

DRAWING LIST		
DWG. NO.	DRAWING NAME	SCALE
M-001.1	MECHANICAL DRAWING LIST, LEGEND, GENERAL NOTES & SCHEDULES	N.T.S
M-001.2	GENERAL NOTES & SCHEDULES	N.T.S
M-002	MECHANICAL SPECIFICATIONS - SHEET 1	N.T.S
M-003	MECHANICAL SPECIFICATIONS - SHEET 2	N.T.S
M-004-1	PLUMBING FIXTURES SPECIFICATION SHEET	N.T.S
M-004-2	PLUMBING FIXTURES SPECIFICATION SHEET 2	N.T.S
M-004-3	PLUMBING FIXTURES SPECIFICATION SHEET 3	N.T.S
M-005	PLUMBING SPECIALTIES AND ACCESSORIES SPECIFICATION SHEET	N.T.S
M-006	DRAINAGE WASTE AND VENT PIPING - PLASTIC SPECIFICATION SHEET	N.T.S
M-007	DRAINAGE WASTE AND VENT PIPING - CAST IRON AND COPPER SPECIFICATION SHEET	N.T.S
M-008-1	DOMESTIC WATER PIPING SPECIFICATION SHEET 1	N.T.S
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M-008-4	DRAINAGE WASTE AND VENT PIPING - CAST IRON AND COPPER SPECIFICATION SHEET 4	N.T.S.
M-008-5	DRAINAGE WASTE AND VENT PIPING - PLASTIC SPECIFICATION SHEET 5	N.T.S.

DRAWING LIST		
DWG. NO.	DRAWING NAME	SCALE
M-008-6	PLUMBING SPECIALTIES AND ACCESSORIES SPECIFICATION SHEET 6	N.T.S.
M-008-10	REFRIGERANT PIPING SPECIFICATION SHEET 10	N.T.S
M-008-11	REFRIGERANT PIPING SPECIFICATION SHEET 11	N.T.S
M-008-12	REFRIGERANT PIPING SPECIFICATION SHEET 12	N.T.S
M-008-13	SPLIT SYSTEM DX FAN COIL UNITS SPECIFICATION SHEET 13	N.T.S
M-008-14	SPLIT SYSTEM DX FAN COIL UNITS SPECIFICATION SHEET 14	N.T.S
M-201D	DEMO PLAN - TUB ROOM (456), W.R(445), SHOWER(444) - TYP FOR LEVEL 2,3,4	1:100
M-202D	DEMO PLAN - DISH WASHING (482A), SERVERY (482), DINING ROOM (481) - LEVEL 4	1:100
M-201	NEW WORK - TUB ROOM (456), W.R(445), SHOWER(444) - TYP FOR LEVEL 2,3,4	1:100
M-202.1	NEW WORK - DISH WASHING (482A), SERVERY (482), DINING ROOM (481) - LEVEL 4	1:100
M-202.2	MEP SERVICES SCHEDULE	N.T.S.
M-203	NEW WORK - DISH WASHING (482A), SERVERY (482), DINING ROOM (481) - LEVEL 4-HVAC	N.T.S.
M-900	NEW WORK - MECHANICAL STANDARD DETAILS	N.T.S.

GENERAL NOTES

1. ALL WORK SHALL BE CARRIED OUT SUCH THAT EXISTING FEATURES, ARCH. FINISHES ARE NOT DAMAGED DURING CONSTRUCTION.
2. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT THE EXISTING SAN LINE FROM ANY BLOCKAGE THAT MIGHT HAPPEN DURING THE DEMOLITION OF THE FLOOR DRAINS AND CONTRACTOR SHALL CLEAN THE BLOCKAGE WITHOUT ANY EXTRA CHARGE TO THE PROJECT.
3. DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR WILL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REQUIRED TO PERFORM THE WORK AND REPORT ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS TO THE PROJECT CONSULTANT BEFORE COMMENCING WORK.
4. THE CONTRACTOR SHALL MAKE A RECORD OF THE EXISTING SERVICES IN THE BUILDING WITH REFERENCE TO THE DRAWINGS. THE ACTUAL CONDITIONS AS RECORDED SHALL BE BROUGHT TO THE ATTENTION OF THE CLIENT & CONSULTANT SO THAT THE DWG & DOCUMENTS CAN BE SUITABLY UPDATED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTING EX. CONDITIONS DURING SITE WALK THRU & PRE TENDER SITE VISITS. NO EXTRAS WILL BE PAID FOR WORK RESULTING DUE TO OBVIOUS SITE CONDITIONS.
6. REFER TO ARCHITECTURAL DRAWINGS 'AREA OF WORK' FOR LOCATION OF WASHROOMS
7. ALL WORK THAT IS TAKING PLACE IN THIS CONSTRUCTION ZONE SHALL NOT CAUSE LONG TERM INTERRUPTIONS ON OTHER FLOORS. CONTRACTOR SHALL PROVIDE ISOLATION VALVES ON THE PLUMBING SYSTEMS AND CAPPED CONNECTION IN THE SANITARY DRAINAGE SYSTEM WITHIN THE CONSTRUCTION ZONE TO ALLOW OTHER FLOORS TO REMAIN IN OPERATION.

AIR CONDITIONING UNIT (INDOOR)													
TAG NO.	SPACE SERVED.	AIR FLOW H/M/L (CFM)	SOUND PRESSURE (H/M/L) dBA	COOLING TOTAL CAPACITY Btu/Hr	REFRIGERANT	POWER V/Ph/hZ	INDOOR FAN MOTOR MCA	FAN MOTOR FULL LOAD AMP	INDOOR FAN MOTOR (W)	DRAIN PIPE SIZE (INCH)	MANUFACTURER	MODEL	REMARKS
AC-01	DISH WASHING	716/605/467	53/45/39	24,000	R-410A	208/1/60	1A	1.0	35	5/8	DAIKIN	FTK24AXVJU	SEE NOTES BELOW
CONDENSING UNIT (OUTDOOR)													
TAG NO.	A/C UNIT SERVED	LOCATION	CAPACITY (TONS)	AIR FLOW (CFM)	NO. OF CIRCUITS	POWER V/Ph/hZ	OUTDOOR FAN MOTOR (MCA)	OUTDOOR FAN MOTOR POWER (W)	MANUFACTURER	MODEL	REMARKS		
CU-01	AC-01	ROOF	2.0 TONS	1,908	1	208/1/60	13.4	128	DAIKIN	RK24AXVJU	SEE NOTES BELOW		
NOTES: 1. UNIT SHALL BE DESIGNED FOR COOLING (-20°C TO 46°C DB). 2. UNIT SHALL BE DESIGNED FOR INDOOR CONDITION 75°F DB/50% RH 3. OUTDOOR UNIT SHALL BE PROVIDED WITH LOW AMBIENT KIT TO ENABLE OPERATION AT -40°C AND WIND BAFFLE TO PROTECT FROM HIGH WIND. 4. UNIT SHALL BE PROVIDED WITH PACKAGED CONTROLS c/w TEMPERATURE SENSOR, SETBACK CONTROLS, ON/OFF, TIMER OPERATION, LCD DISPLAYS AND CAPABLE OF COMMUNICATING WITH THE BASE BUILDING BAS. 5. REFER PIPE CONNECTIONS INDICATED SHALL BE VERIFIED BY CONTRACTOR TO SUIT FIELD DIMENSIONS, ELEVATIONS & LENGTH OF PIPE RUN. CONTRACTOR SHALL SUBMIT SHOP DWGS c/w CALCULATIONS. 6. UNIT SHALL BE c/w ROOF MOUNTING MINI FRAME - MODEL NO: AN-H30518 BY ECO-FOOT.													

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LICENSED PROFESSIONAL ENGINEER
V.N. SRINIVAS
June 08'2023
PROVINCE OF ONTARIO

6ISSUED FOR PERMIT AND TENDER2023-06-08

5ISSUED FOR TENDER2023-05-29

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3ISSUED FOR REVIEW2022-11-20

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no. revisiondate

LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
GENERAL NOTES & SCHEDULES
title

RR
drawn
VS
checked by
N.T.S
scale
M-001.2
drawing no.

2022-09-29
date
21513.03
job no.
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rev. no.

GENERAL NOTES:

1. THE GENERAL CONDITIONS AND BASE BUILDING STANDARDS ARE AN INTEGRAL PART OF THIS WORK AND ALL WORK ON THE FACILITY SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE CONSTRUCTION STANDARDS OF THE FACILITY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO BECOME FAMILIAR WITH THOSE STANDARDS. REFER TO FRONT END DOCUMENTS FOR DETAILS.
2. ALL OTHER AREAS OF THE FACILITY SHALL REMAIN IN OPERATION DURING THE CONSTRUCTION PERIOD. COORDINATE WITH THE FACILITY FOR ALL RULES AND REGULATIONS IN ORDER TO ACHIEVE SUCCESSFUL COMPLETION OF THE PROJECT.
3. CONTRACTORS SHALL ADHERE TO THE WORKING HOURS STIPULATED BY THE CONDITIONS OF THIS CONTACT. REF. ARCH. DOCUMENTS FOR DETAILS.
4. DEFINITIONS:
'PROVIDE' - CONTRACTOR TO PURCHASE AND INSTALL ITEMS AS DESCRIBED.
'SUPPLY' - CONTRACTOR TO PURCHASE ITEMS FOR INSTALLATION BY OTHERS.
'INSTALL' - CONTRACTOR TO INSTALL ITEMS PURCHASED BY OTHERS.
'UNCONDITIONED SPACE' - AN ENCLOSED SPACE WITHIN A BUILDING THAT IS NOT A CONDITIONED SPACE OR A SEMI-HEATED CRAWL SPACE. CRAWL SPACES, ATTICS AND PARKING GARAGES WITH NATURAL OR MECHANICAL VENTILATION ARE NOT CONSIDERED ENCLOSED SPACES.
5. LOCATION OF ALL EXISTING SERVICES AND EQUIPMENTS HAVE BEEN SHOWN BASED ON ARCHIVE DOCUMENTS AND SITE MEASUREMENTS. CONTRACTOR SHALL FIELD MEASURE ALL SITE CONDITIONS AND MAKE SUITABLE PROVISIONS DURING TENDER. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE. MAKE, WITHOUT ADDITIONAL CHARGE, ANY NECESSARY MODIFICATIONS OR ADDITIONS TO THE ROUTING OF DRAINS, PIPES, DUCTS, ETC., TO ACCOMMODATE THE SITE CONDITIONS.
6. PRIOR TO SUBMITTING A BID AMOUNT, THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE FOLLOWING:
.1 VERIFY EXISTING CONDITIONS AND ANY LIMITATIONS.
.2 VERIFY EXISTING ARCHITECTURE AND STRUCTURE OF THE BUILDING IE: WALLS, FLOORS, ETC.
.3 VERIFY EXISTING MECHANICAL SYSTEMS IN THE BUILDING, IE: HVAC, PLUMBING, FIRE PROTECTION, ETC.
.4 EXAMINE THE PROPOSED INSTALLATION AGAINST THE EXISTING.
CONTRACTOR SHALL BE RESPONSIBLE FOR NOTING EXISTING CONDITIONS DURING SITE WALK THRU & PRE-TENDER SITE VISITS. NO EXTRAS WILL BE PAID FOR WORK RESULTING DUE TO OBVIOUS SITE CONDITIONS . CONTRACTOR SHALL ENSURE THAT ALL NEW INSTALLATION CAN BE PERFORMED TO MEET DESIGN INTENT AGAINST EXISTING CONDITIONS AND DESIGN DRAWINGS. UPON EXAMINING ALL OF THE ABOVE AGAINST THE PLANS, SPECIFICATIONS AND TERMS OF THE CONTRACT, THE CONTRACTOR MUST SATISFY HIMSELF THAT THE PROPOSED INSTALLATION CAN BE CARRIED OUT AS INTENDED TO THE SATISFACTION OF THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
7. MATERIAL, PRODUCTS AND EQUIPMENT SHALL BE NEW, OF THE BEST QUALITY AND BE OF UNIFORM PATTERN. ALL WORK SHALL BE CARRIED OUT BY SKILLED WORKERS, EXPERIENCED AND SPECIALISTS IN THEIR FIELD OF WORK TO ENSURE THE HIGHEST LEVEL OF WORKMANSHIP.
8. SUBMIT SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT FOR ALL EQUIPMENT, VALVES, ETC. TO THE CONSULTING ENGINEER PRIOR TO PLACING ORDER FOR SAME. CONTRACTOR SHALL NOT ORDER EQUIPMENT, VALVES, ETC. UNTIL HE HAS RECEIVED APPROVED SHOP DRAWINGS RETURNED TO HIM BY THE CONSULTING ENGINEERS. (NOTE: CONSULTING ENGINEERS REQUIRE A MINIMUM OF TWO WEEKS FOR SHOP DRAWING REVIEW). NON-APPROVED EQUIPMENT, VALVES, ETC. WHICH APPEAR ON SITE WILL BE REJECTED AND TURNED AWAY AT CONTRACTORS EXPENSE.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND CO-ORDINATION OF THE MECHANICAL AND ELECTRICAL WORK OF ALL SUB-TRADES.

10. ADHERE TO THE RULES, REGULATIONS AND STANDARDS OF THE BASE BUILDING. THIS CONTRACTOR SHALL EMPLOY TRADES SPECIALIZING IN CUTTING AND PATCHING AS REQUIRED FOR THIS WORK. ALL PATCHING SHALL BE PERFORMED USING THE SAME TYPE OF MATERIAL WHICH WAS CUT. X-RAY INSPECTION MAY BE REQUIRED PRIOR TO ANY CUTTING AND/OR DRILLING STRUCTURAL ENGINEER. CONSULT WITH BUILDING OWNER WITH REGARD TO X-RAY REQUIREMENTS AND OBTAIN WRITTEN DIRECTION PRIOR TO COMMENCING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE SITE AND REMOVING WASTE MATERIALS CAUSED BY THE PERFORMANCE OF THE WORK FOR DIVISION 15. ANY EQUIPMENT TO BE REMOVED DURING PERFORMANCE OF THIS WORK SHALL BE TURNED OVER TO THE OWNER.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT ALL THE EXISTING SYSTEMS PRIOR TO START OF WORK AND REPORT ANY DEFICIENCIES. THESE INCLUDE, BUT ARE NOT LIMITED TO: HVAC SYSTEM AND COMPONENTS, HEATING SYSTEM AND COMPONENTS, FIRE PROTECTION SYSTEM AND COMPONENTS, AND THE PLUMBING SYSTEM AND COMPONENTS. THE INSPECTION SHALL BE DONE IN THE PRESENCE OF THE BUILDING OWNER'S REPRESENTATIVE.

12. PROVIDE ULC LISTED FIRE STOP SYSTEMS WHERE PIPING PENETRATES FLOOR SLABS OF OTHER FIRE SEPARATIONS.

13. SUBMIT TWO COPIES OF AS-BUILT DRAWINGS PRIOR TO SUBSTANTIAL COMPLETION OF WORK.

14. PROVIDE THREE COPIES OF MAINTENANCE MANUALS COVERING ALL NEW EQUIPMENT INSTALLED FOR THIS PROJECT.
17. THIS CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY STATING THAT ALL WORK SHALL BE FREE FROM

DEFECTS FOR MATERIAL, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL CERTIFICATE, WHICH SHALL INCLUDE ONE (1) COMPLETE WINTER AND ONE (1) COMPLETE SUMMER OF UNINTERRUPTED OPERATION.

18. SHUT-DOWN OF EXISTING SYSTEMS REQUIRED FOR THIS INSTALLATION SHALL BE FULLY CO-ORDINATED WITH BUILDING OWNER. OBTAIN PERMISSION, IN WRITING, AND PERFORM ALL WORK AS DIRECTED BY OWNER. FINAL CONNECTION TO EXISTING SYSTEMS TO BE PERFORMED AT A TIME PERIOD DESIGNATED BY THE BUILDING OWNER.

19. VERIFY VOLTAGE, ON SITE, BEFORE ORDERING EQUIPMENT.

20. MECHANICAL DRAWING SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS.

21. CO-ORDINATE WITH THE BUILDING OWNER FOR SCHEDULING OF WORK EFFECTING THE EXISTING SYSTEMS, INCLUDING BUT NOT LIMITED TO: PLUMBING AND DRAINAGE, HVAC AND SPRINKLER SYSTEMS. IN ADDITION, CO-ORDINATE WITH THE BUILDING OWNER FOR SCHEDULING OF WORK IN THE ADJACENT TENANT SPACES TO COMPLETE THE INSTALLATION OF THE WORK.



22. FILE ALL NECESSARY DOCUMENTS FOR THE PURPOSE OF OBTAINING ALL PERMITS. ARRANGE FOR AND PAY ALL FEES FOR INSPECTIONS AS REQUIRED BY CODE AND LOCAL AUTHORITIES. PROVIDE THE OWNER WITH THE CERTIFICATES OF ALL INSPECTIONS PRIOR TO FINAL COMPLETION.

23. NOTHING CONTAINED HEREIN SHALL BE CONSTRUED TO RELIEVE THE CONTRACTOR FROM MAKING GOOD AND PERFECT IN ALL USUAL DETAILS OF CONSTRUCTION.

TIE-INS TO EXISTING SERVICES:

1. ALL CONNECTIONS OF NEW DRAINAGE PIPING AND PLUMBING TO EXISTING SHALL BE COORDINATED WITH THE BUILDING SERVICE MANAGER.

2. IN CASE OF ANY SHUTDOWN OF THE EXISTING SUSTEM IS REQUIRED, CONTRACTOR SHALL COORDIANTE WITH THE BUILDING SERVICE MANAGER AND PERFORM THE WORK IN ORDER TO MINIMIZE THE SHUTDOWN PERIOD.

MONTGOMERY SISAM ARCHITECTS INC. 197 SPADINA AVENUE, SUITE 301 TORONTO, ONTARIO M5T 2C8 TEL: 416.364.8079 FAX: 416.364.7723	<div>CROSSEY ENGINEERING LTD. 2255 Sheppard Avenue. E. Suite E-331 North York, On M2J 4Y1 (416)497.3111 fax (416)497.7210</div> <div></div>	Montgomery Sisam Architects Inc. 197 Spadina Avenue, Toronto, Ontario M5T 2C8 montgomerysisam.com Tel 416.364.8079 Fax 416.364.7723	<div></div>	<table><tr><td>6</td><td>ISSUED FOR PERMIT AND TENDER</td><td>2023-06-08</td></tr><tr><td>5</td><td>ISSUED FOR TENDER</td><td>2023-05-29</td></tr><tr><td>4</td><td>ISSUED FOR PRE-TENDER REVIEW</td><td>2022-12-07</td></tr><tr><td>3</td><td>ISSUED FOR REVIEW</td><td>2022-11-20</td></tr><tr><td>2</td><td>ISSUED FOR REVIEW</td><td>2022-09-29</td></tr><tr><td>1</td><td>ISSUED FOR REVIEW</td><td>2022-09-27</td></tr><tr><td>no.</td><td>revision</td><td>date</td></tr></table>	6	ISSUED FOR PERMIT AND TENDER	2023-06-08	5	ISSUED FOR TENDER	2023-05-29	4	ISSUED FOR PRE-TENDER REVIEW	2022-12-07	3	ISSUED FOR REVIEW	2022-11-20	2	ISSUED FOR REVIEW	2022-09-29	1	ISSUED FOR REVIEW	2022-09-27	no.	revision	date	<div>LAKESHORE LODGE SERVERY & SHOWER TUB RENO 3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5 project MECHANICAL SPECIFICATION SHEET 1</div>	<table><tr><td>RR</td><td>2022-09-29</td></tr><tr><td>drawn</td><td>date</td></tr><tr><td>VS</td><td>21513.03</td></tr><tr><td>checked by</td><td>job no.</td></tr><tr><td>N.T.S</td><td></td></tr><tr><td>scale</td><td>ref. no.</td></tr><tr><td>M-002</td><td></td></tr><tr><td>drawing no.</td><td>rev. no.</td></tr></table>	RR	2022-09-29	drawn	date	VS	21513.03	checked by	job no.	N.T.S		scale	ref. no.	M-002		drawing no.	rev. no.
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DEMOLITION:

1. PROVIDE FOR THE REMOVAL OF EQUIPMENT AND DEVICES AS NOTED ON THE DRAWINGS.

2. REMOVAL OF DEBRIS AND RUBBISH FROM THE JOB SITE TO BE EXECUTED ON A DAILY BASIS IN ORDER TO MAINTAIN A CLEAN AND SAFE WORK ENVIRONMENT.

3. UNLESS OTHERWISE NOTED, EQUIPMENT SHALL BE THE PROPERTY OF THE OWNER AND EQUIPMENT NOT RE-USED SHALL BE TURNED OVER TO THE OWNER. EQUIPMENT NOT WANTED BY THE OWNER SHALL BE REMOVED AND DISPOSED OF AWAY FROM THE SITE.

4. PRIOR TO DEMOLITION, MAKE NOTE OF ANY DAMAGE TO THE EXISTING SYSTEM. IDENTIFY THESE ITEMS AND INFORM THE CONSULTING ENGINEER IMMEDIATELY. FAILURE TO REPORT ANY DEFICIENCIES, PRIOR TO DEMOLITION, IMPLIES THAT THE CONTRACTOR HAS ACCEPTED THE SITE. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE GOOD ALL EXISTING EQUIPMENT NOTED TO REMAIN FOLLOWING THE DEMOLITION WORK.

5. CAP ALL DUCT TAKE-OFFS, WHICH ARE NOT TO BE RE-USED.

6. ENSURE THE CONTINUED OPERATION OF THE LIFE-SAFETY SYSTEM DURING THE ENTIRE CONSTRUCTION OF THE PROJECT. BYPASS ONLY THE ZONES NECESSARY AND AS REQUIRED TO COMPLETE THE WORK REQUIRED. GIVE 24 HOURS NOTICE TO THE BUILDING OWNER FOR SYSTEM BYPASS AND NOTIFY IMMEDIATELY UPON COMPLETION OF THE WORK SO AS TO RESTORE THE PLUMBING SYSTEM TO THE ENTIRE FACILITY. IN NO CASE SHALL THE PLUMBING SYSTEM, OR ANY PART OF, REMAIN ON BYPASS DURING THE NIGHT (AFTER NORMAL WORKING HOURS.) IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO ENSURE THAT THE PLUMBING SYSTEM IS FULLY FUNCTIONAL PRIOR TO LEAVING THE SITE AT THE END OF EACH WORKING DAY.

7. CO-ORDINATE IN ADVANCE WITH THE BUILDING OWNER, WORK WHICH IS TO BE CARRIED OUT "AFTER NORMAL WORKING HOURS". THIS MAY INCLUDE, BUT IS NOT LIMITED TO; THE LIFE-SAFETY SYSTEM, HVAC SYSTEM, PLUMBING SYSTEM, FIRE PROTECTION SYSTEM AND ANY WORK WHICH MUST BE CONDUCTED IN THE ADJOINING TENANT SPACES.

8. ENSURE THE CONTINUED OPERATION OF THE EXISTING HVAC, PLUMBING AND FIRE PROTECTION SYSTEMS WHICH SUPPLY THE ADJOINING TENANT SPACES.

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LAKE SHORE LODGE
SERVRY & SHOWER TUB RENO
3197 LAKE SHORE BLD, ETOBICOKE, ON, M8V 3X5

3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project

MECHANICAL SPECIFICATION SHEET 2

<u>title</u>

RR	2022-09-29
<u>drawn</u>	<u>date</u>

VS	21513.03
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PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section of the specification shall be read in conjunction with and shall be governed by the requirements outlined in Section 22 05 01.
- 1.1.2 Provide maintenance manuals in accordance with Section 22 05 03.

1.2 REFERENCE STANDARDS

- 1.2.1 Do the work in accordance with the Ontario Building Code - Plumbing Code and in accordance with local regulations except where specified otherwise.

.1

CAN/CSA-B45 Series-02(R2013), Plumbing Fixtures.

.2

CAN/CSA-B125.3-2012, Plumbing Fittings.

.3

CAN/CSA-B651-2012, Accessible Design for the Built Environment.

.4

CSA Z317.1 latest edition, Special Requirement for plumbing installation in health care facilities

.5

CSA Z8000-11, Canadian Health Care Facilities (Where applicable)
- 1.2.2 Green Seal Environmental Standards (GSES)

.1

Standard GS-36, Commercial Adhesives.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- 1.3.1 Provide submittals in accordance with Front End Documents and Section 22 05 01.
- 1.3.2 Product Data:

.1

Provide manufacturer's printed product literature and datasheets for washroom fixtures, and include product characteristics, performance criteria, physical size, finish and limitations.
- 1.3.3 Indicate fixtures and trim:

.1

Dimensions, construction details, roughing-in dimensions.

.2

Factory-set water consumption per flush at recommended pressure.

.3

For water closets, urinals: minimum pressure required for flushing.
- 1.3.4 Shop Drawings:
- 1.3.5 Submit in accordance with Section 22 05 01 and Front End

1.4 CLOSEOUT SUBMITTALS

- 1.4.1 In accordance with Front End Documents and Section 22 05 03.
- 1.4.2 Include:

.1

Description of fixtures and trim, giving manufacturer's name, type, model, year, capacity.

.2

Details of operation, servicing, maintenance.

.3

List of recommended spare parts.

1.5 FIXTURES AND TRIM

- 1.5.1 Architectural drawings to govern in determination of number and location of fixtures.
- 1.5.2 Fixtures to be product of one manufacturer.
- 1.5.3 Unless specified otherwise, trim to be product of one manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

- 2.1.1 Fixtures: manufacture in accordance with CAN/CSA-B45 series.
- 2.1.2 Trim, fittings: manufacture in accordance with CAN/CSA-B125.3.

2.2 ELECTRONIC "NO TOUCH FAUCETS/URINALS/WC'S

- 2.2.1 Provide transformers for each group of "no touch" faucets/flush valves as recommended by the Manufacturer or specified herein.
- 2.2.2 Male, Female and Handicap washrooms shall be provided with independent transformers so that if there is a transformer failure only one washroom is affected.

2.3 GENERAL

- 2.3.1 Plumbing fixtures shall be as indicated and specified with all required supports, accessories, wastes, vent and water connections as required to make the fixture complete.
- 2.3.2 Unless specified otherwise, fixtures shall be white.
- 2.3.3 Unless specified otherwise, all exposed valves, pipe, escutcheon, etc., shall be polished chrome finish.
- 2.3.4 Fixtures and trim shall be new and free of all defects or blemishes. Finished surfaces shall be clean, smooth, and bright guaranteed not to craze, change color or scale. Imperfections of any kind shall be sufficient reason for rejection and the item shall be removed and an acceptable replacement installed at no additional cost.

- 2.3.5 Provide all lavatory hot and cold water supply lines with a renewable disc, chromium plated lock shield stop valve.
- 2.3.6 Provide cast brass chrome plated escutcheon plates with set screws on all water and drain pipes where such lines pass through, floors, walls and partitions.
- 2.3.7 Protect fixtures with enamel or glazed surface from damage by covering or coating as recommended in the Bulletin "Handling & Care of Enameled C.I. Plumbing Fixtures".
- 2.3.8 Ontario Building Code conforming wheel chair accessible assemblies shall be covered with an under sink/lavatory protective pipe cover.
- 2.3.9 Standard of Acceptance Plumbing Trim: American Standard, T&S, Sloan, Chicago Faucet, Zurn, Delta (Teck)

2.4 WATERCLOSETS:

- 2.4.1 Water Closet Type WC-1:

.1

American Standard 3353101.020 Toilet - AFWALL® MILLENNIUM™ FloWise®, Toilet, Wall-hung with wall outlet, Toilet operates in the range of 4.2 to 6.0 LPF (1.1 - 1.6 GPF), White finish Vitreous china, EverClean® antimicrobial surface, Elongated bowl, Concealed trapway design, Direct-fed siphon jet flush action, 38 mm (1-1/2") back spud, Flush valve by others, 254 x 305 mm (10" x 12") water surface area, Fully-glazed 54 mm (2-1/8") trapway, Static load rating of 454 kg (1000 lb), this product is not recommended for bariatric use, Condensation channel, Toilet seat not included, 356 mm (14") wide, 660 mm (26") from finished wall, Compliances: ASME A112.19.2 compliant, CSA B45.1 compliant.

.2

Centoco 500CC-001 Seat - For elongated bowl, Open front, Heavy duty, For commercial applications, Polypropylene, Toilet seat, Less seat cover, Check hinges, Specified in White finish, Includes plastic hardware, Dimensions:25 mm (1") high, 457 mm (18") long, 381 mm (15") wide

.3

Sloan ROYAL 152 ESS-1.28-OR-SWB-2-10-3/4-LDIM-HW Flush Valve - ROYAL® Automatic no-touch Concealed Water closet flushometer, High Efficiency 4.8 LPF (1.28 GPF), 38 mm (1-1/2") spud coupling For concealed back spud toilet, Hardwired, constructed from Semi-red brass, Rough brass finish, Chloramine resistant PERMEX® synthetic rubber diaphragm, OPTIMA® EL-1500 self-adaptive infrared sensor, Sensor located on wall box cover plate, 343 x 343 mm (13-1/2" x 13-1/2") small wall box with stainless steel front access panel and vandal-resistant screws, Courtesy Flush® electrical override button, Flush tube for 368 mm (14-1/2") rough-in, 51 - 273 mm (2" - 10-3/4") c.c. "L" dimension range, 25 mm (1") I.P.S. wheel handle Bak-Chek® angle control stop, High back pressure vacuum breaker, 25 mm (1") supply pipe, 24 VAC input/output, With indicator light, Requires transformers 0345154 or 0345999, Compliances:

.4

Sloan EL-154 Faucet and Flush Valve Power Kit - For flush valve

.5

Franke Commercial CM-16104-WM Backrest - wall mounting, back rest, solid core plastic laminate panel back, Antique white, 305 mm (12") wide, 102

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mm (4") high, 137 mm (5-3/8"), 18 gauge stainless steel bar with #4 gloss with flanges and covers, concealed snap flanges and mounting hardware included, Provide adequate backing in wall for support and comply to local codes for barrier free requirements

- .6 **Smith Series 0211Y-L/R-M54 Toilet Carrier, single horizontal,** 4"(100mm) drain, all duco coated cast iron fittings, rear anchor bolt, face plate, heavy duty legs,adjustable-to-wall coupling, plated hardware, cap nuts, test plug and protection cap. For wheelchair use mount fixture 16" (406mm) (or as required by local codes) above finished floor to rim of toilet. (Space required for carrier is 14-5/8" (371mm) from finished wall to back of pipe space.)
OR

- .7 **Smith Series 0410Y-L/R Toilet Carrier, single vertical,** 4"(100mm) drain, all duco coated cast iron fittings, rear anchor bolt, face plate, heavy duty legs,adjustable-to-wall coupling, plated hardware, cap nuts, test plug and protection cap. For wheelchair use mount fixture 16" (406mm) (or as required by local codes) above finished floor to rim of toilet. (Space required for carrier is 10-1/4" (260mm) from finished wall to back of pipe space.)

- .8 Contractor shall evaluate site conditions and provide a vertical or a horizontal carrier to suit site conditions.

2.5 LAVATORY

2.5.1 Basin L-1:

- .1 American Standard 0955901EC.020 0062000.020 Basin - MURRO, Wall-hung Lavatory, Vitreous china, EverClean® antimicrobial surface, White finish, Single hole centerset, Less overflow, Faucet ledge with recessed self-draining deck, For concealed arm or wall support, Acrylic shroud/knee contact guard less EverClean (0062000), Soap dispenser, When installed with a below deck electronics faucet which has the control box, the accessories will not fit under the shroud and will need to be installed outside the shroud, Overall Dimensions: 545 mm (21-7/16") long, 540 mm (21-1/4") wide, 152 mm (6") high, Bowl Dimensions: 394 mm (15-1/2") long, 540 mm (21-1/4") wide, 127 mm (5") deep
- .2 Chicago Faucets 116.102.AB.1 Faucet - Counter mounted, Automatic no-touch, Hardwired, Lavatory faucet, Polished chrome finish, Single hole centerset, Lead Free ANSI/NSF 61 compliant, ECAST® brass construction, Stainless steel hose included, 1.9 LPM (0.5 GPM) maximum flowrate, Vandal-resistant pressure compensating Econo-Flo™ non-aerated laminar spray outlet, includes optional 5.7 LPM (1.5 GPM) insert, Integral spout, 130 mm (5-1/8") spout reach, 168 mm (6-5/8") high, Dual infrared sensor, Less drain, 12 volt AC transformer required (to be ordered separately).
- .3 Chicago Faucets 240.630.00.1 Faucet and Flush Valve Power Kit - Plug-In AC transformer
- .4 Chicago Faucets 131-FMAB Mixing Valve - Point of use, Thermostatic Mixing Valve, Brass body, 17.5 LPM (4.6 GPM) max, flowrate, 1.5 LPM (0.35 GPM)

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minimum flowrate, ASSE 1070, CUPC, and IAPMO listed, Standard 3/8" (9 mm) diameter compression inlet, Standard 10 mm (3/8") diameter compression outlet, Built-in integral check stops, 100 °F - 180 °F (38 °C - 82 °C) hot inlet temperature, 80-120 °F, 30 PSI minimum supply pressure

- .5 McGuire PRODRAIN Fixture Drain - Patended grid drain, Straight drain, Lavatories without overflows, Heavy cast brass, Chrome-plated finish, 17 gauge 32 mm (1-1/4") Ø tailpiece diameter, 17 gauge 152 mm (6") long tailpiece, Brass locknut, Heavy rubber basin washer Fiber friction washer, CSA compliant

- .6 McGuire LFH165LKN3SS12 Supply - Lead free, Premiere heavy loose supply, Chrome-plated finish, Two 10 mm (3/8") I.P.S. x 10 mm (3/8") outer Ø heavy stop valve, 304 mm (12") steel braided risers, Convertible loose key handle, Lavatory, Shallow steel flange, 76 mm (3") long nipple

- .7 McGuire 8872C P-Trap - Heavy cast brass, Adjustable p-trap, 292 mm (11-1/2") distance, With cleanout plug, Steel shallow flange, Neoprene gasket, Slipnuts, 17 gauge seamless tubular wall bend, ASME A112.18.2 CSA B125.2, CSA compliant

- .8 Smith Series 0700-M31-CAN-1 **Basin** Carrier, duco coated with rectangular steel pipe legs welded to block base feet support and with extended concealed arms with 'Sure-Set' locking device and levelling screws and bearing plate for apron support.

2.5.2 Basin L-2

- .1 American Standard 9960904.020 Basin - MEZZO, Semi-countertop Lavatory, Fine fire clay, White finish, 102 mm (4") centerset, Less overflow, With faucet ledge, Mounting kit supplied, Overall Dimensions: 559 mm (22") long, 546 mm (21-1/2") wide, 172 mm (6-25/32") high, Bowl Dimensions: 483 mm (19") long, 381 mm (15") wide, 175 mm (6-7/8") deep
- .2 Chicago Faucets 116.706.AB.1 Faucet - Counter mounted, Automatic no-touch, Hardwired, Lavatory faucet, Polished chrome finish, 102 mm (4") centerset, Lead Free ANSI/NSF 61 compliant, ECAST® brass construction, 10 mm (3/8") copper supply tubes, 1.9 LPM (0.5 GPM) maximum flowrate, Pressure compensating non-aerated laminar spray outlet, Traditional Hytronic spout, 138 mm (5-3/8") spout reach, 165 mm (6-1/2") high, Dual infrared sensor, Integrated emergency backup power system (EBPS) for long term protection against power outages, Less drain, 12 volt AC transformer required (to be ordered separately)
- .3 Chicago Faucets 240.630.00.1 Faucet and Flush Valve Power Kit - Plug-In AC transformer
- .4 Chicago Faucets 131-FMAB Mixing Valve - Point of use, Thermostatic Mixing Valve, Brass body, 17.5 LPM (4.6 GPM) max, flowrate, 1.5 LPM (0.35 GPM) minimum flowrate, ASSE 1070, CUPC, and IAPMO listed, Standard 3/8" (9 mm) diameter compression inlet, Standard 10 mm (3/8") diameter compression outlet, Built-in integral check stops, 100 °F - 180 °F (38 °C - 82 °C) hot inlet temperature, 80-120 °F, 30 PSI minimum supply pressure

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- .5 McGuire 155A Fixture Drain - Straight drain, Cast brass, Chrome-plated finish, Open grid PO plug, 7/32" (5.5 mm) Ø holes size, 17 gauge 32 mm (1-1/4") Ø tailpiece diameter, 17 gauge 17152 mm (6") long, Brass locknut, Heavy rubber basin washer Fiber friction washer, ASME A112.18.2 CSA B125.2, CSA compliant

- .6 McGuire LFH165LKN3SS12 Supply - Lead free, Premiere heavy loose supply, Chrome-plated finish, Two 10 mm (3/8") I.P.S. x 10 mm (3/8") outer Ø heavy stop valve, 304 mm (12") steel braided risers, Convertible loose key handle, Lavatory, Shallow steel flange, 76 mm (3") long nipple

- .7 McGuire 8872C P-Trap - Heavy cast brass, Adjustable p-trap, 292 mm (11-1/2") distance, With cleanout plug, Steel shallow flange, Neoprene gasket, Slipnuts, 17 gauge seamless tubular wall bend, ASME A112.18.2 CSA B125.2, CSA compliant.

2.6 SHOWER

2.6.1 Shower Handheld Barrier Free SH-1

- .1 Acorn Controls SV16-0022 Shower valve, valve shall be a cast brass body with a capacity of 4 GPM (15 LPM) at 45 psi (310 kpa) differential, with a non-rising stem and have ceramic shutoffs for long term drip free reliability, self-contained cartridge designed for easy maintenance and adjustable limit stop, factory set at 110° F (43° C) and capable of supplying mixed water temperature within 10° F (5.5° C) of hot water supply temperature and lever handle.

- .2 Chrome hand held shower 1.5 GPM (5.7 LPM) flow control, 72" (1829mm) stainless steel hose, 36" (915 mm)) grab bar with hand held chrome plated grab bar mounting bracket, wall mounted supply elbow, in-line vacuum breaker, and diverter valve with cast brass body and matching trim.

- .3 American Standard #1660.652.002 Rain Shower Head, 3-function ceiling mounted with 1.75 (6.6 LPM) flow with chrome plated finish and #1660.103.002 Arm and Flange.

- .4 Valve shall meet performance requirements of ASSE 1016-2011, Type T/P.

2.6.2 Shower Drain

- .1 Jay R. Smith 2005Y-A05NB-P050 Finished Area Floor Drain, duco coated 9" (230mm) dia. cast iron body with no hub outlet connection, reversible flashing clamp collar, 5" (125mm) dia. nickel bronze strainer and ½" (13mm) trap primer connection.

2.7 BATH TUB

2.7.1 Bath Tub BT-1

- .1 Disconnect the existing Bathtub and store the bathtub in a safe place during the course of this project.

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LAKESHORE LODGE

SERVERY & SHOWER TUB RENO

3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5

project

PLUMBING FIXTURES SPECIFICATION SHEET 2

title

RR 2022-09-29
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VS 21513.03
checked by job no.

N.T.S

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M-004-2

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- .2 Re-install the Bathtub. Provide stainless steel braided hose assemblies for cold and hot water connections to the bathtub. Provide drain hose connections from the bathtub drain outlet and terminate the hose connection to the floor drain.

PART 3 - EXECUTION

3.1 INSTALLATION

- | | |
|--------|---|
| 3.1.1 | Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets. |
| 3.1.2 | Conform to water conservation requirements specified this section. |
| 3.1.3 | Connect fixtures complete with supplies and drains, traps and cleanouts, supported level and square. Hot water faucets shall be on left. |
| 3.1.4 | Provide venting for all plumbing fixtures as required by codes. |
| 3.1.5 | All handicap fixtures to be mounted at heights to be in accordance with Ontario Building Code requirements and shall be in accordance with requirements of local authorities having jurisdiction. |
| 3.1.6 | Provide chrome plated flexible supplies to fixtures with screw driver stops, reducers and escutcheons. |
| 3.1.7 | All piping shall be recessed unless otherwise approved. Piping to be installed in areas shall be run in neat parallel lines as tight as possible to walls and ceilings. |
| 3.1.8 | Division 22 shall provide all wiring for the electronic urinals and lavatories from the connections within the room provided by Division 26 to the urinals. |
| 3.1.9 | Install combination eyewash safety showers in accordance with manufacturer's recommendations. |
| 3.1.10 | Adjustments: |
| .1 | Adjust water flow rate to design flow rates. |
| .2 | Adjust pressure to fixtures to ensure no splashing at maximum pressures. |
| .3 | Adjust flush valves to suit actual site conditions. |
| .4 | Adjust urinal flush timing mechanisms. |
| .5 | Set controls of automatic flush valves for WCs and urinals to prevent unnecessary flush cycles. |
| 3.1.11 | Checks: |
| .1 | Water closets, urinals: flushing action. |
| .2 | Aerators: operation, cleanliness. |

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- | | | |
|------------|----|---|
| | .3 | Vacuum breakers, backflow preventers: operation under all conditions. |
| 3.1.12 | | Thermostatic controls: |
| | .1 | Verify temperature settings, operation of control, limit and safety controls. |
| 3.2 | | CLEANING |
| 3.2.1 | | Clean in accordance Architectural Specifications. |
| | .1 | Remove surplus materials, excess materials, rubbish, tools and equipment. |

END OF SECTION

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			LAKESHORE LODGE SERVERY & SHOWER TUB RENO	RR <u>drawn</u>	<u>2022-09-29</u> date
			3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5	VS	<u>21513.03</u>
			<u>project</u>	<u>checked by</u>	<u>job no.</u>
				N.T.S	
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			PLUMBING FIXTURES SPECIFICATION SHEET 3	M-004-3	
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<u>2</u>	<u>ISSUED FOR PERMIT AND TENDER</u>	<u>2023-06-08</u>			
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PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section shall be read in conjunction with and shall be governed by the requirements outlined in Section 22 05 01.
- 1.1.2 All fixtures and equipment installed in the domestic water systems shall be lead free.

1.2 REFERENCES

- 1.2.1 American Society for Testing and Materials International (ASTM).

.1

ASTM A126 (04) 2014

Specification for Gray Iron Castings for Valves, Flanges and Pipe Fittings.

.2

ASTM B62 - 2015

Specification for Composition Bronze or Ounce Metal Castings.
- 1.2.2 American Water Works Association (AWWA).

.1

AWWA C700 - 2009

Cold Water Meters-Displacement Type, Bronze Main Case.

.2

AWWA C701 - 2012

Cold Water Meters-Turbine Type for Customer Service.

.3

AWWA C702-1 - 2010

Cold Water Meters-Compound Type.
- 1.2.3 Canadian Standards Association (CSA International).

.1

CSA-B64 Series 2011

Backflow Preventers and Vacuum Breakers.

.2

CSA B125.3-12 Plumbing Products and Materials

.3

CSA-B356 2010 (R2015)

Water Pressure Reducing Valves for Domestic Water Supply Systems.
- 1.2.4 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1

Material Safety Data Sheets (MSDS).
- 1.2.5 Plumbing and Drainage Institute (PDI).

.1

PDI-G101 - 2010

Testing and Rating Procedure for Grease Interceptors with Appendix of Sizing and Installation Data.

.2

PDI-WH201-2010, Water Hammer Arresters Standard.

1.3 SUBMITTALS

- 1.3.1 Submittals in accordance with Front End Documents prepared by the Construction Manager

- 1.3.2 Product Data:

.1

Submit manufacturer's printed product literature, specifications and datasheet for fixtures and equipment.

.2

Indicate dimensions, construction details and materials for specified items.
- 1.3.3 Shop Drawings:

.1

Submit shop drawings to indicate materials, finishes, method of anchorage, number of anchors, dimensions construction and assembly details and accessories

.2

Submit detailed drawings showing proposed location of trap seal primer assemblies for review and approval.

PART 2 - PRODUCTS

2.1 FLOOR DRAINS

- 2.1.1 General: all floor drains to be provided with trap primer tapping.
- 2.1.2 Division 22 Contractor shall review the Architectural drawings to determine if the floor has a membrane.

2.1.3 Floor Drains Finished "FD 1-A" (For Non Membrane Floors)

- .1 All epoxy coated cast iron body with adjustable 5" diameter (127 mm) nickel bronze 1/2" (12 mm) thick strainer, secured with stainless steel screws, 4" (100 mm) throat on strainer. In quarry or mosaic tiled areas provide square SQ - 6" x 6" (150 mm x 150 mm) nickel bronze square ½" (12mm) thick strainer.
- .2
- Standard of Acceptance: JR Smith SQ-4-1753-A05NB-HD-EP (round) JR Smith SQ-4-1753--K06NB-EP (square) Zurn ZXN 211-B5-P (round) /Zurn ZXN 211-Y5-P (square)

2.1.4 Floor Drains Finished "FD 1-B" (For Membrane floors)

- .1 All epoxy coated cast iron body with reversible clamp device and adjustable 5" diameter (127 mm) nickel bronze 1/2" (12 mm) thick strainer, secured with stainless steel screws, 4" (100 mm) throat on strainer. In quarry or mosaic tiled areas provide square SQ - 6" x 6" (150 mm x 150 mm) nickel bronze square ½" (12mm) thick strainer.
- .2
- Standard of Acceptance: JR Smith 2005-A05-4HDNB-EP (round) JR Smith 2005- K06NBEP (square) Zurn ZXN 415-B5-P (round) /Zurn ZXN 415-Y5-P (square).

2.2 CLEANOUTS

2.2.1 Line Cleanouts

- .1 Line cleanouts in cast iron pipe with polyurethane gasketted cover secured to body with full size pipe opening.
- .2
- Standard of Acceptance: JR Smith 4420, Zurn Z1440

2.2.2 Floor Cleanouts

- .1 Body (For all cleanouts)
- .2
- Epoxy coated cast body with integral clamp device, and removable positive seal cleanout plug

2.3 TRAP SEAL PRIMERS

- 2.3.1 Provide for all floor and hub drains.
- 2.3.2 All Locations

.1

The unit shall supply a minimum of 10 oz. Of water per opening, once in each 24 hour period based on system pressure of 60 psi. Factory assembled with a bronze body ball valve, water hammer arrester, solenoid valve, atmospheric vacuum breaker, 24 hour timer, 3/4" NPT connection, and a type L copper manifold. Electronic single point power connection 120 V 1 amp draw and manual override switch

.2

Trap primer shall be mounted 1 foot above the floor for every 20 feet of make-up water line.

.3

Standard of Acceptance: PPP PT-4 through 24 as required.


3 EXECUTION

3.1 CLEANOUTS

- 3.1.1 In addition to those required by code, install at base of all soil and waste stacks, and rainwater leaders and where indicated.
- 3.1.2 Bring cleanouts to wall or finished floor unless serviceable from below floor.
- 3.1.3 Building drain cleanout and stack base cleanouts: line size to maximum NPS 4.

END OF SECTION

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LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
PLUMBING SPECIALTIES AND ACCESSORIES
SPECIFICATION SHEET

title

RR drawn	2022-09-29 date
VS checked by	21513.03 job no.
N.T.S	
scale	ref. no.
M-005 drawing no.	rev. no.

PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section of the specification shall be read in conjunction with and shall be governed by Section 22 05 01.
- 1.1.2 Applies to buried piping only. For all piping above grade utilize cast iron/copper. Refer to specification Section 22 13 17.

1.2 REFERENCES

- 1.2.1 ASTM

.1

ASTM B251: Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube

.2

ASTM D2235: Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings

.3

ASTM D2564: Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems

.4

ASTM D2665: Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

.5

ASTM D2949: Standard Specification for 3.25-in. Outside Diameter Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

.6

ASTM D3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

.7

ASTM F891: Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core
- 1.2.2 Canadian Standards Association (CSA International)

.1

CAN/CSA-B1800-02: Thermoplastic Nonpressure Pipe Compendium B1800 Series.
- 1.2.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1

Material Safety Data Sheets (MSDS).

PART 2 - PRODUCTS

2.1 SANITARY DRAINAGE AND VENTS

- 2.1.1 Piping And Fittings

.1

For Urinals piping:

.1

ASTM D2665, ASTM D2949, ASTM B251

- .2

ASTM D3034, ASTM F891
- .3

CAN/CSA-B181.2 for PVC DWV, or
- .4

CAN/CSA-B182.1 for plastic DWV.
- .5

CAN/CSA-B182.2
- .6

ASTM F679
- .2

Pipe and gaskets must be certified to CSA B182.2 and conform to ASTM D3034 and ASTM F679.
- 2.1.2 Joints

.1

Sizes up to 75mm (3")

.1

Solvent weld for PVC: to ASTM D2564.

PART 3 - EXECUTION

3.1 TEMPERATURE LIMITATION

- 3.1.1 PVC pipe shall only be utilized for drainage systems where the discharge temperature is below 60 C (140 F). For systems that may receive higher discharge temperatures utilize polypropylene piping.

3.2 APPLICATION

- 3.2.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.3 INSTALLATION

- 3.3.1 Apply solvent to male end of joints only.
- 3.3.2 Pipe installation: Pipe shall be installed as specified and indicated on the drawings.
- 3.3.3 The piping system shall be installed in accordance with the manufacturers current published installation procedures.
- 3.3.4 Provide venting to all plumbing fixtures and fixture groups in accordance to the Ontario Building Code - Plumbing Code and local authorities having jurisdiction.
- 3.3.5 If tests are required by an authority having jurisdiction, perform tests in presence of each governing authority and obtain certification. Repeat tests as often as necessary to obtain certification.
- 3.3.6 Test pressure shall not exceed 1-1/2 times the maximum rated pressure of the lowest related element in the system.
- 3.3.7 Remove all fittings which do not withstand test pressure, replace and retest.

- 3.3.8 Eliminate leaks, or remove and refit defective parts.
- 3.4 PERFORMANCE VERIFICATION

3.4.1 Test to ensure traps are fully and permanently primed.
- 3.5 CLEANING

3.5.1 Remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section of the specification shall be read in conjunction with and shall be governed by the requirements outlined in Section 22 05 01.
- 1.1.2 Ductwork and piping shall be installed in accordance with the proposed sections and layouts shown on the Mechanical Drawings. In accordance with Good Installation Practices all hydronic piping shall be installed below the ductwork. Where it is not possible for pipes running perpendicular to the ductwork to pass below the ducts it is acceptable for pipes to cross above the ducts. All pipes running parallel to ductwork shall not be run above the ductwork unless the proposed location is submitted on an interference drawing and the specific location where this is to occur is approved in writing by the Mechanical Consultant.

1.2 REFERENCES

- 1.2.1 ANSI
- 1.2.2 ASTM International Inc.
- 1.2.3 Canadian Standards Association (CSA International).
- 1.2.1 ANSI B16.29. 2012
- 1.2.2 ASTM B32 2008 (2014), Standard Specification for Solder Metal.
- 1.2.2 ASTM B306 2013, Standard Specification for Copper Drainage Tube (DWV).
- 1.2.2 ASTM B88, ASTM B88M 2014 Specifications for Seamless Copper Water Tube
- 1.2.2 ASTM A74 2016, Specification for Cast Iron Soil Pipe and Fittings
- 1.2.2 ASTM C564 2014, Specification for Rubber Gasket for Cast Iron Soil Pipe and Fittings
- 1.2.1 CSA B67 2014 - Lead Service Pipe, Waste Pipe, Traps, Bends and Accessories.
- 1.2.2 CAN/CSA-B70 90 (2013), Cast Iron Soil Pipe, Fittings and Means of Joining.
- 1.2.2 CAN/CSA-B125.3 2012 - Plumbing Fittings.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- 1.3.1 Provide submittals in accordance with Front End Documents and Section 22 05 01.
- 1.3.2 Product Data:
- 1.3.2.1 Provide manufacturer's printed product literature and datasheets for adhesives, and include product characteristics, performance criteria, physical size, finish and limitations.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- 2.1.1 Above ground sanitary, storm and vent Type DWV to:
- 2.1.1.1 ASTM B306 - Specification for copper drainage tube (DWV).
- 2.1.1.2 Fittings.
- 2.1.1.2.1 Cast brass: to CAN/CSA-B125.3.
- 2.1.1.2.2 Wrought copper: to CAN/CSA-B125.3.
- 2.1.1.3 Solder: tin-lead, 50:50, type 50A to ASTM B32.
- 2.1.1.4 ASTM B88
- 2.1.1.5 ASTM C564

2.2 CAST IRON PIPING AND FITTINGS

- 2.2.1 Above grade sanitary, storm and vent minimum NPS 3, to: CAN/CSA-B70, with one layer of protective coating of bitumous coating.
- 2.2.1.1 Joints:
- 2.2.1.1.1 Mechanical joints:
- 2.2.1.1.1.1 Neoprene or butyl rubber compression gaskets: to ASTM C564 or CAN/CSA-B70.
- 2.2.1.1.1.2 Stainless steel clamps.
- 2.2.1.1.2 Hub and spigot:
- 2.2.1.1.2.1 Caulking lead: to CSA B67.
- 2.2.1.1.2.2 Cold caulking compounds.

2.3 DRAINAGE FROM URINALS

- 2.3.1 Drainage piping from the urinals to the sanitary main shall be PVC in accordance with Section 22 13 18.

PART 3 - EXECUTION

3.1 APPLICATION

- 3.1.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- 3.2.1 Install in accordance with the Ontario Plumbing Code.

- 3.2.2 Install piping parallel and close to walls to conserve space, and to grade indicated, and to suit installation of related work.
- 3.2.3 Apply two coats of asphalt paint to pipe laid in, or passing through concrete.
- 3.2.4 Where piping passes through floor or wall below grade pack and seal in concrete complete with Link Seal in accordance with Specification Section 22 05 01.
- 3.2.5 PVC piping shall not be utilized above grade with exception for the branch from the urinals. PVC piping as specified in Section 22 13 18 is acceptable for below grade piping. The PVC piping shall convert to cast iron prior to the point where it penetrates the floor slab.
- 3.2.6 Provide venting to plumbing fixtures and fixture groups in accordance with the Ontario Building Code Plumbing Code and local authorities having jurisdiction.
- 3.3 TESTING
- 3.3.1 The drainage and vent system shall be tested in accordance with the Ontario Building Code - Plumbing Code and tested in accordance with the requirements of the authority having jurisdiction, perform tests in the presence of each governing authority and obtain certification. Repeat tests as often as necessary to obtain certification.
- 3.3.2 Perform tests before piping is covered or concealed.
- 3.3.3 Remove all fittings which will not withstand test pressure, and replace after test.
- 3.3.4 Eliminate leaks, or remove and refit defective parts.
- 3.4 PERFORMANCE VERIFICATION
- 3.4.1 Cleanouts:
- 3.4.1.1 Ensure accessible and that access doors are correctly located.
- 3.4.1.2 Open, cover with linseed oil and re-seal.
- 3.4.2 Test to ensure traps are fully and permanently primed.
- 3.4.3 Storm water drainage:
- 3.4.3.1 Verify domes are secure.
- 3.4.3.2 Ensure weirs are correctly sized and installed correctly.
- 3.4.4 Ensure that fixtures are properly anchored, connected to system and effectively vented.

END OF SECTION

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LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
DRAINAGE WASTE AND VENT PIPING
CAST IRON AND COPPER
SPECIFICATION SHEET

title

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N.T.S	
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drawing no.	rev. no.

PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section of the specification shall be read in conjunction with and shall be governed by the requirements outlined in Section 22 05 01.
- 1.1.2 All valves must have a valid CRN Number. Statutory declaration must be provided on request.
- 1.1.3 Ductwork and piping shall be installed in accordance with the proposed sections and layouts shown on the Mechanical Drawings. In accordance with Good Installation Practices all hydronic piping shall be installed below the ductwork. Where it is not possible for pipes running perpendicular to the ductwork to pass below the ducts it is acceptable for pipes to cross above the ducts. All pipes running parallel to ductwork shall not be run above the ductwork unless the proposed location is submitted on an interference drawing and the specific location where this is to occur is approved in writing by the Mechanical Consultant.
- 1.1.4 All fixtures and equipment installed in the domestic water systems shall be lead free.

1.2 REFERENCES

- 1.2.1 Do the work in accordance with the Ontario Building Code Plumbing Code and local authority having jurisdiction.
- 1.2.2 American National Standards Institute (ANSI)/American Society of Mechanical Engineers International (ASME)

.1 ANSI/ASME B16.15 Cast Bronze Threaded Fittings, Classes 125 and 250.

.2 ANSI/ASME B16.18, Cast Copper Alloy Solder Joint Pressure Fittings.

.3 ANSI/ASME B16.22, Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

.4 ANSI/ASME B16.24, Cast Copper Alloy Pipe Flanges and Flanged Fittings, Class 150, 300, 400, 600, 900, 1500 and 2500.

.5 ANSI/ASME B16.5 Pipe Flanges and Flanged Fittings.

.6 ANSI/ASME B16.11 Forged Fittings, Socket Welding.
- 1.2.3 ASTM International Inc.

.1 ASTM B62-15 Specifications for Composition Bronze or Ounce Metal Castings.

.2 ASTM A307 Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.3 ASTM A536- Standard Specification for Ductile Iron Castings.

- .4 ASTM B88M Standard Specification for Seamless Copper Water Tube (Metric).

.5 American National Standards Institute/American Water Works Association (ANSI)/(AWWA)

.6 ANSI/AWWA C111/A21.11, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

.7 ASTM A312 16 Standard Specification for Seamless and Welded Austenitic Stainless Steel Pipes

.8 ASTM A351 15 Castings, Austenitic, Austenitic-Ferritic (Duplex), for pressure Containing Parts

.9 ASTM A403 15 Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings

.10 ASTM A743 13 Castings, Iron-Chromium Nickel, Corrosion Resistant, for General Applications

.11 ASTM A774 14 Standard Specification for As-Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures

.12 ASTM A778 15 Standard Specification for Welded, Unannealed Austenitic Stainless Steel Tubular Products
- 1.2.4 Canadian Standards Association (CSA International)

.1 CSA B242, Groove and Shoulder Type Mechanical Pipe Couplings.

.2 CSA B125.3-12 Plumbing Products and Materials
- 1.2.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).
- 1.2.6 Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS).

.1 MSS-SP-67 Butterfly Valves.

.2 MSS-SP-70 Gray Iron Gate Valves, Flanged and Threaded Ends.

.3 MSS-SP-71 Gray Iron Swing Check Valves, Flanged and Threaded Ends.

.4 MSS-SP-80 Bronze Gate, Globe, Angle and Check Valves.
- 1.2.7 National Research Council (NRC)/Institute for Research in Construction

.1 Ontario Building Code

.2 National Plumbing Code.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Refer to Front End Documents and Section 22 05 01.

PART 2 - PRODUCTS

2.1 PIPING

- 2.1.1 Domestic hot, cold and recirculation systems, within building.

.1 Above ground: copper tube, hard drawn, type L to ASTM B88M.

.2 Buried or embedded: copper tube, soft annealed, type K: to ASTM B88M, in long lengths and with no buried joints.

.3 Stainless steel butt-welded fittings, Type 304, Schedule 10, conforming to ANSI B16.9 and ASTM A312.
- 2.1.2 All piping shall have certification markings for compliance with ASTM B88.
- 2.2 FITTINGS

2.2.1 Bronze pipe flanges and flanged fittings, Class 150 and 300: to ANSI/ASME B16.24.

2.2.2 Cast bronze threaded fittings, Class 125 and 250: to ANSI/ASME B16.15.

2.2.3 Cast copper, solder type: to ANSI/ASME B16.18.

2.2.4 Wrought copper and copper alloy, solder type: to ANSI/ASME B16.22.

2.2.5 NPS 2 and larger: ANSI/ASME B16.18 or ANSI/ASME B16.22 roll grooved to CSA B242.

2.2.6 NPS 1 1/2 and smaller : wrought copper to ANSI/ASME B16.22, cast copper to ANSI/ASME B16.18; with 301 stainless steel internal components and EPDM seals. Suitable for operating pressure to 1380 kPa .


2.2.7 Grooved fittings, stainless steel, Type 304 Schedule 10, conforming to ASTM A403. Segmentally fabricated fittings shall not be allowed.

2.2.8 Mechanical grooved couplings, ductile iron, ASTM A536 (Grade 65-45-12) or malleable iron, ASTM A 47 (Grade 32510) housing, with EPDM gasket, steel track head bolts, ASTM A183, coated with copper coloured alkylid enamel.

2.3 JOINTS

- 2.3.1 Rubber gaskets 1.6 mm thick to AWWA C111.
- 2.3.2 Bolts, nuts, hex head and washers: to ASTM A307, heavy series.
- 2.3.3 For installation of the potable water system only lead free solder shall be used in accordance with Ontario Building Code Standards.
- 2.3.4 Solder, tin antimony, 95:5: to ASTM B32.

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LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
DOMESTIC WATER PIPING
SPECIFICATION SHEET 1
title

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- 2.3.5Teflon tape: for threaded joints.
- 2.3.6Grooved couplings: designed with angle bolt pads to provide rigid joint, complete with EPDM gasket.
- 2.3.7Dielectric connections between dissimilar metals: dielectric fitting, complete with thermoplastic liner.

2.4GROOVED COPPER METHOD

- 2.4.1Application

.1Grooved piping system may be used in lieu of flanged or sweated copper in size 50 mm and larger. Couplings shall be designed with angle bolt pads to provide a rigid joint, complete with EPDM flush seal gasket suitable for temperatures from -34°C to 110°C.
- 2.4.2Fittings

.1Housing: ductile iron conforming to ASTM-A536, Grade 65-45-12

.2Coating: rust inhibiting lead free paint

.3Bolts and nuts: heat treated, zinc electroplated carbon steel oval-neck track bolts conforming to ASTM A-183 and zinc electroplated carbon steel heavy hex nuts conforming to ASTM A-563,

.4Hinge Pin: carbon steel

.5Gaskets: in accordance with ASTM D-2000. Grade E: EPDM rated for service between 34°C to 110°C.

.6Copper Fittings: Copper per ASTM B-75 and ASTM B-584.

.7When connecting dissimilar metals in liquid systems from grooved end steel (IPS) to Copper (CTS) provide a dielectric waterway between the two materials.

2.5VALVES

- 2.5.1All valves utilized in domestic hot and cold water systems shall be lead free.

2.6GLOBE VALVES

- 2.6.1NPS 2 and under, balancing, soldered:

.1To MSS SP-80, Class 125, 860 kPa, bronze body, renewable composition disc, screwed over bonnet.

.2Lockshield handles: as indicated.

.3Standard of Acceptance: Jenkins, Crane, Toyo 222, Kitz 10, Ginnel, Eastern Foundry and Fittings.

- 2.6.2NPS 2 and under, balancing, screwed:

.1To MSS SP-80, class 125, 860 kPa, bronze body, screwed over bonnet, renewable composition disc.

.2Lockshield handles: as indicated.

.3Jenkins, Crane, Toyo 220, Kitz 03, Grinnell. Eastern Foundry and Fittings.

2.7SWING CHECK VALVES

- 2.7.1NPS 2 and under, soldered:

.1To MSS SP-80, class 125, 860 kPa, bronze body, bronze swing disc, screw in cap, regrindable seat.

.2Standard of Acceptance: Jenkins, Crane, Toyo 237, Kitz 30, Grinnell.
- 2.7.2NPS 2 and under, screwed:

.1To MSS SP-80, class 125, 860 kPa, bronze body, bronze swing disc, screw in cap, regrindable seat.

.2Jenkins, Crane, Toyo 236, Kitz 29, Grinnell.

2.8BALL VALVES (NSF/ANSI 372 Compliant)

- 2.8.1NPS 2 and under, branch isolators, screwed:

.1600 WOG, brass body C49300, solid stainless steel ball, PTFE packing or double "o" ring design, blowout proof stem, lever handle.

.2Ball valves shall have full port opening.

.3Standard of Acceptance: Jenkins, Crane, Toyo, Kitz 58, Grinnell, Apollo, Eastern Foundry and Fittings.

2.9GROOVED END BALL VALVES (NSF/ANSI 372 Compliant)

- 2.9.11000 psi rated, CF8M stainless steel body, 316 stainless steel ball and stem, RTFE seats, reinforced fluoroelastomer seals, standard port, two-piece valve.
- 2.9.2Standard of Acceptance: Victaulic Series 726S, Anvil

PART 3 – EXECUTION

3.1PLUMBING SYSTEM

- 3.1.1The products utilized to build the meter assembly shall be in accordance with the Local Authorities requirements.
- 3.1.2Where the Local Authority requires that this assembly use gate valves with all soldered connections the Mechanical Contractor shall solder all of the joints and use gate valves as specified above.

- 3.1.3When the local authority does not allow the use of grooved fittings the use of grooved fittings shall only begin after the bypass around the meter is connected to the assembly.

3.2APPLICATION

- 3.2.1Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.3INSTALLATION

- 3.3.1Install in accordance with Ontario Plumbing Code and local authority having jurisdiction.
- 3.3.2Assemble piping using fittings manufactured to ANSI standards.
- 3.3.3Connect to fixtures and equipment in accordance with manufacturer's written instructions unless otherwise indicated.
- 3.3.4Compression fittings are not acceptable.
- 3.3.5All valves packing shall be asbestos free.
- 3.3.6Provide isolation valves on all main branch feeds to each washroom group.
- 3.3.7Install all grooved end components as per manufacturer's latest recommendation.
- 3.3.8Stainless Steel Piping

.1Full penetration welds, free of cracks, overlaps and cold laps.

.2Weld reinforcement and concave root (1/16 in. (1.6 mm)).

.3Undercut Limit: 1/32 in. (0.8 mm) or 10% on base metal thickness, whichever is less.

.4Prevent or remove heat tint on all water side surfaces.

.5Secure end closure after welding to remain in place until final assembly.

3.4VALVES

- 3.4.1Isolate equipment, fixtures and branches with butterfly and ball valves.

3.5PRESSURE TESTS

- 3.5.1Conform to requirements of Section 22 05 01 - Common Work Results for Mechanical.
- 3.5.2Test pressure: greater of 1 times maximum system operating pressure or 860 kPa.

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LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
DOMESTIC WATER PIPING
SPECIFICATION SHEET 2
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3.6 FLUSHING AND CLEANING

- 3.6.1 New or repaired potable water systems shall be purged of deleterious matter and disinfected prior to utilization. The method to be followed shall be that prescribed by the health authority having jurisdiction or in the absence of a prescribed method as follows:
- .1 The pipe system shall be flushed with clean, potable water until dirty water does not appear at the points of outlet.

3.7 PRE-START-UP INSPECTIONS

- 3.7.1 Systems to be complete, prior to flushing, testing and start-up.
- 3.7.2 Verify that system can be completely drained.
- 3.7.3 Ensure that pressure booster systems are operating properly.
- 3.7.4 Ensure that air chambers, expansion compensators are installed properly.

3.8 START-UP

- 3.8.1 Timing: start up after:
- .1 Pressure tests have been completed.
- .2 Disinfection procedures have been completed.
- 3.8.2 Start-up procedures:
- .1 Establish circulation and ensure that air is eliminated.
- .2 Check pressurization to ensure proper operation and to prevent water hammer, flashing and/or cavitation.
- .3 Bring HWS storage tank up to design temperature slowly.
- .4 Monitor piping HWS and HWR piping systems for freedom of movement, pipe expansion as designed.
- .5 Check control, limit, safety devices for normal and safe operation.
- 3.8.3 Rectify start-up deficiencies.

3.9 PERFORMANCE VERIFICATION

- 3.9.1 Scheduling:
- .1 Verify system performance after pressure and leakage tests and disinfection are completed, and Certificate of Completion has been issued by authority having jurisdiction.
- 3.9.2 Procedures:
- .1 Adjust pressure regulating valves while withdrawal is maximum and inlet pressure is minimum.
- .2 Verify performance of temperature controls.
- .3 Check for proper operation of water hammer arrestors. Run one outlet for 10 seconds, then shut of water immediately. If water hammer occurs, replace water hammer arrestor or re-charge air chambers. Repeat for outlets and flush valves.
- .4 Confirm water quality consistent with supply standards, and ensure no residuals remain as result of flushing or cleaning.

END OF SECTION

PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section of the specification shall be read in conjunction with and shall be governed by Section 22 05 01.
- 1.1.2 Applies to buried piping only. For all piping above grade utilize cast iron/copper. Refer to specification Section 22 13 17.

1.2 REFERENCES

- 1.2.1 ASTM

.1

ASTM B251: Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube

.2

ASTM D2235: Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings

.3

ASTM D2564: Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems

.4

ASTM D2665: Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

.5

ASTM D2949: Standard Specification for 3.25-in. Outside Diameter Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings

.6

ASTM D3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

.7

ASTM F891: Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core

1.2.2 Canadian Standards Association (CSA International)

.1

CAN/CSA-B1800-02: Thermoplastic Nonpressure Pipe Compendium B1800 Series.

1.2.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1

Material Safety Data Sheets (MSDS).

PART 2 - PRODUCTS

2.1 SANITARY DRAINAGE AND VENTS

2.1.1 Piping And Fittings

.1

For Urinals piping:

.1

ASTM D2665, ASTM D2949, ASTM B251

Project: LAKESHORE LODGE SERVERY AND SHOWER TUB RENO
Document: SECTION 22 13 18 – DRAINAGE WASTE AND VENT PIPING - PLASTIC
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.2

ASTM D3034, ASTM F891

.3

CAN/CSA-B181.2 for PVC DWV, or

.4

CAN/CSA-B182.1 for plastic DWV.

.5

CAN/CSA-B182.2

.6

ASTM F679

.2

Pipe and gaskets must be certified to CSA B182.2 and conform to ASTM D3034 and ASTM F679.

2.1.2 Joints

.1

Sizes up to 75mm (3")

.1

Solvent weld for PVC: to ASTM D2564.

PART 3 - EXECUTION

3.1 TEMPERATURE LIMITATION

3.1.1 PVC pipe shall only be utilized for drainage systems where the discharge temperature is below 60 C (140 F). For systems that may receive higher discharge temperatures utilize polypropylene piping.

3.2 APPLICATION

3.2.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.3 INSTALLATION

3.3.1 Apply solvent to male end of joints only.

3.3.2 Pipe installation: Pipe shall be installed as specified and indicated on the drawings.

3.3.3 The piping system shall be installed in accordance with the manufacturers current published installation procedures.

3.3.4 Provide venting to all plumbing fixtures and fixture groups in accordance to the Ontario Building Code - Plumbing Code and local authorities having jurisdiction.

3.3.5 If tests are required by an authority having jurisdiction, perform tests in presence of each governing authority and obtain certification. Repeat tests as often as necessary to obtain certification.

3.3.6 Test pressure shall not exceed 1-1/2 times the maximum rated pressure of the lowest related element in the system.

3.3.7 Remove all fittings which do not withstand test pressure, replace and retest.

Project: LAKESHORE LODGE SERVERY AND SHOWER TUB RENO
Document: SECTION 22 13 18 – DRAINAGE WASTE AND VENT PIPING - PLASTIC
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3.3.8 Eliminate leaks, or remove and refit defective parts.

3.4 PERFORMANCE VERIFICATION


3.4.1 Test to ensure traps are fully and permanently primed.

3.5 CLEANING

3.5.1 Remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

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_____		3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5		VS	21513.03
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3 ISSUED FOR PERMIT AND TENDER		2023-06-08	DRAINAGE WASTE AND VENT PIPING - PLASTIC SPECIFICATION SHEET 5	N.T.S	
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PART 1 - GENERAL

1.1 GENERAL

- 1.1.1 This section shall be read in conjunction with and shall be governed by the requirements outlined in Section 22 05 01.

1.2 SUMMARY

- 1.2.1 Section Includes:
- .1 Materials and installation for copper tubing and fittings for refrigerant.

1.3 REFERENCES

- 1.3.1 American Society of Mechanical Engineers (ASME)
 - .1 ASME B16.22-2013, Wrought Copper and Copper Alloy Solder - Joint Pressure Fittings.
 - .2 ASME B16.24-2016, Cast Copper Pipe Flanges and Flanged Fittings: Class 150, 300, 400, 600, 900, 1500 and 2500.
 - .3 ASME B16.26-2013, Cast Copper Alloy Fittings for Flared Copper Tubes.
 - .4 ASME B31.5 – 2016, Refrigeration Piping and Heat Transfer Components.
- 1.3.2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A307-2014, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
 - .2 ASTM B280- 2016, Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
- 1.3.3 Canadian Standards Association (CSA International)
 - .1 CSA B52-2013, Mechanical Refrigeration Code.
- 1.3.4 Environment Canada (EC)
 - .1 EPS 1/RA/1- , Environmental Code of Practice for the Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems.
- 1.3.5 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).

1.4 SUBMITTALS

- 1.4.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures and Section 22 05 01.

1.5 SHOP DRAWINGS

- 1.5.1 Submit shop drawings in accordance with Section 22 05 01 of the specification.
- 1.5.2 The routing of the refrigerant piping is shown on the drawings with approximate sizing for coordination purposes only.
- 1.5.3 The Division 22 Refrigeration Contractor shall be responsible for final designing of the refrigeration piping system as follows;
1. Ensure that, as a minimum, oil is returned to the compressor at the same rate as it is leaving.
 2. Design discharge and suction lines to maximum 2°F change in saturation temperature corresponding to the associated pressure drop for the provided refrigerant. Include calculations with the shop drawings.
 3. Design liquid lines to maximum 1°F change in saturation temperature corresponding to the associated pressure drop for the provided refrigerant. Include calculations with the shop drawings.
 4. Multi-stage compressor and/or multi-compressor machines shall have suction and discharge piping sized adequately to ensure oil return at minimum load conditions. Include calculations with the shop drawings.
 5. Design discharge and suction piping to a maximum of 4000fpm velocity. Minimum discharge velocity of 1000 - 1500 fpm for vertical up-flow risers, a double riser can be introduced should the pressure drop in the vertical riser increase the beyond acceptable range. Double risers shall be trapped at the bottom and an inverted trap at the top of the large riser only. Minimum velocity for horizontal discharge lines shall be 500 fpm, and shall be sloped 1/8" in every 1' (min 1%) in the direction of refrigerant flow. Show refrigerant velocities on the schematic drawing to be submitted with the shop drawing.
 6. Design liquid line piping with minimum pressure drop to avoid the formation of flash gas. Velocity in liquid lines should not exceed 300 fpm. Provide a solenoid valve before the evaporator to prevent liquid siphoning into the evaporator during system shut-down. Show refrigerant velocities on the schematic drawing to be submitted with the shop drawing.
 7. For low ambient units w/ receivers
 1. Condensate lines shall be sized generously to allow liquid refrigerant to flow freely from the condenser to the receiver.
 8. The Division 22 Contractor shall submit an isometric drawing showing the refrigerant pipe sizes, lengths, velocities and accompanying calculations. Revision to the pipe sizing from the sizes shown on the drawings shall be at no cost to the Owner.
- 1.5.4 Product Data:
1. Submit manufacturer's printed product literature, specifications and datasheet for piping, fittings and equipment.

- 1.5.5 Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with specifications for specified performance characteristics and physical properties.
- 1.5.6 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- 1.5.7 Instructions: submit manufacturer's installation instructions.
- 1.5.8 Closeout submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals and Section 22 05 01.

PART 2 - PRODUCTS

2.1 TUBING

- | | |
|-------|--|
| 2.1.1 | Provide processed tubing for refrigeration installation, deoxidized, dehydrated and sealed. Do tubing system work in accordance with CSA B52 and ANSI B31.5. |
| 2.1.2 | Hard copper tube, type L, to ASTM B280 |
| 2.1.3 | Annealed copper tube to ASTM B280, with minimum wall thickness as per CSA B52 and ASME B31.5 |

2.2 TRAPS

- 2.2.1 Service: design pressure 300 psi (2070 kPa) and temperature 121°C (250 °F).
- 2.2.2 Construction: Wrought copper P-Traps.

2.3 FITTINGS

- 2.3.1 Service: design pressure 2070 kPa (300 psi) and temperature 121 C (250 °F).
- 2.3.2 Brazed: wrought copper to ANSI B16.22 or cast bronze to MIL-F-1183E.
- 2.3.3 Flanged: bronze or brass, Class 150 and Class 300 to ANSI B16.24.
- 2.3.4 Flare: Bronze or brass, for refrigeration, to ANSI B16.26.

2.4 JOINTS

- 2.4.1 Brazing: Silver solder, 45 Ag-15% Cu or copper-phosphorous, 95 Cu-5%P.
- 2.4.2 Gaskets: non-metallic to ANSI B16.21.

2.5 REFRIGERATION ACCESSORIES

- 2.5.1 Supply and install all necessary refrigeration accessories in the refrigeration piping, including, but not limited to the following.
1. Vibration absorbers shall be provided to isolate compressor vibration from the discharge and suction piping. Absorbers shall be all bronze bellows construction with braided wire exterior jacket. Clamp the refrigerant piping to a secure

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<div style="text-align: center;"> <h1>LAKESHORE LODGE</h1> <h2>SERVERY & SHOWER TUB RENO</h2> <p>3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5</p> </div>			RR drawn	2022-09-29 date
project			VS checked by	21513.03 job no.
REFRIGERANT PIPING SPECIFICATION SHEET 10			N.T.S	
			scale	ref. no.
			M-008.10	
			drawing no.	rev. no.
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no.	revision	date	title	

surface upstream of the suction absorber(s) and downstream of the discharge absorber(s). All refrigerant lines shall be secured with uni-strut type channel and neoprene sleeved clamps.

2. Liquid line filter drier adequately sized to prevent flash gas and/or excessive pressure drop. Filter drier shall be removable core type for liquid lines 7/8" and larger.
3. Liquid line sight glass shall be full size in liquid lines 50mm (2") and smaller and installed as close as practical to the condenser or receiver and preferably in a vertical portion of piping. By-pass sight glasses in liquid lines 50mm (2") and smaller will not be accepted. Sight Glasses shall have integral moisture indicator

4. 10 tons and above or low ambient

- .1 Liquid receivers shall be installed close to and below the condenser ideally within 8" to 450mm (18") depending on tonnage of the system, have valves on the inlet and outlet, a gage glass, a dip tube and liquid level test cocks. Pipe relief valve to the outdoors. Gage Glass shall be provided with a metal guard to protect the glass, and a ball type check valve behind the upper and lower valves to prevent refrigerant from escaping should the glass break. Receivers installed outside shall be installed inside or below the condensing unit and insulated with UV protected armaflex type insulation.

5. Multiple parallel compressor installation only

- .1 Provide an oil level control system complete with an oil separator located at the outlet of the common discharge header and an oil resevoir. The oil reservoir shall have high and low level sight glass oil level indicators, spring loaded oil differential check valve, manual shut off valves at the inlet and outlet , and a suction filter on the oil return line. Maintain oil reservoir pressure at 20 psig above the suction pressure of the parallel compressors or at recommended pressure as determined by the compressor manufacturer. Each of the parallel compressors shall have externally mounted oil level controls.

- 2.5.2 Standard of Acceptance for Refrigerant Accessories: Standard Refrigeration, Superior Valve, Mueller, Alco and Henry.

2.6 PIPE SLEEVES

- 2.6.1 Hard copper or steel, sized to provide 6 mm clearance around between sleeve and uninsulated pipe or between sleeve and insulation.

2.7 VALVES

- 2.7.1 22 mm and under: Class 500, 3.5 Mpa, globe or angle non-directional type, diaphragm, packless type, with forged brass body and bonnet, moisture proof seal for below freezing applications, brazed connections.

- 2.7.2 Over 22 mm: Class 375, 2.5 Mpa, globe or angle type, diaphragm, packless type, back-seating, cap seal, with cast bronze body and bonnet, moisture proof seal for below freezing applications, brazed connections.

PART 3 – EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- 3.1.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 GENERAL

- 3.2.1 Install in accordance with CSA B52 and ASME B31.5.

3.3 BRAZING PROCEDURES

- 3.3.1 Bleed inert gas into pipe during brazing.

- 3.3.2 Remove valve internal parts, solenoid valve coils, sight glass.

- 3.3.3 Do not apply heat near expansion valve and bulb.

3.4 PIPING INSTALLATION

- 3.4.1 General:

- .1 Soft annealed copper tubing: bend without crimping or constriction. Hard drawn copper tubing: do not bend. Minimize use of fittings.

- 3.4.2 Install and test in accordance with applicable requirements of ANSI B31.5 - Code for pressure piping Section 5 "refrigerant piping" and CSA Standard B52 "Mechanical Refrigeration Code", latest issue and all local regulations. All labour on system shall be by certified refrigeration mechanics.

- 3.4.3 Horizontal suction lines shall be sloped toward compressor to insure oil return.

- 3.4.4 All refrigerant required for re-charging the system shall be new, non-recovered refrigerant, provided by the Division 22 Contractor. Certified recycled refrigerant is acceptable

- 3.4.5 All field installed refrigeration piping shall be brazed. Dry Nitrogen shall be used to purge the piping prior to and during brazing to avoid oxidization within the refrigeration piping.

- 3.4.6 Ensure valves and accessories are protected during brazing as to not be damaged by the heat required for brazing. Improperly protected and damaged accessories and valves will be removed and replaced.

- 3.4.7 95-5 Sil-fos or equal shall be used to braze refrigerant piping. Lead based soft solder will not be accepted.

- 3.4.8 Refrigerant piping shall be purged with dry nitrogen and evacuated prior to connection to pre-evacuated equipment to ensure removal of all moisture and non-condensable gases.

- .1 The entire refrigeration system, not evacuated by the manufacturer, shall be completely evacuated to 29.92 inches of mercury and left under a vaccum for a minimum 24 hrs prior to charging in accordance with the manufacturer's printed recommendations.

- .2 Under no circumstances shall the refrigerant compressor be used to evacuate the system. The evacuation shall be accomplished by the use of a vacuum pump at an ambient temperature not less than 1.7 C (35°F) to ensure removal of all moisture and non-condensable gases.

- .3 After testing, evacuation and charging is completed, the system shall be allowed to operate under normal conditions for a minimum period of 24 hours. At that time, the moisture indicator shall indicate a dry system. If it does not so indicate, the dryer shall be changed and the unit allowed to operate for 24 hours. This procedure shall continue until the moisture indicator indicates a thoroughly dry system.

- 3.4.9 Liquid charging the system to initially charge the system is acceptable. Only liquid charge the system through the liquid line valve.

- 3.4.10 Insulate liquid and suction lines in their entirety. The insulation shall be continuous through all pipe supports and fittings to provide a vapour seal. Insulation to be equal to 'Armaflex' type insulation and shall be covered with a UV proof insulation wrap where exposed to the outdoors.

- 3.4.11 Install 3/8" diameter shraeder valves in the refrigeration piping in mechanical room, on the suction, discharge and liquid lines for servicing purposes use.

- 3.4.12 Hot gas lines:

- .1 Pitch at least 1:240 down in direction of flow to prevent oil return to compressor during operation.

- .2 Provide trap at base of risers greater than 2400 mm high and at each 7600 mm thereafter.

- .3 Provide inverted deep trap at top of risers.

- .4 Provide double risers for compressors having capacity modulation.

- .1 Large riser: install traps as specified.

- .2 Small riser: size for 5.1 m/s at minimum load. Connect upstream of traps on large riser.

3.5 PRESSURE AND LEAK TESTING

- 3.5.1 Close valves on factory charged equipment and other equipment not designed for test pressures.

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LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project

REFRIGERANT PIPING
SPECIFICATION SHEET 11

title

RR
drawn
2022-09-29
date

VS
checked by
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job no.

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- ### 3.6 FIELD QUALITY CONTROL

- ### 3.6.7 Charging:

- ### 3.7 DEMONSTRATION

- ### 3.8 CLEANING

- ### 3.9 TSSA INSPECTION

- 3.9.2 If a variance is required for the system the Division 22 Contractor shall apply for the variance. The cost of the variance shall be paid for by the Owner.

END OF SECTION

- .1

Coils shall be certified in accordance with ARI Standard 410-81.
- .2

Coils shall be hydrostatically tested at 350 Psig and shall be suitable for working pressures up to 250 Psig.
- 2.4.9

Provide a condensate pump (shipped loose) for field installation.
- 2.4.10

The unit shall be provided with a wireless remote infra-red controller. It shall be configurable for Automatic Operation, Dry Operation and Fan Only Operation.
- 2.4.11

The infrared remote controller shall consist of an On/Off power switch, mode selector, silent button (for outdoor unit), fan setting, swing louver, On/Off timer setting, temperature adjustment, metric or imperial temperature display, "Intelligent Eye" sensor, set back modes and a rapid cool mode (high power mode).
- 2.4.12

Silent operation shall reduce the sound level of the outdoor unit by slowing down the inverter driven condenser fan.
- 2.4.13

Setback shall permit programming of a preferred temperature and airflow setting, and allow the system to set back by 3°F.
- 2.4.14

High power mode shall provide rapid cool down to achieve maximum desired temperature in the shortest allowable time period.
- 2.4.15

The indoor unit microprocessor shall receive and process commands via return air temperature and indoor coil temperature sensors enabled by commands from the remote control.
- 2.4.16

Provide a control module to allow full integration with a BACnet IP compatible BMS.
- 2.4.17

BACnet module shall be wired, installed and powered (24VAC) by installing contractor. IP connection shall be by BAS contractor.
- 2.4.18

VRV manufacturer shall commission the BACnet panel. BAS contractor shall provide VRV manufacturer with static IP address and instance number for commissioning.
- 2.5

CONDENSING UNIT
- 2.5.1

The outdoor unit shall be completely weatherproof and corrosion resistant. The unit shall be constructed from rust-proofed mild steel panels coated with a baked enamel finish.
- 2.5.2

The fan shall be a direct drive, propeller type fan. The motor shall be inverter driven with permanently lubricated bearings
- 2.5.3

A fan guard shall be provided on the outdoor unit to prevent contact with fan operation.
- 2.5.4

The outdoor coil shall have nonferrous construction with a corrugated fin tube.
- 2.5.5

The compressor shall be a rotary swing inverter-driven compressor. Compressor safeties shall include internal thermal overload protection. Refrigeration specialties shall include an accumulator, refrigerant metering device and a four-way reversing valve.

- 2.5.6

Provide an ultra-low ambient kit to permit unit operation in cooling mode down to - 40°F.
- 2.6

ELECTRICAL
- 2.6.1

The outdoor unit shall be powered with 208 volts, 1 phase, 60 hertz.The indoor unit shall receive 208 volt, 1 phase, 60 hertz power fed from the outdoor unit.
- 2.7

FILTERS
- 2.7.1

Refer to Section 234400 for filter requirements.
- 2.8

CONTROLS
- 2.8.1

All controls shall be coordinated with the controls contractor. Refer to Section 259001 of the specification for the sequence of operation.
- 2.9

CAPACITY
- 2.9.1

As indicated on the schedule.
- 2.10

START UP AND WARRANTY
- 2.10.1

The system must be installed by an authorized contractor/dealer.
- 2.10.2

The manufacturer shall provide off-site assistance, from a factory trained service technician to installing contractor during start-up for each unit. Untrained contractors shall get training in order to install this equipment prior to installing the system. Manufacturer shall provide instruction to the owners' personnel on proper unit operation and maintenance.
- 2.10.3

The limited parts warranty period shall commence on the date of initial start-up and shall continue for a period of five (5) years not to exceed eighteen (18) months from date of shipment. Upon online registration, warranty shall be extended to 10 year limited parts.
- 2.11

STANDARD OF ACCEPTANCE
- 2.11.1

Daikin, Mitsubishi

PART 3 - EXECUTION

- 3.1

MANUFACTURER'S INSTRUCTIONS
- 3.1.1

Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.
- 3.2

INSTALLATION
- 3.2.1

Mount or hang units as indicated on the drawings and in the specifications.
- 3.2.2

Install units in accordance with manufacturers’ instructions and as indicated.

- 3.2.3

Assemble and install all components furnished as per manufacturer’s literature. Provide all wiring as per manufacturer wiring and control diagrams.
- 3.2.4

Connect all drainage and refrigerant piping such that these systems are serviceable without having to dismantle excessive lengths of pipe.
- 3.2.5

Connect the condensate pump as required to achieve necessary drainage requirements to suit drain piping as shown on the drawings.
- 3.2.6

Provide a wall hung steel bracket to attach to the penthouse wall. Install the condensing units on isolators.
- 3.2.7

Contractor shall provide necessary piping for condensate drains complete with deep seal trap.
- 3.2.8

The outdoor unit shall be powered with 208-230 volts, 1 phase, 60 hertz power. The indoor unit shall receive 208-230 volt, 1 phase, 60 hertz power fed from the outdoor unit. The mechanical contractor shall provide the power wiring between the outdoor unit and the indoor unit. Coordinate with electrical drawings.
- 3.2.9

The mechanical contractor shall provide all low voltage BA wiring and 120 V wiring necessary for the unit.
- 3.2.10

High/low pressure gas line, liquid and suction lines must be individually insulated between the outdoor and indoor units.
- 3.3

FIELD QUALITY CONTROL
- 3.3.1

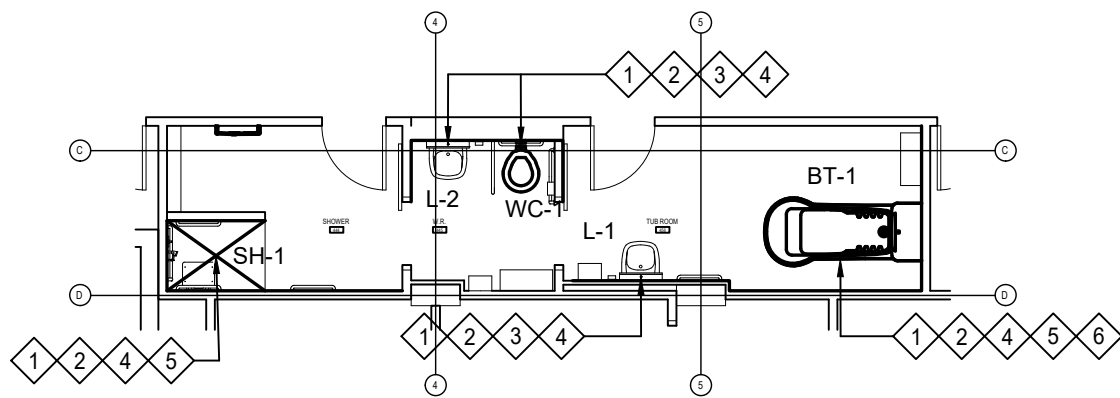
Perform tests in accordance with Section 26 05 00 - Common Work Results – Electrical.
- 3.4

CLEANING
- 3.4.1

Proceed in accordance with Section 01 74 13 – Progressive Cleaning.
- 3.4.2

Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION



1 ENLARGED FLOOR PLAN - TYPICAL TUB ROOM 456/471, W.R 445/472, SHOWER 444/473 PLAN FOR LEVEL 2, 3, 4
M-201 1:100

CONSTRUCTION NOTES

- 1 MECHANICAL CONTRACTOR SHALL PREPARE EX. PLUMBING AND DRAINAGE PIPES BEHIND THE WALLS TO CONNECT NEW PLUMBING FIXTURES.
- 2 MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GEN CONTRACTOR.
- 3 INSTALL FIXTURE CARRIERS BEHIND THE WALL AS REQUIRED FOR THE PLUMBING FIXTURES.
- 4 REFER TO SPECIFICATIONS FOR DETAILS ON PLUMBING FIXTURES.
- 5 PROVIDE NEW FLOOR DRAIN GRATE FOR THE EX. FLOOR DRAIN.
- 6 RE-INSTALL THE HYDRO THERAPY BATH TUB. COMPLETE ALL PLUMBING AND DRAINAGE CONNECTIONS TO MATCH PRE-EXISTING CONDITIONS

DRAWING NOTES

1. REFER TO ARCH LAYOUT DRAWING FOR LOCATION OF THE TUB ROOMS

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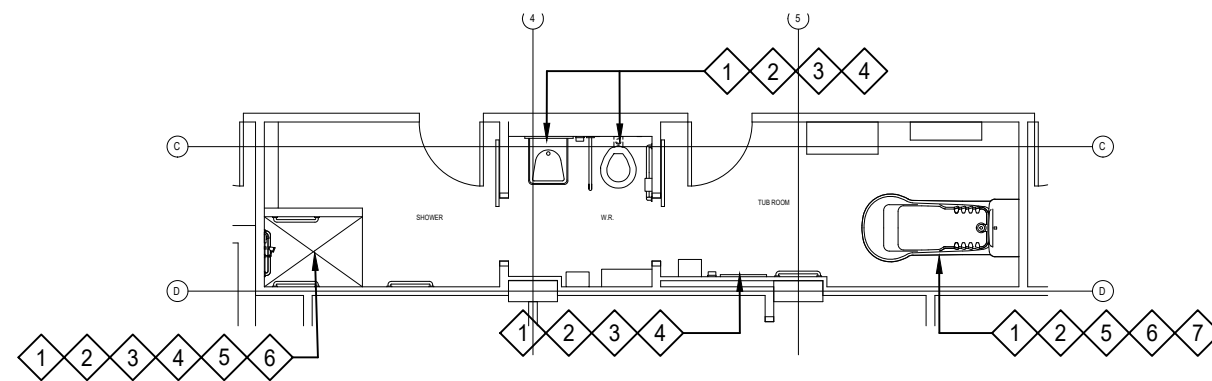
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LAKESTORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
TUB ROOM (456/471), W.R(445/472), SHOWER(444/473)
(TYPICAL FOR LEVEL 2, 3 & 4)
NEW WORK
title

RR	2022-09-29
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VS	21513.03
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1 DEMOLITION FLOOR PLAN - TYPICAL TUB ROOM 456/471, W.R 445/472, SHOWER 444/473 PLAN FOR LEVEL 2, 3, 4
M-201D 1:100

DEMOLITION NOTES

- 1 MECHANICAL CONTRACTOR SHALL DISCONNECT ALL P&D CONNECTIONS AND MAKE THE P&D SYSTEM SAFE. MAKING SAFE INVOLVES SHUTTING OFF THE WATER SUPPLY, CAPPING THE PLUMBING LINES, CAPPING THE DRAINAGE PIPES SO THAT THE P&D SYSTEM CAN BE CONCEALED BEHIND NEW WALL AND FLOOR FINISHES.
- 2 MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE GEN CONTRACTOR AND DEMOLISH THE PLUMBING FIXTURE FROM ITS CURRENT LOCATION.
- 3 MECHANICAL CONTRACTOR SHALL DEMOLISH ALL FAUCETS, FLUSH VALVES, PLUMBING ACCESSORIES AND DRAINAGE ACCESSORIES RELATED TO THE PLUMBING FIXTURES.
- 4 COMPLETELY DEMOLISH THE FIXTURE CARRIERS BEHIND THE WALL.
- 5 PROTECT AND RETAIN EX. FLOOR DRAIN. COVER AND PROTECT THE FLOOR DRAIN FROM DAMAGE DURING CONSTRUCTION AND TO PREVENT ANY DEBRIS GOING INTO THE DRAIN PIPING.
- 6 REMOVE THE FLOOR GRATE OF THE EX. FLOOR DRAIN FOR REPLACEMENT. PROTECT THE FLOOR DRAIN BODY. COVER AND PROTECT THE FLOOR DRAIN FROM DAMAGE DURING CONSTRUCTION AND TO PREVENT ANY DEBRIS GOING INTO THE DRAIN PIPING.
- 7 REMOVE THE EX. HYDRO THERAPY BATH TUB AND KEEP SAFE FROM DAMAGE DURING PROJECT WORK. REINSTALL BATH TUB AFTER ALL CONSTRUCTION WORK IS COMPLETED.

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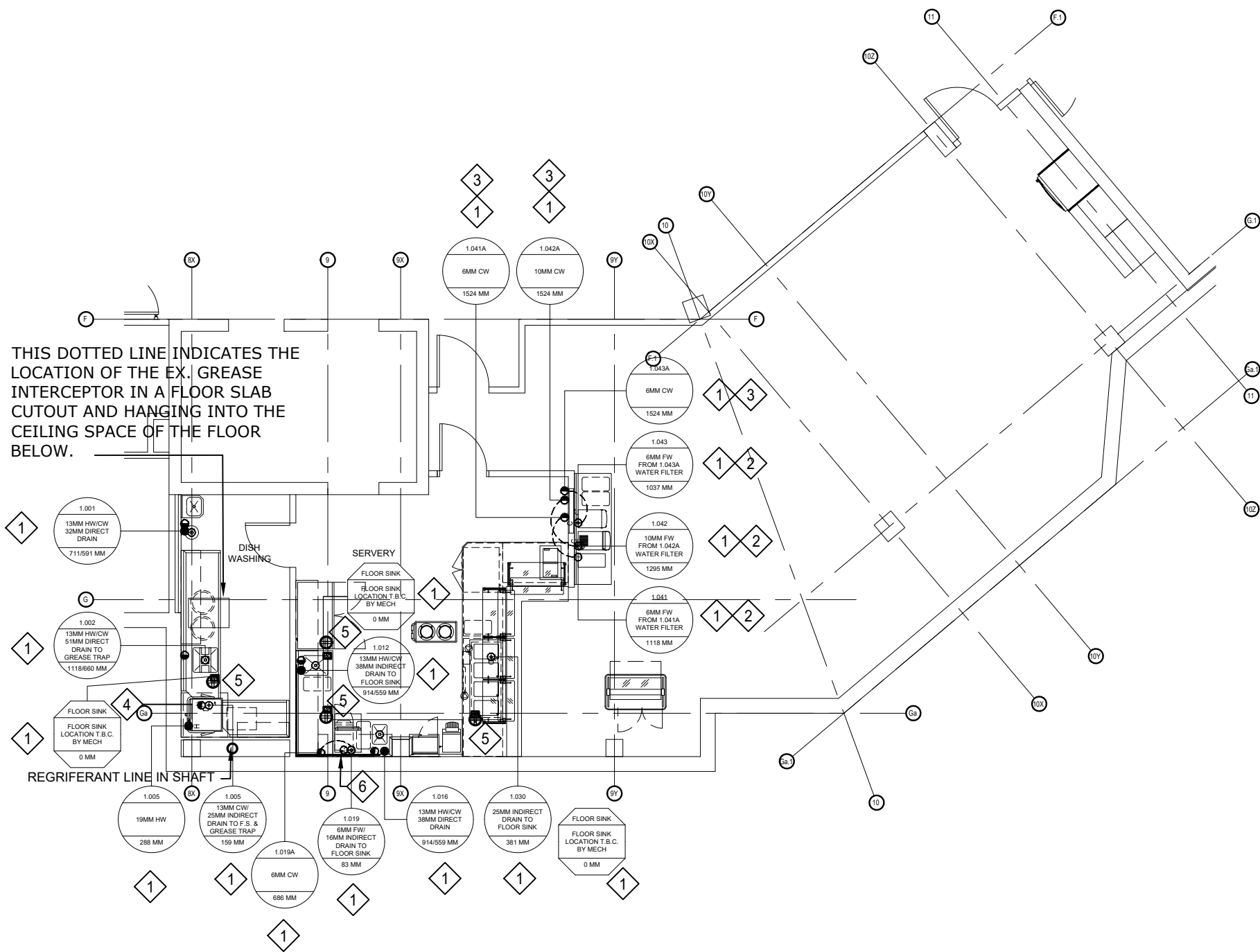
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LAKESTORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
TUB ROOM (456/471), W.R(445/472), SHOWER(444/473)
(TYPICAL FOR LEVEL 2, 3 & 4)
DEMOLITION
title

RR	2022-09-29
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VS	21513.03
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1:100	
scale	ref. no.
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drawing no.	rev. no.



THIS DOTTED LINE INDICATES THE LOCATION OF THE EX. GREASE INTERCEPTOR IN A FLOOR SLAB CUTOUT AND HANGING INTO THE CEILING SPACE OF THE FLOOR BELOW.

GENERAL NOTES

1. THE NOTES INDICATED BELOW WILL REQUIRE REMOVAL AND MODIFICATION OF EX. PLUMBING AND DRAINAGE (P&D) PIPING SYSTEM BEHIND DRY WALLS.
2. CONTRACTOR SHALL MODIFY ALL P&D SYSTEM TO PROVIDE CONNECTIONS TO NEW PLUMBING FIXTURES.
3. COORDINATE WITH ARCH DWGS FOR DEMOLITION OF CEILING AND WALLS IN LEVEL 4 AND LEVEL 3 FOR DEMO AND NEW WORK.

CONSTRUCTION NOTES

- 1 MECHANICAL CONTRACTOR SHALL PROVIDE PLUMBING AND DRAINAGE CONNECTIONS AS INDICATED.
- 2 MECHANICAL CONTRACTOR SHALL PROVIDE PLUMBING CONNECTIONS BETWEEN THE WATER FILTER AND KITCHEN EQUIPMENT. COORDINATE WITH KITCHEN CONTRACTOR.
- 3 MECHANICAL CONTRACTOR SHALL INSTALL THE WATER FILTER ON THE WALL AND PROVIDE PLUMBING CONNECTIONS TO THE FILTER. REFER TO ARCH DWGS FOR ELEVATION AND LOCATION OF THE WATER FILTER, COORDINATE WITH THE KITCHEN CONTRACTOR.
- 4 MECHANICAL CONTRACTOR SHALL CONNECT THE NEW DISHWASHER TO THE EXISTING UNDERCOUNTER GREASE INTERCEPTOR (GI) AS FOLLOWS.
 1. PROVIDE NEW DRAINAGE PIPING CONNECTIONS BETWEEN THE NEW DISHWASHER AND THE GI.
 2. ACCESS THE GI FROM THE THIRD FLOOR BELOW TO PROVIDE NEW PIPE CONNECTIONS.
 3. PROVIDE A COMPLETE CLEANING OF THE GI, REMOVE ALL GREASE BUILD UP AND CLEAN THE GI.
- 5 PROVIDE FUNNEL FLOOR DRAIN IN LOCATIONS AS INDICATED. COORDINATE WITH ARCH DRAWINGS. CONNECT ALL FFD TO SANITARY STACKS BEHIND DRY WALLS.
- 6 ROUTE CW AND DHW LINES THRU WALL CAVITY TO PROVIDE NEW PLUMBING CONNECTIONS TO DISHWASHER AND SINK.
- 7 PROVIDE PLUMBING CONNECTIONS AND DRAINAGE CONNECTIONS TO EQUIPMENT 1.041, 1.042, 1.043, 1.043A FROM THE EX. P&D CONNECTIONS THAT SERVE THE EX. WALL HUNG SINK IN THIS LOCATION.

1 ENLARGED FLOOR PLAN - LEVEL 4 - DISH WASHING 482A, SERVERY 482, DINING ROOM 481
M-202 1:100

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6	ISSUED FOR PERMIT AND TENDER	2023-06-08
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LAKE SHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOWICKE, ON, M8V 3X5
project
DISH WASHING (482A), SERVERY (482), DINING ROOM (481)
LEVEL 4
NEW WORK
title

RR	2022-09-29
drawn	date
VS	21513.03
checked by	job no.
1:100	scale
M-202.1	ref. no.
drawing no.	rev. no.

MEP SERVICES SCHEDULE															
ITEM	QTY	EQUIPMENT DESCRIPTION	EQUIPMENT REMARKS	ELECTRICAL						PLUMBING					
				AMPS (A)	VOLTS (V)	PHASE (PH)	CYCLE (HZ)	ELECTRICAL CONNECTION	ELECTRICAL REMARKS	CW SIZE (MM)	HW SIZE (MM)	DIRECT WASTE SIZE (MM)	INDIRECT WASTE SIZE (MM)	FILTERED WATER SUPPLY SIZE (MM)	FLOW (L/S)
1.000	1	EXISTING HAND SINK	TO REMAIN												
1.001	1	EXISTING EYEWASH STATION - RELOCATED	MECH TO CONFIRM REQ'D SERVICES								13	13	32		THERMOSTATIC MIX VALVE
1.002	1	NEW S.S. SOILED DISHTABLE WITH PRE-RINSE SINK									13	13	51		DRAIN TO GREASE TRAP
1.003	1	NEW S.S. WALL-MOUNT SORTING SHELF													
1.004	2	NEW WASTE BIN WITH DOLLY													
1.005	1	NEW DISHWASHER		46.0	208-240	3	60	DIRECT			13	19	25		DRAIN TO FLOOR SINK & GREASE TRAP
1.006	1	EXISTING CONDENSATE HOOD	TO REMAIN												
1.007	1	NEW S.S. CLEAN DISHTABLE													
1.008	1	NEW S.S. WALL-MOUNT SHELF													
1.009		SPARE													
1.010	1	EXISTING REACH-IN REFRIGERATOR - RELOCATED	ELEC TO CONFIRM REQ'D SERVICES	5.4	120	1	60	PLUG	NEMA 5-15P						
1.011	1	NEW S.S. CUPBOARDS													
1.012	1	NEW S.S CABINET WITH PREP SINK		12.0	120	1	60	PLUG	NEMA 5-15P GENERAL PURPOSE	13	13	38			DRAIN TO FLOOR SINK
1.013	1	NEW S.S. CUPBOARDS													
1.014	3	NEW UNDERCOUNTER WASTE BIN													
1.015		SPARE													
1.016	1	NEW S.S. CABINET WITH HAND SINK		12.0	120	1	60	PLUG	NEMA 5-15P GENERAL PURPOSE	13	13	38			
1.017	1	NEW S.S. CUPBOARDS													
1.018	1	EXISTING COUNTERTOP OVEN - RELOCATED	ELEC TO CONFIRM REQ'D SERVICES	12.0	120	1	60	PLUG	NEMA 5-15P						
1.019	1	EXISTING UNDERCOUNTER ICE MACHINE - RELOCATED	MECH & ELEC TO CONFIRM REQ'D SERVICES	3.3	120	1	60	PLUG	NEMA 5-15P				16	6	WATER FROM FILTER 1.019A DRAIN TO FLOOR SINK PROVIDE RED PRESSURE BFPA
1.019A	1	NEW WATER FILTER	LOCATION TO BE CONFIRMED							6					
1.020		SPARE													
1.021	1	EXISTING MICROWAVE OVEN - RELOCATED	ELEC TO CONFIRM REQ'D SERVICES	13.4	120	1	60	PLUG	NEMA 5-15P						
1.022	1	NEW S.S. WALL-MOUNT MICROWAVE SHELF													
1.023	1	EXISTING CONVEYOR TOASTER - RELOCATED	ELEC TO CONFIRM REQ'D SERVICES	13.5	208	1	60	PLUG	NEMA 6-20P						
1.024		SPARE													
1.025		SPARE													
1.026	1	NEW MOBILE HEATED PLATE DISPENSER		8.8	120	1	60	PLUG	NEMA 5-15P						
1.027		SPARE													
1.028	1	NEW MILLWORK WALL & TRAYRAIL WITH QUARTZ TOP	BY MILLWORK DIVISION	12.0	120	1	60	PLUG	NEMA 5-15P GENERAL PURPOSE TWO RECEPTACLES REQ'D						
1.029	LOT	NEW S.S. CABINET BASE ASSEMBLY													
1.030	1	NEW DROP-IN HOT/COLD WELL		23.7	120	1	60	PLUG	NEMA 5-30P				25		DRAIN TO FLOOR SINK
1.031	1	NEW SELF-SERVE ADJUSTABLE SNEEZEGUARD													
1.031A	1	NEW HEATLAMP		10.7	120	1	60	DIRECT							
1.033	1	NEW UNDERCOUNTER REFRIGERATOR		2.0	120	1	60	PLUG	NEMA 5-15P						
1.034	1	NEW SELF-SERVE ADJUSTABLE SNEEZEGUARD													
1.034A	1	NEW DISPLAY LIGHT		1.0	120	1	60	PLUG	NEMA 5-15P						
1.035		SPARE													
1.036	1	NEW DROP-IN ICE CREAM CHEST FREEZER		1.8	120	1	60	PLUG	NEMA 5-15P						
1.037	1	NEW SELF-SERVE ADJUSTABLE SNEEZEGUARD													
1.037A	1	NEW DISPLAY LIGHT		1.0	120	1	60	PLUG	NEMA 5-15P						
1.038		SPARE													
1.039	1	EXISTING MOBILE SERVING CART	MECH & ELEC TO CONFIRM REQ'D SERVICES												
1.040	1	NEW MILLWORK CABINET WITH QUARTZ TOP	BY MILLWORK DIVISION	12.0	120	1	60	PLUG	NEMA 5-15P GENERAL PURPOSE						
1.041	1	EXISTING LIQUID COFFEE MACHINE - RELOCATED	MECH & ELEC TO CONFIRM REQ'D SERVICES	25.0	208-240	1	60	PLUG	NEMA L6-30P					6	WATER FROM FILTER 1.041A
1.041A	1	NEW WATER FILTER	LOCATION TO BE CONFIRMED							6					
1.042	1	EXISTING JUICE DISPENSER - RELOCATED	MECH & ELEC TO CONFIRM REQ'D SERVICES	6.0	120	1	60	PLUG	NEMA 5-15P					10	WATER FROM FILTER 1.042A PROVIDE RED PRESSURE BFPA
1.042A	1	NEW WATER FILTER	LOCATION TO BE CONFIRMED							10					
1.043	1	NEW ICE AND WATER DISPENSER		5.0	120	1	60	PLUG	NEMA 5-15P					6	C
1.043A	1	NEW WATER FILTER	LOCATION TO BE CONFIRMED							6					
1.044	2	UNDERCOUNTER WASTE BIN													

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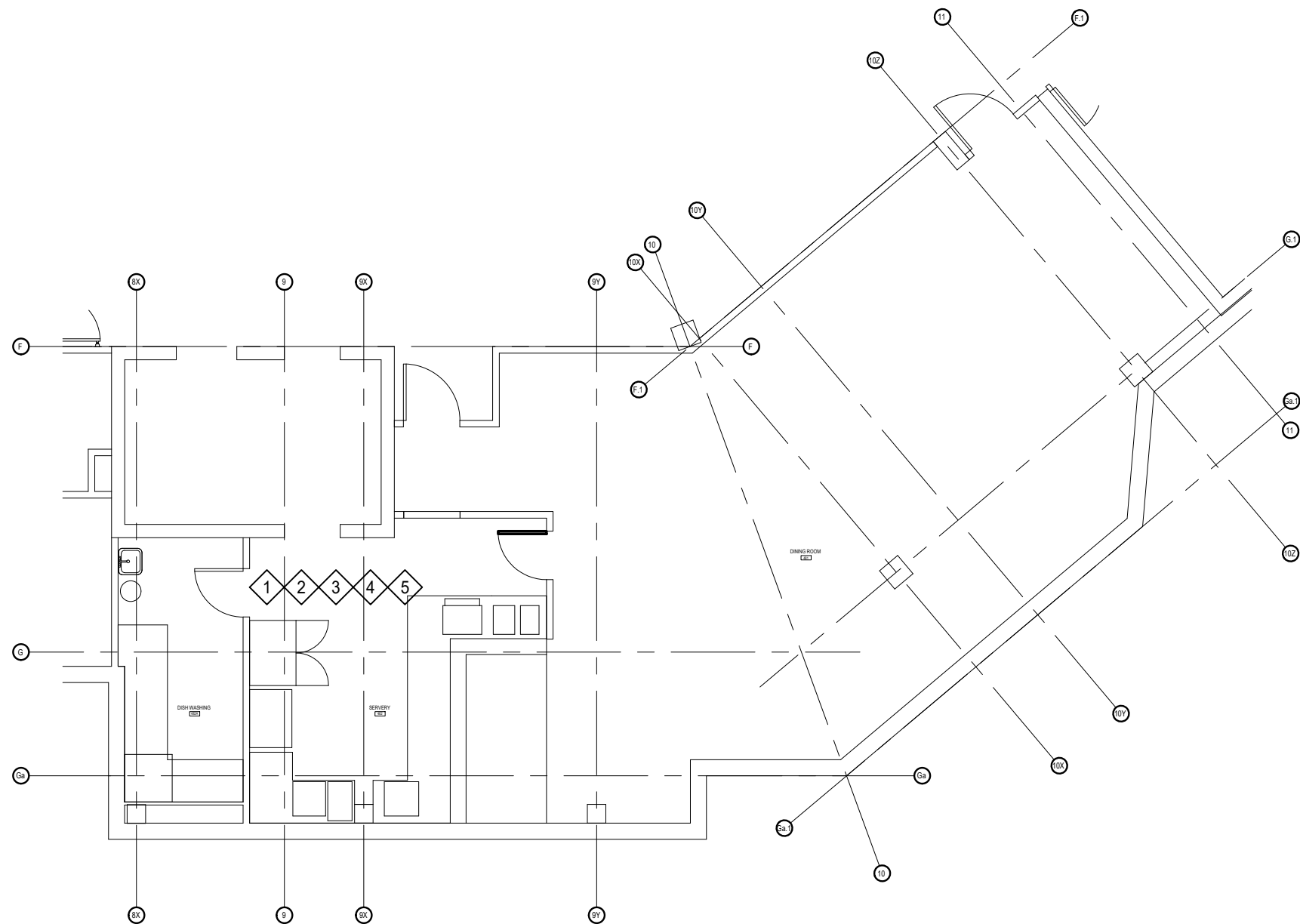
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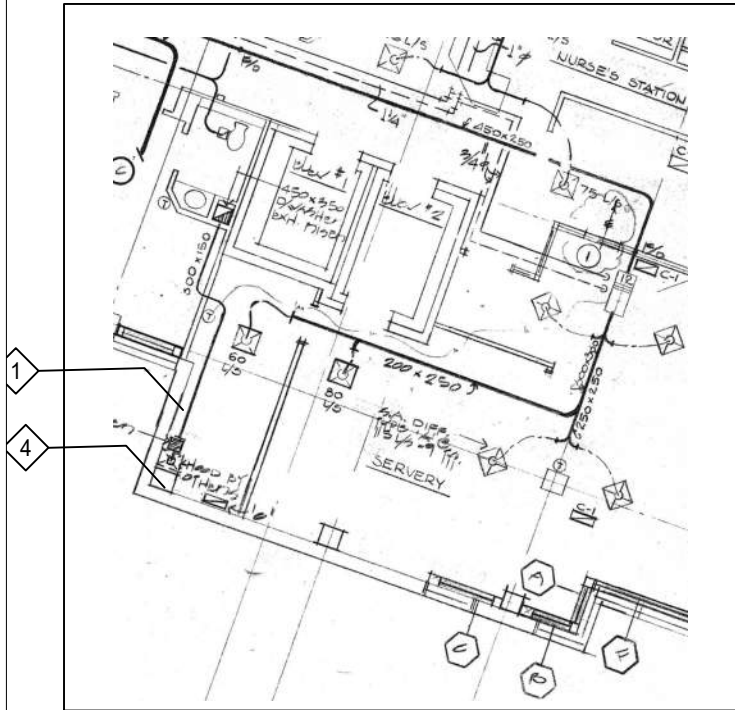


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2	ISSUED FOR TENDER
1	ISSUED FOR PRE-TENDER REVIEW
no.	revision

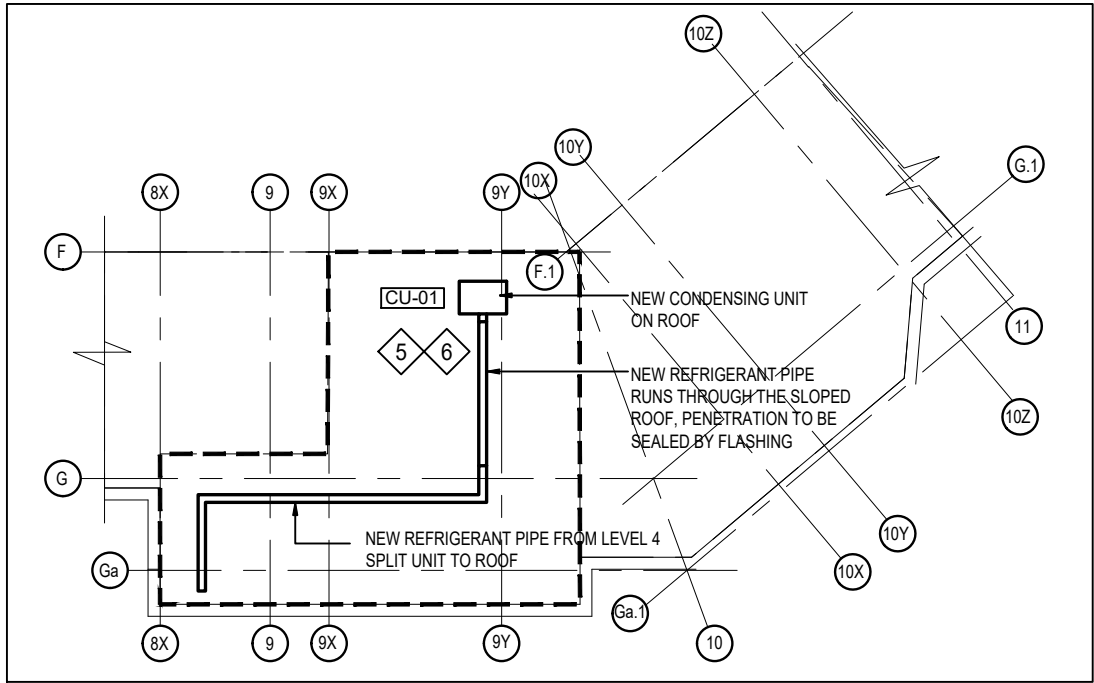
LAKESHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
MEP SERVICES SCHEDULE
date
title

RR
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N.T.S.
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M-202.2
drawing no.
2022-09-29
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21513.03
job no.
ref. no.
rev. no.

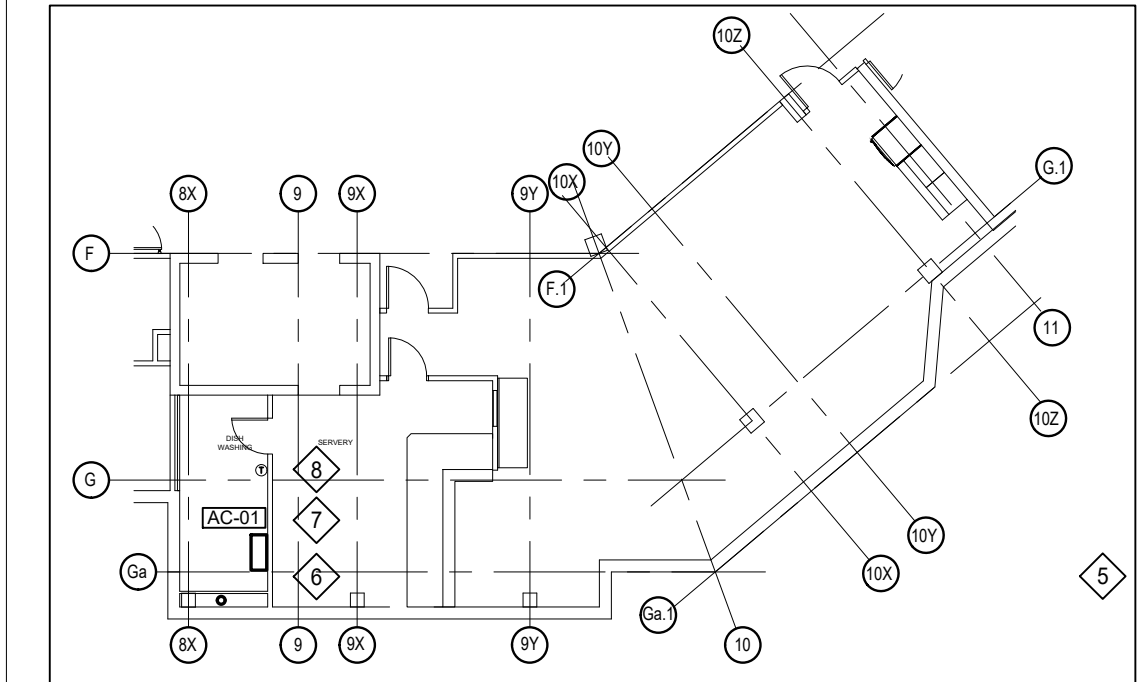




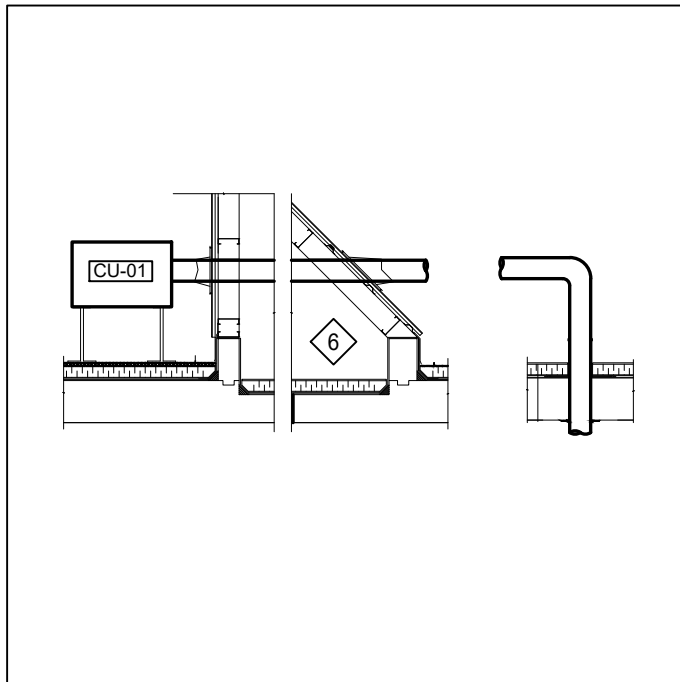
FOURTH FLOOR PLAN-SERVERY HVAC LAYOUT



ROOF PLAN-SERVERY HVAC LAYOUT



FOURTH FLOOR PLAN-SERVERY EXISTING SHAFT



SECTION THROUGH THE BUILDING - LOCATION OF NEW CONDENSING UNIT

CONSTRUCTION NOTES

- 1 PROTECT AND RETAIN HVAC DUCTWORK IN THIS LOCATION.
- 2 REPLACE EX. EXH HOOD WITH A NEW STAINLESS STEEL EXH HOOD.
- 3 LOCATE NEW EXH HOOD SO THAT IT IS DIRECTLY ABOVE THE LOCATION OF THE NEW DISH WASHER.
- 4 BALANCE THE EXHAUST HOOD SUCH THAT THE CFM FROM THE HOOD IS 400 CFM.
- 5 LOCATE CONDENSING UNIT ON ROOF, COORDINATE WITH ARCH DWGS. PROVIDE REFR. PIPING BETWEEN CONDENSING UNIT AND SPLIT FAN COIL UNIT IN LEVEL 4
- 6 INSTALL REFR PIPING WITHIN SHAFT AS INDICATED IN THE ARCH DWGS. DWGS INDICATE APPROX. LOCATION AND INTENT, CONTRACTOR SHALL VERIFY SAME ON SITE. CONTRACTOR SHALL PROVIDE SHOP DWGS FOR REFR. PIPE SIZING.
- 7 INSTALL AC01 SPLIT UNIT AT HIGH LEVEL WALL MOUNTED WITHIN THE SERVERY.
- 8 INSTALL THERMOSTAT IN THIS LOCATION

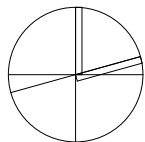
1 ENLARGED FLOOR PLAN - LEVEL 4 - DISH WASHING 482A, SERVERY 482, DINING ROOM 481
M-202 1:100

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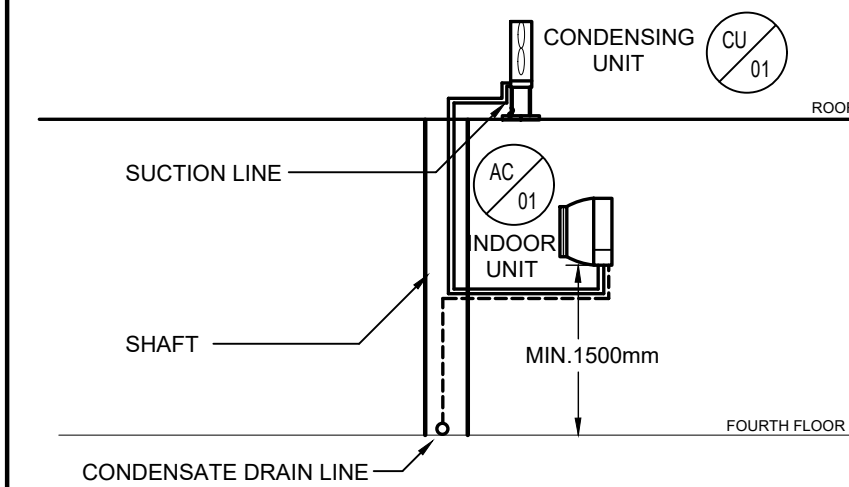
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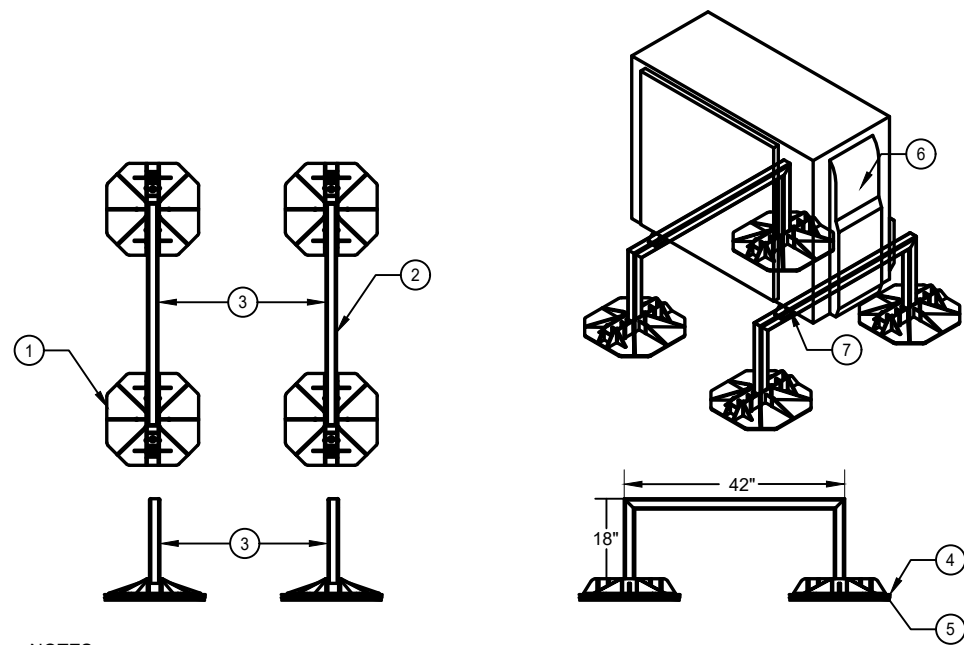
LAKE SHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
DISH WASHING (482A), SERVERY (482), DINING ROOM (481)
LEVEL 4
NEW WORK - HVAC
title

RR
drawn
VS
checked by
N.T.S.
scale
M-203
drawing no.
2022-09-29
date
21513.03
job no.
ref. no.
rev. no.



NOTES:

1. INSTALL REFRIGERATION PIPING WITH ALL NECESSARY ACCESSORIES TO THE REFRIGERANT PIPES AS PER MANUFACTURER'S REQUIREMENT.
2. PROVIDE SUPPORT FOR THE PIPING ON ROOF.
3. INSTALL CONDENSING UNIT ON ROOF WITH SUPPORT SUPPLIED BY UNIT MANUFACTURER.
4. INSTALL DRAIN PIPING ALONG THE EDGE OF EXTERIOR WALL WITH PROPER SUPPORTS. INSULATE DRAIN PIPING.
5. CONDENSATE DRAIN PIPE TO BE TERMINATED AT THE EXISTING FLOOR DRAIN INSIDE CENTRAL MECHANICAL ROOM. REFER TO M-400.



NOTES:

- 1 UV STABILIZED ECOFOOT SUPPORT SYSTEM AVAILABLE FROM ECOSUPPORTPRODUCTS.COM
- 2 ELECTROPLATED TUBULAR MILD STEEL FRAME ASSEMBLY 50X50MM (2"X2").
- 3 DISTANCE BETWEEN SUPPORT TO SUIT THE WIDTH OF CONDENSING UNIT BEING SUPPORTED.
- 4 CONCRETE PAVING STONE 600X600MM (24"X24")
- 5 CLOSED CELL STYROFOAM INSULATION SECURED BY ADHESIVE TO THE PAVING STONE.
- 6 CONDENSING UNIT.
- 7 SECURE CONDENSING UNIT TO STEEL FRAME.

MSD 2100-20

1 REFRIGERATION PIPING DETAIL BETWEEN CONDENSING UNIT AND INDOOR UNIT
M-900 NTS

2 CONDENSING UNIT SUPPORT ON ROOF
M-900 NTS

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LAKE SHORE LODGE
SERVERY & SHOWER TUB RENO
3197 LAKESHORE BLD, ETOBICOKE, ON, M8V 3X5
project
NEW WORK - MECHANICAL STANDARD DETAILS
title

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