

**PLUMBING BASEMENT - NEW WORK**  
SCALE: 1 : 50

**REVISIONS:**

NO.	DATE	PARTICULAR
1	2023-11-28	ISSUE FOR 100% CO
2	2024-05-24	ISSUED FOR PERMIT
3	2024-08-16	ISSUED FOR BUILDING PERMIT REVISION
4	2024-08-26	ISSUED FOR TENDER ADDENDUM 4
5	2024-09-11	ISSUED FOR TENDER ADDENDUM 4
6	2024-10-08	ISSUED FOR TENDER ADDENDUM 9

**NOTES:**

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**QUASAR CONSULTING GROUP**

**KEY PLAN:**

**CLIENT:**  
NEWMARKET

**PROJECT:**  
22275  
MULOCK ESTATE ADAPTIVE RE-USE

16780 Yonge Street,  
Newmarket, Ontario.

ORIGINAL PAGE SIZE: ARCH E1 - 30" x 42"  
KEY TO DETAIL LOCATION:  
A - DETAIL NO.  
B - DETAIL NO. ORIGIN

**GREASE INTERCEPTOR CALCULATION**

**FIXTURES:**

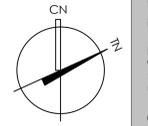
(1) SOIL TABLE AND PRE-RINSE (TWO SINKS)  
SOILED TABLE VOLUME = 2 x (28"x24"x12") = 10368 CUBIC IN  
TOTAL VOLUME = 44.9 US GAL

(2) POT SINK (THREE SINKS)  
POT SINK = 1 x (21"x24"x12") = 5292 CUBIC IN  
TOTAL VOLUME = 22.9 US GAL

(3) DISHWASHER  
DISHWASHER DISCHARGE = 0 US GPM

**INTERCEPTOR FLOW:**  
Q = 0.75(FIXTURE VOLUME/DRAIN DOWN TIME) + DRAINPUMP FLOW  
Q = 0.75(44.9 + 22.9)/2 + 0  
Q = 25.4 GPM

- GENERAL NOTES**
- LAYOUTS AS SHOWN ON PLANS ARE TO SHOW DESIGN INTENT. CONTRACTOR SHALL COORDINATE ROUTING AND ALL NECESSARY FITTINGS TO ACCOMMODATE SITE CONDITIONS TO MEET DESIGN INTENT.
  - MECHANICAL CONTRACTOR SHALL COORDINATE ALL PIPING AND DUCTWORK WITH STRUCTURAL BEAMS AND PROVIDE SLEEVING AS NECESSARY TO MAINTAIN MINIMUM HEADROOM AS INDICATED IN ARCHITECTURAL DRAWINGS.
  - MECHANICAL CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, STRUCTURAL AND INTERIOR DESIGN DRAWINGS FOR COORDINATION.
  - ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION PROVIDED IN INSTALLATION MANUAL.
  - SANITARY LAVATORIES, FLOOR DRAINS, HUB DRAINS AND MOP SINKS SHALL BE INSTALLED WITH P-TRAP.
  - SANITARY PIPING LESS THAN 1000 SHALL BE SLOPE 2% UNLESS OTHERWISE NOTED.
  - SANITARY PIPING 1000 OR GREATER SHALL BE SLOPED 1% UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL VENT ALL SANITARY FIXTURES IN ACCORDANCE WITH OBC REGULATIONS.
  - ALL PLUMBING FIXTURES PIPING CONNECTIONS TO COME WITH ISOLATION VALVES AT THE FIXTURE.



**M-200**

PLUMBING - BASEMENT - NEW WORK SCALE AS indicated



FAN SCHEDULE																	
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	AIR FLOW	ESP	FAN SPEED	ELECTRICAL				EMERG	NOISE	WEIGHT	NOTES	
						L/S [CFM]	Pa [IN WC]	RPM	V/PHHZ	HP	FLA	VFD	ENCY POWER	[dBA]	kg [Lb]		
EF-1	SPRINKLER RM	EXHAUST	GREENHECK	SPA-80	EXHAUST FAN	54 L/S [114C]	119Pa 0.1...	870	115/160	0.02	0.1	N	N	N	35	13.5KG 30LB	1,2,4,5
EF-2	BASEMENT WC	EXHAUST	GREENHECK	SPA-90	EXHAUST FAN	54 L/S [114C]	119Pa 0.1...	870	115/160	0.02	0.1	N	N	N	35	13.5KG 30LB	1,3,5
EF-3	BASEMENT WC	EXHAUST	GREENHECK	SPA-80	EXHAUST FAN	54 L/S [114C]	119Pa 0.1...	870	115/160	0.02	0.1	N	N	N	35	13.5KG 30LB	1,3,5
EF-4	2ND FLOOR	EXHAUST	GREENHECK	SQ-80	EXHAUST FAN	50 L/S [105C]	119Pa 0.1...	870	115/160	0.02	0.1	N	N	N	35	27KG 59LB	1,3,5
EF-5	JANITOR CLOSET 2ND FLOOR	EXHAUST	GREENHECK	SPA-90	EXHAUST FAN	54 L/S [114C]	119Pa 0.1...	870	115/160	0.02	0.1	N	N	N	35	13.5KG 30LB	1,2,4,5

NOTES:  
1. PROVIDE WITH DISCONNECT  
2. PROVIDE WITH STARTER  
3. CONTROLLED BY LIGHT SWITCH  
4. ALWAYS ON  
5. MAXIMUM SOUND POWER LEVEL OF 81 DBA

SCHEDULE OF GRILLES, DIFFUSERS & LOUVRES																
TAG	TYPE	AREA SERVED	MANUFACTURER	MODEL	NORMAL FACE-NECK SIZE MM (IN)	DESCRIPTION / ACCESSORIES	VOLUME CONTROL	MATERIAL	MAX NO	REMARKS	ELECTRICAL			SOUND PRESSURE [dBA]	WEIGHT [KG]	NOTES
											V/PHHZ	HP	FLA			
A	SQUARE PLAQUE DIFFUSER	REFER TO FLOOR PLAN	EH PRICE	SPD	REFER TO FLOOR PLAN	300MM X 300MM (12"x12") SQUARE PLAQUE	YES	ALUMINUM	34	1,2						
B	SQUARE PLAQUE RETURN	REFER TO FLOOR PLAN	EH PRICE	SPD	REFER TO FLOOR PLAN	300MM X 300MM (12"x12") SQUARE PLAQUE	YES	ALUMINUM	34	1,2						
C	LINEAR BAR GRILLE SUPPLY (FLOOR)	REFER TO FLOOR PLAN	EH PRICE	LBP-16A	REFER TO FLOOR PLAN	15' DEFLECTION, 30MM (1.25") SPACING, REFER TO PLANS FOR...	YES	ALUMINUM	34	1						
D	LINEAR BAR GRILLE RETURN	REFER TO FLOOR PLAN	EH PRICE	LBP-15A	REFER TO FLOOR PLAN	0' DEFLECTION, 30MM (1.25") SPACING, REFER TO PLANS FOR...	NO	ALUMINUM	34	1,2						
E	LINEAR SUPPLY DIFFUSER	REFER TO FLOOR PLAN	EH PRICE	SDS150	REFER TO FLOOR PLAN	1500MM (48") LENGTH, 1 SLOT 38MM (1.5") WIDTH, CW CUSTOM.	YES	ALUMINUM	34	1,4						
F	LINEAR BAR GRILLE RETURN (WALL)	REFER TO FLOOR PLAN	EH PRICE	LBP-16A	REFER TO FLOOR PLAN	15' DEFLECTION, 30MM (1.25") SPACING, REFER TO PLANS FOR...	YES	ALUMINUM	34	1						
G	LINEAR BAR GRILLE RETURN (WALL)	REFER TO FLOOR PLAN	EH PRICE	LBP-15A	REFER TO FLOOR PLAN	0' DEFLECTION, 30MM (1.25") SPACING, REFER TO PLANS FOR...	NO	ALUMINUM	34	1						
L1	INTAKE LOUVRE	REFER TO FLOOR PLAN	RUSKIN	ELB0375I	REFER TO FLOOR PLAN	37.5° ANGLE BLADE, CW BIRDSCREEN	NO	ALUMINUM	34	1						
L2	EXHAUST LOUVRE	REFER TO FLOOR PLAN	RUSKIN	ELB0375E	REFER TO FLOOR PLAN	37.5° ANGLE BLADE, CW BIRDSCREEN	NO	ALUMINUM	34	1						

NOTES:  
1. FINISH TO ARCHITECTURAL DIRECTION  
2. PROVIDE MANUFACTURER RECOMMENDED MOUNTING FOR EACH CEILING TYPE. REFER TO ARCHITECTS RCP FOR EACH CEILING TYPE.  
3. PROVIDE LIGHT SHIELD  
4. CONCEALED PLASTER FRAME/MUD IN LINEAR DIFFUSER

HUMIDIFIER SCHEDULE													
TAG	SERVICE	MANUFACTURER	MODEL	ELECTRICAL			WEIGHT [KG]	REMARKS					
				V/PHHZ	MCA [AMP]	MOCP							
HU-1	FCU-11	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-2	FCU-12	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-3	FCU-13	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-4	FCU-17	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-5	FCU-16	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-6	FCU-14	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					
HU-7	FCU-15	HONEYWELL	HM750A1000	120/160	12	15	9	1-3					

NOTES:  
1. PROVIDE WITH UNIT CONTROLLER  
2. PROVIDE SINGLE POINT OF CONNECTION  
3. DRAIN HUMIDIFIER TO NEAREST SINK UPSTREAM OF P-TRAP OR FLOOR DRAIN

BRANCH SELECTOR BOX SCHEDULE									
TAG	LOCATION	MANUFACTURER	MODEL	ELECTRICAL			SOUND [dB (A)]	WEIGHT	
				V/PHHZ	MCA	MOCP			
BSB-1	BASEMENT CORRIDOR	DAIKIN	BSF6054TVJ	208/160	0.6	15	40	33	
BSB-2	BASEMENT MAIN HALL	DAIKIN	BSF6054TVJ	208/160	0.6	15	40	33	
BSB-3	2ND FLOOR	DAIKIN	BSF6054TVJ	208/160	0.8	15	40	37	

WATER SOFTENING TANK SCHEDULE										
TAG	LOCATION	MANUFACTURER	MODEL	TANK DATA		DIMENSIONS		ELECTRICAL		WEIGHT (KG)
				RESIN QTY (L)	PEAK FLOW RATE...	DIAMET (MM)	HEIGHT (MM)	V/PHHZ	POWE R..	
WS-1	SPRINKLER RM	CULLIGAN	HE-1.5-090	141.6	135.5	457	1651	120/160	22	680
WS-2	SPRINKLER RM	CULLIGAN	HE-1.5-090	141.6	135.5	457	1651	120/161	23	680
WS-3	SPRINKLER RM	CULLIGAN	HE-1.5-090	141.6	135.5	457	1651	120/162	24	680
BT-1	SPRINKLER RM	CULLIGAN	HE-1.5-090	N/A	N/A	610	1270	N/A	N/A	680

PUMP SCHEDULE												
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	FLUID	FLOW RATE [L/S]	PUMP HEAD [MPa]	ELECTRICAL			NOTES	
								V/PHHZ	MCA (A)	HP		VFD
DRCP-1	SPRINKLER ROOM	DHWR	GRUNDFOS	UPS 32-80 F B	WATER	0.50	45.00	115/160	2.5	FHP	N	1
SP-1	ELEVATOR SLUMP PIT	ELEVATOR SLUMP PIT	GRUNDFOS	UNILIFT AP12.40.04.1	WATER	3.2	60	115/160	8	FHP	N	1
SP-2	GROUND WATER SLUMP PIT	GROUND WATER SLUMP PIT	GRUNDFOS	UNILIFT AP12.40.04.1	WATER	3.2	60	115/160	8	FHP	N	1
SP-3	GROUND WATER SLUMP PIT	GROUND WATER SLUMP PIT	GRUNDFOS	UNILIFT AP12.40.04.1	WATER	3.2	60	115/160	8	FHP	N	1

NOTES:  
1. PROVIDE W/ STARTER

PLUMBING EXPANSION TANK SCHEDULE															
TAG	LOCATION	SERVICE	TYPE	MANUFACTURER	MODEL	FLUID	TANK VOLUME	ACCEPTANCE VOLUME	MAX WORK TEMP	FILL PRESSURE	RELIEF PRESSURE	MAX WORK PRESSURE	DIMENSION DxDH	SHIPPING WEIGHT	REMARKS
							[L]	[L]	[°C] / [°F]	[Pa] / [PSI]	[Pa] / [PSI]	[Pa] / [PSI]	[mm] / [mm]	[kg]	
ET-1	MECH ROOM	DOMESTIC COLD WATER	BUTLY BLADDER	WATTS	DETA-12	DCW	19	13	115C / 240F	276kPa / 40PSI	348kPa / 50PSI	1034kPa / 150PSI	12x14 / 305x356	28 / 13	1

Notes:  
1. POTABLE HOT WATER APPLICATION  
2. PROVIDED BY THE DCV BOOSTER PUMP MANUFACTURER

VRF REFRIGERATION SYSTEM- WATER COOLED CONDENSING UNIT SCHEDULE																						
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	FLUID	COOLING CAPACITY				HEATING CAPACITY				MAX REFRIGERANT PIPE LENGTH	MAX INDOOR UNITS CONNECT	ELECTRICAL			OVERALL SOUND POWER LEVEL (DBA)	DIMENSION (LXWXH) MM	WEIGHT KG	NOTES
						[TON]	KW	[TON]	KW	[TON]	KW	M	[EA]	TYPE	POWER SUPPLY [V/PHHZ]	MCA	MOP	RLM (COMP)				
CU-1	GEOTHERMAL ROOM	HVAC	DAIKIN	RWEQ144TATJU	40% PG	12.0	6.4	12.0	12.2	300	20	R410A	208/360	44.6	50	24	75	765x560x980	192	1-5		
CU-2	GEOTHERMAL ROOM	HVAC	DAIKIN	RWEQ120TATJA	40% PG	10.0	4.7	10.0	9.5	300	20	R410A	208/360	36.5	45	20.9	55	762x559x965	192	1-5		

NOTES:  
1. IF NOT NOTED OTHERWISE IN THE SCHEDULE ABOVE, NOMINAL COOLING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 80/67°F (26.7/19.4°C DBWB), OUTDOOR OF 95/75°F (35.2/3.9°C DBWB)  
2. IF NOT NOTED OTHERWISE IN THE SCHEDULE ABOVE, NOMINAL HEATING CAPACITIES ARE BASED ON INDOOR COIL EAT OF 70/60°F (21.1/15.6°C DBWB), OUTDOOR OF 47/43°F (8.3/6.1°C DBWB)  
3. SEER VALUES UP TO 18.0 AND HSPF VALUES UP TO 10.0 ENGINEERS WITH SWING COMPRESSORS  
4. INVERTER COMPRESSORS TO INCREASE EFFICIENCY AND AVOID STARTING CURRENT RUSH  
5. COOLING OPERATION RANGE: 23~122°F (5~50°C), HEATING OPERATION RANGE: 4~96°F (40~15.6°C), OPTIONAL AUTO CHANGEOVER TO AUXILIARY HEAT

VRF INDOOR UNIT SCHEDULE																							
TAG	SERVICE	CONDENSING UNIT CONNECTED	MANUFACTURER	MODEL	TYPE	SUPPLY FAN			DESIGN CAPACITY			NOMINAL CAPACITY			ELECTRICAL			SOUND PRESSURE	WEIGHT	NOTES			
						PEAK AIR FLOW L/S [CFM]	Pa [IN.WG]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	W [BTU/H]	[V/PHHZ]				[A]	[W]	
FCU-1	BASEMENT KITCHEN	CU-1	DAIKIN	FXAQ09PVJU	WALL-MOUNTED	132 [280]	N/A	2393 [8166]	1883 [8424]	3077 [102300]	2784 [8500]	2139 [7300]	3077 [102300]	208/160	0.415	0.02	31-37	12	1-6				
FCU-2	BASEMENT KITCHEN	CU-1	DAIKIN	FXSQ07AVJU	WALL-MOUNTED	132 [280]	N/A	2393 [8166]	1883 [8424]	3077 [102300]	2784 [8500]	2139 [7300]	3077 [102300]	208/160	0.415	0.02	31-36	12	1-6				
FCU-3	BASEMENT HALL	CU-1	DAIKIN	FXSQ07AVJU	WALL-MOUNTED	133 [281]	150 [0.6]	1946 [6642]	1467 [5005]	2500 [8530]	2198 [7500]	1699 [5800]	2491 [8500]	208/160	0.815	0.1	28-33	25	1-6				
FCU-4	BASEMENT BAR/CELLAR	CU-1	DAIKIN	FXSQ10TAVJU	CEILING SUSPENDED	250 [530]	150 [0.6]	3833 [13,079]	2922 [9971]	5000 [17,080]	4396 [15,000]	3312 [11,300]	4982 [17,000]	208/160	1.415	0.11	30-34	25	1-6				
FCU-5	LIBRARY	CU-1	DAIKIN	FXSQ12TAVJU	CEILING SUSPENDED	158 [335]	150 [0.6]	3070 [10,474]	2464 [8408]	4000 [13,648]	3517 [12,000]	2843 [9700]	3956 [13,500]	208/160	0.815	0.1	28-33	25	1-6				
FCU-6	MUSIC ROOM	CU-1	DAIKIN	FXSQ07TAVJU	CEILING SUSPENDED	133 [281]	150 [0.6]	1946 [6642]	1467 [5005]	2500 [8530]	2198 [7500]	1699 [5800]	2491 [8500]	208/160	0.815	0.1	28-33	25	1-6				
FCU-7	PARLOUR ROOM	CU-1	DAIKIN	FXSQ18TAVJU	CEILING SUSPENDED	283 [600]	150 [0.6]	4610 [15,729]	3398 [11,953]	5900 [20,131]	5275 [18,000]	3986 [13,600]	5861 [20,000]	208/160	1.615	0.11	30-34	35	1-6				
FCU-8	DINING ROOM	CU-1	DAIKIN	FXSQ09TAVJU	CEILING SUSPENDED	150 [318]	150 [0.6]	2486 [8484]	1788 [6101]	3098 [10,577]	2784 [8500]	2198 [7500]	3077 [10,500]	208/160	0.815	0.1	28-33	25	1-6				
FCU-9	GROUND FLOOR KITCHEN	CU-1	DAIKIN	FXAQ12PVJU	WALL-MOUNTED	137 [290]	N/A	3018 [10,299]	2225 [7593]	3956 [13,499]	3517 [12,000]	2808 [8900]	3956 [13,500]	208/160	0.415	0.02	31-36	12	1-6				
FCU-10	GROUND FLOOR KITCHEN	CU-1	DAIKIN	FXAQ12PVJU	WALL-MOUNTED	137 [290]	N/A	3018 [10,299]	2225 [7593]	3956 [13,499]	3517 [12,000]	2808 [8900]	3956 [13,500]	208/160	0.415	0.02	31-36	12	1-6				
FCU-11	MAIN HALL	CU-1	DAIKIN	FXSQ18TAVJU	CEILING SUSPENDED	250 [530]	150 [0.6]	3833 [13,079]	2922 [9971]	5000 [17,080]	4396 [15,000]	3312 [11,300]	4982 [17,000]	208/160	1.415	0.11	30-34	25	1-6				
FCU-12	OFFICE AREA	CU-2	DAIKIN	FXSQ09TAVJU	CEILING SUSPENDED	533 [1130]	150 [0.6]	9286 [31,853]	6963 [22,796]	11700 [40,000]	10350 [34,500]	7532 [25,700]	11722 [40,000]	208/160	2.515	0.16	30-36	46	1-6				
FCU-13	GALLERY 1	CU-2	DAIKIN	FXSQ07TAVJU	CEILING SUSPENDED	133 [281]	150 [0.6]	1947 [6642]	1467 [5005]	2500 [8530]	2198 [7500]	1699 [5800]	2491 [8500]	208/160	0.815	0.1	28-33	25	1-6				
FCU-14	GALLERY 2	CU-2	DAIKIN	FXSQ24TAVJU	CEILING SUSPENDED	350 [742]	150 [0.6]	6169 [21,601]	4458 [15,210]	7900 [24,900]	7034 [24,000]	5011 [17,100]	7913 [27,000]	208/160	1.815	0.16	29-34	37	1-6				
FCU-15	GALLERY 3	CU-2	DAIKIN	FXSQ18TAVJU	CEILING SUSPENDED	250 [530]	150 [0.6]	3833 [13,079]	2922 [9971]	5000 [17,080]	4396 [15,000]	3312 [11,300]	4982 [17,000]	208/160	1.415	0.11	30-34	25	1-6				
FCU-16	GALLERY 4	CU-2	DAIKIN	FXSQ18TAVJU	CEILING SUSPENDED	250 [530]	150 [0.6]	3833 [13,079]	2922 [9971]	5000 [17,080]	4396 [15,000]	3312 [11,300]	4982 [17,000]	208/160	1.415	0.11	30-34	25	1-6				
FCU-17	GALLERY 5	CU-2	DAIKIN	FXSQ18TAVJU	CEILING SUSPENDED	283 [600]	150 [0.6]	4610 [15,729]	3398 [11,953]	5900 [20,131]	5275 [18,000]	3986 [13,600]	5861 [20,000]	208/160	1.6								