE PROVISION FOR THE EXPANSION AND CONTRACTION OR PIPES AND TO BE FREE FROM STRAINS AND DISTORTIONS. PROVIDE SWING JOINTS ON ALL BRANCH LINES, EXPANSION LOOPS ON ALL STRAIGHT RUNS OVER 100 FEET, AND ANCHORS TO LIMIT HORIZONTAL EXPANSION.
- 1.9 DCW AND DHW PIPING TO BE HARD DRAWN TYPE L COPPER TO ASTM B88 OR CROSSLINKED POLYETHYLENE (PEX) TO CAN/CSA B137.3. PIPING TO BE INSULATED WITH 25mm MINERAL FIBRE THERMAL INSULATION WITH VAPOUR BARRIER. EXPOSED PIPING TO HAVE CANVAS OR PVC JACKET, UNEXPOSED PIPING IN CEILING SPACED TO BE UNJACKETED. 1.10 DWV PIPING TO BE PVC TYPE DWV TO CAN/CSA B181.2 OR ABS TYPE DWV TO CAN/CSA B181.1. ALL DWV PIPING LOCATED IN VENTILATION PLENUMS (COORDINATE WITH
- VENTILATION CONTRACTOR) SHALL BE PVC TYPE DWV TO CSA B181.2 WITH A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED CLASSIFICATION NOT EXCEEDING 50, SUCH AS IPEX SYSTEM XFR OR APPROVED EQUAL.
- 1.11 APPROVED MANUFACTURERS: AMERICAN STANDARD, FRANKE COMMERCIAL, KOHLER, ZURN, DELTA FAUCET, CHICAGO FAUCETS, AMI, FIAT, STERN-WILLIAMS, WATTS, J.R. SMITH, PPP, LAWLER, MCGUIRE.
- E) FIRE EXTINGUISHER
- 1.0 SUPPLY AND INSTALL FIRE EXTINGUISHERS AS SHOWN ON DRAWINGS IN ACCORDANCE WITH ANSI/NFPA 10 AND CAN/ULC-5508.
- 2.0 FIRE EXTINGUISHERS IN GENERAL AREAS, PUBLIC SPACES, STORAGE ROOMS AND MECHANICAL ROOMS SHALL BE 2.3 KG MULTIPURPOSE DRY CHEMICAL TYPE WITH A MINIMUM ULC RATING OF 3A:10B:C, SUCH STRIKE FIRST SF-ABC310 OR APPROVED EQUAL. FIRE EXTINGUISHERS IN ELECTRICAL ROOMS SHALL BE 2.3 KG CARBON DIOXIDE TYPE WITH A MINIMUM ULC RATING OF 5B:C, SUCH STRIKE FIRST SF-5CO2A OR APPROVED EQUAL.
- 3.0 FIRE EXTINGUISHERS LOCATED IN PUBLIC SPACES SHALL BE INSTALLED IN SEMI RECESSED STAINLESS STEEL CABINETS, SUCH AS NATIONAL FIRE EQUIPMENT 102RS—SS OR APPROVED EQUAL. FIRE EXTINGUISHERS LOCATED IN GENERAL AREAS, STORAGE ROOMS AND MECHANICAL ROOMS SHALL BE WALL MOUNTED WITH VEHICLE TYPE WALL BRACKETS, SUCH AS STRIKE FIRST UB5 OR APPROVED EQUAL. FIRE EXTINGUISHERS LOCATED IN ELECTRICAL ROOMS SHALL BE WALL MOUNTED WITH VEHICLE TYPE WALL BRACKETS, SUCH AS STRIKE FIRST HDVB-1 OR APPROVED EQUAL.

COPYRIGHT PROTECTED:

Copyright for the design and drawings prepared by or on behalf of the Architect belong to the Architect. These drawings and specifications are instruments of the Architect's service and shall remain the property of the Architect.

Submissions or distribution of the aforementioned to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's reserved rights.

Except for reference purposes, the drawing and specifications shall not be used for additions or alterations to the Project or on any other project.

O ISSUED FOR TENDER D ISSUED FOR 99% REVIEW ISSUED FOR COORDINATION 2022/01/2 B ISSUED FOR COORDINATION 2021/12/ A ISSUED FOR COORDINATION 2021/1 REVISION DATE A DETAIL NUMBER

B REFERENCE DWG NO.

C DETAIL DWG NO.



125-21-MP2

13 Biddickd 3 Zentlur NB

TCFSA Administration **Building Addition**

Tobique First Nation, NB

SPECIFICATIONS

- MECHANICAL -

SCALE: AS SHOWN

November, 2021

A2135