

DOMESTIC LAYOUT GROUND FLOOR
 SCALE: 1:75
 0 1000 2000 3000 4000 5000 mm

GENERAL NOTES

1. DW AND DHW CONNECTION TO ALL PLUMBING FIXTURES TO BE 1/2".
2. PROVIDE ISOLATION VALVE FOR EACH FIXTURE.
3. PROVIDE FIRE RATED SEAL FOR ANY PENETRATION THROUGH A FIRE RATED ASSEMBLY, INCLUDING ALL FLOORS AND PERIMETER WALLS OF UNITS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE SEPARATIONS.

4. PLUMBING FIXTURE LABELS. ALL NON-ACCESSIBLE SUITES ARE TYPICAL AND LABELED AS FOLLOWS:
 - KS-1 (KITCHEN SINK)
 - L-1 (LAV)
 - WC-1 (WATER CLOSET)
 - SH-1 (BATH/SHOWER)

- ALL ACCESSIBLE SUITES ARE TYPICAL AND LABELED AS FOLLOWS:
- KS-2 (KITCHEN SINK)
 - L-2 (LAV)
 - WC-2 (WATER CLOSET)
 - SH-2 (SHOWER)

DRAWING NOTES

1. COORDINATE EXACT LOCATION OF METER ASSEMBLY WITH SPRINKLER DRAWINGS AND SITE CONDITIONS.
2. INSULATE DHW PIPE FROM HWT TO FIXTURES.

REVISIONS			
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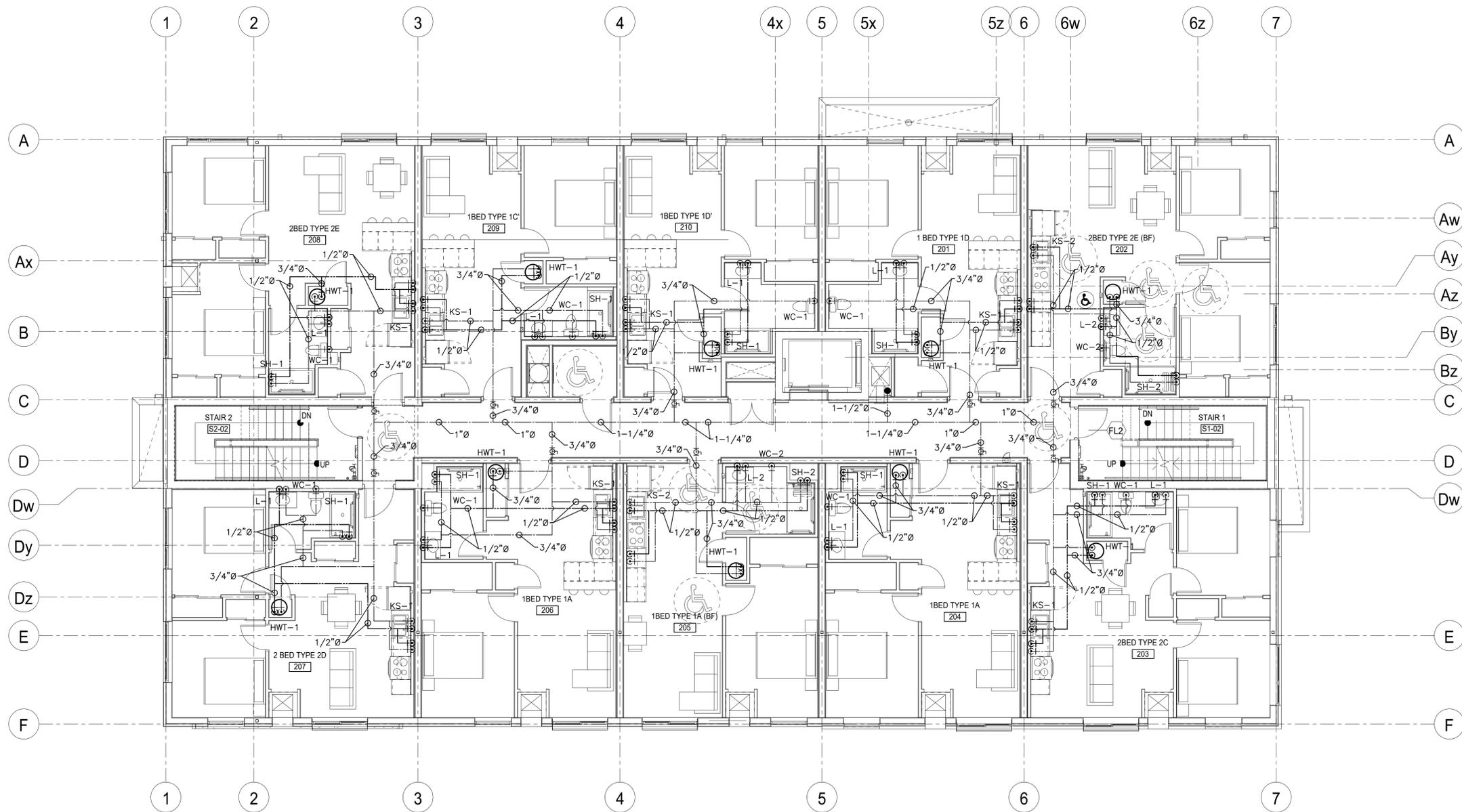
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
GROUND FLOOR DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M1
APPROVED	CSM	
PROJECT	7393	



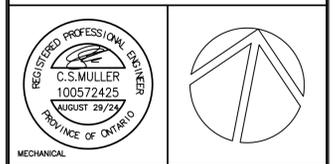
DOMESTIC LAYOUT SECOND FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000 mm

GENERAL NOTES

- DCW AND DHW CONNECTION TO ALL PLUMBING FIXTURES TO BE 1/2"Ø.
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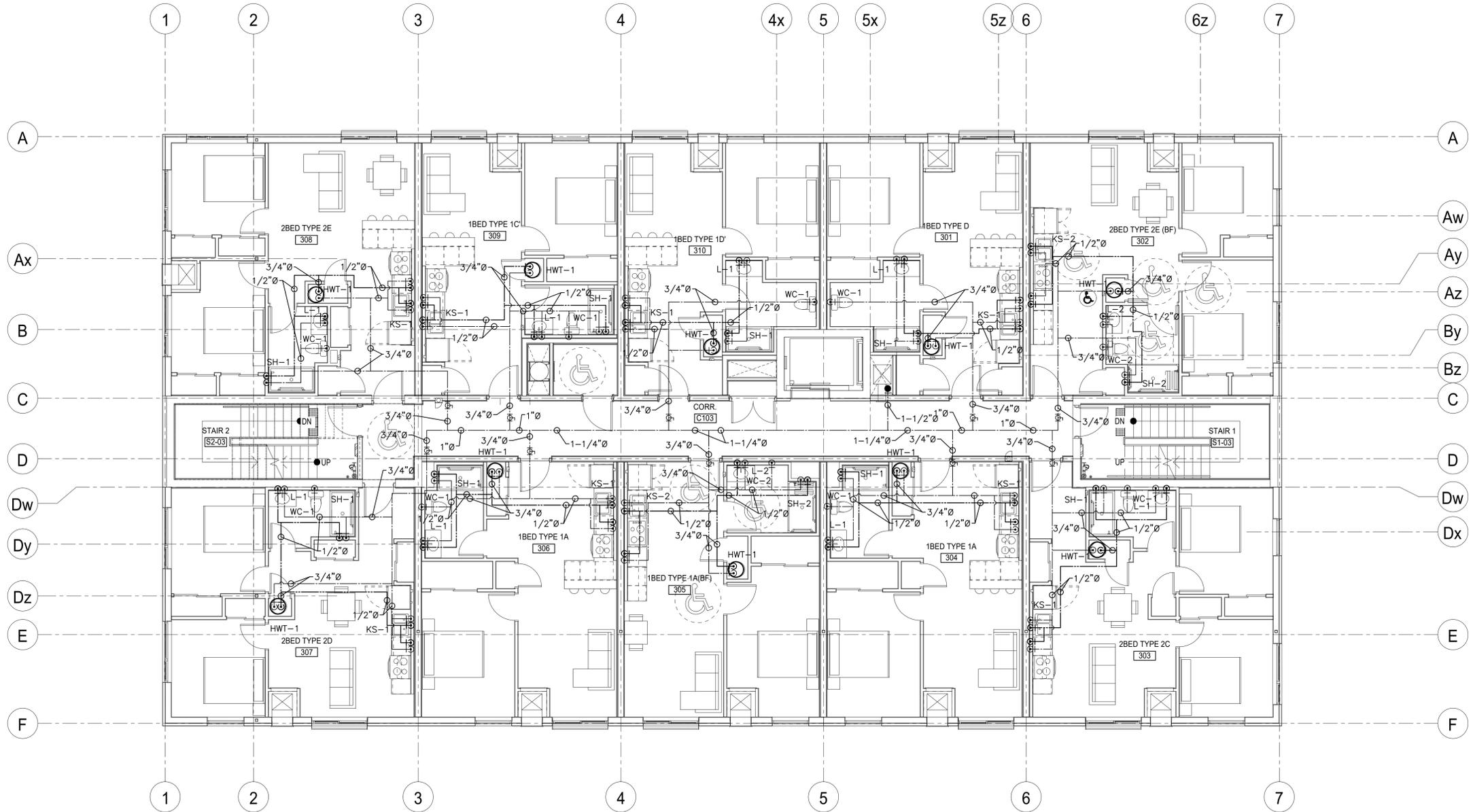
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
SECOND FLOOR DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M2
APPROVED	CSM	
PROJECT	7393	



DOMESTIC LAYOUT THIRD FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000mm

GENERAL NOTES

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- PROVIDE ISOLATION VALVE FOR EACH FIXTURE.
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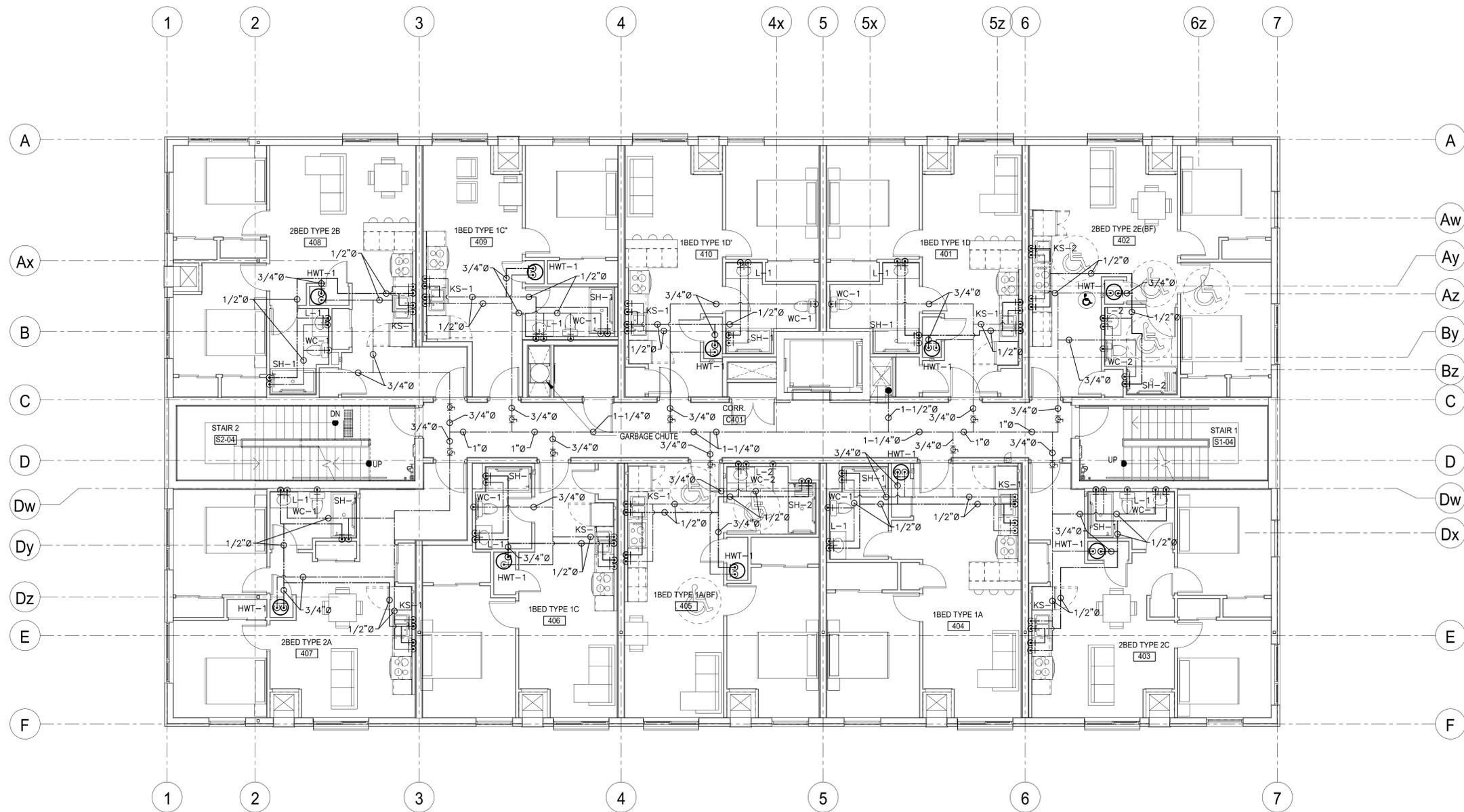
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PROJECT
COURTICE SENIOR DEVELOPMENT
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 CLARINGTON, ON

TITLE
THIRD FLOOR DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M3
APPROVED	CSM	
PROJECT	7393	



DOMESTIC LAYOUT FOURTH FLOOR
 SCALE: 1:75
 1:75

- GENERAL NOTES**
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 - SH-2 (SHOWER)

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REGISTERED PROFESSIONAL ENGINEER
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 100572425
 AUGUST 29/24
 PROVINCE OF ONTARIO

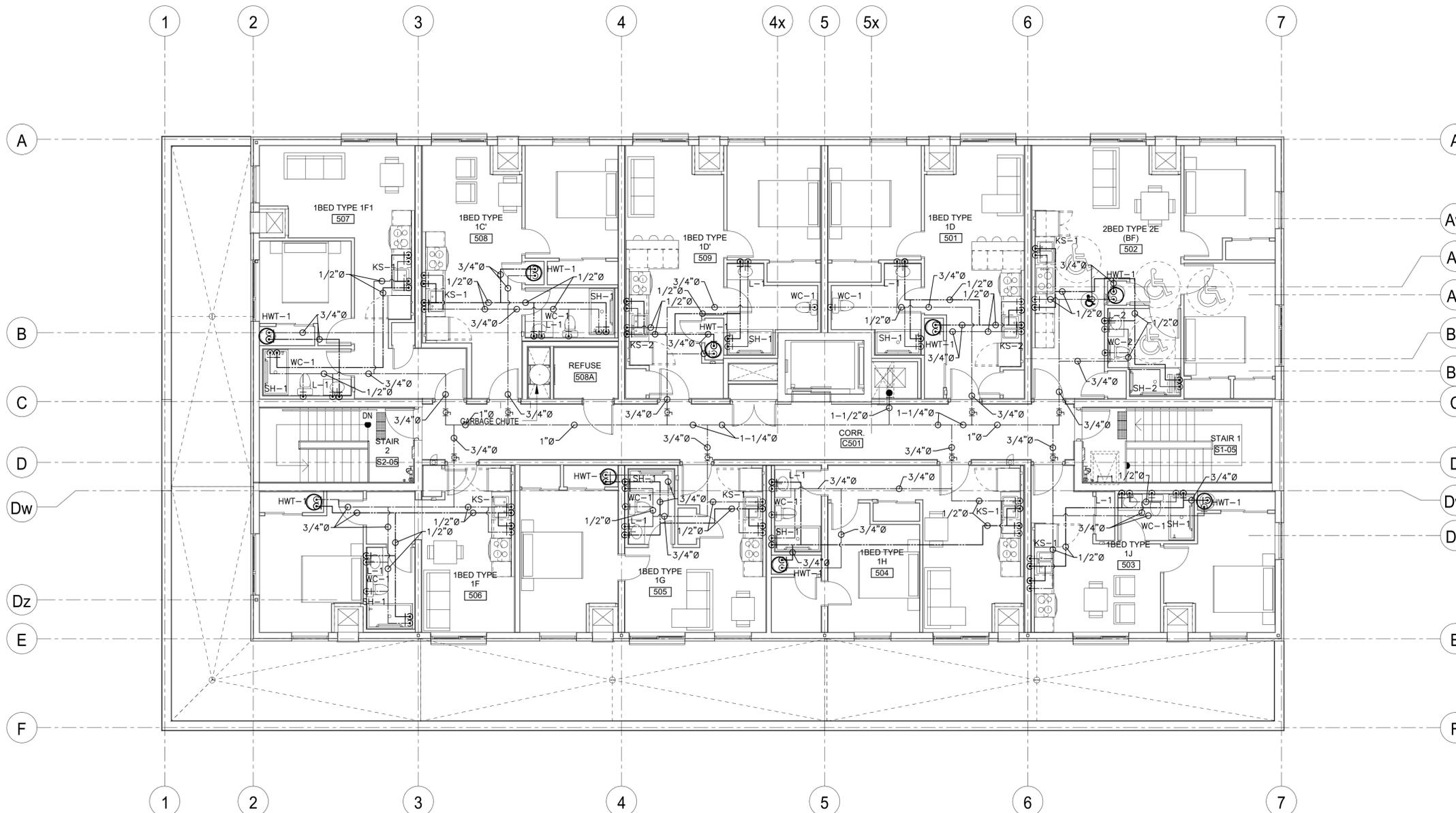
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
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TITLE
FOURTH FLOOR DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M4
APPROVED	CSM	
PROJECT	7393	

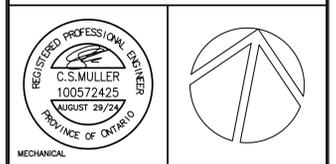


DOMESTIC LAYOUT FIFTH FLOOR
 SCALE: 1:75
 0 1000 2000 3000 4000 5000mm

- GENERAL NOTES**
- DCW AND DHW CONNECTION TO ALL PLUMBING FIXTURES TO BE 1/2"Ø.
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 - WC-2 (WATER CLOSET)
 - SH-2 (SHOWER)

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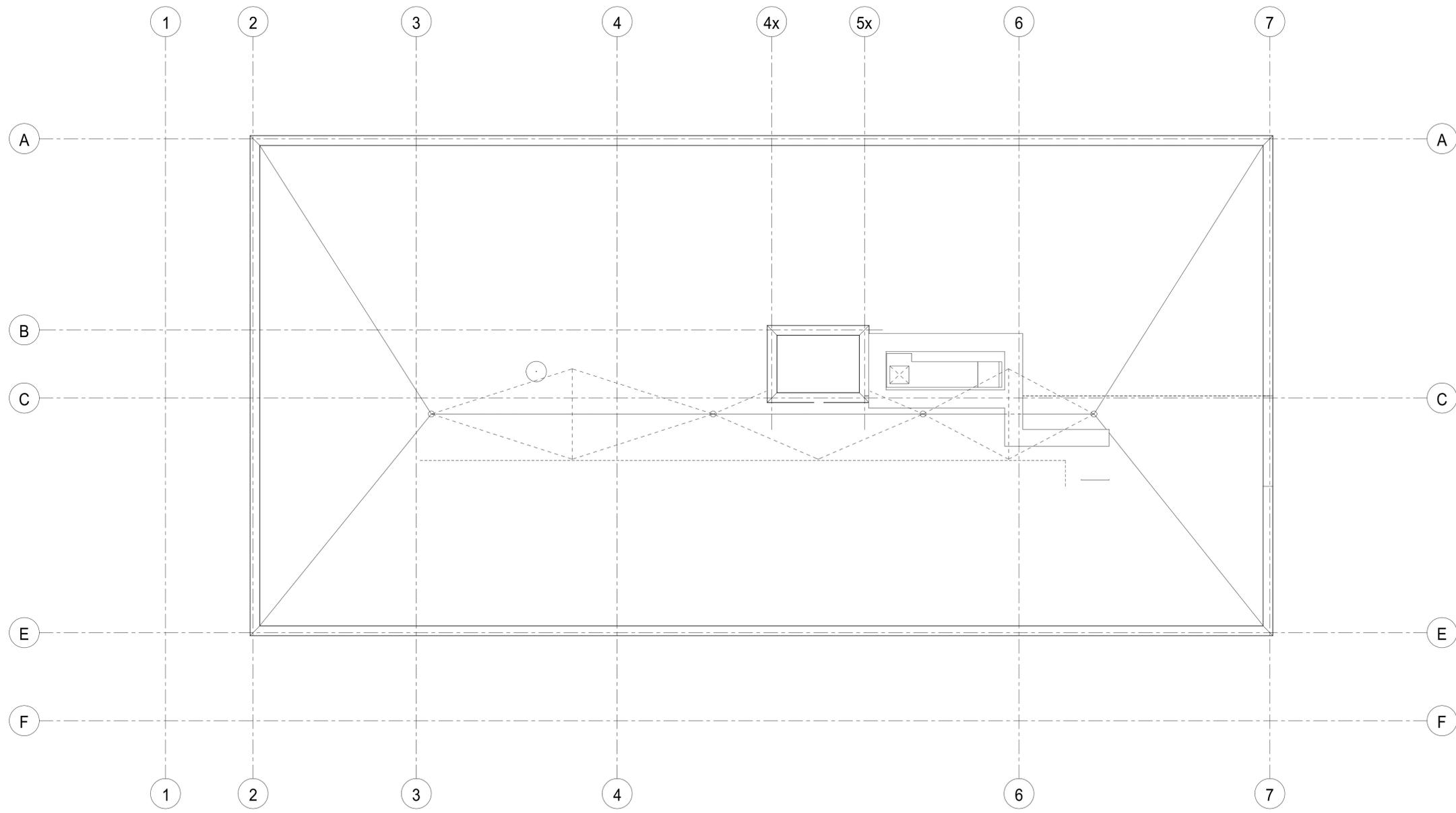
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TITLE
FIFTH FLOOR DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M5
APPROVED	CSM	
PROJECT	7393	



DOMESTIC LAYOUT ROOF
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000 mm

GENERAL NOTES

1. THERE IS NO DOMESTIC WATER ON THE ROOF AT THIS TIME. SHEET HAS BEEN INCLUDED AS A PLACEHOLDER

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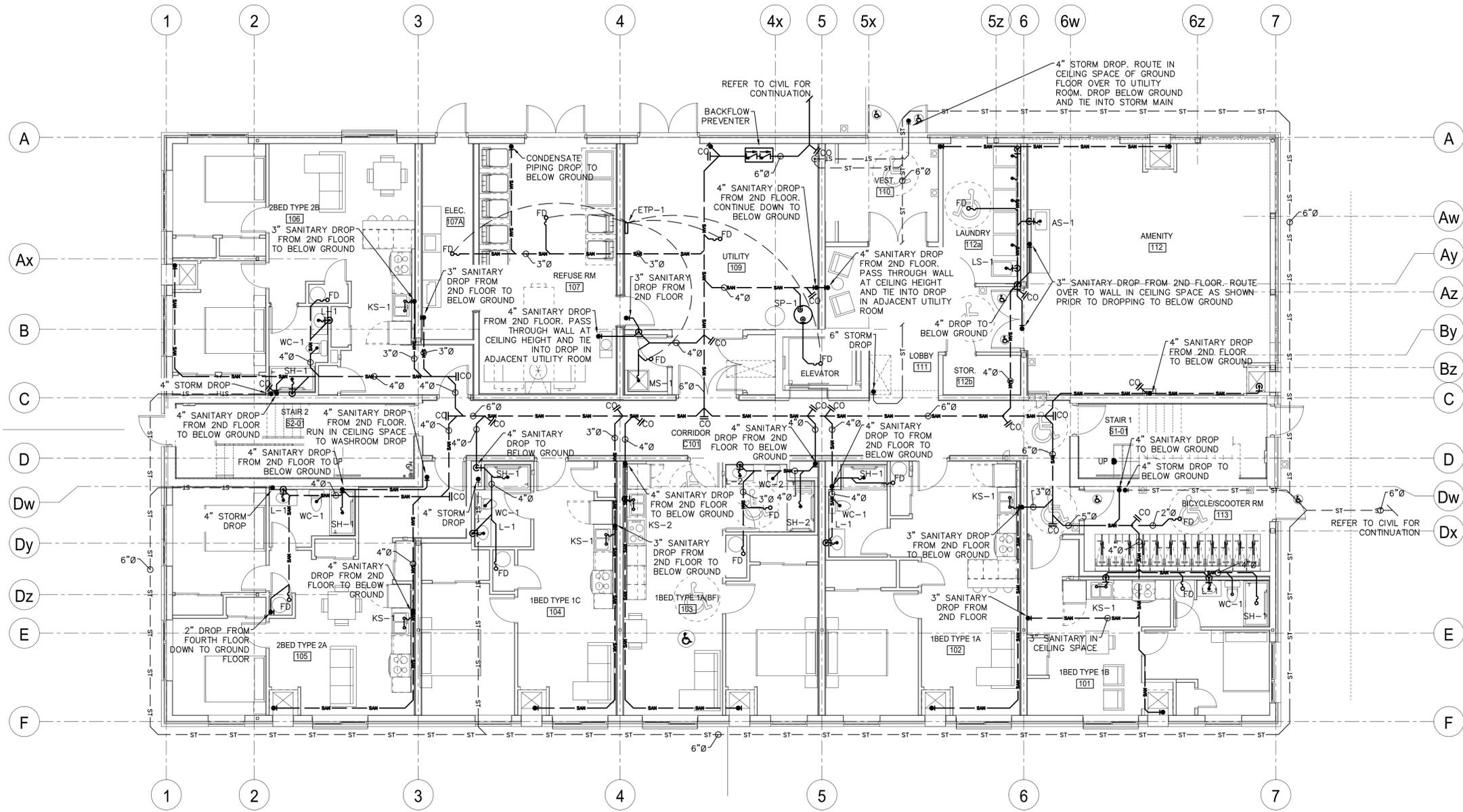
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PROJECT
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TITLE
ROOF DOMESTIC WATER

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M6
APPROVED	CSM	
PROJECT	7393	



1 SANITARY LAYOUT GROUND FLOOR
 SCALE: 1:75

GENERAL NOTES

- FLOOR DRAINS IN SUITE WATER HEATER CLOSETS TO BE INSTALLED COMPLETE WITH MECHANICAL TRAP SEAL PRIMER, SIOUX CHIEF #695, OR EQUIVALENT, CONNECT TO COLD WATER LINE IN ADJACENT WASHROOM.

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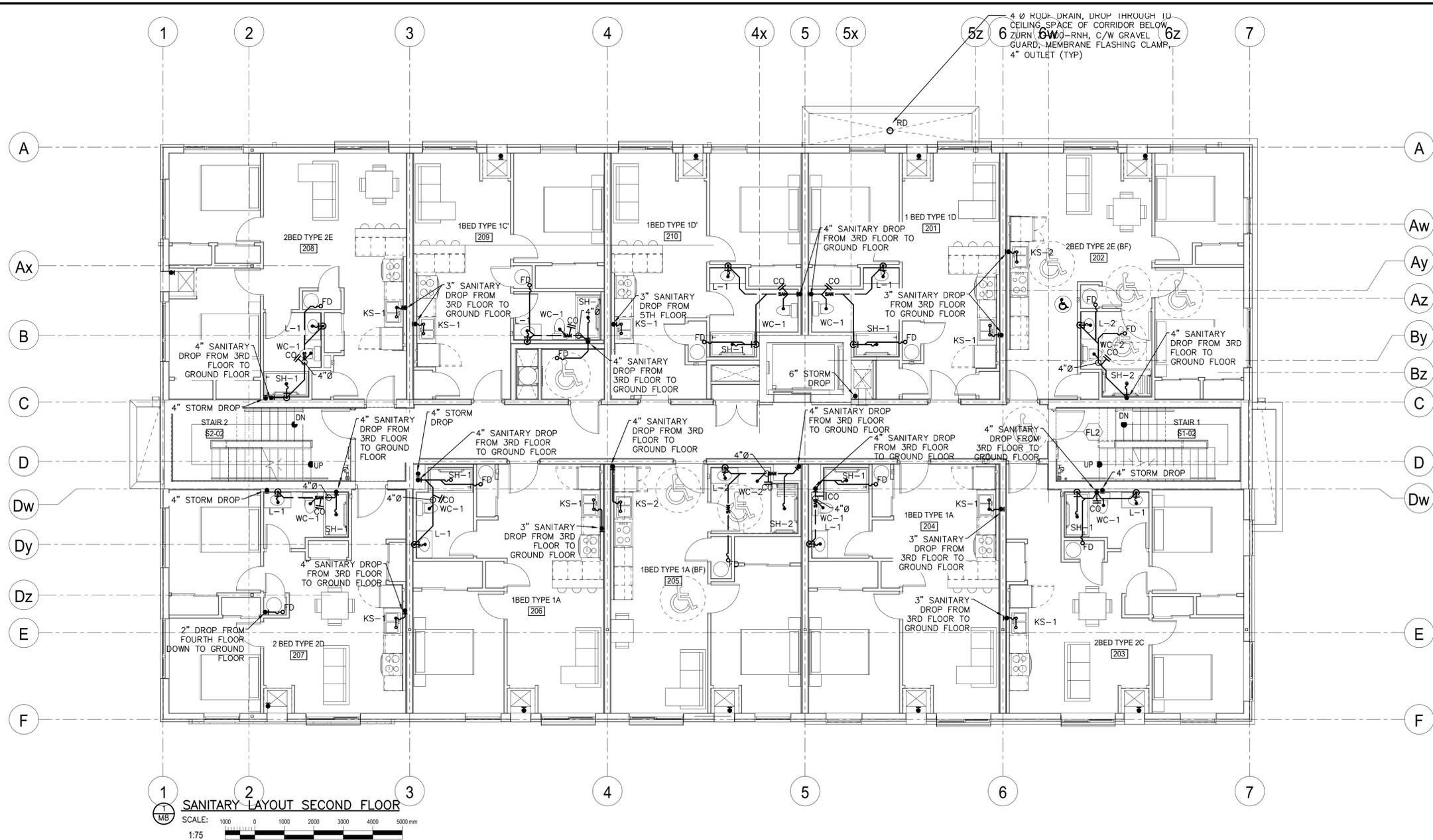
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
GROUND FLOOR SANITARY

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M7
APPROVED	CSM	
PROJECT	7393	



1 2 3
SANITARY LAYOUT SECOND FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000mm

NO.	DESCRIPTION	DATE	BY
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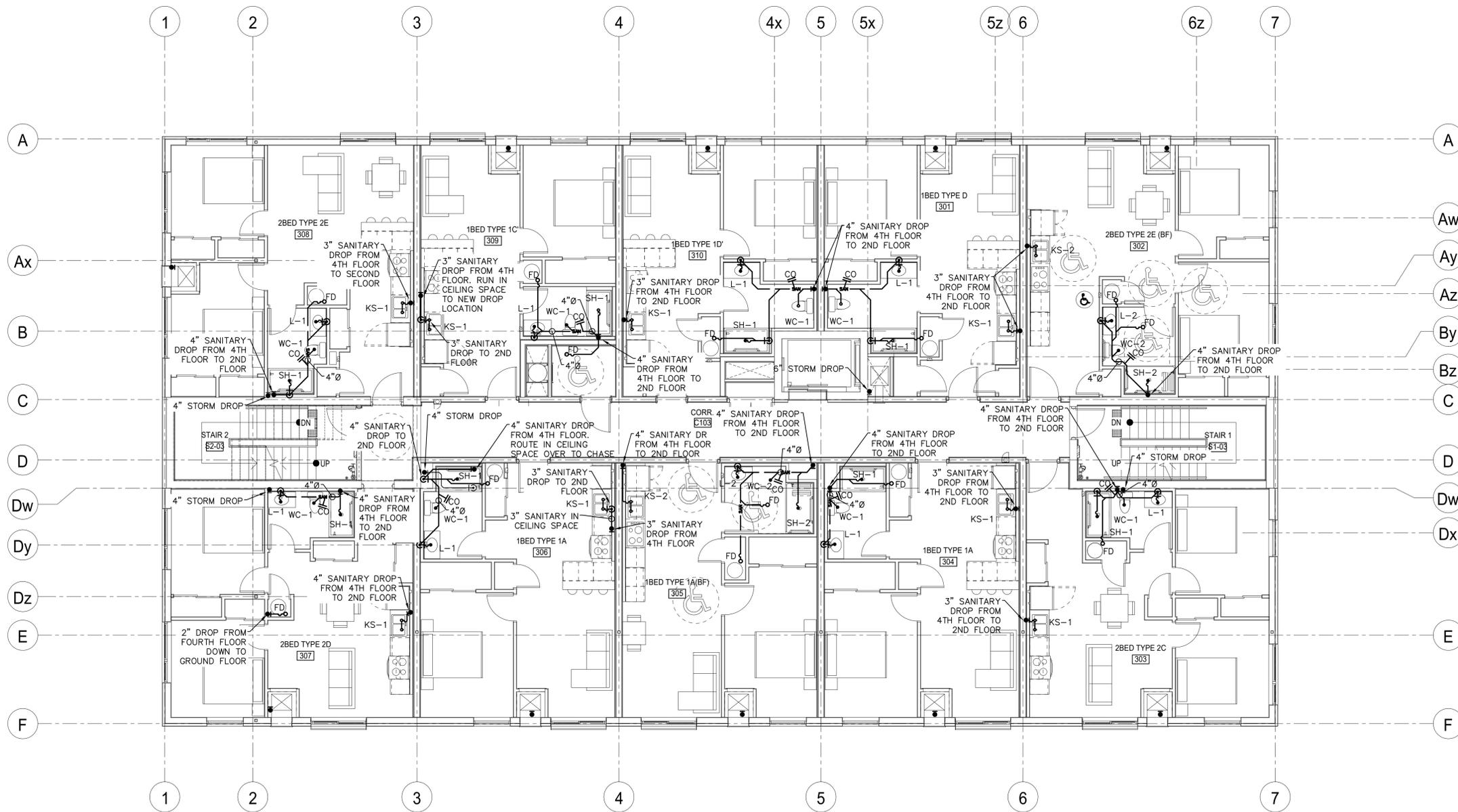
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TITLE
SECOND FLOOR SANITARY

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M8
APPROVED	CSM	
PROJECT	7393	



SANITARY LAYOUT THIRD FLOOR
 SCALE: 1:75
 1 MS

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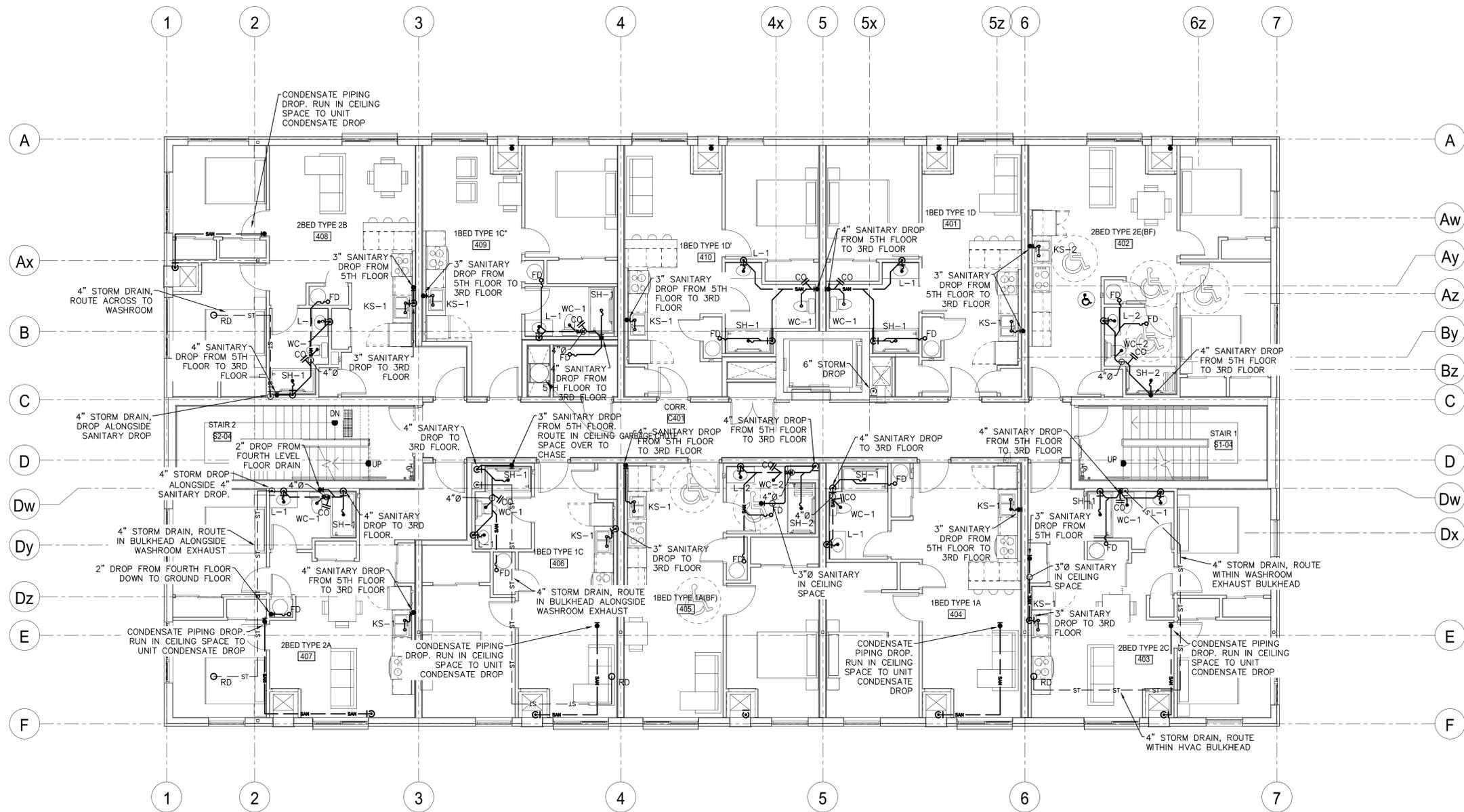
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TITLE
THIRD FLOOR SANITARY

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M9
APPROVED	CSM	
PROJECT	7393	



1 **MT10** **SANITARY LAYOUT FOURTH FLOOR**
 SCALE: 1:75
 0 1000 2000 3000 4000 5000 mm

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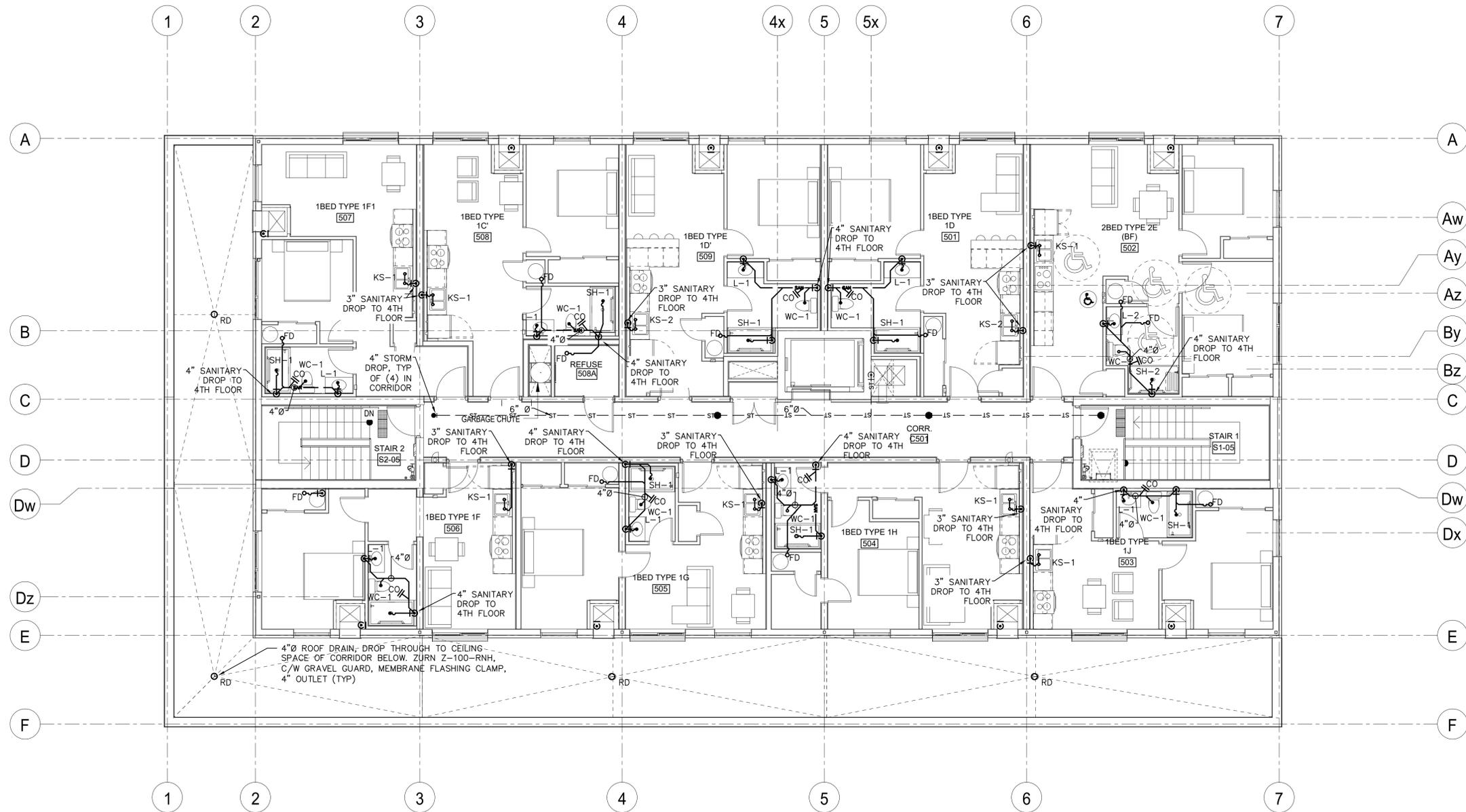
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PROJECT
COURTICE SENIOR DEVELOPMENT
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TITLE
FOURTH FLOOR SANITARY

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M10
APPROVED	CSM	
PROJECT	7393	



1 M11 SANITARY LAYOUT FIFTH FLOOR
 SCALE: 1:75

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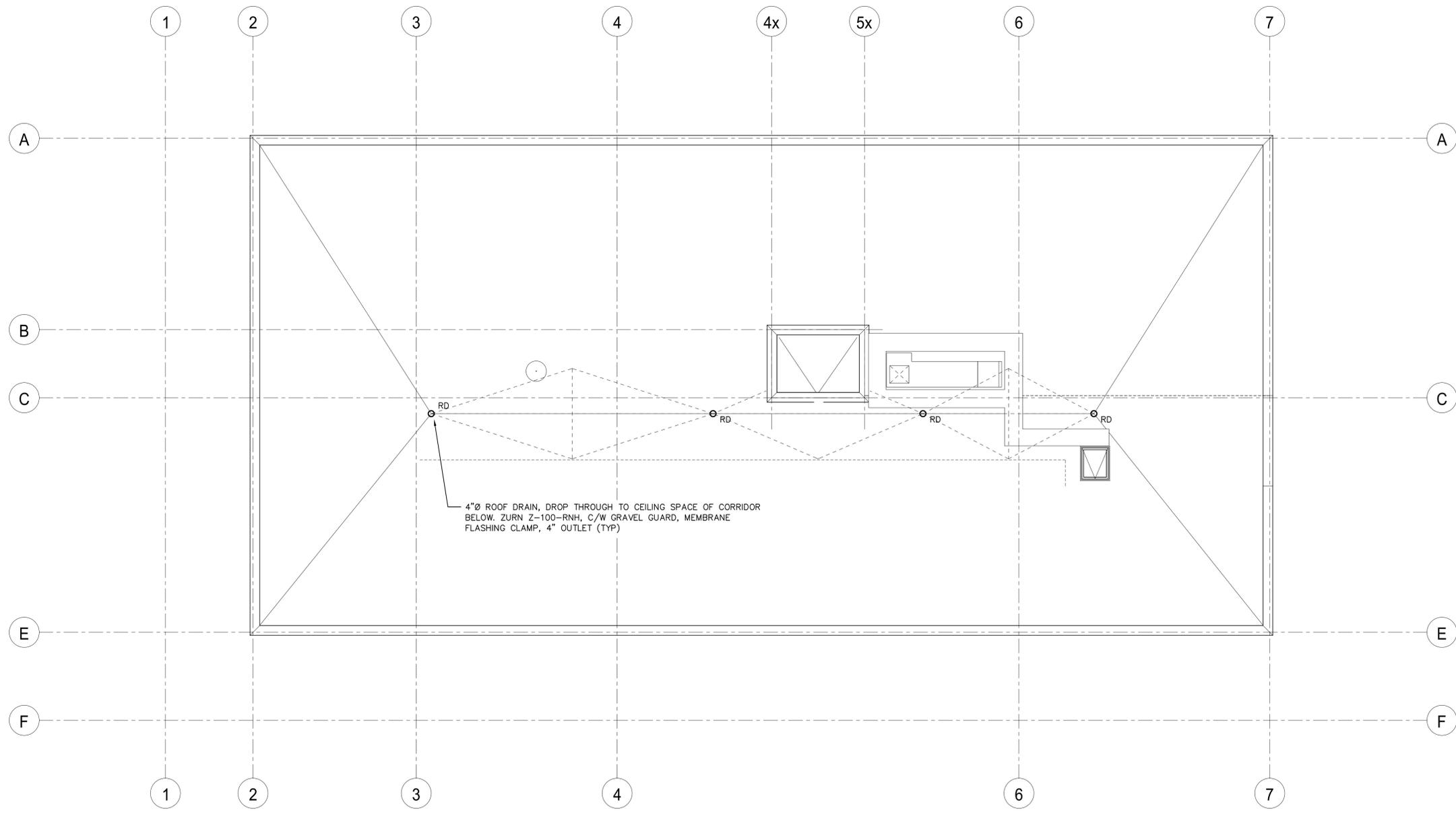
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TITLE
FIFTH FLOOR SANITARY

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M11
APPROVED	CSM	
PROJECT	7393	



1 SANITARY LAYOUT ROOF
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000mm

REVISIONS			
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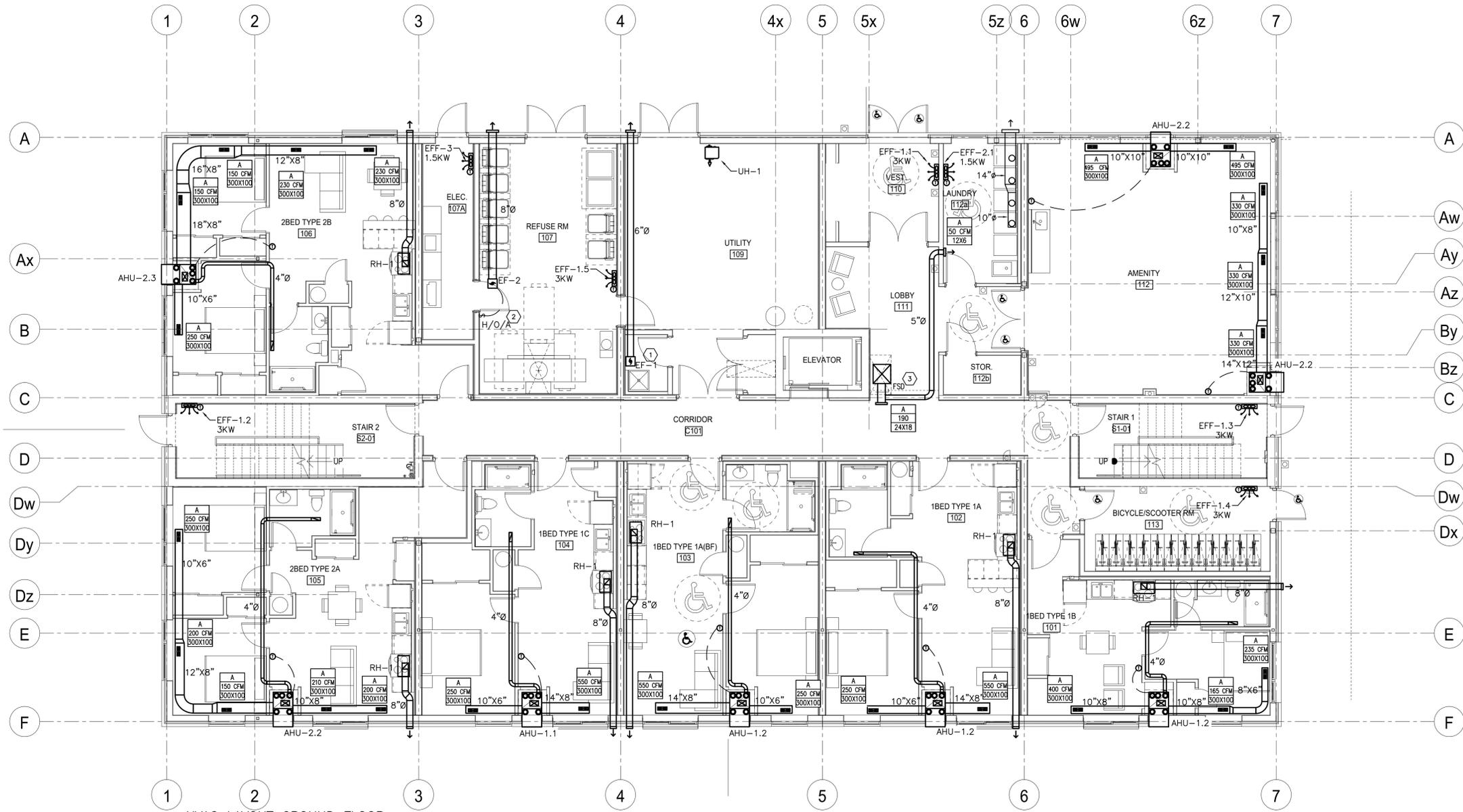
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
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TITLE
ROOF AND SANITARY DETAILS

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M12
APPROVED	CSM	
PROJECT	7393	



HVAC LAYOUT GROUND FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000 mm

- GENERAL NOTES**
- INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT, FOR ALL UNITS.
 - ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL, POWER BY ELECTRICAL.
 - AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
 - SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.

- DRAWING NOTES**
- EXHAUST FAN CONTROL INTERLOCKED WITH LIGHTING CONTROLS. EXHAUST FAN SUPPLIED AND INSTALLED BY MECHANICAL, CONTROLS BY ELECTRICAL.
 - HAND/OFF/AUTO FOR GARBAGE ROOM, BY MECHANICAL, ON AUTO SHALL BE SET TO RUN CONTINUOUSLY.
 - FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL. POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL.

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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
GROUND FLOOR HVAC

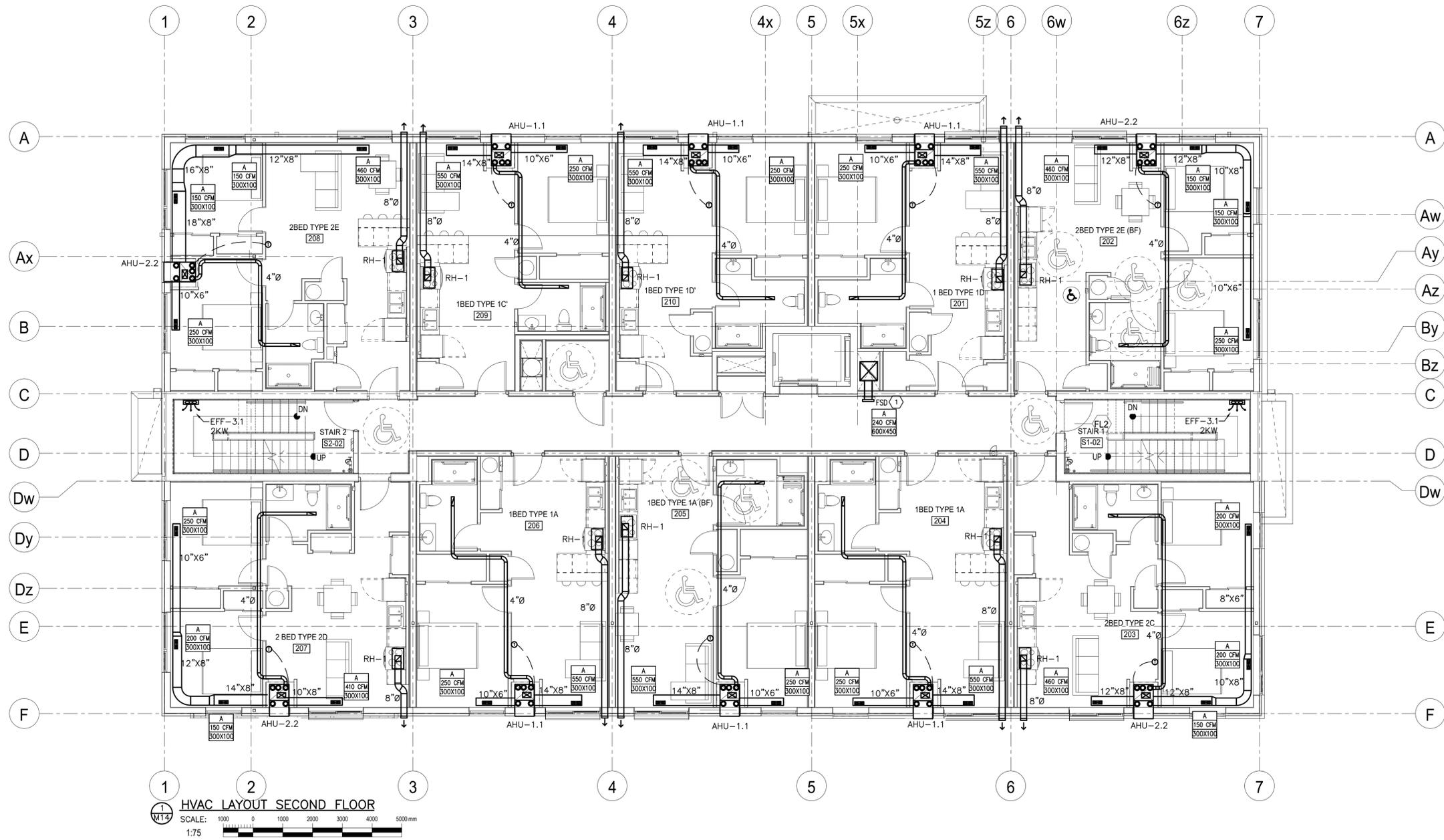
DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M13
APPROVED	CSM	
PROJECT	7393	

VENTILATION NOTES

- 2 BEDROOM UNIT IS SHOWN, WHICH REQUIRES 46 CFM OF FRESH AIR. EACH HEAT PUMP UNIT PROVIDES 70 CFM FOR FRESH AIR, THEREFORE IS SUFFICIENT FOR BOTH THE TWO BEDROOM AND THE ONE BEDROOM UNITS.

Room Name	Occupant Load	Square Footage	Occupancy Category (ASHRAE 62.1 Table 6.2.2.1)	People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/ft²)	Fresh air Required (CFM)
Ground Floor Corridor	0	515	General - Corridor	0	0.06	30.9
Ground Floor Lobby	2	242	General - Conference/meeting	5	0.06	24.52
Ground Floor Laundry	1	135	Hotels/Motels/Resorts/Dorms - Laundry Rooms, central	5	0.12	21.2
2 B/R unit, typ	2	546	Residential - Dwelling Unit	5	0.06	42.76
Total Fresh Air Required						76.62

MUA supplies 190 CFM of fresh air to floor common spaces, satisfying the required ventilation rate of 77 cfm. HP Units to supply 70 CFM, satisfying suite requirements



HVAC LAYOUT SECOND FLOOR
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 3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
 4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.

- DRAWING NOTES**
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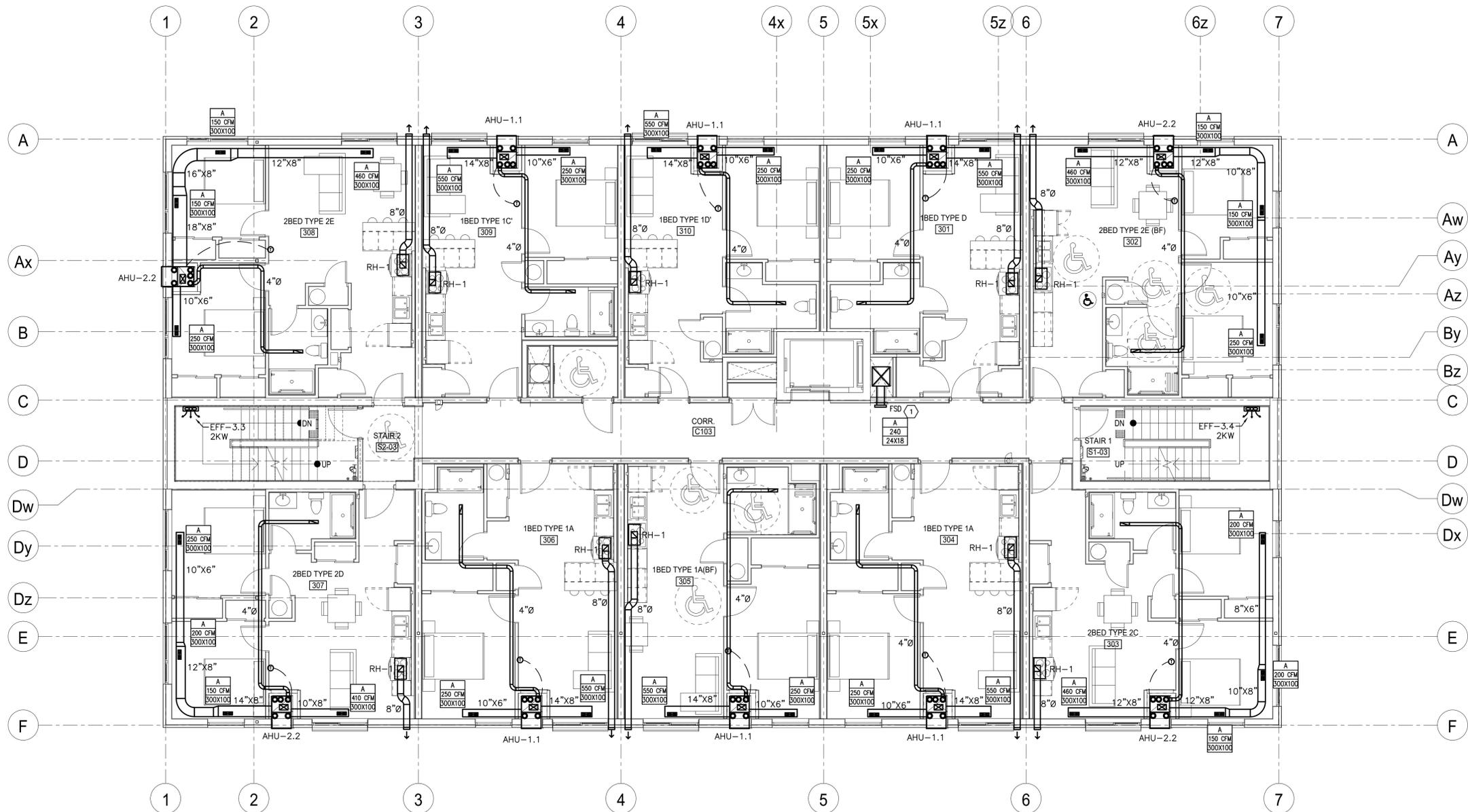
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
SECOND FLOOR HVAC

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M14
APPROVED	CSM	
PROJECT	7393	



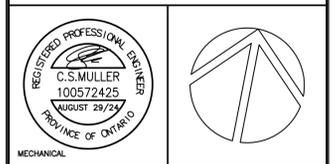
HVAC LAYOUT THIRD FLOOR
 SCALE: 1:75
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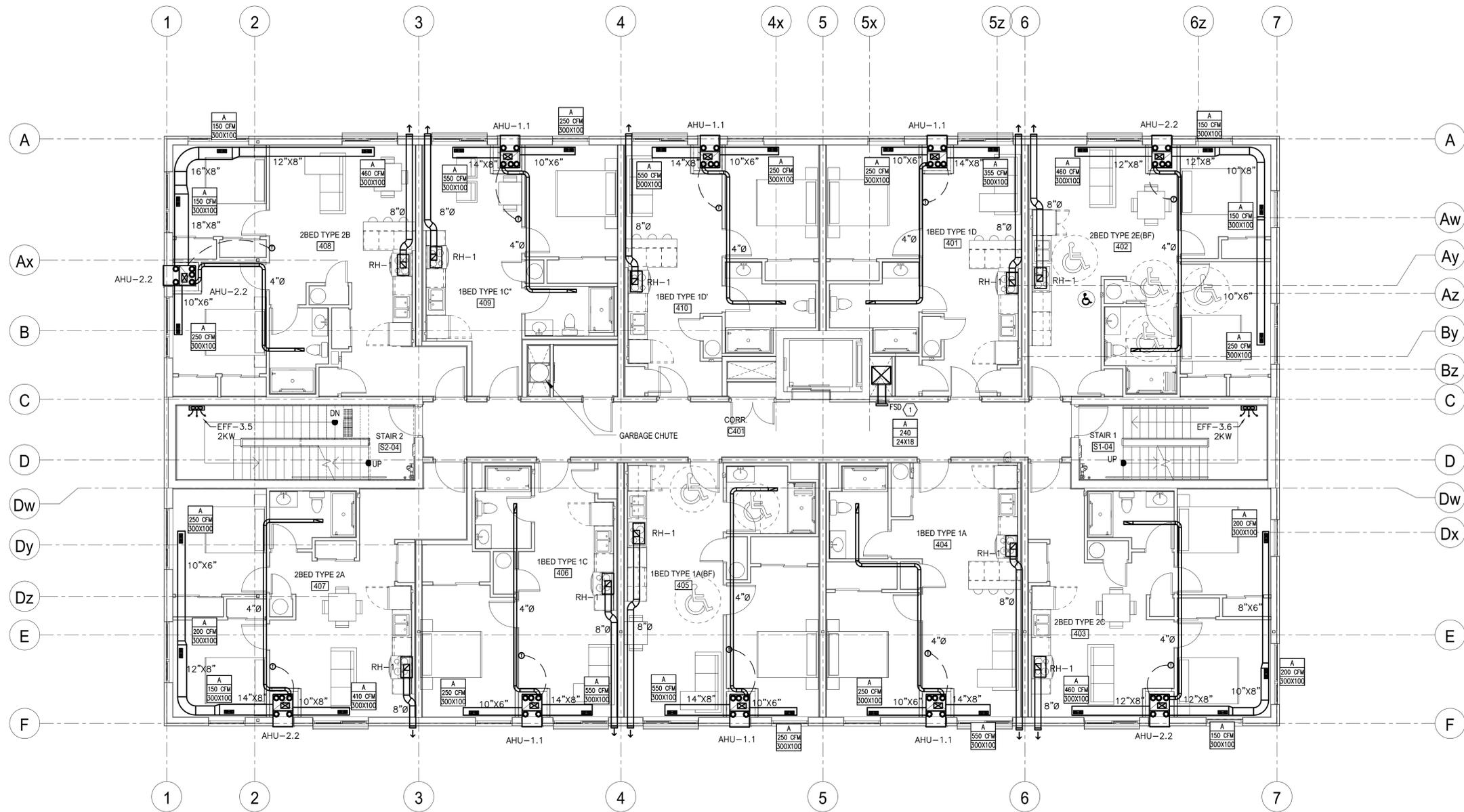
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PROJECT
COURTICE SENIOR DEVELOPMENT
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 CLARINGTON, ON

TITLE
THIRD FLOOR HVAC

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M15
APPROVED	CSM	
PROJECT	7393	



HVAC LAYOUT FOURTH FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000mm

GENERAL NOTES

1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT, FOR ALL UNITS.
2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL, POWER BY ELECTRICAL.
3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.
5. ALL IN-SUITE UNITS UPDATED TO VERTICAL HEAT PUMP AHU'S. DUCTING HAS BEEN MODIFIED TO SUIT.

DRAWING NOTES

- 1 FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL. POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL.

REVISIONS			
NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

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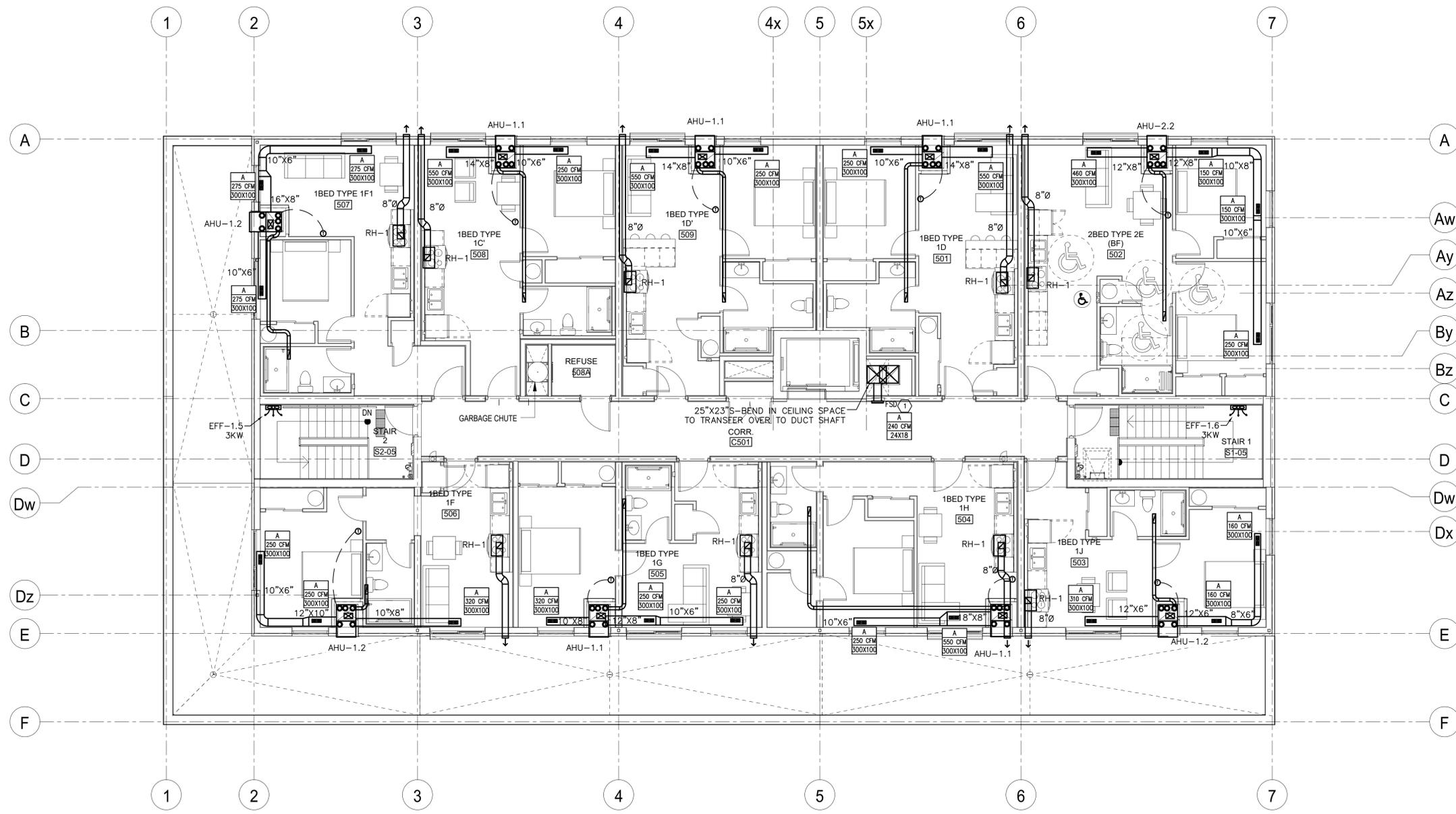
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
FOURTH FLOOR HVAC

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M16
APPROVED	CSM	
PROJECT	7393	



HVAC LAYOUT FIFTH FLOOR
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000 mm

GENERAL NOTES

1. INSULATE ALL FRESH AIR INTAKE DUCTS FROM EXTERIOR WALL TO UNIT, FOR ALL UNITS.
2. ELECTRIC FAN FORCED HEATERS SUPPLIED AND INSTALLED BY MECHANICAL, POWER BY ELECTRICAL.
3. AHU'S HAVE INTEGRAL SUPPLEMENTAL ELECTRIC HEAT. REFER TO SCHEDULE FOR DETAILS.
4. SUITE WASHROOM EXHAUST IS INTEGRAL TO SUITE AIR HANDLING UNIT ERV SYSTEM.
5. ALL IN-SUITE UNITS UPDATED TO VERTICAL HEAT PUMP AHU'S. DUCTING HAS BEEN MODIFIED TO SUIT.

DRAWING NOTES

- 1 FSD TO BE SUPPLIED AND INSTALLED BY MECHANICAL. POWER AND INTERCONNECTION WITH SMOKE DETECTOR BY ELECTRICAL.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

REVISIONS
 Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
 C.S. MULLER
 100572425
 AUGUST 29/24
 PROVINCE OF ONTARIO

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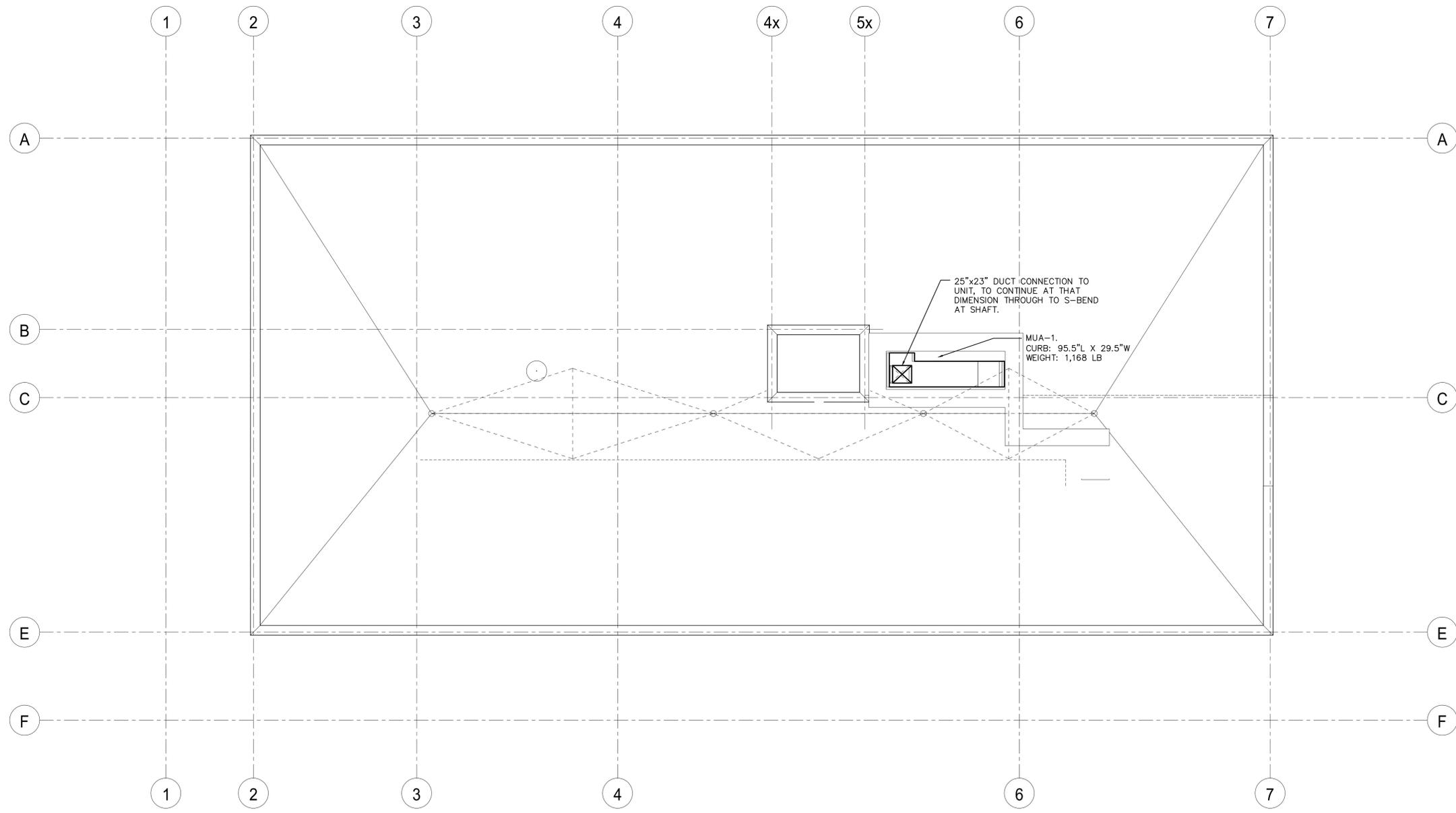
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
5TH FLOOR HVAC LAYOUT

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M17
APPROVED	CSM	
PROJECT	7393	



M18 HVAC LAYOUT ROOF
 SCALE: 1:75
 1000 0 1000 2000 3000 4000 5000 mm

REVISIONS			
NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

Kirkland Engineering Ltd BCIN: 28857



MECHANICAL
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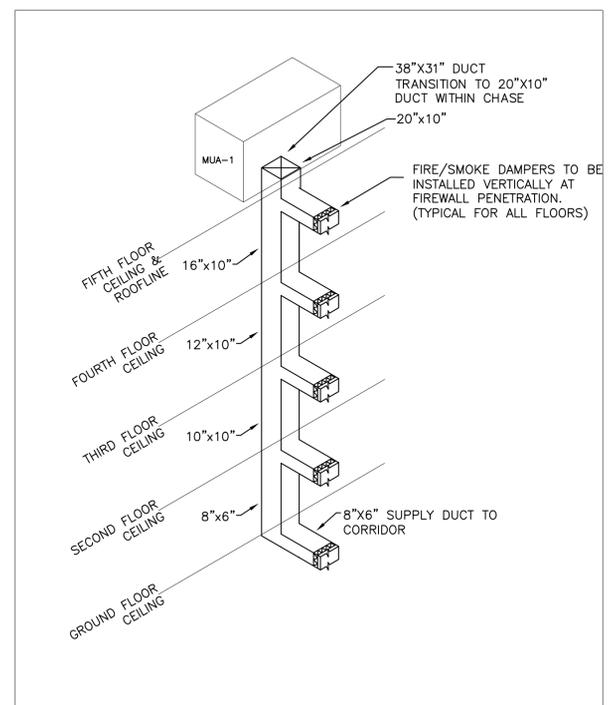
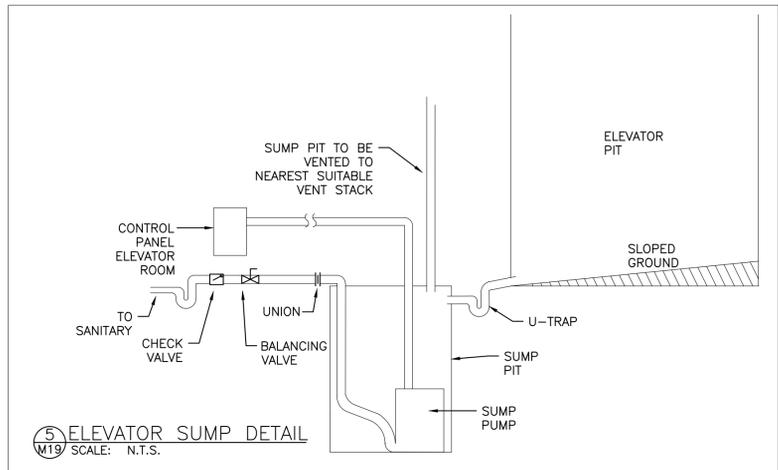
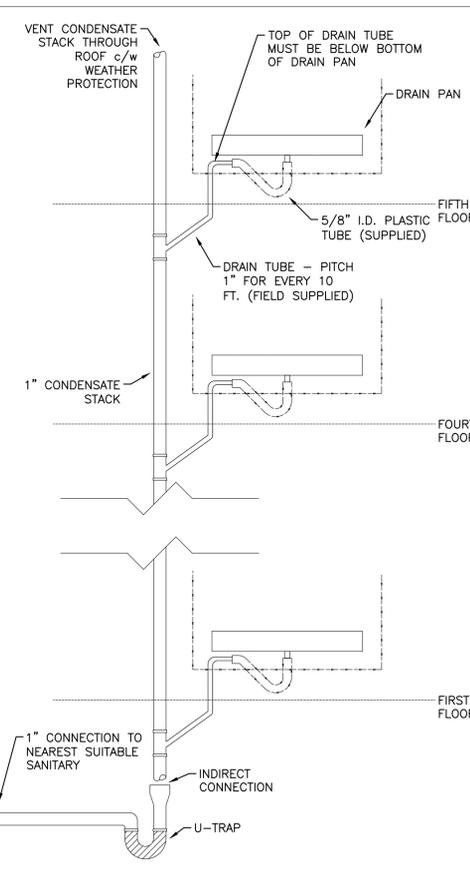
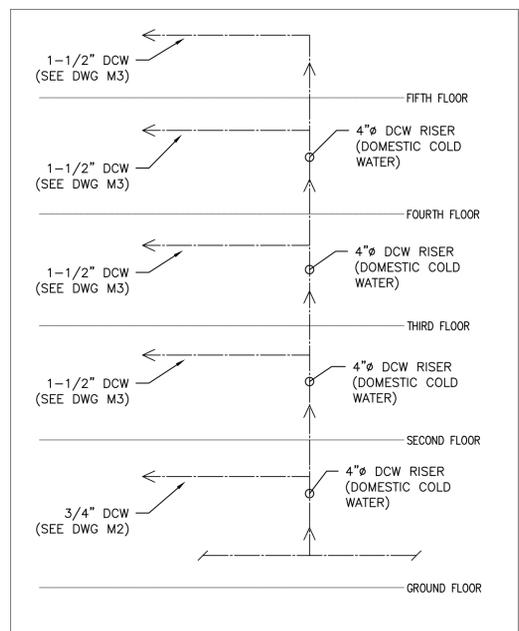
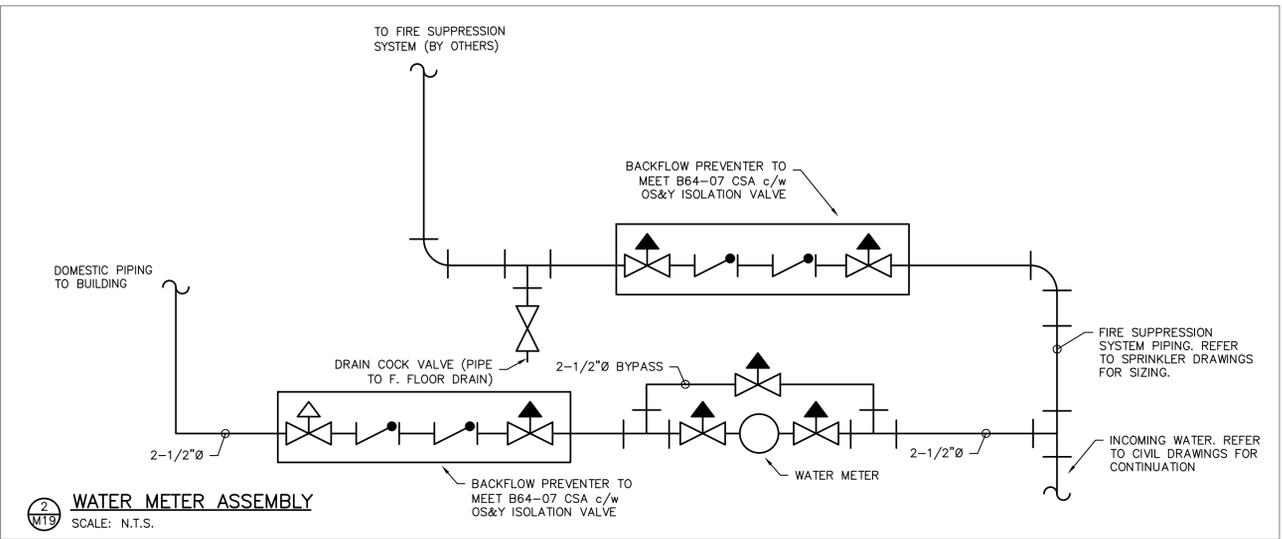
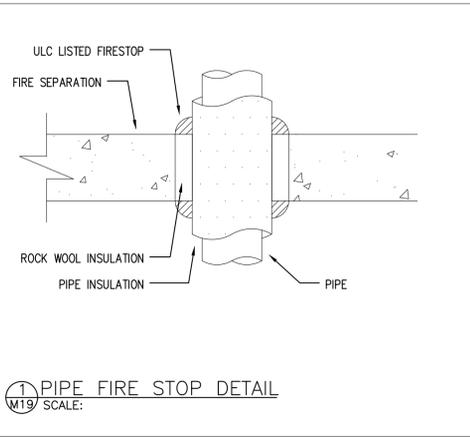
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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
ROOF HVAC LAYOUT

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M18
APPROVED	CSM	
PROJECT	7393	



NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

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PROJECT
COURTICE SENIOR DEVELOPMENT
1697 HIGHWAY No 2 CLARINGTON, ON

TITLE
MECHANICAL DETAILS

DESIGN	CM	SCALE AS NOTED
DRAWN	ABS	DWG NO.
CHECKED	CM	M19
APPROVED	CM	
PROJECT	7393	

RANGE HOOD SCHEDULE							
IDENT.	QTY	MANUFACTURER	TYPE	POWER	MODEL	CFM/STATIC PRESSURE	REMARKS
RH-1	46	AIR KING	CEILING MTD.	120V/1/60 73W 1.0A	ADA COMPLIANT ES SERIES	251 CFM @ 0.15" WG	COMPLETE WITH WALL CONTROL, TO BE MOUNTED ON CABINETRY. COORDINATE COLOUR SELECTION WITH ARCHITECT. COORDINATE WIDTH WITH ARCHITECT.

HOT WATER HEATER							
IDENT.	QTY	MANUFACTURER	MODEL	CAPACITY	ELECTRICAL	FIRST HOUR RATING	REMARKS
HWH-1	46	BRADFORD WHITE	RE130L6	28 USG	208V 4500W	42 GPH	COMMERCIAL-GRADE RESIDENTIAL WATER HEATER. HEIGHT OF TANK: 29-9/16" DIAMETER: 20".
HWH-2	1	AOSMITH	ECT80	80 USG	208V 5500W	85 GPH	COMMERCIAL-GRADE RESIDENTIAL WATER HEATER. HEIGHT OF TANK: 60-1/2" DIAMETER: 24".

SUMP PUMP						
IDENT.	MANUFACTURER	MODEL	ELECTRICAL	DISCHARGE SIZE	CAPACITY	REMARKS
SP-1	LIBERTY	P382LE51	1/2 HP 115V/1/60	2" DISCHARGE	41 GALLON	24" X 24" PUMP. ALM-2 HIGH LEVEL ALARM COMPLETE WITH FLOATS. SIMPLEX SYSTEM.

ELECTRIC HEATERS								
IDENT.	MANUFACTURER	POWER	TYPE	MODEL	HEATING CAPACITY (kW)	FINISH	CONTROL	REMARKS
EFF-1.1 TO EFF-1.6	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC04000-T	3.0 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.
EFF-2.1	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC02000-T	1.5 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.
EFF-3.1 TO EFF-3.6	OUELLET	208/1/60	ELECTRIC FAN FORCED HEATER	OAC03000-T	2.0 kW	BY OWNER	UNIT MOUNTED THERMOSTAT	WALL MOUNTED ELECTRIC FAN FORCED HEATER ORDERED C/W WITH INTEGRAL THERMOSTAT.

ELECTRONIC TRAP PRIMER				
IDENT.	MANUFACTURER	MODEL	INLET & OUTLET	REMARKS
ETP-1	ZURN	Z1020-10	1/2"	ELECTRONIC TRAP PRIMER, 24VAC, 13mm INLET, PROGRAMMED ELECTRONIC TIMER, MANUAL OVERRIDE, 10 OUTLET c/w 120:24VAC TRANSFORMER

EXHAUST FAN SCHEDULE									
IDENT.	MANUFACTURER	TYPE	ELECTRICAL	DUCT SIZE	MODEL	CFM/STATIC PRESSURE	MOTOR (HP)	OPER. FAN (RPM)	NOTES
EF-1	GREENHECK	CEILING MTD.	120V/1/60 1.70A 128 MAX INPUT WATTS	6"	SP-B150	155 CFM @ 0.125" WG	-	1050	c/w BACKDRAFT DAMPER, DISCONNECT, MOUNTING BRACKETS, CONTROLLED BY OCCUPANCY SENSOR.
EF-2	GREENHECK	CEILING MTD.	120V/1/60 1.34A 135 MAX INPUT WATTS	8"	SP-A390	395 CFM @ 0.1" WG	-	1350	c/w BACKDRAFT DAMPER, DISCONNECT, MOUNTING BRACKETS, CONTROLLED BY OCCUPANCY SENSOR.

UNIT HEATER SCHEDULE						
IDENT.	MANUFACTURER	TYPE	POWER	HEATING	MODEL	REMARKS
UH-1.1	REZNOR	GAS-FIRED COMMERCIAL UNIT HEATER	120/1/60	IN: 30,000 BTU/H OUT: 24,600 BTU/H	UDX30	POWER VENTED, LOW STATIC AXIAL FAN COMMERCIAL/INDUSTRIAL UNIT HEATER 82-83% THERMAL EFFICIENCY. PROPANE GAS CONVERSION KIT COMPLETE WITH SINGLE-STAGE PROPANE GAS VALVE.

MUA SCHEDULE									
IDENT.	LOCATION	MANUFACTURER	TYPE	POWER	MODEL	CAPACITY (MBH)	SUPPLY	CONTROL	REMARKS
MUA-1	ROOF	GREENHECK	INDIRECT GAS MAKE UP AIR UNIT	208/60/3 MCA: 5A MOP: 15A	IGX-P109-H12-MF-C	HEATING: 100,000 IN 80,000 OUT	1,200 CFM	CONSTANT VOLUME 100% OA	GAS FIRED MAKE UP AIR UNIT, HEATING ONLY. COMPLETE WITH HOUSEKEEPING PAD, PER MANUFACTURER RECOMMENDATIONS. BOTTOM DISCHARGE NO RETURN

SUITE AHU SCHEDULE												
IDENT.	MANUFACTURER	TYPE	VOLTAGE	MIN. CIRCUIT AMPACITY (MCA)	MAX. OVERCURRENT PROTECTION (MOP)	MODEL	QTY	HEAT PUMP CAPACITY @17F DB HEATING AND @95F DB COOLING	ELECTRIC HEAT	SUPPLY	CONTROL	REMARKS
AHU-1.1 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 19A CIRCUIT 2 (ELEC HEAT): 26A	CIRCUIT 1 (HEAT PUMP): 25A CIRCUIT 2 (ELEC HEAT): 30A	EPE24205B	24	HEATING: 14.0 MBH COOLING: 23.5 MBH	5.0 KW	800 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WFS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-1.2 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 19A CIRCUIT 2 (ELEC HEAT): 36A	CIRCUIT 1 (HEAT PUMP): 25A CIRCUIT 2 (ELEC HEAT): 40A	EPE24207B	6	HEATING: 14.0 MBH COOLING: 23.5 MBH	7.0 KW	800 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WFS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-2.2 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 22A CIRCUIT 2 (ELEC HEAT): 36A	CIRCUIT 1 (HEAT PUMP): 30A CIRCUIT 2 (ELEC HEAT): 40A	EPE30207B	16	HEATING: 15.8 MBH COOLING: 25.5 MBH	7.0 KW	900 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WFS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT
AHU-2.3 SERIES	FIRST CO.	VERTICAL HEAT PUMP AHU	208/1/60	CIRCUIT 1 (HEAT PUMP): 23A CIRCUIT 2 (ELEC HEAT): 52A	CIRCUIT 1 (HEAT PUMP): 35A CIRCUIT 2 (ELEC HEAT): 60A	EPE30210B	1	HEATING: 15.8 MBH COOLING: 25.5 MBH	10.0 KW	900 CFM	THERMOSTAT	VERTICAL HEAT PUMP, COMPLETE WITH INTEGRAL ERV. C/W HONEYWELL #THX321WFS2001W THERMOSTAT, W AUX HEAT LOCKOUT AND VENTILATION CONTROL COORDINATE SELECTION OF WALL SLEEVE AND TOP PORTS WITH ROOM LAYOUT. C/W EXTERIOR LOUVER (COORDINATE COLOUR SELECTION WITH ARCHITECT). C/W LOUVERED RETURN AIR ACCESS PANEL, PART #931-20 C/W HONEYWELL #H6062 HUMIDISTAT

PLUMBING/GENERAL SCHEDULE				
IDENT.	ITEM	MANUFACTURER	MODEL	DESCRIPTION
CO	CLEAN OUT	MIFAB	C1100	ADJUSTABLE FLOOR CLEANOUT WITH CAST IRON BODY c/w 2" PIPE.
FD	FLOOR DRAIN	MIFAB	F1100	CAST IRON FLOOR DRAIN WITH POLISHED NICKEL BRONZE STRAINER
HB-1	HOSE BIBB	ZURN	Z1345-CP3	EXPOSED NON-FREEZE, ANTI-SIPHON, COLD WALL FAUCET, CHROME FINISH, 3/4" (19mm) FEMALE/MALE INLET CONNECTIONS, 3/4" MALE HOSE CONNECTION. CONTRACTOR TO SPECIFY LENGTH TO SUIT WALL THICKNESS. TO BE PROVIDED WITH ZURN #720A, 19mm (3/4") PRESSURE VACUUM BREAKER ASSEMBLY(S), SUCH THAT BACKFLOW IS PREVENTED FROM ENTERING COLD WATER PIPING. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR TENDER	2024.08.29	CSM

REVISIONS

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PROJECT
COURTICE SENIOR DEVELOPMENT
1697 HIGHWAY No 2
CLARINGTON, ON

TITLE
MECHANICAL SCHEDULES

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M20
APPROVED	CSM	
PROJECT	7393	

GENERAL MECHANICAL SPECIFICATIONS

- THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DETAILS. INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE SITE CONDITIONS SHALL BE TAKEN FROM SITE BY CONTRACTOR. CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO ACCOMMODATE THE SITE CONDITIONS.
- EQUIPMENT TO BE AS SPECIFIED OR APPROVED EQUIVALENT. DESIGN BASED ON EQUIPMENT AS SPECIFIED IN EQUIPMENT SCHEDULE AND IS NOT INTENDED TO SHOW EQUIPMENT IN EXACT LOCATIONS. CONTRACTOR IS RESPONSIBLE TO VERIFY EQUIPMENT DIMENSIONS TO ENSURE THAT EQUIPMENT WILL FIT SITE CONDITIONS. ANY COST ASSOCIATED WITH USING EQUIPMENT OTHER THAN WHAT IS SPECIFIED IS THE FULL RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA WILL BE ALLOWED FOR THESE COSTS.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS, THE SPECIFICATION, AND ALL OTHER TENDER DOCUMENTS.
- ALL PIPING AND DUCT WORK TO BE LABELED INCLUDING DIRECTION OF FLOW EVERY 8' AND EACH CHANGE IN DIRECTION.
- CONTRACTOR IS RESPONSIBLE TO ENSURE ALL EQUIPMENT AND MATERIALS CAN FIT INTO MECHANICAL ROOM OR ITS PLACE, THROUGH FINISHED OPENINGS, OR THAT MATERIAL IS PLACED IN MECHANICAL ROOM AT APPROPRIATE PHASE OF CONSTRUCTION.
- PRIOR TO SUBMITTING TENDERS, THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL EXISTING CONDITIONS. ALLOW FOR ALL COSTS ASSOCIATED WITH COMPLETING THE WORK OF MECHANICAL DIVISION IN ACCORDANCE WITH EXISTING SITE AND BUILDING CONDITIONS. CONTRACTOR TO VERIFY LOCATION OF EXISTING UTILITY CONNECTIONS WHERE CONNECTIONS ARE REQUIRED. CONTRACTOR TO VERIFY LOCATION, DEPTH, ELEVATION, AND SIZE OF INVERT. NO ALLOWANCE FOR EXTRA PAYMENTS TO THE CONTRACTOR WILL BE MADE BY THE OWNER FOR FAILING TO VISIT AND EXAMINE SITE CONDITIONS.
- SUB-CONTRACTOR SHALL MAINTAIN SUCH INSURANCE AS WILL FULLY PROTECT BOTH THE OWNER AND THE SUB-CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKMEN'S COMPENSATION ACT, ALSO ALL INSURANCE.
- MAINTAIN A SEPARATE SET OF WHITE PRINTS ON THE SITE AND NOTE ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL DESIGN. TWO SETS OF THESE DRAWINGS SHOWING ALL AS-BUILT CONDITIONS SHALL BE FORWARDED TO THE OWNER AT THE COMPLETION OF THIS CONTRACT AND BEFORE APPLYING FOR FINAL PAYMENT.
- ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL NOT BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY THE OWNER. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC.
- BE RESPONSIBLE TO KEEP THE AREA CLEAN AT ALL TIMES AND TO PERIODICALLY REMOVE ALL DEBRIS. CONSTRUCTION AREA TO BE ISOLATED BY MEANS OF TARPS AND/OR TEMPORARY PARTITIONS.
- ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THIS DIVISION. CUTTING AND DRILLING SHALL BE PERFORMED IN A MANNER SO AS TO CAUSE LITTLE DAMAGE. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.
- BE RESPONSIBLE TO COORDINATE THE INSTALLATION OF EQUIPMENT, DUCTING, PIPING, ETC. WITH OTHER TRADES AND THE OWNER'S REPRESENTATIVE PRIOR TO THE ACTUAL INSTALLATION.
- BE RESPONSIBLE FOR MECHANICAL WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.
- SHOP DRAWINGS AND PRODUCT DATA. "SHOP DRAWINGS" MEANS DRAWINGS, DIAGRAMS, ILLUSTRATIONS, SCHEDULES, PERFORMANCE, CHARTS, BROCHURES, AND OTHER DATA WHICH ARE TO BE PROVIDED BY THE CONTRACTOR TO ILLUSTRATE DETAILS OF A PORTION OF THE WORK. INDICATE MATERIALS METHODS OF CONSTRUCTION AND ATTACHMENT OR ANCHORAGE, NECESSARY FOR COMPLETION OF WORK. ADJUSTMENTS MADE ON SHOP DRAWINGS BY OWNER OR ENGINEER ARE NOT INTENDED TO CHANGE CONTRACT PRICE. MAKE CHANGES IN SHOP DRAWINGS AS OWNER OR ENGINEER MAY REQUIRE. SUBMIT 6 HARD COPIES, OR 1 HIGH QUALITY ELECTRONIC COPY OF PRODUCT DATA SHEETS OR BROCHURES FOR ALL MECHANICAL EQUIPMENT. PROVIDE 2 MAINTENANCE MANUALS COMPLETE WITH WARRANTY, CERTIFICATE OF INSPECTIONS, AND COPY OF ALL PRODUCT LITERATURE AND MAINTENANCE INFORMATION.
- PRIOR TO FINAL INSPECTION DEMONSTRATE OPERATION OF EACH SYSTEM TO OWNER AND ENGINEER. INSTRUCT PERSONNEL IN OPERATION ADJUSTMENT AND MAINTENANCE OF EQUIPMENT AND SYSTEMS, USING PROVIDED OPERATION AND MAINTENANCE DATA AS BASIS FOR INSTRUCTION.
- AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE YEAR COVERING WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY DEFECTS DUE TO WORKMANSHIP OR MATERIALS WHICH IN THE OWNER'S OPINION, ARE NOT DUE TO MISUSE OR NEGLIGENCE.
- THE MECHANICAL CONTRACTOR SHALL ENSURE THAT EVERY FIXTURE, PLUMBING APPLIANCE, INTERCEPTOR, CLEANOUT, VALVE, DEVICE OR PIECE OF EQUIPMENT SHALL BE LOCATED IN A MANNER THAT IT IS READILY ACCESSIBLE FOR USE, CLEANING, MAINTENANCE OR REPAIR. MECHANICAL CONTRACTOR SHALL PROVIDE ACCESS DOORS LARGE ENOUGH TO PERMIT EASY ACCESS TO CONCEALED FIXTURES, PLUMBING APPLIANCES, FIRE DAMPERS, INTERCEPTORS, CLEANOUTS, VALVES, DEVICES OR PIECES OF EQUIPMENT.
- CONTRACTOR SHALL CARRY THE SERVICES OF AN APPROVED FIRE STOPPING INSTALLER AND SHALL PROVIDE ALL FIRE STOPPING FOR ALL MECHANICAL AND ELECTRICAL PENETRATIONS. PROVIDE SHOP DRAWINGS FOR FIRE STOPPING MATERIALS USED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THEIR PROPERTY. THE OWNER BEARS NO RESPONSIBILITY FOR PROTECTION FROM THEFT, FIRE, OR ENVIRONMENTAL CONDITIONS.
- ALL PIPING AND DUCTING SHOWN FOR SCHEMATIC AND SCOPE OF WORK PURPOSES IN GENERAL LOCATION OF USE. COORDINATE EXACT ROUTING ON SITE AND WITH BEST PRACTICES.

GENERAL PLUMBING SPECIFICATIONS

- ALL HOT AND COLD WATER PIPING AFTER THE MAIN BUILDING CWS ISOLATION VALVE SHALL BE HARD COPPER TYPE L PIPING WHICH SHALL CONFORM TO ASTM B42 AND ASTM B88.
- ALL DOMESTIC WATER PIPING TO BE INSULATED c/w VAPOUR BARRIER. PIPE INSULATION TO CONFORM O.B.C. TABLE 12.3.4.5.
- ALL DRAINAGE, WASTE, AND VENT PIPE TO BE PVC DWV WITH FLAME SPREAD RATING < 25. PIPES TO BE XFR WHERE PENETRATING FIRE RATED WALLS.
- WATER HAMMER ARRESTORS TO BE STAINLESS STEEL BELLOWS TYPE; WATTS SS-A OR APPROVED EQUIVALENT.
- ROUTE ABOVE GROUND PIPING IN CEILING SPACE OF WALL INTERIORS FOR CONCEALMENT WHERE EVER POSSIBLE UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS. COORDINATE PIPE INSTALLATION IN WALLS WITH MASON AND OR DRYWALLER OR APPROPRIATE TRADE INVOLVED.
- INSTALL ISOLATION VALVES IN EACH BRANCH LINE FROM COLD AND HOT WATER MAINS, AT BASE OF EACH RISER, AND BEFORE EACH FIXTURE OR EQUIPMENT CONNECTED TO COLD/HOT WATER SYSTEM. PROVIDE A FIRE RATED ACCESS DOOR AT EACH CONCEALED VALVE.
- INSTALL FLANGES OR UNIONS TO PERMIT REMOVAL OF EQUIPMENT WITHOUT DISTURBING PIPING SYSTEMS.
- PROVIDE COMPLETE DRAINAGE AND VENT SYSTEMS TO SERVE FIXTURES AND ITEMS SPECIFIED AND AS SHOWN ON PLANS.
- WHERE EXPOSED PIPES PASSES THROUGH FINISHED FLOORS, WALLS, OR CEILINGS, PROVIDE CHROME PLATED ESCUTCHEON WITH SET SCREW.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY MATERIALS & LABOUR TO MAINTAIN ALL FIRE SEPARATIONS AFFECTED BY THE WORK PERFORMED.
- GRADE HORIZONTAL SANITARY DRAINAGE AND VENT PIPING AT MINIMUM 1:50.
- ALL FAUCET AND TOILET SUPPLY LINES SHALL BE STAINLESS BRAIDED HOSE.
- ALL FLOOR DRAINS TO BE TRAPPED, PRIMED, AND VENTED WITH STRAINER INSTALLED FLUSH WITH FINISHED FLOOR. SUPPLY AND INSTALL PRIMER AND TUBING FROM CLOSEST COLD WATER BRANCH, C/W SPECIALTY BLEED VALVE (P.P.P. OR EQUAL), UNLESS OTHERWISE SPECIFIED IN DRAWINGS.
- EXPOSED P-TRAPS SHALL BE CHROME PLATED BRASS.
- SIZE OF DRAINAGE PIPE SERVING FIXTURES:

DISHWASHER	1-1/2" (38mm)	LAVATORY	1-1/2" (38mm)
SINK	1-1/2" (38mm)	SHOWER	1-1/2" (38mm)
SERVICE SINK	1-1/2" (38mm)	URINAL	2" (51mm)
WC	3" (76mm)	FLOOR DRAIN	2" (51mm)
- SIZE OF EITHER CWS & HWS ISOLATION VALVES SERVING FIXTURES:

DISHWASHER	1/2" (13mm)	LAVATORY	1/2" (13mm)
SINK	1/2" (13mm)	SHOWER	1/2" (13mm)
SERVICE SINK	1/2" (13mm)	URINAL	3/4" (19mm)
WC	1/2" (13mm)	WF	1/2" (13mm)
- ALL PIPING FITTINGS WITH TERMINAL EQUIPMENT SHALL BE LEAD FREE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE INSULATION OF THE STORM PIPES INSIDE THE BUILDING.
- ALL PIPING IS TO BE STRAIGHT, PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE. SLOPE ALL PIPING TO DRAIN POINTS.
- WHEN PIPE LAYING NOT IN PROGRESS, CLOSE OFF OPEN ENDS OF PIPE WITH WATER TIGHT PLUG OR CAP.
- INSTALL CLEANOUTS AS REQUIRED BY PLUMBING CODES. SIZE OF CLEANOUTS TO MATCH SIZE OF ASSOCIATED SANITARY PIPE. ENSURE CLEAN OUTS ARE MADE ACCESSIBLE.
- CONNECT FIXTURES COMPLETE WITH SUPPLIES AND DRAINS, TRAPPED, SUPPORTED, SANITARY LEVEL AND SQUARE WITH HOT WATER FAUCETS ON THE LEFT.

GENERAL HVAC SPECIFICATIONS

- PROVIDE DUCTWORK IN ACCORDANCE WITH A.S.H.R.A.E. AND INTERNATIONAL MECHANICAL CODES CHAPTER 5 SECTION 506, LATEST EDITION. ALL DUCTS SHALL BE FABRICATED FROM PRIME QUALITY GALVANIZED STEEL AS PER A.S.H.R.A.E. STANDARDS. DUCTS SHALL BE INSTALLED AS HIGH AS POSSIBLE. PROPER ANGLE IRON SUPPORTS, HANGERS, ETC., SHALL BE PROVIDED FOR ALL DUCTS. SEAL ALL JOINTS OF DUCTS WITH HIGH PRESSURE SEALER. APPLY SEALANT TO OUTSIDE OF JOINTS AS PER MANUFACTURERS RECOMMENDATIONS. CONSTRUCT DUCTS IN ACCORDANCE WITH THE FOLLOWING:

MAX DUCT DIMENSION	U.S. GAUGE
UP TO 12"	26
13" TO 30"	24
31" TO 54"	22

CONSTRUCT ROUND DUCTS IN ACCORDANCE WITH THE FOLLOWING:

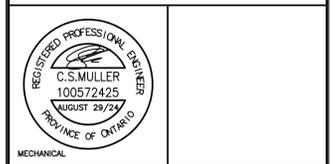
4" TO 8" DIAMETER	- 26 GAUGE
9" TO 24" DIAMETER	- 24 GAUGE
- EQUIVALENT DUCT SIZES MAY BE SUBSTITUTED IN LIEU OF THOSE SHOWN, IN ORDER TO AVOID INTERFERENCE WITH STRUCTURE AND OTHER MECHANICAL SERVICES. CONTRACTOR TO PROVIDE DRAWINGS OF ANY PROPOSED CHANGES TO ENGINEER FOR APPROVAL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DESIGN AIR FLOW WITH DUCT INSTALLATION. ALL SUPPLY & RETURN BRANCHES SHALL BE AT 45' TAKE OFFS.
- THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF EQUIPMENT PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED ELBOWS, DUCT ACCESSORIES, ETC. TO COMPLETE THE INTENT OF THE MECHANICAL DRAWINGS.
- HVAC EQUIPMENT MUST NOT BE USED DURING CONSTRUCTION. DUCT OPENINGS SHALL BE COVERED TO KEEP OUT DUST AND DEBRIS. COMMISSIONING MUST NOT BE PERFORMED UNTIL ALL INTERIOR FINISHES ARE COMPLETE.
- INSULATE ALL DUCTS IN ACCORDANCE WITH ASHRAE 90.1, LATEST EDITION.
- MECHANICAL EQUIPMENT TO BE ISOLATED FROM DUCT WORK USING 6" FLEXIBLE DUCT CONNECTORS ON BOTH THE SUPPLY AND RETURN DUCTS.
- ALL MITERED ELBOWS TO BE COMPLETE WITH DOUBLE THICKNESS AIR VANES. ALL RADIUSED ELBOWS TO BE COMPLETE WITH SPLITTER VANES PER SMACNA DUCT CONSTRUCTION STANDARDS.
- PROVIDE VOLUME DAMPERS AT ALL DUCT BRANCHES AND TAKE-OFFS.
- PROVIDE AN INDEPENDENT FIRM CERTIFIED BY NEBB TO CONDUCT TESTING, ADJUSTING AND BALANCING OF ALL MECHANICAL SYSTEMS AND COMPONENTS, INCLUDING ALL DUCTS AND HYDRONIC PIPING. SUBMIT WRITTEN REPORT IN TRIPPLICATE TO MECHANICAL ENGINEER UPON COMPLETION.
- MAXIMUM LENGTH OF FLEX DUCT PERMITTED IS 10' PER DIFFUSER. NO FLEX DUCT IS PERMITTED ON EXPOSED DUCT WORK.
- PROVIDE FIRE DAMPERS IN DUCTS AT FLOOR, WALL, CEILING, AND ROOF PENETRATIONS WHERE FIRE SEPARATIONS ARE CROSSED, AND WHERE REQUIRED BY LOCAL AUTHORITIES AND CODES. FIRE DAMPERS SHALL MAINTAIN 100% FREE AREA OF DUCTWORK (TYPE 'B' FIRE DAMPERS). RATE FIRE DAMPERS TO MATCH THE FIRE RATING OF SEPARATION CROSSED. PROVIDE ONLY ULC LABELED DAMPERS AND INSTALL AS SPECIFIED IN NFPA/CUA 90A.
- SUPPLY AND RETURN DUCTS SHALL BE CONNECTED TO THE HVAC UNIT THROUGH A FLEXIBLE NON METALLIC DUCT.
- 10' OF ACOUSTIC SOUND INSULATION SHALL BE PROVIDED TO THE DUCTS AT THE BEGINNING NEAR THE HVAC UNIT.
- SMOKE DETECTORS AT SUPPLY DUCTS SHALL BE PROVIDED TO AUTOMATICALLY SHUT DOWN UNITS UPON DETECTION OF SMOKE.

0	ISSUED FOR TENDER	2024.08.29	CSM
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NO.	DESCRIPTION	DATE	BY
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REVISIONS

Kirkland Engineering Ltd BCIN: 28857



NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

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PROJECT
COURTICE SENIOR DEVELOPMENT
 1697 HIGHWAY No 2
 CLARINGTON, ON

TITLE
MECHANICAL SPECIFICATION

DESIGN	CSM	SCALE AS NOTED
DRAWN	KCS	DWG NO.
CHECKED	CSM	M22
APPROVED	CSM	
PROJECT	7393	