

CROSSEY ENGINEERING LTD.
MECHANICAL

MONTGOMERY SISAM ARCHITECTS INC.
ARCHITECTURAL

BAS CONTROLS UPGRADE

PROJECT No.: 21504.M04

CUMMER LODGE
















HOME FOR THE AGED
205 CUMMER AVENUE
WILLOWDALE, ONTARIO
M2M-2E8




Toronto Long Term Care
Homes & Services Division

DRAWING LIST		
DWG. NO.	DESCRIPTION	SCALE
M-1.0	MECHANICAL DRAWING LIST, GENERAL NOTES AND EQUIPMENT TAG LEGEND PG. 1	N.T.S
M-1.1	MECHANICAL DRAWING LIST, GENERAL NOTES AND EQUIPMENT TAG LEGEND PG. 2	
M-1.2 TO M-1.14	MECHANICAL PHOTOS	
M-2.1	NETWORK CONNECTIONS 1	
M-2.2	NETWORK CONNECTIONS 2	
M-2.3	BOILER AND HEAT EXCHANGER UPGRADES	
M-3.1	GROUND FLOOR BAS NEW WORK	
M-3.2	2ND FLOOR BAS NEW WORK	
M-3.3	3RD FLOOR BAS NEW WORK	
M-3.4	4TH FLOOR BAS NEW WORK	
M-3.5	ROOF LEVEL AHU EQUIPMENT LAYOUT	
M-3.6	ROOF LEVEL HVAC PIPING LAYOUT	
M-3.7	BASEMENT LEVEL HVAC PIPING LAYOUT	
M-4.1.1	GROUND FLOOR NW POD HVAC LAYOUT	
M-4.1.2	GROUND FLOOR NE WING HVAC LAYOUT	
M-4.1.3	GROUND FLOOR SE WING HVAC LAYOUT	
M-4.1.4	GROUND FLOOR SW POD HVAC LAYOUT	
M-4.1.5	GROUND FLOOR CORE HVAC LAYOUT	
M-4.2.1	2ND & 3RD FLOOR NW POD HVAC LAYOUT	
M-4.2.2	2ND & 3RD FLOOR NE WING HVAC LAYOUT	
M-4.2.3	2ND & 3RD FLOOR SE WING HVAC LAYOUT	
M-4.2.4	2ND & 3RD FLOOR SW POD HVAC LAYOUT	
M-4.2.5	2ND & 3RD FLOOR CORE HVAC LAYOUT	
M-4.3.1	4TH FLOOR NW POD HVAC LAYOUT	
M-4.3.2	4TH FLOOR NE WING HVAC LAYOUT	
M-4.3.3	4TH FLOOR SE WING HVAC LAYOUT	
M-4.3.4	4TH FLOOR SW POD HVAC LAYOUT	

DWG. NO.	DESCRIPTION	SCALE
M-4.3.5	4TH FLOOR CORE HVAC LAYOUT	N.T.S
M-5.1.20	TYPICAL REHEAT COIL 3-WAY	
M-5.1.21	TYPICAL HEATERS	
M-5.1.25	TYPICAL VAV/FPB UNIT	
M-5.1.26	TYPICAL REHEAT COILS	
M-6.1	SCHEMATIC DIAGRAM HEATING PLANT	

EQUIPMENT TAG LEGEND			
	AIR HANDLING UNIT		HEATING BOILER
	PLATE HEAT EXCHANGER		PACKAGED AIR CONDITIONING UNIT
	DHW TANKS (HEATING WATER TO DHW)		MAKE UP AIR UNIT
	PRIMARY HEATING PUMPS		EXHAUST FAN
	EXPANSION TANK		SPLIT SYSTEM AIR CONDITIONING UNIT
	SUPPLY FAN		TEMPERATURE SENSOR
	RETURN FAN		CONVECTOR
			REHEAT COIL

REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11
No.	DESCRIPTION	DATE
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CROSSEY ENGINEERING LTD.		
2255 Sheppard Avenue. E. Suite E 331 North York, On M2J 4Y1 (416)497.3111 fax (416)497.7210		
		
PROJECT: CUMMER LODGE Home For The Aged CONTROLS UPGRADE		
205 Cummer Avenue Willowdale, Ontario M2M 2E8		
TITLE: MECHANICAL DRAWING LIST PAGE 1		
DATE:		
SCALE: N.T.S		
DRAWN BY: D.M/M.G		
CHECKED BY: M.H/V.S		
DRAWING No. M-1.0		

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH EXISTING CONDITIONS IN THE BUILDING.
2. ALL CURRENT MECHANICAL EQUIPMENT AND CURRENT BAS SYSTEMS ARE PRESENTLY IN GOOD WORKING CONDITIONS. ALL NEW BAS CONTROLS SHALL BE INTEGRATED WITH EX. BAS SYSTEM AND SHALL PERFORM TO A BETTER LEVEL UPON COMPLETION OF THIS PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OPERATIONS OF ALL EQUIPMENT AS PER SEQUENCE OF OPERATIONS.
4. THE CONTRACTOR SHALL PERFORM A JOINT INSPECTION OF THE FACILITY WITH THE BUILDING OWNER, PROJECT CONSULTANT AND ARCHITECT OF ALL EXISTING SERVICES AND EQUIPMENT TO DETERMINE THEIR CURRENT STATUS OF OPERATION AND REPORT ANY UNUSUAL PERFORMANCE IN TERMS OF CONTROLS.
5. CONTRACTOR SHALL COORDINATE WITH ARCH HARD CEILINGS DWGS FOR CUTTING & PATCHING OF WALLS, REMOVALS & REINSTALLATIONS OF T-BAR CEILINGS FOR ALL NEW SENSORS & DEVICES.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL SUBMIT DWGS INDICATING EXTENT OF CUTTING & PATCHING SO THAT THIS WORK CAN BE DISCUSSED & COORDINATED. CONTRACTOR SHALL INCLUDE IN TENDER PRICE ALL CUTTING & PATCHING WORK INVOLVED.
7. TENDER PRICE SHALL INCLUDE ALL CONDUITS, WIRING AND RELATED WORK REQUIRED TO PROVIDE A FULLY FUNCTIONAL BAS SYSTEM AT THE END OF THE PROJECT.
8. PERFORM AIR AND WATER BALANCING OF ALL AIR DISTRIBUTION SYSTEMS THAT HAVE BEEN IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS.
9. THE BAS SHOP DRAWINGS RELATED TO THE JCT SYSTEM AND THE RMP SYSTEM HAS BEEN INCLUDED ALONG WITH THE SPECIFICATIONS. THERE ARE NO ARCHIVE DOCUMENTS AVAILABLE THAT IS RELATED TO THE VCI SYSTEM.
10. CONTRACTORS ARE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE SEQUENCE OF OPERATION OF THE VARIOUS SYSTEM IN THE FACILITY. THIS IS BECAUSE IN THE EVENT OF AN ISSUE WIT THE PERIMETER HEATING SYSTEMS, THE OPERATIONAL REQUIREMENTS OF SUCH SYSTEMS MAY NEED TO BE OPTIMIZED TO MEET SPACE REQUIREMENTS. SUCH OPTIMIZATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN TEAM WILL PROVIDE THE INFORMATION AND GUIDANCE TO ACHIEVE THIS OPTIMIZATION. THE BUILDING MANAGER OF THE HOME AND THE BAS MAINTENANCE CONTRACTOR CURRENTLY SERVICING THE HOME WILL ALSO BE INVOLVED IN PROVIDING THIS INFORMATION. CONTRACTORS SHALL ALLOW TIME REQUIRED FOR SUCH OPTIMIZATION IN THEIR BIDS. CONTRACTORS WILL NOT BE PAID EXTRAS TO FULFILL THIS RESPONSIBILITY.
11. THE GEN CONTRACTOR AND THE BAS CONTRACTOR SHALL COORDINATE TO ENSURE THAT THEY HAVE ALL THE NECESSARY TRADES REQUIRED FOR THE BAS ASPECTS OF THIS PROJECT, WHICH INCLUDES BUT NOT LIMITED TO:
 - a) ELECTRICAL CONTRACTOR TO COMPLETE ALL NECESSARY ELECTRICAL WIRING REQUIRED TO POWER BAS CONTROLLERS, END DEVICES AND OTHER RELATED EQUIPMENT.
 - b) BALANCING CONTRACTOR.
 - c) ARCH AND GEN TRADES.
12. THE MECHANICAL CONTRACTOR SHALL ALLOW FOR WATER TREATMENT OF THE ENTIRE HYDRONIC HEATING SYSTEM THAT SERVES THE PERIMETER HEATING LOOP (CONVECTORS/ RADIATORS) AND THE HYDRONIC HEATING SYSTEM THAT SERVES THE REHEAT COIL LOOP. THIS IS BECAUSE THESE LOOPS MAY NEED TO BE DRAINED TO REPLACE THE CONTROL VALVES SERVING THE TERMINAL DEVICES. THE HEATING SYSTEM THAT SERVES THE AHU SYSTEM AND OTHER HEATING LOOPS ARE NOT PART OF THIS PROJECT. HOWEVER, IF THERE IS ANY ACCIDENTAL DAMAGE TO THE PIPING SYSTEM OR DRAINING OF THE HEATING LOOP, THE CONTRACTOR WILL REFILL THE SYSTEM AND PROVIDE WATER TREATMENT AT NO ADDITIONAL COST TO THE PROJECT.
13. THE MECHANICAL CONTRACTOR SHALL ALLOW FOR COMPLETE BALANCING OF THE REHEAT COIL HEATING LOOP AND THE PERIMETER/CONVECTOR HEATING LOOP.

OVERVIEW OF CURRENT BAS SYSTEMS

1. THE CUMMER LODGE CURRENT BAS SYSTEM COMPRISES OF THE FOLLOWING MAJOR SYSTEMS.
 - a. JOHNSON CONTROLS TRIDIUM (JCT), FACILITY EXPLORER FX80 c/w NIAGARA FX14 (N4) SYSTEM SUPPLIED AND INSTALLED BY YORKLAND CONTROLS.
 - b. RELIABLE MACH PRO WEB SYSTEM (RMP) SUPPLIED AND INSTALLED BY ENERGY CONCEPTS (1-866-636-1066).
 - c. LEGACY VCI SYSTEM.
2. THE JCT SYSTEM CONTROLS THE FOLLOWING MAJOR SYSTEMS IN THE FACILITY
 - a. ALL SYSTEMS ASSOCIATED WITH THE AIR HANDLING UNITS (AHUs) AND ROOF TOP AIR HANDING UNITS (RTUs) COMPRISING OF THE FANS, COILS AND HUMIDIFIERS.
 - b. THE CHILLER PLANT COMPRISING OF THE CHILLER, HEAT EXCHANGERS AND PUMPS.
 - c. ALL THE SECONDARY HEATING PUMPS.
3. THE RMP SYSTEM CONTROLS THE FOLLOWING MAJOR SYSTEMS IN THE FACILITY
 - a. THE HEATING BOILERS, PRIMARY PUMPS AND SECONDARY PUMPS.
 - b. THE DOMESTIC HOT WATER HEAT EXCHANGERS AND PUMPS.
4. THE LEGACY VCI SYSTEM CONTROLS THE FOLLOWING MAJOR SYSTEMS IN THE FACILITY
 - a. ALL RESIDENT ROOM SYSTEMS COMPRISING OF ROOM SIDE THERMOSTATS, CONVECTORS IN THE RESIDENT ROOM AND REHEAT COILS IN THE RESIDENT ROOMS.
 - b. ALL VAV BOXES, FAN POWERED BOXES (FPB) REHEAT COILS ASSOCIATED WITH VAVs AND FPBs AND THEIR ASSOCIATED THERMOSTATS.

OVERVIEW OF PROJECT SCOPE

1. THE SCOPE OF THIS BAS PROJECT INVOLVES THE FOLLOWING MAJOR UPGRADES
 - a. UPGRADE OF TERMINAL HEATING CONTROL ELEMENTS SERVING TYPICAL RESIDENT ROOMS INVOLVING REPLACEMENT OF CONTROL VALVES FOR CONVECTORS AND REHEAT COILS.
 - b. REPLACEMENT OF STAND-ALONE THERMOSTATS IN THE TYPICAL RESIDENT ROOMS WITH BAS COMPATIBLE TEMPERATURE SENSORS.
 - c. REPLACEMENT OF VAV BOXES AND FPBS SERVING VARIOUS ADMINISTRATION OFFICES AND COMMON AREAS.
 - d. REPLACEMENT OF THERMOSTATS SERVING THE VAV BOXES AND FPBS WITH BAS COMPATIBLE TEMPERATURE SENSORS.
 - e. INTEGRATING THE ABOVE SYSTEMS WITH THE EXISTING BAS SYSTEMS IN THE FACILITY.
 - f. REPLACE THE RELIABLE MACH PRO SYSTEM AND REPLACE ALL THE RELIABLE CONTROLLERS WITH JCT CONTROLLERS. RE-PROGRAM THE JCT CONTROLLERS TO MATCH AND IMPROVE THE CURRENT SEQUENCE OF OPERATION OF THE HEATING PLANT AND THE DHW PLANT.
2. PHASED CONSTRUCTION
 - a. THE SCOPE OF WORK IN THE DESIGN DRAWINGS IDENTIFIES THE PHASED MANNER IN WHICH THE PROJECT CAN BE EXECUTED. THE PHASING IDENTIFIED IN THE DOCUMENTS IS A SUGGESTIVE APPROACH.
 - b. PHASING IS SUGGESTED SO THAT ONLY PORTIONS OF THE FACILITY AND PARTIAL SYSTEMS ARE IMPACTED BY SYSTEM SHUT DOWNS.
 - c. WHEN PHASED SHUT DOWNS ARE IMPLEMENTED THE REST OF THE FACILITY SHALL NOT BE IMPACTED BY THE AREA UNDER SHUT DOWN.
 - d. CONTRACTORS ARE REQUESTED TO EVALUATE THE PHASING SUGGESTED. CONTRACTORS ARE WELCOME TO SUGGEST ALTERNATE PHASING MEASURES. THE SUGGESTIONS WILL BE DISCUSSED WITH THE SUCCESSFUL CONTRACTOR SO THAT AN APPROPRIATE CONSTRUCTION SCHEDULE CAN BE DEVELOPED.


REVISIONS

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
MECHANICAL DRAWING
LIST
PAGE 2

DATE :

SCALE: N.T.S

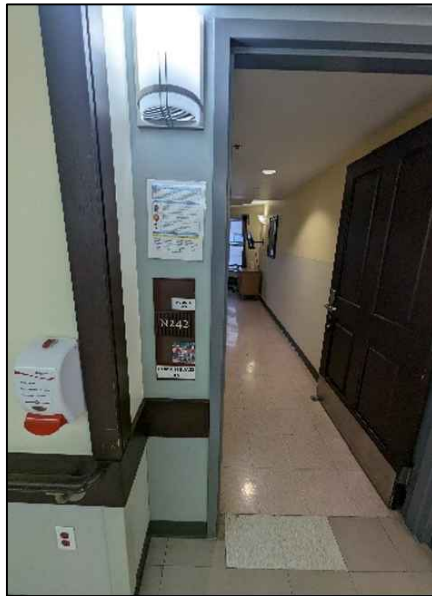
DRAWN BY: D.M/M.G

CHECKED BY: M.H/V.S

DRAWING No.

M-1.1

1.1 PHOTO BELOW SHOWS THE ENTRANCE DOOR TO ROOM N242. N242 IS A SINGLE BED RESIDENT ROOM.



1.3 PHOTOS BELOW INDICATE THE FINISHED NATURE OF THE RESIDENT ROOMS. CONTRACTOR SHALL ALLOW FOR DRY WALL AND CEILING, CUTTING, PATCHING AND FINISHING TO INSTALL NEW WIRING BETWEEN THE TEMPERATURE SENSOR AND THE CONTROL VALVES.



ITEM 1.3.1



ITEM 1.3.2

GENERAL NOTE:
 NOTES INCLUDED IN THIS DRAWING IS APPLICABLE FOR ALL THE RESIDENT ROOM AREAS IN THIS FACILITY. THE PHOTOS BELOW ARE PROVIDED AS AN EXAMPLE FOR THE WORK THAT WILL BE REQUIRED IN ALL THE ROOMS.

1.2 PHOTO BELOW INDICATES THE MOTORIZED CONTROL VALVE ASSOCIATED WITH THE CONVECTOR IN THE RESIDENT ROOM. THERE ARE WIRES ATTACHED TO THE CONTROL VALVES. REPLACE THE THERMOSTAT WITH A NEW BAS COMPATIBLE TEMPERATURE SENSOR AND CONTROL VALVE. PROVIDE NEW WIRING BETWEEN THE THERMOSTAT AND THE CONTROL VALVE.




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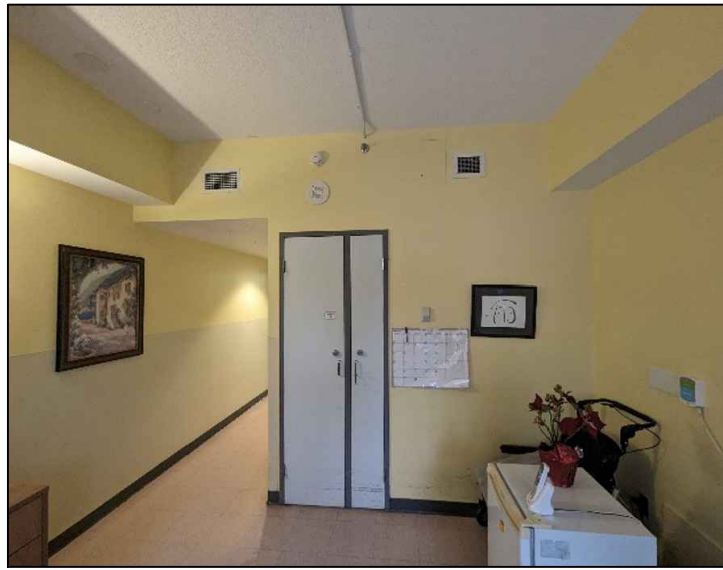
205 Cumber Avenue
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TITLE:
 MECHANICAL PHOTOS

DATE :
 SCALE : N.T.S
 DRAWN BY : D.M/M.G
 CHECKED BY : M.H/V.S
 DRAWING No.
 M-1.2

1.4 PHOTO BELOW INDICATES THE CURRENT LOCATION OF THE THERMOSTAT ON THE WELL. THE THERMOSTAT IS LOCATED NEXT TO THE CLOSET. THE CONVECTOR CONTROL VALVE IS LOCATED BESIDE THE WINDOW, IN THE OPPOSITE WALL.

THE BAS UPGRADE WILL REQUIRE REPLACEMENT OF THE THERMOSTAT, THE CONTROL VALVE AND THE WIRING BETWEEN THE TWO. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES. CONTRACTOR SHALL MAKE PROVISIONS FOR APPROPRIATE DRY WALL OPENINGS.



1.5 PHOTO BELOW INDICATES THE DUCTWORK REHEAT COIL WITHIN THE CEILING SPACE. REPLACE THE EX. REHEAT COIL CONTROL VALVE. PROVIDE NEW CONTROL WIRING BETWEEN THE REHEAT CONTROL VALVE AND THE NEW TEMPERATURE SENSOR. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES.



2.1 PHOTO BELOW SHOWS THE ENTRANCE DOOR TO ROOM N243. N243 IS A DOUBLE BED RESIDENT ROOM.




REVISIONS

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205 Cummer Avenue
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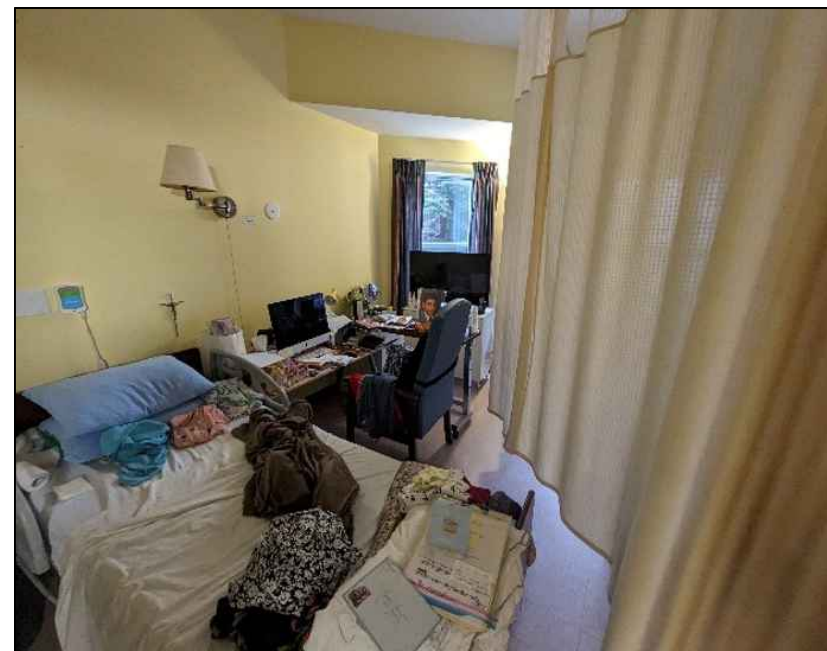
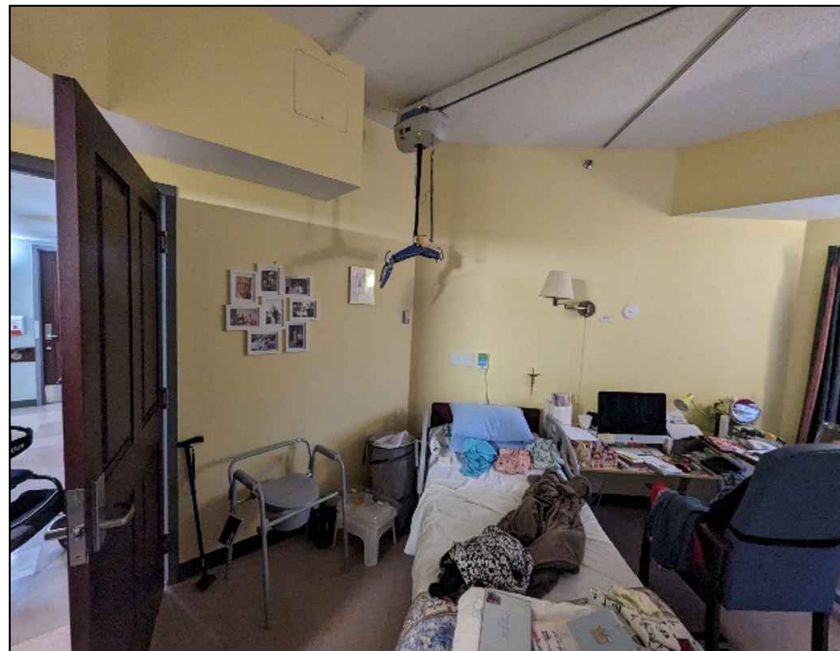
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MECHANICAL PHOTOS

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CHECKED BY : M.H/V.S
DRAWING No.
M-1.3

2.2 PHOTO BELOW INDICATES THE CURRENT LOCATION OF THE THERMOSTAT ON THE WELL. THE THERMOSTAT IS LOCATED NEXT TO THE CLOSET. THE CONVECTOR CONTROL VALVE IS LOCATED BESIDE THE WINDOW, IN THE OPPOSITE WALL.

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2.3 PHOTO BELOW INDICATES THE GENERAL LAYOUT OF THE ROOM INDICATING THE EXTENT OF DRY WALLS AND CEILINGS THAT NEED TO BE PROVIDED WITH ACCESS OPENINGS TO INSTALL NEW WIRING.




ITEM 2.3.1

ITEM 2.3.2

REVISIONS		
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CHECKED BY: M.H/V.S

DRAWING No.
M-1.4

2.4 PHOTO BELOW INDICATES THE DUCTWORK REHEAT COIL WITHIN THE CEILING SPACE. REPLACE THE EX. REHEAT COIL CONTROL VALVE. PROVIDE NEW CONTROL WIRING BETWEEN THE REHEAT CONTROL VALVE AND THE NEW TEMPERATURE SENSOR. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES.



ITEM 2.4.1



ITEM 2.4.2



ITEM 2.4.3

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21504.M04

PROJECT:
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205 Cumber Avenue
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M2M 2E8

TITLE:
MECHANICAL PHOTOS

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CHECKED BY : M.H/V.S
DRAWING No.
M-1.5

3.1 PHOTO BELOW SHOWS THE ENTRANCE DOOR TO ROOM S241. S241 IS A DOUBLE BED RESIDENT ROOM.



ITEM 3.1.1



ITEM 3.1.2



ITEM 3.1.3



ITEM 3.1.4

REVISIONS

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DRAWING No.

M-1.6

GENERAL NOTE:

PHOTOS BELOW INDICATE THE CURRENT LOCATION OF THE THERMOSTAT ON THE WELL. THE THERMOSTAT IS LOCATED NEXT TO THE CLOSET. THE CONVECTOR CONTROL VALVE IS LOCATED BESIDE THE WINDOW, IN THE OPPOSITE WALL. THE BAS UPGRADE WILL REQUIRE REPLACEMENT OF THE THERMOSTAT, THE CONTROL VALVE AND THE WIRING BETWEEN THE TWO. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES. CONTRACTOR SHALL COORDINATE SUCH WALL OPENINGS.

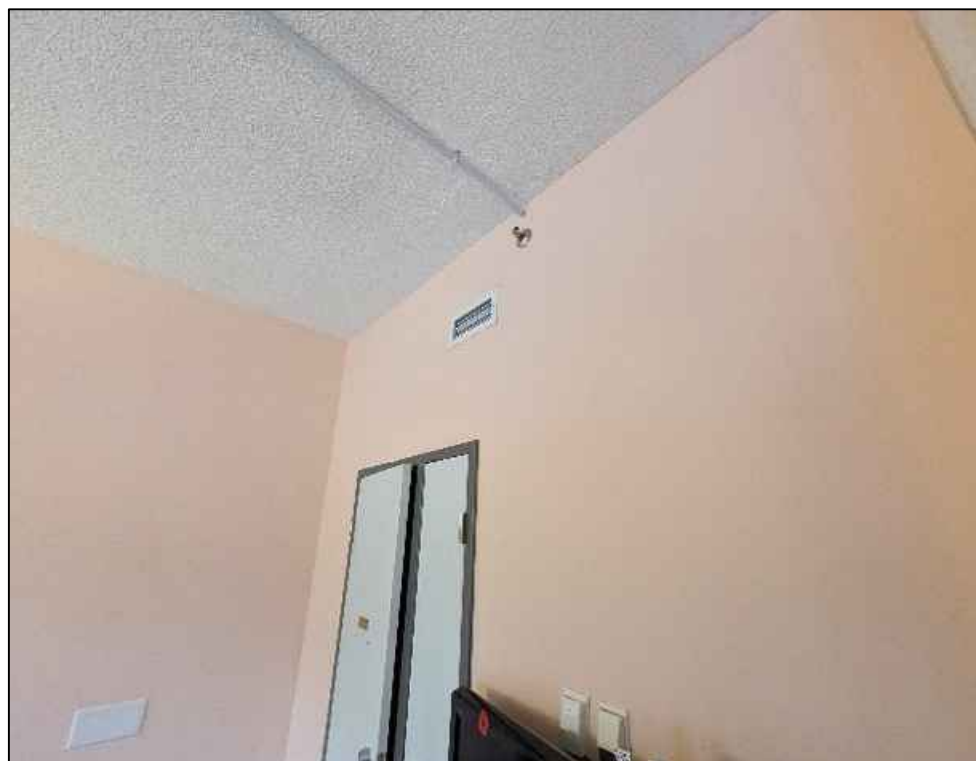
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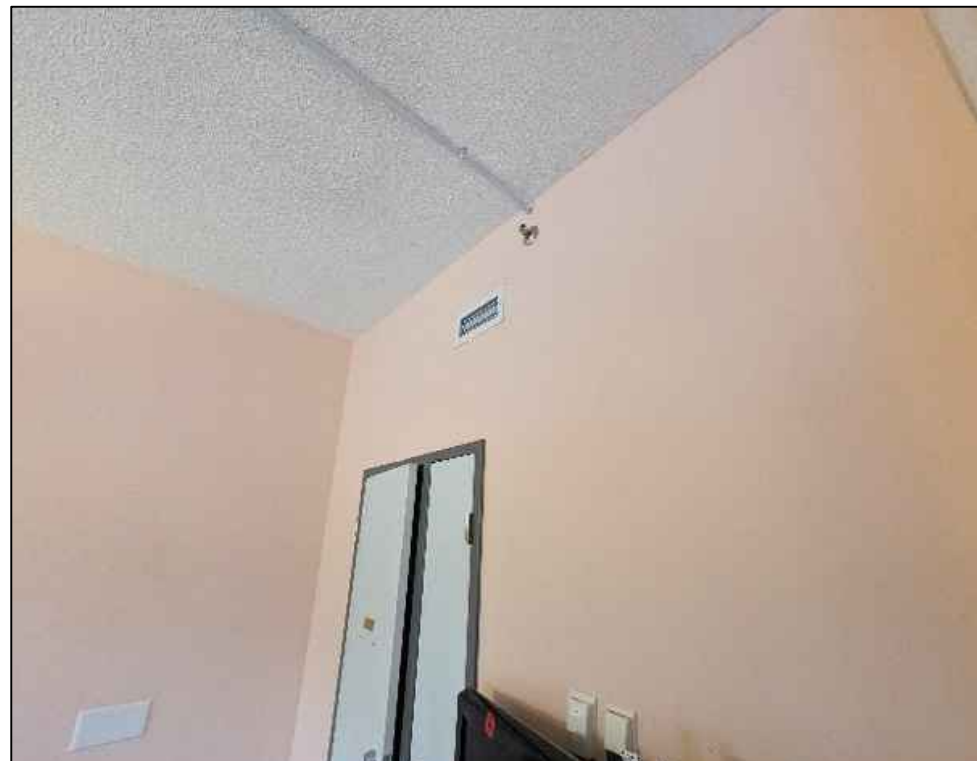
ITEM 3.1.5



ITEM 3.1.6



ITEM 3.1.7




ITEM 3.1.8

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DRAWN BY : D.M/M.G
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PHOTOS BELOW INDICATE THE CURRENT LOCATION OF THE THERMOSTAT ON THE WELL. THE THERMOSTAT IS LOCATED NEXT TO THE CLOSET. THE CONVECTOR CONTROL VALVE IS LOCATED BESIDE THE WINDOW, IN THE OPPOSITE WALL. THE BAS UPGRADE WILL REQUIRE REPLACEMENT OF THE THERMOSTAT, THE CONTROL VALVE AND THE WIRING BETWEEN THE TWO. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES. CONTRACTOR SHALL COORDINATE SUCH WALL OPENINGS.

PHOTOS ALSO INDICATE THE GENERAL LAYOUT OF THE ROOM INDICATING THE EXTENT OF DRY WALLS AND CEILINGS THAT NEED TO BE PROVIDED WITH ACCESS OPENINGS TO INSTALL NEW WIRING.



ITEM 3.1.9



ITEM 3.1.10



ITEM 3.1.11




ITEM 3.1.12

REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
DO NOT SCALE DRAWINGS.
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ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEERS.
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(416)497.3111 fax (416)497.7210



PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
MECHANICAL PHOTOS

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
M-1.8



ITEM 3.1.13



ITEM 3.1.14



ITEM 3.1.15



ITEM 3.1.16




ITEM 3.1.17

REVISIONS

No.	DESCRIPTION	DATE
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PHOTO BELOW INDICATES THE DUCTWORK REHEAT COIL WITHIN THE CEILING SPACE. REPLACE THE EX. REHEAT COIL CONTROL VALVE. PROVIDE NEW CONTROL WIRING BETWEEN THE REHEAT CONTROL VALVE AND THE NEW TEMPERATURE SENSOR. THIS WILL REQUIRE MULTIPLE DRY WALL AND CEILING OPENINGS TO BE MADE TO INSTALL NEW WIRES.



ITEM 3.1.18



ITEM 3.1.19



ITEM 3.1.20



ITEM 3.1.21




ITEM 3.1.22

REVISIONS

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DRAWING No.
M-1.10

3.2 PHOTO BELOW INDICATES THE DUCTWORK REHEAT COIL WITHIN THE CEILING SPACE.



3.3 ITEM 3.3.1 INDICATES THE CONVECTOR.



ITEM 3.3.1




ITEM 3.3.2

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PROJECT:
CUMMER LODGE
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MECHANICAL PHOTOS

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DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
M-1.11

4.1 THE MECHANICAL ROOM HAS:

1. A PAIR OF DEDICATED RETICULATION PUMPS THAT PROVIDE HEATING WATER TO THE CONVECTORS IN THE RESIDENT ROOMS.
2. A PAIR OF DEDICATED RETICULATION PUMPS THAT PROVIDE HEATING WATER TO THE REHEAT COILS IN THE RESIDENT ROOMS.

CHRIS (CUMMER LODGE) STATED THAT THEY ADJUST THE 3-WAY MIXING VALVE OF THESE PUMPS TO ADJUST THE TEMPERATURE OF THE CONVECTOR LOOP AND THE REHEAT COIL LOOP BASED ON THE TEMPERATURE THEY OBSERVE IN THE RESIDENT ROOMS.

THE VCI SYSTEM IS NOT ACCESSIBLE ON THE BAS GRAPHICS. THEREFORE, THE ROOM SENSORS ARE NOT VISIBLE ON THE BAS. CHRIS STATED THAT THE HOME MONITORS THE ROOM TEMPERATURES BASED ON THE ZONE TEMPERATURE SENSORS.

THE ABOVE NOTES APPLY TO DWGS M-1.12, M-1.13, M-1.14



ITEM 4.1.1



ITEM 4.1.2

REVISIONS

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21504.M04

PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
MECHANICAL PHOTOS

DATE :

SCALE: N.T.S

DRAWN BY: D.M/M.G

CHECKED BY: M.H/V.S

DRAWING No.
M-1.12

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ITEM 4.1.3



ITEM 4.1.4



21504.M04

PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 MECHANICAL PHOTOS

DATE :

SCALE: N.T.S

DRAWN BY: D.M/M.G

CHECKED BY: M.H/V.S

DRAWING No.

M-1.13



ITEM 4.1.5



ITEM 4.1.6




ITEM 4.1.7

REVISIONS		
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21504.M04

PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 MECHANICAL PHOTOS

DATE :
 SCALE : N.T.S
 DRAWN BY : D.M/M.G
 CHECKED BY : M.H/V.S
 DRAWING No.
 M-1.14

CONSTRUCTION NOTES

1. THE NETWORK LAYOUT INDICATED IS THE CURRENT LAYOUT IN THE CUMMER LODGE FACILITY. THIS NETWORK ONLY INCLUDES THE JCT BAS SYSTEM.
2. THE BIDDING CONTRACTORS SHALL PERFORM THE FOLLOWING TASKS PRIOR TO BIDDING THE PROJECT. THE CONTRACTORS WILL NOT BE ALLOWED TO SUBMIT EXTRAS TO EVALUATE THESE CONTROLLERS ONCE THE PROJECT HAS BEEN AWARDED.
 1. VERIFY THE ABOVE NETWORK LAYOUT AND ESTABLISH THE LOCATION AND OPERATION OF THE VARIOUS BAS CONTROLLERS.
 2. VERIFY THE LOCATION AND OPERATION OF THE VCI LEGACY SYSTEM CONTROLLERS.
 3. REFER TO SPECIFICATIONS. THE SHOP DRAWINGS OF THIS SYSTEM HAS BEEN PROVIDED ALONG WITH THE SPECIFICATIONS.

GENERAL NOTES

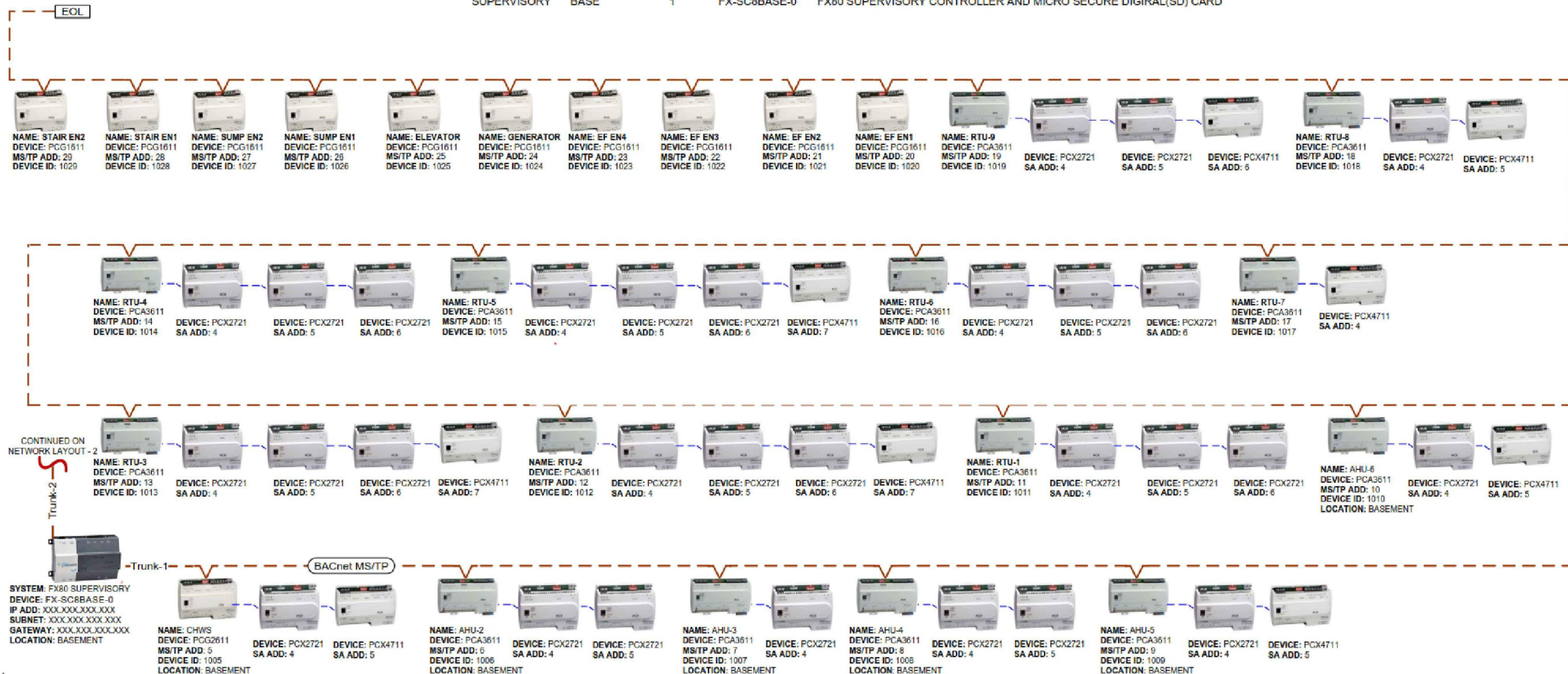
THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CLEARLY INDICATES THE LOCATION OF ALL NEW BAS CONTROLLERS FOR THE UPGRADES BEING IMPLEMENTED IN THIS PROJECT. ALL CONTROLLERS SHALL BE FIN COMPATIBLE AND SHALL BE INTEGRATED TO THE FIN SERVER.

ALL CONTROLLERS SHALL BE CONNECTED DIRECTLY TO THE CITY WAN. CONTRACTOR SHALL COORDINATE WITH THE CITY BAS TEAM FOR THE INSTALLATION OF THE WAN DROPS AND CONNECTION TO THE NEW CONTROLLERS.

NETWORK LAYOUT - 1

BILL OF MATERIALS

System	Designation	Qty	Code Number	Description
SUPERVISORY	ENCLOSURE	1	567-351	SIEMENS PANEL 24x24x9
SUPERVISORY	LICENSE	1	FX-SC8CL025-0	FX80 SUPERVISORY CONTROLLER CORE DEVICE LICENSE, 25 FIELD DEVICES, 1,250 POINTS
SUPERVISORY	LICENSE	1	FX-SC8DL10-0	FX80 SUPERVISORY CONTROLLER ADDITIONAL 10 FIELD DEVICES, 500 POINTS
SUPERVISORY	MAINTENANCE	1	FX-SC8D025M3-0	INITIAL 3 YEAR SOFTWARE MAINTENANCE FOR FX80 SUPERVISORY CONTROLLER WITH 25-99 FIELD DEVICE CAPACITY
SUPERVISORY	LICENSE	1	FX-SC8LAX-0	LICENSE ENABLING AX3.8 DOWNGRADE
SUPERVISORY	BASE	1	FX-SC8BASE-0	FX80 SUPERVISORY CONTROLLER AND MICRO SECURE DIGIRAL(SD) CARD



REVISIONS

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PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
NETWORK CONNECTIONS 1

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
 M-2.1

CONSTRUCTION NOTES

1.THE NETWORK LAYOUT INDICATED IS THE CURRENT LAYOUT IN THE CUMMER LODGE FACILITY. THIS NETWORK ONLY INCLUDES THE JCT BAS SYSTEM.

2.THE BIDDING CONTRACTORS SHALL PERFORM THE FOLLOWING TASKS PRIOR TO BIDDING THE PROJECT. THE CONTRACTORS WILL NOT BE ALLOWED TO SUBMIT EXTRAS TO EVALUATE THESE CONTROLLERS ONCE THE PROJECT HAS BEEN AWARDED.

1. VERIFY THE ABOVE NETWORK LAYOUT AND ESTABLISH THE LOCATION AND OPERATION OF THE VARIOUS BAS CONTROLLERS.
2. VERIFY THE LOCATION AND OPERATION OF THE VCI LEGACY SYSTEM CONTROLLERS.
3. REFER TO SPECIFICATIONS. THE SHOP DRAWINGS OF THIS SYSTEM HAS BEEN PROVIDED ALONG WITH THE SPECIFICATIONS.

GENERAL NOTES

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CLEARLY INDICATES THE LOCATION OF ALL NEW BAS CONTROLLERS FOR THE UPGRADES BEING IMPLEMENTED IN THIS PROJECT. ALL CONTROLLERS SHALL BE FIN COMPATIBLE AND SHALL BE INTEGRATED TO THE FIN SERVER.

ALL CONTROLLERS SHALL BE CONNECTED DIRECTLY TO THE CITY WAN. CONTRACTOR SHALL COORDINATE WITH THE CITY BAS TEAM FOR THE INSTALLATION OF THE WAN DROPS AND CONNECTION TO THE NEW CONTROLLERS.

REVISIONS

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
NETWORK
CONNECTIONS 2

DATE :

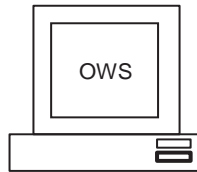
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CHECKED BY : M.H/V.S

DRAWING No.
M-2.2

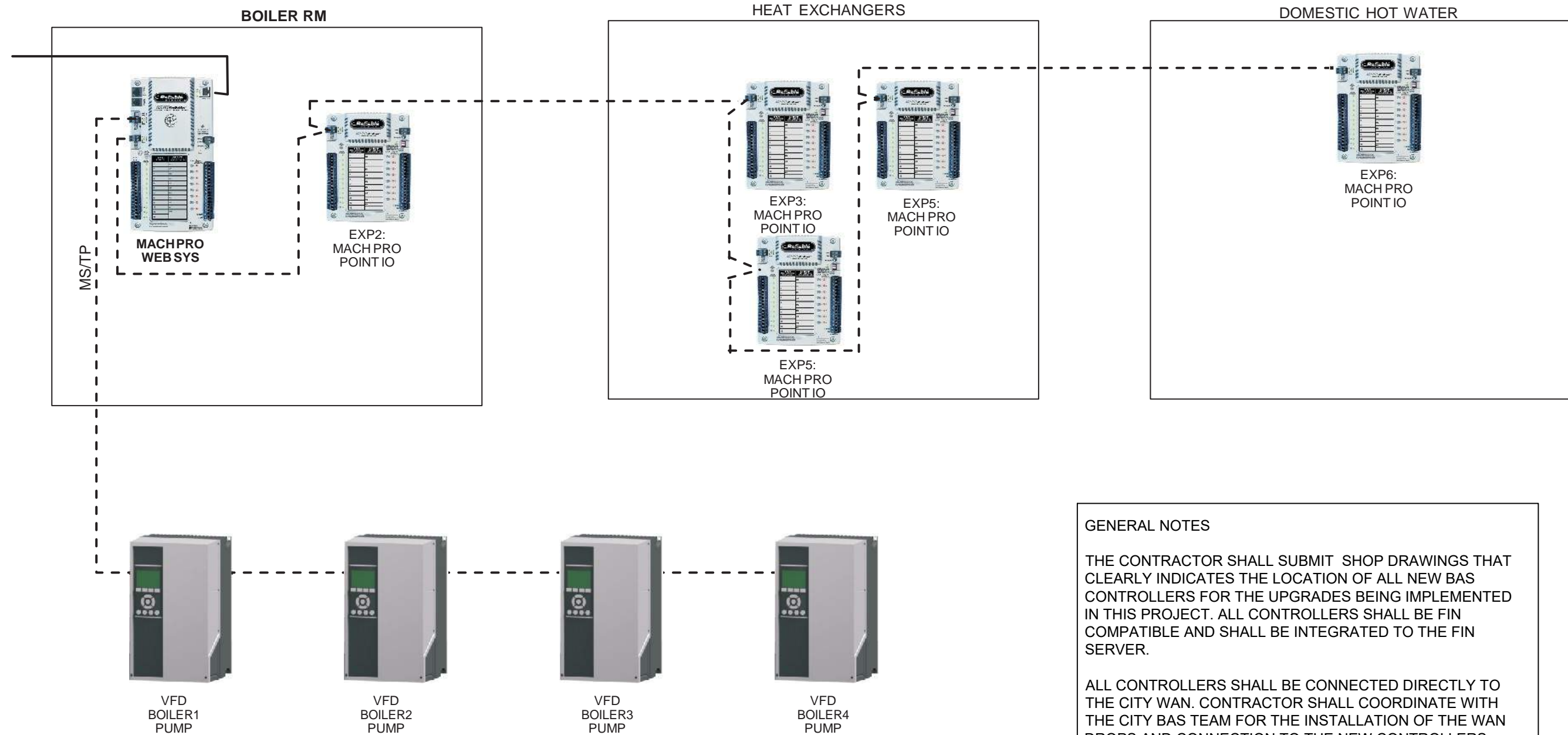
CUMMER LODGE BOILER AND HEAT EXCHANGERS UPGRADES SYSTEM ARCHITECTURE



CAT5 ETHERNET TO OPERATOR'S WORKSTATION

THE NETWORK LAYOUT PROVIDED BELOW INDICATES THE HEATING BOILER PLANT AND THE DHW PLANT CONTROLLED BY THE RELIABLE MACH PRO SYSTEM.

REPLACE THE RELIABLE MACH PRO SYSTEM AND REPLACE ALL THE RELIABLE CONTROLLERS WITH JCT CONTROLLERS. RE-PROGRAM THE JCT CONTROLLERS TO MATCH AND IMPROVE THE CURRENT SEQUENCE OF OPERATION OF THE HEATING PLANT AND THE DHW PLANT. REFER TO SPECIFICATIONS FOR SEQUENCE OF OPERATIONS.



GENERAL NOTES

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CLEARLY INDICATES THE LOCATION OF ALL NEW BAS CONTROLLERS FOR THE UPGRADES BEING IMPLEMENTED IN THIS PROJECT. ALL CONTROLLERS SHALL BE FIN COMPATIBLE AND SHALL BE INTEGRATED TO THE FIN SERVER.

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
BOILER AND HEAT EXCHANGER UPGRADES

DATE :
SCALE : N.T.S
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CHECKED BY : M.H/V.S
DRAWING No.
M-2.3

CONSTRUCTION NOTES:

- 1. REPLACE EXISTING TEMPERATURE SENSOR IN EACH ROOM. TEMPERATURE SENSOR CONTROLS REHEAT COIL CONTROL VALVE AND PERIMETER CONVECTOR CONTROL VALVE. PROVIDE NEW WIRING BETWEEN TEMPERATURE SENSOR AND THE REHEAT CONTROL VALVE AND THE PERIMETER CONVECTOR VALVE. CONTRACTOR SHALL CONCEAL ALL WIRING WITHIN DRY WALL. ALLOW FOR CUTTING AND PATCHING ALL DRY WALL OPENINGS AFTER COMPLETION OF WIRING.
- 2. REPLACE EXISTING BAS CONTROLLER ASSOCIATED WITH SPACE ROOM TEMP SENSOR. PROVIDE NEW CONTROLLER THAT IS CAPABLE OF COMMUNICATING WITH NEW ROOM TEMPERATURE SENSOR, NEW HUM. SENSOR AND BAS AS PER CONTROL SEQUENCE OF OPERATIONS.
- 3. REPLACE ALL SPACE TEMPERATURE SENSORS IN THE FACILITY. NEW SENSOR SHALL BE c/w WIRING AND TERMINATION AT END DEVICES THAT IT CONTROLS.
- 4. RESERVED.
- 5. LOCATION OF TYP. CONVECTOR IN SPACE. REFER TO ARCHIVE DWG. FOR LOCATION OF ALL CONVECTORS AND CONTROL VALVES (REFER TO M4 SERIES OF DWGS).
 - 1. REPLACE ALL CONTROL VALVES ON CONVECTORS IN EACH ROOM. ALL NEW CONTROL VALVES SHALL BE 2 WAY MODULATING TYPE VALVES.
 - 2. REPLACE EX. BALANCING VALVES AND ALL SHUT OFF VALVES WITH NEW VALVES. ALL BALANCING VALVES SHALL BE AUTO BALANCING VALVES.
- 6. LOCATION OF VAV BOX OR FAN POWERED BOX (FPB) IN CEILING SPACE. REFER TO ARCHIVE DWG FOR LOCATION OF ALL VAV BOXES (REFER TO M4 SERIES OF DWGS).
 - 1. REPLACE EX. VAV BOX OR FPB AND PROVIDE NEW. REPLACE EX. BALANCING VALVES AND ALL SHUT OFF VALVES ASSOCIATED WITH VAV BOX OR FPB WITH NEW VALVES. ALL BALANCING VALVES SHALL BE AUTO BALANCING VALVES.
 - 2. ALL NEW CONTROL VALVES SHALL BE 2-WAY MODULATING TYPE VALVES.
- 7. LOCATION OF REHEAT COIL IN CEILING SPACE. REFER TO ARCHIVE DWG FOR LOCATION OF ALL REHEAT COILS (REFER TO M4 SERIES OF DWGS).
 - 1. REPLACE ALL CONTROL VALVES ON EACH REHEAT COIL. REPLACE EX. BALANCING VALVES AND ALL SHUT OFF WITH NEW VALVES. ALL BALANCING VALVES SHALL BE AUTO BALANCING VALVES. ALL NEW NEW CONTROL VALVES SHALL BE 2 WAY MODULATING VALVES.
- 8. CONNECT TO NEW BAS STATION. COORDINATE WITH HOME MANAGER FOR LOCATION OF BAS STATION.

- 9. RETAIN EX. SPACE TEMPERATURE SENSOR. THIS SENSOR IS PART OF THE JCT SYSTEM.
- 10. RETAIN EX. SPACE HUMIDITY SENSOR. THIS SENSOR IS PART OF THE JCT SYSTEM.
- 11. APPROXIMATE LOCATION OF EXISTING BAS NETWORK RISER THROUGH BUILDING.
- 12. REMOVE AND REINSTALL T-BAR CEILINGS TO FACILITATE THE INSTALLATION OF NEW BAS CEILING SYSTEMS THROUGHOUT THE FACILITY. REFER TO ARCH DWGS FOR SCOPE OF WORK RELATED TO CEILINGS.
- 13. CONTRACTOR SHALL CHECK THE EX. ISOLATION VALVES. IF THE EX. ISOLATION VALVES ARE WORKING AND ARE ABLE TO SHUT OFF WATER CIRCULATION, THE CONTRACTOR SHALL UTILIZE THESE VALVES. IN THE EVENT THESE VALVES ARE NOT IN GOOD CONDITION, THE CONTRACTOR SHALL FREEZE THE PIPING SYSTEM. CONTRACTOR SHALL INCLUDE FOR FREEZING THE EX. PIPING AND PROVIDING NEW VALVES IN ALL THE LOCATIONS IDENTIFIED BY NOTE 13. CONTRACTOR SHALL PROVIDE A UNIT COST FOR FREEZING AND INSTALLING NEW ISOLATION VALVES AS PER RATE TABLE. THE CONTRACT VALUE WILL BE ADJUSTED BASED ON THE NUMBER OF ACTUAL FREEZING AND VALVE INSTALLATION. WE RECOMMEND THAT THE INVESTIGATION OF EACH FLOOR BE CARRIED OUT INDIVIDUALLY INSTEAD OF SHUTTING DOWN ALL THE FLOORS.

GENERAL NOTES

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CLEARLY INDICATES THE LOCATION OF ALL NEW BAS CONTROLLERS FOR THE UPGRADES BEING IMPLEMENTED IN THIS PROJECT. ALL CONTROLLERS SHALL BE FIN COMPATIBLE AND SHALL BE INTEGRATED TO THE FIN SERVER.

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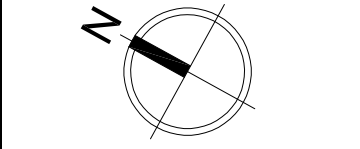
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PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
GROUND FLOOR
BAS NEW WORK

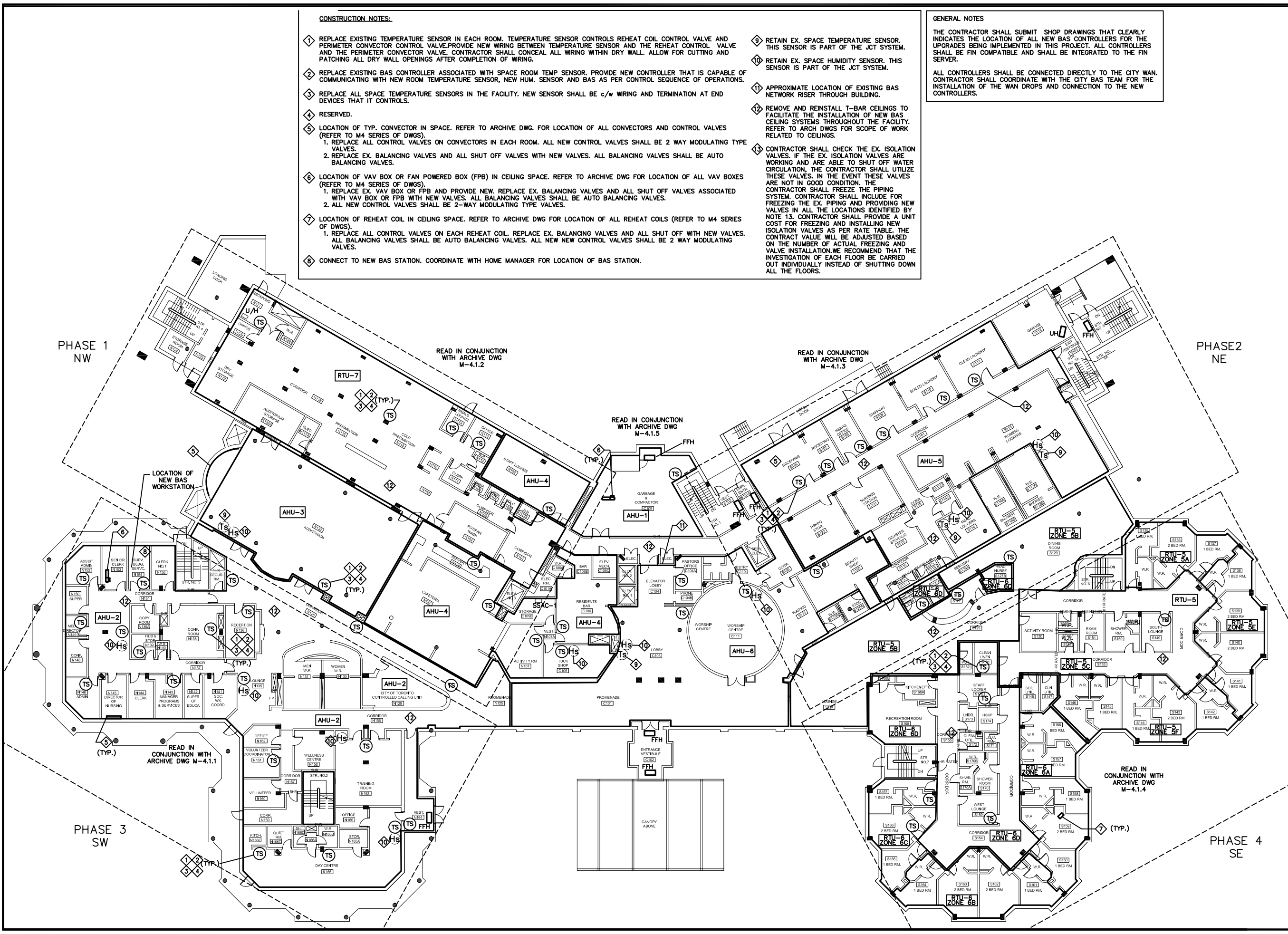
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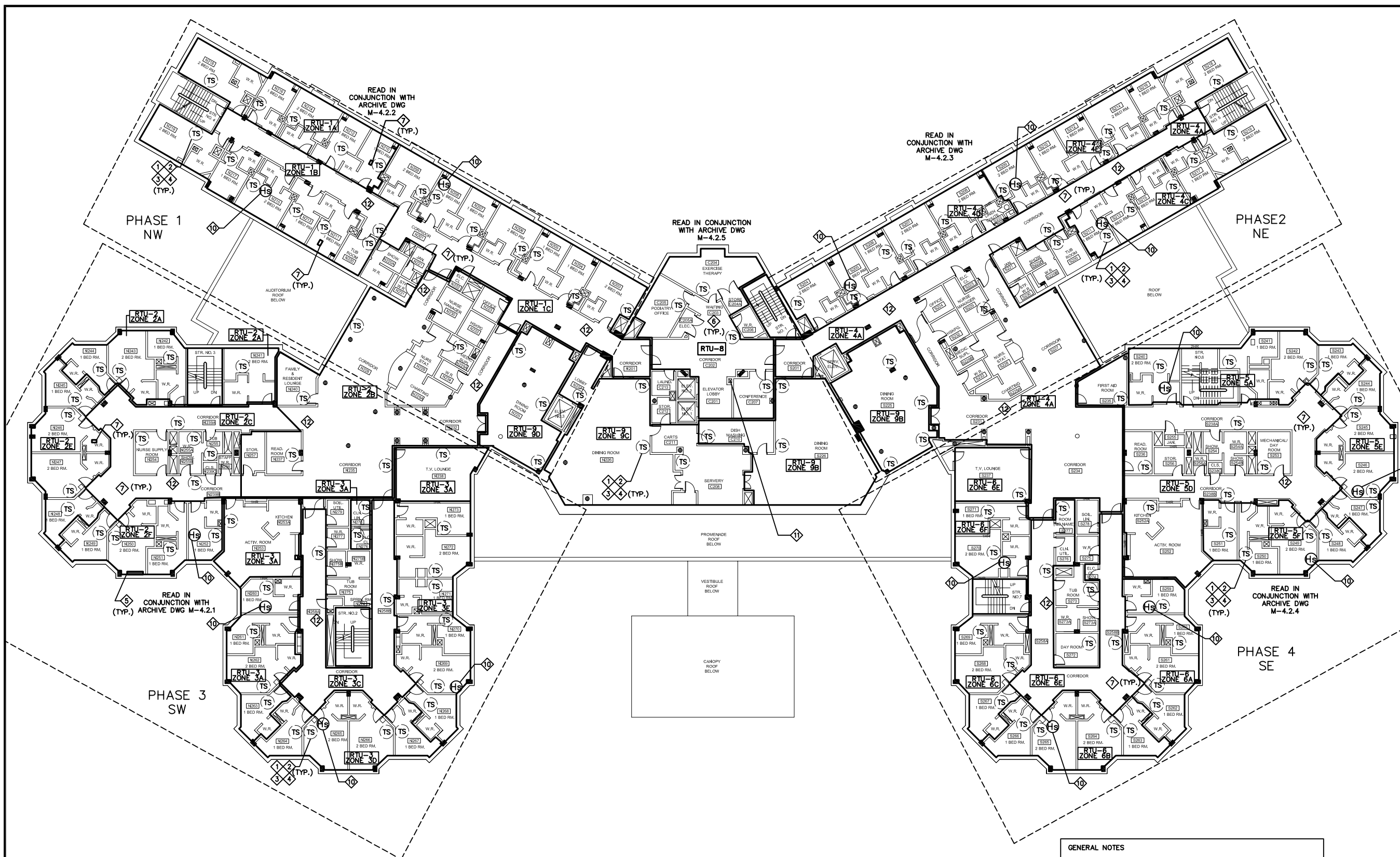
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CHECKED BY: M.H/V.S

DRAWING No.





REFER TO DRAWING M-3.1 FOR NOTES

GENERAL NOTES

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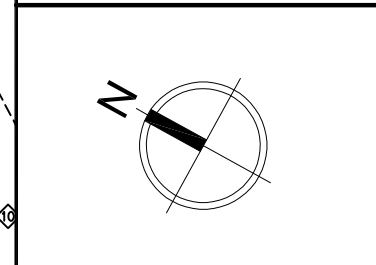
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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
2ND FLOOR
BAS NEW WORK

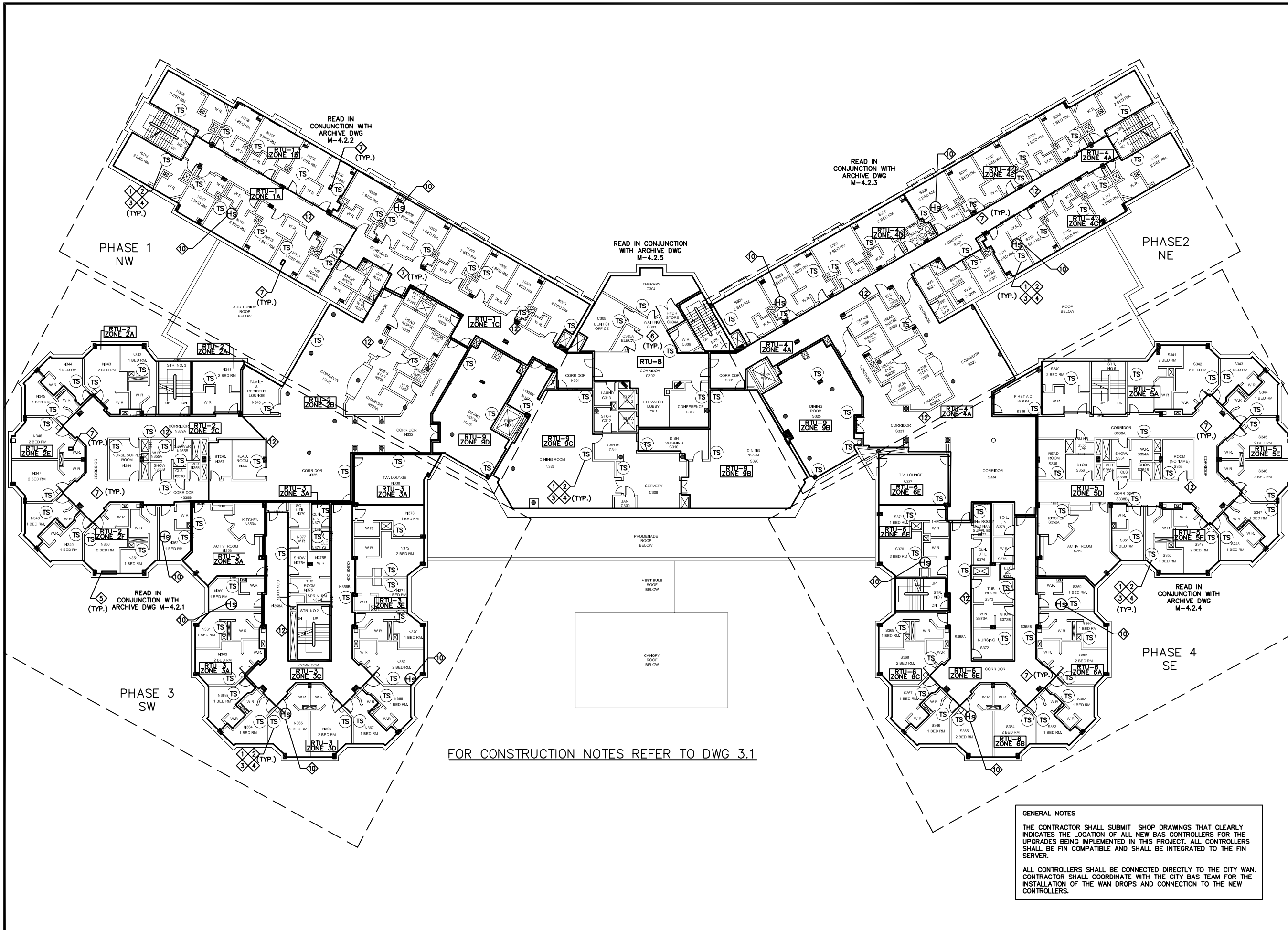
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CHECKED BY: M.H/V.S

DRAWING No.
M-3.2

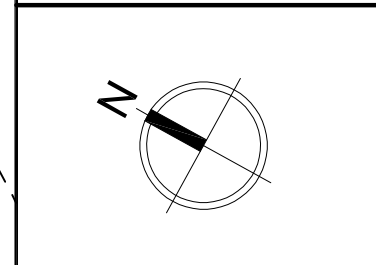


REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
 DO NOT SCALE DRAWINGS.
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 ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEERS.
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ENGINEERING
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 Suite E 331
 North York, On M2J 4Y1
 (416)497.3111 fax (416)497.7210



PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

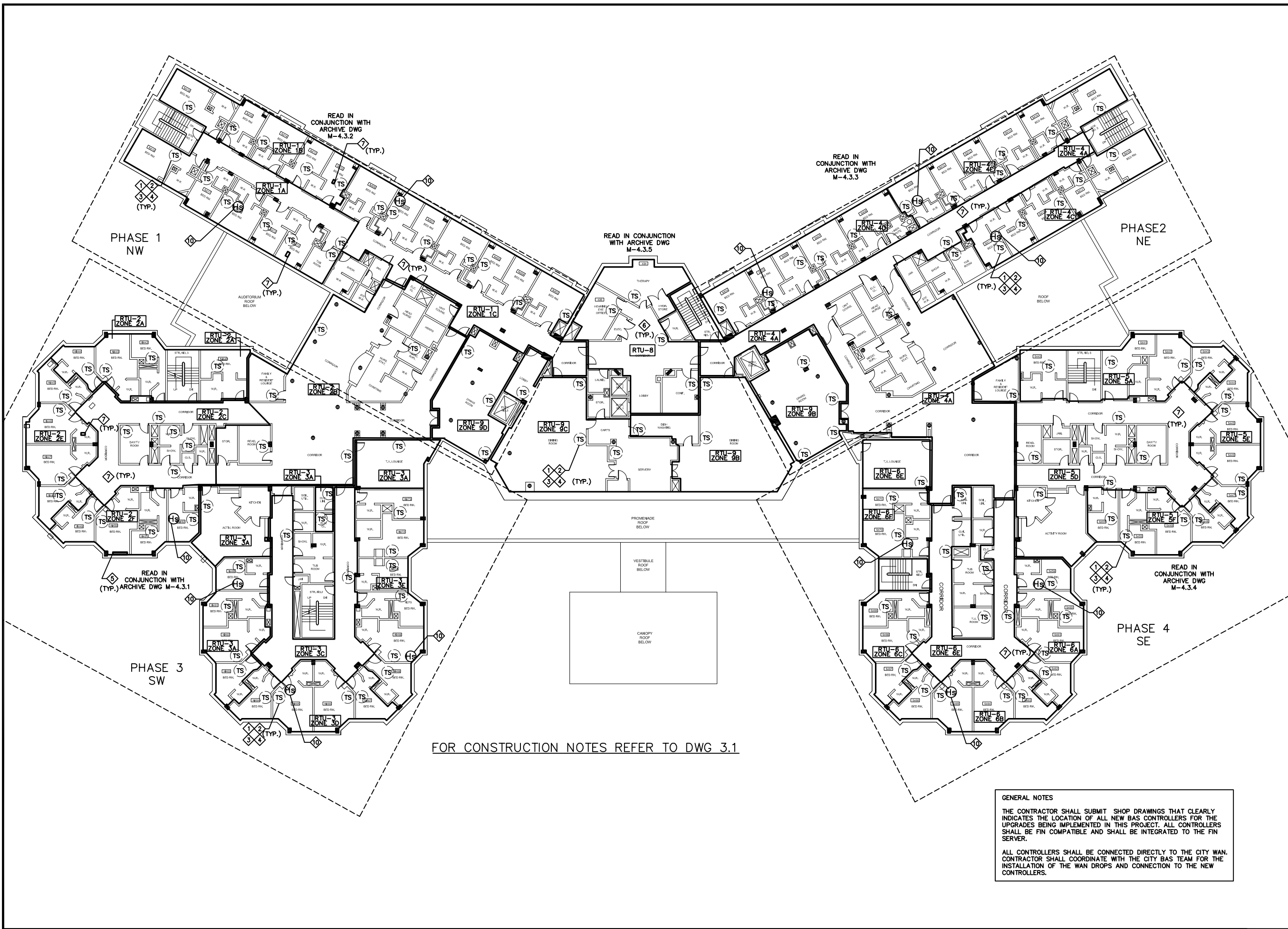
TITLE:
3RD FLOOR
BAS NEW WORK

DATE:
 SCALE : N.T.S
 DRAWN BY : D.M./M.G
 CHECKED BY : M.H./V.S
 DRAWING No.
 M-3.3

GENERAL NOTES

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CLEARLY INDICATES THE LOCATION OF ALL NEW BAS CONTROLLERS FOR THE UPGRADES BEING IMPLEMENTED IN THIS PROJECT. ALL CONTROLLERS SHALL BE FIN COMPATIBLE AND SHALL BE INTEGRATED TO THE FIN SERVER.

ALL CONTROLLERS SHALL BE CONNECTED DIRECTLY TO THE CITY WAN. CONTRACTOR SHALL COORDINATE WITH THE CITY BAS TEAM FOR THE INSTALLATION OF THE WAN DROPS AND CONNECTION TO THE NEW CONTROLLERS.



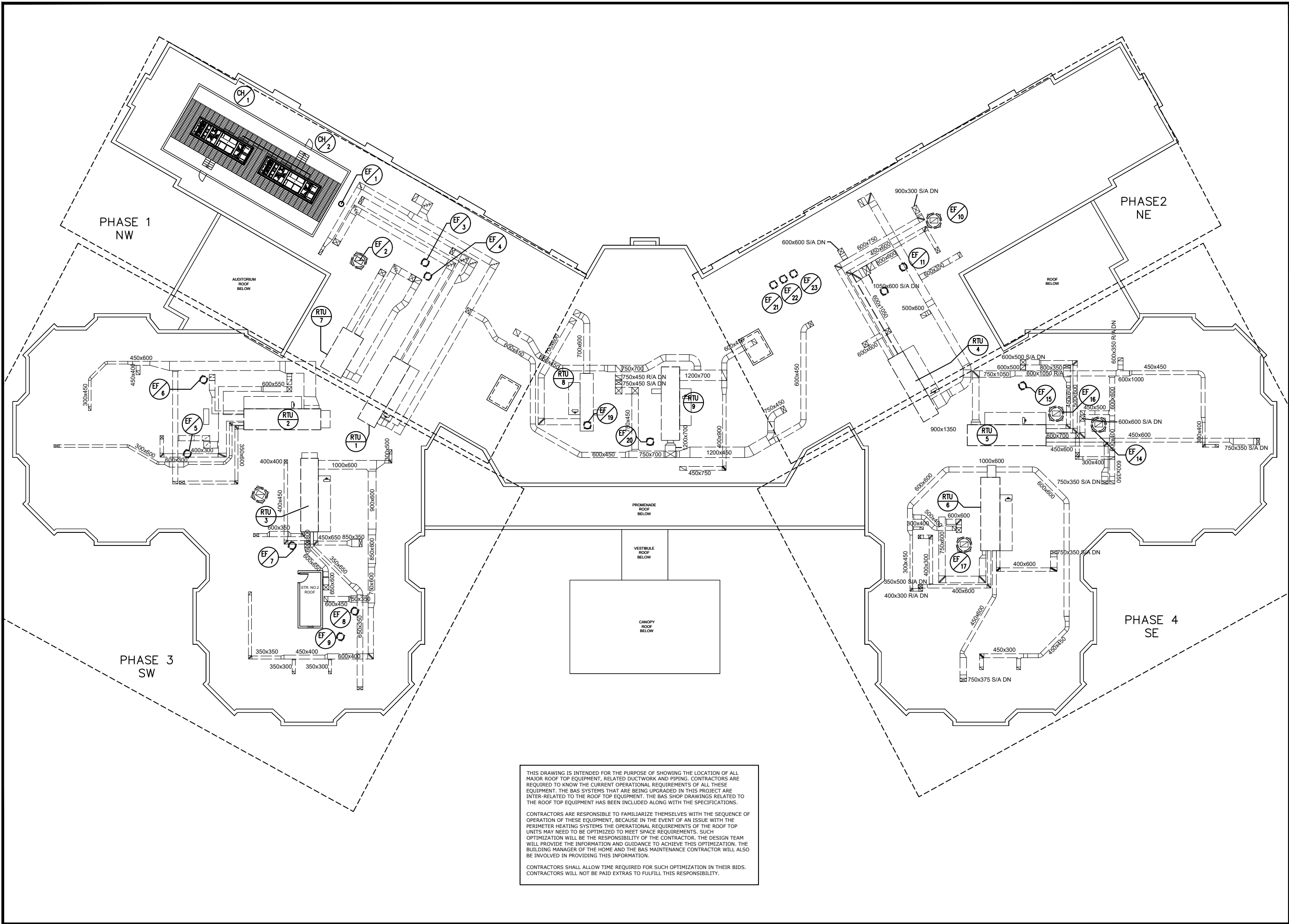
FOR CONSTRUCTION NOTES REFER TO DWG 3.1

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REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
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No.	DESCRIPTION	DATE
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<p>CROSSEY ENGINEERING LTD.</p> <p>2255 Sheppard Avenue. E. Suite E 331 North York, On M2J 4Y1 (416)497.3111 fax (416)497.7210</p>		
<p>PROJECT: CUMMER LODGE Home For The Aged CONTROLS UPGRADE</p> <p>205 Cumber Avenue Willowdale, Ontario M2M 2E8</p>		
<p>TITLE: 4TH FLOOR BAS NEW WORK</p>		
<p>DATE:</p>		
<p>SCALE: N.T.S</p>		
<p>DRAWN BY: D.M/M.G</p>		
<p>CHECKED BY: M.H/V.S</p>		
<p>DRAWING No. M-3.4</p>		

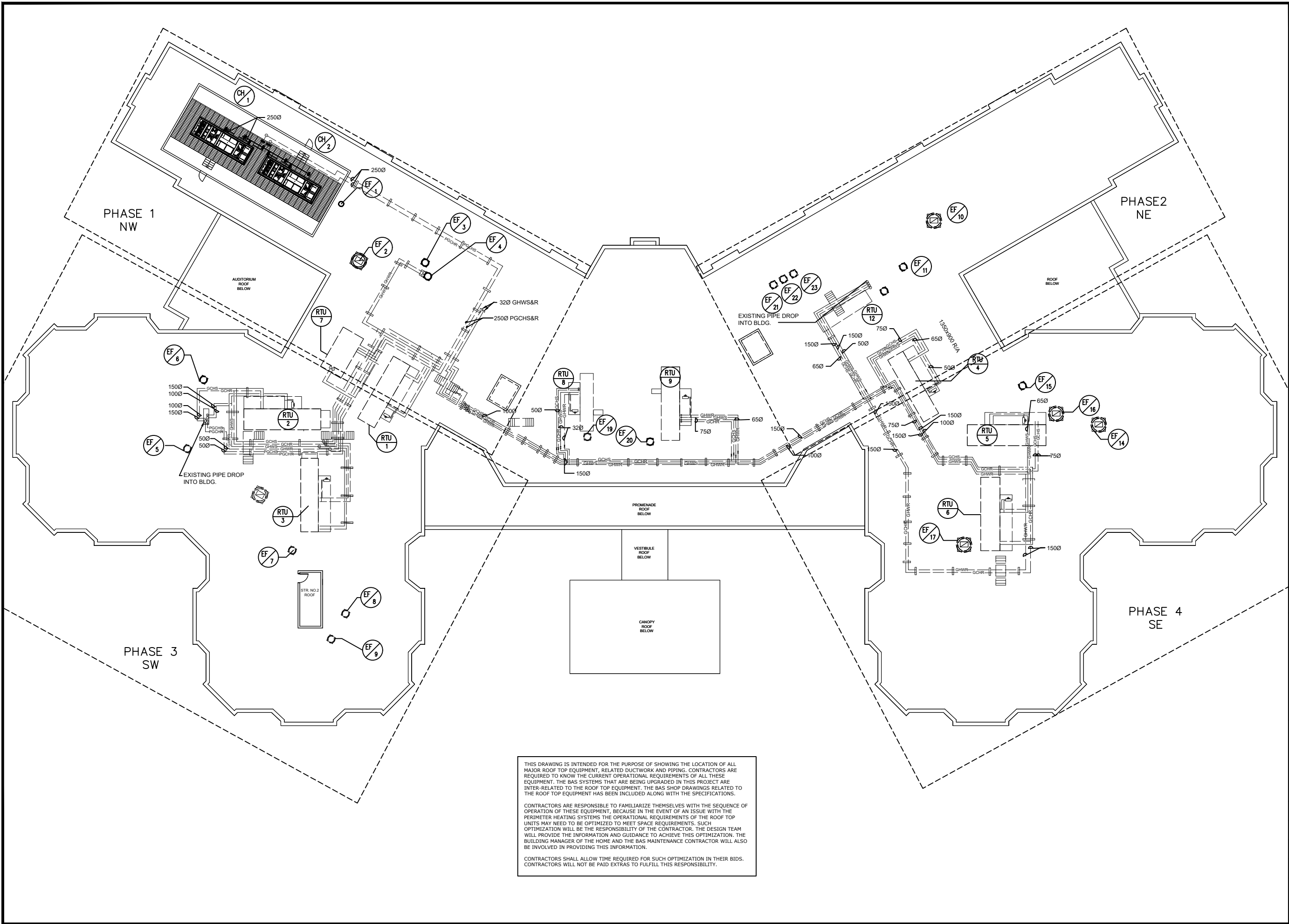


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CONTRACTORS SHALL ALLOW TIME REQUIRED FOR SUCH OPTIMIZATION IN THEIR BIDS. CONTRACTORS WILL NOT BE PAID EXTRAS TO FULFILL THIS RESPONSIBILITY.

REVISIONS		
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PROJECT: CUMMER LODGE Home For The Aged CONTROLS UPGRADE		
205 Cummer Avenue Willowdale, Ontario M2M 2E8		
TITLE: ROOF LEVEL AHU EQUIPMENT LAYOUT		
DATE :		
SCALE : N.T.S		
DRAWN BY : D.M/M.G		
CHECKED BY : M.H/V.S		
DRAWING No. M-3.5		

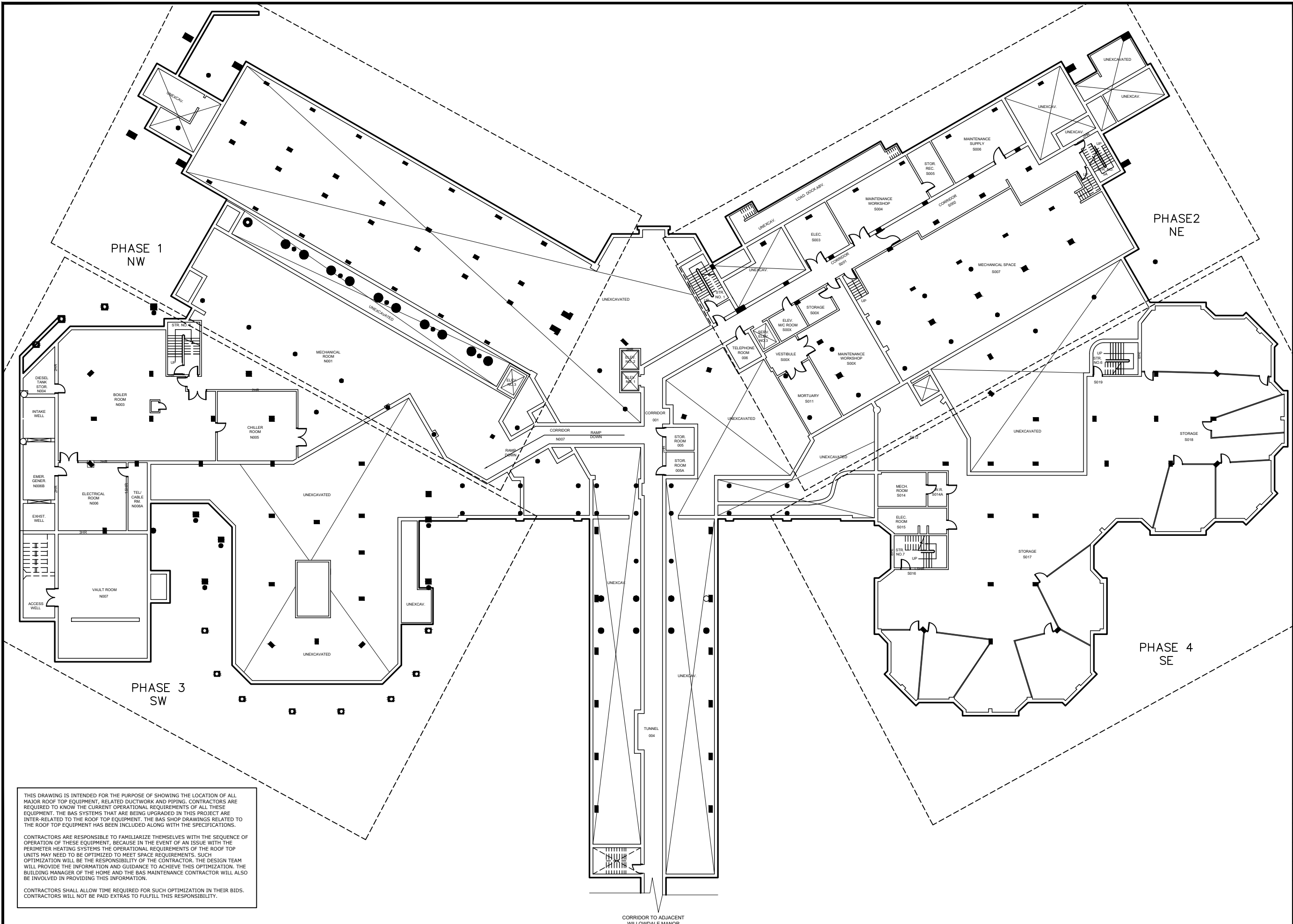


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ISSUED		
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PROJECT: CUMMER LODGE Home For The Aged CONTROLS UPGRADE		
205 Cummer Avenue Willowdale, Ontario M2M 2E8		
TITLE: ROOF LEVEL HVAC PIPING LAYOUT		
DATE :		
SCALE : N.T.S		
DRAWN BY : D.M/M.G		
CHECKED BY : M.H/V.S		
DRAWING No.		
M-3.6		




REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
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1	ISSUED FOR COSTING	2022-07-11

ISSUED

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
BASEMENT LEVEL
HVAC PIPING
LAYOUT

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.

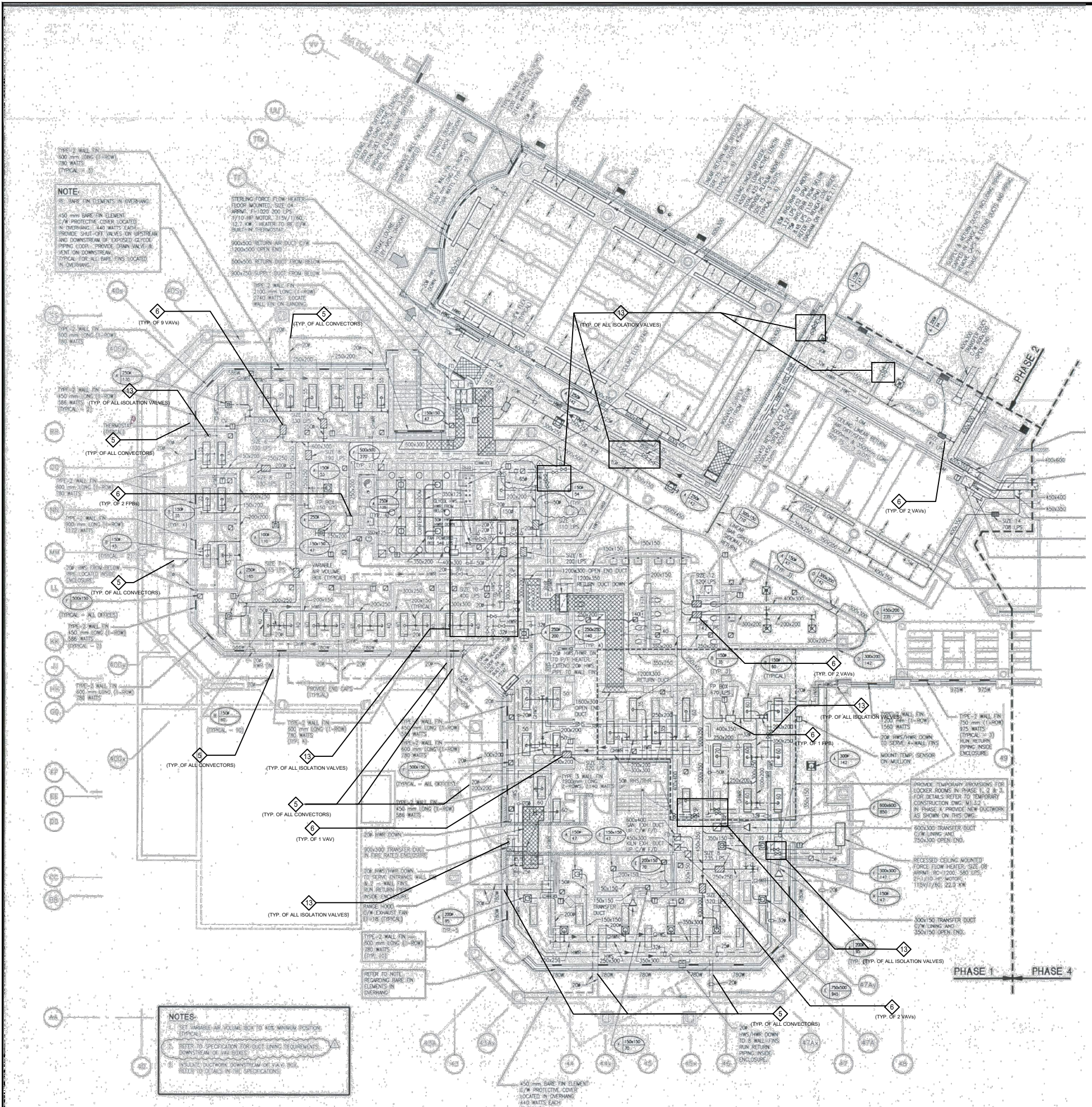
M-3.7

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CORRIDOR TO ADJACENT
WILLOWDALE MANOR



GENERAL NOTES:
(APPLICABLE TO DWGS. FROM 4.1.1 TO 4.3.5)

1. THESE ARCHIVE DRAWINGS M-4.1.1 TO M-4.3.5 ARE INCLUDED FOR REFERENCE TO ASSIST THE CONTRACTOR WITH THE LOCATION OF CONVECTORS, WALL FIN RADIATORS, FORCED FLOW HEATERS, REHEAT COILS, VAV BOXES, DISTRIBUTION SYSTEM AND BASE BUILDING CONDITIONS.
2. FULL SCALE DRAWINGS CAN BE MADE AVAILABLE ON REQUEST.
3. FOR CONSTRUCTION NOTES, PLEASE REFER TO DWG M-3.1

LIST OF EQUIPMENT WITH CONTROL VALVES:

FLOOR		WALL FIN CONVECTOR	REHEAT COILS
GROUND	NW	56	1
	NE	10	2
	SE	11	2
	SW	24	6
	CORE	15	3
LEVEL-2	NW	57	37
	NE	26	21
	SE	26	19
	SW	54	38
	CORE	0	0
LEVEL-3	NW	56	37
	NE	10	21
	SE	11	19
	SW	24	38
	CORE	15	0
LEVEL-4	NW	56	33
	NE	25	21
	SE	25	19
	SW	54	38
	CORE	15	0
TOTAL		570	341

THE QUANTITY INDICATED ABOVE IS BASED ON ARCHIVE DOCUMENTATION. THE QUANTITY HOWEVER, MAY NOT ACCURATELY REFLECT ACTUAL SITE CONDITIONS AS A RESULT OF RENOVATIONS THAT ARE NOT SHOWN IN THE ARCHIVE DWGS. CONTRACTOR SHALL ALLOW FOR A MIN. OF +10% QUANTITY OF VALVES IN THE TENDER PRICE.

1. CONTRACTOR SHALL SUBMIT A FINAL LIST OF VALVE QUANTITIES REPLACED AT THE END OF THE PROJECT. THE CONTRACTOR SHALL HAND OVER THE BALANCE OF THE VALVES TO THE CLIENT TO BE KEPT AS SPARES. THE CONTRACTOR SHALL PROVIDE CREDIT FOR THE LABOUR THAT WAS NOT UTILIZED FOR THE INSTALLATION OF THE SPARE VALVES. THE LABOUR RATES WILL BE AS IDENTIFIED IN THE BID-FORM.
2. IF THE ACTUAL QUANTITY OF VALVES IS MORE THAN THE 10%, THE CONTRACTOR WILL BE PAID FOR THE ADDITIONAL VALVES AS PER UNIT RATE IDENTIFIED IN THE BID-FORM.

# OF VAV BOXES	VAV	FPB
GRND LVL	-	-
LVL 2	-	-
LVL 3	-	-
LVL 4	-	-

REVISIONS

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1	ISSUED FOR COSTING	2022-07-11

ISSUED

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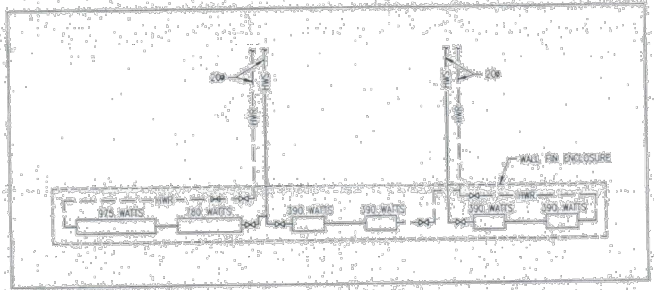
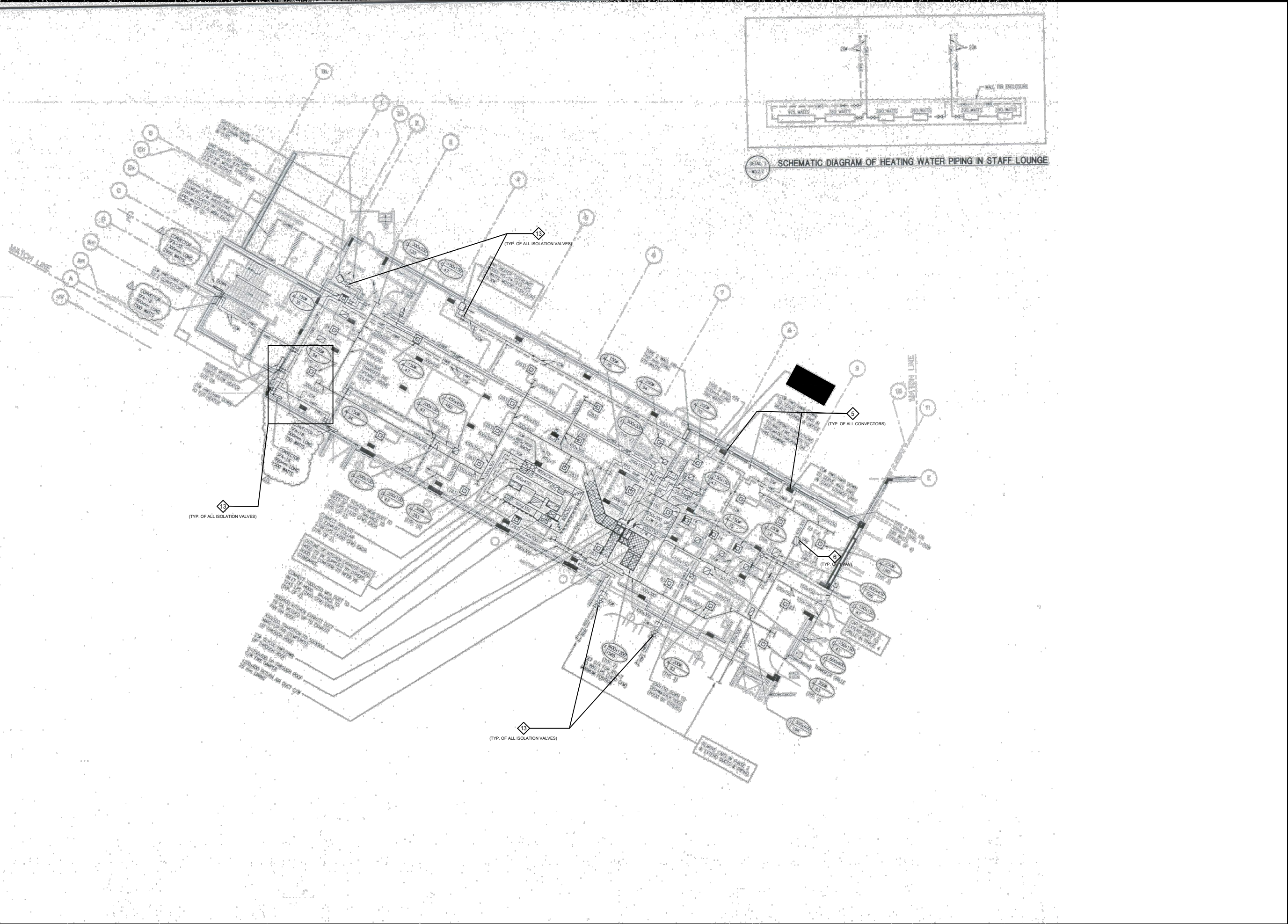


PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
GROUND FLOOR
NW POD
HVAC

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
M-4.1.1




SCHEMATIC DIAGRAM OF HEATING WATER PIPING IN STAFF LOUNGE

REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

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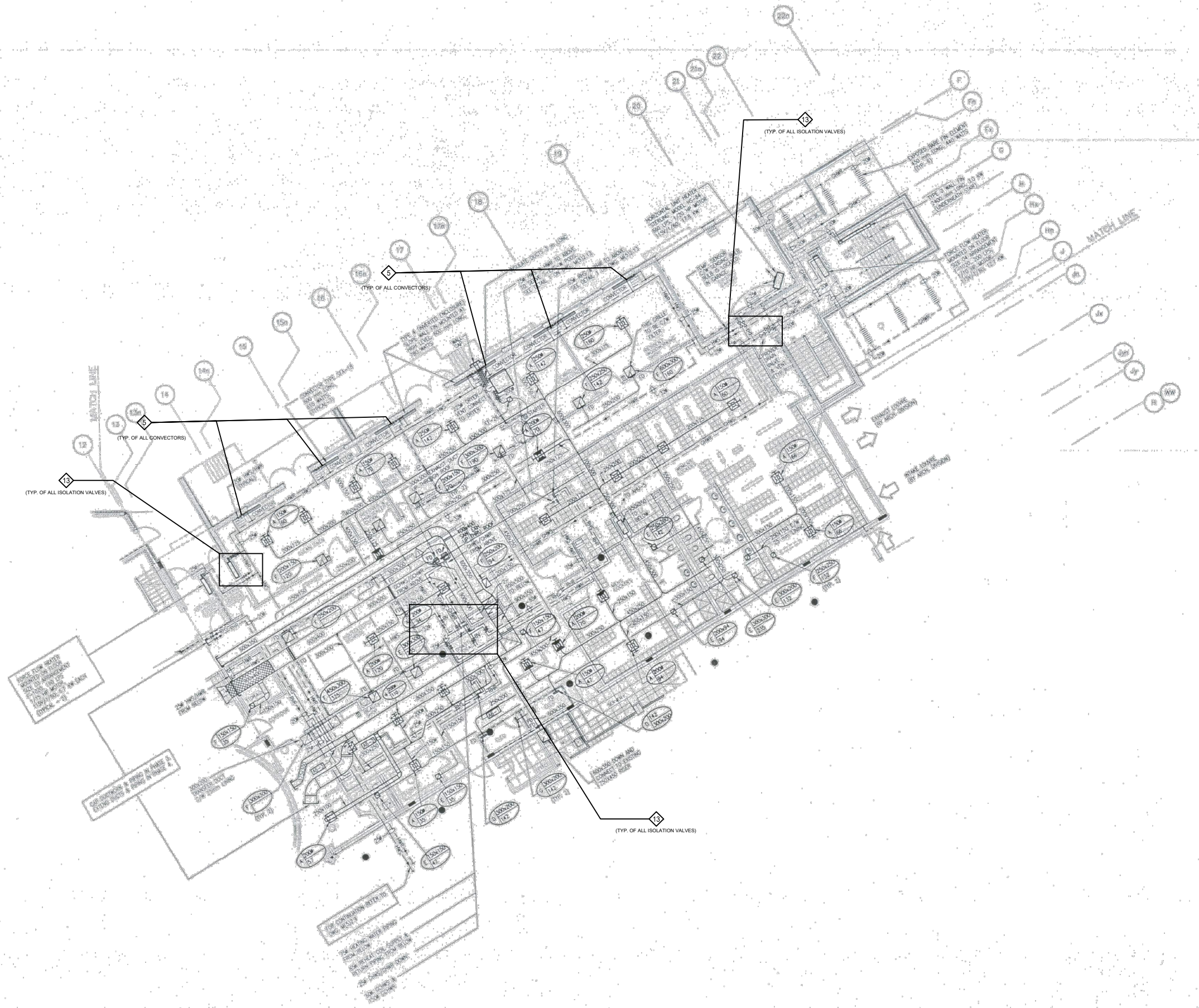
LICENSED PROFESSIONAL ENGINEER
 V.N. SRINIVAS
 Sept 23'2024
 PROVINCE OF ONTARIO
 21504.M04

PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cumber Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
**GROUND FLOOR
 NE WING
 HVAC**

DATE :
 SCALE : N.T.S
 DRAWN BY : D.M/M.G
 CHECKED BY : M.H/V.S
 DRAWING No.
M-4.1.2




REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
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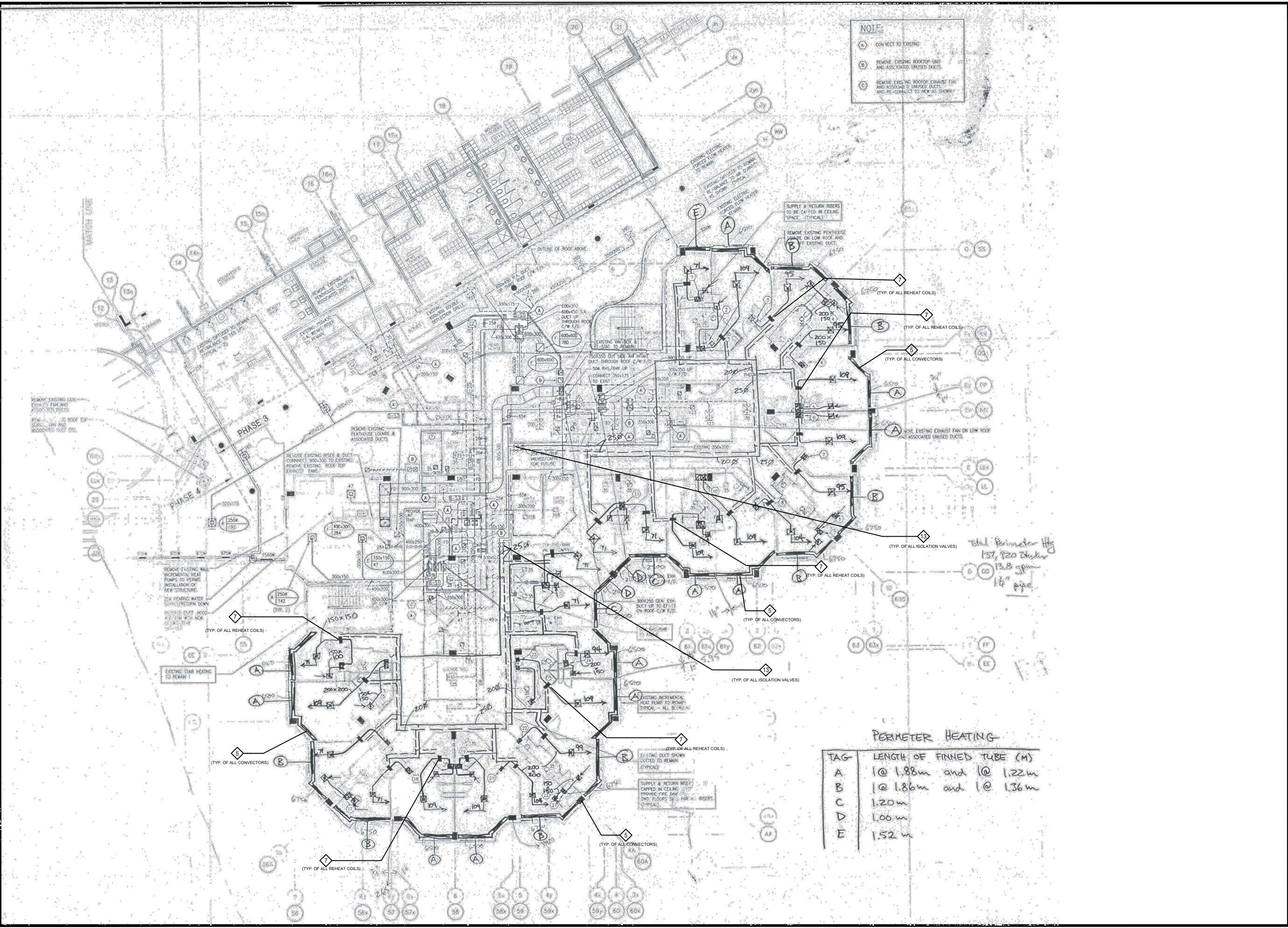


PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
**GROUND FLOOR
 SE WING
 HVAC**

DATE :
 SCALE : N.T.S
 DRAWN BY : D.M/M.G
 CHECKED BY : M.H/V.S
 DRAWING No.
M-4.1.3



REVISIONS		
No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
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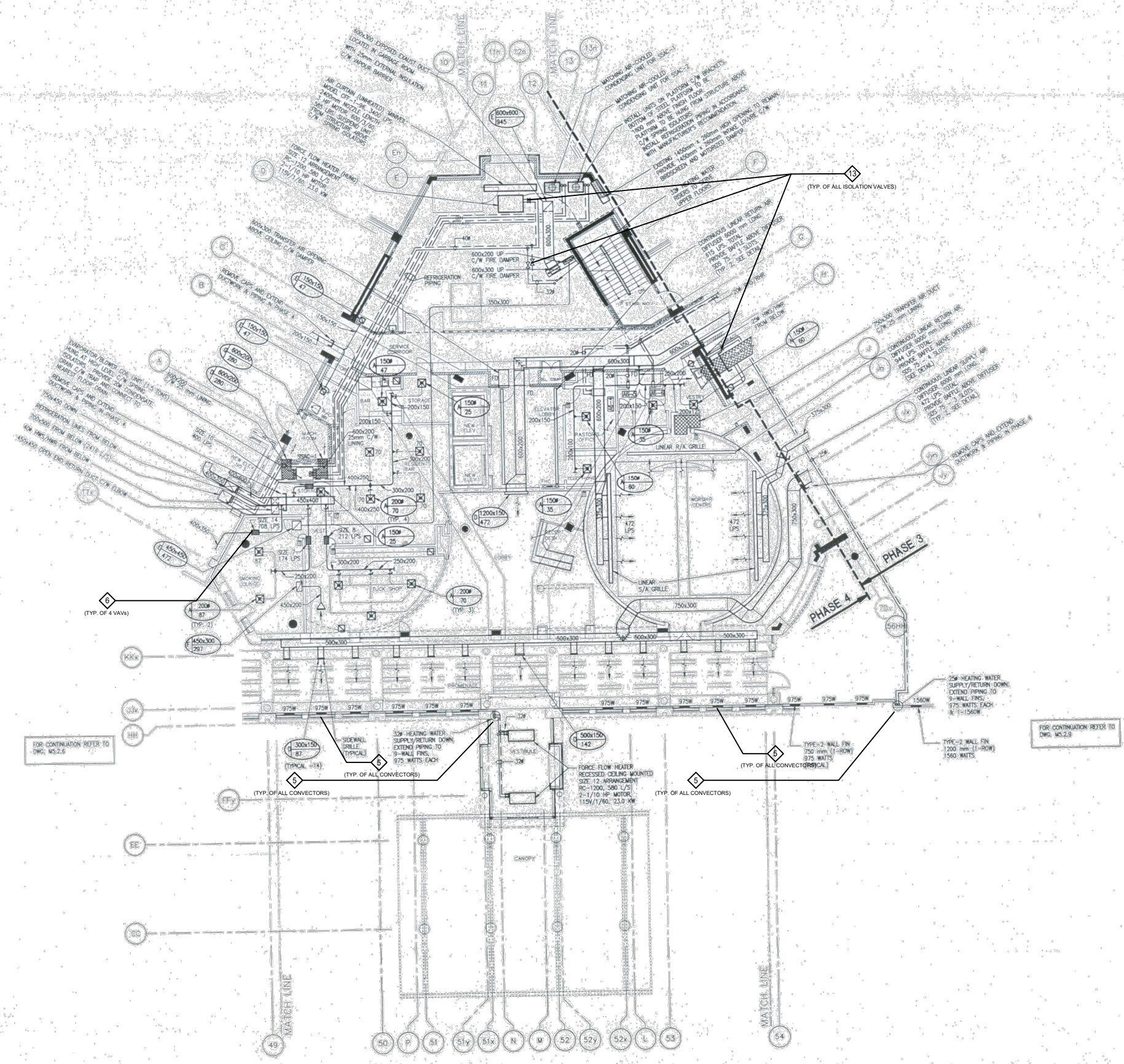
PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
GROUND FLOOR
SW POD
HVAC

DATE:
SCALE: N.T.S

DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
M-4.1.4




REVISIONS

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
**GROUND FLOOR
CORE
HVAC**

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
M-4.1.5

NOTES:
 RE: N-W POD SUITES
 1. FOR RISER DIAGRAM OF DUCTS SERVING THE SUITES REFER TO DWG. MS2.11.1
 2. FOR DIFFUSER AND GRILLE SCHEDULES REFER TO DWG. MS2.11.2
 3. FOR REHEAT COIL SCHEDULES REFER TO THE SPECIFICATIONS. REHEAT COILS SHALL BE 100% PERIMETER WALL ON 3RD FLOOR.
 4. SANITARY EXHAUST DUCT SIZE TO SINGLE WASHROOM TO BE 150x150 TERMINATING TO 150x100 EXHAUST GRILLE. BALANCE TO 35 LPS.

TYPICALLY, WHERE NO THERMOSTAT LOCATIONS ARE INDICATED ON THE DRAWINGS FOR REHEAT COILS AND/OR OTHER HEATING ELEMENTS, PROVIDE THERMOSTATS FOR SAME AND LOCATE AS PER SIMILAR LOCATIONS SHOWN.

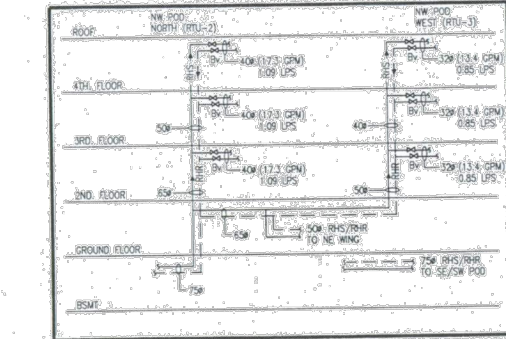
SYMBOL

(A)	200MM LONG 750MM TYPICAL
(B)	200MM LONG 1500MM TYPICAL
(C)	200MM LONG 3000MM TYPICAL
(D)	200MM LONG 4500MM TYPICAL

ROOM ASSOCIATED WITH RISER	SUPPLY				RETURN			
	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM
1	150	150	150	150	150	150	150	150
2	230	230	230	230	230	230	230	230
3	180	180	180	180	180	180	180	180
4	150	150	150	150	150	150	150	150
5	210	210	210	210	210	210	210	210
6	210	210	210	210	210	210	210	210
7	150	150	150	150	150	150	150	150
8	210	210	210	210	210	210	210	210
9	210	210	210	210	210	210	210	210
10	230	230	230	230	230	230	230	230
11	150	150	150	150	150	150	150	150
12	260	260	260	260	260	260	260	260

N-W POD (RTU-2) BEDROOM DIFFUSERS/GRILLES SCHEDULE

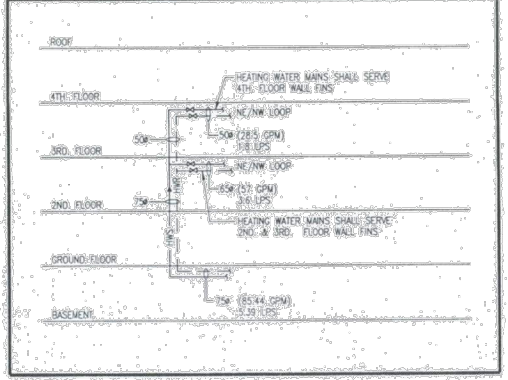
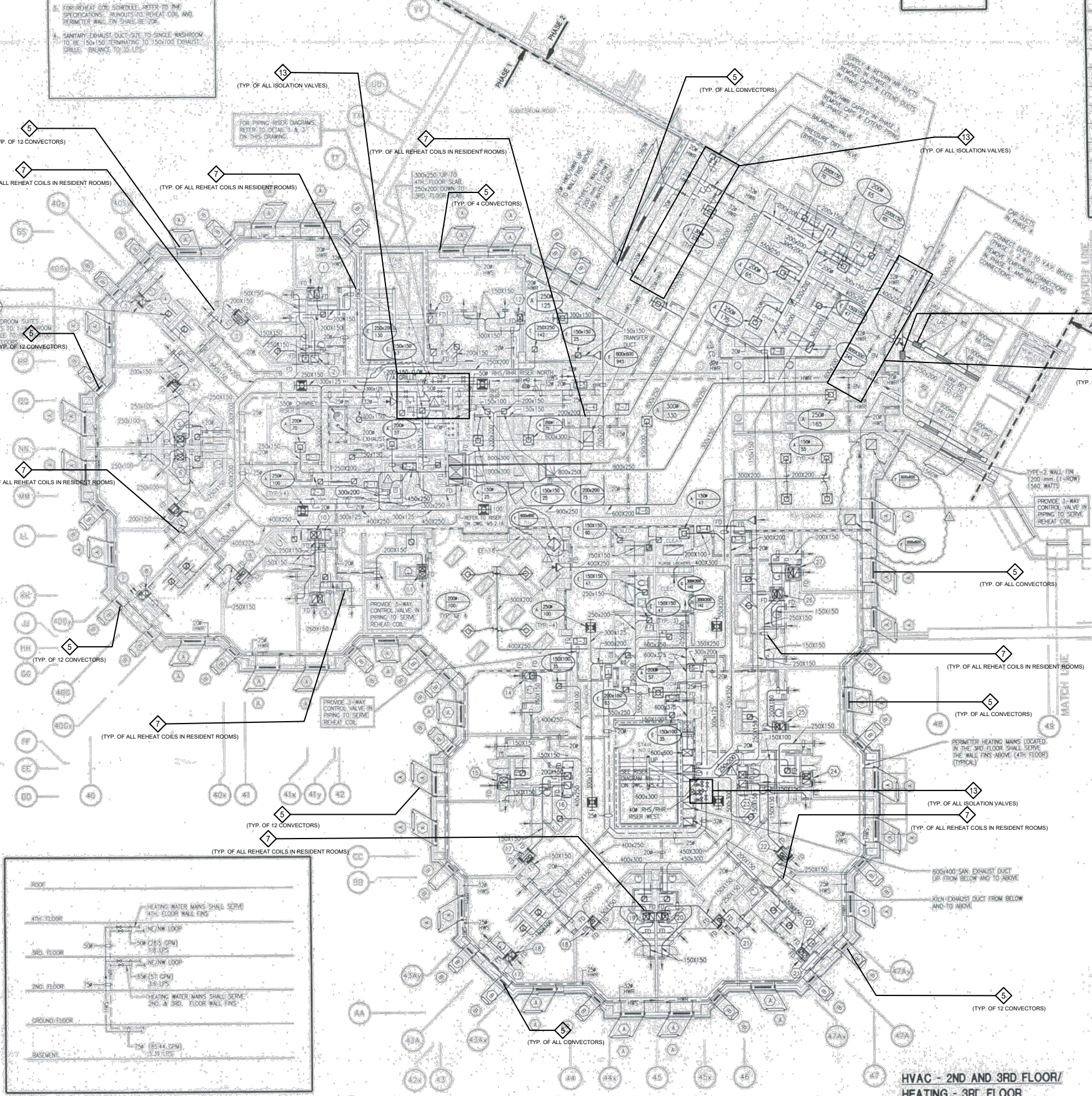
Computer print & controls, Jan 23, 2024



REHEAT COIL PIPING RISER DIAGRAM

ROOM ASSOCIATED WITH RISER	SUPPLY				RETURN			
	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM	2ND/3RD FLOOR TOTAL (LPS) CFM	4TH FLOOR TOTAL (LPS) CFM
14	150	150	150	150	150	150	150	150
15	150	150	150	150	150	150	150	150
16	230	230	230	230	230	230	230	230
17	150	150	150	150	150	150	150	150
18	220	220	220	220	220	220	220	220
19	230	230	230	230	230	230	230	230
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21	220	220	220	220	220	220	220	220
22	210	210	210	210	210	210	210	210
23	230	230	230	230	230	230	230	230
24	200	200	200	200	200	200	200	200
25	150	150	150	150	150	150	150	150
26	230	230	230	230	230	230	230	230
27	160	160	160	160	160	160	160	160

N-W POD (RTU-3) BEDROOM DIFFUSERS/GRILLES SCHEDULE



BEDROOM HEATING RISER DIAGRAM

HVAC - 2ND AND 3RD FLOOR/ HEATING - 3RD FLOOR

REVISIONS

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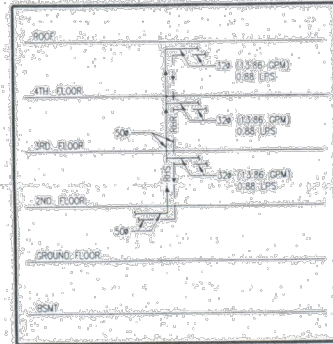


PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 2ND & 3RD FLOOR
 NW POD
 HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
 M-4.2.1



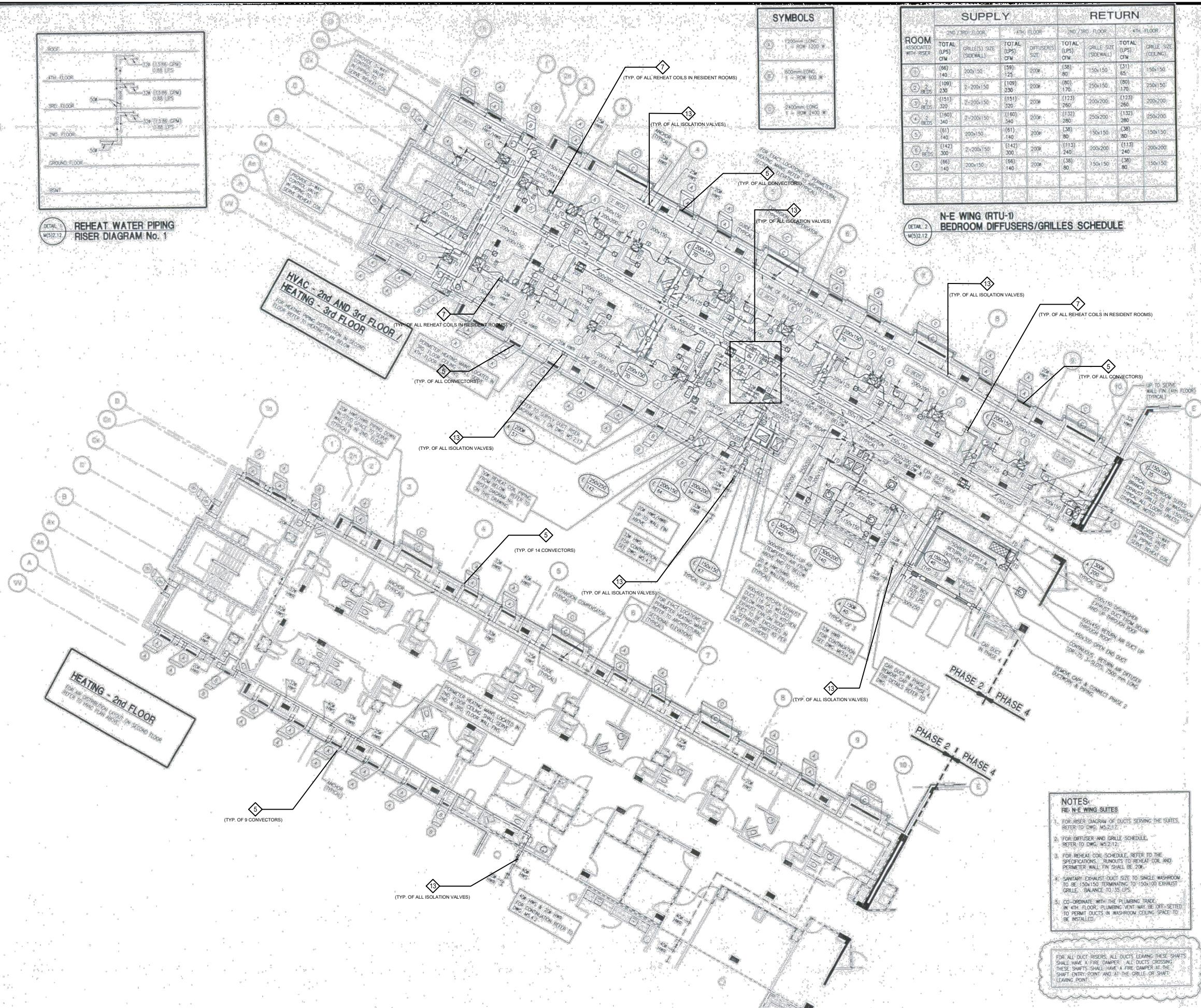
REHEAT WATER PIPING RISER DIAGRAM No. 1

SYMBOLS

①	150mm LONG R - ROW 1200 W
②	200mm LONG R - ROW 600 W
③	200mm LONG R - ROW 400 W

ROOM ASSOCIATED WITH RISER	SUPPLY		RETURN	
	TOTAL (LPS) CFM	GRILLES SIZE (SIDEWALL)	TOTAL (LPS) CFM	GRILLES SIZE (SIDEWALL)
2ND/3RD FLOOR				
(66)	140	200x150	(38)	150x150
(109)	230	2-200x150	(80)	250x150
(131)	320	2-200x150	(113)	200x200
(140)	340	2-200x150	(132)	250x200
4TH FLOOR				
(61)	140	200x150	(61)	150x150
(142)	300	2-200x150	(113)	200x200
(66)	140	200x150	(66)	150x150

N-E WING (RTU-1) BEDROOM DIFFUSERS/GRILLES SCHEDULE



- NOTES:**
- FOR RISER DIAGRAM OF DUCTS SERVING THE SUITES, REFER TO DWG. M212.12.
 - FOR DIFFUSER AND GRILLE SCHEDULE, REFER TO DWG. M212.12.
 - FOR REHEAT COIL SCHEDULE, REFER TO THE SPECIFICATIONS. RUNWAYS TO REHEAT COIL AND PERIMETER WALL FIN SHALL BE 20K.
 - SANITARY EXHAUST DUCT SIZE TO SINGLE WASHROOM TO BE 150x150 TERMINATING TO 150x100 EXHAUST GRILLE. BALANCE TO 15 LPS.
 - CO-ORDINATE WITH THE PLUMBING TRADE. IN 4TH FLOOR, PLUMBING VENT MAY BE SET-SET TO POINT DUCTS IN WASHROOM CEILING SPACE TO BE INSTALLED.

FOR ALL DUCT RISERS, ALL DUCTS LEAVING THESE SHIFTS SHALL HAVE A FIRE DAMPER. ALL DUCTS CROSSING THESE SHIFTS SHALL HAVE A FIRE DAMPER AT THE SHIFT ENTRY POINT AND AT THE GRILLE OR SHIFTS LEAVING POINT.

REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
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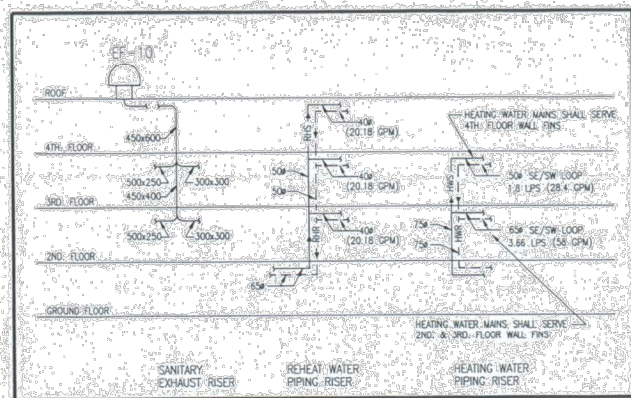


PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
2ND & 3RD FLOOR
NE WING
HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
M-4.2.2



DETAIL 1
M5.2.13
RISER DIAGRAM No. 1

ROOM ASSOCIATED WITH RISER	SUPPLY		RETURN	
	2ND/3RD FLOOR	4TH FLOOR	2ND/3RD FLOOR	4TH FLOOR
(71) 150	300x100	(71) 150	(43) 200x100	(43) 80
(142) 300	2-300x100	(142) 300	(113) 350x100	240
(188) 400	2-300x150	(188) 400	2-150x90	540
(142) 300	300x100	(142) 300	2-150x90	240
(66) 140	300x150	(59) 125	200x100	(31) 150x150
(118) 250	2-250x100	(118) 250	1-90	350x100
(66) 140	300x100	(59) 125	200x100	(31) 150x150
(123) 260	2-300x100	(104) 220	2-150x90	(94) 350x100

DETAIL 3
M5.2.13
S-E WING (RTU-4) BEDROOM DIFFUSERS/GRILLES SCHEDULE

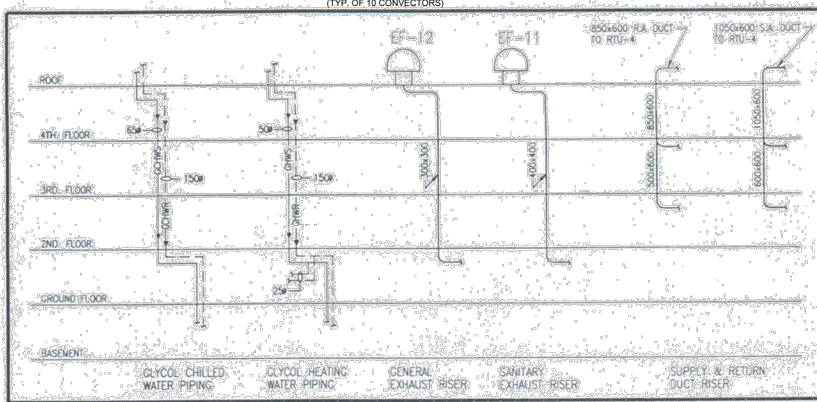
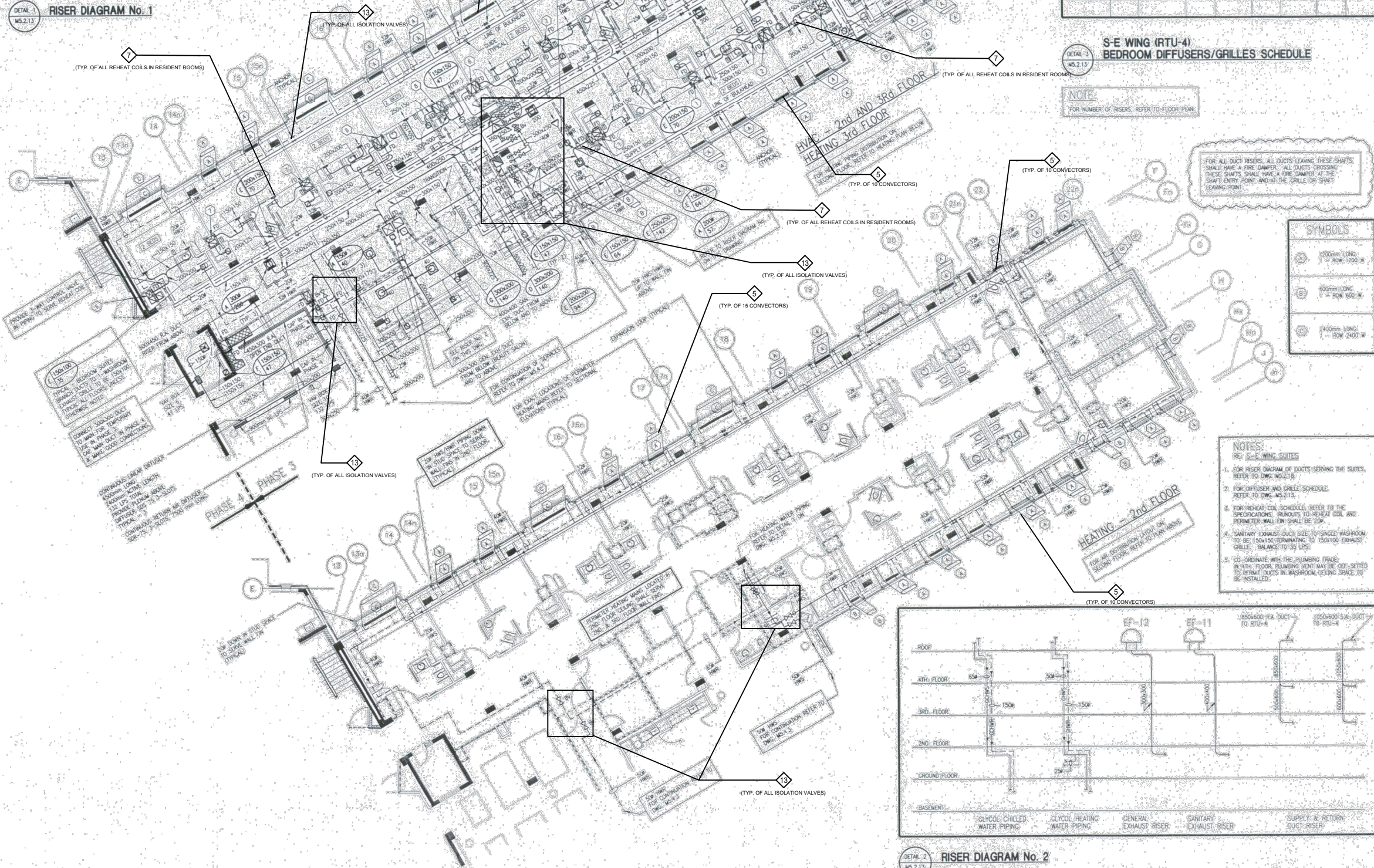
NOTE:
FOR NUMBER OF RISERS, REFER TO FLOOR PLAN

FOR ALL DUCT RISERS: ALL DUCTS LEAVING THESE SHIFTS SHALL HAVE A FIRE DAMPER. ALL DUCTS CROSSING THESE SHIFTS SHALL HAVE A FIRE DAMPER AT THE SHIFTS ENTRY POINT AND A FIRE DUCTILE (IF SHIFTS LEAVING ROOM)

SYMBOLS

(A)	1500mm LONG 1" = ROOM 1200mm
(B)	1000mm LONG 1" = ROOM 600mm
(C)	1400mm LONG 1" = ROOM 2400mm

- NOTES:**
REF: S-E WING SUITES
- FOR RISER DIAGRAM OF DUCTS SERVING THE SUITES, REFER TO DWG. M5.2.13-1
 - FOR DIFFUSER AND GRILLE SCHEDULE, REFER TO DWG. M5.2.13-2
 - FOR REHEAT COIL SCHEDULE, REFER TO THE SPECIFICATIONS. BR/OUTS TO REHEAT COIL AND PERIMETER WALL-FIN SHALL BE 30P.
 - SANITARY EXHAUST DUCT SIZE TO SINGLE WASHROOM TO BE 150x150 TERMINATING TO 150x100 EXHAUST GRILLE. BALANCE TO 35 UPS.
 - CO-ORDINATE WITH THE PLUMBING TRADE. IN 4TH FLOOR, PLUMBING VENT MAY BE SET SET TO 95MM DUCTS IN WASHROOM, SEEING SPACE TO BE INSTALLED.



DETAIL 2
M5.2.13
RISER DIAGRAM No. 2

REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
DO NOT SCALE DRAWINGS.
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ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEERS.
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Suite E-311
North York, On M2J 4Y1
(416)497.3111 fax (416)497.7210



PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

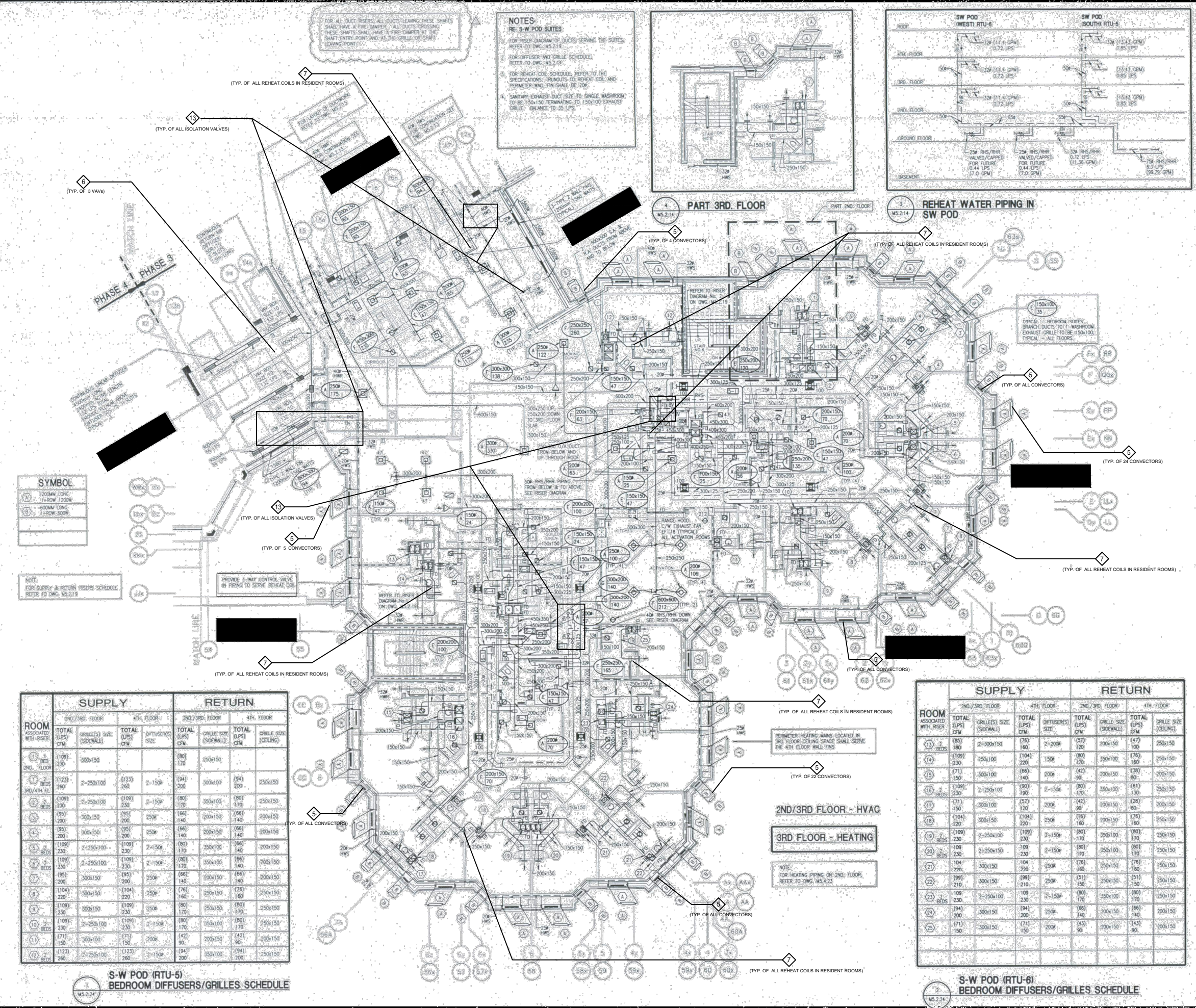
TITLE:
2ND & 3RD FLOOR
SE WING
HVAC

DATE:
SCALE: N.T.S

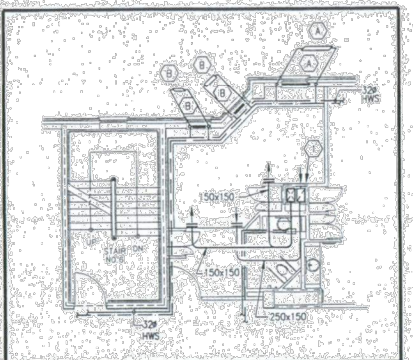
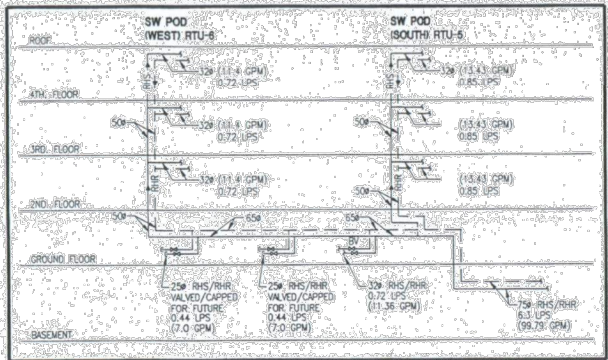
DRAWN BY: D.M/M.G

CHECKED BY: M.H/V.S

DRAWING No.
M-4.2.3



NOTES:
 RE S-W POD SITES
 1. FOR RISER DIAGRAM OF DUCTS SERVING THE SITES, REFER TO DWG. MS.2.14
 2. FOR DIFFUSER AND GRILLE SCHEDULE, REFER TO DWG. MS.2.14
 3. FOR REHEAT COIL SCHEDULE, REFER TO THE SPECIFICATIONS - RIGOUTS TO REHEAT COIL AND TRANSFER WING SHALL BE 20"
 4. SANITARY EXHAUST DUCT SIZE TO SINGLE WASHROOM TO BE 150x150 TERMINATING TO 150x150 EXHAUST GRILLE - BALANCE TO 35 LPS



SYMBOL

(V)	100MM LONG 11-RW 120MM
(B)	100MM LONG 120MM 100MM

NOTE:
 FOR SUPPLY & RETURN RISERS SCHEDULE REFER TO DWG. MS.2.14

ROOM ASSOCIATED WITH RISER	SUPPLY				RETURN			
	TOTAL (LPS) CFM	GRILLE(S) SIZE (SIDEWALL)	TOTAL (LPS) CFM	DIFFUSERS(S) SIZE	TOTAL (LPS) CFM	GRILLE(S) SIZE (SIDEWALL)	TOTAL (LPS) CFM	GRILLE(S) SIZE (CEILING)
2ND FLOOR	(109) 230	2-250x100	(123) 260	2-150	(80) 170	250x150	(94) 200	
3RD FLOOR	(1123) 240	2-250x100	(123) 260	2-150	(94) 200	300x100	(94) 200	250x150
4TH FLOOR	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	250x150
5TH FLOOR	(95) 200	300x150	(95) 200	250	(66) 140	200x150	(66) 140	200x150
6TH FLOOR	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	200x150
7TH FLOOR	(95) 200	300x150	(95) 200	250	(66) 140	200x150	(66) 140	200x150
8TH FLOOR	(104) 220	300x150	(104) 220	250	(71) 150	250x150	(71) 150	250x150
9TH FLOOR	(109) 230	300x150	(109) 230	250	(80) 170	250x150	(80) 170	250x150
10TH FLOOR	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	250x150
11TH FLOOR	(71) 150	300x150	(71) 150	200	(42) 90	200x150	(42) 90	200x150
12TH FLOOR	(123) 260	2-250x100	(123) 260	2-150	(94) 200	350x100	(94) 200	250x150


ROOM ASSOCIATED WITH RISER	SUPPLY				RETURN			
	TOTAL (LPS) CFM	GRILLE(S) SIZE (SIDEWALL)	TOTAL (LPS) CFM	DIFFUSERS(S) SIZE	TOTAL (LPS) CFM	GRILLE(S) SIZE (SIDEWALL)	TOTAL (LPS) CFM	GRILLE(S) SIZE (CEILING)
13	(85) 180	2-300x150	(76) 160	2-200	(57) 120	200x150	(47) 100	250x150
14	(109) 230	250x100	(104) 220	150	(80) 170	350x100	(76) 160	250x150
15	(71) 150	300x150	(66) 140	200	(42) 90	300x150	(38) 80	200x150
16	(109) 230	2-250x100	(100) 220	2-150	(80) 170	350x100	(67) 140	250x150
17	(211) 450	300x150	(57) 120	200	(42) 90	200x150	(60) 130	300x150
18	(104) 220	300x150	(104) 220	250	(76) 160	200x150	(76) 160	250x150
19	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	250x150
20	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	250x150
21	(104) 220	300x150	(104) 220	250	(76) 160	250x150	(76) 160	250x150
22	(99) 210	300x150	(99) 210	250	(51) 110	250x150	(51) 110	250x150
23	(109) 230	2-250x100	(109) 230	2-150	(80) 170	350x100	(80) 170	250x150
24	(94) 200	300x150	(94) 200	250	(66) 140	200x150	(66) 140	200x150
25	(71) 150	300x150	(71) 150	200	(42) 90	200x150	(42) 90	200x150

REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
 DO NOT SCALE DRAWINGS.
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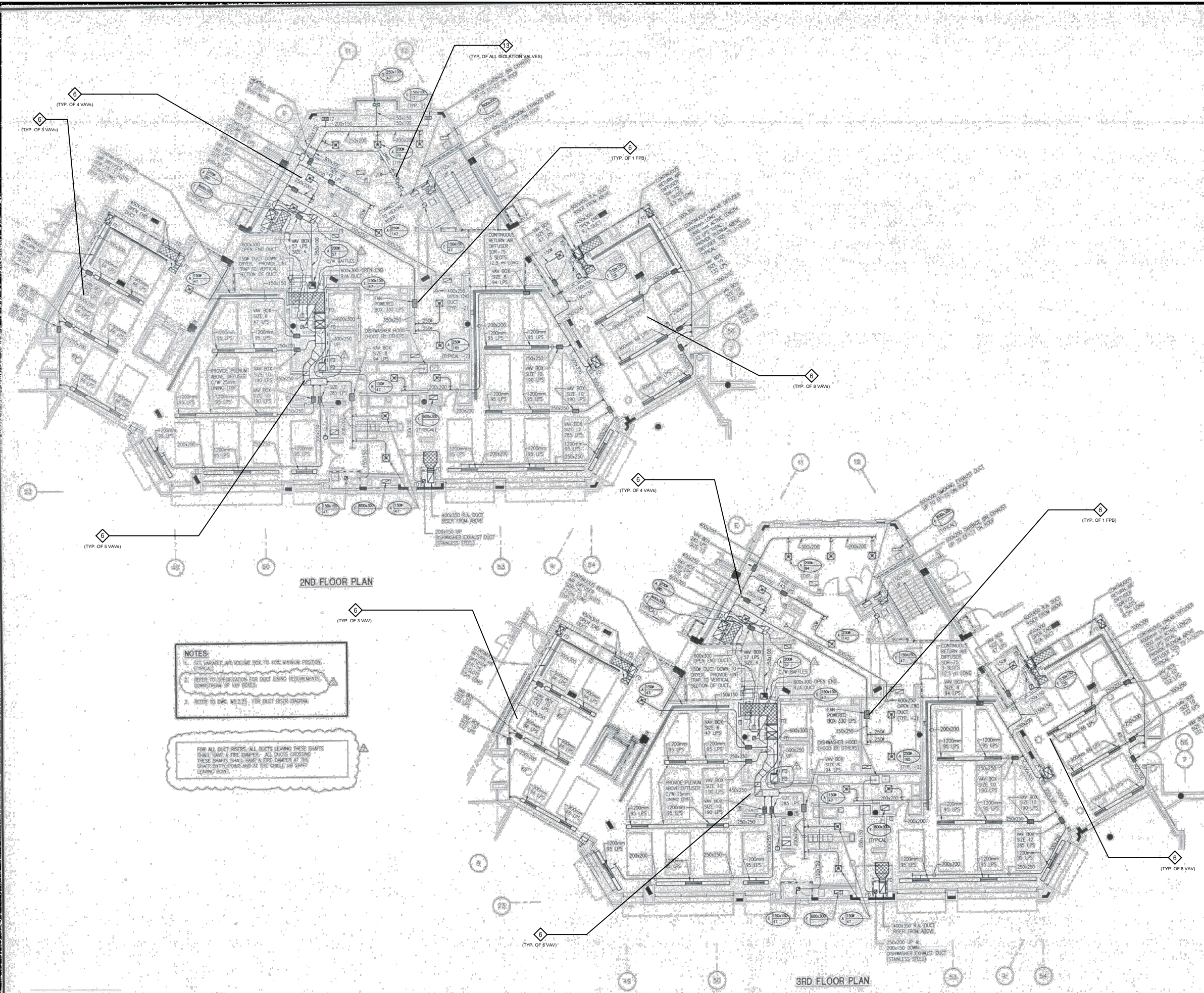


PROJECT:
 CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 2ND & 3RD FLOOR
 SW POD
 HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
 M-4.2.4




REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED
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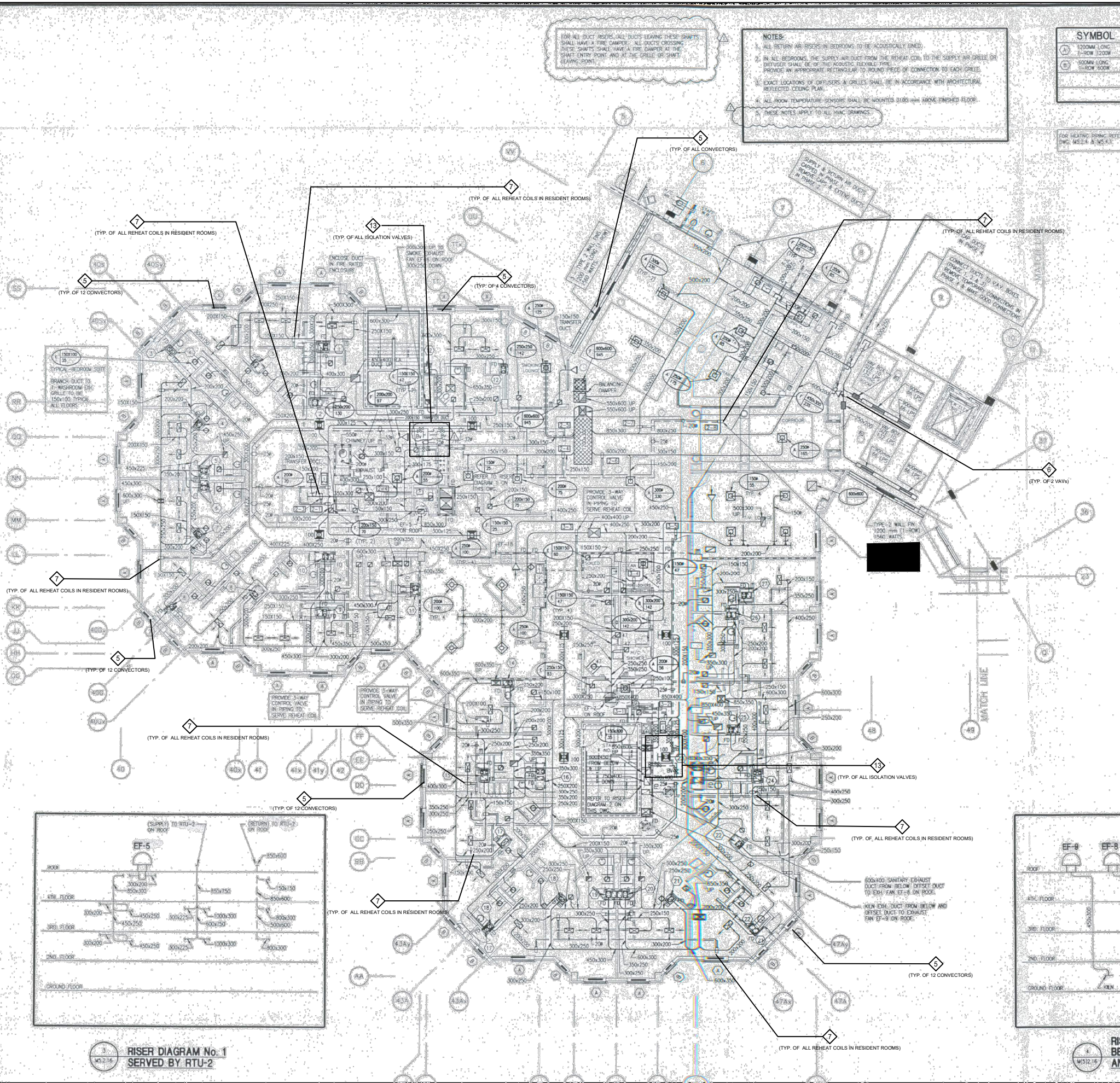


PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 2ND & 3RD FLOOR
 CORE
 HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
 M-4.2.5



NOTES:

- ALL RETURN AIR RISERS IN BEDROOMS TO BE ACOUSTICALLY LINED.
- IN ALL BEDROOMS, THE SUPPLY AIR DUCT FROM THE REHEAT COIL TO THE SILENT AIR GRILLE OR DIFFUSER SHALL BE OF THE ACOUSTIC FLEXIBLE PIPE. PROVIDE AN APPROPRIATE RECTANGULAR TO ROUND PIECE OF CONNECTION TO EACH GRILLE. EXACT LOCATIONS OF DIFFUSERS & GRILLES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- ALL ROOM TEMPERATURE SENSORS SHALL BE MOUNTED 300mm ABOVE FINISHED FLOOR.
- THESE NOTES APPLY TO ALL HVAC DRAWINGS.

SYMBOL

⊕	1200MM LONG 1200MM HIGH
⊖	500MM LONG 1200MM HIGH

RISER	SIZES	AIR QUANTITY (UPS) (CFM)
1	300x200 SR 200x200 RR	(198 1/4) (400 CFM) (112 1/4) (240 CFM)
2	300x250 SR 250x250 RR	(217 1/4) (460 CFM) (160 1/4) (340 CFM)
3	300x200 SR 300x150 RR	(170 1/4) (360 CFM) (113 1/4) (240 CFM)
4	250x200 SR 300x200 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
5	300x200 SR 250x200 RR	(198 1/4) (420 CFM) (142 1/4) (300 CFM)
6	300x200 SR 250x200 RR	(198 1/4) (420 CFM) (142 1/4) (300 CFM)
7	250x200 SR 200x200 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
8	300x200 SR 300x150 RR	(198 1/4) (420 CFM) (142 1/4) (300 CFM)
9	300x250 SR 250x250 RR	(217 1/4) (460 CFM) (160 1/4) (340 CFM)
10	250x200 SR 200x150 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
11	300x250 SR 300x200 RR	(245 1/4) (520 CFM) (189 1/4) (400 CFM)

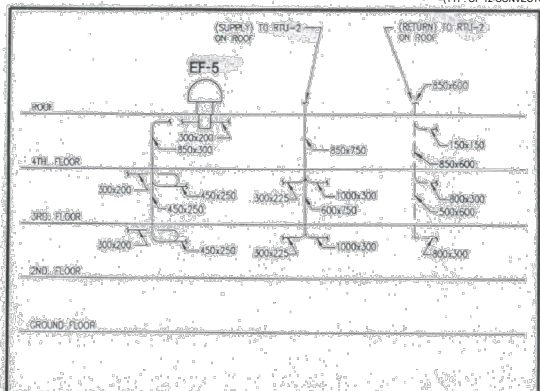
**N-W POD (RTU-2)
SUPPLY AND RETURN RISERS**

⊕ SR - DENOTES SUPPLY RISER
⊖ RR - DENOTES RETURN RISER

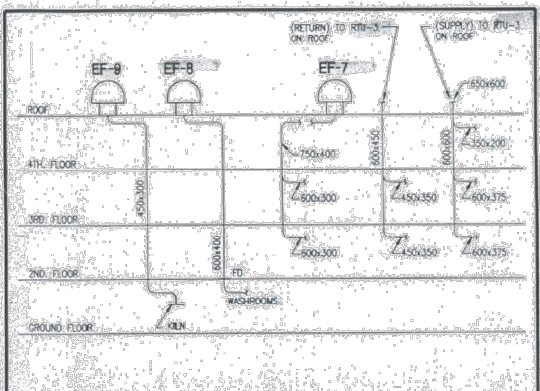
RISER	SIZES	AIR QUANTITY (UPS) (CFM)
14	250x200 SR 200x200 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
15	250x200 SR 200x200 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
16	300x250 SR 250x250 RR	(217 1/4) (460 CFM) (160 1/4) (340 CFM)
17	250x200 SR 200x200 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
18	300x200 SR 250x200 RR	(208 1/4) (440 CFM) (151 1/4) (320 CFM)
19	300x250 SR 250x200 RR	(217 1/4) (460 CFM) (181 1/4) (340 CFM)
20	300x250 SR 250x200 RR	(217 1/4) (460 CFM) (181 1/4) (340 CFM)
21	300x200 SR 250x200 RR	(208 1/4) (440 CFM) (151 1/4) (320 CFM)
22	300x200 SR 250x200 RR	(198 1/4) (420 CFM) (142 1/4) (300 CFM)
23	300x250 SR 250x200 RR	(217 1/4) (460 CFM) (181 1/4) (340 CFM)
24	300x200 SR 300x150 RR	(198 1/4) (400 CFM) (132 1/4) (280 CFM)
25	250x200 SR 200x150 RR	(142 1/4) (300 CFM) (85 1/4) (180 CFM)
26	300x250 SR 250x200 RR	(217 1/4) (460 CFM) (181 1/4) (340 CFM)
27	250x250 SR 200x200 RR	(170 1/4) (360 CFM) (113 1/4) (240 CFM)

**N-W POD (RTU-3)
SUPPLY AND RETURN RISERS**

⊕ SR - DENOTES SUPPLY RISER
⊖ RR - DENOTES RETURN RISER



**3 RISER DIAGRAM No. 1
SERVED BY RTU-2**



**4 RISER DIAGRAM No. 2
BESIDES STAIR No. 2
AND SERVED BY RTU-3**


REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

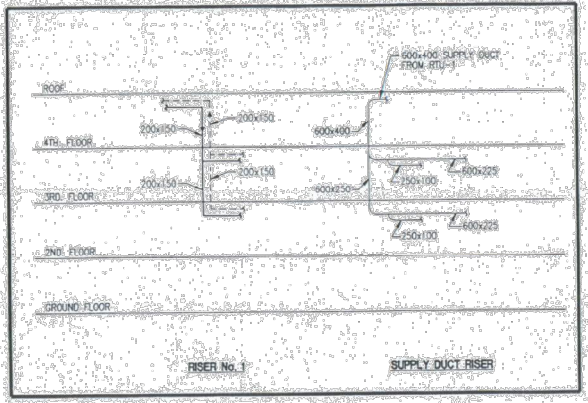
TITLE:
4TH FLOOR
NW POD
HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
M-4.3.1

NOTES:

1. ALL RETURN AIR RISERS IN BEDROOMS TO BE ACoustICALLY LINED.
2. IN ALL BEDROOMS THE SUPPLY AIR DUCT FROM THE REHEAT COIL TO THE SUPPLY AIR GRILLE OR DIFFUSER SHALL BE OF THE ACoustIC FLEXIBLE TYPE.
3. EXACT LOCATION OF DIFFUSERS & GRILLES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
4. ALL ROOM TEMPERATURE SENSORS SHALL BE MOUNTED 2100 mm ABOVE FINISHED FLOOR.

FOR ALL DUCT RISERS, ALL DUCTS LEAVING THESE SHAFTS SHALL HAVE A FIRE DAMPER. ALL DUCTS CROSSING THESE SHAFTS SHALL HAVE A FIRE DAMPER AT THE SHAFT ENTRY POINT AND AT THE GRILLE OR SHAFT LEAVING POINT.



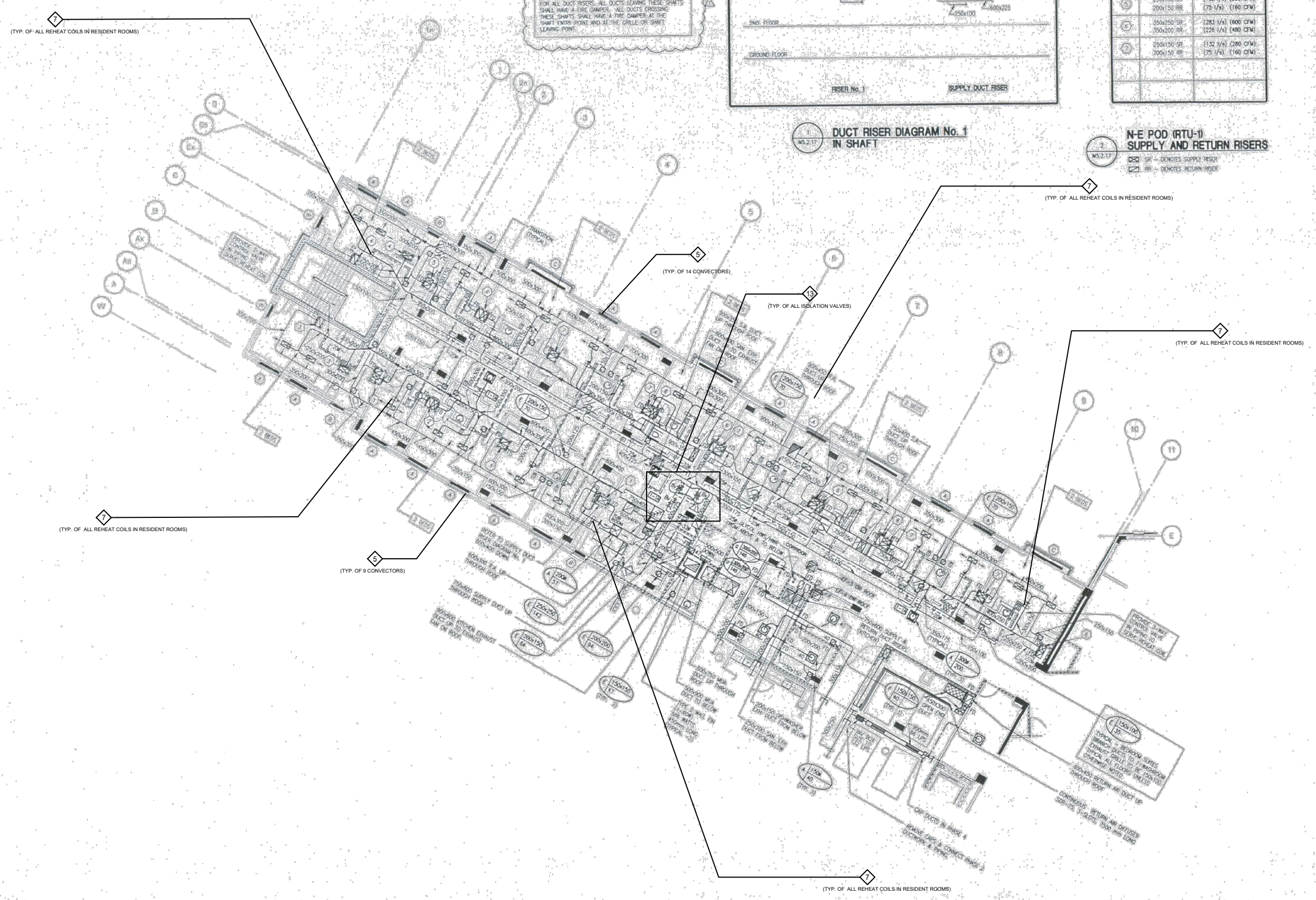
RISER	SIZES	AIR QUANTITY (LPS) (CFM)
1	250x150 SR 200x150 RR	(132 1/3) (280 CFM) (75 1/3) (160 CFM)
2	350x200 SR 300x200 RR	(284 1/3) (560 CFM) (160 1/3) (340 CFM)
3	350x250 SR 350x200 RR	(302 1/3) (600 CFM) (245 1/3) (520 CFM)
4	350x250 SR 350x200 RR	(321 1/3) (600 CFM) (284 1/3) (560 CFM)
5	250x150 SR 200x150 RR	(132 1/3) (280 CFM) (75 1/3) (160 CFM)
6	350x250 SR 350x200 RR	(283 1/3) (560 CFM) (228 1/3) (480 CFM)
7	250x150 SR 200x150 RR	(132 1/3) (280 CFM) (75 1/3) (160 CFM)

DUCT RISER DIAGRAM No. 1 IN SHAFT

N-E POD (RTU-1) SUPPLY AND RETURN RISERS

SR - DENOTES SUPPLY RISER
RR - DENOTES RETURN RISER

(TYP. OF ALL REHEAT COILS IN RESIDENT ROOMS)




REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

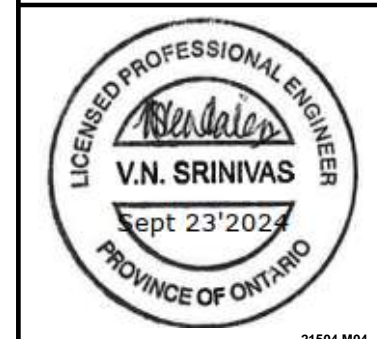
ISSUED

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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
4TH FLOOR
NE WING
HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
M-4.3.2

- NOTES:**
1. ALL RETURN AIR RISERS IN BEDROOMS TO BE ACOUSTICALLY LINED.
 2. IN ALL BEDROOMS THE SUPPLY AIR DUCT FROM THE REHEAT COIL TO THE SUPPLY AIR GRILLE OR DIFFUSER SHALL BE OF THE ACOUSTIC FLEXIBLE TYPE. PROVIDE AN APPROPRIATE RECTANGULAR TO ROUND PIECE OF CONNECTION TO EACH GRILLE.
 3. EXACT LOCATIONS OF DIFFUSERS & GRILLES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
 4. ALL ROOM TEMPERATURE SENSORS SHALL BE MOUNTED 2100 mm ABOVE FINISHED FLOOR.

FOR ALL DUCT RISERS: ALL DUCTS LEAVING THESE SHAFTS SHALL HAVE A FIRE DAMPER. ALL DUCTS CROSSING THESE SHAFTS SHALL HAVE A FIRE DAMPER AT THE SHAFT ENTRY POINT AND AT THE GRILLE OR SHAFT LEAVING POINT.

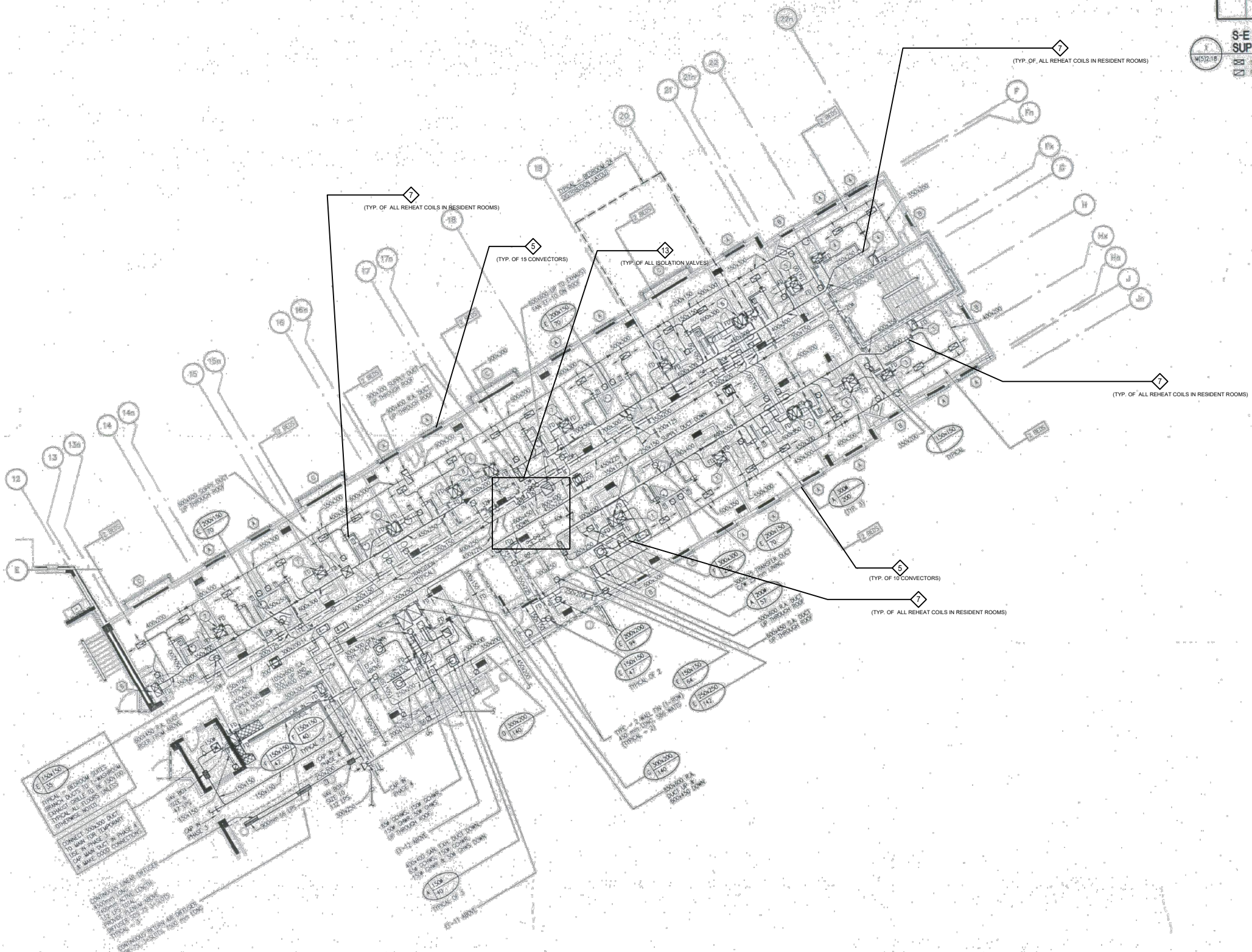
SYMBOLS

A	100mm LONG R = ROW 1000 W
B	600mm LONG R = ROW 600 W
C	1400mm LONG R = ROW 1400 W

RISER	SIZES	AIR QUANTITY	
		(LPS)	(CFM)
1	250x200 SR 200x200 RR	(142 1/2)	(300 CFM)
2	300x250 SR 250x250 RR	(283 1/2)	(600 CFM)
3	400x250 SR 400x200 RR	(378 1/2)	(800 CFM)
4	300x250 SR 250x250 RR	(283 1/2)	(600 CFM)
5	250x200 SR 200x150 RR	(132 1/2)	(280 CFM)
6	350x200 SR 300x200 RR	(236 1/2)	(500 CFM)
7	250x200 SR 200x150 RR	(132 1/2)	(280 CFM)
8	300x200 SR 300x200 RR	(245 1/2)	(520 CFM)

**S-E WING (RTU-4)
SUPPLY AND RETURN RISERS**

SR - DENOTES SUPPLY RISER
RR - DENOTES RETURN RISER



REVISIONS

No.	DESCRIPTION	DATE
3	ISSUED FOR TENDER	2024-09-23
2	ISSUED FOR COOR WITH MSA	2024-05-09
1	ISSUED FOR COSTING	2022-07-11

ISSUED

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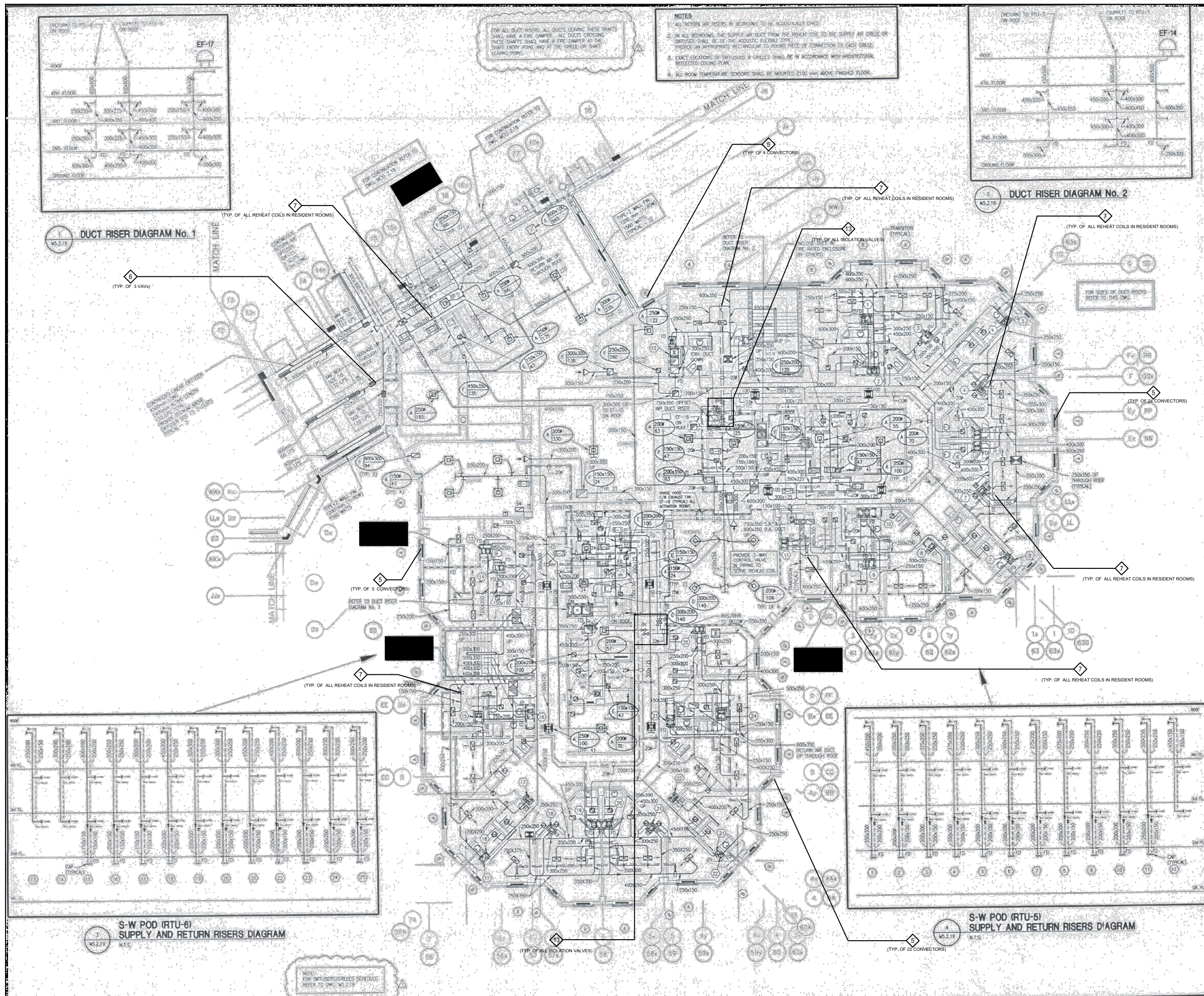


PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
4TH FLOOR
SE WING
HVAC

DATE:
SCALE: N.T.S
DRAWN BY: D.M/M.G
CHECKED BY: M.H/V.S
DRAWING No.
M-4.3.3



NOTES

1. ALL RETURN AIR RISERS IN BEDROOMS TO BE ACoustically LINED.
2. IN ALL BEDROOMS, THE SUPPLY AIR DUCT FROM THE REHEAT COIL TO THE SUPPLY AIR GRILLE OR DIFFUSER SHALL BE OF THE ACOUSTIC FLEXIBLE TYPE. PROVIDE AN APPROPRIATE RECTANGULAR TO ROUND FIT AT CONNECTION TO EACH GRILLE.
3. EXACT LOCATIONS OF DIFFUSERS & GRILLES SHALL BE IN ACCORDANCE WITH ARCHITECTURAL SELECTED CEILING PLAN.
4. ALL ROOM TEMPERATURE SENSORS SHALL BE MOUNTED 2100 mm ABOVE FINISHED FLOOR.

REVISIONS

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PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 4TH FLOOR
 SW POD
 HVAC

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
 M-4.3.4

REVISIONS

No.	DESCRIPTION	DATE
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21504.M04

PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

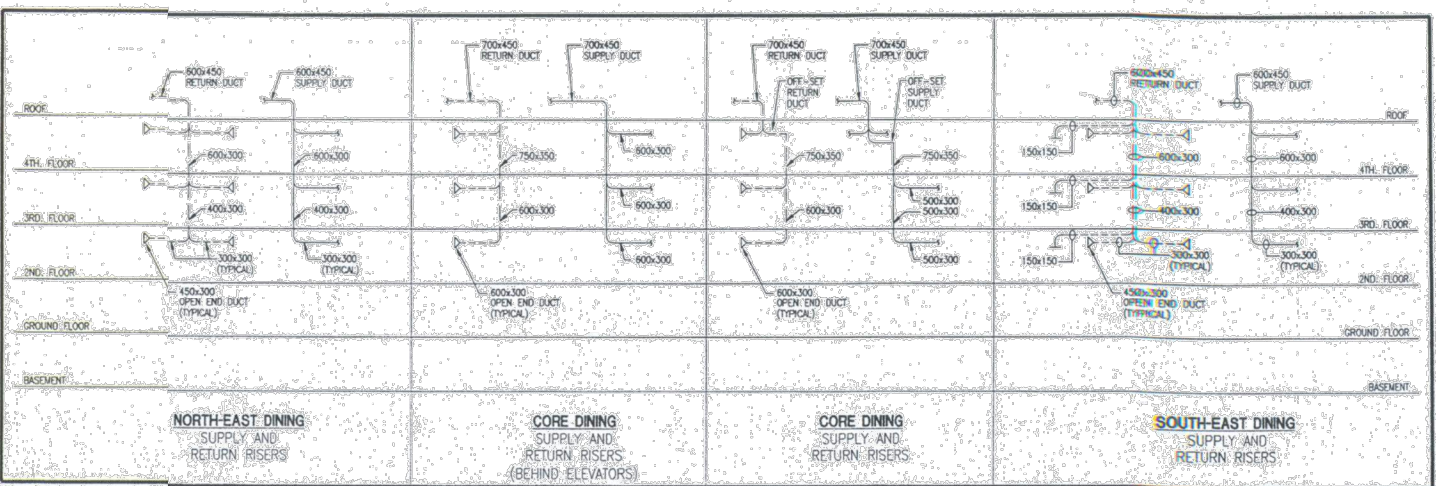
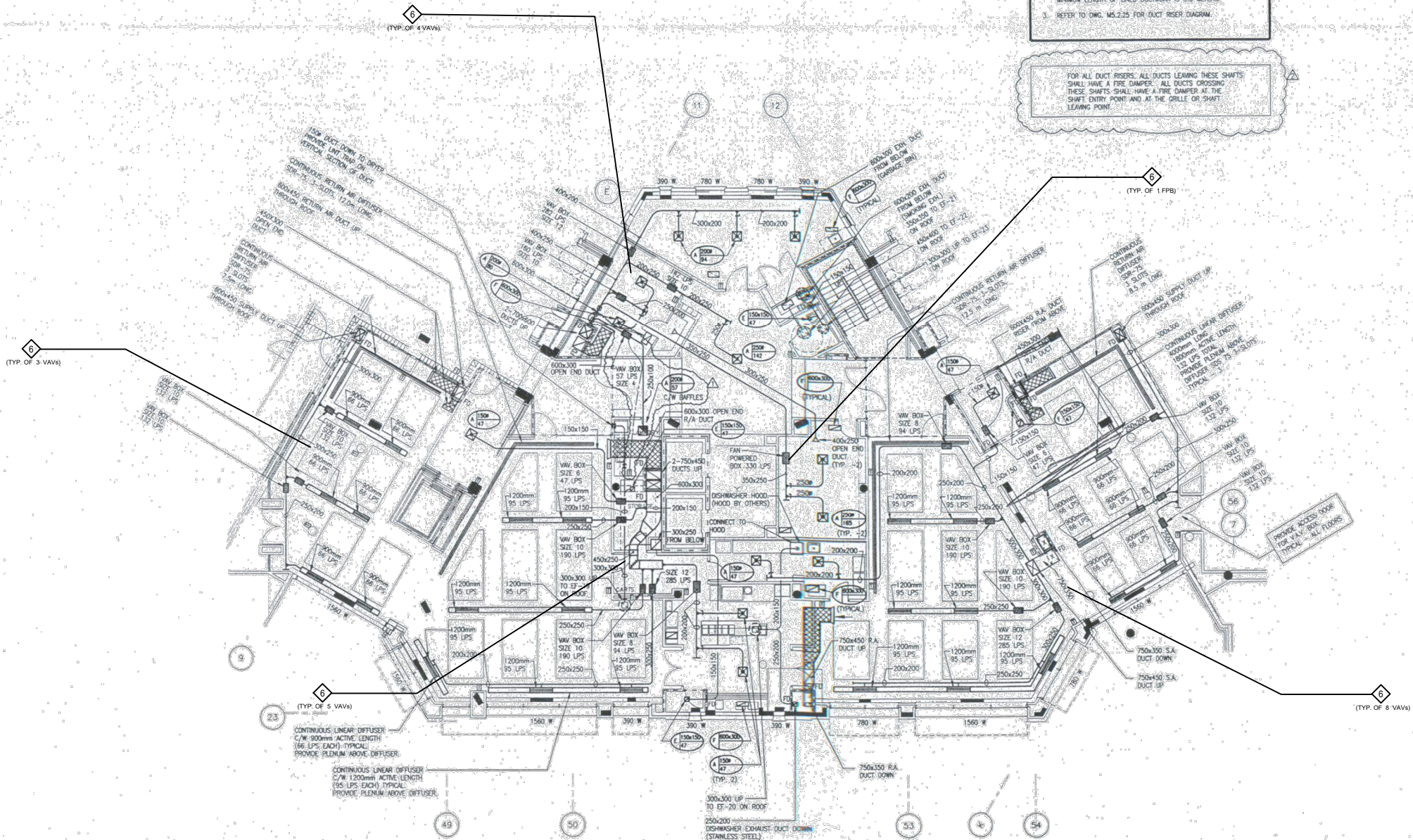
205 Cummer Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
**4TH FLOOR
 CORE
 HVAC**

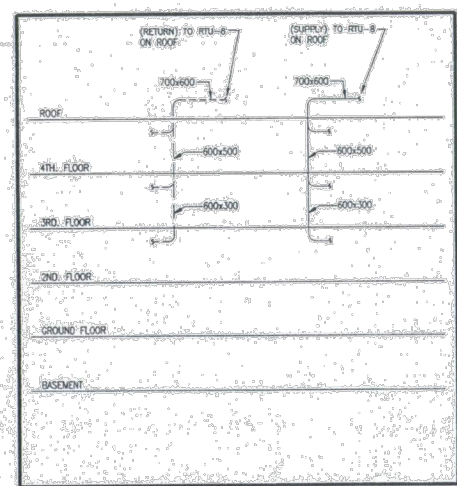
DATE :
 SCALE : N.T.S
 DRAWN BY : D.M/M.G
 CHECKED BY : M.H/V.S
 DRAWING No.
M-4.3.5

NOTES:
 1. SET VARIABLE AIR VOLUME BOX TO 40% MINIMUM POSITION (TYPICAL)
 2. SUPPLY DUCTWORK LOCATED DOWNSTREAM OF FAN POWERED BOX SHALL BE INSULATED WITH 25 mm INTERNAL ACOUSTIC INSULATION. MINIMUM LENGTH OF LINED DUCTWORK IS 3.0 METERS.
 3. REFER TO DWG. MS.2.25 FOR DUCT RISER DIAGRAM.

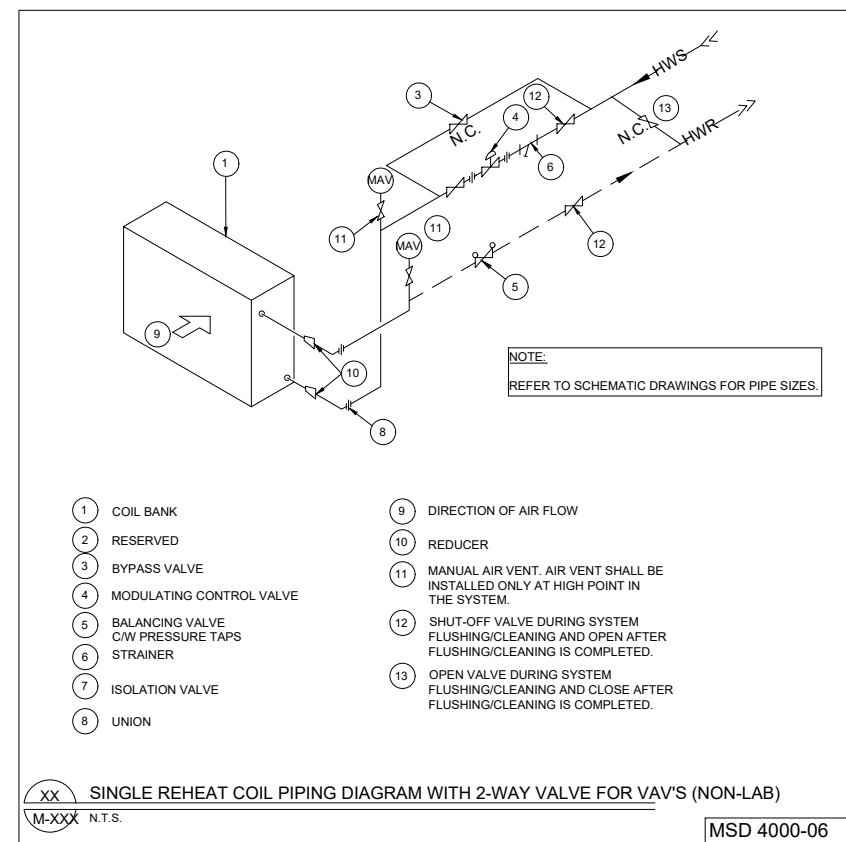
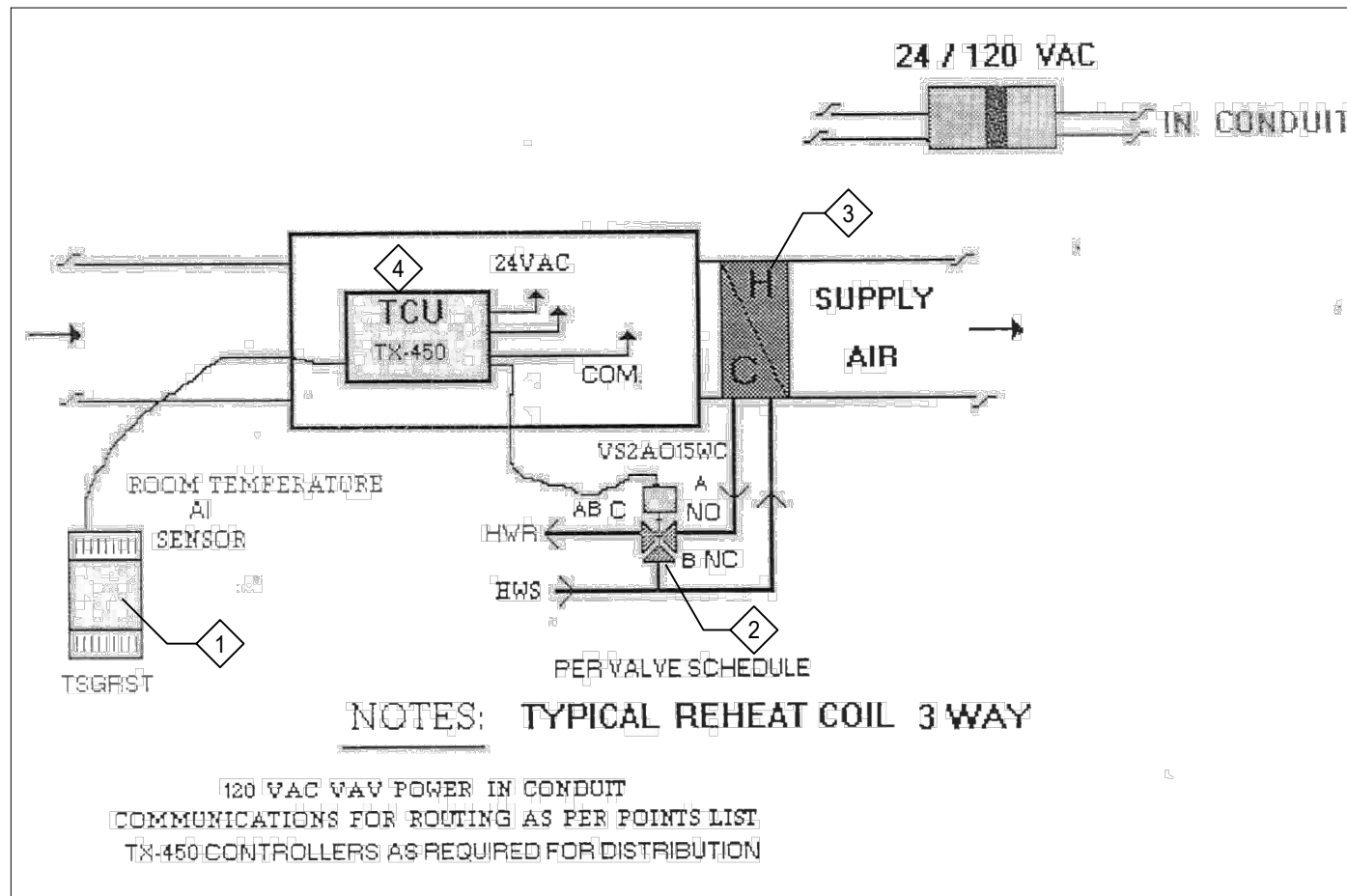
FOR ALL DUCT RISERS, ALL DUCTS LEAVING THESE SHAFTS SHALL HAVE A FIRE DAMPER. ALL DUCTS CROSSING THESE SHAFTS SHALL HAVE A FIRE DAMPER AT THE SHAFT ENTRY POINT AND AT THE GABLE OR SHAFT LEAVING POINT.



1 DUCT RISER DIAGRAM SERVED BY RTU-9 MS.2.20



2 SUPPLY AND RETURN RISER DIAGRAM RTU-8 MS.2.20



- CONSTRUCTION NOTES:**
1. REPLACE ROOM TEMPERATURE SENSOR AS FOLLOWS:
 1. REPLACE ALL SENSORS INCLUDING CONNECTED WIRING BETWEEN SENSOR AND TERMINAL DEVICES.
 2. REPLACE REHEAT CONTROL AS FOLLOWS:
 1. ALL NEW CONTROL VALVES SHALL BE 2-WAY MODULATING TYPE VALVE.
 2. PROVIDE PIPING AND VALVING AS PER STANDARD DETAIL IN THIS DRAWING.
 3. CLEAN ALL REHEAT COILS TO ENSURE THAT AIR FLOW FROM THE VAV BOXES IS AT DESIGN SET POINT.
 4. REPLACE ALL VAV c/w NEW VAV BOX AND CONTROLS. CONNECT NEW SPACE TEMP. SENSOR TO VAV BOX CONTROLLER. PROVIDE NEW BAS NETWORK CABLING BETWEEN VAV BOX TCU & BAS FLOOR CONTROLLER. PROVIDE AN ITEMIZED PRICE FOR REPLACING ALL VAV BOXES. ALL TERMINAL BOXES (VAV AND FPB) SHALL BE INTEGRATED WITH CoT FIN SERVER SO THAT THEY COMMUNICATED WITH CoT FIN SERVER THROUGH BUILDING CONTROLLERS.

GENERAL NOTES

1. UPDATE EX.BAS GRAPHICS TO ADDRESS ALL NEW DEVICES BEING INSTALLED AND ALL EX.DEVICES BEING REPLACED

REVISIONS		
No.	DESCRIPTION	DATE
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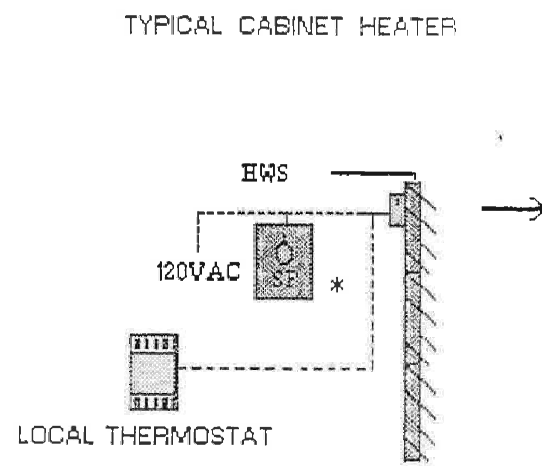
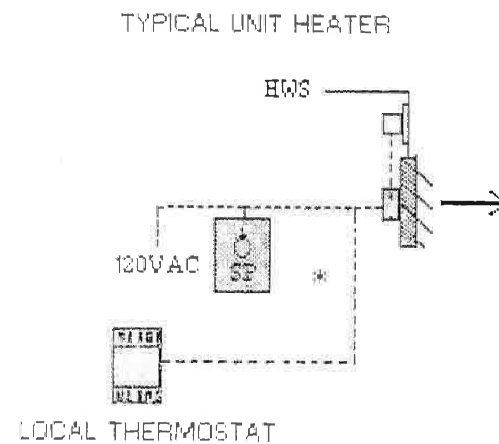


PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
**TYPICAL REHEAT COIL
3-WAY**

DATE :
SCALE : N.T.S.
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
M-5.1.20



* SECTION: 15312 & 15315
C/W & INSTALLED
1SP SPEED SW
THERMOSTAT

GENERAL NOTES


1. RETAIN EXISTING CONTROL VALVES AND LOCAL THERMOSTATS FOR UNIT HEATERS AND CABINET HEATERS.
2. PROVIDE FOR NEW GRAPHICS ON NEW BAS SYSTEM.
3. UPDATE EX.BAS GRAPHICS TO ADDRESS ALL NEW DEVICES BEING INSTALLED AND ALL EX.DEVICES BEING REPLACED

REVISIONS

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21504.M0

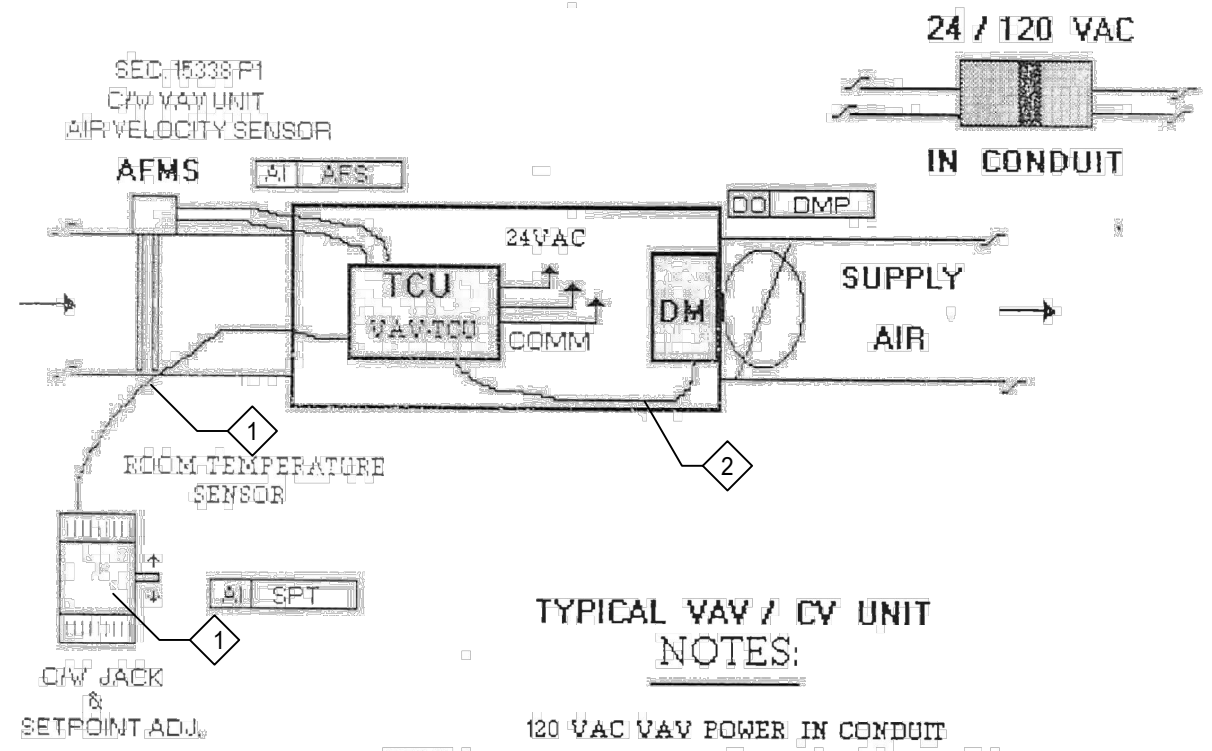
PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
TYPICAL HEATERS

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S

DRAWING No.
M-5.1.21



TYPICAL VAV / CV UNIT NOTES:

120 VAC VAV POWER IN CONDUIT
 COMMUNICATIONS FOR VAV-TCU ROUTING AS PER POINTS LIST
 SEC.15342 P26 - VAV OPERATORS & CONTROLLERS FACTORY MOUNTED

- CONSTRUCTION NOTES:**
- 1 REPLACE ALL ROOM TEMPERATURE SENSORS c/w WIRING BETWEEN SENSOR AND TCU.
 - 2 REPLACE ALL VAV BOXES c/w NEW VAV BOX AND CONTROLS. CONNECT NEW SPACE TEMP. SENSOR TO VAV BOX CONTROLLER. PROVIDE NEW BAS NETWORK CABLING BETWEEN VAV BOX TCU & BAS FLOOR CONTROLLER. PROVIDE AN ITEMIZED PRICE FOR REPLACING ALL VAV BOXES.
 - 3 UPDATE EX.BAS GRAPHICS TO ADDRESS ALL NEW DEVICES BEING INSTALLED AND ALL EX.DEVICES BEING REPLACED. ALL TERMINAL BOXES (VAV AND FPB) SHALL BE INTEGRATED WITH FIN SERVER SO THAT THEY COMMUNICATED WITH CoT FIN SERVER THROUGH BUILDING CONTROLLERS.

GENERAL NOTES

- 1. UPDATE EX.BAS GRAPHICS TO ADDRESS ALL NEW DEVICES BEING INSTALLED AND ALL EX.DEVICES BEING REPLACED

# OF VAV BOXES	VAV	FPB
N-W POD GRND LVL	16	3
N-E POD GRND LVL	1	-
S-E POD GRND LVL	-	-
S-W POD GRND LVL	-	-
CORE GRND LVL	4	-

THE QUANTITY INDICATED ABOVE IS BASED ON ARCHIVE DRAWINGS. CONTRACTORS SHALL PROVIDE UNIT PRICE TO PROVIDE A NEW VAV BOX AS PER THIS DETAIL. IN THE EVENT ADDITIONAL VAV BOXES NEED TO BE REPLACED, THE UNIT PRICE WILL BE USED TO DETERMINE THE EXTRA COST.

REVISIONS

No.	DESCRIPTION	DATE
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1	ISSUED FOR COSTING	2022-07-11

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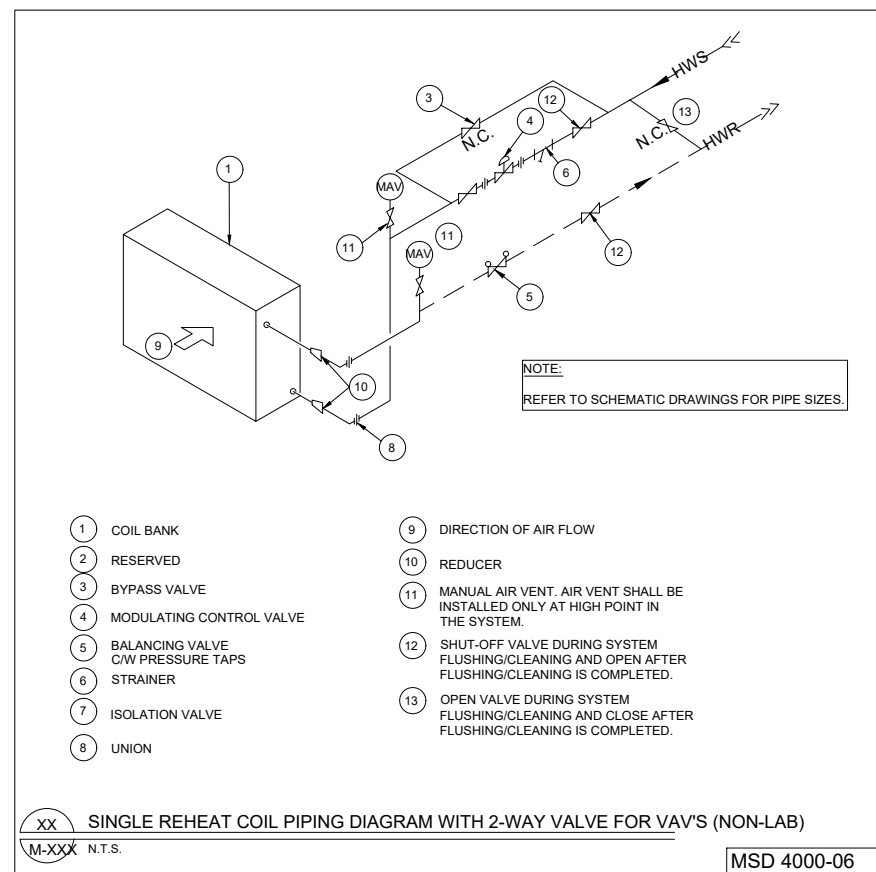
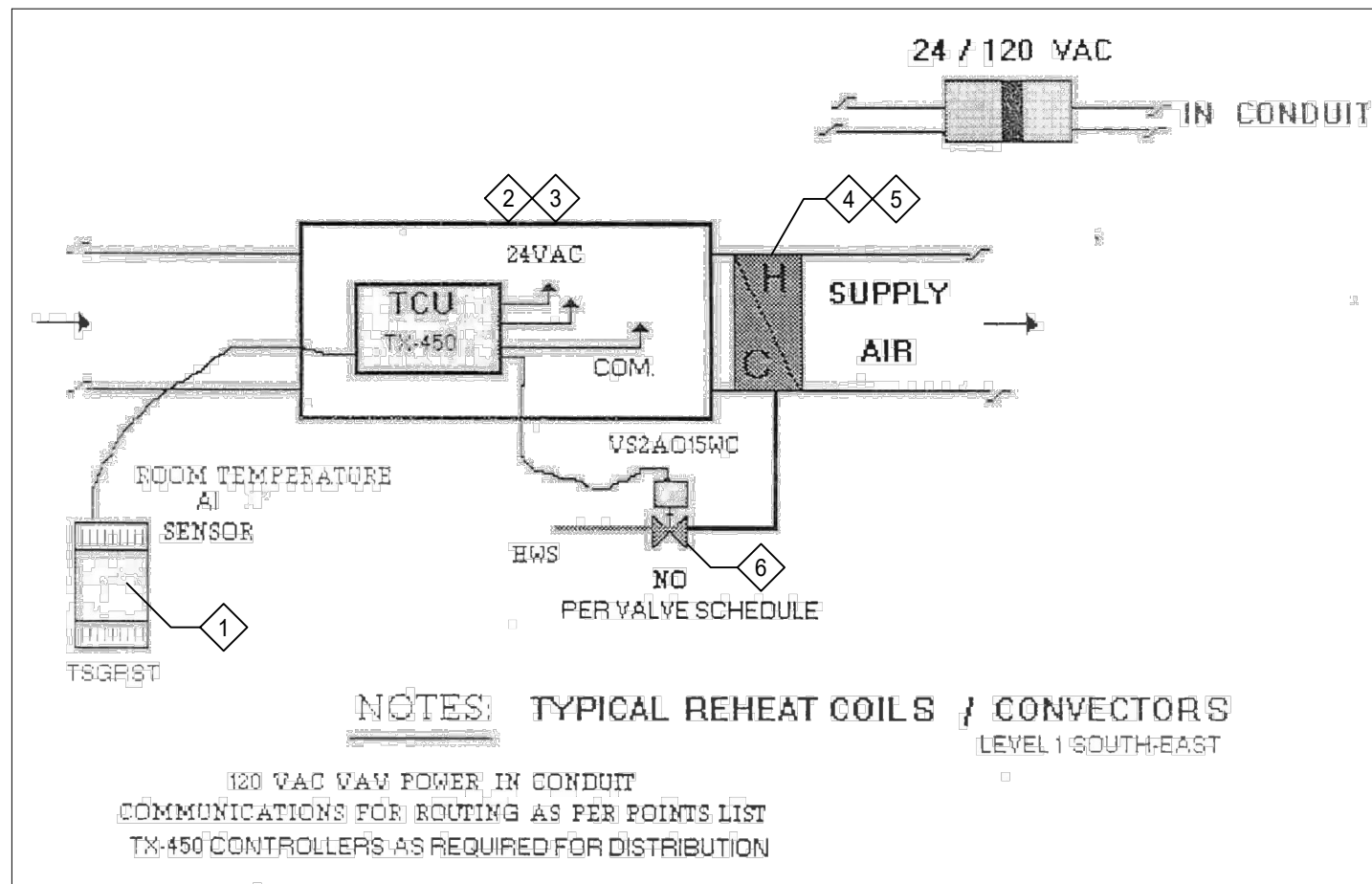
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PROJECT:
CUMMER LODGE
 Home For The Aged
CONTROLS UPGRADE
 205 Cumber Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 TYPICAL VAV/FPB UNIT

DATE :
SCALE : N.T.S
DRAWN BY : D.M/M.G
CHECKED BY : M.H/V.S
DRAWING No.
 M-5.1.25



- CONSTRUCTION NOTES:**
- 1 REPLACE ALL ROOM TEMPERATURE SENSORS c/w WIRING BETWEEN SENSOR AND TCU.
 - 2 REPLACE ALL VAV BOX c/w NEW VAV BOX AND CONTROLS. CONNECT NEW SPACE TEMP. SENSOR TO VAV BOX CONTROLLER. PROVIDE NEW BAS NETWORK CABLING BETWEEN VAV BOX TCU & BAS FLOOR CONTROLLER. PROVIDE AN ITEMIZED PRICE FOR REPLACING ALL VAV BOXES.
 - 3 RESERVED.
 - 4 REPLACE ALL REHEAT COILS. DISCONNECT FROM EX. DUCTWORK & RECONNECT TO NEW.
 - 5 RESERVED.
 - 6 REPLACE EX. REHEAT COIL CONTROL VALVE c/w WIRING BETWEEN CONTROL VALVE AND TCU.

GENERAL NOTES

1. UPDATE EX. BAS GRAPHICS TO ADDRESS ALL NEW DEVICES BEING INSTALLED AND ALL EX. DEVICES BEING REPLACED

# OF RH COILS	RH
N-W POD GRND LVL	1
N-E POD GRND LVL	2
S-E POD GRND LVL	2
S-W POD GRND LVL	6
CORE GRND LVL	3

THE QUANTITY INDICATED ABOVE IS BASED ON ARCHIVE DRAWINGS. CONTRACTORS SHALL PROVIDE UNIT PRICE TO PROVIDE A NEW VAV BOX AND REHEAT COIL AS PER THIS DETAIL. IN THE EVENT ADDITIONAL VAV BOXES NEED TO BE REPLACED, THE UNIT PRICE WILL BE USED TO DETERMINE THE EXTRA COST.

REVISIONS		
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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cumber Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
TYPICAL
REHEAT COILS

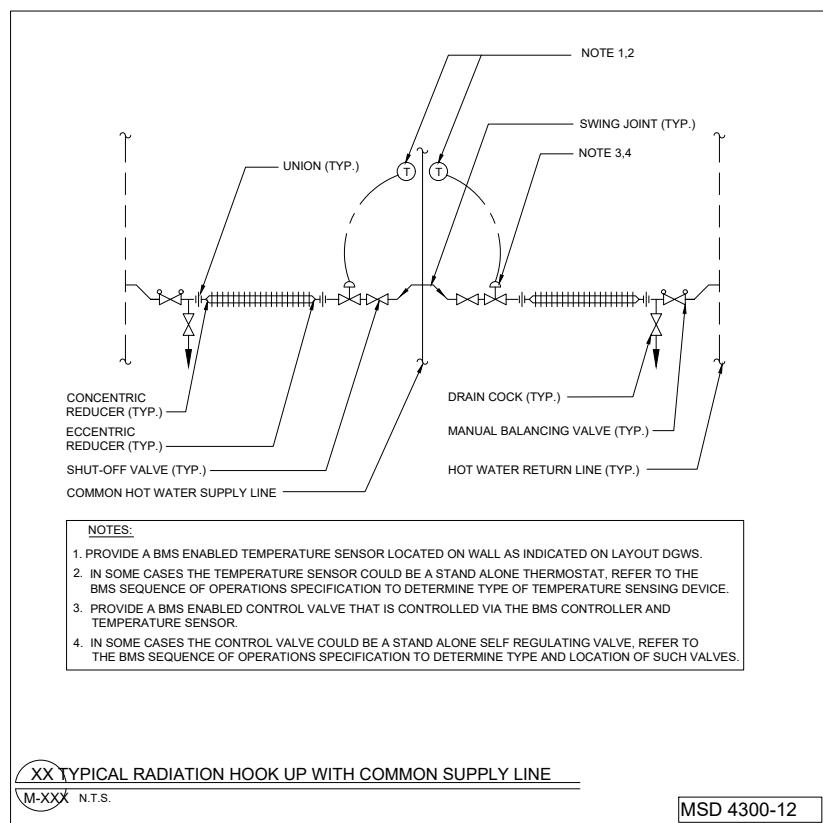
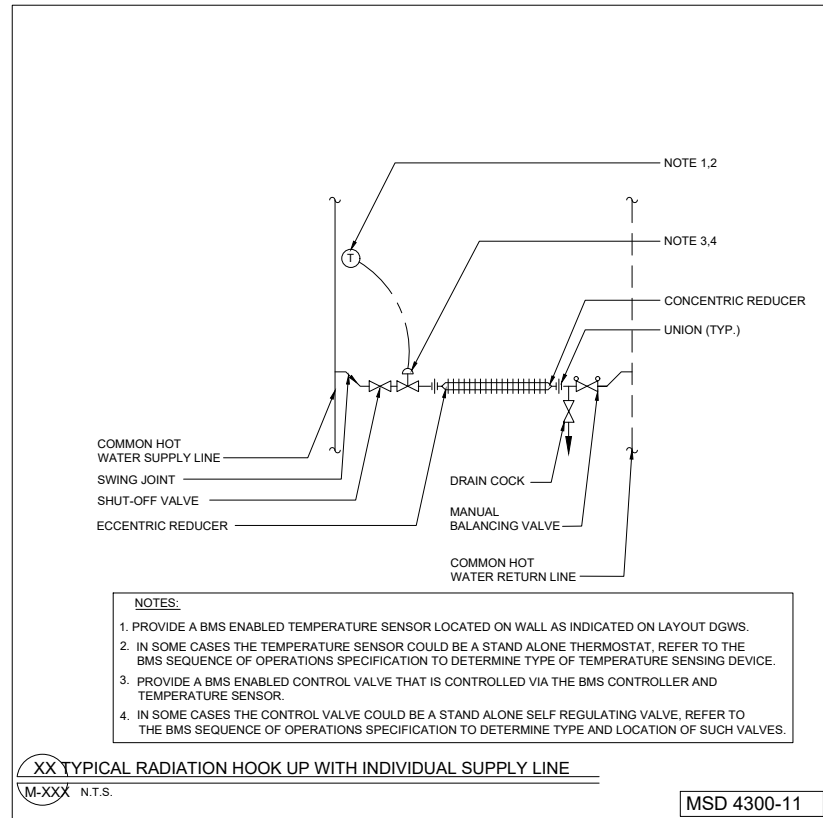
DATE:

SCALE: N.T.S

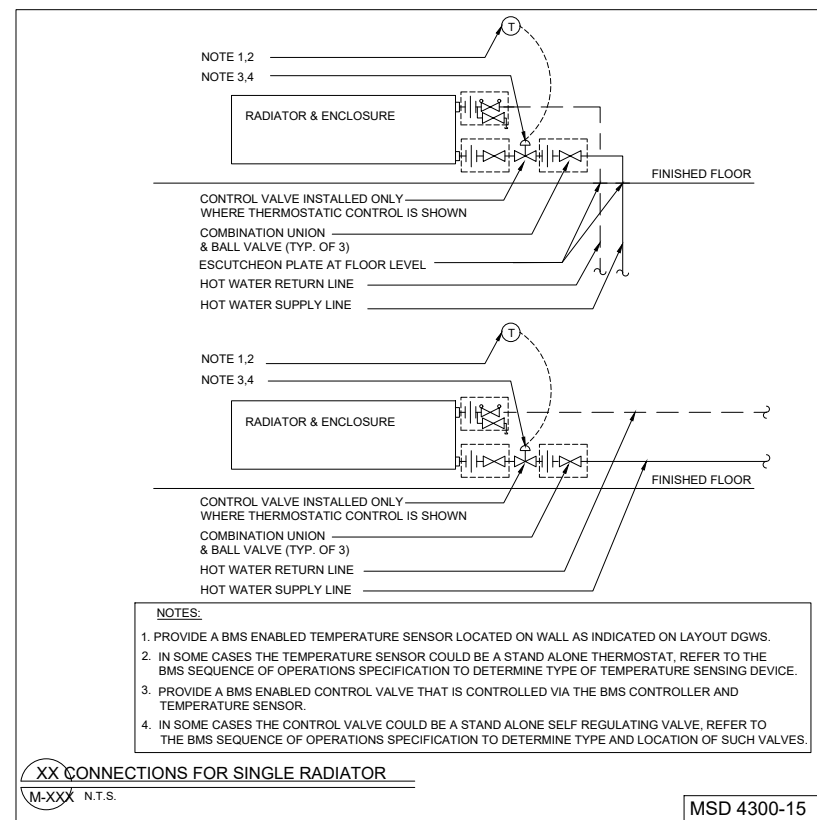
DRAWN BY: D.M/M.G

CHECKED BY: M.H/V.S

DRAWING No.
M-5.1.26



GENERAL NOTES:
 1. THE STANDARD DETAILS INDICATED IN THIS DRAWING SHOW DIFFERENT COMBINATION AND ARRANGEMENT OF PERIMETER RADIATORS.
 2. PROVIDE NEW VALVING ARRANGEMENT FOR ALL PERIMETER RADIATORS AS PER THE STANDARD DETAILS ON THIS DRAWING.



REVISIONS

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PROJECT:
CUMMER LODGE
 Home For The Aged
 CONTROLS UPGRADE

205 Cumber Avenue
 Willowdale, Ontario
 M2M 2E8

TITLE:
 TYPICAL RADIATOR

DATE :

SCALE : N.T.S

DRAWN BY : D.M/M.G

CHECKED BY : M.H/V.S

DRAWING No.
 M-5.1.27

REVISIONS

No.	DESCRIPTION	DATE
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PROJECT:
CUMMER LODGE
Home For The Aged
CONTROLS UPGRADE

205 Cummer Avenue
Willowdale, Ontario
M2M 2E8

TITLE:
SCHEMATIC DIAGRAM
HEATING PLANT

DATE:
SCALE: N.T.S
DRAWN BY: D.M./M.G
CHECKED BY: M.H./V.S
DRAWING No. M-6.1

