

COMPRESSED AIR DESIGN NOTES: COMPRESSED AIR SPECIFICATIONS I.I SCOPE. INDUSTRIAL QUALITY STEEL PIPING SYSTEMS FOR COMPRESSED AIR RATED AS FOLLOWS: 2.1 PIPE .1 STEEL PIPE: TO ASTM ASS-84, SCHEDULE 40, GRADE B, TYPE E 24 MANGER, SEPROTTE ALC SHAY SHAYED.

1 FASHCATH MANGES, SEPROTTE AND SHAY BRACED IN ACCORDANCE WITH AND BUIL 1998 AND 1906-0790-1908.

1 FASHCATH MANGES, SEPROTTE AND SHAYED FASHER, NESSE STRUCTURE, LEANING DOOR NOT DOOR ON BESTS ARE NOT IN SHARED LOCATION, PROVIDE SEPTLEMENTARY STRUCTURAL STREET, SEPROTTED SHAYED STRUCTURAL STREET.

2 FIRST ATTACHEMENT ACCUSING CLEVYS TO SHESSES, TYPE I.

(4)

2 OFFSET HANGER SO THAT ROD IS VERTICAL IN OPERATING POSITION. 3 ADJUST HANGERS TO EQUALIZE LOAD. 3.4 TESTING
J HAVE ENGINEER MITNESS TEST, NOTIFY ENGINEER MINIMUM OF ONE MORKING DAY PRIOR TO TEST. 3.5 MARKING J IDENTIFY AND MARK PIPING.

S COMPRESSED AIR PIPING DROP

SSCALE: NTS

9.9 HANGERS J SPACING AND MIDDLE ATTACHMENT (ROD) DIAMETER MITHIN BOOMM OF EACH HORIZONTAL ELBOM AND AS SPECIFIED IN TABLE BELOW:

0	ISSUED FOR TENDER	MAY 2/22	SMS
NO.	DESCRIPTION	DATE	BY
	ISSUES		



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RNJ 7X7
Employeering.

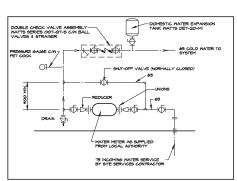
988 COUNTY ROAD IO MILLBROOK ONTARIO

SECOND & MEZZANINE FLOOR PLANS - MECHANICAL

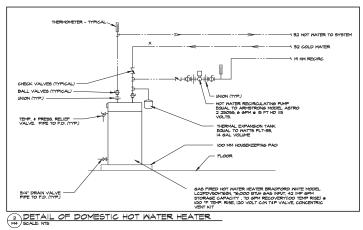
DESIGNED 5. STRANASHA CHECKED REB PROJECT 21061

							LUMBING FIXTURE SCHEDULE	APPROVED ALTERNATES: ZURN, DELTA,	
NO.	DESCRIPTION	HOT MATER	TEMP NATER	COLD	DRAIN	VENT	FIXTURE MAKE & MODEL	TRIM MAKE 4 MODEL	REMARKS
۸	WATER CLOSET	-	-	13	9"	30	AMERICAN STANDARD "CADET PRO" RIGHT HEIGHT 2BAAIS4 FLOOR MTD "VITREOUS CHIA, ELONGATED , 94 mm (2 1/8") GLAZED TRAPMAY , LINED FLUSH TANK, 4.8L (1.0" GAL) FLUSH, 4188A-174 ( TANK COVER LOCKINS DEVICE) CHRONE PINISH HANDLE	CENTOCO \$20515.001 HEAVY DUTY, OPEN PROVIDED PROXY THE COVER FOR ELONGALTED BOWL STAINLESS STEEL CHECK HINGES, METAL MASHERS \$ STAINLESS STEEL POSTS AND NUTS	C/M MCGUIRE CHROME PLATED RIGID TOILET SUPPLY 8 ESCUTCHEONS
Al	WATER CLOSET - BARRIER FREE	-	-	13	3"	30	AMERICAN STANDARD "CADET FRO" RIGHT HEIGHT 218AA.184 FLOOR MTD VITREOUS CHINA, ELONGATED , 54 mm (2 1/8") GLAZED TRAPNAY , LINED FURSH TANK, 4.8L (1.0" GAL) FLIGH, 418BA-174 ( TANK COVER LOCKINS DEVICE) CHRONE FINISH HANDLE	CENTOCO \$20575.001 HEAVY DUTY, OPEN PRONTED PROXI HITH COVER FOR ELONSATED BORL - \$5TAINLESS STEEL CHECK HINGES, METALL MASHERS \$5TAINLESS STEEL POSTS AND NUTS	C/M MCSUIRE CHROME PLATED RIGID TOILET SUPPLY 8 ESCUTCHEONS
В	LAVATORY	13	-	13	32	82	AMERICAN STANDARD " MURRO" 0454 004EC VITREOUS CHINA WALL MOUNTED, REAR OVERFLOW, RECESSED SELF DRAINING DECK, IO27mm (47) CENTRES, C/M 0094 020EC SHROUD/KNEE CONTACT GUARD	MOEN 8425 SINGLE HANDLE DECK FALCET, ALL METAL CONST, CAROME PLATED, 4" LEVER, DURALAST CARTRIDGE, 12 GPM, OPEN GRID STRAINER	C/M FLEXIBLE SUPPLIES & ESCUTCHEONS
ВІ	LAVATORY - BARRIER FREE ( PUBLIC)	13	-	13	82	82	AMERICAN STANDARD " MURRO" 0954 004EC VITREOUS CHINA WALL MOUNTED, REAR OVERFLOW, RECESSED SELF DRAINNS DECK, IO20mm (4") CENTRES, C/M 0059 020EC SHROUD/KNEE CONTACT GUARD	MOEN CASSO! ELECTRONIC (AC POVER), BRASS CONST., CHRONE PLAYED, 4" CENTRESET, VANDAL RESISTANT AERATOR, 19 LMIN (O.3 6MM), OPEN GRID STAINER C/M ADJUSTABLE THERMOSTATIC MIXING VALVE & CONSECTOR STRANSFORMER.	C/M FLEXIBLE SUPPLIES & ESCUTCHEONS
B2	LAVATORY - BARRIER FREE	18	-	18	82	82	AMERICAN STANDARD " MURRO" 0954 004EC VITREOUS CHINA WALL MOUNTED, REAR OVERFLOW, RECESSED SELF DRAINING DECK, IO20mm (47) CENTRES, C/M 0094 020EC SHROUD/KNEE CONTACT GUARD	MOEN \$425 SINGLE HANDLE DECK FALCET, ALL METAL CONST, CAROME PLATED, 4" LEVER, DYRALAST CARTRIDGE, I.2 GPM, OPEN GRID STRAINER	C/M FLEXIBLE SUPPLIES & ESCUTCHEONS
c	SHOWER	18	-	15	50	82	BY GENERAL CONTRACTOR	MOZIN SINGLE HANDLE POSI TEMP PRESSURE BALANGING VALVE, T93TSEPIS VALVE, I.5 6PM, CARDVIE PINISH C/M ROUGH-IN VALVE, SHOWER ARM & SHOWER HEAD	
D	SINK - 2 COMP.	18	-	15	88	82	FRANCE LBD6606P-I, 20 GAUGE, TYPE 802 IB-8 95, 8" (200mm) CENTRE SET, SATIN FINISH ON EXPOSED SURFACES, 3 I/2" (84mm) CRUMB CUP STRAINER	MOEN 6701 SINGLE HANDLE DECK FALCET, ALL BRASS CONST, CHROME PLATED, DECK PLATE, 9" LONG SWING SPOUT., 6" CENTRES, DURALAST CARTRIDGE, 5/7 L/min (15 6PM),	C/M PLEXIBLE SUPPLIES & ESCUTCHEONS
DI	SINK - 2 COMP.	19	-	15	88	82	FRANKE LBD6606P-1, 20 GAUGE, TYPE 802 18-8 95, 8" (200mm) CENTRE SET, SATIN FINISH ON EXPOSED SURFACES, 8 1/2" (84mm) CRUMB CUP STRAINER	MOEN 9249 THO HANDLE DECK FAUCET, ALL BRASS CONST, CHROME PLATED, DECK PLATE, 216mm LONG SCOSENECK SPOUT, 220mm (8") CENTRES, NON METALLIC CARTRIDGE, 5.7 L/min (1.5 6PM),	C/W FLEXIBLE SUPPLIES & ESCUTCHEONS
E	EMERGENCY EYE/ FACE WASH	19	18	15	38	92	HANS 1360BT-1460BT STAINLESS STEEL BOWLEYE/ FACE WASH, ABS SHOWER HEAD, PRESURE ACTIVATED PLASTIC POP OFF B.1 USSPM FLOW CONTROL	HANS 9201EM THEREMOSTATIC MIXING VALVE MITH THE PLOM OF 10 USSIPM	$^{\prime}$ /2" hot & cold water to mixing valve - valve located I high on wall
F	LAUNDRY BOX	19	-	19	50	38	PPP MM-500MLB, STEEL BOX WITH WHITE POWDER COATED FINISH, SOMM DRIAN PIPE CONNECTION NATER HAMMER ARRESTORS, GUARTER TURN BALL VALVES		
6	MOP SINK	19	-	19	75	38	FIAT MSB2424, SQUARE, FLOOR MOUNTED, MOLDED STONE, STAINLESS STEEL STRAINER WITH DRAIN	FIAT 880 WALL MOUNTED TWO HANDLE UTILITY FAICET, CHROME PLATED FINISH, WALL MOUNTED, 204mm (6°) CENTRESST, INTEGRAL STOPS, HOSE OUTLET, IS2mm (6°) SPOUT WITH VACUM BRAKER AND BUCKET HOSE	

APPROVED ALTERNATES: CRANE, MAAX, MOEN, MIROLIN, KHOLER



WATER METER DETAIL



	LEGEND
SYMBOL	DESCRIPTION
	SANITARY ABOVE GROUND
	SANITARY BELOW GROUND
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATING LINE
	SANITARY VENT
A	COMPRESSED AIR LINE
—-ф	BALL VALVE
<b>├</b>	PLIMBING FIXTURE DESIGNATION
6	NATURAL GAS PIPING
6	NATURAL GAS PIPING ON ROOF
ωο- ω⊩	CLEANOUT (BELOW GROUND & ABOVE GROUND DRAINAGE)
—→ NºHB	NON FREEZE HOSE BIBB
	SUPPLY DIFFUSER
	RETURN OR EXHAUST GRILLE
	SIDEMALL SUPPLY OR RETURN GRILLE
-8-	IO"x8" TRANSFER SHEET METAL SLEVE IN MALL ABOVE CEILING ( 2" MIDER THAT MALL THICKNESS)
	RETURN OR EXHAUST DUCT DOWN OR AMAY
$\bowtie$	SUPPLY DUCT DOWN OR AWAY
	SUPPLY DUCT UP OR TOWARDS
	RETURN OR EXHAUST UP OR TOWARDS
***************************************	METAL FLEXIBLE DUCTIVORK MAXIMUM LENSTH IO'-O' (SIZE AS DIFFUSER NECK)
Z	INDICATES SPIN ON COLLAR C/M VOLUME DAMPER (SIZE AS DIFFUSER NECK)
***************************************	I* ACOUSTIC DUCT INSULATION (THICKNESS NOT INCLUDED IN DUCT SIZE SHOWN)
	DUCT SILENCER
TYPE A SIZE FLOW (CFM)	DIFFUSER DESIGNATION SIZE - DIFFUSER NECK OR GRILLE SIZE
	PLEXIBLE CONNECTION
	TURNING VANES (DOUBLE THICKNESS)
	TYPE "B" FIRE DAMPER IN HORIZONTAL OR VERTICAL DUCT
ВОР	BACKDRAFT DAMPER
Typ .	VOLIME DAMPER
① ®	THERMOSTAT (MTD AT 5'-6' APP UNLESS OTHERWISE NOTED) TEMPERATURE SENSOR (MTD AT 5'-6' APP UNLESS OTHERWISE NOTED)
	THERMOSTAT CONTROL LINE
◼	7 DAY TIME GLOCK





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988 COUNTY ROAD IO MILLBROOK ONTARIO

SCHEDULES & DETAILS MECHANICAL

DRAWN 9. STRANASHAN
DESIGNED 5. STRANASHAN
CHECKED REB PROJECT 21061

																	9	5PLI1	ΓΑΙ	RC	ONI	ÞΙΤΙ	ONI	NG S	YSTEM S	CHEDI	JLΕ	ALTER	NATES :	LENNOX	, YORK		
											IN	DOOR	UNIT												0	JTDOOR UN	UT - H	EAT P	UMP				
					60	PACITY	. 🗆		HEATING	5 CAPA	KITY				FA	AN .					ELECT	21.6.41					T		STRIGAL		LON		REMARKS
SYSTEM NO.	LOCATION	MANUFACTURER	MODEL NO.	TYPE	ا	NOM.	HE	AT PUMP	64	S INPUT	r ø,	NS OUTPUT	At	RFLOW	н	P RF	M. EX	T STATIC 1	PRESS		ELECT	RIGAL		SYSTEM NO.	MANUFACTURER	MODEL NO		ELD	STRICAL		AMBIENT	REPRISERA	T CONTROLS
					KW	MB	H KM	N MBH	+ KM	MB	SH KA	N MBH	L/9	cfr	,			PA I	INCH Y	/OLTS	PH	AMP5	MOCP				VOL	TS PH	MCA	MOCP	CONTROL		
SAC-I	SERVICE	CARRIER	54TN5040V14-10	FURNACE	5.2	18	N/	A NA	0.7	40	0 11.	4 94	909	650	, -	.   -		-	-	240	1	0.11	NA	CU-I	CARRIER	24AHA4I8	201	в	17.1	20	YES	410A	INDOOR UNITS C/M MATCHING COOLING COIL, SYSTEM COMPLETE WITH REFRIGERANT PIPING, & REPRIGERANT, - PIPE CONDENSATE TO NEAREST DRAIN - OUTDOOR UNIT C/M LOW AMBIENT
							$\top$		$\top$				T			$\top$			$\neg$	$\neg$	$\neg$						T						KIT/CANACASE HIT, FREEZE STAT, WIND BAFFLE COMPRESSOR START ASSIST, MOTOR MASTER CONTROLLER & WALL MOUNT KIT

													AIR	CON	DITI	ONI	NG	UNIT	SC	+ED	ULE	=				
UNIT			MODE		COOLING ACITY	TOTAL C	COOLING	REFRIG.	SEER OR		T GAS HE		-			FAN				_	ELECT		_	OPERA NEIGHT	ATING	REMARKS
NO.	LOCATION	MANUFACTURER	NO.	CAP	ACII T	CAF	ACITY		IEER	IN	PUT	ου	TPUT	AIR I	FLOW	BHP	R.P.M.	EXT.	. SP	VOLTS	PH	MCA I	MOCP			
				KM	MBH	KM	MBH			KW	MBH	KM	MBH	L/5	CFM			Pa	INCH					Kø		
A/G-I	ROOF	GARRIER	486CEM04E2A5	7.5	25.54	10.2	35.14	4IOA	16.1	82.2	110	25.8	88	566	1200	0.46	1850	149	05	208	8	22	30	257	567	2 STAGE HEAT - UNIT TO BE TO BE COMPLETE NITH DIRECT DRIVE," ECO-BLUE" TEMPERATURE ECONOMIZER IV WITH BARDMETRIC RELIEF, BASE ELECTRO MECHANICAL CONTROLS, 24" HIGH ROOF CURB, WALL MTD CO2 SENSOR & DISCONNECT SWITCH
A/C-2	ROOF	CARRIER	486CEM05E2A5	10.8	37.06	14.6	49.96	410A	16.1	32.2	0	25.8	88	566	1200	0.46	1850	149	0.5	208	3	27	30	279		DISCONDECT SMITCH

								UN	ит н	EAT	ER	SCH	ED	ULE		ALTER	NATES	. MOD	INE,
NO.	MFR	MODEL	N/	T GAS H	AN			ELEC	TRICAL					ATING					
			IN	TUT	ου	течт	AIR	FLOW	нь	R.P.M.		PH		мосе	PLVE	AIR DIA-	MEIGH	ΗT	REMARKS
			KM	MBH	KM	MBH	L/5	C₽M.	"	K.P.M.	VOLIS		~~	MOCP	INCH	INCH	Kø	LB5	
UH-I	REZNOR	UDZ-150	44	150	14.6	124.5	406	1421	1/80	1050	115	1	3.4	15	5"	6"	77	173	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-2	REZNOR	UDZ-IOO	30.8	105	14.6	87.15	363	769	1/30	1050	115	1	9.4	15	4*	4"	44	97	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-9	REZNOR	UDZ-150	44	150	14.6	124.5	406	1421	1/30	1050	115	1	8.4	15	5"	6"	77	178	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-4	REZNOR	UDZ-150	44	150	14.6	124.5	406	1421	1/80	1050	115	1	3.4	15	5"	6"	77	173	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-5	REZNOR	UDZ-150	44	150	14.6	124.5	406	1421	1/30	1050	115	1	9.4	15	5"	6"	77	173	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-6	REZNOR	UDZ-90	8.8	30	7.2	24.6	215	456	0.06	1550	115	1	8.4	15	4"	4"	26	58	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CC6), VENT THRU WALL
UH-7	REZNOR	UDZ-90	8.8	80	7.2	24.6	215	456	0.06	1550	115	1	3.4	15	4"	4"	26	56	C/W THERMOSTAT, HANGING HARDWARE, HORIZONTAL VENT/COMB TERMINATION KIT (CCG), VENT THRU WALL

								HEAT	REC	OVER	ry sc	HEDUL	Ε.				OUTDOOR TEMPERATURE CONDITIONS, SUMMER \$1°F db/14°F MINTER: -15°F db
TAG	AREA	MANUFACTURER	MODEL		OUTSIDE AIR	2	EXHA	UST AIR			SUMMER SUPPLY		ELECT	RICAL		OPERATING MEIGHT IN	REMARKS
1 1/10	SERVED	MANUFACTURER	CTURER NO.	FLOW, L/5 (CFM)	ESP PA (IN)	FAN (hp)	FLOW, L/5 (CFM)	ESP PA (IN)	FAN (hp)	TEMP.	TEMP.	√ <i>O</i> LTS	PH	AMP	MOCP	LBS	REMARKS
ERV-I	PPE ROOMS	GREENTEG	LCH-4E	141 (800)	99.6 (0.4)	-	141(800)	44.6(0.4)	-	96°F	78°F	120	- 1	4.7	15		C/N ALUMINUM CORE, ADJUSTABLE MOTORS, THREADED ROD HANGERS & FILTERS
ERV-2	PCCP	GREENTEC	PE 7.15 ERV	38 (80)	62 (0.25)	-	38(80)	62(25)	-	36°F	78°F	120	- 1	1.5	15		C/N ALUMINUM CORE, ADJUSTABLE MOTORS, THREADED ROD HANGERS & FILTERS

									FAI	N SCH	EDULE		ALTERNA	ATES : PEN	IN, COOK		
FAN	LOCATION	FUNCTION	MANUFACTURER	FAN TYPE	MODEL	CAPA	KITY	EXT. STA	TIC PRESS	FAN		мо	TOR		MEI	SHT	REMARKS
NO.	LOCATION	FUNCTION	MANUFACTURER	FAR ITE	NO.	L/S	CFM.	pa	inch	R.P.M.	HP OR W	<b>VOLTS</b>	PHASE	RPM	KG	LB9	REMARKS
EF-I	UMR-106	EXHAUST	GREENHECK	CEILING EXHAUST	5P-80-V6	88	80	62	0.25	495	6 M	120	- 1	495	5.4	12	0.6 SONES C/N "V6" MOTOR DIAL ON FAN, 2 SPEED, BACKDRAFT DAMPER
EF-2	JAN-IIO	EXHAUST	GREENHECK	CEILING EXHAUST	5P-80-V6	58	80	62	0.25	495	6 M	120	- 1	495	5.4	12	0.6 SONES C/N "V6" MOTOR DIAL ON FAN, 2 SPEED, BACKDRAFT DAMPER
EF-9	MR-109	EXHAUST	GREENHECK	CEILING EXHAUST	SP-A340-V6	71	150	62	0.25	424	IB W	120	1	924	10.9	24	2 SONES, C/M "V6" EC MOTOR, DIAL ON FAN, VIBRATION ISOLATION, BACKDRAFT DAMPER
EF-4	WR-108	EXHAUST	GREENHECK	CEILING EXHAUST	SP-A340-V6	106	225	62	0.25	1015	IS M	120	1	1015	10.9	24	3 SONES, C/M "VG" EC MOTOR, DIAL ON FAN, VIBRATION ISOLATION, BACKDRAFT DAMPER
EF-5	MR-125	EXHAUST	GREENHECK	CEILING EXHAUST	5P-80-V6	38	BI	31	0.125	435	6 M	120	- 1	435	5.4	12	0.6 SONES C/N "VG" MOTOR DIAL ON FAN, 2 SPEED, BACKDRAFT DAMPER
EF-6	APPARATUS	EXHAUST	GREENHECK	SIDEMALL EXHAUST	5EI-18-429-VG	1265	2680	81	0.125	1092	8/4 HP	206	- 1	1725	17.2	88	8.9 SONES C/N "VS" EC MOTOR, MOTOR DIAL ON PAN, BACKDRAFT DAMPER
EF-7	APPARATUS	EXHAUST	GREENHECK	SIDEMALL EXHAUST	5EI-18-429-V6	1265	2680	81	0.125	1092	9/4 HP	208	- 1	1725	17.2	88	8.9 SONES C/N "V6" EC MOTOR, MOTOR DIAL ON FAN, BACKDRAFT DAMPER
EF-8	STOR	EXHAUST	GREENHECK	INLINE CABINET	CSP-AI25	55	117	91	0.125	980	54 W	120	- 1	980	7.7	17	0.9 SONES C/M ISOLATION KIT, BACKDRAFT DAMPER
EF-4	STOR	EXHAUST	GREENHECK	INLINE CABINET	CSP-AI25	55	117	31	0.125	980	54 M	120	- 1	980	7.7	17	03 SONES C/M ISOLATION KIT, BACKDRAFT DAMPER
75-I TO T	APP BAY	DESTRAT	CANARM	CEILING PROPELLER	CP60 DWIN	4221	8944	-	-	-	-	120	1	-	8.4	18.5	WHITE C/W 450 MM (16" DOWNROD) RREMDCOOKS-W SPEED CONTROLLER TO CONTROL THE 8 FANS C/M WITH REVERSE
RH-A	SUITE KITCHEN	EXHAUST	BROAN	RANGE HOOD	BUSS095	52	110	62	0.25	-	-	120	- 1	-	-	-	T50 mm (50") MIDE STAINLESS STEEL G/M BACK DRAFT DAMPER SPEED CONTROLLER & LIGHTS

			EXHAUS	T # INTAKE LOUVRE SCHEDULE
TYPE	MANUFACTURER	MODEL	THICKNESS	REMARKS
A	VENTEX	2225	2"	6063-T5, EXTRUDED ALIMINIM, STATIONARY 45° BLADE, 2" DEEP, STORMPROOF LOUVRE SYSTEM, 1/2"x1/2" GALVANIZED 19 GAUGE BIRDSCREEN, COLOUR TO BE SELECTED BY ARCHITECT.,
В	VENTEX	2455	4"	6068-T5, EXTRUDED ALIMINIM, STATIONARY 30° BLADE, 4° DEEP, STORMPROOF LOUVRE SYSTEM, 1/2°×1/2° GALVANIZED 19 GAUGE BIRDSCREEN, COLOUR TO BE SELECTED BY ARCHITECT.,

		E	LECT	RIC	DUC	T HE	ATER	SCH	EDULE		
UNIT NO.	MANUFACTURER	MODEL	DIMENSK		kM	VOLTS/ PHASES	STA6ES	AIR FLOW	AT TEMP	CONT. VOLTS	OPTIONS
DH-I	THERMOLEC	FG	250	250	5	208	SCR	300	52	24	C/M OPTION 1, 2, 3, 4, 5, 10
DH-2	THERMOLEG	TER-6-1-120	1504	15OΦ	1	120/1	SCR	47	34	24	C/M AIR FLOW SENSOR, TEMPERATURE CONTROLLER AND SENSOR

REQUIRED OPTIONS:

REQUIRED OFFICHAS

BUILT-IN DISCONDECT SHITCH

2 SICE PROPORTIONAL CONTROLLER

5 SCREEDS SOTH SIDES

4 ELECTRONIC AIR FLOY SENSOR

5 SOLID STATE RELAY (TRIAC)

1 EXCRESS ORD HERMOSTAT RT

1 EXCRESS AND HERMOSTAT RT

10 MODILARIES DUT THERMOSTAT RT

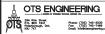
10 MODILARIES DUT THERMOSTAT PO DES F TO IGO DES F

10 SY-PASS BOX CONTROLS

0	ISSUED FOR TENDER	MAY 2/22	5M5
NO.	DESCRIPTION	DATE	BY
	ICCI ICC		



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NEW FIRE STATION No I

988 COUNTY ROAD IO MILLBROOK ONTARIO

SCHEDULES MECHANICAL

SOLE AS NOTED
DRIAN 9. STRANAHAN
DESIGNES 9. STRANAHAN
DESIGNES 782B
PROJECT 21.061

SOLE AS NOTED
DRIAN 10. SOLE NO. 10. SOLE NO. 21.061 NOS

ALTERNATES : E.H. PRICE

- PROVIDE ALL EQUIPMENT, MATERIALS, LABOUR AND SERVICES, ETC. NECESSARY TO COMPLETE THE WORK. ALL HATERIALS AND EQUIPMENT USED ARE TO BE IRSH AND ARE TO HAVE C.S.B. APPROVIAL. MATERIALS AND EQUIPMENT ARE SPECIFIED BY NAME TO ESTABLISH A STANDARD OF QUALITY AND WORKMANSHIP. USE ONLY SPECIFIED EQUIPMENT OR ALTERNATES NOTED.
- 2) VISIT AND EXAMIE THE SITE AND ESCORE FAMILIAR WITH ALL EXISTING CONDITIONS AFFECTIVE THE INDEX FOR TO SUBMITHING TRODES IN A ALLOWANCES IN COST FULL BE MADE BY THE OWNER FOR ANY DIFFICULTIES BICCONTRIBED IN THE MORK ARISING OUT OF CONDITIONS BUSISING A THE TIME OF INCIDENTIAL.
- 3 OBEY ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- MHERE THE SUPPLY OF AN ITEM IS SPECIFIED GENERALLY ONLY WITHOUT EXTENSIVE DETAIL, THIS IMPLIES THE ITEM ADDIOR WORK SHALL CONFORM WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITY ADDIOR MANUFACTURER'S RECOMMENDATIONS.
- 5 CONFORM TO THE BEST PRACTICES APPLICABLE TO THIS TITLE OF WORK. INSTALL ALL EQUIPMENT AND SYSTEMS IN ACCORDANCE NITH THE HAMPACTURENS OF THIS SPECIFICATION.
- 6 ARRANSE AND PAY FOR ALL PERMITS, INSPECTION FEES, CERTIFICATES, ETC. CONNECTED MITH THE MORK.
- B PERFORM ALL TESTS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION, SUPPLYING THEREFORE ALL NECESSARY EQUIPMENT AND LABOUR.
- .4 SUARANTEE ALL MORK FOR A PERIOD OF ONE YEAR. IT SHALL BE INCERSTOOD THAT IF ANY DETECTS BECOME EVIDENY HITHIN THE GUARANTEE PERIOD, ALL INCESSARY REPARKS AND REPLACEMENTS TO THE MORKS SHALL BE MADE INTROJECT COST TO THE OWNER. ALSO PAY FOR MAKING SOOD ANY OTHER MORK DAMAGED THROUGH DETECTS IN THE MORK OF THIS CONTRACT DRIVES BOTH CONSTRUCTION AND GUARANTEE PERIODS.
- JO PROVIDE HANGERS FOR ALL PIPES AND DUCTS AND AVOID ANY DIRECT CONTACT OF DISSIMILAR METALS. SPACE HANGERS TO PREVENT SASSING OR LOADING JOINTS.
- JI HANGERS SHALL ONLY BE SUSPENDED FROM STRUCTURAL BEARINGS SUCH AS STEEL BEAMS OR TOP CHORD OF JOISTS. WHERE SUCH BEARINGS DO NOT EXISTS, USE NECESSARY BRIDGING STEEL.
- J2 PROVIDE SUPPORTS FOR EQUIPMENT INSTALLED IN THIS CONTRACT, INCLUDING HANGER RODS AND SPRING VIBRATION ISOLATORS.
- JB PROVIDE MOTORS AND DRIVES FOR ALL POWERED EQUIPMENT OF CANADIAN MAKE AND LOCALLY SERVICEABLE MANUFACTURE.
- .14 SUBMIT SIX (6) COPIES OF SHOP DRAWINGS OF EACH PIECE OF MANUFACTURED EQUIPMENT TO CONSULTANT FOR REVIEW.
- JB RUN IN ADJUST AND BALANCE THE SYSTEMS FOR PROPER OPERATION
- J6 ALL EQUIPMENT, PIPINS, DUCTWORK, ETC. IS NEW UNLESS NOTED AS BEING EXISTING
- JT VERIFY EXACT LOCATION AND ELEVATION OF ALL EXISTING SERVICES PRIOR TO COMMENCING ANY MORK.
- JB MAINTAIN ALL NECESSARY INSURANCE TO PROTECT THE OWNER AND ALL TRADES PROM ALL POSSIBLE CLAIMS DURING THE CONSTRUCTION PERIOD.
- JA DO ALL NECESSARY REQUIRED CUTTING AND PATCHING AS MAY BE REQUIRED TO PERFORM THE KORKING OF THIS CONTRACT. CUTTINGS SHALL BE KEPT TO A NINGMA, AND SHALL BE AND RESTORED ORIGINAL THE SHALL BE COLY TRACES PERSONEL. SKILLED IN THE VARIOUS TYPES OF MORK REQUIRED (I.S. MAJON, BOOTERS, ETC.).
- 20 UPON COMPLETION, REMOVE ALL MASTES, MATERIAL, ETC. AND LEAVE SITE IN CLEAN CONDITION.
- 2) AT PROJECT COPPLETION AND PRIOR TO FINAL INSPECTION DELIVES TO THE COMMAND STATEMENT OF THE COMMAND STATEMENT OF THE COMMAND STATEMENT OF THE COMMAND AND STATEMENT OF THE COMMAND STATEMENT OF THE COMMAN

- 2 ENSURE THAT VALVES INCLUDING CONTROL VALVES ARE FULLY OPEN DURING FLUSHING
- 3 PROR TO STARTING FANS AND AIR HAND, INS EQUIPMENT INSPECT AND CLEAN THE CUTSION AND INSIDE OF THE ARE HANDLING SYSTEMS EXCLUDING PANS DUCKS, COLIS, AND TREMINAL INITS TO DISURE THAT THEY ARE COMPLETELY FREE FROM DUST AND DEBRIS, INSTALL CLEAN FLITTERS IN SYSTEMS REQUIRING FILITIES.
- 4 CLEAN POLISHED, PAINTED AND PLATED WORK, CLEAN ALL FIXTURES, REMOVE DEBRIS, SURPLUS MATERIAL AND ALL TOOLS FROM SITE.
- 5 CARRY OUT ADDITIONAL CLEANING OPERATIONS AND CHEMICAL TREATMENT ON SYSTEMS SPECIFIED IN OTHER SECTIONS OF THIS DIVISION, REFER ALSO TO GENERAL REQUIREMENTS FOR SECRETAL CLEANING OF SITE.

## ACCESS PANELS AND DOORS

- IN WALLS, CIPLINSS, ETC. USE ACCESS DOORS CONSTRUCTED OF 12 SAUSE STEEL NITH FRAME STYLE COMPATIBLE ARTH BUILDING SURFACE IN MHICH IT IS MOUNTED, EQUIPPED WITH CONTINUOUS RAND HISESS AND SCREPORTIVES REPRETATED LATCHES USE LLC. LISTED DOORS IN FIRE RATED PAULS AND CIPLINES. USE CACCESS DOORS MANUFACTURED BY ACIDIOR, MIFAS OR LEMASE, REPORTED ACCESS DOORS AS FOLLOWS (MLESS OTHERWISE NOTED.
  - FOR ACCESS TO VALVES, BALANCING DAMPERS AND ITEMS REQUIRING ONLY HAND ACCESS USE 225mm X 225mm (4"x4").

J ON ALL PIPING APPLY MANUFACTURED PIPE MARKERS OF CYLINDRICALLY COLLED PRINTED PILASTIC SHEETS THAT DIAM AROADD PIPE TO NEET HOSMAGNE AND DISCOUNT HIT BOOMS TO SETON. ALL LETTERNISS, INSCRINTS PIPE SERVICE AND DIRECTION OF PLON SOMAL TO - SETON.

### PLUMBING 4 DRAINAGE

- SANITARY DRAINASE AND VENT PIPMS AND FITTINGS ABOVE FLOOR SHALL BE PVC DWY CERTIFIED TO CSASISI2. AND SHALL BE LISTED TO STANDARD CANALC SIG2.2 STANDARD CLEARLY MARKED AND CERTIFICATION LOSG INDICATING FLAME SPREAD RATING NOT EXCEDING 3.2 EQUAL TO PREV SYSTEM 5.
- 2 SANITARY DRAINAGE AND YEAT PRINS IN PLEINAM SPACE SHALL BE PAC CERTIFIED TO SAS BIBS AND TREATE AND LISTED IN ACCORDANGE HITH CANALAC SOCIAL AND CLEARLY MARKED HITH CERTIFICATION DOOR INDICATION FLAME SPREAD RATING NOT HORSE THAN 25 AND SHORED-DRYLLOPED CLASSIFICATION NOT EXCEEDING SO, PRINS EQUAL TO THE
- 3 SANITARY DRAINASE AND VENT PIPING BELOW FLOOR SHALL BE ABS-DWV PIPING MITH SOLVENT WELD JOINTS FOR SIZES UP 10 TSmm (5). FOR SIZES 4" AND LARGER USE FVC PIPING WITH RING TITE COMPLINGS TO CSAIGZI (DRSS OR 26).
- 4 HOT AND COLD WATER PIPING SHALL BE TYPE 'L' HARD DRAWN COPPER TUBE WITH WROUGHT COPPER SOLDER PITTINGS (USE 45/5 SOLDER).
- 5 DOMESTIC WATER PIPING BELOW FLOOR SHALL BE TYPE K! SOFT DRAWN COPPER TUBE WITH BRONZE FLARE FITTINGS FOR SIZES UP TO SOMM (2").

SCOVER COLD MATTER PIPINS AND ABOVE HORIZONTAL STORM PIPINS WITH 25mm (IV) THICK JOHNS MANULLE HICKACLOR GLASS PIRBER EDIAL TIDNERATIEST INSLANTION PLACTORY APPLIED PIRE RESISTANT GLASS PIPINE REINFORCED KRAFT PAPER AND ALL STRIVEL JACKET. USE PRESSARE SENSI

INSULA	TION THICK	CNESS ON H	OT MATER	PIPE SIZES	
TEMPERATURE		NOM	NAL PIPE S	SIZE	
RANGE DEG F	3/4"	1° TO 1 1/4°	1 1/2" TO 8"	1 1/2" TO 8"	4" TO
105° TO 140°	1.0*	1.0"	15"	1.5"	1.5"

2 ALL EXPOSED INSULATIONS SHALL BE COVERED WITH WHITE PVC INSULATED FITTING COVERS AND JACKETING SYSTEM EQUAL TO JOHNS MANVILLE ZESTON 2000. INSTALL AS SPEN MANUFACT. REPORT SPECAMENDATIONS.

- J. BALL VALVES SHALL BE EQUAL TO NEWAYN HATTERSLEY FIG. IFTH, FILL PORT, FITE SEATISD-PINE STEM SEAL, SELF, CLEANING CHROKE FLATED BRASS BALL, VINYL GRIP ON ALMOHIM FLATED STEEL, HAVILE, SOLDER BIODS WITH PRESSURE RATING OF 600 LBS. ALTERNATIS, MATTS, 10702.
- 2 GATE VALVES SHALL BE EQUAL TO NEWMAN HATTERSLEY FIG A4I, BRONZE BODY, SOLID WEDGE DISC, INTEGRAL SEATS, SCREW OVER BONNET, SOLDER JOINT ENDS. ALTERNATES : WATTS TOYOY, KITZ.

## PIPELINE SPECIALTIES

- TRAP PRINTERS SHALL BE WITH BROAZE BODY, ISMT (M/S) SHEAT CONSECTION SHIPLY LIBERT AND SHIPLY LIBER AND SHIPLY HAVE AND SHIPLY SHIPLY LIBERT PAYER SHIPLY DEALN CONSECT TO NEAREST FLUMBING FIXTURE MATER SHIPLY. MATTS, LARGEST FLUMBING FIXTURE MATER SHIPLY.
- 2 ELECTRONIC TRAP PRIMING MANIFOLD SHALL BE EQUAL TO PPP INC MODEL PT SERIES (SIZE AS NUMBER OF TRAPS) 120 YOLT INSTALL AS PER MANIFACTURES RECOMMENDATIONS
- .9 PIPELINE SHOCK ABSORBERS SHALL BE WITH 16-6 STAINLESS STEEL CONSTRUCTION, AIR CHARGED BELLOYS AND THREADED MALE OUTLETS. ALTERNATES: MATTIS, JR.SMITH, JURN

## **GLEANOUTS**

- INTINISHED AND PRISHED AREA CLEANGUTS SHALL BE HITH BOLITED CLEANGUT FILK NICKEL BROWLE FRANKE ROADS FILL OFENNIS NICKEL BROWLE ACCESS COVER, ENTENDED FERRILE, INCIPRIENE SASKETS AND VANDAL PROOF SCREENS. EQUALS, WATTS JURSHITH ZURN.
- 2 CONCEALED STACK CLEANOUTS SHALL BE ZIRN Z55-1445-1 CAST IRON CLEANOUT TEE AT BASE OF CONCEALED STACKS, AND ROUND STAINLESS STEEL ACCESS COVER. EQUILS, WATTS, LAWSHITH, ZIRN.

J. FLOOR DRAINS IN CONC. FLOOR TYPE "A" SHALL BE WITH CAST. IRON BODY, TRAP PRIMER, ISMM (1/2") THICK (25mm (5") DIAMETER NICKEL BRONZE, STRAINER AND GRATE. EQUALS: MATTS, LIK SMITH, ZIMTS.

- J PROVIDE A COMPLETE DOMESTIC HOT AND COLD MATER DRAINAGE AND VENT TO SERVE FIXTRES AND ITEMS SPECIFED AND SHOWN ON PLANS, INSTALL AS PER OBC PART 1 AND AUTHORITY HAVING JURISDICTION.
- .4 INSTALL ISOLATION VALVES IN EACH BRANCH LINES FROM MAINS AND AT BASE OF EACH RISER, PROVIDE A FIRE RATED ACCESS DOOR AT EACH CONCEALED VALVE.
- 5 INSTALL PIPING STRAIGHT PARALLEL AND CLOSE TO WALLS AND CEILINGS, WITH APPROPRIATE PITCH, USE STANDARD FITTINGS FOR DIRECTION CHANGES.
- 6 INSTALL FLANSES OR UNIONS TO PERMIT REMOVAL OF EQUIPMENT MITHOUT DISTURBING PIPING SYSTEMS.
- .1 PROVIDE COMPLETE DRAINAGE AND VENT SYSTEMS TO SERVE FIXTURES AND ITEMS SPECIFIED AND AS SHOWN ON PLANS.
- B INSTALL PIPINS PASSING THROUGH FIRE SEPARATIONS WITH NON-COMBUSTIBLE MATERIAL ONE SIDE OF SEPARATION OR PROVIDE APPROVED FIRE STOPPING DEVICE
- .9 WHERE EXPOSED PIPES PASSES THROUGH FINISHED FLOORS, WALLS OR CEILINGS, PROVIDE CHROME PLATED ESCUTCHEON WITH SET SCREW.
- JO GRADE HORIZONTAL DRAINAGE AND VENT PIPING LARGER THAN 75mm (5") AT LOS OR AS NOTED ON DRANINGS AND SLOPE 75mm (5") AND SMALLER AT 2.0 % MIN
- 22 REFALL CLEANUTS AS FIRE THE FLAVEING CODE AND/OR AS SHOWN ON PRAMINES. INSURE CLEAN ORDS AND MACE ACCOUNTS WHERE PROPING RING CONCEALED IN WALL INSTALL EXTENSION THE CLEANUTS WHERE NECESSARY SO THAT COVIER IS LOCATED ON EXPOSED WALL SUPPLAY.
- JS INSTALL FLOOR DRAINS SO THAT STRAINER IS FLUSH WITH FINISHED FLOOR AND WITH TRAP PRIMER PIPED TO NEAREST PLANNING FIXTURE WATER SUPPLY.

- J CONNECT FIXTURES COMPLETE WITH SUPPLIES AND DRAINS, TRAPPED, SUPPORTED, SANITARY LEVEL AND SQUARE WITH HOT WATER FAUCETS ON THE LEFT.
- 2 PROVIDE CHROME PLATED FLEXIBLE SUPPLIES TO FIXTURES WITH SCREADRIVER STOPS, REDUCERS AND ESCUTCHEONS.
- 3 PROVIDE CHROME PLATED TRAPS & PIPING EXPOSED TO VEW UNDER LAVATORIES

- I INSTALL GAS PIPING IN ACCORDANCE WITH LATEST EDITION OF CANCGA BIA9.1-00 NATURAL GAS & PROPANE INSTALLATION CODE INCLUDING LATEST AMENDMENTS AND LOCAL AUTHORITY HAVING JURISCICTION.
- 2 PROVIDE COMPLETE DISTRIBUTION SYSTEM AS SHOWN ON DRAWINGS AND CONNECT TO ALL SAS APPLIANCES, PROVIDE UNION SYSTEM & SHUT OFF VALVES AT ISOLATION POINTS, AS INDICATED AND AT 64A APPLIANCES.
- 3 TEST PIPING BEFORE APPLIANCES ARE CONNECTED AS REQUIRED BY THE GAS AUTHORITY.
- 5 GAS PIPE ON ROOF SHALL BE SUPPORTED BY PRE MANUFACTURED BLOCKING SYSTEM EQUAL TO A BETTER IDEA INC. "GUICK BLOCK" POLYTPROPYLENE SUPPORT SHELL AND TYPE 5 20 PSI EXTRUDED POLYTSYNEDE NON MARRING BASE.
- VENTING FOR DIRECT VENT APPLIANCES SHALL CONFORM TO CSA 1441 AND ULC 9686 NATURAL 6AS AND PROPANE INSTALLATION CODE. PIPMS TO DE EQUAL TO IPEX SYSTEM 636.

J UNLESS NOTED OTHERWISE CONSTRUCT LON PRESSURE RECTANSULAR DUCTHORK OF LOCK FORMING PRINE DUALITY SALVANIZED SHEET STEEL INTO ZINC COATING ASTN SIGNAD ON MANNING TO BEDD SOF AND INLITING INVIDENTION PRINCIPAGE OF SALVANIZATION ON SPOTS, AND IS IN ACCORDANCE WITH ASSRAYE AND SMACKA STANDARDS FOR DUCT DESIGN AND ISSUE AAARES.

# CONSTRUCT DUCTS IN ACCORDANCE WITH FOLLOWING

MAX, DUCT DIMENSION U.S. GAUGE

200mm (4") TO 400mm (8") DIAMETER - 26 GAUSE 225mm (4") TO 600mm (24") DIAMETER - 24 GAUSE

- 5 CONSTRUCT MANUAL BALANCING DAMPERS OF IB GAUGE GALVANIZED STEEL MITH 4" MIDE OPPOSED BLADES WITH 35" DIAMETER TIE BARS AND DURC DYNE WIXLD QUADRANT SET WITH HEAVY GAUGE INDICATING QUADRANT, LEVER ARM AND WINS TYPE LOCKING NUT.
- 4 INSTRUMENT TEST PORTS SHALL BE DURO DYNE MODEL IP-4 ISMM (8/4") DIAMETER WITH NEOPRENE SASKETS, SCREM IN CAP AND MOUNTED WITH 2 SCREMS.
- .7 FLEXIBLE THERMAL INSULATION FOR DUCTWORK SHALL BE EQUAL TO JOHNS MANVILLE MICROLITE FIBRE GLASS DUCT WRAP WITH FOIL, SCRIM, KRAFT FACING.
- ALL MECHANICAL DUCTS UNCONDITIONED SPACES ( UNLESS ACQUISTICALLY LINED) - ALL EXHAUST DUCT FROM ROOF DOWN TO 10'-0" OR TILL FAN)

## INSULATED MOTORIZED DAMPER

I INSULATED DAMPER SHALL BE EQUAL TO TAYCO SERIES 4000 THERMALLY BROKEN, ALUMINM FRANCE, ICOMM(4\*) DEEP, INSULATED WITH POLYSTYREN, BLADES TO BE EXTRUDED ALUMINM, INTERNALLY INSULATED WITH EXPANDED POLYMETHANE FOAM & THERMALLY BROKEN

## INSTALLATION OF DUCTHORK AND ACCESSORIES

- J PROVIDE COMPLETE SYSTEM OF DUCTWORK, DAMPERS, GRILLES, AND REGISTERS, ETC. REQUIRED FOR COMPLETE AIR HANDLING SYSTEMS.
- 2 DETAILS OF CONSTRUCTION AND MATERIALS NOT SPECIFIED HEREIN MUST CONFORM TO RECOMMENDATIONS OF ASHRAE HANDBOOK, AND SMACNA STANDARDS (LATEST EDITION).
- A PRIOR TO ORDERING OR FABRICATING DUCTS, CHECK EXACT SIZES OF OPENINGS AND LOCATIONS FOR ALL DUCTS.
- 5 PROVIDE ELBOWS WITH MINIMUM CENTER LINE RADIUS OF 1 1/2 TIMES DUCT WIDTH, WHERE THIS IS NOT POSSIBLE FIT ELBOWS WITH DOUBLE THICKNESS TURNING VANES. SHORT RADIUS ELBOWS ARE NOT ACCEPTABLE.
- 6 EXPOSED ANGLES MUST BE CLEANED AND PAINTED WITH ONE COAT OF RUST RESISTANT PAINT PRIOR TO INSTALLATION.
- .7 RECTANSULAR DUCTS OVER 450mm (IS\*) MIDE MUST HAVE CROSS BREAKS ON FLAT SECTIONS BETWEEN JOINTS OR JOINTS AND REINFORCING.
- 9 PATTERN LONGITUDINAL SEAM JOINT AFTER PITTSBURGH OR LOCK-GROOVE TYPE LOCK.
- .4 TRANSVERSE JOINTS IN ROUND DUCTS MUST BE CRIMPED AND BEADED SLIP JOINT. TRANSVERSE JOINTS MAY BE CONSIDERED AS REINFORCING.
- IO INSTALL TRANSVERSE JOINTS WITH THE FOLLOWING MINIMAM CHARACTERISTICS

MAX DUCT DIMENSION	TYPE OF JOINT AND MAX. SPACING	REINFORCING REGUIREDAND MAX, SPACING
UP TO 600mm (12°)	DRIVE OR FLAT SLIP AT 2400mm (96*)	NONE
325mm (IS*) TO 600mm (24*)	25mm (I*) STANDING S, BAR OR POCKET ANGLELOCK AT 2400mmm (46*)	I" X I" X I"AT 1200mm (48")
625mm (251) TO 1200mm (461)	B8mm (I I/2') STANDING ANGLE BAR OR POCKET LOCK AT 2400mm (46')	1/2" X   1/2" X  /8"AT  200mm (48")

- J2 UNLESS NOTED OR DETAILED OTHERWISE SUPPORT HORIZONTAL DUCTS AS FOLLOWS

MAX. DUCT WIDTH OR HEIGHT	MAX. CENTER DISTANCE	TYPE OF SUPPORT
UP TO 600mm (12")	1800mm (12°)	TRAPEZE FORMED BY ANGLE 25x25x3mm, 6mm THREADED ROD WITH WASHERS AND LOCKNUTS
325mm (IS") TO 600mm (24")	1200mm (481)	TRAPEZE FORMED BY ANGLE 40x40x3mm, ISmm THREADED ROD MITH WASHERS AND LOCKNUTS
625mm (25°) TO 1200mm (48°)	1200mm (48°)	AS ABOVE

UNLESS NOTED OTHERWISE	SUPPORT ROUND DUCTS AS FOLL	ons.
DET	MAX.	

# TYPE OF SUPPORT UP TO 450mm

- .IS DO NOT HANS DUCTS FROM ROOF DECK
- .14 ALL DUCT JOINTS (TRAVERSE) SHALL BE CLASS "C" AND SEALED WITH APPROVED DUCT SEALANT ON EXTERIOR.
- .5 INSTALL FIRE DAMPERS TO SUIT NPA-40A STANDARD AND MANUFACTURERS INSTRUCTIONS WITH PRAME RIGIDLY SECURED TO MALLS AND OR FLOORS. PROVIDES STEEL SLEPKES, ANGLES, & ALL REQUIRED MATERIALS TO SUIT UL TESTING, PROVIDE BREAKAWAY JOINT AT DUCTS.

### INSTALLATION OF AIR HANDLING EQUIPMENT

- INSTALL AIR HANDLING EQUIPMENT, COMPLETE WITH MOTORS, BELT DRIVES GUARDS, VIBRATION BOLATORS ETC., AS DESCRIBED AND SHOWN ON DRAWINGS, SET EQUIPMENT PLIMS, LEYEL, AND ARRANGE FOR MAXIMUM SERVICABALLINT.
- 2 FOR ROOF MOUNTED EQUIPMENT PROVIDE PREFABRICATED ROOF CURBS. PROVIDE GENERAL CONTRACTOR WITH EXACT LOCATION AND DIMENSIONS REQUIRED FOR CURBS
- 9 AT INLET AND OUTLET OF EACH PIECE OF AIR HANDLING EQUIPMENT, PROVIDE FLEXIBLE CONNECTIONS, WHERE CONNECTIONS ARE EXPOSED TO OUTSIDE BUILDING, PROVIDE WEATHERPROOF FLEXIBLE CONNECTIONS.
- 4 PROVIDE NECESSARYSTRUCTURAL STEEL MEMBERS, RODS, BRACKETS, BOLTS, NUTS ETC TO SUPPORT AIR HANDLING EQUIPMENT

- 2 LOW VOLTAGE MIRING (< 50 VOLTS) TO BE BY MECHANICAL CONTRACTOR
- 3 LOW VOLTAGE WIRING TO BE SUITABLE FOR THE USE IN THE RETURN AIR PLENUM (PLENUM RATED LOW VOLTAGE WIRE)
- 4 MIRING IN THE MECHANICAL ROOM, SERVICE ROOMS AND ANY OTHER AREAS WHERE MIRING IS EXPOSED TO VIEW SHALL RIN IN EMT CONDUIT.

- I UNIT HEATER THERMOSTATS SHALL BE BY UNIT HEATER MANUFACTURER
- 2 THERMOSTATS SHALL BE HONEYPELL TB8220 COMMERCIAL VISION FRO PROGRAMMABLE THERMOSTAT. THERMOSTAT TO BE TOUCH SCREEN, CAPABILITY OF 2 LEAT 8 2 COOL STRAES, AUTOMATIC CHANGE OVER, CONTROLS FAN OFFERTION DURING OCCUPIED THES, CAPABILE OF CHERATING SYSTEMS AT COCCUPIED/MODICUPIED THES, CAPABILITY TO HAVE REPORTED THE PROGRAMMAS SYSTEMS AT COCCUPIED THESE, CAPABILITY TO HAVE REPORTED THE PROGRAMMAS OF THE PRO
- A CARBON MONOXIDE & NITROSEN DIOXIDE SYSTEM AS SPECIFIED ON DRAWINGS
- 5 DESTRATIFICATION FANS CONTROLLER BY UNIT MANUFACTURER
- 6 1 DAY 24 HR TIMER SHALL BE EQUAL TO INTERMATIC ETITORIC

- J. A/C UNITS AC-I TO A/C-2 SHALL BE OPERATED BY ELECTRONIC PREOGRAM-MABLE THERMOSTAT THERMOSTAT STORTS SHALL AS DIRECTED BY OWNER, FAN SHALL RUN CONTINUOUSLY DURING BUILDING OCCUPIED THIS.
- 2 SAC INITIS SAC-I SHALL BE OPERATED BY ELECTRONIC PREDSRAMMABLE THERMOSTAT THERMOSTAT SET POINTS SHALL AS DIRECTED BY OWNER, PAN SHALL RIA CONTINUOUSLY DURING SHILDING OCCUPIED THIRS.
- 3 EXHAUST FAN EF-I SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL)
- 4 EXHAUST FAN EF-2 SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL)
- 5 EXHAUST FAN EF-8 SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL) 6 EXHAUST FAN EF-4 SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL)
- .T EXHAUST FAN EF-5 SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL) 5 EXHAUST FAN EF-6 SHALL BE INTERLOCKED MITH CO/NO2 DETECTOR D-1 8 MOTORIZED MOTORIZED DIAMPER MD-1 - ON RISE OF EITHER CO OR NO2 TO MIN SET POINTS EF-6 51 MD-1 OFFISS - ON DROP BELOW SET POINT EF-6 FANS 51070 AND DIAMPER ND-1 CLOSES ELECTRICAL TO PROVIDE HOA STARTER - SEE ELECTICAL DRAWINGS FOR INTERLOCKS

- .18 DESTRATIFICATION FANS DS-I THRU DS-T TO BE CONTROLLED BY SPEED CONTROLLERS
- .14 ENERGY RECOVERY VENTILATOR ERV-I SHALL START/STOP BY LIGHTING CONTROL ( BY ELECTRICAL)
- .5 ENERGY RECOVERY VENTILATOR ERV-2 SHALL START/STOP 1 DAY 24 HR TIMER
- ./6 CARBON MONOXIDE/CARBON DIOXIDE DETECTION SYSYEM DI SHALL START/STOP EXHAUST FAN EF-6 AND OPEN MOTORIZED DAMPER MD-I THRU HAND/OFF/AUTO STARTER ( STARTER BY ELECTRICAL) JT CARBON MONOXIDE/CARBON DIOXIDE DETECTION SYSYEM D2 SHALL START/STOP EXHAUST FAN EF-T AND OPEN MOTORIZED DAMPER MD-2 THRU HAND/OFF/AUTO STARTER (STARTER BY ELECTRICAL)

# JB HOT WATER RECIRCULATING PUMP SHALL START/STOP 1 DAY 24 HR TIMER

- BALANCINS OF SYSTEMS MUST BE DONE BY A REPUTABLE QUALIFIED FIRM EXPERIENCED IN THIS TYPE OF WORK.
- 3 BALANCE, ADJIST AND PUT PARTS OF SYSTEM INTO PROPER HORKING ORDER, ADJIS DAMPESS, CONTROLS, PANI SPEEDS, ETC., IN ORDER THAT PROPER DISTRIBUTION AND IN OPERATION, ALL TO SATISFACTION OF CORRUINTIA. SETTING IF AND BLAUCKING OF COPPLETE HEATING AND VENTILATING SYSTEMS TO BE DONE BY A TECHNICIAN ENTERPLICED IN THIS TYPE OF FORK.

- DIFFUSERS AND GRILLES - AIR CAPACITY AT EACH OUTLET

O ISSUED FOR TENDER MAY 2/22 5M DATE B



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