northern health
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UHNBC
FLUOROSCOPY REPLACEMENT

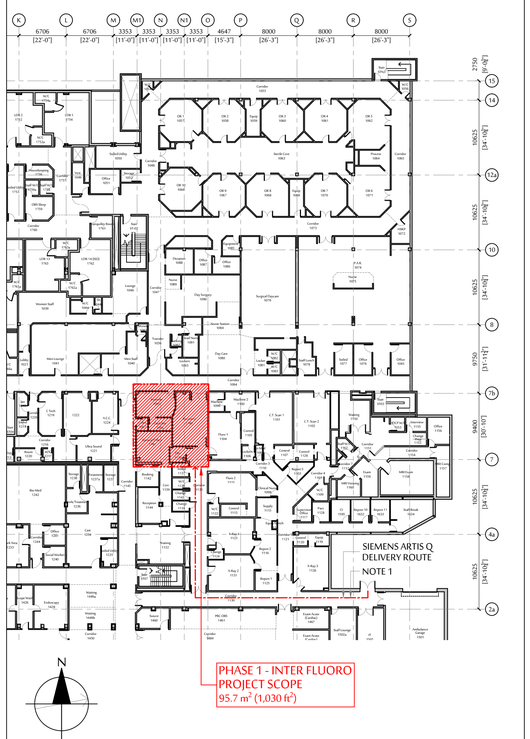
PHASE 1 - INTER FLUORO

1475 EDMONTON STREET, PRINCE GEORGE, BC V2M 1S2

ISSUED FOR CONSTRUCTION
MAY 14, 2021

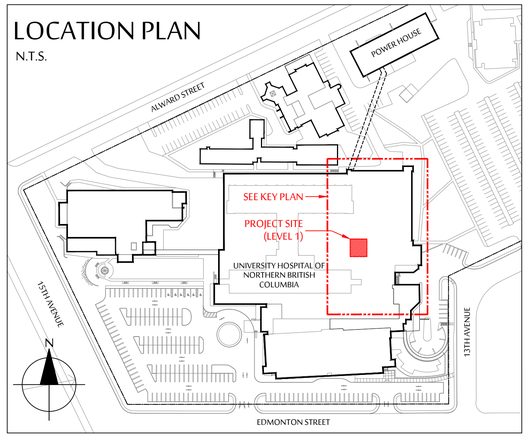
KEY PLAN - EXISTING LEVEL 1

SCALE : 1 = 400



LOCATION PLAN

N.T.S.



INFECTION CONTROL REQUIREMENTS

1. FOR ALL CONSTRUCTION WORK WITHIN THE HOSPITAL, CONTRACTORS MUST FOLLOW INFECTION CONTROL PROCEDURES AS REQUIRED BY :
   a. CSA STANDARDS Z317.13.12 "FUNDAMENTALS FOR INFECTION CONTROL DURING CONSTRUCTION, RENOVATION AND MAINTENANCE OF HEALTH CARE FACILITIES"
   b. NORTHERN HEALTH AUTHORITY CLINICAL PRACTICE STANDARD "INFECTION CONTROL DURING CONSTRUCTION, RENOVATIONS, AND MAINTENANCE OF HEALTH CARE FACILITIES"
   c. THIS PROJECT IS CLASSIFIED AS :
      POPULATION RISK GROUP = **4 (INTERVENTIONAL DIAGNOSTIC IMAGING)**
      CONSTRUCTION ACTIVITY TYPES = **D**
      GUIDELINES FOR INFECTION CONTROL MEASURES = **CLASS IV**
2. PRECONSTRUCTION MEETING :
   a. BEFORE COMMENCEMENT OF CONSTRUCTION, CONTRACTOR MUST SET UP A PRECONSTRUCTION MEETING WITH THE HOSPITAL TO REVIEW AND OBTAIN APPROVAL FOR THE PROPOSED INFECTION CONTROL MEASURES.
   b. CONTRACTOR TO COORDINATE WITH NHA AND THE HOSPITAL AND SUBMIT A "RISK REDUCTION MEASURES CONSTRUCTION REPORT" TO NORTHERN HEALTH AUTHORITY FOR APPROVAL
3. CONTRACTORS TO OBSERVE THE FOLLOWING INFECTION CONTROL PRECAUTIONS FOR WORKING AT THE DISCHARGE OPENINGS OF ROOFTOP EXHAUST DUCTS.
   a. INFECTION CONTROL REQUIRES THAT WORKERS MUST BE MADE AWARE OF THE FACT THAT HOSPITAL EXHAUST DUCTS MAY CARRY DUST AND SPORE PARTICLES, HOWEVER, NOT ACTIVE TB. DUST AND SPORES, RESIDING IN THESE DUCTS, MAY BE DISCHARGED TO THE EXTERIOR WITH THE AIR MASS CREATED WITHIN THESE DUCTS.
   b. ALTHOUGH THE LEVEL OF RISK FOR POTENTIAL CONTAMINATION IS LOW, IT IS ADVISABLE THAT CONSTRUCTION WORKER'S, ESPECIALLY THOSE WHO ARE SENSITIVE TO RESPIRATORY ILLNESSES, WEAR APPROPRIATE DUST MASKS CAPABLE OF FILTERING FINE PARTICULATES.

GUIDANCE TO CONSTRUCTION SITES OPERATING DURING COVID-19

AS THE CHALLENGES CAUSED BY THE CORONAVIRUS OUTBREAK CONTINUE TO SHIFT, THE B.C. GOVERNMENT AND B.C.'S PROVINCIAL HEALTH OFFICER, DR. BONNIE HENRY, ARE TAKING UNPRECEDENTED MEASURES TO SLOW THE TRANSMISSION OF COVID-19.

RECENTLY, DR. HENRY ISSUED AN ORDER UNDER THE BC'S PUBLIC HEALTH ACT PROHIBITING THE GATHERING OF PEOPLE IN EXCESS OF 50 PEOPLE AT A PLACE OF WHICH YOU ARE THE OWNER, OCCUPIER OR OPERATOR, OR FOR WHICH YOU ARE OTHERWISE RESPONSIBLE. WE UNDERSTAND THAT EMPLOYERS IN THE CONSTRUCTION INDUSTRY ARE ASKING FOR CLARITY ABOUT WHAT THIS MEANS FOR THEM.

WHILE THIS ORDER DOES NOT APPLY TO CONSTRUCTION SITES AS A WHOLE, WE ARE DIRECTING EMPLOYERS TO TAKE ALL NECESSARY PRECAUTIONS TO MINIMIZE THE RISKS OF COVID]19 TRANSMISSION AND ILLNESS TO YOU AND YOUR EMPLOYEES. THIS INCLUDES:

1. THERE SHOULD BE NO MORE THAN 50 PEOPLE IN THE SAME SPACE IN ANY CIRCUMSTANCES.
2. WHERE POSSIBLE EMPLOYEES SHOULD MAINTAIN A DISTANCE OF 2 METRES APART FROM EACH OTHER.
3. POST SIGNAGE THAT LIMITS THE NUMBER OF OCCUPANTS IN ANY ELEVATOR TO FOUR PEOPLE AT A TIME.
4. REDUCE IN-PERSON MEETINGS AND OTHER GATHERINGS AND HOLD SITE MEETINGS IN OPEN SPACES OR OUTSIDE.
5. INCREASE THE NUMBER OF HANDWASHING STATIONS AND POST SIGNAGE THAT IDENTIFIES THEIR LOCATION.
6. MAINTAIN A LIST OF EMPLOYEES THAT ARE CURRENTLY WORKING ON SITES AND UPDATE THIS LIST DAILY.
7. ALL COMMON AREAS AND SURFACES SHOULD BE CLEANED AT THE END OF EACH DAY. EXAMPLES INCLUDE WASHROOMS, SHARED OFFICES, COMMON TABLES, DESKS, LIGHT SWITCHES, AND DOOR HANDLES.
8. ANYONE WITH COVID-19 LIKE SYMPTOMS SUCH AS SORE THROAT, FEVER, SNEEZING, OR COUGHING MUST SELF-ISOLATE AT HOME FOR 14 DAYS.

SECTION 4.85 OF THE OCCUPATIONAL HEALTH AND SAFETY REGULATION DOES PROVIDE FOR A MINIMUM STANDARD AROUND THE PROVISION OF WASHROOMS AND HAND WASHING FACILITIES. WHERE PLUMBED FACILITIES ARE IMPRACTICABLE, EMPLOYERS MUST PROVIDE ACCESS TO PORTABLE WASHROOM AND HAND-WASHING FACILITIES, THOSE FACILITIES MUST BE MAINTAINED IN GOOD WORKING ORDER, AND MUST BE PROVIDED WITH THE SUPPLIES NECESSARY FOR THEIR USE.

EMPLOYERS SHOULD REASSESS THEIR WORK ENVIRONMENT EVERY DAY AND KEEP UPDATED WITH THE INFORMATION POSTED ON THE PROVINCE'S WEBSITE:
https://www2.gov.bc.ca/gov/content/safety/emergencypreparedness-response-recovery/covid-19-provincial-support

DRAWING LIST

PROJECT INFO & CODE ANALYSIS

ADDRESS : 1475 EDMONTON STREET, PRINCE GEORGE, BC V2M 1S2
LEGAL DESCRIPTION : LOT 4 DL343, PLAN 34806
PROJECT AREA : 95.7 SM (1,030 SF)

CODE ANALYSIS :

CODE REFERENCE : BRITISH COLUMBIA BUILDING CODE 2018 (INCLUDING LATEST AMENDMENTS)

CODE APPLICATIONS :	DIVISION A, PARTS 1, 2 AND 3 DIVISION B, PARTS 1, 7, 8 AND 10 DIVISION B, PARTS 3, 4, 5 AND 6 DIVISION C, PARTS 1 & 2	1.3.2.1 1.3.3.1 1.3.3.2 1.3.4.1
MAJOR OCCUPANCIES :	EXISTING - GROUP B, DIVISION 2 (TREATMENT - HOSPITAL) PROPOSED - NO CHANGE	3.1.2.1
SEPARATION OF MAJOR OCCUPANCIES :	EXISTING - NOT APPLICABLE PROPOSED - NOT APPLICABLE	3.1.3.1
OCCUPANT LOAD :	TREATMENT = 10.0 SQ. M. PER PERSON TOTAL RENO AREA = 95.7 SM (1,030 SF) TOTAL OCCUPANCY LOAD = 10	3.1.17.1
BUILDING SIZE :	GROUP B, DIVISION 2, ANY HEIGHT, ANY AREA, SPRINKLERED EXISTING BUILDING HEIGHT : 5-STOREY PROPOSED - NO CHANGE MAX BUILDING AREA ALLOWED : ANY AREA EXISTING BUILDING AREA : 13,503 SM (145,350 SF) PROPOSED - NO CHANGE	3.2.2.38
FIRE SUPPRESSION :	REQUIRED - BUILDING TO BE SPRINKLERED THROUGHOUT EXISTING - SPRINKLERED THROUGHOUT PROPOSED - NO CHANGE	3.2.2.38
CONSTRUCTION TYPE :	REQUIRED - NONCOMBUSTIBLE CONSTRUCTION EXISTING - NONCOMBUSTIBLE CONSTRUCTION PROPOSED - NONCOMBUSTIBLE CONSTRUCTION	3.2.2.38
FIRE RESISTANCE RATING :	REQUIRED (FLOOR) - 2 HOUR F.R.R. NONCOMBUSTIBLE CONST. EXISTING - 2 HOUR F.R.R. CONC. SLAB PROPOSED - NO CHANGE ROOF - NO RATING REQUIRED EXISTING - CONC. SLAB CONSTRUCTION PROPOSED - NO CHANGE COLUMN & LOADBEARING WALL - SAME AS SUPPORTED ASSEMBLY REQUIRED EXISTING - 2 HOUR F.R.R. CONC. CONSTRUCTION PROPOSED - NO CHANGE	3.2.2.38
SEPARATION OF SUITES :	EXISTING - NO CHANGE	3.3.1.1
PUBLIC CORRIDOR SEPARATIONS :	EXISTING - NO CHANGE	3.3.1.4

	REQUIRED	PROVIDED	
EGRESS DOORWAYS FROM ROOM OR SUITES :	MIN 2 EXCEPT 1 REQUIRED IF : SPRINKLERED THROUGHOUT FLOOR AREA < 200 SM (2,153 SF) TRAVEL DISTANCE < 25 M (82 FT)	2 (1 REQUIRED) YES YES - 95.7 SM (1,030 SF) YES - 6.6 M (21.7 FT)	3.3.1.5
DISTANCE BETWEEN EGRESS DOORWAYS:	NOT APPLICABLE	NOT APPLICABLE	3.3.1.5(2)
EGRESS DOORWAY WIDTH:	MIN 800mm (31.5") CLEAR MIN 1050mm (42") CLEAR TO MOVE PATIENT BEDS	NOT APPLICABLE MIN 1118 mm (44") WIDE	3.3.1.13 3.3.3.4 (2)
NO. OF EXITS FROM FLOOR AREAS	MIN 2 REQUIRED	EXISTING - NO CHANGE	3.4.2.1
DISTANCE BETWEEN EXITS :	½ DIAGONAL OF FLOOR AREA BUT NOT LESS THAN 9 M (29.5 FT)	EXISTING - NO CHANGE	3.4.2.3
TRAVEL DISTANCE TO EXITS :	MAX 45 M (148 FT)	EXISTING - NO CHANGE	3.4.2.5 (1)c
EXIT WIDTH FOR DOORWAYS:	MIN 6.1mm X OCCUP. LOAD	EXISTING - NO CHANGE	3.4.3.2
CORRIDOR (AGGREGATE)	MIN 1100mm (43.3") WIDE	EXISTING - NO CHANGE	3.4.3.2 (1)a
DOORWAY (AGGREGATE)	MIN 800mm (31.50") WIDE	EXISTING - NO CHANGE	
FIRE SEPARATION OF EXITS FROM FLOOR ABOVE :	MIN 2 HR (AS REQ'D UNDER 3.2.2)	EXISTING - NO CHANGE MIN 2 HOUR	3.4.4.1
WASHROOM PROVISION :	REQUIREMENTS TO BE VERIFIED	EXISTING - NO CHANGE	3.7.2.2 (9)
HANDICAPPED PROVISION : ACCESSIBLE WASHROOM	REQUIREMENTS TO BE VERIFIED	EXISTING - NO CHANGE	3.8.2.3(2) & 3.8.2.26
PARKING PROVISION :	NOT APPLICABLE	NOT APPLICABLE	

SEPARATE PRICE

SEPARATE PRICE #1 :
SUPPLY AND INSTALL A NEW ANAESTHETIC SCAVENGING SYSTEM, CONDUITS, MASTER ALARM PANEL ANDSLAVE ALARM PANEL SYSTEM. SEE STRUCT, MECH AND ELEC DRAWINGS FOR SCOPE OF WORK DETAILS. PRICE TO INCLUDE ALL ASSOCIATED ARCHITECTURAL DEMO AND CONSTRUCTION WORKS.

SEPARATE PRICE #2 :
SUPPLY AND INSTALL A NEW NITROUS OXIDE GAS SYSTEM. SEE MECH DRAWINGS FOR SCOPE OF WORK DETAILS. PRICE TO INCLUDE ALL ASSOCIATED ARCHITECTURAL DEMO AND CONSTRUCTION WORKS.

SEPARATE PRICE #3 :
SUPPLY AND INSTALL A NEW MEDICAL AIR GAS SYSTEM. SEE MECH DRAWINGS FOR SCOPE OF WORK DETAILS. PRICE TO INCLUDE ALL ASSOCIATED ARCHITECTURAL DEMO AND CONSTRUCTION WORKS.

PROJECT TEAM

CLIENT :
NORTHERN HEALTH AUTHORITY
SUITE 600 - 299 VICTORIA ST
PRINCE GEORGE, BC V2L 5B8

ARCHITECTURAL CONSULTANT :
DCYT ARCHITECTURE
3022 CAMBIE STREET
VANCOUVER, BC V5Z 2V9
T - 778 233 9001
E - dc@dcytarchitecture.ca

STRUCTURAL CONSULTANT :
C. Y. LOH ASSOCIATES
1863 POWELL ST
VANCOUVER, BC V5L 1H8
T - 604 254 0868
E - kmarcakis@cyla.ca

MECHANICAL CONSULTANT :
IMPACT ENGINEERING
312 MAIN ST
VANCOUVER, BC V6A 2T2
T - 604 992 5920
E - jle@impacteng.ca

ELECTRICAL CONSULTANT :
NRS ENGINEERING
SUITE 212 - 556 N NECHAKO ST
PRINCE GEORGE, BC V2K 1A1
T - 250 562 0551
E - steve@nrsengineering.ca

IMAGING EQUIPMENT :
SIEMENS HEALTHCARE LTD
1577 NORTH SERVICE RD E
OAKVILLE, ON L6H 0H6
T - 236 984 5339
E - lee.boon@siemens-healthineers.ca

GENERAL NOTES

1 GENERAL

1.1 DO NOT SCALE THESE DRAWINGS. SEEK ARCHITECT FOR CLARIFICATION ON ANY MISSING DIMENSIONS

1.2 VERIFY ALL DIMENSIONS AND SITE CONDITIONS ON SITE. ANY DISCREPANCIES FOUND ARE TO BE REPORTED IMMEDIATELY TO THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.

1.3 ALL DIMENSIONS ARE GIVEN IN METRIC MEASURE EXCEPT NOTED OTHERWISE. FRAME CONSTRUCTION DIMENSIONS ARE FROM THE OUTSIDE FACE OF FINISH OF EXTERIOR WALLS, AND FROM THE FINISHED FACE OF INTERIOR PARTITIONS, UNLESS NOTED OTHERWISE.

1.4 ALL DRAWINGS AND NOTES SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND DRAWINGS OF OTHER CONSULTANTS. ANY DISCREPANCIES, ERRORS OR OMISSIONS IN THE DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT BEFORE WORK IN THAT AREA CAN COMMENCE.

1.5 PROJECT AREA IN DASHED LINES DENOTES APPROXIMATE LIMITS FOR THE WORK IN PLAN. WORK IS NOT NECESSARILY LIMITED TO THE AREA ENCLOSED - ALSO REFER TO M&E DWGS FOR WORK OUTSIDE PROJECT AREA.

1.6 ALL WORK SHOWN WITHIN PROJECT AREA IS CONSIDERED AS NEW AND BE INCLUDED IN CONTRACT EXCEPT NOTED AS EXISTING ON CONSTRUCTION DOCUMENTS.

1.7 ALL CONSTRUCTION AND INSTALLATION IS TO BE QUOTED AND PERFORMED IN ACCORDANCE WITH THE CURRENT ISSUE OF THE BRITISH COLUMBIA BUILDING CODE 2018 AND ITS AMENDMENTS, AS WELL AS ALL OTHER CODES BY-LAWS, AND REGULATIONS HAVING JURISDICTION.

1.8 ALL WORK PERFORMED BY TRADES AND SUB-TRADES SHALL MEET THE MINIMUM REQUIREMENTS OF WORKMANSHIP AS ACCEPTED IN THEIR OWN TRADE OR TRADE ASSOCIATION.

1.9 ALL MATERIALS, FIXTURES AND EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

1.10 CONTRACTOR TO SUPPLY ALL NEW MATERIALS AND PERFORM ALL WORK TO FULFILL THE INTENT OF THE CONTRACT DOCUMENTS.

1.11 CONTRACTOR TO PROVIDE ALL NECESSARY COORDINATION AND SUPERVISION OF ALL SUB-TRADES.

1.12 NO STRUCTURAL ITEMS TO BE REMOVED, CUT OR ALTERED OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS.

1.13 CONTRACTOR TO ENSURE ALL CONSTRUCTION AND STORAGE OF MATERIALS AND EQUIPMENT TO BE CONFINED WITHIN THE PROJECT AREA THROUGHOUT CONSTRUCTION PERIOD. IN NO CIRCUMSTANCES SHALL ANY EXISTING EXIT ROUTE BE OBSTRUCTED.

1.14 CONTRACTOR TO POST ALL NECESSARY SAFETY AND EXIT SIGNS AT AND AMEND AS REQUIRED TO MAINTAIN A SAFE ENVIRONMENT WITHIN AND IN THE VICINITY OF THE SITE THROUGHOUT THE CONSTRUCTION PERIOD.

1.15 CONTRACTOR TO MAINTAIN PROPER MEANS OF EGRESS FROM PROJECT AREA AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.

1.16 CONTRACTOR TO NOTIFY, COORDINATE AND SEEK APPROVAL FROM HOSPITAL & SECURITY DEPT. 72 HOURS IN ADVANCE PRIOR TO ANY WORK OUTSIDE PROJECT AREA AS WELL AS ANY MECH, ELEC, PLUMB, FIRE SERVICES AND MEDICAL GASES SHUT OFF. IF SUCH WORK NEEDS TO BE PERFORMED AFTER REGULAR HOURS AND SO THAT ANY INTERRUPTION OF THE NORMAL OPERATION OF THE SPACES OUTSIDE THE PROJECT AREA, SUCH AFTER HOUR WORK WILL BE PART OF THIS CONTRACT.

1.17 DELIVERY OF MATERIALS AND DISPOSAL OF GARBAGE MUST BE CARRIED OUT IN SEALED BINS AFTER REGULAR HOURS THROUGH SERVICE CORRIDORS AS PERMITTED BY TH HOSPITAL.

1.18 SUPPLY, DELIVERY AND ASSEMBLY OF FURNITURE AND FIXTURES INDICATED AS BY OWNER ARE NOT PART OF THIS CONTRACT. CONTRACTOR IS RESPONSIBLE ONLY FOR COORDINATION OF THE ABOVE, PLUS INSTALLATION IF SPECIFIED.

1.19 SUPPLY AND DELIVERY OF ELECTRICAL APPLIANCES ARE BY OWNER. CONTRACTOR IS RESPONSIBLE FOR HOOK UP OF ELECTRICAL APPLIANCES.

1.20 FOLLOW ALL RULES AS RECOMMENDED UNDER "GUIDANCE TO CONSTRUCTION SITES OPERATING DURING COVID-19"

ABBREVIATIONS

@	AT / EACH AT	GA	GAUGE	R/A	RETURN AIR
A/C	AIR CONDITIONER	GB	GRAB BAR	REF	REFERENCE
ABHR	ALCOHOL BASE HAND RUB	GWB	GYPSUM WALL BOARD	REFL	REFLECTED
ACOUST	ACOUSTICAL	H	HIGH	REQ'D	REQUIRED
ADJ	ADJUSTABLE	HC	HANDICAPPED	RM	ROOM
AFF	ABOVE FINISHED FLOOR	HD	HAND DRYER	RO	ROUGH OPENING
ALUM	ALUMINUM	HGT	HEIGHT	S/A	SUPPLY AIR
ATC	ACOUSTIC TILE CEILING	HM	HOLLOW METAL	SCH	SCHEDULE
BLDG	BUILDING	HMI	HANDICAPPED MIRROR	SD	SOAP DISPENSER
BLK	BLOCK	HORIZ	HORIZONTAL	SIM	SIMILAR
B/S	BOTH SIDES	HW	HARD WOOD	SND	SANITARY NAPKIN DISPOSAL
BTWN	BETWEEN	INCL	INCLUDING	SPEC	SPECIFICATION
CG	CORNER GUARD	INSUL	INSULATION	SS	STAINLESS STEEL
CH	CLOTHES HOOK	INT	INTERIOR	STL	STEEL
CL	CENTER LINE	JB	JUNCTION BOX	STRUCT	STRUCTURAL
CLNG	CEILING	L	LENGTH	SUSP	SUSPENDED
CMU	CONCRETE MASONRY UNIT	LAD	LINEAR AIR DIFFUSER	T&B	TOP & BOTTOM
CONC	CONCRETE	LAM	LAMINATE	T&G	TONGUE & GROOVE
CONSTR	CONSTRUCTION	LRA	LINEAR R/A DIFFUSER	THK	THICK
CONT	CONTINUOUS	LSA	LINEAR S/A DIFFUSER	TOC	TOP OF CONCRETE
COORD	COORDINATE	M&E	MECH & ELEC (INCL PLUMB & FS)	TPD	TOILET PAPER DISPENSER
CT	CERAMIC TILE	MANUF	MANUFACTURER	TYP	TYPICAL
DEMO	DEMOLITION / DEMOLISH	MAX	MAXIMUM	U/C	UNDER COUNTER
DIA	DIAMETER	MECH	MECHANICAL	U/S	UNDERSIDE
DR	DOOR	MI	MIRROR	UNO	UNLESS NOTED OTHERWISE
DN	DOWN	MTD	MOUNTED	VCT	VINYL COMPOSITION TILE
DWG(S)	DRAWING(S)	MTL	METAL	VERT	VERTICAL
E/A	EXHAUST AIR	N	NEW	VEST	VESTIBULE
EA	EACH	NIC	NOT IN CONTRACT	VIF	VERIFIED IN FIELD
EL / ELEV	ELEVATION	NTS	NOT TO SCALE	W	WIDE
ELEC	ELECTRICAL	NUM / #	NUMBER	W/	WITH
EQ	EQUAL	OD	OUTSIDE DIAMETER	WC	WATER CLOSET
EX	EXIST	PL	PROPERTY LINE	WD	WOOD
EXP	EXPOSED	PLAS	PLASTIC	WP	WALL PROTECTION
EXT	EXTERIOR	PLUMB	PLUMBING	WR	WASTE RECEPTACLE
FD	FLOOR DRAIN	PLYWD	PLYWOOD	WT	WEIGHT
FDN	FOUNDATION	PREFIN	PRE-FINISHED		
FE	FIRE EXTINGUISHER	PTD	PAINTED		
FIN	FINISH	PTH	PAPER TOWEL HOLDER		
FIXT	FIXTURE	PTN	PARTITION		
FLR	FLOOR				
FP	FILLER PANEL				
FR	FIRE RATED				
FS	FIRE SERVICES				

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN

WWW.DCYTARCHITECTURE.CA

WORK OUTSIDE PROJECT AREA GENERAL NOTES

1. OBTAIN AUTHORIZATION FROM HOSPITAL TO PERFORM WORK OUTSIDE PROJECT AREA PRIOR TO COMMENCEMENT OF WORK
2. ALL WORK OUTSIDE PROJECT AREA AND HOARDING AREA TO BE PERFORMED AFTER REGULAR HOURS, UNLESS AUTHORIZED BY HOSPITAL OTHERWISE
3. SEE M&E DWGS FOR M&E SCOPE OF WORK
4. REMOVE AND REINSTALL CLNG TILES AND GRID AS REQ'D TO PERFORM M&E WORK.
5. REPLACE CLNG TILES WITH NEW TO MATCH EX IF DAMAGED DURING CONSTRUCTION.
6. PERFORM SCANNING OF CONC SLAB TO VERIFY EXISTING M&E SERVICES & REBAR INSIDE SLAB BEFORE CORING OF SLAB
7. PROVIDE FIRE STOPPING TO MAINTAIN FIRE SEPARATION REQ'D FOR ALL NEW FLOOR AND WALL PENETRATIONS
8. REMOVE, REPAIR & REFINISH WALL AND FLOOR IF REQ'D FOR M&E WORK
9. REMOVE AND REPAIR EX UNDERSLAB THERMAL INSULATION IF REQ'D FOR INSTALLATION OF NEW M&E SERVICES - SEE M&E DWGS FOR EXTENT OF WORK
10. FOR M&E WORK EXTENDING BELOW THE PROJECT AREA, CONTRACTOR TO REMOVE, REPAIR & REFINISH EXISTING CEILING AS REQ'D.
11. PROTECT EXISTING FLOOR FINISHES ALONG PATH OF TRAVEL FROM ELEVATOR LOBBY TO PROJECT AREA.

NOTE 1 - FOR DELIVERY OF INTERVENTIONAL FLUOROSCOPY EQUIPMENT :

A. CONTRACTOR TO COORDINATE WITH HOSPITAL 72 HOURS IN ADVANCE FOR DELIVERY OF EQUIPMENT.

B. CONTRACTOR TO MAKE GOOD EXTERIOR AND INTERIOR WALLS, FLOORS AND CEILING, IF DAMAGED DURING EQUIPMENT DELIVERY.

C. CONTRACTOR TO PROVIDE PROTECTIVE COVERING FOR WALL, FLOOR AND CEILING AS REQUIRED BY HOSPITAL ALONG THE DELIVERY ROUTE.

No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	NOT ISSUED	-	-
8	NOT ISSUED	-	-
7	NOT ISSUED	-	-
6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	ISSUED FOR 80% CD	DEC 16, 2020	RC
4	ISSUED FOR BP SUBMISSION	DEC 4, 2020	RC
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

northern health
the northern way of caring

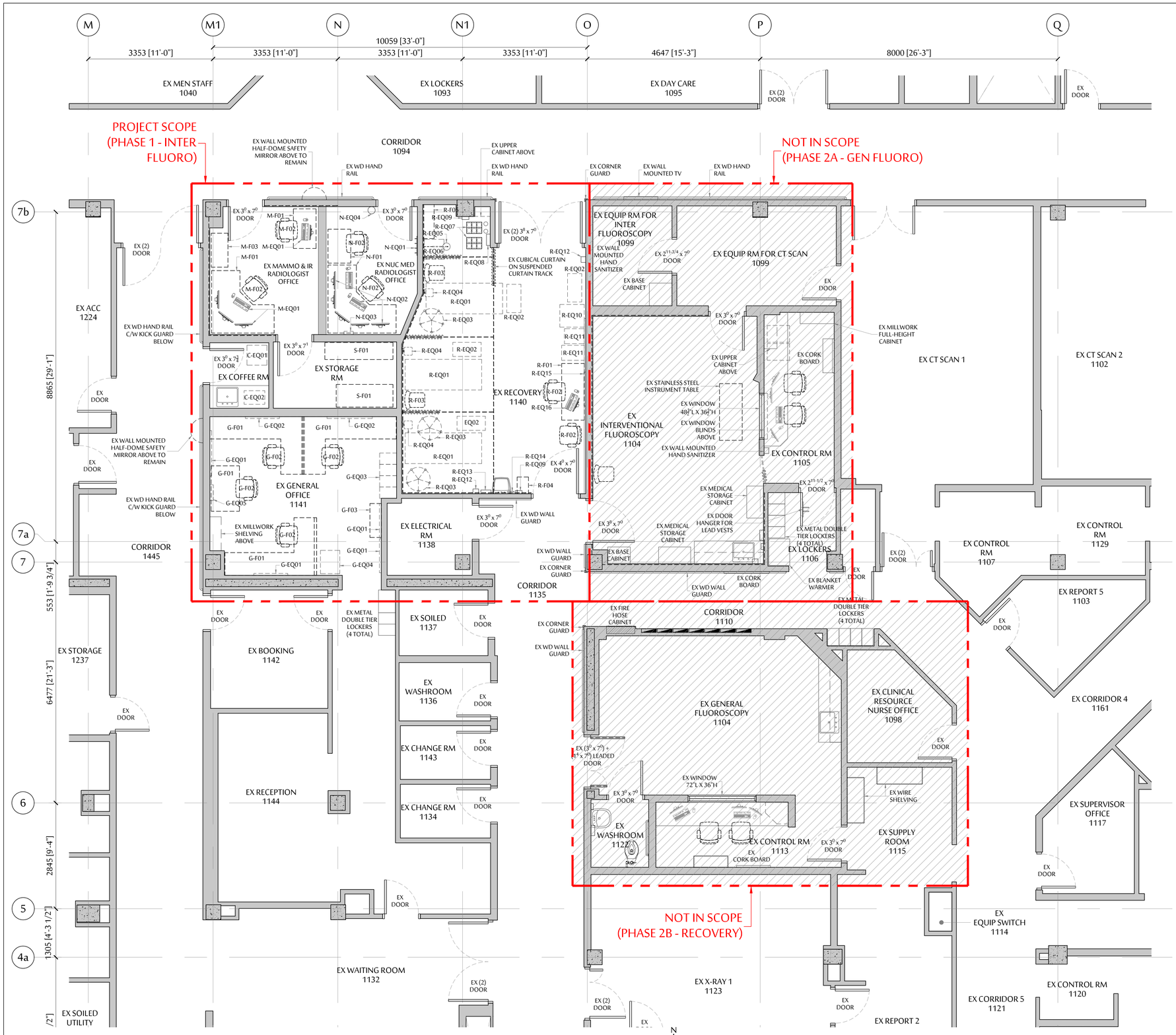
UHNBC
FLUOROSCOPY
REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE
BC V2M 1S2

PHASE 1 - INTER FLUORO
LOCATION PLAN &
GENERAL NOTES

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A1.01



1 PHASE 1, 2A & 2B - LEVEL 1 - KEY PLAN (EXIST. LAYOUT SHOWN)

SCALE : 1 = 50

PHASE 1 : APPROX. GROSS FLOOR AREA = 95.7 m² (1,030 ft²)

PHASE 2A & 2B : APPROX. GROSS FLOOR AREA = 118.1 m² (1,271 ft²)

UHNBC FLUOROSCOPY REPLACEMENT - FURNITURE & EQUIPMENT SCHEDULE

DATE: DECEMBER 15, 2020

CODE	UNIT	#	EX OR NEW	ACTION REQUIRED (RELOCATION, STORAGE, PURCHASE)	NEW LOCATION	PERSON RESPONSIBLE
EXISTING RECOVERY ROOM (1140) - EQUIPMENT & FURNITURE						
R-EQ01	STRETCHER	3	EX	S	PHASE 2B	CLIENT
R-EQ02	OVERBED TABLE	4	EX	S	PHASE 2B	CLIENT
R-EQ03	IV STAND	3	EX	S	PHASE 2B	CLIENT
R-EQ04	PATIENT MONITOR (WALL MOUNTED)	3	EX	S	PHASE 2B	CONTRACTOR
R-EQ05	LIGHT FIXTURE (WALL MOUNTED)	1	EX	S	PHASE 2B	CONTRACTOR
R-EQ06	MINI FRIDGE	1	EX	S	PHASE 2B	CLIENT
R-EQ07	MOBILE OXYGEN CYLINDER CART	2	EX	S	PHASE 2B	CLIENT
R-EQ08	SHARPS CONTAINER (WALL MOUNTED)	1	EX	S	PHASE 2B	CONTRACTOR
R-EQ09	GLOVE DISPENSER (WALL MOUNTED)	2	EX	R	PHASE 2B	CONTRACTOR
R-EQ10	MOBILE CART	1	EX	S	PHASE 2B	CLIENT
R-EQ11	MOBILE FILE CABINETS	2	EX	S	PHASE 2B	CLIENT
R-EQ12	HAND SANITIZER (WALL MOUNTED)	2	EX	S	PHASE 2B	CONTRACTOR
R-EQ13	PAPER TOWEL DISPENSER (WALL MOUNTED)	1	EX	S	PHASE 2B	CONTRACTOR
R-EQ14	SOAP DISPENSER (WALL MOUNTED)	1	EX	S	PHASE 2B	CONTRACTOR
R-EQ15	WHITE BOARD (WALL MOUNTED)	1	EX	S	PHASE 2B	CONTRACTOR
R-EQ16	COMPUTER (CPU, MONITOR)	1	EX	S	PHASE 2B	CLIENT
R-F01	DESK	1	EX	S	PHASE 2B	CLIENT
R-F02	TASK CHAIR	2	EX	S	PHASE 2B	CLIENT
R-F03	SIDE CHAIR	2	EX	S	PHASE 2B	CLIENT
R-F04	BASE CABINET	1	EX	S	PHASE 2B	CLIENT
R-F05	BOOKCASE	1	EX	S	PHASE 2B	CLIENT
EXISTING NUC MED RADIOLOGIST OFFICE - EQUIPMENT & FURNITURE						
N-EQ01	COAT HOOKS (WALL MOUNTED)	1	EX	R	TBD	CLIENT
N-EQ02	COMPUTER (CPU, MONITOR)	5	EX	R	TBD	CLIENT
N-EQ03	TELEPHONE (WALL MOUNTED)	1	EX	R	TBD	CLIENT
N-EQ04	FIRE EXTINGUISHER (WALL MOUNTED)	1	EX	R	TBD	CLIENT
N-F01	DESK	2	EX	R	TBD	CLIENT
N-F02	TASK CHAIR	2	EX	R	TBD	CLIENT
EXISTING MAMMO & IR RADIOLOGIST OFFICE - EQUIPMENT & FURNITURE						
M-EQ01	COMPUTER (CPU, MONITOR)	4	EX	R	TBD	CLIENT
M-F01	DESK	2	EX	R	TBD	CLIENT
M-F02	TASK CHAIR	2	EX	R	TBD	CLIENT
M-F03	FILING CABINET	1	EX	R	TBD	CLIENT
EXISTING STORAGE ROOM - EQUIPMENT & FURNITURE						
S-F01	WIRE SHELVING UNIT	2	EX	R	TBD	CLIENT
EXISTING COFFEE ROOM - EQUIPMENT & FURNITURE						
C-EQ01	MINI FRIDGE	1	EX	R	TBD	CLIENT
C-EQ02	MICROWAVE	1	EX	R	TBD	CLIENT
EXISTING GENERAL OFFICE - EQUIPMENT & FURNITURE						
G-EQ01	WHITE BOARD (WALL MOUNTED)	4	EX	R	TBD	CLIENT
G-EQ02	CORK BOARD (WALL MOUNTED)	2	EX	R	TBD	CLIENT
G-EQ03	DOUBLE TIER LOCKER	4	EX	R	TBD	CLIENT
G-EQ04	PRINTER	1	EX	R	TBD	CLIENT
G-EQ05	CLOCK (WALL MOUNTED)	1	EX	R	TBD	CLIENT
M-EQ01	COMPUTER (CPU, MONITOR)	4	EX	R	TBD	CLIENT
M-F01	DESK	4	EX	R	TBD	CLIENT
M-F02	TASK CHAIR	4	EX	R	TBD	CLIENT
M-F03	BOOKCASE	1	EX	R	TBD	CLIENT

ARCHITECT :

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DRAWING LEGEND

- PROJECT AREA
- EXISTING WALL TO BE REMOVED (INCL ELEC, MECH, PLUMB & SPRINKLER WORK WITHIN WALL)
- EXISTING WALL TO REMAIN
- NEW WALL
- NEW WALL WITH ACOUST INSULATION
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO REMAIN (SEE DOOR SCHEDULE)
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO BE REMOVED OR RELOCATED (SEE DOOR SCHEDULE)
- D1 — NEW DOOR & FRAME (SEE DOOR SCHEDULE)
- 1 / A6.01 — INTERIOR ELEVATION # / DWG #
- 1 / A1.01 — CROSS SECTION # / DWG #
- W1 — WALL TYPE (SEE WALL SCHEDULE)
- W1 — WINDOW TYPE (SEE WINDOW SCHEDULE)
- GP1 — GLAZING PARTITION TYPE (SEE GLAZING PARTITION SCHEDULE)
- CG1 — 90° CORNER GUARD
- CG2 — 135° (OR CUSTOM ANGLE) CORNER GUARD
- FD — FLOOR DRAIN
- GB — GRAB BAR
- HMI — HANDICAPPED MIRROR
- MI — MIRROR
- EXTENT OF ACCENT WALL (SEE ROOM FINISH SCHEDULE) - ALLOW FOR 1 COLOUR
- EXTENT OF LEAD LINING (SEE RAD. REPORT)
- EXTENT OF FIRE RETARDANT TREATED PLYWOOD BACKING
- FE — FIRE EXTINGUISHER (36" A.F.F. TO BOTTOM OF CABINET) - SEE MECH DWGS

No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	NOT ISSUED	-	-
8	NOT ISSUED	-	-
7	NOT ISSUED	-	-
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4	ISSUED FOR BP SUBMISSION	DEC 4, 2020	RC
3	ISSUED FOR DD REVIEW	NOV 20, 2020	RC
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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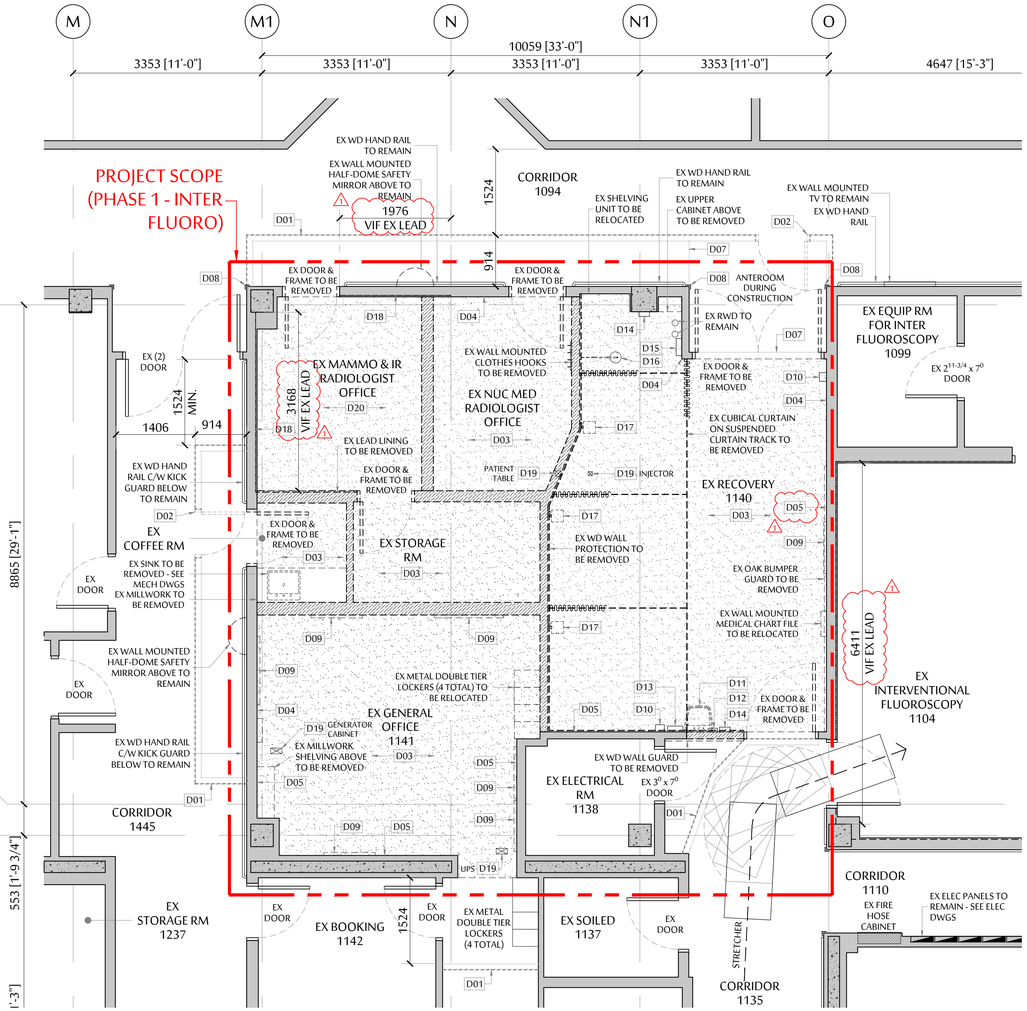
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE
BC V2M 1S2

PHASE 1 - INTER FLUORO LEVEL 1 KEY PLAN

SCALE: 1 : 50
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

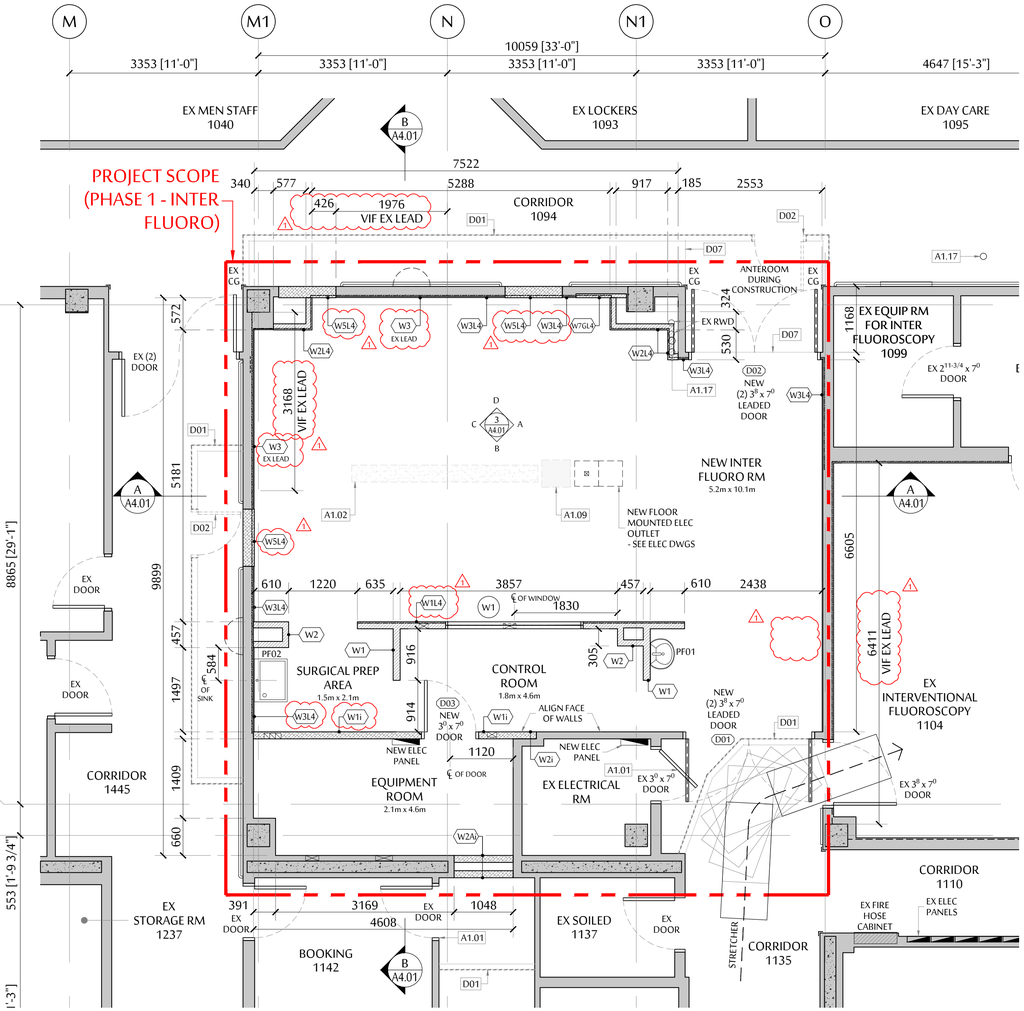
PHASE 1
A2.01



1 PHASE 1 - LEVEL 1 - DEMOLITION PLAN

SCALE : 1 = 50

PHASE 1 - INTER FLUORO : APPROX. GROSS FLOOR AREA = 95.7 m² (1,030 ft²)



2 PHASE 1 - LEVEL 1 - FRAMING PLAN

SCALE : 1 = 50

PHASE 1 - INTER FLUORO : APPROX. GROSS FLOOR AREA = 95.7 m² (1,030 ft²)

D09 EXISTING WALL MOUNTED WHITE BOARD OR CORKBOARD TO BE RELOCATED. DO NOT DAMAGE.

D10 EXISTING WALL MOUNTED HAND SANITIZER & WD BACKING TO BE REMOVED.

D11 EX WALL MOUNTED SINK, WD BACKING AND ACCESS PANEL TO BE REMOVED - SEE MECH DWGS.

D12 EXISTING WALL MOUNTED SOAP DISPENSER & WD BACKING TO BE REMOVED.

D13 EXISTING WALL MOUNTED PAPER TOWEL DISPENSER TO BE REMOVED.

D14 EXISTING WALL MOUNTED ACRYLIC GLOVE DISPENSER (3 TOTAL) TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D15 EXISTING WALL MOUNTED SHARPS CONTAINER. TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D16 EXISTING WALL MOUNTED LIGHT FIXTURE & WD BACKING TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D17 EXISTING PATIENT MONITOR, WALL MOUNTING FIXTURE & BASKET UTILITY TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D18 EXISTING LEAD LINING TO REMAIN, EXTENT SHOWN IS ONLY APPROX. DO NOT DAMAGE.

D19 CUT CONC FLOOR SLAB FOR JUNCTION BOX & CONDUIT INSTALLATION. PENETRATION TO BE FIRESTOPPED & SMOKE SEALED AS REQ'D TO MAINTAIN NECESSARY FIRE RATING.
- SEE EQUIPMENT, ELEC & STRUCT DWGS FOR EXACT LOCATION, SIZE AND DETAILS

D20 CONTRACTOR TO ALLOW (1) WEEK FOR ASBESTOS REMOVAL OF EXISTING SHEET VINYL FLOOR BY OWNER. CONTRACTOR TO INSTALL FLOOR UNDERLAYMENT AS REQUIRED FOR PREPARATION OF NEW FLOOR FINISH TO MEET FLOORING MANUFACTURER'S STANDARDS.

9. ALL ASBESTOS CONTAINING MATERIALS DISCOVERED DURING CONSTRUCTION SHALL BE HANDLED ACCORDING TO SPEC SECTION 011000 - "OWNERS GENERAL REQUIREMENTS" AND BE REMOVED ACCORDING TO WORKSAFE BC REQUIREMENTS.

10. FIREPROOF AND PATCH EXISTING FIRE RATED WALL, FLOOR AND CEILING OPENING WITHIN PROJECT AREA TO MATCH EXISTING FIRE RATING.

11. UNUSED EX OR NEW CONCRETE FLOOR PENETRATIONS MUST BE PATCHED WITH CONCRETE INFILL OF THE SAME THICKNESS AS EXISTING

DEMOLITION KEY NOTES

D01 FULL HT TEMP HOARDING TO UNDERSIDE OF FIN CLNG DURING CONSTRUCTION WITH:
- 92 MM STL STUD FRAMING @ 400 MM O/C
- 16 MM THK TAPED DRYWALL INSTALLED ON OUTSIDE OF PROJECT AREA
- 6 MIL POLY ON INSIDE OF PROJECT AREA

D02 TEMP 3' X 7' DOOR WITH 12" X 12" VISION PANEL DURING CONSTRUCTION

D03 EXISTING WALL BASE AND VINYL SHEET FLOOR FINISH & ADHESIVE TO BE REMOVED. INSTALL FLOOR UNDERLAYMENT AS REQUIRED FOR PREPARATION OF NEW FLOOR FINISH TO MEET FLOORING MANUFACTURER'S STANDARDS.

D04 EXISTING DRYWALL LAYER TO BE REMOVED.

D05 REPAIR, PATCH AND MAKE SMOOTH ALL EXISTING DRYWALL TO RECEIVE NEW PAINT FOR FULL LENGTH AND HEIGHT OF WALL

D06 FOR M&E WORK EXTENDING BELOW THE PROJECT AREA, CONTRACTOR TO REMOVE, REPAIR & REFINISH EXISTING CEILING AS REQ'D.

D07 TEMP CONTINUOUS 6 MIL POLY ENCLOSURE SECURED & AIR SEALED ON ALL EDGES C/W 864 X 2134 ZIPPER OPENING FOR ACCESS

D08 EXISTING CORNER GUARD TO REMAIN. DO NOT DAMAGE.

DEMOLITION GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL DEMOLITION AS REQUIRED FOR NEW WORK.

2.OBTAIN APPROVAL FROM HOSPITAL FOR LAYOUT OF TEMP HOARDING AND CONSTRUCT HOARDING PER HOSPITAL'S REQUIREMENTS.

3. CONTRACTOR TO PROVIDE ADEQUATE PROTECTION TO ALL EXISTING PROPERTIES DURING DEMOLITION AND CONSTRUCTION

4. ANY CONCRETE SLAB CUTTING OR DEMOLITION WORK WITH EXCESSIVE NOISE MUST BE PERFORMED AFTER REGULAR HOURS AS PERMITTED BY HOSPITAL. ANY EXTRA COST ASSOCIATED WITH AFTER-HOUR WORK WILL BE PART OF THIS CONTRACT.

3. DISPOSAL OF DEMOLISHED MATERIALS MUST BE CARRIED OUT AFTER REGULAR HOURS THROUGH SERVICE CORRIDORS AS PERMITTED BY THE HOSPITAL.

4. REMOVAL OF ANY FLOOR FINISHES MUST INCL COMPLETE REMOVAL OF ANY UNDERLAYMENT AND GLUE ADHERED TO THE CONC SLAB.

5. ANY ASSOCIATED M&E SERVICES MUST BE DISCONNECTED BEFORE REMOVAL OF ANY WALL, FLOOR AND CEILING.

6. THE OWNER RESERVES THE RIGHT TO CLAIM ALL DEMOLITION ITEMS WHERE IT MAY BE POSSIBLE TO REUSE IN THE FUTURE. CONFIRM WITH THE OWNER PRIOR TO DISPOSING OF ITEMS.

7. BEFORE ANY CONCRETE SLAB CUTTING AND/OR CORING, CONTRACTOR MUST PERFORM SCANNING OF EX CONC SLAB & DIG OUT TRIAL PITS TO LOCATE AND RECORD ANY EXISTING IN-SLAB OR UNDER-SLAB M&E PIPES, DUCTS, CONDUITS AND UTILITY SERVICES. DRILL AND DIG TRIAL PITS AS REQ'D TO VERIFY EXACT LOCATION OF EX UNDERGROUND SERVICES. CONTRACTOR IS REQUIRED TO SEEK APPROVAL FROM ARCHITECT BEFORE COMMENCEMENT OF THE SLAB CUTTING AND/OR CORING WORK.

8. WHERE PENETRATIONS THROUGH CONCRETE SLAB ARE INACCESSIBLE BY SCAN EQUIPMENT, HAND CHIP CONC SLAB TO INVESTIGATE ANY IN SLAB SERVICES.

PLUMBING FIXTURE LEGEND

REFER TO PLUMB DWGS FOR DETAILS OF PLUMB FIXTURES

PF01 NEW WALL MOUNTED HAND WASHING SINK WITH HANDS FREE FAUCET

PF02 NEW WALL MOUNTED HAND WASHING SINK C/W FOOT PEDAL

A1.10 - NEW ELEC CONDUITS. SEE ELEC & STRUCT DWGS FOR EXACT ROUTING AND DETAILS.
- FOR FLOOR, CONTRACTOR TO SCAN EXISTING CONC. FLOOR SLAB BEFORE CORING (IF CORING IS REQ'D).
- FOR WALL, CONTRACTOR TO CUT WALL AS REQ'D.
- FOR CEILING, CONTRACTOR TO REMOVE CEILING BELOW AS REQ'D.
- REPAIR AND MAKE GOOD ALL FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING INCLUDING FIRE RATING & SEPARATION REQUIREMENTS AFTER COMPLETION OF ELECTRICAL WORK.

A1.11 PROVIDE NEW ROLLBOARD WALL MOUNT WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3C/A4.01 FOR EXACT WALL MOUNT HEIGHT AND LOCATION ON WALL

A1.12 PROVIDE NEW WALL MOUNTED LEAD APRON HOOKS (TOTAL 8) WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3A/A4.01 FOR EXACT HEIGHT AND LOCATION ON WALL

A1.13 PROVIDE NEW MEDICAL STORAGE CABINET (IF-EQ11) WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING PER MANUFACTURER'S RECOMMENDATIONS & REQUIREMENTS - SEE EQUIPMENT SCHEDULE FOR DETAILS

A1.14 PROVIDE NEW UPPER AND LOWER CRASH RAILS WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3A & 3B/A4.01 FOR EXACT HEIGHT AND EXTENT ON WALL

A1.15 1" WIDE SHEET VINYL FLOOR RED WARNING STRIP

A1.16 PROVIDE IN WALL BACKING AS RECOMMENDED BY MANUFACTURER FOR WALL CHANNEL (IF-EQ13) INSTALLATION (REMOVE EX GWB IF REQ'D)

A1.17 NEW PIPING/CONDUIT - SEE ELEC & MECH DWGS FOR EXACT ROUTING AND DETAILS.
- FOR FLOOR, CONTRACTOR TO SCAN EX CONC. FLOOR SLAB BEFORE CORING (IF CORING IS REQ'D).
- FOR WALL, CONTRACTOR TO CUT WALL AS REQ'D.
- FOR CEILING, CONTRACTOR TO REMOVE CEILING AS REQ'D.
- REPAIR AND MAKE GOOD ALL FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING INCLUDING FIRE RATING & SEPARATION REQUIREMENTS AFTER COMPLETION OF ELECTRICAL WORK.

CONSTRUCTION KEY NOTES

- ALL WORKS BELOW ARE NEW INCLUDING SUPPLY & INSTALLATION OF MATERIALS U.N.O.

A1.01 SEAL DOOR EDGES TO MEET INFECTION CONTROL REQUIREMENT DURING CONSTRUCTION

A1.02 LEVEL FLOOR WITH SELF-LEVELING FLOOR UNDERLAYMENT TO MEET EQUIPMENT VENDOR FLATNESS AND LEVELNESS REQUIREMENTS - SEE EQUIPMENT DWGS FOR EXTENT

A1.03 PROVIDE NEW HAND RAIL & LOWER WALL BUFFER INFILL TO MATCH EXISTING C/W IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DETAIL 6&7/A5.03

A1.04 RESERVED

A1.05 55" H WALL PROTECTION COVERING (WP1) ABOVE WALL BASE - SEE DWG 3A&3B/A4.01

A1.06 PROVIDE IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING FOR UPPER CABINET (REMOVE EX GWB IF REQ'D)

A1.07 PROVIDE IN WALL 350mm HIGH FIRE RETARDANT TREATED PLYWOOD BACKING FOR ANCHORING OF SIEMENS ELECTRONICS CABINETS. BACKING TO BE FLUSH MOUNTED, INSTALLED 2160mm AFF TO BOTTOM EDGE, AND MUST COVER THE ENTIRE WIDTH OF THE ELECTRONICS CABINET(S) PLUS MIN. 50mm ON EACH SIDE. - SEE EQUIPMENT DWGS

A1.08 PROVIDE IN WALL 350mm HIGH FIRE RETARDANT TREATED PLYWOOD BACKING FOR ANCHORING OF SIEMENS CONTROL ROOM DISTRIBUTOR. BACKING TO BE FLUSH MOUNTED, INSTALLED 500mm AFF TO BOTTOM EDGE, AND MUST COVER THE ENTIRE WIDTH OF THE DISTRIBUTOR PLUS MIN. 50mm ON EACH SIDE. - SEE EQUIPMENT DWGS

A1.09 PATIENT TABLE INSTALLATION PLATE TO BE ANCHORED TO CONCRETE FLOOR
- SEE EQUIPMENT & STRUCT. DWGS

CONSTRUCTION GENERAL NOTES

1. ALL EXISTING AND NEW PENETRATIONS THROUGH FIRE RATED WALLS & FLOORS SHALL BE FIRESTOPPED & SMOKE SEALED AS REQ'D TO MAINTAIN NECESSARY FIRE RATING. FIRESTOPPING MUST BE PERFORMED WITHOUT DELAY AS SOON AS THEY ARE OPENED, TO PREVENT SPREAD OF FIRE AND SMOKE DURING CONSTRUCTION.

2. REPAIR, PATCH AND SKIM COAT AND LEVEL EXISTING CONC SLAB THROUGHOUT PROJECT AREA PER EQUIPMENT MANUF. SPECIFICATION BEFORE INSTALLATION OF NEW FLOOR FINISHES.

3. EXISTING GWB WALLS SHOWN TO REMAIN SHALL BE SKIM COATED AND SANDED SMOOTH BEFORE RECEIVING PAINT.

4. REMOVE, REPAIR & REFINISH EX DRYWALL AS REQ'D FOR INSTALLATION OF NEW MECH & ELEC PIPES, CONDUITS & EQUIPMENT.

5. STRUCTURAL DESIGN FOR NEW STL LINTEL & CONC SLAB TRENCHING & REPLACEMENT, IF ANY, SHALL BE PERFORMED BY A LICENSED STRUCT ENG & PAID FOR BY CONTRACTOR.

6. PATCH AND REFINISH DRYWALL WHERE EX M&E WALL OUTLETS, PENETRATIONS & EQUIPMENT ARE REMOVED AND DISCARDED.

7. PROVIDE BACKING ON WALLS FOR MILLWORK, HANDRAILS, CHAIR RAILS, BATHROOM ACCESSORIES, M&E FIXTURES AND ANY EQUIP AS REQUIRED. SEE M&E AND EQUIP DWGS FOR BACKING LOCATIONS AND REQUIREMENTS

8. FOR NEW LEAD LINED WALL, LEAD LINE ALL NEW AND EX TO REMAIN WALLS, OUTLETS, PENETRATIONS, PIPES, AND DUCT WORK TO MAINTAIN CONTINUITY OF SHIELDING - SEE SPEC SECTION 130900 RADIATION PROTECTION.

9. SKIM COAT ALL EXISTING CONC FLOOR TO RECEIVE NEW FLOORING THROUGHOUT PROJECT AREA

10. REPAIR EX SPRAY THERMAL INSULATION BELOW CONC SLAB FOR ALL NEW PIPE AND CONDUIT PENETRATIONS TO BELOW, IF APPLICABLE.

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3	ISSUED FOR DD REVIEW	NOV 20, 2020	RC
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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the northern way of caring

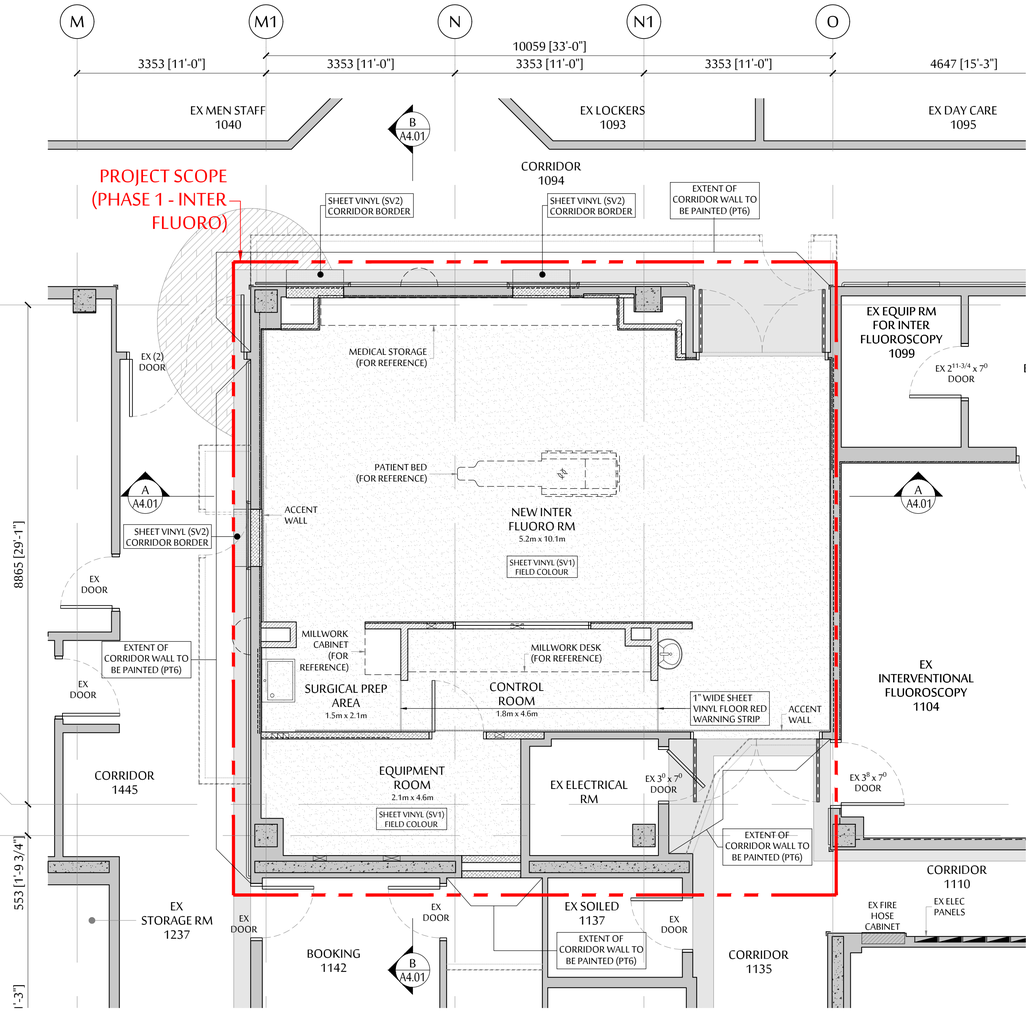
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO LEVEL 1 DEMO & FRAMING PLAN

SCALE: 1 : 50
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A2.02

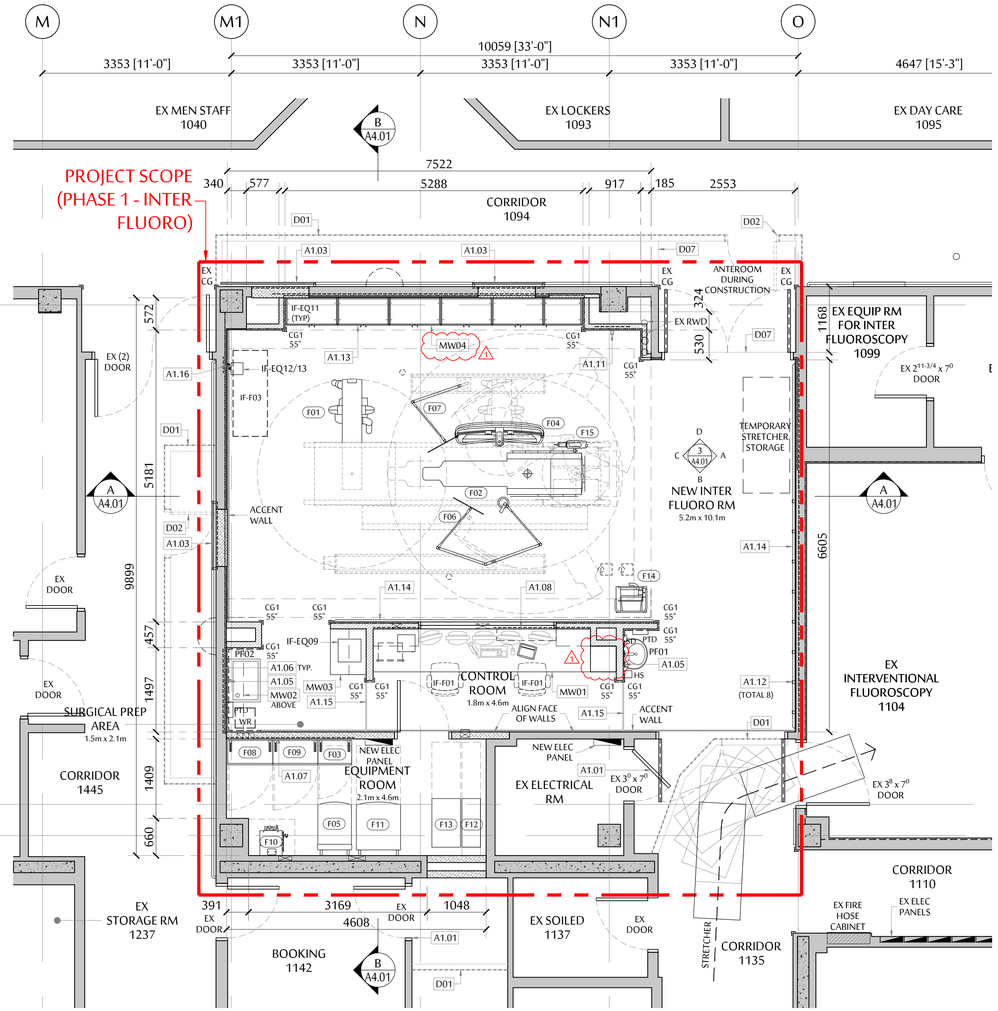


2 PHASE 1 - LEVEL 1 - FINISHES PLAN

SCALE : 1 = 50

N

PHASE 1 - INTER FLUORO : APPROX. GROSS FLOOR AREA = 95.7 m^2 (1,030 ft^2)



1 PHASE 1 - LEVEL 1 - FURNITURE & EQUIPMENT PLAN

SCALE : 1 = 50

N

PHASE 1 - INTER FLUORO : APPROX. GROSS FLOOR AREA = 95.7 m^2 (1,030 ft^2)

UHNBC FLUOROSCOPY REPLACEMENT - FURNITURE & EQUIPMENT SCHEDULE

DATE: FEBRUARY 10, 2021

CODE	UNIT	#	EX OR NEW	ACTION REQUIRED	PERSON RESPONSIBLE	CONTRACTOR TO INSTALL	REMARKS
NEW INTER FLUORO ROOM - EQUIPMENT & FURNITURE							
IF-EQ01	SOAP DISPENSER (WALL MOUNTED)	2	NEW	PURCHASE	CLIENT	*	
IF-EQ02	PAPER TOWEL DISPENSER (WALL MOUNTED)	2	NEW	PURCHASE	CLIENT	*	
IF-EQ03	HAND SANITIZER (WALL MOUNTED)	2	NEW	PURCHASE	CLIENT	*	
IF-EQ04	GLOVE DISPENSER (WALL MOUNTED)	2	NEW	PURCHASE	CLIENT	*	
IF-EQ05	CLOCK (WALL MOUNTED)	1	NEW	PURCHASE	CLIENT	*	
IF-EQ06	WASTE RECEPTACLE	3	NEW	PURCHASE	CLIENT		
IF-EQ07	ROLLBOARD	1	NEW	PURCHASE	CLIENT		
IF-EQ08	LEAD APRON HANGERS	8	NEW	PURCHASE	CLIENT		
IF-EQ09	CONTRAST WARMER	1	NEW	PURCHASE	CLIENT		
IF-EQ10	COMPUTER (CPU, MONITOR)	TBD	NEW	PURCHASE	CLIENT		
IF-EQ11	MEDICAL STORAGE CABINET	6	NEW	PURCHASE	CONTRACTOR	*	Medical Storage purchase order to be provided to contractor
IF-EQ12	PATIENT MONITOR	1	NEW	PURCHASE	CLIENT		
IF-EQ13	MONITOR MOUNTING ARM	1	NEW	PURCHASE	CLIENT	*	
IF-F01	TASK CHAIR	2	NEW	PURCHASE	CLIENT		
IF-F02	SIDE CHAIR	2	EX	RELOCATION	CLIENT		
IF-F03	INSTRUMENT TABLE	1	EX	RELOCATION	CLIENT		

EQUIPMENT LEGEND

SIEMENS ARTIS Q CEILING INTERVENTIONAL FLUOROSCOPY
(TO BE SUPPLIED BY EQUIPMENT VENDOR - UNLESS NOTED OTHERWISE)

- F01 ARTIS Q CEILING STAND
- F02 PATIENT TABLE (KOORDINAT)
- F03 SYSTEM CONTROL CABINET #2
- F04 DCS EXT. LARGE DISPLAY MONITOR
- F05 LARGE DISPLAY CONTAINER
- F06 RADIATION SHIELD + OR LIGHT
- F07 RADIATION SHIELD
- F08 GENERATOR CABINET
- F09 SYSTEM CONTROL CABINET #1
- F10 COOLING UNIT
- F11 IMAGE SYSTEM CABINET
- F12 UPS
- F13 TRANSFORMER CABINET
- F14 CONTROL CONSOLE AND ECC ON TROLLEY
- F15 INJECTOR HEAD (TABLE MOUNTED)

PLUMBING FIXTURE LEGEND

REFER TO PLUMB DWGS FOR DETAILS OF PLUMB FIXTURES

- PF01 NEW WALL MOUNTED HAND WASHING SINK WITH HANDS FREE FAUCET
- PF02 NEW WALL MOUNTED HAND WASHING SINK C/W FOOT PEDAL

CONSTRUCTION KEY NOTES

A1.10 - NEW ELEC CONDUITS. SEE ELEC & STRUCT DWGS FOR EXACT ROUTING AND DETAILS.
- FOR FLOOR, CONTRACTOR TO SCAN EXISTING CONC. FLOOR SLAB BEFORE CORING (IF CORING IS REQ'D).
- FOR WALL, CONTRACTOR TO CUT WALL AS REQ'D.
- FOR CEILING, CONTRACTOR TO REMOVE CEILING BELOW AS REQ'D.
- REPAIR AND MAKE GOOD ALL FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING INCLUDING FIRE RATING & SEPARATION REQUIREMENTS AFTER COMPLETION OF ELECTRICAL WORK.

A1.11 PROVIDE NEW ROLLBOARD WALL MOUNT WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3C/A4.01 FOR EXACT WALL MOUNT HEIGHT AND LOCATION ON WALL

A1.12 PROVIDE NEW WALL MOUNTED LEAD APRON HOOKS (TOTAL 8) WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3A/A4.01 FOR EXACT HEIGHT AND LOCATION ON WALL

A1.13 PROVIDE NEW MEDICAL STORAGE CABINET (IF-EQ11) WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING PER MANUFACTURER'S RECOMMENDATIONS & REQUIREMENTS - SEE EQUIPMENT SCHEDULE FOR DETAILS

A1.14 PROVIDE NEW UPPER AND LOWER CRASH RAILS WITH IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DWG 3A & 3B/A4.01 FOR EXACT HEIGHT AND EXTENT ON WALL

A1.15 1" WIDE SHEET VINYL FLOOR RED WARNING STRIP

A1.16 PROVIDE IN WALL BACKING AS RECOMMENDED BY MANUFACTURER FOR WALL CHANNEL (IF-EQ13) INSTALLATION (REMOVE EX GWB IF REQ'D)

A1.17 NEW PIPING/CONDUIT - SEE ELEC & MECH DWGS FOR EXACT ROUTING AND DETAILS.
- FOR FLOOR, CONTRACTOR TO SCAN EX CONC. FLOOR SLAB BEFORE CORING (IF CORING IS REQ'D).
- FOR WALL, CONTRACTOR TO CUT WALL AS REQ'D.
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- REPAIR AND MAKE GOOD ALL FLOORS, WALLS, AND CEILINGS TO MATCH EXISTING INCLUDING FIRE RATING & SEPARATION REQUIREMENTS AFTER COMPLETION OF ELECTRICAL WORK.

A1.01 SEAL DOOR EDGES TO MEET INFECTION CONTROL REQUIREMENT DURING CONSTRUCTION

A1.02 LEVEL FLOOR WITH SELF-LEVELING FLOOR UNDERLAYMENT TO MEET EQUIPMENT VENDOR FLATNESS AND LEVELNESS REQUIREMENTS - SEE EQUIPMENT DWGS FOR EXTENT

A1.03 PROVIDE NEW HAND RAIL & LOWER WALL BUFFER INFILL TO MATCH EXISTING C/W IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING - SEE DETAIL 6&7/A5.03

A1.04 RESERVED

A1.05 55" H WALL PROTECTION COVERING (WP1) ABOVE WALL BASE - SEE DWG 3A&3B/A4.01

A1.06 PROVIDE IN WALL FIRE RETARDANT TREATED PLYWOOD BACKING FOR UPPER CABINET (REMOVE EX GWB IF REQ'D)

A1.07 PROVIDE IN WALL 350mm HIGH FIRE RETARDANT TREATED PLYWOOD BACKING FOR ANCHORING OF SIEMENS ELECTRONICS CABINETS. BACKING TO BE FLUSH MOUNTED, INSTALLED 2160mm AFF TO BOTTOM EDGE, AND MUST COVER THE ENTIRE WIDTH OF THE ELECTRONICS CABINET(S) PLUS MIN. 50mm ON EACH SIDE. - SEE EQUIPMENT DWGS

A1.08 PROVIDE IN WALL 350mm HIGH FIRE RETARDANT TREATED PLYWOOD BACKING FOR ANCHORING OF SIEMENS CONTROL ROOM DISTRIBUTOR. BACKING TO BE FLUSH MOUNTED, INSTALLED 500mm AFF TO BOTTOM EDGE, AND MUST COVER THE ENTIRE WIDTH OF THE DISTRIBUTOR PLUS MIN. 50mm ON EACH SIDE. - SEE EQUIPMENT DWGS

A1.09 PATIENT TABLE INSTALLATION PLATE TO BE ANCHORED TO CONCRETE FLOOR - SEE EQUIPMENT & STRUCT. DWGS

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3	NOT ISSUED	-	-
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1	NOT ISSUED	-	-

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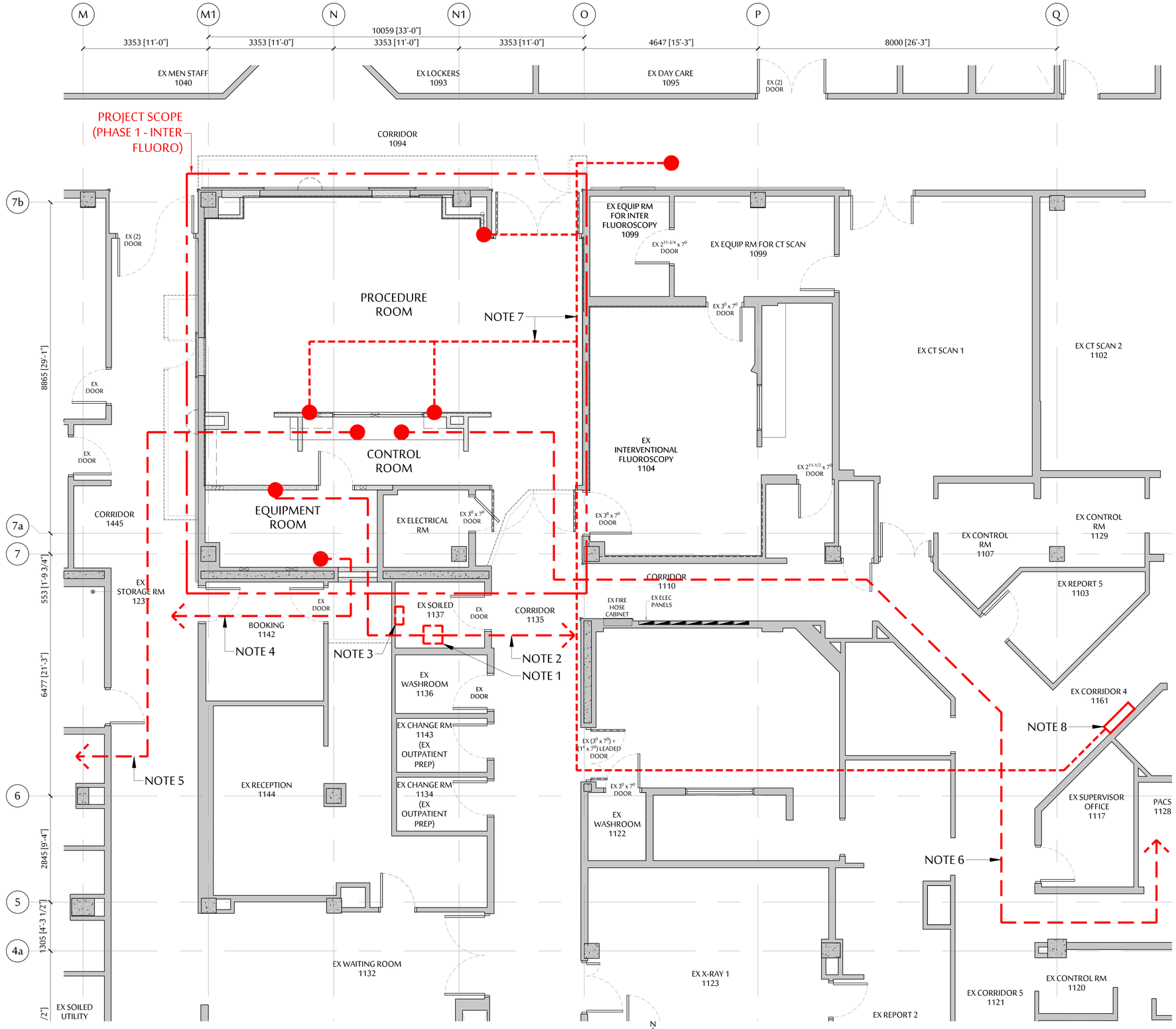
1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO LEVEL 1 - FURNITURE, EQUIP. & FINISHES PLAN

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A2.03



1 PHASE 1 - LEVEL 1 - SCOPE OF WORK

SCALE : 1 = 50

PHASE 1 - INTER FLUORO : APPROX. GROSS FLOOR AREA = 95.7 m^2 (1,030 ft^2)

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NOTE 1 - IN EX SOILED 1137, NEW STEAM GENERATOR - SEE MECH DWGS

NOTE 2 - PROPOSED NEW PIPING ROUTE FOR NEW VAV REHEAT COIL - SEE MECH DWGS

NOTE 3 - NEW BACKFLOW PREVENTER - SEE MECH DWGS

NOTE 4 - PROPOSED NEW PIPING ROUTE FOR NEW FAN COIL - SEE MECH DWGS

NOTE 5 - PROPOSED NEW CABLE ROUTE FOR NON PACS DATA CABLES - SEE ELEC DWGS

NOTE 6 - PROPOSED NEW CABLE ROUTE FOR PACS DATA CABLES - SEE ELEC DWGS

NOTE 7 - PROPOSED NEW MEDICAL GAS LINES - SEE MED GAS DWGS

NOTE 8 - PROPOSED NEW MEDICAL GAS ALARM PANEL. REMOVE, REPAIR & REFINISH EX DRYWALL AS REQ'D FOR INSTALLATION OF NEW ALARM PANEL. PROVIDE IN WALL HIGH FIRE RETARDANT TREATED PLYWOOD BACKING FOR ANCHORING ALARM PANEL AS REQ'D - SEE MED GAS & ELEC DWGS

No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	NOT ISSUED	-	-
8	NOT ISSUED	-	-
7	NOT ISSUED	-	-
6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	ISSUED FOR 80% CD	DEC 16, 2020	RC
4	NOT ISSUED	-	-
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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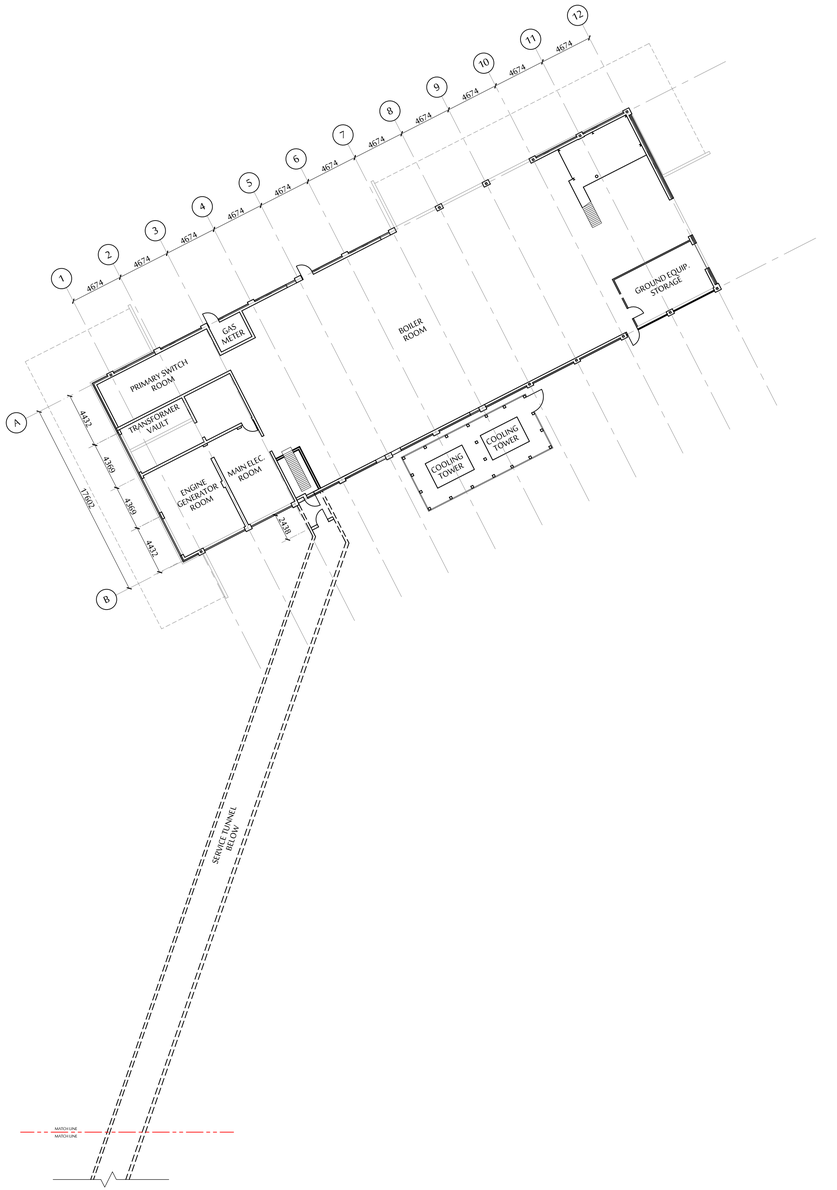
PHASE 1 - INTER FLUORO LEVEL 1 - SCOPE OF WORK

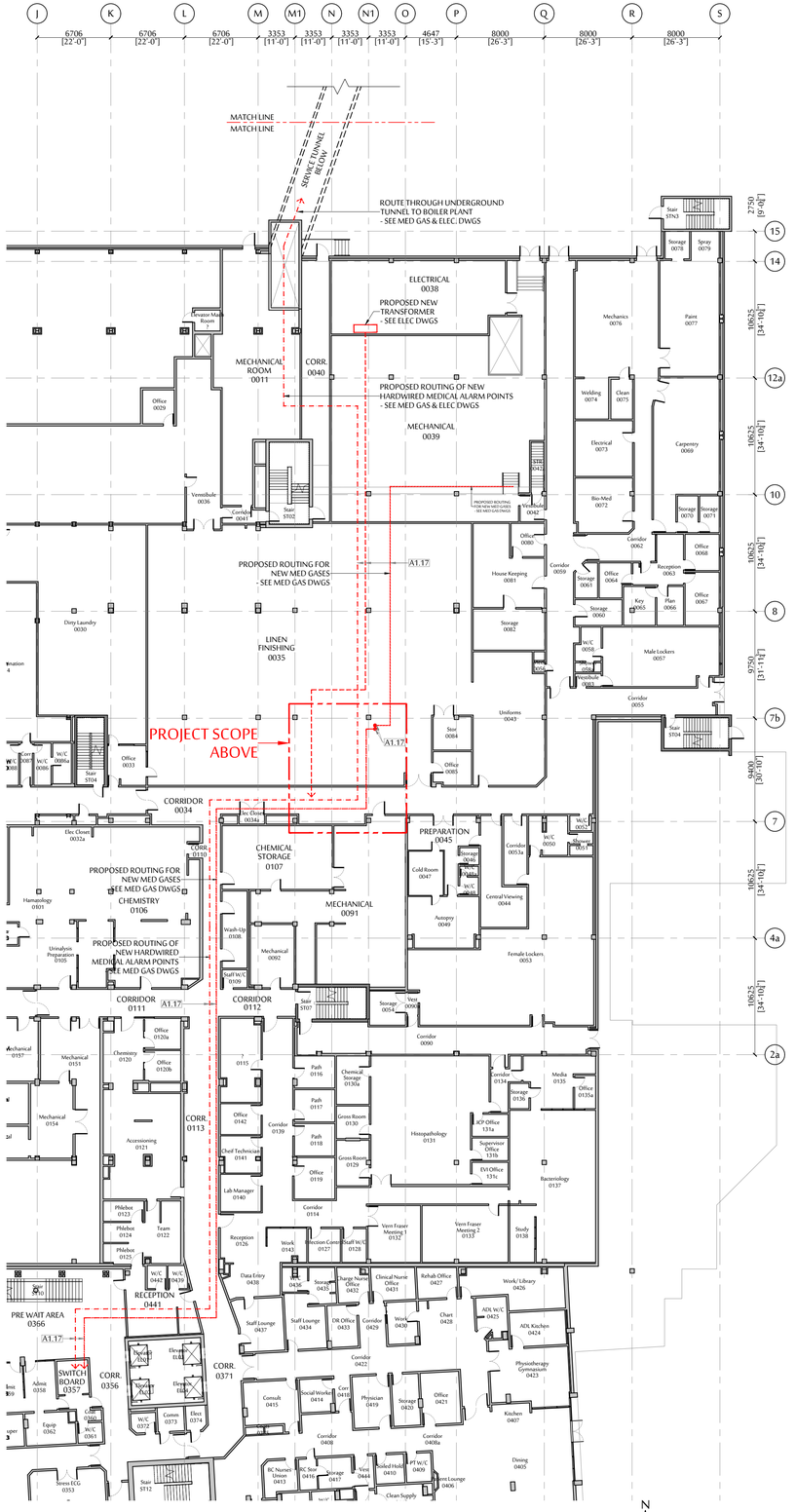
SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A2.04



2 PHASE 1 - SERVICE TUNNEL & POWER HOUSE

SCALE : 1 = 250



1 PHASE 1 - LEVEL 0 - SCOPE OF WORK

SCALE : 1 = 250

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10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
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4	NOT ISSUED	-	-
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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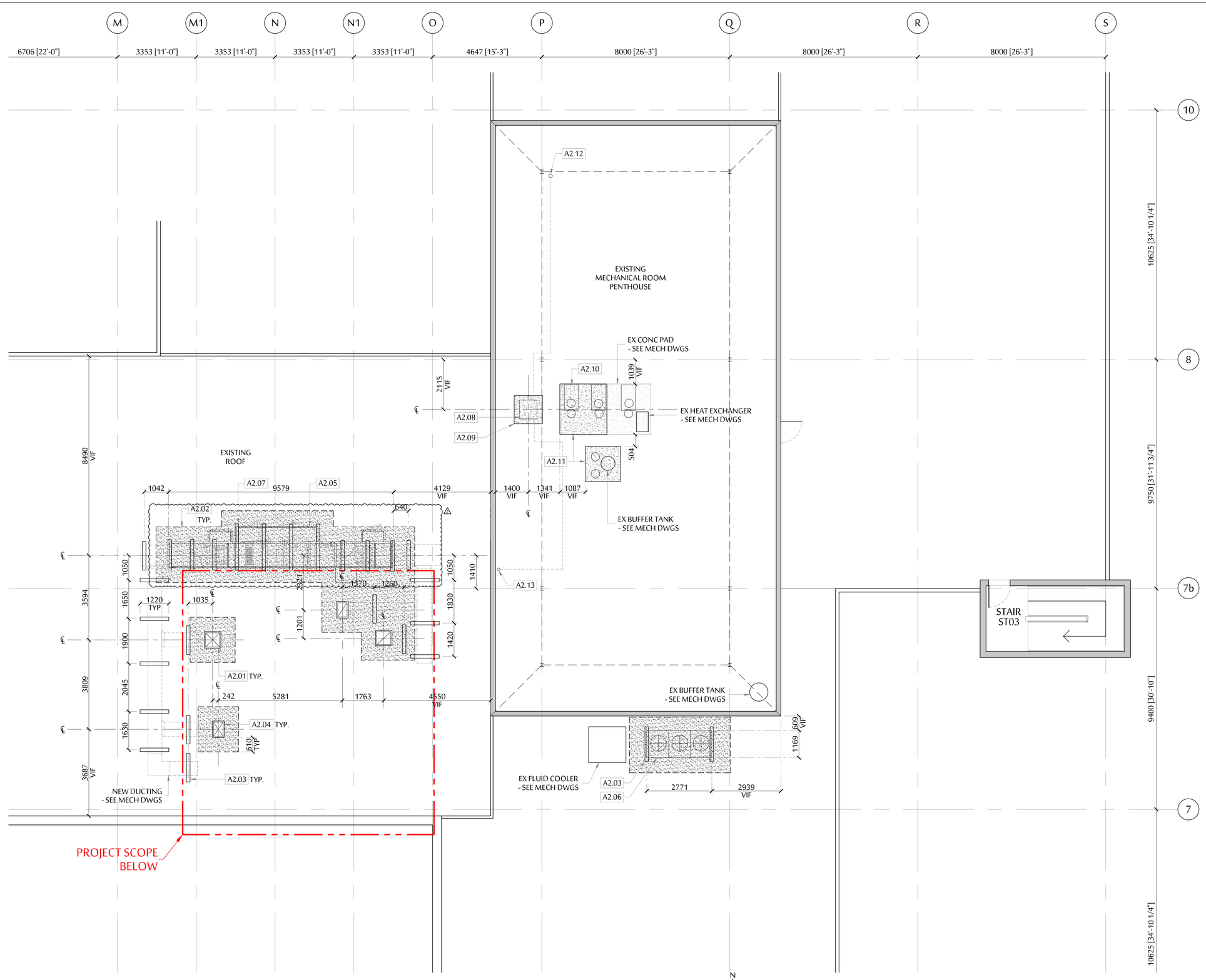
PHASE 1 - INTER FLUORO LEVEL 0 - SCOPE OF WORK

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A2.05



ROOF GENERAL NOTES

1. LOCATION OF EXISTING MECHANICAL & PLUMBING EQUIPMENT ON ROOF ARE APPROXIMATE ONLY, EXACT LOCATION TO BE DETERMINED ON SITE.

2. NOT ALL MECHANICAL & PLUMBING EQUIPMENT ARE SHOWN ON ROOF.

3. CONTRACTOR TO VERIFY OTHER M&E EQUIPMENT ON ROOF IF REQUIRED.

4. ROOF PLAN AND ELEVATION SHOWN ON THIS DRAWING ARE EXISTING EXCEPT FOR WORK NOTED AS NEW (ALSO SEE STRUCT, MECH AND ELEC DWGS FOR SCOPE OF WORK)

5. CONTRACTOR TO TAKE PRECAUTION & ALL MEASURES TO AVOID ANY DAMAGE TO EX. BLDG. FINISHES AND BLDG ENVELOPE COMPONENTS.

6. CONTRACTOR TO PROVIDE ALL NECESSARY TEMPORARY ANCHORS AND SUPPORTS FOR THE DELIVERY OF MECH EQUIP.

7. OBTAIN APPROVAL FROM HOSPITAL FOR ANY ATTACHMENTS TO THE EX. BLDG. SYSTEM OF STRUCTURE. SEE STRUC. DWGS. FOR ANY ADDITIONAL REQUIRMENTS.

8. SUPPLY AND INSTALL ROOF CURBS FOR MECH EQUIP TO BE BY MECH CONTRACTOR - SEE MECH DWGS

9. REPAIR AND INSTALL NEW ROOF SYSTEM AROUND ALL SIDES OF ROOF CURBS, INCLUDING CAP FLASHINGS TO BE PROVIDED BY ROOFING CONTRACTOR.

10. ROOFING CONTRACTOR TO PROVIDE LABOR & MATERIAL WARRANTY TO MATCH EXISTING ROOF SYSTEM.

11. ROOFING CONTRACTOR TO BE A CERTIFIED RCABC MEMBER IN GOOD STANDING.

ROOF CONSTRUCTION KEY NOTES

REFER TO MECH AND ELEC DWGS FOR M&E SCOPE OF WORK

A2.01 REMOVE EX ROOF INSUL & WATERPROOFING AS REQ'D. CUT AND/OR CORE EX CONC SLAB FOR INSTALLATION OF NEW M&E EQUIP

A2.02 REPAIR EX ROOF INSUL TO MATCH EX. REPAIR AND INSTALL WATERPROOFING UP PIPES, CONDUITS, DUCTS AND EQUIP CURBS

A2.03 SLEEPERS FOR MECH EQUIP
- SEE DETAIL 8/A5.03 & STRUCT DWGS

A2.04 NEW MECH DUCTWORK PENETRATING EX CONC SLAB - SEE MECH DWGS
- SEE DETAIL 11/A5.03 (2)

A2.05 NEW MECH ROOF TOP AIR HANDLING UNIT SECURED ON ROOF SLEEPERS - SEE MECH & STRUCT DWGS

A2.06 NEW CHILLED FLUID COOLER TO SIT ON CONCRETE PADS - SEE MECH & STRUCT DWGS

A2.07 SLEEPERS FOR MECH EQUIP
- SEE DETAIL 12/A5.03 & STRUCT DWGS

A2.08 NEW ANAESTHETIC GAS SCAVENGING SYSTEM ON CONCRETE PAD - SEE MECH DWGS

A2.09 NEW 42"X42", 4" THK CONCRETE PAD FOR MED GAS EQUIP - SEE MECH & STRUCT DWGS

A2.10 NEW HEAT PUMPS ON CONCRETE PAD - SEE MECH DWGS

A2.11 NEW CONCRETE PAD - SEE MECH & STRUCT DWGS FOR SIZE

A2.12 NEW ANAESTHITC GAS SCAVENGING SYSTEM EXHAUST THROUGH ROOF - SEE MECH DWGS PROVIDE AND INSTALL UNISTRUT SUPPORT - SEE STRUCT DWGS

A2.13 NEW MED GAS PIPING TO LEVEL BELOW - SEE MED GAS DWGS

1 PHASE 1 - ROOF PLAN
SCALE : 1 = 75

PHASE 1 - INTER FLUORO : APPROX.
GROSS FLOOR AREA = 95.7 m² (1,030 ft²)

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7	NOT ISSUED	-	-
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5	ISSUED FOR 80% CD	DEC 16, 2020	RC
4	NOT ISSUED	-	-
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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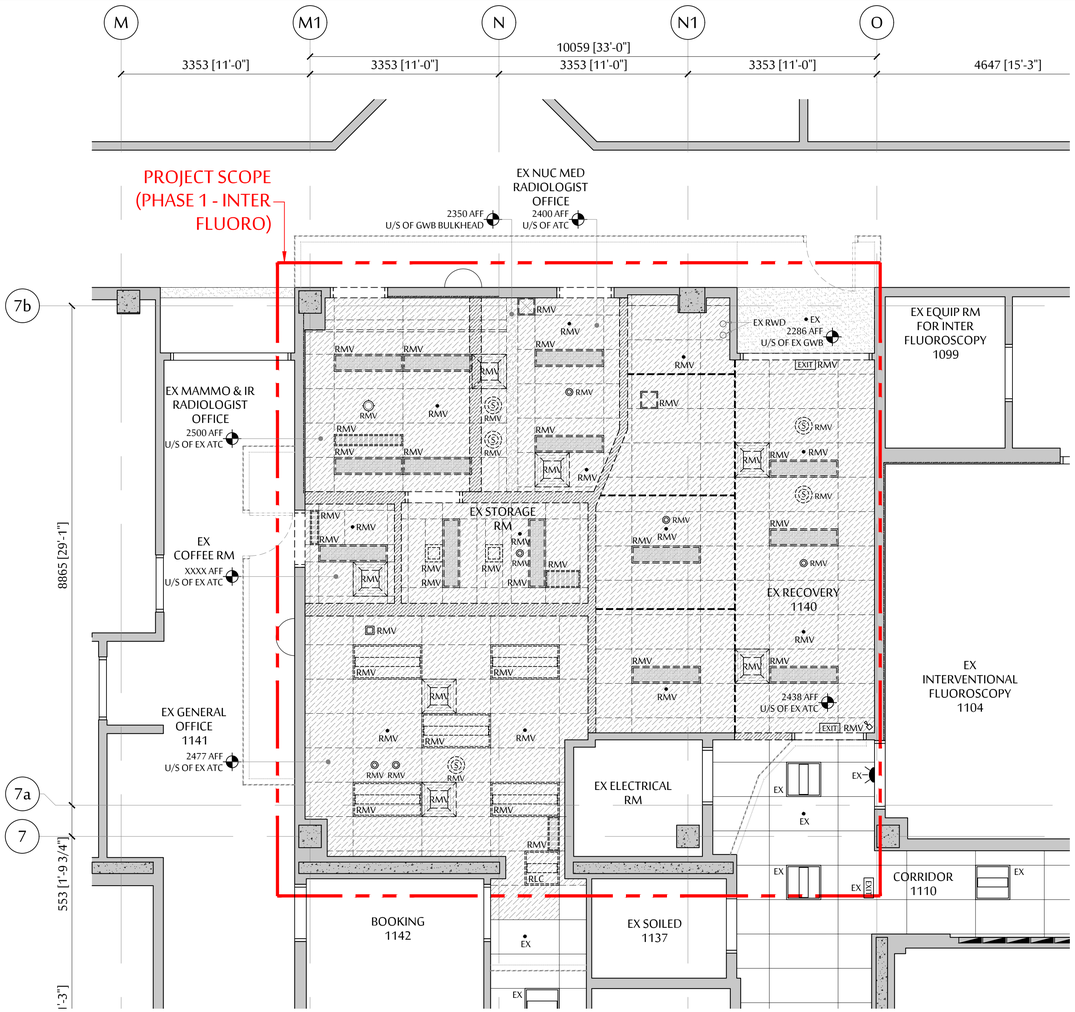
PHASE 1 - INTER FLUORO ROOF PLAN

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

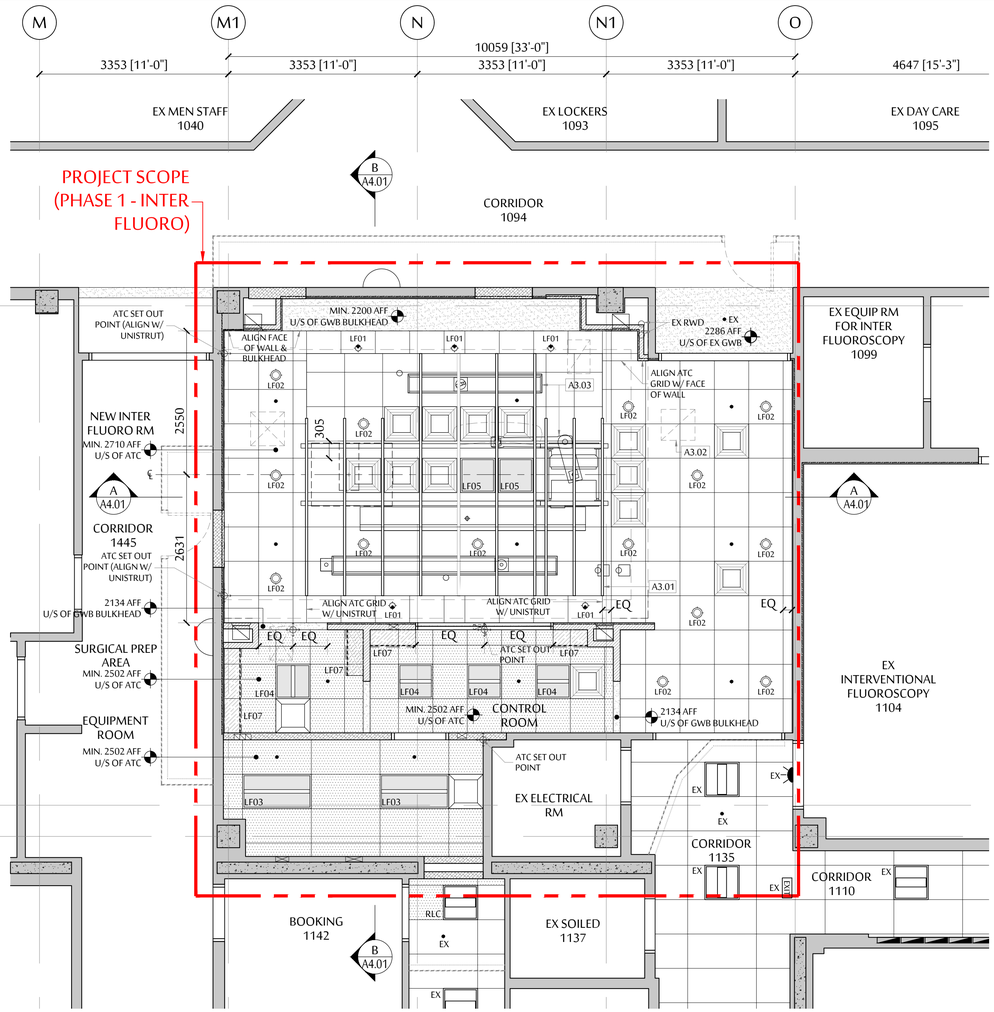
PHASE 1
A2.06



1 PHASE 1 - LEVEL 1 - DEMOLITION RCP

SCALE : 1 = 50

PHASE 1 - INTER FLUORO : APPROX.
GROSS FLOOR AREA = 95.7 m^2 (1,030 ft^2)



2 PHASE 1 - LEVEL 1 - LAYOUT RCP

SCALE : 1 = 50

PHASE 1 - INTER FLUORO : APPROX.
GROSS FLOOR AREA = 95.7 m^2 (1,030 ft^2)

D09 EXISTING WALL MOUNTED WHITE BOARD OR CORKBOARD TO BE RELOCATED. DO NOT DAMAGE.

D10 EXISTING WALL MOUNTED HAND SANITIZER & WD BACKING TO BE REMOVED.

D11 EX WALL MOUNTED SINK, WD BACKING AND ACCESS PANEL TO BE REMOVED - SEE MECH DWGS.

D12 EXISTING WALL MOUNTED SOAP DISPENSER & WD BACKING TO BE REMOVED.

D13 EXISTING WALL MOUNTED PAPER TOWEL DISPENSER TO BE REMOVED.

D14 EXISTING WALL MOUNTED ACRYLIC GLOVE DISPENSER (3 TOTAL) TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D15 EXISTING WALL MOUNTED SHARPS CONTAINER TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D16 EXISTING WALL MOUNTED LIGHT FIXTURE & WD BACKING TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D17 EXISTING PATIENT MONITOR, WALL MOUNTING FIXTURE & BASKET UTILITY TO BE REMOVED AND PASSED ONTO HOSPITAL FOR STORAGE. DO NOT DAMAGE.

D18 EXISTING LEAD LINING TO REMAIN. EXTENT SHOWN IS ONLY APPROX. DO NOT DAMAGE.

D19 CUT CONC FLOOR SLAB FOR JUNCTION BOX & CONDUIT INSTALLATION. PENETRATION TO BE FIRESTOPPED & SMOKE SEALED AS REQ'D TO MAINTAIN NECESSARY FIRE RATING.
- SEE EQUIPMENT, ELEC & STRUCT DWGS FOR EXACT LOCATION, SIZE AND DETAILS

D20 CONTRACTOR TO ALLOW (1) WEEK FOR ASBESTOS REMOVAL OF EXISTING SHEET VINYL FLOOR BY OWNER. CONTRACTOR TO INSTALL FLOOR UNDERLAYMENT AS REQUIRED FOR PREPARATION OF NEW FLOOR

9. ALL ASBESTOS CONTAINING MATERIALS DISCOVERED DURING CONSTRUCTION SHALL BE HANDLED ACCORDING TO SPEC SECTION 011000 - "OWNERS GENERAL REQUIREMENTS" AND BE REMOVED ACCORDING TO WORKSAFE BC REQUIREMENTS.

10. FIREPROOF AND PATCH EXISTING FIRE RATED WALL, FLOOR AND CEILING OPENING WITHIN PROJECT AREA TO MATCH EXISTING FIRE RATING.

11. UNUSED EX OR NEW CONCRETE FLOOR PENETRATIONS MUST BE PATCHED WITH CONCRETE INFILL OF THE SAME THICKNESS AS EXISTING

DEMOLITION KEY NOTES

D01 FULL HT TEMP HOARDING TO UNDERSIDE OF FIN CLNG DURING CONSTRUCTION WITH:
- 92 MM STL STUD FRAMING @ 400 MM O/C
- 16 MM THK TAPED DRYWALL INSTALLED ON OUTSIDE OF PROJECT AREA
- 6 MIL POLY ON INSIDE OF PROJECT AREA

D02 TEMP 3' X 7' DOOR WITH 12" X 12" VISION PANEL DURING CONSTRUCTION

D03 EXISTING WALL BASE AND VINYL SHEET FLOOR FINISH & ADHESIVE TO BE REMOVED. INSTALL FLOOR UNDERLAYMENT AS REQUIRED FOR PREPARATION OF NEW FLOOR FINISH TO MEET FLOORING MANUFACTURER'S STANDARDS.

D04 EXISTING DRYWALL LAYER TO BE REMOVED.

D05 REPAIR, PATCH AND MAKE SMOOTH ALL EXISTING DRYWALL TO RECEIVE NEW PAINT FOR FULL LENGTH AND HEIGHT OF WALL

D06 FOR M&E WORK EXTENDING BELOW THE PROJECT AREA, CONTRACTOR TO REMOVE, REPAIR & REFINISH EXISTING CEILING AS REQ'D.

D07 TEMP CONTINUOUS 6 MIL POLY ENCLOSURE SECURED & AIR SEALED ON ALL EDGES C/W 864 X 2134 ZIPPER OPENING FOR ACCESS

D08 EXISTING CORNER GUARD TO REMAIN. DO NOT DAMAGE.

DEMOLITION GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL DEMOLITION AS REQUIRED FOR NEW WORK.

2.OBTAIN APPROVAL FROM HOSPITAL FOR LAYOUT OF TEMP HOARDING AND CONSTRUCT HOARDING PER HOSPITAL'S REQUIREMENTS.

3. CONTRACTOR TO PROVIDE ADEQUATE PROTECTION TO ALL EXISTING PROPERTIES DURING DEMOLITION AND CONSTRUCTION

4. ANY CONCRETE SLAB CUTTING OR DEMOLITION WORK WITH EXCESSIVE NOISE MUST BE PERFORMED AFTER REGULAR HOURS AS PERMITTED BY HOSPITAL. ANY EXTRA COST ASSOCIATED WITH AFTER-HOUR WORK WILL BE PART OF THIS CONTRACT.

5. DISPOSAL OF DEMOLISHED MATERIALS MUST BE CARRIED OUT AFTER REGULAR HOURS THROUGH SERVICE CORRIDORS AS PERMITTED BY THE HOSPITAL.

4. REMOVAL OF ANY FLOOR FINISHES MUST INCL COMPLETE REMOVAL OF ANY UNDERLAYMENT AND GLUE ADHERED TO THE CONC SLAB.

5. ANY ASSOCIATED M&E SERVICES MUST BE DISCONNECTED BEFORE REMOVAL OF ANY WALL, FLOOR AND CEILING.

6. THE OWNER RESERVES THE RIGHT TO CLAIM ALL DEMOLITION ITEMS WHERE IT MAY BE POSSIBLE TO REUSE IN THE FUTURE. CONFIRM WITH THE OWNER PRIOR TO DISPOSING OF ITEMS.

7. BEFORE ANY CONCRETE SLAB CUTTING AND/OR CORING, CONTRACTOR MUST PERFORM SCANNING OF EX CONC SLAB & DIG OUT TRIAL PITS TO LOCATE AND RECORD ANY EXISTING IN-SLAB OR UNDER-SLAB M&E PIPES, DUCTS, CONDUITS AND UTILITY SERVICES. DRILL AND DIG TRIAL PITS AS REQ'D TO VERIFY EXACT LOCATION OF EX UNDERGROUND SERVICES. CONTRACTOR IS REQUIRED TO SEEK APPROVAL FROM ARCHITECT BEFORE COMMENCEMENT OF THE SLAB CUTTING AND/OR CORING WORK.

8. WHERE PENETRATIONS THROUGH CONCRETE SLAB ARE INACCESSIBLE BY SCAN EQUIPMENT, HAND CHIP CONC SLAB TO INVESTIGATE ANY IN SLAB SERVICES.

CEILING LEGEND

SEE M&E DWGS FOR M&E CLNG FIXTURE DETAILS.
ALL EQUIPMENT SHOWN AS NEW UNLESS OTHERWISE NOTED

RMV EXISTING EQUIP TO BE REMOVED
RLC EXISTING EQUIP TO BE RELOCATED
R&R EXISTING EQUIP TO BE REMOVED & REINSTALLED

EXISTING CLNG TO REMAIN (SHADED)
SUSP CLNG GRID TO BE DEMO
SUSP CLNG GRID
GYPSUM WALL BOARD CEILING
24" X 24" SUPPLY AIR DIFFUSER
24" X 24" RETURN AIR DIFFUSER
24" X 24" RETURN AIR DIFFUSER
12" X 24" RETURN AIR DIFFUSER
LINEAR SUPPLY AIR DIFFUSER (LSA)
LINEAR RETURN AIR DIFFUSER (LRA)
300 X 250 LOW LEVEL EXHAUST DIFFUSER
250 X 400 LOW LEVEL EXHAUST DIFFUSER
12" X 12" EXHAUST DIFFUSER
12" X 24" EXHAUST DIFFUSER
CLNG MTD RECESSED LED DOWNLIGHT
CLNG MTD RECESSED LED WALL WASHER
610 X 610 INDIRECT LED LIGHT BOX
610 X 1220 INDIRECT LED LIGHT BOX
305 X 1220 LED LIGHT BOX WITH PARABOLIC DIFFUSER
TRACK LIGHT
RECESSED CEILING SPEAKER
SMOKE ALARM
EXIT SIGN
EMERGENCY LIGHT
RECESSED TYPE SPRINKLER HEAD
ATC SET OUT POINT
C.O.R.M SET ATC TO CENTRE OF ROOM
SECURITY CAMERA
WALL MTD NURSE NOTIFICATION LIGHT
WALL MOUNTED IN-USE LIGHT
CEILING MTD PANIC ALARM NOTIFICATION LIGHT
UNDERCABINET LED STRIP LIGHT

LIGHT FIXTURE SCHEDULE

LF01 CEILING MOUNTED RECESSED WALL WASHER
LF02 CEILING MOUNTED RECESSED LED DOWNLIGHT
LF03 610 X 1220 LEDTROFFER
LF04 610 X 610 LED TROFFER
LF05 610 X 610 CLM LED CLEANROOM
LF06 RESERVED
LF07 UNDER CABINET LED STRIP LIGHT

CEILING CONSTRUCTION NOTES

- ALL WORKS BELOW ARE NEW INCLUDING SUPPLY & INSTALLATION OF MATERIALS U.N.O.

A3.01 UNISTRUT FRAMING MOUNTED FLUSH TO CLNG TILES - SEE STRUCT DWGS FOR DETAILS

A3.02 NEW MECH DUCT PENETRATIONS ABOVE - SEE MECH DWGS FOR DETAILS

A3.03 NEW CEILING MOUNTED SIEMENS EQUIPMENT SEE EQUIP. DWGS FOR DETAILS

CEILING GENERAL NOTES

1. SURFACE MTD. LIGHT FIXT. IN SUSP CLNG TO BE HUNG FROM STRUCTURAL COMPONENTS ABOVE. DO NOT HANG FROM SUSP CLNG.

2. ALL ACOUST TILE CLNG GRIDS SHALL BE CENTERED IN ROOMS OR BULKHEAD UNLESS NOTED OTHERWISE.

3. CENTER ALL M&E DEVICES IN CEILING PANEL UNO. SEE MECH, ELEC, PLUMB AND FIRE SERVICES DWGS FOR LOCATIONS.

4. NO TILE DIMENSION SHALL BE LESS THAN 6" UNO. REVIEW WITH ARCHITECT PRIOR TO PROCEEDING.

5. NOT ALL MEP DEVICES ARE SHOWN ON ARCH REFLECTED CLNG PLAN. SEE M&E DWGS FOR COMPLETE QUANTITY.

6. DISCREPANCIES AMONG ARCHITECT'S AND ENGINEER'S DWGS IN REFLECTED CLNG PLAN LAYOUT AND M&E DEVICES LOCATIONS SHALL BE REPORTED TO ARCHITECT FOR CLARIFICATIONS BEFORE COMMENCEMENT OF WORK.

7. NEW CEILING TO MATCH EXISTING CEILING HEIGHT UNLESS NOTED OTHERWISE.

8. CONTRACTOR TO ENSURE ALL SUSP CLNG CONSTRUCTION TO BE STRUCTURALLY ENGINEERED TO CONFORM TO ALL BUILDING CODES.

9. REMOVE ANY DAMAGED EX CEILING TILES WHICH ARE SHOWN AS TO REMAIN & REPLACE WITH NEW WHEN EXISTING CEILING TILES ARE DAMAGED DURING CONSTRUCTION OR SHOW REASONABLE VISIBLE DAMAGE PRIOR TO CONSTRUCTION.

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7	ISSUED FOR ADDENDUM 1 (1)	FEB 22, 2021	RC
6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	ISSUED FOR 80% CD	DEC 16, 2020	RC
4	ISSUED FOR BP SUBMISSION	DEC 4, 2020	RC
3	ISSUED FOR DD REVIEW	NOV 20, 2020	RC
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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1475 EDMONTON STREET, PRINCE GEORGE
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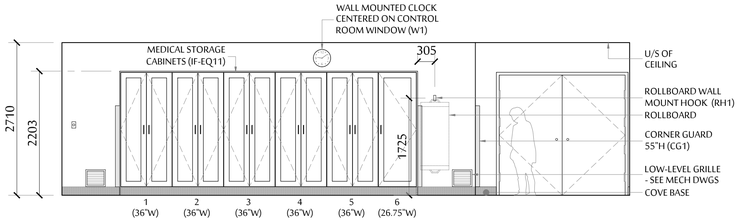
PHASE 1 - INTER FLUORO LEVEL 1 DEMO & LAYOUT RCP

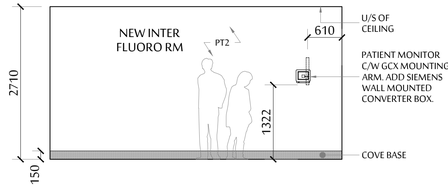
SCALE: 1 : 50
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A3.01



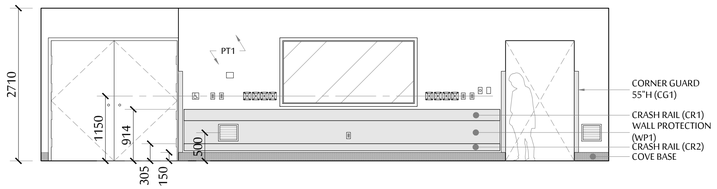
3D PHASE 1 - LEVEL 1 - NORTH ELEVATION

SCALE : 1 = 50



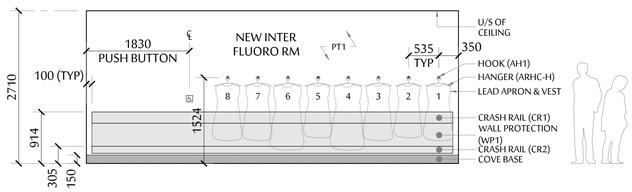
3C PHASE 1 - LEVEL 1 - WEST ELEVATION

SCALE : 1 = 50



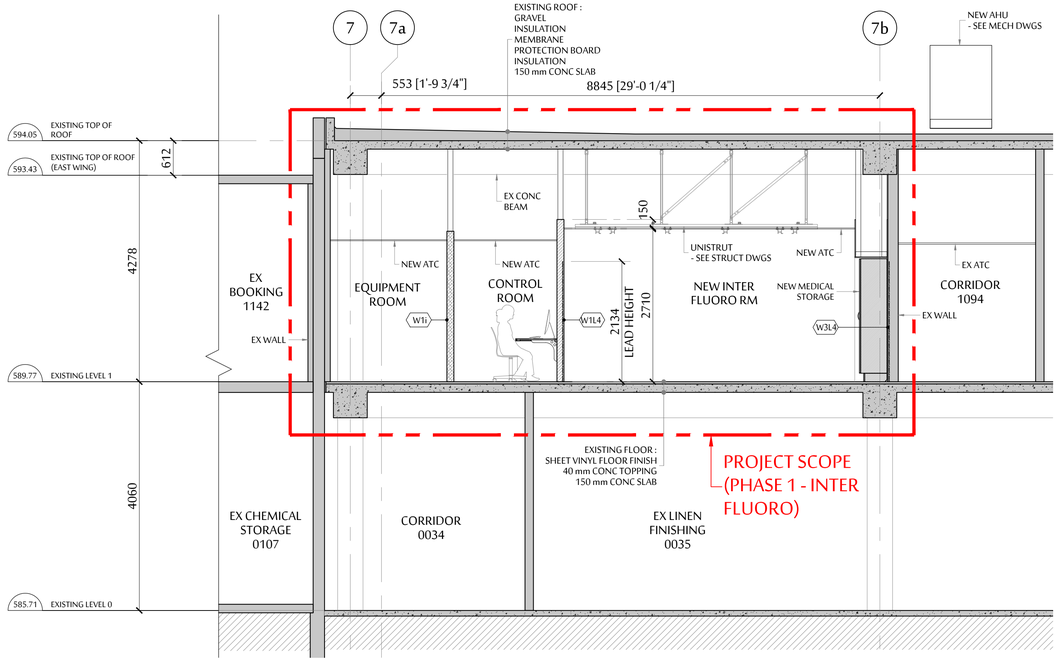
3B PHASE 1 - LEVEL 1 - SOUTH ELEVATION

SCALE : 1 = 50



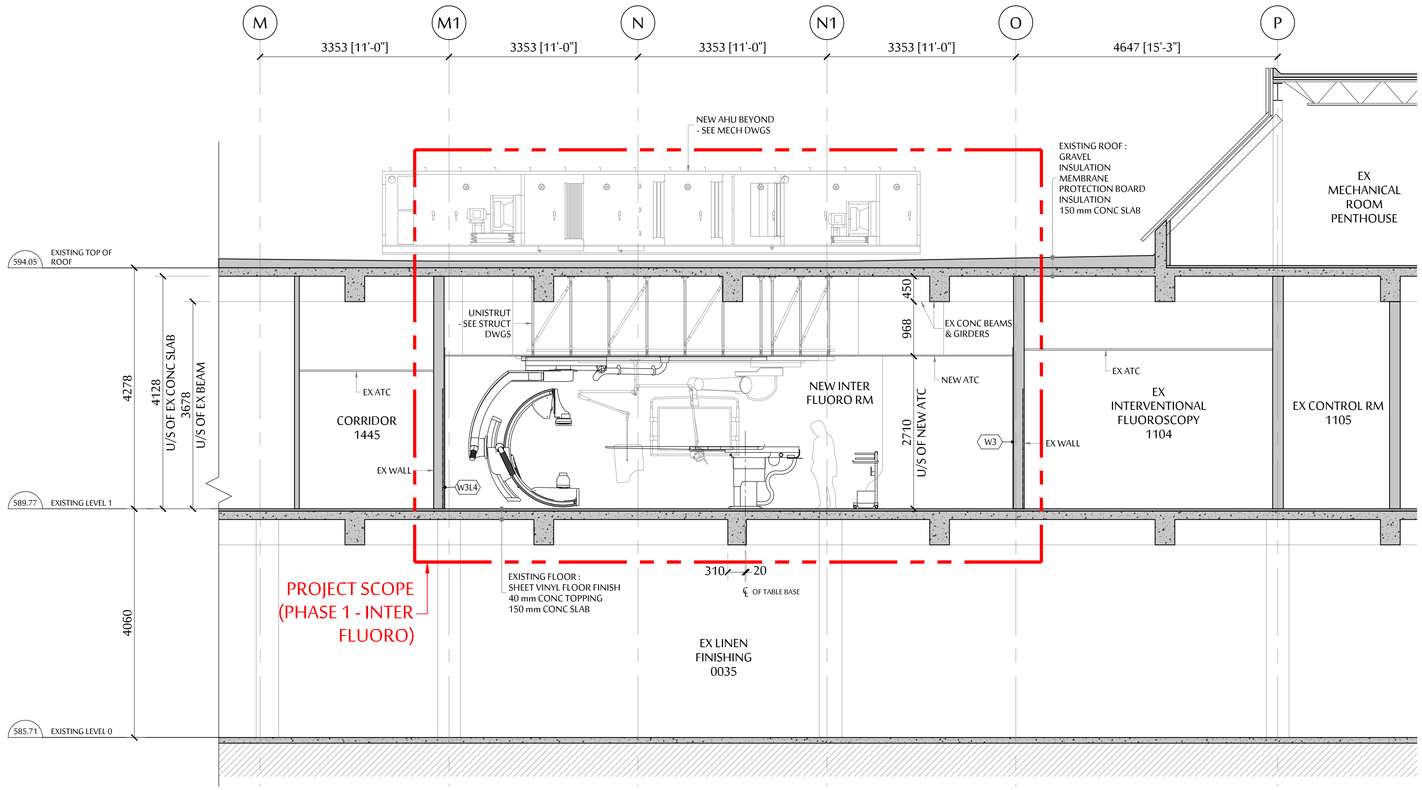
3A PHASE 1 - LEVEL 1 - EAST ELEVATION

SCALE : 1 = 50



2 PHASE 1 - LEVEL 1 - SECTION B-B

SCALE : 1 = 50



1 PHASE 1 - LEVEL 1 - SECTION A-A

SCALE : 1 = 50

ARCHITECT :

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BC V2M 1S2

PHASE 1 - INTER FLUORO SECTIONS & ELEVATIONS

SCALE: 1 : 50
DATE: OCTOBER 2020
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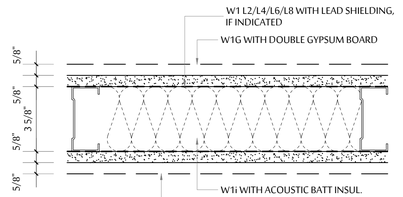
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A4.01

WALL SCHEDULE

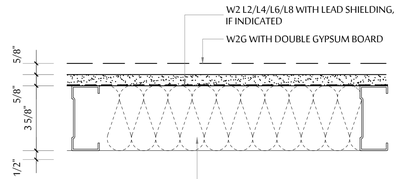


W1 — NON-RATED WALL ASSEMBLY

WALL ASSEMBLY TO EXTEND MIN. 152MM (6") ABOVE FINISHED CEILING & TIED TO STRUCT SLAB ABOVE WITH STEEL STUD BRACING

- 16 MM (5/8") GYPSUM BOARD
- 92 MM (3-5/8") 20 GA STEEL STUD AT 400MM (16") O.C.
- 16 MM (5/8") GYPSUM BOARD

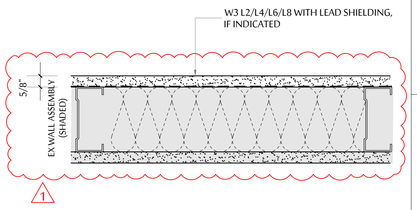
suffix A	SAME AS W1 EXCEPT WALL ASSEMBLY TO BE FULL HT FROM FLR TO STRUCT SLAB ABOVE
suffix G	SAME AS W1 EXCEPT WITH DOUBLE GYPSUM BOARD ON BOTH SIDES
suffix i	SAME AS W1 EXCEPT WITH ACOUSTIC BATT INSULATION TO FILL WALL CAVITY AND CONT ACOUSTIC SEALANTS BETWEEN GYPSUM BOARD AND FLOOR (STC = 47)
suffix T	SAME AS W1 EXCEPT WITH 152MM (6") 20 GA STEEL STUD AT 400MM (16") O.C. INSTEAD OF 92MM (3 5/8") STEEL STUD
suffix L2/L4/L6/L8	SAME AS W1 EXCEPT WITH 7' HIGH CONTINUOUS LEAD SHIELDING AS FOLLOWS : L2 = 0.8MM (1/32") THK LEAD LINING (2 LB) L4 = 1.6MM (1/16") THK LEAD LINING (4 LB) L6 = 2.4MM (3/32") THK LEAD LINING (6 LB) L8 = 3.2MM (1/8") THK LEAD LINING (8 LB) SEE SPECS AND ALSO RADIATION REPORT FOR LEAD SHIELDING INSTALLATION REQUIREMENTS USE 1/2" GYPSUM BOARD ON ONE SIDE OF WALL WHERE WALL CONTAINS LEADED DOOR AND/OR WINDOW ONLY



W2 — FUR-OUT WALL ASSEMBLY

-16 MM (5/8") GYPSUM BOARD
- 92 MM (3-5/8") 20 GA STEEL STUD AT 400MM (16") O.C.

suffix A	SAME AS W2 EXCEPT WALL ASSEMBLY TO BE FULL HT FROM FLR TO STRUCT SLAB ABOVE
suffix G	SAME AS W2 EXCEPT WITH DOUBLE GYPSUM BOARD ON ROOM SIDE
suffix i	SAME AS W2 EXCEPT WITH ACOUSTIC BATT INSULATION TO FILL WALL CAVITY AND CONT ACOUSTIC SEALANTS BETWEEN GYPSUM BOARD AND FLOOR
suffix T	SAME AS W2 EXCEPT WITH 152MM (6") 20 GA STEEL STUD AT 400MM (16") O.C. INSTEAD OF 92MM (3 5/8") STEEL STUD
suffix L2/L4/L6/L8	SAME AS W2 EXCEPT WITH 7' HIGH CONTINUOUS LEAD SHIELDING AS FOLLOWS : L2 = 0.8MM (1/32") THK LEAD LINING (2 LB) L4 = 1.6MM (1/16") THK LEAD LINING (4 LB) L6 = 2.4MM (3/32") THK LEAD LINING (6 LB) L8 = 3.2MM (1/8") THK LEAD LINING (8 LB) SEE SPECS AND ALSO RADIATION REPORT FOR LEAD SHIELDING INSTALLATION REQUIREMENTS USE 1/2" GYPSUM BOARD ON ONE SIDE OF WALL WHERE WALL CONTAINS LEADED DOOR AND/OR WINDOW ONLY

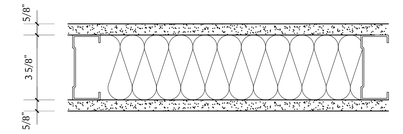


W3 — LEAD SHIELDING FUR-OUT WALL ASSEMBLY ON EXISTING WALL

- 16MM (5/8") GYPSUM BOARD
- EXISTING STEEL STUD WALL ASSEMBLY

1

suffix L2/L4/L6/L8	SAME AS W3 EXCEPT WITH 7' HIGH CONTINUOUS LEAD SHIELDING AS FOLLOWS : L2 = 0.8MM (1/32") THK LEAD LINING (2 LB) L4 = 1.6MM (1/16") THK LEAD LINING (4 LB) L6 = 2.4MM (3/32") THK LEAD LINING (6 LB) L8 = 3.2MM (1/8") THK LEAD LINING (8 LB) SEE SPECS AND ALSO RADIATION REPORT FOR LEAD SHIELDING INSTALLATION REQUIREMENTS USE 1/2" GYPSUM BOARD ON ONE SIDE OF WALL WHERE WALL CONTAINS LEADED DOOR AND/OR WINDOW ONLY

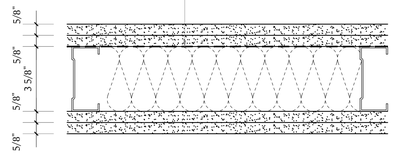


W4 (NOT USED) — FIRE-RATED WALL ASSEMBLY (1 HR F.R.R. & STC 47) - BC BUILDING CODE, TABLE A - 9.10.3.1. A WALL NUMBER S4b

WALL ASSEMBLY TO EXTEND TO UNDERSIDE OF STRUCT SLAB ABOVE ONE PIECE (NO SPLICING), AND FIRE SEPARATED WITH 1 HR F.R.R.

- 16 MM (5/8") TYPE "X" GYPSUM BOARD
- 31MM X 92 MM (3-5/8") 20 GA STEEL STUD AT 400MM (16") O.C.
- MINERAL FIBRE BATT INSULATION WITH MIN 2.8 KG/S.M. COMPLETELY FILL WALL CAVITY
- 16 MM (5/8") TYPE "X" GYPSUM BOARD

suffix T	SAME AS W4 EXCEPT WITH 152MM (6") 20 GA STEEL STUD AT 400MM (16") O.C. INSTEAD OF 92MM (3 5/8") STEEL STUD

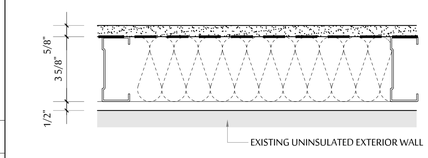


W5 — FIRE-RATED WALL ASSEMBLY (2 HR F.R.R. & STC 55) - BC BUILDING CODE, TABLE A - 9.10.3.1. A WALL NUMBER S6b

WALL ASSEMBLY TO EXTEND TO UNDERSIDE OF STRUCT SLAB ABOVE ONE PIECE (NO SPLICING), AND FIRE SEPARATED WITH 1 HR F.R.R.

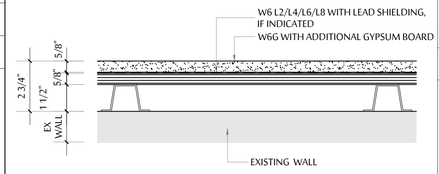
- 16 MM (5/8") TYPE "X" GYPSUM BOARD
- 31MM X 92 MM (3-5/8") 20 GA STEEL STUD AT 400MM (16") O.C.
- MINERAL FIBRE BATT INSULATION WITH MIN 2.8 KG/S.M. COMPLETELY FILL WALL CAVITY
- 16 MM (5/8") TYPE "X" GYPSUM BOARD

suffix L2/L4/L6/L8	SAME AS W5 EXCEPT WITH 7' HIGH CONTINUOUS LEAD SHIELDING AS FOLLOWS : L2 = 0.8MM (1/32") THK LEAD LINING (2 LB) L4 = 1.6MM (1/16") THK LEAD LINING (4 LB) L6 = 2.4MM (3/32") THK LEAD LINING (6 LB) L8 = 3.2MM (1/8") THK LEAD LINING (8 LB) SEE SPECS AND ALSO RADIATION REPORT FOR LEAD SHIELDING INSTALLATION REQUIREMENTS USE 1/2" GYPSUM BOARD ON ONE SIDE OF WALL WHERE WALL CONTAINS LEADED DOOR AND/OR WINDOW ONLY



W6 (NOT USED) — FUR-OUT WALL ASSEMBLY ON UNINSULATED EXTERIOR WALL

-16 MM (5/8") GYPSUM BOARD
- 6 MIL POLY VAPOUR AND AIR BARRIER
- 92 MM (3-5/8") 25 GA STEEL STUD AT 400MM (16") O.C.
- WITH ACOUSTIC BATT INSULATION
- 12MM (1/2" AIR GAP)
- EXISTING UNINSULATED EXTERIOR WALL



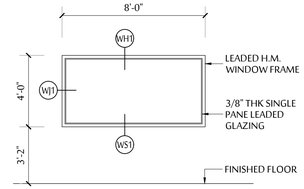
W7 — FUR-OUT WALL ASSEMBLY

-13 MM (1/2") FIRE-RESISTANT TREATED PLYWOOD
- 38 MM (1-1/2") 25 GA STEEL FURRING CHANNEL AT 400MM (16") O.C.

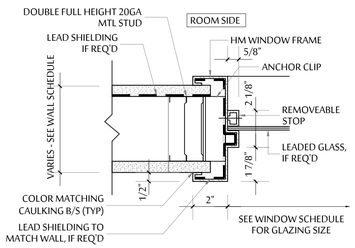
suffix G	SAME AS W7 EXCEPT WITH ADDITIONAL GYPSUM BOARD ON ROOM SIDE
suffix L2/L4/L6/L8	SAME AS W7 EXCEPT WITH 7' HIGH CONTINUOUS LEAD SHIELDING AS FOLLOWS : L2 = 0.8MM (1/32") THK LEAD LINING (2 LB) L4 = 1.6MM (1/16") THK LEAD LINING (4 LB) L6 = 2.4MM (3/32") THK LEAD LINING (6 LB) L8 = 3.2MM (1/8") THK LEAD LINING (8 LB) SEE SPECS AND RADIATION REPORT FOR LEAD SHIELDING INSTALLATION REQUIREMENTS

GENERAL NOTES :
1. ALL PARTITIONS FOR THIS PROJECT TO BE TYPE W1 UNLESS NOTED OTHERWISE
2. SEE STRUCT DWGS FOR FRAMING DETAILS
3. FOR ALL WALL INFILLS, ADD ADDITIONAL GWB LAYERS AS REQUIRED TO BRING FLUSH WITH ADJACENT WALLS

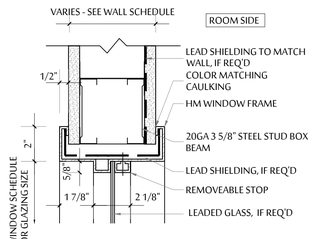
WINDOW SCHEDULE



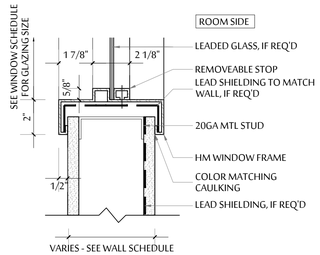
W01 - HM WINDOW WITH 2mm LEAD EQUIVALENT GLASS



WJ1 HM WINDOW JAMB DETAIL
SCALE : 3" = 1'-0"



WH1 HM WINDOW HEAD DETAIL
SCALE : 3" = 1'-0"



WS1 HM WINDOW SILL DETAIL
SCALE : 3" = 1'-0"

ARCHITECT :

DCYT ARCHITECTURE
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No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	NOT ISSUED	-	-
8	NOT ISSUED	-	-
7	ISSUED FOR ADDENDUM 1 (1)	FEB 22, 2021	RC
6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	ISSUED FOR 80% CD	DEC 16, 2020	RC
4	ISSUED FOR BP SUBMISSION	DEC 4, 2020	RC
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO WALL & WINDOW SCHEDULES

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

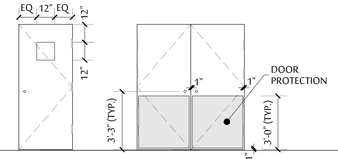
PHASE 1
A5.01

DOOR & FRAME SCHEDULE

DOOR NUMBER	LOCATION		DOOR								FRAME						THRESHOLD	GLASS				FIRE RATING	NOTES
	FROM	TO	DOOR TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	CORE	FINISH	HARDWARE SET	LEAD LINING	MAT'L	FRAME TYPE	JAMB TYPE	HEAD TYPE	FINISH	LEAD LINING		LAM TEMPERED	TEMPERED	GEORGIAN WIRED	LOW-E		
D01	CORRIDOR 1135	NEW INTER FLUORO ROOM	B	(2) 3'-8"	7'-0"	1 3/4"	WOOD	SOLID	PAINT PT3	HW1	1.6mm (4lb)	HM	B	J1	H1	PAINT PT3	1.6mm (4lb)	T1	-	-	-	-	-	
D02	CORRIDOR 1094	NEW INTER FLUORO ROOM	B	(2) 3'-8"	7'-0"	1 3/4"	WOOD	SOLID	PAINT PT3	HW1	1.6mm (4lb)	HM	B	J1	H1	PAINT PT3	1.6mm (4lb)	T1	-	-	-	-	1.5 HR	
D03	CONTROL ROOM	EQUIPMENT ROOM	A	3'-0"	7'-0"	1 3/4"	GLASS & WOOD	SOLID	PAINT PT3	HW2	-	HM	A	J1	H1	PAINT PT3	-	T1	-	X	-	-	-	

NOTE :
1. RE-KEY ALL EXISTING DOOR LOCKS
2. SEE MECH DWG FOR DETAILS AND SPECS OF TRANSFER GRILLE

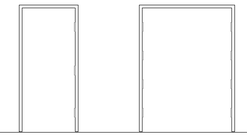
DOOR TYPE



DOOR TYPE A
(SINGLE DOOR WITH VISION PANEL)

DOOR TYPE B
(INTER FLUORO ENTRANCE DOUBLE DOOR)

FRAME TYPE



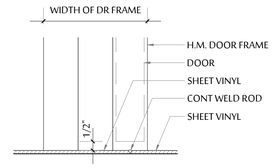
FRAME TYPE A
(SINGLE DOOR)

FRAME TYPE B
(DOUBLE DOOR - LEADED)

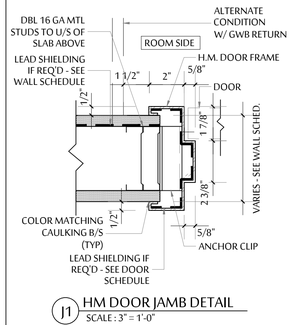
DOOR HARDWARE SCHEDULE

HARDWARE #	QTY	DESCRIPTION	MANUFACTURER	SPECIFICATION	FINISH
HW1 (INTER FLUORO ROOM)	3	HINGE	MCKINNEY	4 1/2" X 4 1/2" HEAVY WT MPB68	26D
	1	ELECTRIC HINGE	MCKINNEY	4 1/2" X 4 1/2" FULL MORTISE CONCEALED CIRCUIT HINGES (275-17)	26D
	1	LOCKSET	SCHLAGE	CLASSROOM LOCK - L9070 06B - 1/16" (4LB) LEAD LINED ON SITE (FOR DOOR D02 ONLY)	26D
	1	LOCKSET	SCHLAGE	L9090EU - 1/16" (4LB) LEAD LINED ON SITE (FOR DOOR D01 ONLY)	26D
	1	AUTOMATIC DOOR OPERATOR	KABEO GYRO TECH	GT8500 X OPMAN EXTENDED HEADER C/W X 2 FIRE ACTUATORS	689
	1	ELECTRIC STRIKE	VON DUPRIN	6200 SERIES - CYLINDRICAL OR MORTISE (FOR DOOR D02 ONLY)	32D
	4	DOOR PROTECTION	ACROVYN	ACROVYN 4000 - KICK PLATE - KP-60N (COLOUR : OYSTER GRAY 929) - FIRE RATED	SUEDE
	1	ASTRAGAL	PEMKO	355_S "T" ASTRAGAL - 1/16" (4LB) LEAD LINED ON SITE	355CS
	1	PERIMETER GASKETING	PEMKO	PEMKO HSS2000X588GR_ COMBINATION FIRE/SMOKE SEALING/GASKETING	-
	1	CARD READER	SEE ELEC SPECS	CARD READER TO OPERATE AUTOMATIC DOOR CLOSER (FOR DOOR D02 ONLY)	
	2	PUSH BUTTON	SEE ELEC SPEC'S	PUSH BUTTON TO OPERATE AUTOMATIC DOOR CLOSER	-
	1	WALL STOP	GSH	250 (PROVIDE BACKING BEHIND DRYWALL)	26D
	2	DOOR WIPES	PEMKO	142SBK (ROOM SIDE SURFACE)	32D
	1	AUTOMATIC FLUSH BOLT	ROCKWOOD	2842	26D
	3	HINGE	MCKINNEY	4 1/2" X 4 1/2" HEAVY WT MPB68	26D
HW2 (EQUIP. ROOM)	1	LOCKSET	SCHLAGE	STOREROOM LOCK - L9080 06B	26D
	1	CLOSER	LCN	4040XP - PULL SIDE & METAL COVER	689
	2	DOOR PROTECTION	ACROVYN	ACROVYN 4000 - KICK PLATE - KP-60N (COLOUR : OYSTER GRAY 929) - FIRE RATED	SUEDE
	1	WALL STOP	GSH	250 (PROVIDE BACKING BEHIND DRYWALL)	26D

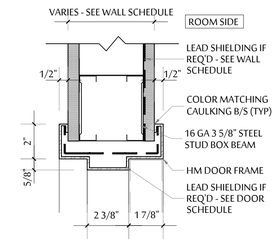
NOTE :
1. SINGLE DOOR FRAME TO COME WITH 3 RUBBER BUMPERS ON SIDE OF FRAME AND DOUBLE DOOR FRAME WITH 2 ON TOP OF FRAME
2. ENTRANCE DOORS TO BE SEALED TO MAINTAIN ROOM PRESSURIZATION PER MECH REQUIREMENTS



T1 TYPICAL THRESHOLD DETAIL
SCALE : 3" = 1'-0"



J1 HM DOOR JAMB DETAIL
SCALE : 3" = 1'-0"



H1 HM DOOR HEAD DETAIL
SCALE : 3" = 1'-0"

ROOM FINISH SCHEDULE

LOCATION		WALL (SEE NOTE 2 & 3)				FLOOR (SEE NOTE 1)	BASE	CEILING	NOTES
RM #	ROOM NAME	NORTH	EAST	SOUTH	WEST				
01	INTER FLUORO ROOM	PAINT PT1	PAINT PT1	PAINT PT1	PAINT PT2	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE NOTE 5
02	CONTROL ROOM	PAINT PT1	PAINT PT1	PAINT PT2	PAINT PT1	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE NOTE 5
03	SURGICAL PREP AREA	PAINT PT1	PAINT PT1	PAINT PT2	PAINT PT1	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE NOTE 5
04	EQUIPMENT ROOM	PAINT PT1	PAINT PT1	PAINT PT1	PAINT PT1	SHEET VINYL SV1	INTEGRAL COVE BASE SV1	SUSP CEILING ATC1	SEE NOTE 5

GENERAL NOTES :

1. PATCH & SKIM COAT TO LEVEL EX FLOOR BEFORE INSTALLING SHEET VINYL FLOOR
2. ALLOW 1 ACCENT WALL PAINT COLOR - FINAL LOCATIONS TO BE DETERMINED ON SITE
3. PATCH & MAKE GOOD EX WALLS BEFORE PROVIDING NEW PAINT FINISH
4. SEE DWG 4/A5.03 FOR INTEGRAL SHEET VINYL WALL BASE DETAIL

FINISHES & FIXTURES SCHEDULE

	DESCRIPTION	TYPE	SIZE	BRAND	MODEL	COLOR/FINISH	NOTES
PAINT	WALL - FIELD COLOR	PT1	-	DULUX	LIFEMASTER (ZERO VOC)	ENDURING ICE - DLX1102-1	SHEEN : EGGSHELL
	WALL - ACCENT COLOR	PT2	-	DULUX	LIFEMASTER (ZERO VOC)	EMBELLISHMENT - DLX1151-2	SHEEN : EGGSHELL PROVIDE 3' X 3' MOCK UP OF THE ACCENT COLOR ON SITE FOR FINAL DECISION
	METAL DOOR FRAME	PT3	-	DULUX	LIFEMASTER (ZERO VOC)	MOTH GRAY - DLX1024-4	SHEEN : SEMI-GLOSS
	WOOD DOOR	PT3	-	DULUX	LIFEMASTER (ZERO VOC)	MOTH GRAY - DLX1024-4	SHEEN : SEMI-GLOSS
	CEILING	PT4	-	DULUX	LIFEMASTER (ZERO VOC)	DELICATE WHITE - DLX1001-1	SHEEN : FLAT
	WOOD WINDOW FRAME	PT5	-	DULUX	LIFEMASTER (ZERO VOC)	ENDURING ICE - DLX1102-1	SHEEN : SEMI-GLOSS
	WALL - CORRIDOR	PT6	-	DULUX	LIFEMASTER (ZERO VOC)	MATCH EXISTING	SHEEN : MATCH EXISTING
FLOORING	SHEET VINYL - FIELD COLOUR	SV1	2mm THICK	JOHNSONITE	IQ GRANIT	770 SOFT FLEECE WB	SEE FINISHES PLAN DWG A2.03 FOR EXTENT C/W 6" H INTEGRAL COVE BASE
	SHEET VINYL - CORRIDOR BORDER INFILL	SV2	2mm THICK	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	SEE FINISHES PLAN DWG A2.03 FOR EXTENT C/W INTEGRAL COVE BASE TO MATCH EXISTING HEIGHT
MILLWORK	PLAS LAM-BASE CABINET	PL1	-	NEVAMAR	HIGH PRESSURE LAMINTE	GRAPHITE BLUE S3023-T	FINISH: ARP (T-)
	PLAS LAM-UPPER CABINET	PL2	-	NEVAMAR	HIGH PRESSURE LAMINATE	BONE WHITE S7032-T	FINISH: ARP (T-)
	PLAS LAM-UPPER CABINET	PL3	-	NEVAMAR	HIGH PRESSURE LAMINATE	GARDEN MIST SG0004-T	FINISH: ARP (T-)
	DOOR HANDLE	DH1	-	RICHELIEU	1076CV	CHROME	-
WALL PROTECTION	CORNER GUARD 90 DEG	CG1	3" LEG	C/S ACROVYN 4000	SM-20N	#929 OYSTER GRAY	SEE FLOOR PLAN FOR HEIGHT
	CRASH RAIL	CR1	8" H	C/S ACROVYN	SCR-80	#929 OYSTER GRAY	ALUMINUM CLIP, SURFACE MOUNTED
	CRASH RAIL	CR2	5" H	C/S ACROVYN	SCR-50	#929 OYSTER GRAY	ALUMINUM CLIP, SURFACE MOUNTED
	WALL PROTECTION	WP1	0.06" THK	C/S ACROVYN 4000	-	#929 OYSTER GRAY	COMPLETE WITH COLOUR MATCHING CAULKING AT BUTT JOINT & WAINSCOT TRIM ON EXPOSED TOP & SIDES
	WALL PROTECTION	WP2	0.09" THK	PANOLAM	FRP	WHITE (CLASSIC COLLECTION) SMOOTH (SURFACE TEXTURE)	COMPLETE WITH COLOUR MATCHING CAULKING AT BUTT JOINT & WAINSCOT TRIM ON EXPOSED TOP & SIDES
CEILING	SUSPENDED T-BAR	ATC1	15/16"	ARMSTRONG	15/16" CLEAN ROOM ALUMINUM	WHITE	
	ACOUSTIC CEILING PANEL		24" X 24"	ARMSTRONG	ULTIMA HEALTH ZONE HIGH NRC	WHITE	SQUARE LAY-IN PANELS NRC : 0.80 / CAC : 35
MISCELLANEOUS	LEAD APRON HOOK	AH1	-	BOBRICK	HEAVY-DUTY CLOTHES HOOK B-2116	SATIN NICKEL-PLATED FINISH	COMPLETE WITH CONCEALED MOUNTING PROVIDE BACKING AS REQUIRED; SEE PLAN & ELEVATIONS FOR TOTAL NUMBER
	ROLLBOARD HOOK	RH1	-	SAMARIT	ROLLBOARD WALL MOUNT	WHITE	PROVIDE BACKING AS REQUIRED
	UNDER DESK CABLE TRAY ORGANIZER	CTO1	23.6" W	PROGRESSIVE DESK	D0-06-BLACK	BLACK POWDER COATED STEEL	MOUNT TO UNDERSIDE OF DESK

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN

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No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	ISSUED FOR ADDENDUM 3 (3)	MAR 3, 2021	RC
8	ISSUED FOR ADDENDUM 2 (2)	FEB 26, 2021	RC
7	ISSUED FOR ADDENDUM 1 (1)	FEB 22, 2021	RC
6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	ISSUED FOR 80% CD	DEC 16, 2020	RC
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2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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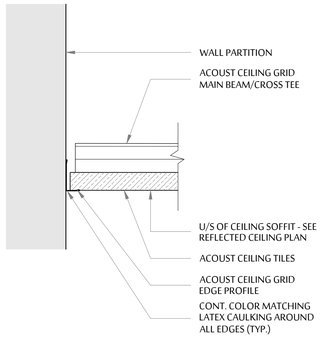
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE
BC V2M 1S2

PHASE 1 - INTER FLUORO DOOR, HARDWARE, FINISHES & ROOM SCHED.

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

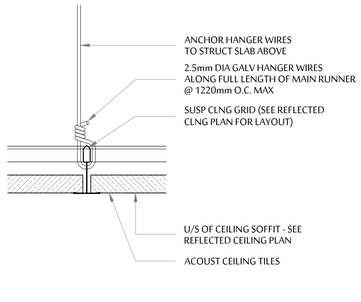
PHASE 1
A5.02



NOTE : ALSO SEE STRUCT DWGS FOR SEISMIC REQUIREMENTS

1 SECTION DETAIL - ACOUSTIC TILE CEILING EDGE (TYPICAL)

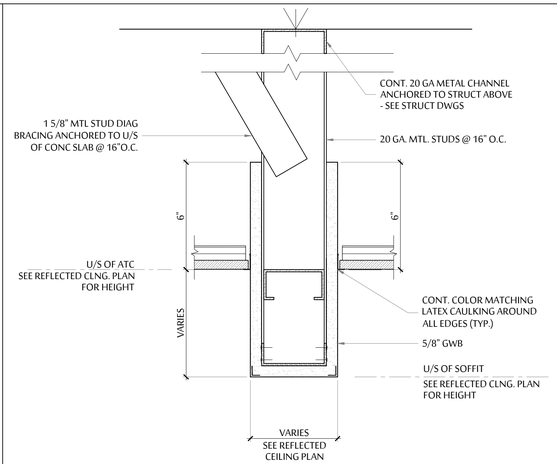
SCALE : HALF FULL SIZE



NOTE : ALSO SEE STRUCT DWGS FOR SEISMIC REQUIREMENTS

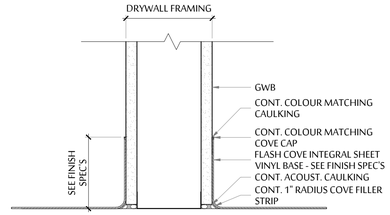
2 SECTION DETAIL - ACOUSTIC TILE CEILING GRID (TYPICAL)

SCALE : HALF FULL SIZE



3 SECTION DETAIL - ACOUSTIC TILE CEILING & DRYWALL SOFFIT

SCALE : 3" = 1'-0"



4 SECTION DETAIL - SHEET VINYL COVE WALL BASE

SCALE : 3" = 1'-0"

5 PLAN DETAIL - L- SHAPE CORNER GUARD DETAIL

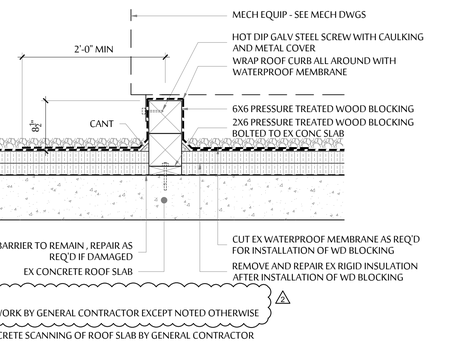
SCALE : HALF FULL SIZE

6 SECTION DETAIL - CORRIDOR HANDRAIL

SCALE : HALF FULL SIZE

7 SECTION DETAIL - CORRIDOR WALL BUFFER

SCALE : HALF FULL SIZE



8 SECTION DETAIL - ROOF CURB (FOR MECH EQUIP)

SCALE : 1" = 1'-0"

NOTE : ALL WORK BY GENERAL CONTRACTOR EXCEPT NOTED OTHERWISE

9 SECTION DETAIL - TYPICAL ROOF JACK

SCALE : 1" = 1'-0"

10 SECTION DETAIL - TYPICAL ROOF PENETRATION (PIPE)

SCALE : 3" = 1'-0"

NOTE :
1. ALL WORK BY GENERAL CONTRACTOR EXCEPT NOTED OTHERWISE

2.CONCRETE SCANNING OF ROOF SLAB BY GENERAL CONTRACTOR

11 SECTION DETAIL - TYPICAL ROOF PENETRATION (DUCT)

SCALE : 1" = 1'-0"

12 SECTION DETAIL - ROOF CURB

SCALE : 1" = 1'-0"

ARCHITECT :

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No.	REVISION	DATE	BY
10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
9	NOT ISSUED	-	-
8	ISSUED FOR ADDENDUM 2 (2)	FEB 26, 2021	RC
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6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	NOT ISSUED	-	-
4	NOT ISSUED	-	-
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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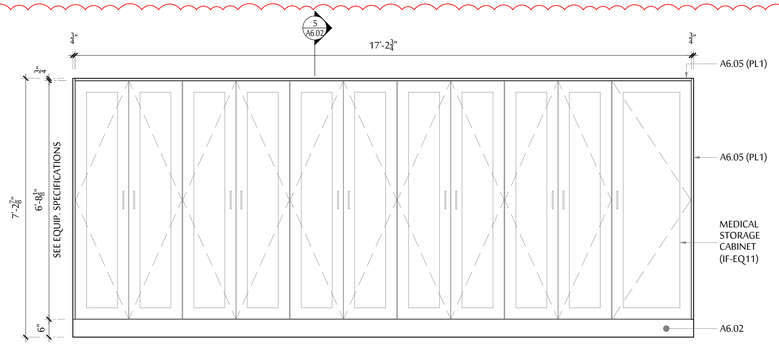
PHASE 1 - INTER FLUORO TYPICAL DETAILS

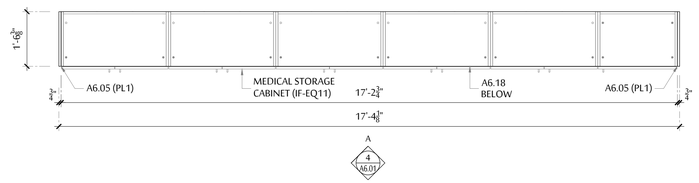
SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A5.03



MILLWORK MW04
PLAN

4A SCALE : 1/2" = 1'-0"



MILLWORK MW04
PLAN

4 SCALE : 1/2" = 1'-0"

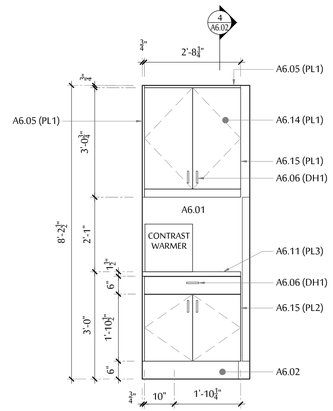
1

INTERIOR KEY NOTES

1. ALL WORKS BELOW ARE NEW INCLUDING SUPPLY & INSTALLATION OF MATERIALS U.N.O.
2. SEE DWG A5.02 FOR FINISHES.
3. ALL WOOD GRAIN FINISHES TO BE ORIENTED VERTICALLY WITH CLEAR LACQUERED FINISH & TO BE BOOK-MATCHED U.N.O.
4. ALL CABINETRY DOOR HINGES AND DRAWER SLIDES TO BE SOFT-CLOSING U.N.O.
5. CASEWORK BACKS NOTED AS 'DOWEL CONSTRUCTION' MUST BE SCREWED TO CASE BODY & NAILED OR STAPLED TO DIVISIONS & FIXED SHELVES.
6. ALL GAPS BETWEEN DOORS OR BETWEEN DOORS AND FIXED PANEL TO BE 1/16" WIDE.

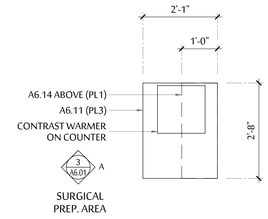
A6.01 PAINTED DRYWALL
A6.02 INTEGRAL SHEET VINYL BASE WITH TOP CAP
A6.03 WALL PROTECTION
A6.04 COVER PLATE FOR PLUMB VALVE - SEE PLUMB DWGS
A6.05 FILLER PANEL WITH MATCHING FINISH
A6.06 CABINET DOOR OR DRAWER HANDLE
A6.07 1 1/2" THK COUNTERTOP WITH PLASTIC LAMINATE FINISH & PVC ACCENT EDGING
A6.08 BASE CABINET WITH DOORS, DRAWERS OR SHELVING
A6.09 1 PIECE CONT 3/4" X 3" SUPPORTING STEEL SECTION UNDER COUNTERTOP
A6.10 BLACK SPEEDBRACE METAL BRACKET
A6.11 1 1/2" THK DESKTOP WITH PLAS LAM FINISH & PVC ACCENT EDGING
A6.12 ADJUSTABLE 3/4" THK PLYWOOD SHELF WITH PLAS LAM FINISH AND 3MM THK RIGID PVC ACCENT EDGE
A6.13 1/16" ROUTED SEAM TO BE PAINTED BLACK
A6.14 UPPER CABINET WITH DOORS
A6.15 FINISHED END, SIDE OR TOP PANEL
A6.16 FULL HEIGHT CABINET WITH ADJUSTABLE SHELVING
A6.17 36"W WIRE POWDER COATED STEEL BASKET CABLE TRAY MOUNTED TO UNDERSIDE OF DESK
A6.18 MEDICAL STORAGE CABINET BASE PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS

1



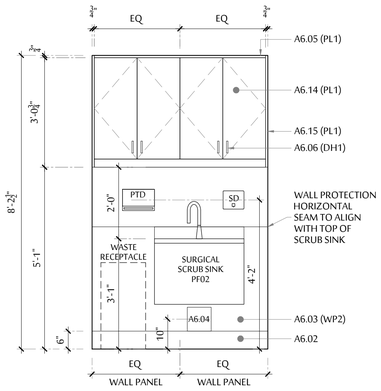
MILLWORK MW02
PLAN

3A SCALE : 1/2" = 1'-0"



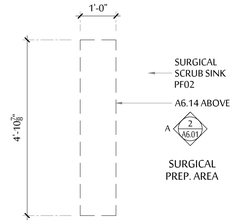
MILLWORK MW02
PLAN

3 SCALE : 1/2" = 1'-0"



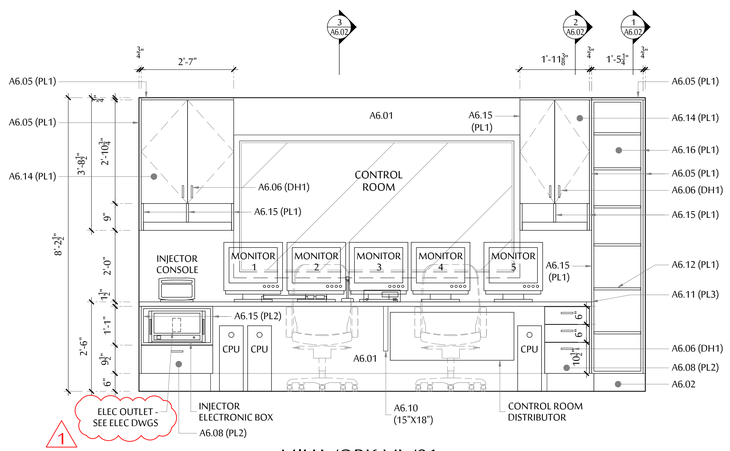
MILLWORK MW02
WEST ELEVATION

2A SCALE : 1/2" = 1'-0"



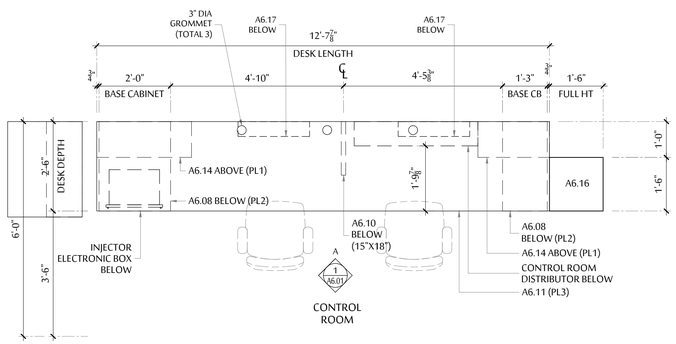
MILLWORK MW02
PLAN

2 SCALE : 1/2" = 1'-0"



MILLWORK MW01
NORTH ELEVATION

1A SCALE : 1/2" = 1'-0"



MILLWORK MW01
PLAN

1 SCALE : 1/2" = 1'-0"

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10	ISSUED FOR CONSTRUCTION	MAY 14, 2021	RC
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8	NOT ISSUED	-	-
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6	ISSUED FOR TENDER	FEB 10, 2021	RC
5	NOT ISSUED	-	-
4	NOT ISSUED	-	-
3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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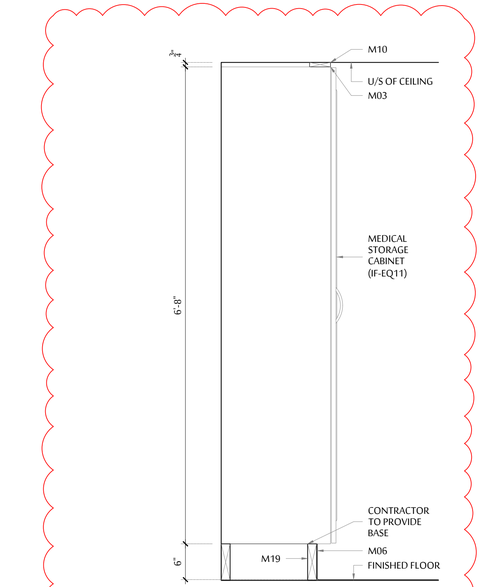
BC V2M 1S2

PHASE 1 - INTER FLUORO
MILLWORK PLANS &
ELEVATIONS

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A6.01



MEDICAL STORAGE CABINET SECTION

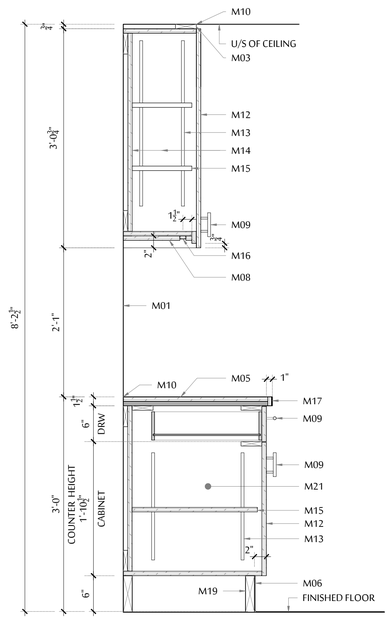
5 SCALE : 1" = 1'-0"

1

INTERIOR KEY NOTES

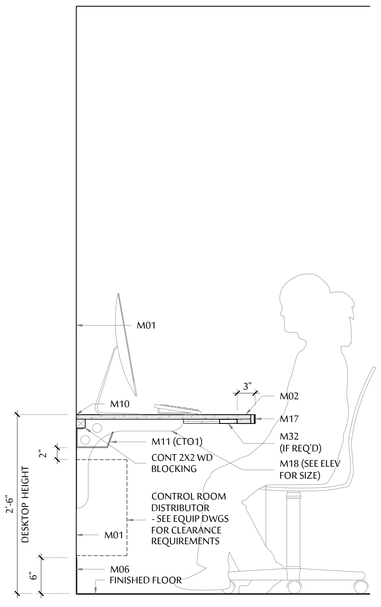
1. ALL WORKS BELOW ARE NEW INCLUDING SUPPLY & INSTALLATION OF MATERIALS U.N.O.
2. SEE DWG A5.02 FOR FINISHES.
3. ALL WOOD GRAIN FINISHES TO BE ORIENTED VERTICALLY WITH CLEAR LACQUERED FINISH & TO BE BOOK-MATCHED U.N.O.
4. ALL CABINETRY DOOR HINGES AND DRAWER SLIDES TO BE SOFT-CLOSING U.N.O.
5. CASEWORK BACKS NOTED AS 'DOWEL CONSTRUCTION' MUST BE SCREWED TO CASE BODY & NAILED OR STAPLED TO DIVISIONS & FIXED SHELVES.
6. ALL GAPS BETWEEN DOORS OR BETWEEN DOORS AND FIXED PANEL TO BE 1/16" WIDE.

M01 PAINTED DRYWALL
M02 DESKTOP WITH 3/4" THK PLYWOOD WITH PLAS LAM FINISH
M03 FILLER PANEL WITH MATCHING FINISH
M04 3/4" THK MDF CABINET DOOR OR DRAWER FRONT W/ FIR VENEER FINISH
M05 COUNTERTOP WITH 3/4" THK PLYWOOD WITH PLAS LAM FINISH
M06 FLOOR BASE - SEE MILLWORK ELEVATIONS
M07 3/4" THK TOP PANEL WITH PLAS LAM. FINISH
M08 3/4" THK END PANEL WITH PLAS LAM FINISH
M09 CABINET DOOR PULL
M10 CONT COLOR MATCHING CAULKING WHERE MILLWORK MEETS WALL AND FLOOR AND SUSPENDED ACOUSTIC CEILING
M11 36"W WIRE POWDER COATED STEEL BASKET CABLE TRAY MOUNTED TO UNDERSIDE OF DESK
M12 3/4" THK MDF CABINET DOOR OR DRAWER FRONT WITH PLAS LAM FINISH & MATCHING EDGE BAND
M13 ADJUSTABLE RECESSED METAL SHELF STANDARDS (TYP)
M14 3/4" PLYWOOD BUILT CABINETRY WITH PLAS LAM FINISH - ALL EXPOSED FASTENERS TO BE COUNTERSUNK WITH MATCHING SCREW COVERS
M15 ADJUSTABLE 3/4" THK PLYWOOD SHELF WITH PLAS LAM FINISH AND 3MM THK RIGID PVC ACCENT EDGE
M16 LED STRIP LIGHTING WHERE INDICATED ON ELEC DWG
M17 1 1/2" W X 1/8" THK THICK PVC ACCENT EDGING
M18 BLACK SPEEDBRACE METAL BRACKET
M19 WOOD BLOCK FRAMING
M20 1 1/2" THK END OR SIDE PANEL WITH PLAS LAM FINISH
M21 3/4" PLYWOOD BUILT DRAWER CABINET WITH PLAS LAM FINISH - ALL EXPOSED FASTENERS TO BE COUNTERSUNK WITH MATCHING SCREW COVERS
M22 FIXED 3/4" THK PLYWOOD SHELF WITH PLAS LAM FINISH AND 3MM THK RIGID PVC ACCENT EDGE
M23 3/4" THK MDF CABINET DOOR WITH 2" WIDE ANODIZED ALUM FRAME AND FROSTED GLASS PANEL
M24 3/4" THK PANEL WITH FIR VENEER FINISH
M25 3/4" THK QUARTZ COUNTERTOP ON (2) 3/4" THK PLYWOOD
M26 3/4" THK SOLID SURFACING COUNTERTOP ON 3/4" THK PLYWOOD WITH 1 1/2" THK SQUARE EDGE SOLID SURFACING NOSING & INTEGRAL 4"H BACKSPLASH
M27 1/2" MONOLITHIC CLEAR, TEMPERED GLASS - SEE WINDOW SCHEDULE A5.01 FOR DETAILS
M28 3/4" THICK QUARTZ COUNTERTOP ON 3/4" THICK PLYWOOD BACKING
M29 1 1/2" THICK PLYWOOD COUNTER TOP WITH FIR VENEER FINISH (NOT USED)
M30 4 1/2" HIGH 18 GA STAINLESS STEEL TOE PLATE
M31 1 1/2" DEEP 1/8" THK STAINLESS STEEL U-CHANNEL W/ SATIN FINISH ANCHORED TO RECEPTION DESK - SEE WINDOW SCHEDULE A5.01 FOR DETAILS
M32 1 PIECE CONT 3/4" X 3" SUPPORTING STEEL SECTION UNDER COUNTERTOP
M33 3/4" PLYWOOD DIVIDER FINISHED WITH FIR VENEER BOTH SIDES
M34 1/2" THK PANEL WITH FIR VENEER FINISH
M35 2 1/4" DEEP 1/8" THK STAINLESS STEEL U-CHANNEL W/ SATIN FINISH - SEE WINDOW SCHEDULE A5.01 FOR DETAILS
M36 WALL PROTECTION - SEE FINISH SCHEDULE



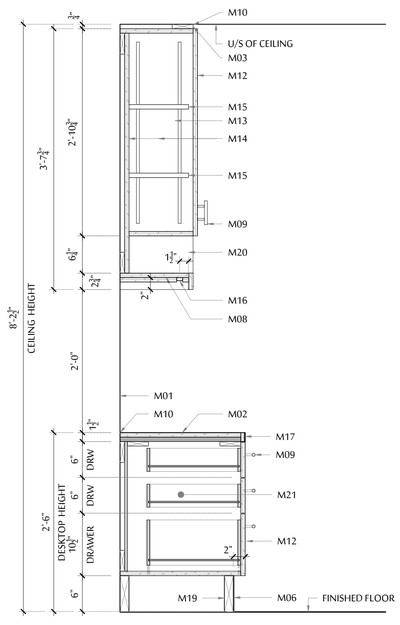
UPPER & LOWER CABINET SECTION

4 SCALE : 1" = 1'-0"



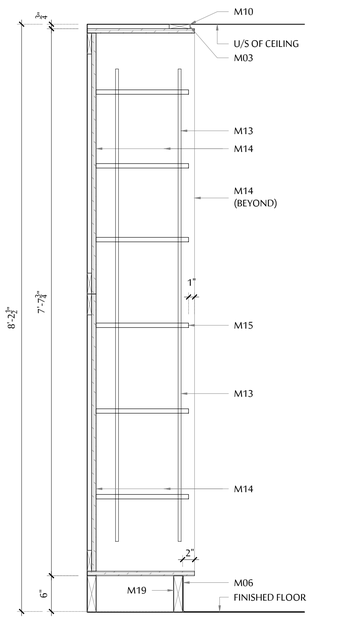
CONTROL ROOM DESKTOP SECTION

3 SCALE : 1" = 1'-0"



OFFICE DESKTOP UPPER & LOWER CABINET SECTION

2 SCALE : 1" = 1'-0"



FULL HEIGHT CABINET SECTION (TYPICAL)

1 SCALE : 1" = 1'-0"

ARCHITECT :

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3	NOT ISSUED	-	-
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

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PHASE 1 - INTER FLUORO MILLWORK SECTIONS

SCALE: AS NOTED
DATE: OCTOBER 2020
DRAWN: RC
CHECKED: DC
JOB No.: DCYT2009

PHASE 1
A6.02

01 10 00 GENERAL REQUIREMENTS

1.Construction Documents, Pricing and Contract :
1.1. All enquiries related to these documents, including any requests for information and clarification and to note any discrepancies, omissions or incompleteness, are to be directed by email to the Architect.
1.2. Proposed alternatives to the specified materials, along with a full description and justification for the alternative, may be submitted in writing to the Architect for approval.
1.3. At time of pricing, Contractor is responsible to visit and carefully examine the site, the access thereto, all existing conditions, utilities and services which may have to be protected, removed, or relocated, and all limitations and difficulties which may be encountered. No after claim will be allowed or entertained for any work or material that may be required for the proper execution and completion of the work that should be uncovered during the site examination.
1.4. Form of Contract : Canadian Construction Documents Committee CCDC2/2008 Stipulated Price Contract and Supplementary Conditions as listed on this documents

2.Owner's Rules and Regulations:
2.1. Contractor shall conform to CSA Z317.13-12 "Infection control during construction, renovation, and maintenance of health care facilities".

3.Site Conditions :
3.1. Site will be occupied and remain in use throughout the duration of Work.
3.2. All work required to be out of normal hours shall be coordinated with and shall have prior approval of the owner.
3.3. The Contractor shall not disrupt existing building(s) or site service(s) or cause inconvenience to the Owner or to patients, residents or staff without the Owner's prior written approval.

4.Work Safety :
4.1. The Contractor and Subcontractors in performing the work shall comply with **any** Workplace Health & Safety Programs in place as required by the **landlord and/or strata council**
4.2. The Contractor is responsible for ensuring that work is performed in a safe manner per WorkSafe BC Occupational Health & Safety Regulations (WSBC OHSR).

5.Labor Rules : It is the responsibility of the Contractor and his Subcontractors to ascertain the labour conditions existing on the site(s), with particular reference to union or non-union labour, and to comply with these conditions. The cost of doing so shall be included in the bid price.

6.Codes, Permits & Inspections :
6.1. A building permit will be obtained by Owner or Architect.
6.2. The Contractor shall obtain all other permits and pay all fees relating to the Work to all authorities having jurisdiction.
6.3. Specific Hospital's rules & regulations as required by the hospital shall be adhered to by the Contractor.

7.Parking : Unless noted otherwise, no on-site parking will be allowed. Contractor and sub-contractors are to arrange parking arrangement at no cost to the Owner.

8.Material and Equipment Transportation :
8.1. Elevators may not be available to Contractor for movement of construction materials or demolition debris. Contractor shall coordinate and obtain approval from Owner if elevators are required.
8.2. Where material or equipment is being transported within the existing building(s) on carts or pallets, such carts or pallets shall have non-marking tires.

9.Garbage Removal : The Contractor shall be responsible for the removal of all rubbish and waste on a daily basis at a time approved by the Owner and shall permit no accumulation of rubbish and/or waste at any time.

10. Salvage Materials :
10.1. Salvaged material and equipment, specified to accrue to the Owner, shall be protected from dust, moisture and other damage, and delivered to the Owner at a time and place agreed by the Owner.
10.2. Salvaged material and equipment specified for reinstallation shall be protected and refurbished to the Owner's satisfaction.
10.3. All other salvaged equipment shall become the property of the Contractor and shall be removed from the site immediately.

11. Existing Services Connections and Disruptions :
11.1. The Contractor is responsible for verifying the location of all existing services before performing work in any area.
11.2. Contractor to coordinate shutdown of existing services with the owner and obtain approval from Owner 7 days prior to shut down.
11.3. If, because of the Owner's operation, it is required that the work be done outside of normal working hours, the cost of such overtime incurred by the Contractor will be the Contractor's responsibility.

12. Final Clean Up:
12.1. The Contractor shall examine and clean all fixtures and installations to produce intended appearance and use; remove all paint spots, stains, rubbish, debris, tools and equipment from all areas, and leave in first class order.
12.2. The Contractor shall wash down and dry all floors, stairs and wall surfaces; brush off, dust and polish all ledges, stairs, steps, etc.; clean and polish all glass, mirrors, and remove all paint, putty and dirt.

13. Site Meetings:
13.1. The Contractor shall convene regularly scheduled construction meetings to expedite the Work with representative of the Contractor, Mechanical Subcontractor, Electrical Subcontractor, Owner's representative(s) and all Consultant(s) present.
13.2. Minutes shall be taken by the Contractor and issued to each of the above-mentioned persons, no later than three (3) days after each meeting.

14. Fire Regulations :
14.1. Contractor and its Subcontractors shall promote fire prevention in their Work and comply with the fire regulations. Hoarding and site must not make the fire dept regulations of the authority having jurisdiction.
14.2. The Contractor will provide fire extinguishers as required during construction per local codes and the provisions of WSBC OHSR in order to provide a safe workplace.
14.3. Contractor shall post a construction fire safety plan consisting of fire response procedures, fire prevention procedures and evacuation route maps. Plans must be approved by the local Authority Having Jurisdiction.
14.4. Any "hot" work shall be performed in accordance with Owner's Hot Work Program. The Contractor will request a Hot Work Permit from the Owner whenever hot work is to be conducted.

15. Noise and Vibrations :
15.1. Excessively noisy construction activities that could affect the normal operation of the Hospital or patients shall be scheduled in advance with the Owner's representative.
15.2. The Contractor shall at all times comply with Part 7 of WSBC OHSR and local municipality or jurisdictions' requirements for noise abatement

16. Hazardous Materials :
16.1. Contractors must comply with WSBC OHSR and Workplace Hazardous Materials Information System (WHMIS) for all Hazardous Materials used at the worksite.
16.2. All hazardous products must be labeled in accordance to WHMIS regulations.
16.3. 72-hour advance notice must be provided if temporary relocation of workers is required.
16.4. Adequate ventilation must be provided for the type and quantity of controlled product used.

17. Asbestos :
17.1. Asbestos containing materials (ACM) may be encountered at worksites.
17.2. If ACM is suspected at the project area, Contractor must stop work, report to Architect and request for instruction.
17.3. Safe work procedures, in accordance to WSBC and FM requirements, must be followed for all work conducted in areas where asbestos may be contacted or disturbed.
17.4. A qualified asbestos abatement contractor must do the removal, encapsulation and enclosure of ACM.

18. Occupational First Aid
18.1. The Contractor shall arrange for the provision of occupational first aid at the worksite as per the requirements of WSBC OHSR.

01 15 10 INFECTION CONTROL

1. References
1.1. Canadian Standards Association (CSA).
1.1.1. CAN/CSA Z317.13-12: "Infection control during construction, renovation, and maintenance of health care facilities".
1.2. American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE) :
1.2.1. 52.2-2007: "Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size".
1.2.2. ASHRAE 62.1-2007: "Ventilation for Acceptable Indoor Air Quality".

2. Occupancy & Construction Schedule
2.1. Apply special procedures specified under this section to suit Owner's occupancy and construction schedule under Section 01 00 00 and 01 32 16 and the following.
2.2. Adjacent Owner Occupied Areas:
2.2.1. All Hospital building areas will remain occupied & functional during the Work.
2.3. Maintain special procedures in effect to protect occupied areas:
2.3.1. During construction and clean-up operations
2.3.2. Until substantial completion of the Work.

3. Co-ordination and Co-operation with the Owner's Infection Control.
3.1. Co-operate with the Owner's Infection Control Practitioner and Team to co-ordinate the special procedures work with the Hospital's Infection Control.
3.2. Immediately modify special Procedures Operations as necessary to ensure compliance with the requirements of this section.
3.3. Owner's designated infection control specialist has the authority to close down the site due to non-compliance with the requirements of this section.

4. Infection Control Plan, if applicable
4.1. Within 7 days of award and prior to commencement of the Work, submit to the Prime/Managing Consultant(s) for review and acceptance by the **Owner**, the Contractor's Site specific Infection Control Plan, outlining in detail, the methods, operations and controls which shall be used during the construction to meet the requirements specified under this Section.
4.2. Acceptance by the **Owner**, of the contractor's infection control plan, indicates only that the Contractor has indicated an understanding and knows the requirements of these special procedures specified for infection control during the Work.
4.3. Testing: the Owner reserves the right to test efficiency of the infection control measures.
4.4. A copy of the site specific infection control plan shall be kept on the site at all times and made available to Hospital staff upon request. The Contractor shall provide a location for daily infection control review log to be maintained at the entrance to the construction zone.
4.5. No work will be permitted to progress on the site until such time as the infection control plan has been reviewed and accepted by the **Owner**.

5. Project Conditions, **if applicable**
5.1. Class **IV** preventive measure (includes classes I, II, and III) are required in accordance with CAN/CSA Z317.13-12 and as indicated:
5.1.1. Where conflict between this Section and the referenced CSA standard occurs, this Section will prevail.
5.2. Provide air movement from adjacent areas into the Work area that exceeds 10m/min.
5.3. Provide negative pressure differential between Work area and adjacent areas of no less than 7.5 Pa.
5.4. Provide continuous digital pressure gauge monitor with printout capabilities.
5.5. Total particulate and fungal spore concentration measure in the Work area after construction and in occupied areas during or after construction are not to exceed preconstruction concentrations or an adjacent control sample as deemed appropriate by the **Owner**.

6. Existing Conditions
6.1. Should material resembling mould, or other type of fungi, be encountered in the course of Work, notify the Prime/Managing Consultant immediately. The Contractor shall not disturb any existing mould or fungi until approval has been received from the Prime/Managing Consultant.

7. Environmental - Biological Air Sampling
7.1. Air sampling to be performed and paid for in accordance with Section 01 00 00 - General Requirements.
7.2. Coordinate collection of initial and clearance air sampling with the Prime/Managing Consultant.
7.3. Initial air sampling to establish baseline of existing airborne contaminants for comparison during construction sampling and clearance sampling. Initial air sampling shall include outdoor samples for comparative analysis.

8. Worker and Visitor Protection
8.1. Provide disposable type protective clothing to workers and authorized visitors in use of protective clothing.
8.2. Instruct workers and authorized visitors in proper procedures to be followed in entering into and exiting from the Work area.
8.4. Provide posted notice at all entrances to the construction area indicating proper procedure and requirements for specialized protective equipment.

9. Control Procedures for Ventilation
9.1. It is expected that the Work of this Contract will generate more than normal dust particles into the atmosphere around the Hospital.
9.2. The Contractor will monitor the building ventilation system and replace filters in the main building ventilation intakes to suit.
9.3. The Contracor will, in addition, adjust the building systems to provide positive air pressure in rooms deemed sensitive for infection control.

10. Work Required in Existing Hospital Building, if applicable
10.1. Ensure that construction workers wear protective clothing that is removed each time they leave the construction site before going into the Hospital.
10.2. Construct Ante-Room at the entrance(s) to work areas designated for use by the Contractor in accordance with CAN/CSA Z317.13-12.
10.3. No access will be permitted directly between the Work area and the Hospital building except by permission of the Hospital, and after decontamination as recommended by the referenced standard.
10.4. Provide booties, germicidal spray and Walk-off Mats.
10.5. Use designated entrance(s) (only) as indicated on drawings for access to existing building.
10.6. Contractor's staff shall minimize access to common areas of the project site. Where access is required, the Contractor shall ensure that appropriate cleaning procedures are followed. Unrestricted access is acceptable for emergency health care purposes only.

11. Materials
11.1. Provide construction materials and assemblies to meet requirements of this Section.

12. Equipment
12.1. Air scrubber: provide portable air filtration and isolation control equipment with minimum peak airflow of 1800 cfm and multi-stage filtration as follows:
12.2. First stage - coarse particulate pre-filter
12.3. Second stage - pleated pre-filter
12.4. Third stage - carbon filter for odors
12.5. Final stage - 99.97% at 0.3um level HEPA filter
12.6. Acceptable Equipment: Hepa-Aire PA2000 HC as manufactured by "Abatement Technologies Inc.", (800-827-6443) or approved equivalent.
12.7. Provide fans, filters and ductwork to provide air movement and maintain negative pressure as indicated.
12.8. Equipment to be certified within past 12 months. Submit documentation to Hospital prior to construction.

13. Preparation
13.1. Verify established travel patterns for construction workers with the Prime/Managing Consultant.

14. Dust and Particulate Control
14.1. Execute the Work by methods to minimize raising dust from construction operations.
14.2. Use drop sheets to control dust.
14.3. Control dust by water-misting surface while cutting.
14.4. Ensure that windows, doors, plumbing penetrations, electrical outlets and intake and exhaust vents are properly sealed with plastic and duct taped within the Work area.
14.5. For exterior work adjacent to windows in an existing facility, test window openings for air tightness and seal windows that leak.
14.6. Verify that all window-mounted air conditioning units facing construction operations are shut down.
14.7. Place walk-off mats outside entrance(s) to the Work area. Vacuum daily or when visibly soiled using a HEPA filter-equipped vacuum cleaner.
14.8. Erect an impermeable dust barrier from true ceiling (includes area above false ceilings) to floor consisting of a minimum of 2 layers of 0.15mm polyethylene.
14.9. Dust barriers to be maintained and remain in place until the Work is completed and removal has been approved by the Prime/Managing Consultant and the Hospital's Infection Control Practitioner.
14.10. Verify that workers wear protective clothing. Workers are to remove protective clothing each time they leave the Work area before going into the Hospital.
14.11. Construct an Anteroom at access points to the Work area if access is from within health care facility.
14.12. Place a walk-off mat outside the Anteroom in the Hospital and inside the Anteroom to trap dust from worker's shoes and from equipment and debris that leaves the Work area.
14.13. During periods of heavy demolition, the construction workers shall utilize two pairs of footwear. One pair of footwear shall be used for access outside of the Work area and in the anteroom. The second pair of footwear shall be for areas inside the Work area and in the anteroom. Construction workers shall change footwear when traveling from inside the Work area to outside the Work area.
14.14. Verify that workers leave the Work area through the anteroom so they can remove protective clothing and be vacuumed with a HEPA filter-equipped vacuum cleaner before leaving.
14.15. Repair any holes in walls within 8 hours.

15. Ventilation
15.1. Coordinate shutdown of ventilation systems in the Work area with the Prime/Managing Consultant and the **Owner** Maintenance personnel.
15.2. Seal duct openings in the Work area until completed.
15.3. Maintain negative pressure between the Work area and adjacent existing areas by using air scrubbers.
15.4. Ventilation equipment to be equipped with pressure gauges and alarm. Alternatively, provide monitoring equipment for duration of project.
15.5. Verify that air is exhausted directly outside and away from intake vents, or filtered through a HEPA filter before being recirculated.
15.6. Maintain equipment filters to manufacturer's specifications.
15.7. The main building's air handling system shall be disconnected from use in areas of renovation work. This will require cutting and capping of existing duct work on both the supply and return air systems.
15.8. Upon disconnection of the main building air handling system, the Contractor shall verify critical pressure relationships of remaining rooms serviced by the impact of this disconnection.

16. Plumbing
16.1. Do not use collection tanks or long pipes that allow water to stagnate.
16.2. Maintain a dry work environment. Report water leaks to the Prime/Managing Consultant immediately.
16.3. Where plumbing work exceeds planned shutdown time, notify the Prime/Managing Consultant immediately. Do not re-pressurize water systems until instruction is received from the Prime/Managing Consultant.
16.4. Hyper chlorinate or superheat stagnant domestic water. Water lines in the Work area and adjacent patient care areas to be flushed before reuse anytime bacterial growth is deemed possible or if the water system is out of service in excess of one hour.
16.5. Any shutdown of the plumbing system is to be coordinated with the **building** plant operations staff. Minimize shutdowns of the water systems in the existing **building**.

17. Progress Cleaning
17.1. Exposure of occupants to debris is to be minimized.
17.2. Remove debris at the end of each shift.
17.3. Place supplies and equipment in covered containers when transporting through the healthcare facility. Transport debris through facility only when alternate routes are not available and with prior written approval from the Hospital.
17.4. Clean the Work area with HEPA filter-equipped vacuums and wet mop, or both, at the end of each work shift and as necessary.

18. Reinstatement
18.1. Barriers to be vacuumed with HEPA-filter equipped vacuum cleaners and wiped down with disinfectant before removal. Remove dust barriers carefully to minimize spreading dust and other debris particles associated with the Work.
18.2. Clean the Work area with HEPA-filter equipped vacuums and wet mop.
18.3. Before the Work area is occupied coordinate clearance sampling with the Managing
18.4. Where clearance sampling fails to meet baseline sampling, maintain ventilation and air cleaning equipment until acceptable levels are achieved.
18.5. Ensure ventilation system is functioning properly and is cleaned if contaminated by soil or dust after the Work is complete.

01 32 16 CONSTRUCTION SCHEDULE

1.The Contractor shall:
1.1. Prepare and submit to the Consultant within ten (10) Working Days of the contract award, a horizontal bar chart construction schedule indicating the timing of all major activities of the Work, to demonstrate the Work will be performed in conformance with the Contract Time;
1.2. Monitor the progress of the Work relative to the construction schedule and update the schedule on a monthly basis for Consultant review at time of submission for application for payment
1.3. Promptly advise the Consultant of any revisions required to the schedule as a result of extensions of the Contract Time
1.4. provide a report to define problem areas, anticipated delays, the impact on the schedule, corrective action recommended and its effect

01 33 00 SUBMITTAL PROCEDURES

1.Administrative
1.1. Submit to Consultant submittals listed for review. Submit with reasonable promptness and in an orderly sequence so as to not cause delay in Work. Work affected by submittals will not proceed until review is complete.
1.2. Review submittals prior to submission to Consultant. Review represents that necessary requirement have been determined and verified, or will be, and that each submittal has been checked and coordinated with the requirements of the Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and will be considered rejected.
1.3. Verify field measurements and affected adjacent Work are coordinated.
1.4. Contractor's responsibility for errors and omissions in submission is not relieved by Consultants review of submittals.
1.5. Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultants review.
1.6. Keep one reviewed copy of each submission on site.

2.Submittals Checklist
2.1. Submit within five (5) Working Days of execution of Agreement:
2.1.1. Evidence of required insurance coverages.
2.2. Submit within ten (10) Working Days of Contract award:
2.2.1. Performance Bond and Labour-and Material Payment Bond.
2.2.2. Evidence of compliance with WorkSafe BC.
2.2.3. Construction Schedule.
2.2.4. Name of site superintendent and list of site and management personnel to be employed on Project.
2.2.5. Executed Articles of Agreement.
2.3. Submit prior to making 1st application for payment:
2.3.1. Requirements in accordance with GC 5.1, APPLICATION FOR PAYMENT.
2.3.2. Schedule of values
2.4. Submit with each and every application for payment subsequent to the first:
2.4.1. Statutory Declaration CCDC 9A from the Contractor, Statutory Declaration CCDC 9B from each of the Subcontractors
2.5. Submit during progress of Contract:
2.5.1. Samples and shop drawings.
2.5.2. Copies of test reports, other than those prepared or obtained by Owner appointed testing agencies.
2.5.3. Copies of inspection reports issued by authorities.
2.5.4. Copies of permits, licenses, certificates and receipts for fees paid.
2.5.5. Revised construction schedule.
2.6. Submit at Substantial Performance of Work as condition thereof: The Contractor may make application for a Certificate of Substantial Performance when the Work is ready for use by the Owner for the purpose intended and when the following items have been provided (where applicable) to the Consultant:
2.6.1. All required manufacturers' inspections, certifications, guarantees, warrantees as specified in the Contract Documents;
2.6.2. All maintenance manuals, operating instructions, maintenance and operating tools, replacement parts or materials, reserve maintenance replacement material as specified in the contract Documents;
2.6.3. All required "as-built" or "as-installed" drawings in the form specified in the Contract Documents;
2.6.4. Certification by all testing, cleaning, or Inspection Authorities or Associations as specified in the Contract Documents;
2.6.5. Certification by all permit issuing authorities indicating approval of all permitted installations;
2.6.6. Certification by WorkSafe BC that the contractor and all subcontractors are in good standing;
2.6.7. Statement indicating reconciliation of all Change Orders, cash Allowances and/or other claims to the Contract;
2.6.8. Occupancy Permit from the Local Authority;
2.6.9. A list of major items to be completed or corrected, including the time required to perform the work and a value thereof as well as the proposed completion date.
2.7. Submit direct to the Owner, 55 Days from the date of Substantial Performance of Work:
2.7.1. Application for release of lien holdback monies.
2.7.2. State of Title Certificate dated the day after expiry of the lien period stating that no liens have been filed against the project.
2.7.3. WorkSafe BC Clearance Letter.
2.7.4. Statutory Declaration CCDC 9A - 2001 from the Contractor; Statutory Declaration, CCDC 9B - 2001 from the each of the Subcontractors; in accordance with GC 5.5.
2.8. Submit with all billings forwarded to the Payment Certifier:
2.8.1. Application for payment.
2.8.2. Associated documentation as described and required.

3.Daily Work Records
3.1. Maintain complete and accurate daily records of progress of Work.
3.2. Include in reports weather conditions, commencement, progress and completion of various portions of Work, dates of meetings, inspection visits, records of workforce, material receipts and material supply problems, information and clarification requests, information, clarification and direction received and actions and events causing delays.
3.3. Make daily work records available to Owner and Consultant upon request.

4.Shop Drawings & Product Data
4.1. Refer to GC 3.11, SHOP DRAWINGS, for governing requirements.
4.2. Shop drawings showing details of secondary structural systems and/or provision for seismic restraint of architectural systems and finishes, and mechanical, plumbing and electrical equipment and associated installations, shall include the approximate weight of the item to be restrained. The shop drawings shall be sealed by a qualified Professional Engineer registered to practice in the Province of British Columbia. The Professional Engineer shall be responsible for reviewing the method of seismic restraint and attachment to the structure with the Consultant prior to installation.
4.3. The Engineer responsible for sealing engineered shop drawings shall submit to the Consultant, British Columbia Code Schedule B-1 Assurance of Professional Design and Commitment for Field Review and B-2 Summary of Design and Field Review Requirements with the shop drawings.
4.4. The Engineer shall provide field review of the installation and submit to the Consultant, **BC Building Code** Schedule C-B Assurance of Professional Field Review and Compliance upon completion of the Work.
4.5. The contractor shall submit seismic restraint calculations upon request for review by the Consultant.
4.6. Where shop drawings are required to be sealed by a Professional Engineer, a certification of field review letter shall be submitted, sealed, signed and dated by the Professional Engineer, and submitted to the Consultant, prior to Substantial Performance.
4.7. All shop drawings to be submitted in electronic PDF (portable document format). If requested by architect, additional two (2) paper copies of architectural, and three (3) paper copies of M&E shop drawings, product data sheets or brochures need to be submitted.
4.8. Submit shop drawings, product data sheets and brochures in **metric** units. Convert into **metric** units where information is not produced in **metric**.
4.9. Refer to Divisions 22, 23 and 26 for additional requirements particular to mechanical and electrical trades.

5.Samples and Color Charts
5.1. Submit samples and color charts in duplicate
5.2. Samples to be actual production items identical to those intended of use in Work. Color charts to be complete and representative of product manufacturer's complete range of standard colors.
5.3. Deliver prepaid to Consultant's business address.
5.4. Notify Consultant in writing, at time of submission of deviations in samples and color charts from requirements of Contract Documents.
5.5. Adjustments made on samples and color charts by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
5.6. Make changes in samples and color charts which Consultant may require, consistent with Contract Documents.

6.Operating and Maintenance Manuals
6.1. Refer to Section 01 10 00 General Requirements and 01 77 00 Closeout Procedures for Operating & Maintenance Manuals.

01 35 16 ALTERATION PROCEDURES

1.Protection
1.1. Take precautions to prevent damage to existing items being reused.
1.2. Seal heating and ventilating grilles in rooms where dust will develop during alteration. Take precautions to prevent dust from entering building duct systems.

2.Entrances and exits
2.1. Access to existing building is limited to areas immediately adjacent to new work.
2.2. Keep other existing entrances/exits free from obstruction throughout alteration work, in particular provide owner continuous access to emergency exits as required by authorities having jurisdiction.
2.3. Provide alternative and additional exits where required by authorities having jurisdiction.
2.4. Post temporary "exit" directional signs as required where alternative exits have been provided or where existing signs have been removed.
2.5. Verify and implement requirements of local fire and building inspection authorities with regards to 'fire safety plan'.
2.6. Maintain access to the existing building as required by emergency and firefighting authorities.

3.Fire and intruder alarms
3.1. Protect and maintain existing fire detection devices and intruder detection devices at all times.
3.2. Provide and maintain additional temporary fire detection devices and intruder detection devices throughout new construction areas. Connect into existing building fire and intruder detection system network.

4.Noise control
4.1. Refer to owner's general requirements.
4.2. Perform cutting, drilling and hammering operations with least amount of noise and disturbance to owner and operation of premises.
4.3. Locate high level noise machinery away from portions of building occupied and used by owner.
4.4. Keep extremely noisy construction operations to a minimum or arrange at time with owner

5.Disruption of services
5.1. Refer to owner's general requirements.
5.2. Do not disrupt or limit existing services without prior agreement where existing portions of project remain occupied and in use by owner during work.
5.3. Where work requires breaking into or connection with such active services perform work at time arranged and agreed with owner in writing **7** working days before commencement of such portion of work.
5.4. Where work cannot be arranged during normal trade hours perform work outside of normal trade hours at no additional cost to owner.

6.Matching to existing work
6.1. Make new work in new areas, new work in existing areas, and all alteration work match in every respect similar items in existing building.
6.2. Use new materials, fixtures and equipment to match existing items. Where perfect matches cannot be made as to quality, texture, color, or pattern, remove existing materials and replace with new materials of comparable quality selected by consultant.
6.3. Execute work carefully wherever existing work is being reused. Make repairs to such reused items after reinstallation to properly restore them. Where proper restoration is impractical, such items will be rejected and replaced.
6.4. After removal of reusable items, carefully patch and repair original location.
6.5. Wherever existing work is being altered to make way for new work, perform such cutting and patching neatly and make finished installations equal to quality and appearance.
6.6. Where new work is a continuation or an extension of existing work, take care to meld the two with complete regard to appearance. Where possible make joints in concealed or "less obvious" places.
6.7. Wherever part of a wall is altered or affected by the work, paint entire wall at completion of work. Wherever two or more walls are affected, paint entire room.

7.Making good
7.1. Include cost of making good all work disturbed by removal of existing work, fixtures, fittings, or by installation of new or removal of old mechanical and electrical services.
7.2. Make good surfaces to match adjacent existing surfaces, unless otherwise indicated.

01 40 00 QUALITY CONTROL

1.Inspection and testing
1.1. Inspection and testing is required and described under various sections. Refer to G.C.2.3 review and inspection of the work, for governing requirements and any additional testing requirements.
1.2. Owner will pay costs for all inspection and testing, unless noted otherwise.
1.3. Provide minimum 48 hours notice.

2.Access
2.1. Cooperate to provide reasonable facilities for access required under G.C. 2.3.1

3.Procedures
3.1. Provide samples and materials required by inspection/testing agency for testing purposes. Submit with reasonable promptness and in orderly sequence so as not to delay work.
3.2. Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

4.Defective work
4.1. Refer to G.C. 2.4 defective work for procedures.

5.Reports
5.1. Refer to G.C. 2.3.3 for procedures.

6.Equipment/system reports
6.1. Submit adjustment and balancing reports for mechanical and electrical systems. Refer to mechanical and electrical divisions for specific requirements.

01 50 00 TEMPORARY FACILITIES AND CONTROLS

1.Installation /removal
1.1. Provide construction facilities and temporary controls in order to execute Work expeditiously.
1.2. Remove from site all such work after use.

2.Hoarding
2.1. Provide hoarding in accordance with Appendix B - Infection Control and Dust Containment Guidelines:
2.2. Exhaust air in the construction zone directly outside.
2.3. Maintain and relocate protection until such work is complete.
2.4. Temporary metal stud wall (per Appendix B - Infection Control and Dust Containment Requirements):
2.4.1. Provide temporary metal stud wall around construction area per drawings
2.4.2. Provide 0.88mm (20 ga) C-shape metal stud wall 92mm wide with 32mm flange at 400mm min o.c. complete with corresponding top and bottom track of the same size and gauge.
2.4.3. Provide 5/8" drywall on outside of metal stud. Drywall to be installed on the outside of construction area. Tape all joints between drywalls.
2.4.4. Provide 6mil poly on inside of the metal stud. Tape all edges (top, bottom, sides and overlaps) of poly to form one continuous surface.
2.4.5. Temporary metal stud wall to conform to Section 0922 16 Non Structural Metal Framing.
2.4.6. Provide temporary wood door per drawings with metal frame and door hardware as required.
2.5. Temporary Poly Enclosure :
2.5.1. Provide temporary poly enclosure around construction area per drawings.
2.5.2. Set up poly and tape all joints between drywalls .
2.5.3. Provide minimum 7' high zipper opening per drawings

3.Guard rails and barricades
3.1. Provide secure, rigid guard railings and barricades as required by governing authorities for protection of workers.

4.Site storage/loading
4.1. Refer to GC 3.12, USE OF THE WORK, for conditions.
4.2. Confine storage to area enclosed by hoarding.

5.Sanitary facilities
5.1. Provide sufficient sanitary facilities for workers in accordance with local health authorities. Do not use building facilities.
5.2. Maintain in clean condition. Place within area enclosed by hoarding, in location acceptable to Owner.

6.Fire protection
6.1. Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
6.2. Provide 1 fire spotter for each person performing welding or torch cutting operations. Have fire spotters dedicated full time during welding/torch cutting operations to monitor/observe immediate area of such operations for sparks, embers, smoldering material and damaged electrical wiring.
6.3. Open fires and burning of rubbish not permitted on site.

7.Protection of building finishes
7.1. Provide necessary screens, covers, hoardings as required.to protect finished and partially finished building finishes and equipment during performance of Work.

8.Security
8.1. The Contractor and Subcontractors shall be responsible for security of the Work at all times.
8.2. Neither the Consultant nor the Owner will be responsible for any loss or damage to the building, to materials, equipment or other property of the Contractor or Subcontractors.
8.3. Provide, maintain and relocate as required temporary hoarding, gates, barricades, perimeter guard rails, warning signs and lights as necessary for the protection of all people and property on and adjacent to work areas, as required by WorksafeBC.
8.4. Contractor and subcontractors are not allowed in any part of the hospital except within the project area as shown on drawings, unless prior approval has been received from the hospital.

9.Offices
9.1. Provide and maintain in clean condition during progress of Work, adequately lighted, heated and ventilated temporary office and Contractor's office with space for filing and layout of Contract Documents and contractor's normal site office staff.
9.2. Locate within area enclosed by hoarding or in location acceptable to Owner.
9.3. Provide adequate first aid facilities.

10. Equipment/tool/materials storage
10.1. Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
10.2. Store non-enclosed materials on site in manner to cause least interference with Work activities. Locate within hoarding.

11. Project cleanliness
11.1. Maintain Work in tidy condition, free from accumulation of waste products and debris.
11.2. Remove waste material and debris from site and deposit in waste container at end of each working day. All waste materials shall be contained within the site hoarding.
11.3. Selling of surplus materials and erection of signs for same is not permitted.
11.4. Provide and pay for sufficient quantity of hinged lid steel industrial waste containers to accommodate waste products and debris. Arrange for removal of full containers and receipt of empty containers during Work.
11.5. Locate containers within hoarding or in location acceptable to Owner.
11.6. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

01 60 00 PRODUCT REQUIREMENTS

1.Reference standards
1.1. Conform to the standards referenced with the specifications, in whole or in part, as specifically requested.
1.2. Conform to latest date of issue of reference standards effect on date of submission of bids except where a specific date or issue is specifically noted.

2.Products and materials
2.1. Quality:
2.1.1. Refer to GC 3.9 labour and products.
2.1.2. Storage, handling and protection:
2.1.2.1. Handle and store products in a manner to prevent damage adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
2.1.2.2. Store packaged or bundled Products in original and undamaged condition with manufacturer's seals and labels intact. Do not remove from packaging or bundling until required in Work.
2.1.2.3. Store and mix paints in a heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
2.1.2.4. Pay costs of transportation of Products required in performance of Work.

3.Manufacturers' instructions
3.1. Unless indicated otherwise in specifications, install or erect Products in accordance with manufacturers' instructions. Do not rely on labels or enclosures provided with Products. Obtain written instructions directly from manufacturers.

4.Workmanship
4.1. General: Refer to GC 3.9.3
4.2. Refer to GC 3.13 cutting and remedial work.
4.3. Protection of work in progress and completed work: Refer to GC PART 9 PROTECTION OF PERSONS AND PROPERTY.

5.Toxic or hazardous substances and materials
5.1. Products and materials incorporated in the work shall be free as possible of noxious or toxic volatile emissions or emissions of irritating or toxic particles, so that the interior air of completed building shall be as pollution-free as possible. (For example, products emitting benzene, mercury, lead or other known toxic compounds are not acceptable).

6.WHMIS program
6.1. The Contractor shall maintain Workplace Hazardous Materials Information System (WHMIS) Program which will include:
6.1.1. Maintaining all Material Safety Data Sheets (MSDS) on site for hazardous products.
6.1.2. Providing the Consultant with copies of Material Safety Data Sheets
6.1.3. Educate and train its employees on the WHMIS Program and ensure that the employees wear the appropriate personal protective equipment where necessary.

01 77 00 CLOSEOUT PROCEDURES

1.As-Built Drawings :
1.1. Contractor shall provide mark-up drawings to the Architect upon the substantial completion of the Project.

2.Operating and Maintenance Manual
2.1. Submit to the Consultant one (1) copy of architectural, mechanical, and electrical maintenance, operating and instruction manuals.
2.2. Separately bound manuals are to be prepared for the following trade work:
2.2.1. Building: Architectural elements, fixtures, finishes, casework, hardware, specialties, etc.
2.2.2. Mechanical: Heating ventilating, air conditioning, etc.
2.2.3. Plumbing: Plumbing, fire sprinklers, etc.:
2.2.4. Electrical: Power, lighting, fire alarm system, data, communications, security, etc.
2.3. Provide maintenance manuals in hard and electronic format as specified hereafter, giving full operating and maintenance instructions for each system and major piece of equipment, as well as, maintenance instructions for building elements, fixtures and finishes.
2.4. Manuals are to contain pertinent maintenance operational and installation instruction information on equipment, materials cleaning and lubrication schedules, filters, overhaul, replacement, adjustment schedules, and emergency procedures as applicable. Instructions in manuals shall be in simple language so as to guide the Owner in the proper operation and maintenance of building material, components, equipment and systems.
2.5. Include all items covered by Change Orders.
2.6. Update the manuals periodically during the installation and commissioning phase of the Work so that the manuals are final by the scheduled turnover date.
2.7. Include equipment supplied by the Owner and pre-tendered equipment.
2.8. Binders:
2.8.1. Binders shall be ACCO Canadian Co. Ltd. or approved substitution as follows:
2.8.2. ACCO Inview D-Ring Binders - color Black
a. 1 inch - 41805-0
b. 2 inch - 41807
2.8.3. ACCO expanding bar-lock catalogue binder - color Black
a. 3 to 5.5 inches - 05426-0
2.8.4. Pages:
2.8.4.1. Descriptions and lists are to be neatly typed or printed on lettersize heavy bond paper. Duplicate pages shall be made by electrostatic dry copier.
2.8.4.2. The maximum paper size for schedules and diagrams is 11" x 17".
2.8.4.3. Alphabetical index tab separators are to be used in each manual to identify each information "Section".
2.8.5. Manual contents shall be organized into applicable categories of Work, parallel to specifications divisions and sections.
2.9. Architectural manuals shall include in general, but shall not necessarily be limited to, the following:
2.9.1. List of all Subcontractors, manufacturers, suppliers, complete with addresses and telephone and facsimile numbers.
2.9.2. Copy of hardware schedule and paint schedules, complete with the actual manufacturer, supplier and identification names and numbers.
2.9.3. All manufacturers' equipment, materials, products, data, details, identification, list, schedules of maintenance, operational and installation instruction information as required in accordance with the various sections of the specification.
2.9.4. All extended guarantees, warranties, maintenance bonds, certificates, letters of guarantees, registration cards, as called for in the various sections of the specification, with the following information: Name and address of subject.
a. Name and address of subject.
b. Commencement date (Substantial Performance of the Work) of guarantees and warranties.
c. Duration and expiry date of guarantees and warranties.
d. Signature and seal of the Contractor, Installer, manufacturer and/or supplier as applicable.
e. Complete set of all final reviewed shop drawings.
2.9.5. Certificated of inspection.
2.9.6. Test reports and certificates as applicable.
2.9.7. Confirmation letters of all extra, reserve, replacement materials as required in accordance with various sections of the specification has been properly handed over and received by the Owner in good order.
2.9.8. Confirmation letters of all portable units, equipment, materials such as fire extinguishers, special tools, keys for all equipment and/or panels, elevator pads/accessories, keys to millwork, casework, has been properly handed over and received by the Owner in good order.

3.Electronic Copies of Manuals
3.1. In addition to the printed copies, submit electronic copies of all operating and maintenance data as specified under clause 1.4.
3.2. Submit data on "read only" CDs. Provide one (1) copy of each CD for the Owner and 1 copy to the Consultant.
3.3. Do not provide separate CDs for each major section. Use more than one CD only if the volume of

02 41 00 DEMOLITION

1. The demolition permit is included as part of the Building Permit. The Owner will obtain and pay for the Building Permit.
2. Do all demolition work according to the requirements of the latest **BC Building Code**, and Worksafe BC, Accident Prevention Regulations, and the Canadian Construction Safety Code.
3. Provide one (1) person on site who is responsible for maintaining the safety barriers and protection of the workers and the public. Provide the name of this person to the Owner. Any changes in personnel must also be reported to the Owner.
4. The Contractor shall accept the site as it exists and will be responsible for all demolition work as required.
5. The Contractor shall visit the site at his own expense prior to the submission of tenders and at any whatever time is required to ascertain existing site conditions and surrounding features related to the proposed demolition and new construction work, and ensure himself that conditions are suitable for execution of the work.
6. Arrange for a site visit together with Consultant, to examine existing exterior and interior site conditions adjacent to demolition and new construction work. Take pictures of any existing damage and record same in writing to avoid any disputes at a later date. Photograph all rooms where partial demolition is to occur before work commences in order to provide a record of existing conditions.
7. Provide temporary enclosures for securing off of work and the maintenance of any services necessary to the proper and efficient operation of the project.
8. Conduct construction operations with minimum interference to existing buildings operations, adjacent buildings, adjacent public or private roadways, parking lots, sidewalks and access facilities in general. Keep such areas free of material debris and equipment at all times.
9. The Contractor shall provide any hoardings, barricades, warning signs and lights, as necessary, for the protection of all people and property on and adjacent to the site as specified herein or by the Workers' Compensation Board of British Columbia. The Contractor shall alter, adapt, maintain, relocate and remove these additional barricades, etc., as necessary due to the work. The Owner and Consultant shall be saved harmless from any loss, damage, death or injury occurring through neglect, carelessness or incompetence of the Contractor, or the handling or condition of his equipment.
10. Where existing items are removed, "make good" to existing surfaces if they are to remain exposed. "Making Good" shall be defined as preparing new surfaces which are identical to adjacent surfaces (with similar backing materials), and finished off in such a manner that there are no visible traces (at a distance of 2 feet), between existing work and the work of new patching.
    11. Submit to the Primary Consultant
        11.1. Proposed dust-control measures.
        11.2. Dates for shutoff, capping, and continuation of utility services.
        11.3. Phasing and dates for sectional shutoff of sprinkler system serving existing buildings which are to remain.
        11.4. Inventory of items to be removed and salvaged.
        11.5. Photos or video, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by demolition operations.
    11.6. Landfill records indicating receipt and acceptance of hazardous wastes by a landfill or other facility authorized to accept hazardous wastes.
    12. Stop work around an area where existing previously unidentified hazardous material is discovered, including materials suspected of containing asbestos, and immediately contact the Project Manager for direction before continuing with the work affected.
    13. No temporary stockpiling of demolished materials permitted on site. All demolition materials from excavations must be removed from site daily. Dispose of materials in a legal manner.
    14. Contractor to keep the premises clean and free from rubbish, debris, surplus materials and equipment. At the end of each day's work, leave work in safe condition so that no parts are in danger of toppling or falling.

06 40 00 ARCHITECTURAL WOODWORK

1. Reference: Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
2. Submit shop drawings and hardware cut sheets in accordance with Section 013300. Indicate locations of all typical and special installation conditions; all connections, attachments, anchorage and locations of exposed fastenings.
3. Submit full range HPDL colour charts for Consultant's colour selection use.
4. The Trade Contractor shall furnish a two (2) year maintenance bond, to the full value of the architectural woodwork subcontract, certifying that the architectural woodwork has been manufactured and/or installed in accordance with the standards incorporated in the AWMAC Manual.
5. If the Trade Contractor is an AWMAC member in good standing, a two (2) year AWMAC Guarantee Certificate will be issued instead of the maintenance bond.
6. The maintenance bond/guarantee certificate shall cover replacing, reworking and/or refinishing to make good any defects in architectural woodwork due to faulty workmanship or defective materials supplied by the Trade Contractor that occur during a two(2)-year period following the date of Substantial Completion of the architectural woodwork contract.
7. Casework : HPDL
    7.1. AWS quality grade : Custom
    7.2. Core : formaldehyde free minimum 769 kg/m3 density MDF to ANSI A208.2 and AWMAC requirements.
    7.3. Finish :
        7.3.1. Countertops : Horizontal General Purpose Standard Grade (HGS)
        7.3.2. Vertical surfaces : Vertical General Purpose Standard Grade (VGS)
        7.3.3. Semi-exposed parts : Face Veneer : Cabinet Liner Standard Grade (CLS)
        7.3.4. Backing Sheet Grade (BK)
    7.4. Approved product : **See Finishes Schedule on Dwg A5.02**

07 84 00 FIRE AND SMOKE SEALS

1. Fire stopping and smoke seal systems: in accordance with CAN/ULC-S115 "Fire Tests of Firestop Systems".
    1.1. Use materials free of asbestos and ceramic fibres. Use systems capable of maintaining effective barrier against flame, smoke and gases in compliance with requirements of CAN/ULC-S115 and not to exceed opening sizes for which they are intended.
    1.2. Fire stop system rating: to match fire wall or floor rating.
2. Service penetration assemblies: certified by ULC in accordance with CAN/ULC-S115 and listed in ULC Guide No. 40 U19.
3. Fire stop components: certified by ULC in accordance with CAN/ULC-S115 and listed in ULC Guide No. 40 U19.13 and/ULC Guide No. 40 U19.15 under Label Service of ULC.
4. Fire-resistance rating of installed fire stopping assembly not less than fire-resistance rating of surrounding floor and wall assembly.
5. Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal; do not use cementitious or rigid seal at such locations.
6. Firestopping and smoke seals at building expansion and seismic control joints: pre-formed, semi-rigid non-combustible mineral wool material.
    6.1. Approved product: A/D Firebarrier by A/D Fire Protection.
7. Sealant: to CAN4-S115-M, primerless single component silicone sealant.
    7.1. Approved product: A/D Firebarrier Silicone by A/D Fire Protection.
8. Primers: to manufacturers' recommendation for specific material, substrate and end use.
9. Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.
10. Damming and back-up materials, supports and anchoring devices: to manufacturers' recommendations and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.
11. Sealants for vertical joints: non-sagging.
12. Installations of fire and smoke protection shall be by experienced installers familiar with ULC systems and approved by the manufacturer.
13. Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.
14. Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturers' instructions.
15. Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturers' instructions.
16. Seal holes and voids made through penetrations, poke-through termination devices and unpenetrated openings and joints to ensure continuity and integrity of fire separation are maintained.
17. Listing and Test Reports: Submit copies of current ULC listed Firestop System for each system and certified copies of test reports verifying that air seal/firestop and smoke seals meet or exceed specified requirements.
18. Post service penetrations and future use openings/sleeves with permanent signs:
    18.1. identifying locations as firestops/smoke seals,
    18.2. listing material installed including local distributor,
    18.3. detailing procedures for proper re-sealing of disturbed material and
    18.4. warning against painting of installed material.
19. Notify Owner when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.
20. Arrange for inspections by the Owner's independent inspection and testing agency, appointed and paid for by the Owner.
21. Following field inspections provide all repairs as required to comply with the Contract Documents.

07 92 00 JOINT SEALANTS

1. Section includes: joint sealants, joint backer materials and accessories needed to ensure a complete and durable weather and/or tight seal at all locations indicated.
2. Perform work in accord with ASTM C 1193 guidelines except where more stringent requirements are indicated or specified.
3. Provide joints properly dimensioned to receive the approved sealant system.
4. Provide joint surfaces that are clean, dry, sound and free of voids, deformations, protrusions and contaminants which may inhibit application or performance of the joint sealant.
5. Deliver to the Architect signed copies of the following written warranties against leakage, cracking, crumbling, melting, shrinkage, loss of adhesion and/or staining of adjacent surfaces for a period of 3 years from date of completion.
    5.1. Manufacturer's standard warranty covering sealant materials;
    5.2. Applicator's standard warranty covering workmanship.
6. Provide colors selected by Architect from manufacturer's standard color range.
7. Primers : Type to be recommended by sealant manufacturer
8. For concealed partition sealant : CAN/CGSB 19.21 M87 Single-component, non-hardening, synthetic rubber sealant - Tremco Acoustical Sealant or approved alternative.
9. For general purpose interior and exterior caulking on vinyl, aluminum and wood siding as well as on bathroom and kitchen fixtures : CAN/CGSB 19-GP-17M Acrylic latex sealant - Tremco Tremflex 834 or approved alternative
10. For interior watertight seal to glass, metal, porcelain, ceramic and painted surfaces : CAN/CGSB-19.13-M87 Single component silicone - Tremco Tremsil 200 or approved alternative
11. Joint cleaner : Non-corrosive type recommended by sealant manufacturer compatible with joint forming materials
12. Bond breaker : Polyethylene tape or other adhesive faced tape as recommended by sealant manufacturer to prevent sealant contact where it would be detrimental to sealant performance.
13. Joint backer: Closed cell or soft rod Polyethylene foam rod or other compatible non-waxing, non-extruding, non-staining resilient material in dimension 25 percent to 50 percent wider than joint width as recommended by sealant manufacturer for conditions and exposures indicated.
14. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces that is suitable for masking.
15. Remove all traces of previous sealant and joint backer by mechanical methods, such as by cutting, grinding and wire brushing, in manner not damaging to surrounding surfaces.
16. Remove paints from joint surfaces except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
17. Remove wax, oil, grease, dirt film residues, temporary protective coatings and other residues by wiping with cleaner recommended for that purpose. Use clean, white, lint-free cloths and change cloths frequently.
18. Provide joint backer material uniformly to depth required by sealant manufacturer for proper joint design using a blunt instrument.
19. Provide joint backer material indicated or recommended by sealant manufacturer, adhering strictly to the manufacturers installation requirements.
20. Prime joint substrates where required.
21. Use masking tape where required to prevent sealant or primer contact with adjoining surfaces that would be permanently stained or otherwise damaged by such contact or the cleaning methods required for removal.
22. Install sealants to fill joints completely from the back, without voids or entrapped air, using proven techniques, proper nozzles and sufficient force that result in sealants directly contacting and fully wetting joint surfaces.
23. Install sealants to uniform cross-sectional shapes with depths relative to joint widths that allow optimum sealant movement capability as recommended by sealant manufacturer.
24. Tool sealants in manner that forces sealant against back of joint, ensures firm, full contact at joint interfaces and leaves a finish that is smooth, uniform and free of ridges, wrinkles, sags, air pockets and embedded impurities.
25. Remove sealant from adjacent surfaces in accord with sealant and substrate manufacturer recommendations as work progresses.

08 10 00 HOLLOW METAL DOORS AND FRAMES

1. Reference Documents: Specifications for Commercial Steel Doors and Frames and Canadian Fire Labelling Guide by the Canadian Steel Door and Frame Manufacturers Association (CSDFMA).
2. NFPA 80, Standard for Fire Doors and Fire Windows.
3. Fire rated doors and frames: labelled and listed by an organization accredited by Standards Council of Canada in conformance with ULC CAN4-S104M and CAN4-S105M for ratings indicated.
4. Steel: Commercial grade steel to ASTM A568-81, Class 1, hot dipped galvanized to ASTM A924-80, commercial steel formed to ASTM A525-81, ZF75.
    4.1. Thickness for steel components shall be in accordance with the CSDFMA specification Table 1 - Thickness of Steel for Component Parts' unless otherwise specified.
    4.2. Door frames: 16 ga.
    4.3. Door stiles and rails: 16 ga
    4.4. Door panel: 18 ga
5. Door bumpers : Black rubber/neoprene single stud
6. Fabricate frames as detailed, in accordance with Canadian Steel Door and Frame Manufacturers' Association, "Specifications for Commercial Steel Doors and Frames".
7. Mortise, reinforce, drill and tap frames for mortised hardware. Reinforce frames for surface mounted hardware.
8. Welding shall conform to CSA W59. Cut miters and joints accurately and weld continuously on inside of frame profile.
9. Grind welded corners and joints to flat plane, fill with metallic paste filler and sand to uniform smooth finish. Weld in two temporary jamb spreaders per frame to maintain proper alignment.
10. Shop prime after fabrication
11. Touch-up primer: to CGSB 1-GP-181 zinc rich.
12. Install in accordance with NFPA 80.

08 14 00 WOOD DOORS

1. Supply of rated and non-rated flush solid core wood doors per drawings
2. Reference :
    2.1. ANSI A135.4 - Basic Hardboard.
    2.2. Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
3. Submittal :
    3.1. Product Data: indicate door core materials and construction; veneer species, type and characteristics.
    3.2. Shop Drawings: illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special blocking for hardware, identify cutouts for glazing and louvers.
    3.3. Samples: Prepare and submit a set of two (2) samples of door with finish 150 x 150 minimum
4. Perform work in accordance with AWMAC, Premium Grade.
5. Finish doors in accordance with AWMAC, Custom Grade.
6. Provide protective wrapping for pre-finished doors during transit and storage
7. Store all doors in a dry place; free from extremes of temperature; properly stacked and protected.
8. Wood doors shall carry manufacturers' Lifetime Guarantee provided from date of Substantial Performance against deformation, bow, cup, warp in surfaces.
9. Interior solid core wood doors :
    9.1. Solid core: CAN/CSA-O132.2.1: Agrifibre core, no added urea formaldehyde veneer (green screen). Flush or flat panel.
    9.2. Face: Beech (Rotary Cut) Vertical Grain Veneer
    9.3. Edge: to match Face.
    9.4. Thickness 45mm thick door thickness
    9.5. Frame: Pressed Steel, shop primed, painted - See Section 08 10 00 Hollow Metal Doors and Frames
    9.6. Blocking: Minimum 125 mm x 460 mm solid wood with lock blocking at both stiles.
    9.7. Adhesive: Low VOC, Type I PVA waterproof adhesive
10. Finishes: **See Door Schedule**
11. Machine cut for hardware.
12. Coordinate installation of doors with installation of frames specified in Section 08 10 00 Hollow Metal Doors and Frames and hardware specified in Section 08 71 00 Door Hardware.
13. Install door plumb and level.
14. Adjust door for smooth and balanced door movement.
15. Adjust closer for full closure.

08 71 00 FINISH HARDWARE

1. Conform to materials specified, in brand and quality, unless otherwise approved in writing by Consultant. Hardware supplier shall be an established contract builder hardware firm.
2. **Inspect all hardware on site for compliance to specifications before installation.**
3. Stored hardware in original sealed packages in a locked, secure place until required for installation.
4. Supply hardware complete with required screws, bolts and fastenings necessary for proper installation.
5. Wrapped hardware in paper and packed in the same package as hardware.
6. All finish hardware, except door closers shall be guaranteed by the hardware manufacturer, by written certification, for a period of one (1) year from certified date of Substantial Performance against any defects in the design, materials, finish, function and workmanship and that any defects shall be made good by the manufacturer at no additional costs to the owner.
7. A similar guarantee for a ten (10) year period shall be provided for door closers by the manufacturer.
8. Obtain final keying requirements from Owner before ordering. Key new locks into existing grand master key (GMK) system. Key to existing master key (MK) for building. Key alike (KA) and key different (KD) locks as directed by Owner.
9. Stamp all keys "Do Not Copy".
10. Keys: provide four (4) per lock or KA group; balance of keys as blanks.
11. Provide square corner box strike for all latchbolt. Finish to match lockset.
12. Mount hardware in accordance with the recommended locations as per standard locations for builders hardware locations (metric) as listed in Canadian Metric Conversion Guide for Steel Doors and Frames prepared by the Canadian Steel Door and Frame Manufacturers Association and B.C. Code for the Physically and Visually Handicapped.
13. Install hardware in accordance with reference standard and regulatory requirements.
14. Set units level, plumb and true to line and location.
15. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
16. Adjust and check each operating item of hardware and each door to ensure proper operation of function of every unit.
17. Replace all hardware which cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.
18. Correct or replace, if directed, all hardware that is incorrectly located, malfunctioning, inoperable or damaged at no additional cost to the Owner.
19. Prepare door and coordinate electrified hardware with electrical work to ensure proper operation of function
20. Door Hardware Schedule : **See Drawing A5.02**

08 80 00 GLASS AND GLAZING

1. Meet CGSB standards for float, tempered and laminated units. Type, thickness to conform to B.C. Building Code most current edition.
2. Glazing Standards : Glazing Manual and Sealant Manual
3. Submit two (2) samples, each 150mm x 150mm, of the following to the Consultant for approval.
    3.1. each type of glass
4. Deliver all materials undamaged and where applicable in their original wrappings or containers with manufacturer's labels and seals intact. Store materials on a dry floor in a weatherproof enclosure.
5. Glass
    5.1. Thickness of Glass: Conform to **BC Building Code** wind load requirements where applicable and according to maximum glass sizes but no less than 6mm thick.
    5.2. For sizes and locations of all lights, refer to the drawings and schedules. Thicknesses and sizes of glass specified are minimum only, thicker glass may be required to meet structural requirements.
    5.3. Glass shall be one of the following types, as designated on the drawings or as further described:
        5.3.1. Leaded Glass - See Section 13 09 00 Radiation Protection
6. Sealant Compounds : CAN/CGSB-19.13-M87 Single component silicone – See Section 07 92 00 Joint Sealants
7. Fabricate glazing to sizes and locations as shown on the drawings in accordance with reviewed shop drawings.
8. Take site measurements prior to shop fabrication.
9. Material for protection markings on glass, such as adhesives for the manufacturer's labels, shall be either neutral or slightly acidic. In no case shall such materials be alkaline. Any staining of glass or other surfaces by such alkaline materials will be cause for rejection.
10. Leave no manufacturers labels or grade marks on glass except as required by code for safety glass identification.
11. Adjust and Clean

All materials shall be protected during and after installation.

09 20 00 GYPSUM SHEATHING BOARD

1. Work of this section shall conform to the Association of Wall and Ceiling Contractors of BC (AWCC) Specifications Standards Manual.
2. Corner and casing beads shall be shipped in rigid containers and protected from damage and dampness.
3. Store wallboard flat, off the floor, protected from damage by dampness, weather or construction traffic. Cementitious materials shall be kept dry and away from damp surfaces. Distribute as required to avoid exceeding live load capacity of the floor.
4. Providing blocking as required for all attached fixtures and millwork.
5. Refer to drawings and wall schedule for extent of each type of gypsum board product and thickness.
6. Gypsum board products, materials and accessories shall conform to AWCC Section 9.6, Part 2
7. Products:
    7.1. Gypsum Wallboard: Conforming to CAN/CSA-A82.27-M1977 noncombustible gypsum core with dimensions 1219mm x max. practical length for min. joints.
    7.2. Fire-Rated Gypsum Wallboard: Conforming to CAN/CSA-A82.27-M91, Type 'X' having ULC label for fire-resistance rating; dimensions 1219mm x max. practical length to minimize joints.
    7.3. Moisture Resistant Gypsum Wallboard: Conforming to CAN/CSA-A82.27-M91; specially formulated core to resist moisture penetration covered with multi-layer face and back papers chemically treated to resist moisture penetration. Dimensions 1219mm x max. practical length for min. joints. Type "X" having a ULC label for fire resistance rating.
    8. Gypsum Board Screws: Conforming to ASTM C646, self-drilling, self-threading case hardened screws with Phillips type head (bugle head) (stainless steel screws to be utilized for fixing wet area). On steel studs and furring, drywall screws shall have a minimum penetration of 12.7 mm (1/2").
9. Gypsum Board Tape to be 50 mm (2") paper joint tape, of a type recommended by manufacturer of gypsum board products.
10. Gypsum Board Jointing Compound: Casein, vinyl or latex base; slow setting; low shrinkage, noncombustible bedding and finishing compounds of type recommended by manufacturer of gypsum board.
11. Corner Beads: Min. 0.45mm (26 ga.) galvanized sheet steel; square bead with perforated flanges. Use extended leg bead at external corners at double wallboard application.
12. Casing Beads: Min. 0.45mm (26 ga.) galvanized sheet steel; square bead with perforated flanges. Only fillable type J or L beads are acceptable. Thickness to suit gypsum board.
13. Install gypsum wallboard and accessories in accordance with AWCC Specifications Standards Manual.
14. Provide ventilation to dry gypsum drywall fillers properly.
15. Do not locate joints on same stud on opposite sides of partitions. Stagger end joints occurring on same side of partitions.
16. Allow deflection spaces between drywall partitions and building structural framing components to allow for movement of framing components.
17. Box-in electrical, telephone and TV outlets in fire-rated and party walls with drywall, typical.
18. Increase if necessary, depth and width of all furring, bulkheads, chases, etc. to contain and conceal electrical and heating risers, rainwater leaders, plumbing waste, hot and cold water supplies and provide gypsum board concealment to all pipes in visually exposed heated spaces. Check mechanical, plumbing and electrical drawings for extent of piping and conduits.
19. Finish gypsum wallboard in accordance with AWCC Specifications Standards Manual.

09 22 16 NON STRUCTURAL METAL FRAMING

1. Work Included
    1.1. Metal support systems for wall, furring and ceiling.
    1.2. Concealed backing for wall hung millwork and equipment.
2. Work of this section shall conform to the Association of Wall & Ceiling Contractors of B.C. (AWCC) Specifications Standards Manual (latest Edition).
3. Design responsibility
    3.1. All steel stud partitions to be designed to accommodate building structure deflection of 1/360 and seismic restraints to meet all applicable codes.
    3.2. Provide seismic restraints for all suspended ceiling framing.
    3.3. Submit confirmation signed and sealed by a structural engineer registered in British Columbia that all of the above requirements have been met.
    3.4. The structural engineer responsible for the design shall provide letters of assurance Schedule B and C-B.
4. Submit Shop Drawings as required.
5. All components used in fire rated assemblies shall be in accordance with the applicable ULC, Warnock Hersey, or BC Building Code referenced assembly.
6. Refer to drawings and wall schedule for size and type of metal framing
7. Interior Non-Load Bearing Steel Stud, Track, and Furring :
    7.1. Conform to CAN/CGSB-7.1-M86.
    7.2. Gauge to be minimum 0.88 mm (20 ga.) 'C' shape with knurled faces on flanges or legs, and knock-out pass through holes in web.
    7.3. Provide 16 ga double studs on both sides of door and window jambs. Anchor studs to structural floor and to structural ceiling above.
    7.4. Hot dipped galvanized steel studs with Z180 (G60) zinc coating to ASTM A525-86, roll formed from ASTM A446/A446M-85, Grade A steel.
    7.5. The minimum stud spacing at all locations should in no case more than 400mm o.c. or as otherwise required by sheathing board manufacturer
    7.6. Provide stud width per wall schedule. Flange depth to be minimum 32mm. Use extended leg for top track, if required, to accommodate deflection.
    7.7. No splicing allowed.
8. Ceiling Framing Materials
    8.1. Tie Wire to be 1.62mm (16 ga) galvanized steel
    8.2. Hangers to be 3.67mm (9 ga) galvanized soft annealed steel wire (up to 1.15 sq.m.) or 4.8 mm diameter zinc coated or cadmium plated steel rod (up to 1.48 sq. m) secured to structural slab with corrosion-resistant anchors
    8.3. Main carrying channels to be minimum 38mm x 12.7 mm x 1.37mm cold formed channels with hot dip galvanized zinc coating spaced as required.
    8.4. Cross furring to be hot dipped galvanized steel hat section, 68.2mm overall width x 22.2mm deep x 0.53mm thick
9. Metal Backing Plates to be 0.91mm (20 ga) thick hot dipped galvanized steel
10. Fasteners and accessories to be of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates, to suit structural conditions, and to fixing requirements that are in accordance with manufacturer's recommendations.
11. Screws: Length as required to suit applications, self tapping corrosion resistant drywall screws.
12. Acoustic Gasket or Tape: Self-adhesive foam tape 6 mm x 25 mm closed cell neoprene and/or polyvinyl chloride.
13. Acoustic Caulking: Synthetic rubber acoustic sealant meeting CAN/CGSB 19.21-M87.
14. Unless noted otherwise all partitions shall be full height from floor to underside of structure above.
15. Install floor and ceiling track seated on two continuous beads of acoustic sealant. Ensure continuity for entire perimeter of acoustically-rated wall assemblies. Fasten securely to concrete at maximum 600 mm o.c. using approved concrete fasteners.
16. Provide minimum 2 studs from floor to structural slab above on each side of door and window opening.
17. Install channel stiffener above door heads. Stiffener to run to closest stud adjacent to boxed jamb studs.
18. Install continuous channel stiffener at mid-point of all stud partitions not exceeding 3.60 meters in height and at third (1/3) points for all partitions exceeding 3.60 meters in height.
19. Install all backing for electrical, all rough openings for building in washroom accessories, mirrors, vanities, light cover reflectors, and access panels supplied and installed by others, or supplied and installed under this section. Coordinate with other Sections to provide for washroom accessories. Blocking to be 1.2 mm (18 ga.) sheet metal strips 300 mm (12 inches) wide and positioned for sufficient installation tolerance of accessories.
20. Promptly as work proceeds and at completion, clean up and remove from premises all rubbish and surplus materials resulting from work of this section.

09 51 00 ACOUSTIC CEILING PANELS AND SUSPENSION SYSTEM

1. Conform to the following
    1.1. ASTM C635-04 Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings
    1.2. ASTM C636-04 Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels
    1.3. ASTM E580-02e1 Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint.
    1.4. CAN/ULCS102, Surface Burning Characteristics of Building Materials
2. Design seismic anchorage connections in accordance with BCBC (Section 4.1.9 including Table 4.1.9.1.D - Architectural Parts and Portions of Buildings). Maximum deflection : 1/360 due to ASTM C635 deflection test.
    2.1. Provide seismic restraints for all suspended ceiling.
    2.2. Submit confirmation signed and sealed by a structural engineer registered in British Columbia that all of the above requirements have been met.
    2.3. The structural engineer responsible for the design shall provide letters of assurance Schedule B and C-B.
3. Store materials in work area 48 hours prior to installation.
4. Provide 5% additional acoustical panels of each type for project maintenance use.
5. Submit samples in accordance with 01 33 00.
6. Suspension System
    6.2. Intermediate duty system to ASTM C635
    6.3. Basic materials for suspension system : commercial quality cold rolled steel zinc coated, **except for MRI Exam Room, ~~use a non-ferrous suspension system only.~~**
    6.4. Hangers : 2.5mm dia galvanized, 760 degree C melting temperature soft annealed wire, **except for MRI Exam Room, ~~use stainless steel wire of the same size only.~~**
    6.5. Hanger inserts : purpose-made to provide positive hanger retention and support of suspension system.
    6.6. Exposed suspension system : 2-directional exposed tee bar grid components pre-painted, die cut components, double web main tee with rectangular bulb and **15/16"** width rolled cap to exposed face, cross tee lower flange offset to provide flush intersection with main tee lower flange. Typical suspension colour : **White**
    6.7. Accessories : splices, wire ties required to complement respective suspension system and as recommended by system manufacturer.
    6.8. Angle mould : 7/8" x 7/8" angle mould profile, finish to match suspension system.
    6.9. Approved product : **See Finishes Specification on Dwg A5.02**
7. Acoustical Panels (General):
    7.1. Type : lay-in exposed grid
    7.2. Material : non-combustible mineral fibre
    7.3. Surface Finish : factory vinyl latex paint
    7.4. Color : **White**
    7.5. Light Reflectance : LR-0.86
    7.6. Size : General - **24" x 24", 7/8" thk (See plan)**
    7.7. Edges : **Square**
    7.8. NRC Rating : General - 0.80
    7.9. CAC Rating : General - 35
    7.10. Fire Hazard : Class A
    7.11. Approved Product : **See Finish Specification on Dwg A5.02**
8. Acoustical Panels (MRI): **(NOT APPLICABLE)**
    8.1. Type : lay-in exposed grid
    8.2. Material : non-combustible mineral fibre
    8.3. Surface Finish : factory vinyl latex paint
    8.4. Color : **factory white finish**
    8.5. Light Reflectance : **LR-0.90**
    8.6. Size : **24" x 24" x 1 1/2" thick**
    8.7. Edges : **square-cut lay-in**
    8.8. NRC Rating : **1.00**
    8.9. AC Rating : **200**
    8.10. Fire Hazard : 0-25 ASTM E84 test
9. Approved Product : **See Finish Specification on Dwg A5.02**
10. Install suspension assemblies in accordance with system manufacturers directions, unless state otherwise.
11. Provide seismic restraint of suspension system in accordance with ASTM E580, 4. Areas Subject to Moderate to Severe Seismic Disturbance.
12. Support light fixtures and diffusers independent of suspension system using dedicated hangers or chains secured to overhead structure. Locate supports within 150mm of each corner and at maximum 600mm around perimeter of each fixture and diffuser. This is in addition to slack restraints specified in Division 15 & 16
13. Frame openings for light fixtures, air diffusers, and at changes in ceiling heights.
14. Make finished ceiling systems square to adjoining walls and level tolerance 1:1000.
15. For MRI Room, suspended ceiling must be statically suspended with no moveable clamps or springs or other similar mechanism. Corrugated rods must be fastened securely and galvanic contact between corrugated rods must be guaranteed or by using wire jumper between rods.

09 65 00 RESILIENT FLOORING

1. References
    1.1. ASTM F710, Standard Practice for Preparing Concrete Floors and other Monolithic Floors to Receive Resilient Flooring.
    1.2. ASTM F1913, Standard Specification for Sheet Vinyl Floor Covering Without Backing.
    1.3. ASTM F1516, Standard Practice for Sealing Seams of Resilient Flooring Products by the Heat Weld Method.
    1.4. ASTM F1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
2. Comply with NFCA "Floor Covering Reference Manual" for all product and installation requirements.
3. Submit samples in accordance with Section 01 33 00.
4. Provide flooring maintenance data for incorporation into maintenance manual described in Section 01 33 00.
5. Subfloor filler for patching, filling and levelling: pre-mixed filler with Portland cement and polymeric modifiers with minimum compressive strength of 20 MPa at 28 days, type as recommended by flooring manufacturer. Primers and sealers: as recommended by flooring manufacturer. Adhesives: solvent-free, low VOC, water resistant type as recommended by flooring manufacturer
6. Heat Welding Rods for Sheet Flooring: as recommended and supplied by flooring manufacturer, solid color and/or patterned rods as selected by the Consultant from manufacturer's standard range to match/compliment sheet flooring type used.
7. Protective Edging and Reducer Strips: heavy duty tapered pebbled vinyl/rubber or smooth metal type to protect resilient floor edges at unlike floor finish transitions and to suit condition as recommended by resilient flooring manufacturer with type, style, finish and color to match existing where applicable as selected by the Consultant from manufacturer's standard range.
8. Sheet vinyl:
    8.1. Composition: Minimum 50% vinyl compound binder consisting of a blended composition of pigments stabilized against heat and light deterioration. Design, color and pattern shall extend through the full thickness.
    8.2. Standards: ASTM F 1913 Vinyl Sheet Floor Covering Without Backing.
    8.3. Intended use: Institutional
    8.4. Thickness: 2 mm.
    8.5. Color: 1 color (field) to be selected by Consultant from manufacturer's complete range.
    8.6. Approved product: **See Finish Specification on Dwg A5.02**
9. Resilient Integral Base :
    9.1. Composition : sheet vinyl flooring flash coved up walls complete with pre-approved heat welded joint seams and interior and exterior corner details and continuous cap as specified. Refer to Finish Schedule for locations
    9.2. Height : See drawings for heights and locations
    9.3. Base Supports : as recommended by flooring manufacturer, minimum 19mm radius
    9.4. Base Cap : continuous cap as recommended by flooring manufacturer, colour from manufacture's standard range, to compliment flooring material and as selected by Consultant.
10. Maintenance Materials : At project completion, provide 10% of extra sheet vinyl and resilient base of each type and color for Owner's future maintenance use.
11. Ensure that paint, varnish, oils, release agents, waxes, sealers and curing and hardening compounds not compatible with adhesives employed have been removed.
12. Test existing exposed concrete for moisture using ASTM F 1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride test method and provide written results. Moisture emission not to exceed 1 kg/70 m2 in 24 hours.
13. Test existing exposed concrete for alkalinity and neutralize if required in accordance with MPI Painting Specification Manual for all painting products including preparation and application of materials.
14. Install flooring in accordance with manufacturers' installation instructions.
15. Install edging strips wherever resilient flooring terminates at unlike floor surface, using longest practical lengths at each location.
16. Install seam lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
17. Remove excess adhesive from floor, base and wall surfaces without damage.

09 65 13 13 RESILIENT WALL BASE (NOT APPLICABLE)

1. References
    1.1. ASTM F1861, Standard Specification for Resilient Wall Base.
2. Submit samples under provisions of Section 01 30 00
3. Product Data: Manufacturer's data sheets on each product to be used, Including:
    3.1. Preparation instructions and recommendations.
    3.2. Storage and handling requirements and recommendations.
    3.3. Installation methods.
    3.4. Verification Samples: For each finish product specified, two samples, representing actual product and finish.
4. Product shall be delivered to site in manufacturer's original packaging.
5. Product shall be handled and stored to prevent damage to materials.
6. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
7. Install resilient products after other finishing operations, including painting, have been completed.
8. Resilient Wall Base:
    8.1 Intended use: Office
    8.2 Thickness: 3.2 mm
    8.3 Color: 1 color to be selected by Consultant from manufacturer's complete range.
    8.4 Approved Product: **See Finish Specification on Dwg A5.02**
    8.5 Height : See drawings for heights and locations
    8.6 Base Supports : as recommended by flooring manufacturer, minimum 19mm radius
9. Do not begin installation until substrates have been properly prepared per manufacturer's instructions.
10. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
11. All adhesives, solvent based materials and other contaminants should be removed and encapsulated prior to application of adhesive and installation of carpet.
12. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
13. Vacuum clean substrates to be covered by resilient products immediately before installation.
14. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction. Test for proper operation and adjust until satisfactory results are obtained.
15. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.
16. Perform the following operations immediately after completing resilient product installation:
    16.1. Remove adhesive and other blemishes from exposed surfaces.
    16.2. Damp-mop surfaces to remove marks and soil.
17. Protect installed products until completion of project.
18. Touch-up, repair or replace damaged products before Substantial Completion.
19. Maintenance Materials : At project completion, provide 10% of extra Resilient Wall Base of each type and color for Owner's future maintenance use.

09 90 00 PAINTING

1. Conform to the standards contained in the Master Painters Institute Architectural Painting Specification Manual, latest edition (hereafter referred to as MPI Painting Specification Manual) for all painting products including preparation and application of materials.
2. Only materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, etc.) listed in the latest edition of the MPI Approved Product List (APL) are acceptable for use on this project.
3. All paint to be premium grade unless otherwise noted.
4. All colors to be selected by Consultant.
5. Allow one (**1**) interior field colors and one (**1**) interior accent colors for walls
6. Allow one (**1**) color for interior ceilings including access hatches , trims and fixtures
7. Allow one (**1**) color for interior doors and one (**1**) for frames
8. Submit color samples
9. Prepare 1000mm x 1000mm mock-ups for each color on site for final approval as instructed by architect.
10. For interior gypsum board surfaces :
    10.1. Surfaces must be clean, screws and nails countersunk and holes filled. Sand joints, then dust clean.
    10.2. Apply latex primer before painting new surfaces.
    10.3. For previously painted latex surfaces, no primer required.
    10.4. Product :
        10.4.1. INT 9.2B: high performance latex, gloss level 3 (eggshell) for walls (except level 5 (semi-gloss) for wet areas) and level 1 (flat) for ceilings.
        10.4.2. Paint : **Dulux**
        10.4.3. Primer : As recommended by manufacturer
11. For interior galvanized metal :
    11.1. Clean with metal conditioner to assure better adhesion of the paints.
    11.2. Unless new metal surface comes with a primer, apply a coat of latex primer for all new metal surfaces.
    11.3. If rust is present, it should be removed with rust remover, and the affected areas covered with anti-rust primer.
    11.4. For previously painted latex or alkyd surfaces, no primer required.

GENERAL NOTES

1. The tenant improvements to this building have been designed in accordance with the British Columbia Building Code of Canada 2018 (BCBC).

2. Read structural drawings together with architectural, mechanical and other drawings for detail dimensions, locations of door and window openings, duct work, recesses, inserts and other items. In the event of discrepancies between drawings, the more stringent requirements shall be followed.

3. Verify all dimensions and examine site conditions prior to fabrication of all items to ensure correct fit.

4. For conditions not explicitly shown, contractor shall immediately request clarifications from the structural engineer.

5. All connection details to the existing building shown on these drawings are subject to verification of existing conditions on site. Field conditions may require modified or alternate details to be issued by the structural engineer. For conditions not explicitly shown, details to be similar to those shown on the drawings.

6. Provide adequate shoring or bracing during construction to resist all forces including forces such as wind, seismic and unbalanced forces due to construction sequence.

7. Observe and enforce all construction safety measures required by the BCBC, Part 8 and the Worker's Compensation Board of British Columbia. Employ a qualified professional specialty Engineer registered in British Columbia for the design of all falsework and temporary support of all structural elements. It is the sole responsibility of the Contractor to ensure that no part of the work is subjected to a load which will endanger the safety of the building or workers. Use temporary bracing where necessary to support all loads to which structure may be subjected, including erection equipment and construction operations.

8. Field Review
Provide a minimum of 24 hours notice to the Engineer for routine field reviews of:
steel studs, prior to application of sheathing
unistrut framing, prior to concealment
The Contractor is responsible for pre-inspecting the work and confirm completeness prior to field review by the Engineer.

9. Design Live Loads
Seismic Factors: Sa(0.2)= 0.113 PGA=0.049 Ie= 1.5
Assumed Site Class= D F(0.2)=1.15

Basic wind pressure(1:50) 0.37 kPa Iw=1.25

Minimum lateral loads on interior wall studs
5psf or seismic load

10. Concrete
Provide concrete and perform work to CSA A23.1-14.

Properties of Mixes:

Mix / Use	Strength	Slump	Air	Aggregate	Class
All concrete unless noted otherwise					
	25 MPa	80 +/- 20	3% max	20 mm	N

Mix notes:
Strength: Minimum compressive strength at 28 days (MPa)
Slump: Slump, +/- 20mm, as measured before addition of superplasticizer. Contractor to make slump tests from each truck of concrete. Reject concrete with non-conforming slump.
Aggregate: Nominal size of coarse aggregate (mm)
Air: Entrained air. Air entraining admixture to conform to ASTM C260
Note: provide 5-8% for concrete exposed to weather
Class: Exposure Class. Mix design to meet or exceed requirements of exposure class in accordance with CSA A23.2-14
Cement: GU Portland cement or GUb blended hydraulic cement to CSA-A3000-13.
Calcium chloride admixtures: not permitted in any concrete
Other admixtures: to ASTM C494 with the prior approval of the Engineer.

Epoxy grout: Hilti RE500 V3 or pre-approved alternate. Use with all holes drilled into new or existing concrete.

Concrete anchors and inserts: Use Hilti anchors and inserts in strict accordance with the manufacturers instructions where shown or required. No substitutions permitted without the prior written consent of the Engineer.

11. Reinforcing Steel
Use new deformed reinforcing bars conforming to CSA G30.18-09(R2014), grade 400W u.n.o.
Welded wire fabric to ASTM A185.
Place reinforcing steel to CSA A23.1-14.
Clear cover to reinforcement (unless noted otherwise):
3/4" surfaces of slabs, interior surfaces of walls

Splice reinforcement as follows (unless noted otherwise):
Splice lengths for 25 MPa concrete

Bar size	10M	15M
Lap splice	20"	28"

All concrete to be reinforced.
Reinforcement for slabs, walls, curbs, architectural concrete and other concrete not explicitly detailed: 15M @ 12" EW

12. Structural Steel Studs
Design and fabrication of steel studs to conform to CSA S136 for load bearing use.
Stud sizes used for this project: 92x20Ga
Studs, track and components of cold-formed steel to ASTM A446: minimum yield strength 33 ksi
All materials galvanized with a coating not less than G60.
Fabricate and install components in accordance with manufacturer's written recommendations and as shown on drawings.
Attach components together with self-tapping metal screws, minimum 2-#8 screws per connection, u.n.o. Wire tying or crimping is not permitted.
Bridging requirements:
Stud walls use internal "U" channel bridging at 1220 o.c. maximum.
Ceiling joists use 92 deep studs on flat to top flange of joists at 1220 o.c. maximum.

12. Structural Steel
Structural steel to conform to CAN/CSA G40.21-04 u.n.o.
HSS: grade 350W, class C
Plates: grade 300W
Anchor bolts, bolts, nuts and washer: ASTM A307 uno
Pipe sections: to ASTM A53 grade B, min. yield strength 35 ksi
Bolts, nuts and washers: to ASTM A325, minimum size 3/4"
Anchor bolts, nuts and washers: to ASTM A307 u.n.o.

Substitution of members shown on drawings may be permitted with the prior approval of the Engineer, provided the substituted member has equal or higher strength and rigidity. Cost for any substitutions to be included in the contract price.

Structural steel fabricator to be certified by the Canadian Welding Bureau to CSA W47.1-09, Division 1 or Division 2.

Submit shop drawings of structural steel for review prior to fabrication. The Contractor shall be responsible for the supervision of the fabrication of the structural steel.

13. Welding
Welding design and practice to CSA W59-03.
All welding to be performed by Canadian Welding Bureau approved welders in accordance with CSA W47.1-09. Minimum welds, except where shown or required by connection design: Minimum leg size of welds to be 5mm

14. Anchors to Existing Concrete
Before installing anchors, contractor shall review existing conditions and confirm depth of anchor penetration into existing concrete will not interfere with existing embedded conduit. Prior to drilling holes for anchors, locate existing steel reinforcing using a non-destructive test method and adjust anchors as required to miss existing conduit.
Any deteriorated, spalling or defective concrete encountered must be brought to the immediate attention of the structural engineer for evaluation prior to continuing with the installation of the anchors.

15. Saw cutting and coring:
All work to be done by qualified workers. Prior to cutting or coring of any concrete, Contractor must scan the area for reinforcement and utility services. Mark results from scan and proposed locations of cuts and cores for review by the engineer prior to cutting. Do not over-cut corners or edges of openings. At corners, core hole tangent to corner and saw cut remainder of cut. Use small tools as necessary to complete work. Cut material into pieces that can be transported to their disposal outside the building without overloading the floor structures. Where reinforcing steel bars are cut, touch up ends of bars with zinc-rich paint. See plans for additional notes for coring and cutting.

16. Metal Framing System
Use Unistrut Metal Framing System members with designation as shown in strict accordance with manufacturers instructions where shown and required. No substitutions permitted without prior written consent of Engineer.
Bolts, nuts and washers: to ASTM A307, minimum size ½"

17. Equipment Installation
Handle and install equipment in accordance with all applicable instructions by equipment manufacturer.

ABBREVIATIONS

ALT	ALTERNATE(LY)	HORIZ	HORIZONTAL
APPROX	APPROXIMATE(LY)	INT	INTERIOR
ARCH	ARCHITECT(URAL)	LG	LONG
B, BOT	BOTTOM	LV	LENGTH VARIES
B TO B	BACK TO BACK	MAX	MAXIMUM
BTWN	BETWEEN	MECH	MECHANICAL
BLDG	BUILDING	MFR	MANUFACTURER
BU	BUILT UP	MIN	MINIMUM
CL	CENTRELINE	N/S	NEAR SIDE
C/W	COMPLETE WITH	NTS	NOT TO SCALE
CC	CENTRE TO CENTRE	OC, O/C	ON CENTRE
COL	COLUMN	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OPNG	OPENING
CONST	CONSTRUCTION	OPP	OPPOSITE
CONT	CONTINUOUS	PERP	PERPENDICULAR
CTR	CENTRE	PL	PLATE
DIAG	DIAGONAL	PT	PRESSURE TREATED
DN	DOWN	R	RADIUS
DO	DITTO	REQ'D	REQUIRED
DP	DEEP	REV	REVISION
DTS	DEPTH TO SUIT	SECT	SECTION
DWGS	DRAWINGS	SIM	SIMILAR
EA	EACH	SK	SKETCH
EF	EACH FACE	SOG	SLAB ON GRADE
EL, ELEV	ELEVATION	SP	SPACE(D)(S)(ING)
EQ SP	EQUAL(LY) SPACES(D)	SS	STAINLESS STEEL
EXIST, EX	EXISTING	SST	SIMPSON STRONG-TIE
EXT	EXTERIOR	STD	STANDARD
FD	FLOOR	STIFF	STIFFENER
FDN	FOUNDATION	STIR	STIRRUP
FIN GR	FINISHED.FINAL GRADE	STL	STEEL
FF, FIN FL	FINISHED FLOOR	T	TOP
F/S	FAR SIDE	T&B	TOP AND BOTTOM
FRT	FIRE RETARDANT TREATED	THK	THICK(NESS)
FTG	FOOTING	TOS	TOP OF STEEL
GA, ga	GAUGE	TYP	TYPICAL
GALV	GALVANIZED (HOT DIPPED)	UNO	UNLESS NOTED OTHERWISE
GL	GRIDLINE, BAYLINE	U/S	UNDERSIDE
GN	GENERAL NOTES	VERT	VERTICAL
GND	GROUND	W	WIDE
GRD	GRADE	W/	WITH
H	HIGH	WP	WORK POINT, REFERENCE POINT

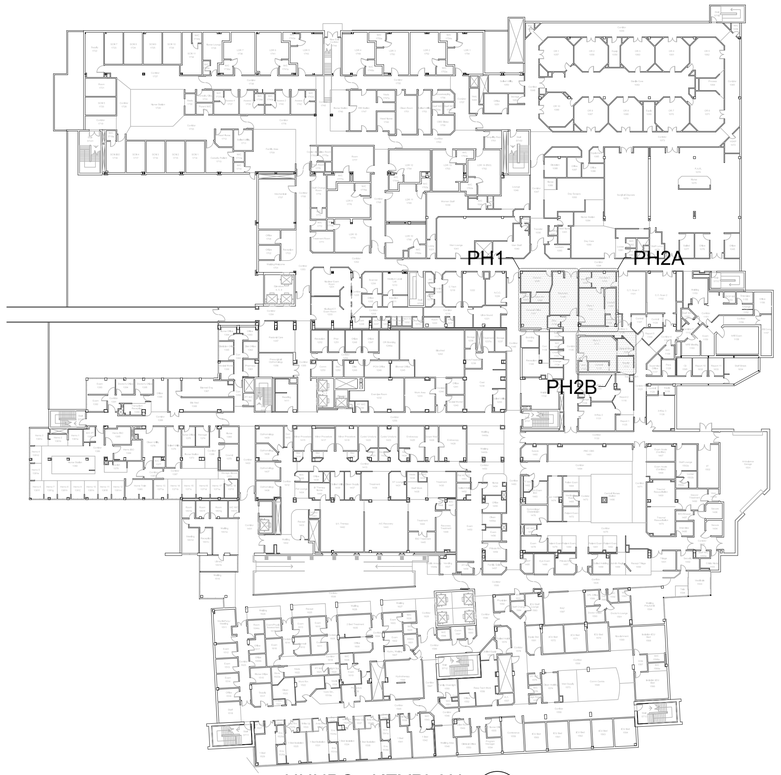
SYMBOLS

SECTION 1:20 — 1 / S1 — SECTION NUMBER; DRAWING WHERE SECTION TAKEN FROM

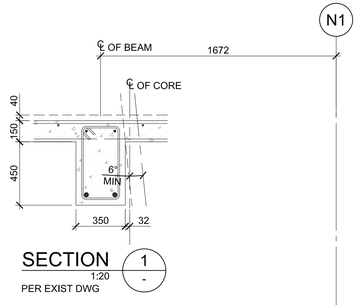
1 / S5 — SECTION NUMBER; DRAWING WHERE SECTION IS LOCATED

DETAIL 1:20 — 1 / S1 — DETAIL NUMBER; DRAWING WHERE DETAIL TAKEN FROM

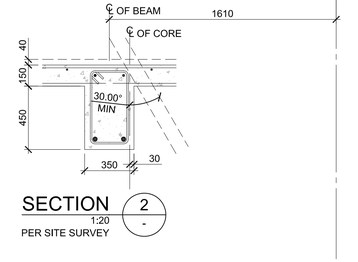
1 / S5 — DETAIL NUMBER; DRAWING WHERE DETAIL IS LOCATED



UHNBC - KEYPLAN 1:500 — A / -



SECTION 1:20 — 1 / - — PER EXIST DWG



SECTION 1:20 — 2 / - — PER SITE SURVEY

ON STRUCTURAL DRAWINGS, *EXISTING ELEMENTS ARE TYPICALLY ANNOTATED WITH ITALIC TEXT*
ALL WORK IN NON-ITALICIZED TEXT IS NEW EXCEPT WHERE NOTED.

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN

WWW.DCYTARCHITECTURE.CA

C.Y. LOH ASSOCIATES LTD
Consulting Structural Engineers
1863 Powell Street
Vancouver, B.C. V5L 1H8
T: 604.254.0868
E: cyla@cyla.ca

No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	2020.05.14	SAL
01	ISSUED FOR TENDER ADDENDUM 1	2020.02.22	SAL
	ISSUED FOR TENDER	2020.02.10	SAL
	ISSUED FOR REVIEW	2020.01.13	SAL
	ISSUED FOR 80% CD	2020.12.16	SAL
	ISSUED FOR BUILDING PERMIT	2020.12.04	SAL
	ISSUED FOR DD REVIEW	2020.11.20	SAL

northern health
the northern way of caring

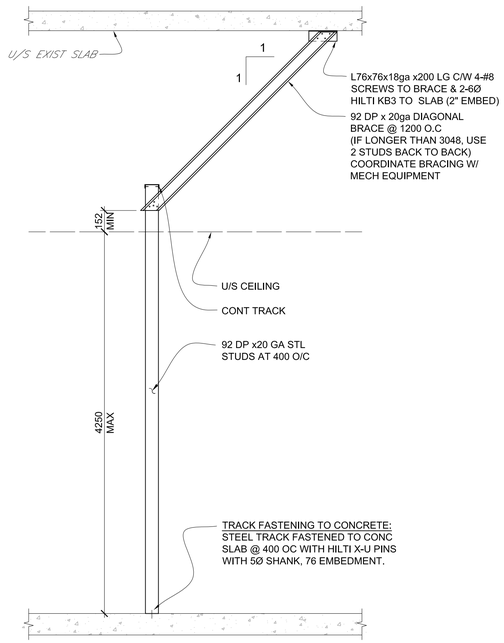
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE
BC V2M 1S2

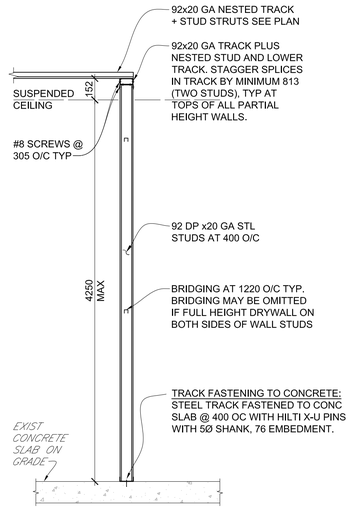
PHASE 1 - INTER FLUORO GENERAL NOTES & KEY PLAN

SCALE: AS NOTED
DATE: FEBRUARY 2021
DRAWN: SAL
CHECKED: KM
JOB No.: 11815

PHASE 1
S1



TYP PARTIAL HEIGHT WALLS 1A
1:20



ALTERNATE PARTIAL HEIGHT WALL 1B
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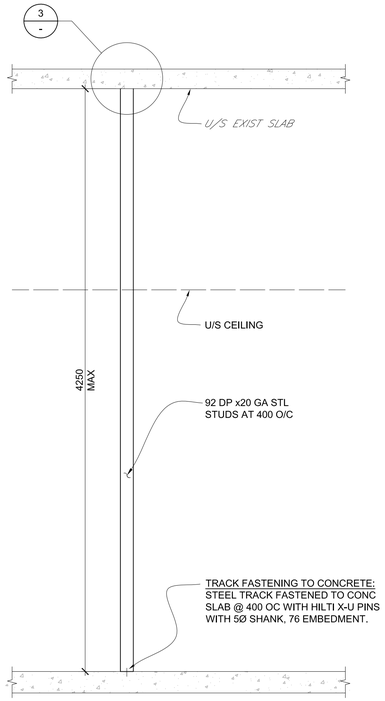
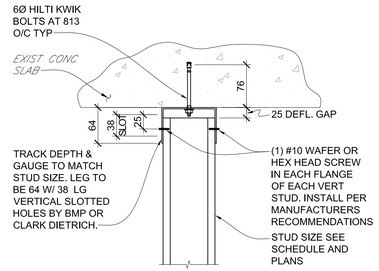


TYP FULL HEIGHT WALLS 2
1:20



TYP DEFLECTION TRACK 3
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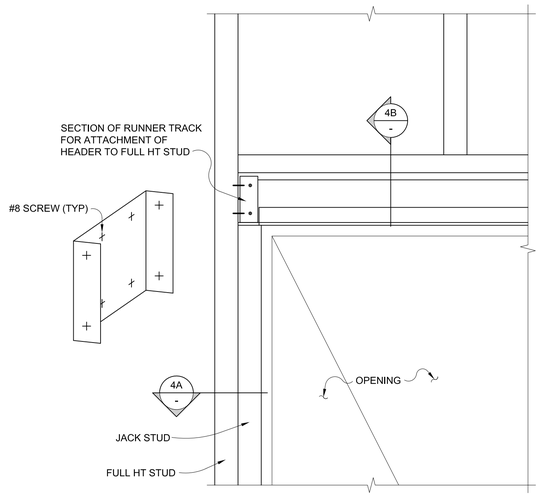

LINTEL DETAIL 4
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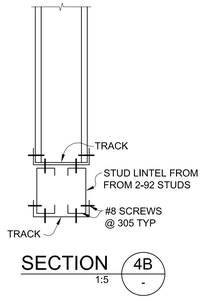
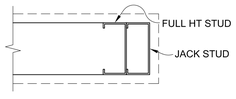
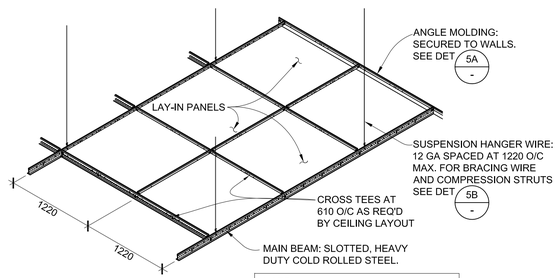


SECTION 4B
1:5

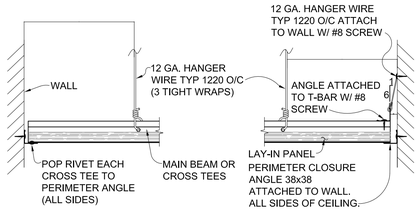


PLAN 4A
1:5



NOTE:
SUSPENDED CEILING MEMBERS AND INTERIOR CONNECTIONS DESIGNED BY CEILING MANUFACTURER

TYPICAL SUSPENDED CEILING LAYOUT 5
N.T.S.

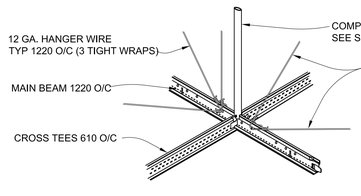


TEES ATTACHED TO PERIMETER ANGLE AND ONE ADJACENT WALL

CLEARANCE TO OPP WALL (TEES NOT ATTACHED TO PERIMETER ANGLE)

CONNECT WIRE TO STRUCTURE ABOVE:	
TO CONCRETE:	HILTI HLC-T ANCHOR
TO STRUCTURAL STEEL:	HILTI X-CC (CEILING CLIP HANGER)
TO METAL DECKING:	HILTI EL S (70 LG EYE LAG CEILING FASTENING HANGER) OR LOOP HANGER WIRE THROUGH BOT FLUTE AND TIE WITH 3 TIGHT WRAPS
TO WOOD JOISTS/DECKING:	HILTI EL WS

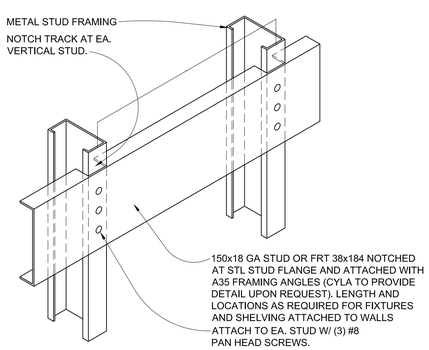
SUSPENDED CEILING PERIMETER DETAIL 5A
N.T.S.



COMPRESSION STRUT SCHEDULE		
LENGTH	CONDUIT SIZES	STUD SIZES
UP TO 1220	12.7Ø NOM EMT	162S125-33
UP TO 1829	25.4Ø NOM EMT	250S125-33
UP TO 3048	38.1Ø NOM EMT	362S162-33
UP TO 3658	50.8Ø NOM EMT	2-362S162-33 (BACK-BACK)
UP TO 4877	63.5Ø NOM EMT	2-250S125-33 (BOX)
UP TO 6096	76.2Ø NOM EMT	2-362S162-33 (BOX)

NOTES:
1. MECHANICALLY FASTEN COMPRESSION STRUT TO SUSPENDED CEILING TRACK AND STRUCTURE ABOVE.
2. STRUT MUST BE 51 MAX FROM INTERSECTION OF SUSPENDED CEILING TRACKS
3. CONNECT COMP STRUTS STUDS TOGETHER W/ 2-#8 SCREWS @ 305 O/C. CONNECT BOX BEAM STUDS TOGETHER WITH 20 GA SIDE PLATES AND 2-#8 SCREWS AT 305 O/C.

SUSPENDED CEILING BRACING DETAIL 5B
N.T.S.



TYP BACKING PLATE 6
NTS

ON STRUCTURAL DRAWINGS, *EXISTING ELEMENTS ARE TYPICALLY ANNOTATED WITH ITALIC TEXT*
ALL WORK IN NON-ITALICIZED TEXT IS NEW EXCEPT WHERE NOTED.

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E: cyla@cyla.ca

No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	2020.05.14	SAL
01	ISSUED FOR TENDER ADDENDUM 1	2020.02.22	SAL
	ISSUED FOR TENDER	2020.02.10	SAL
	ISSUED FOR REVIEW	2020.01.13	SAL
	ISSUED FOR 80% CD	2020.12.16	SAL
	ISSUED FOR BUILDING PERMIT	2020.12.04	SAL
	ISSUED FOR DD REVIEW	2020.11.20	SAL

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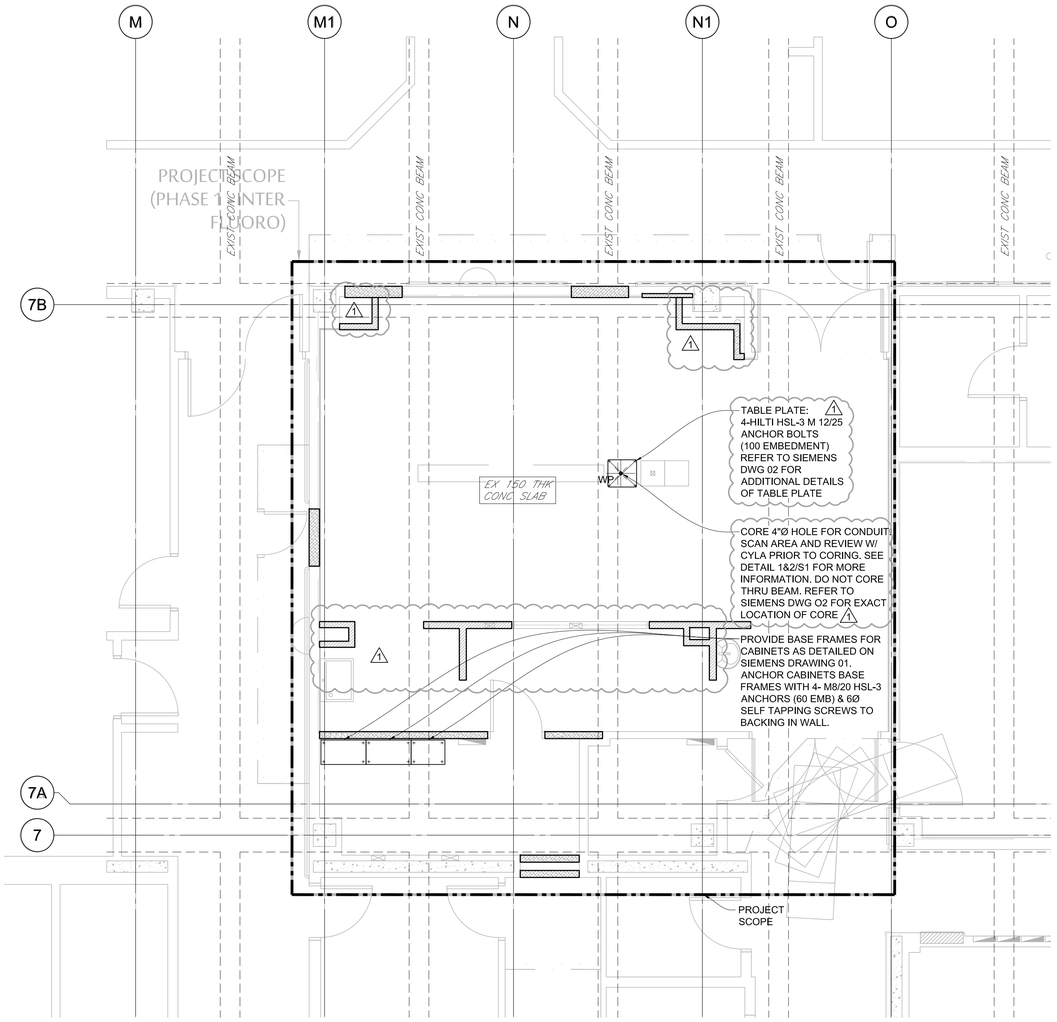
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

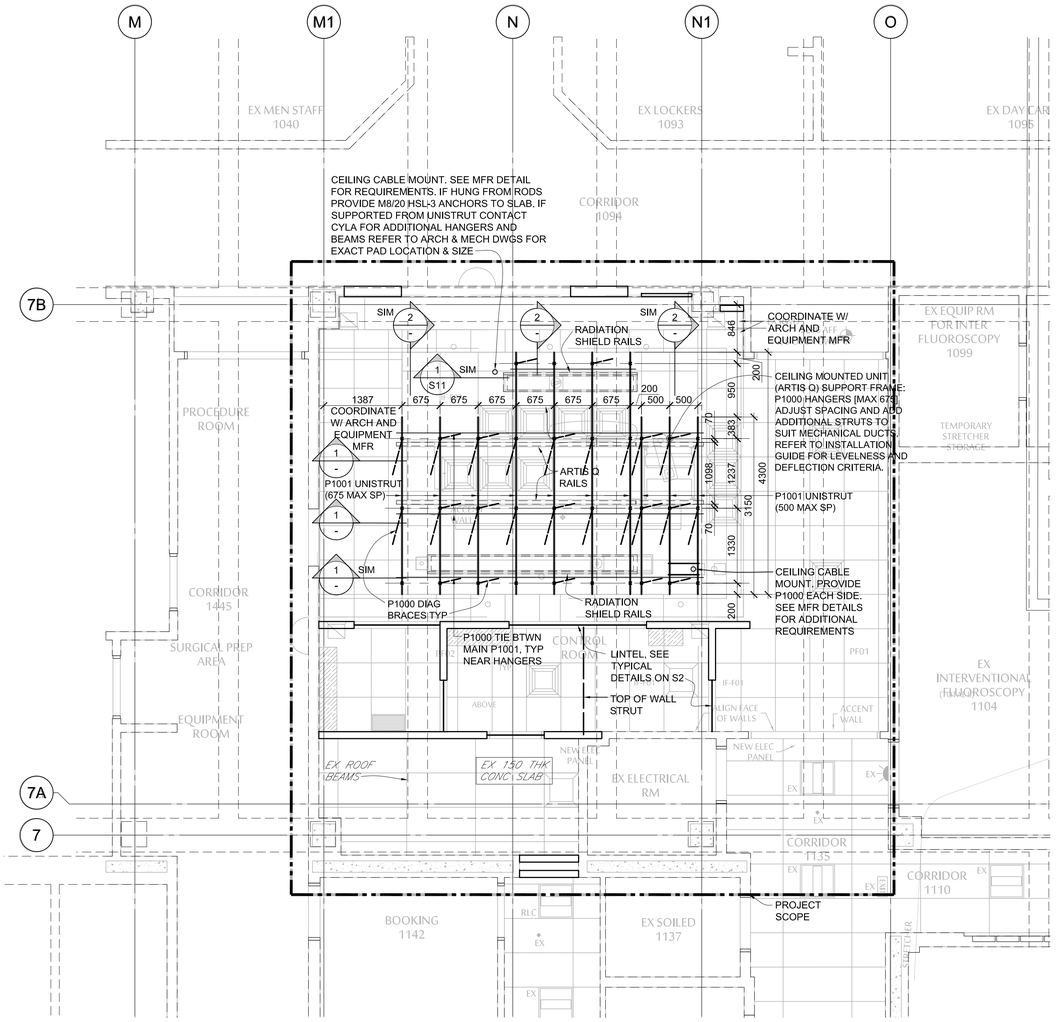
PHASE 1 - INTER FLUORO TYPICAL DETAILS

SCALE: AS NOTED
DATE: FEBRUARY 2021
DRAWN: SAL
CHECKED: KM
JOB No.: 11815

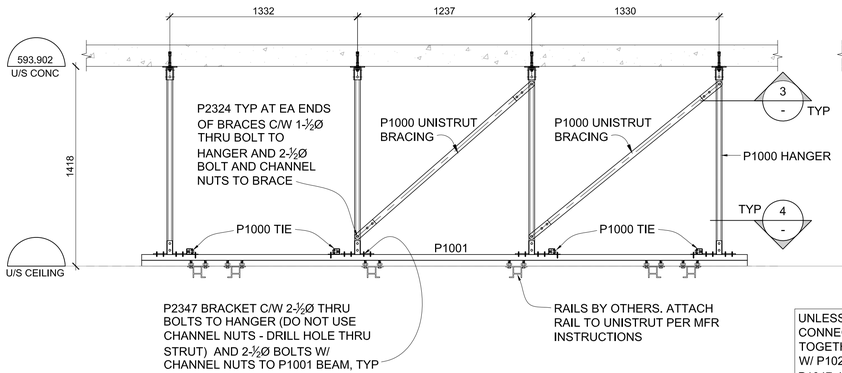
PHASE 1
S2



UHNBC - LEVEL 1 PART PLAN (B / -)
1:50

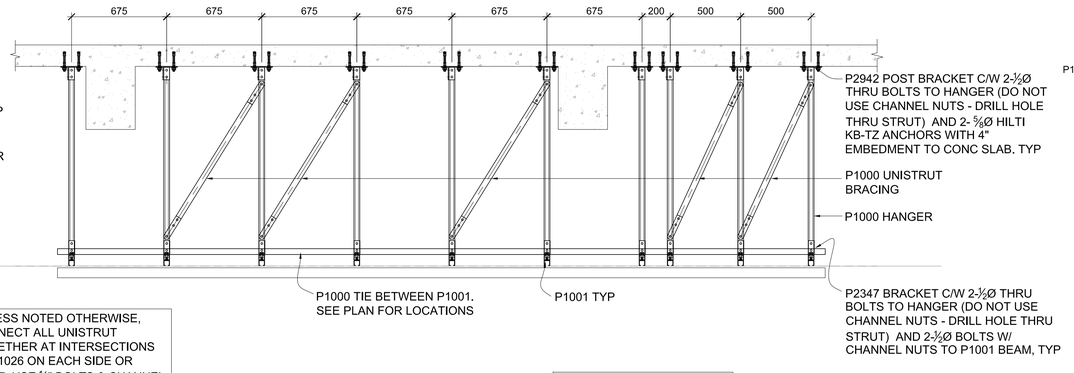


UHNBC - LEVEL 1 RCP (C / -)
1:50



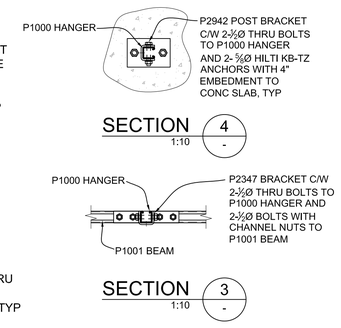
SECTION 1 / S10 / 1 / - (1:20)

UNLESS NOTED OTHERWISE, CONNECT ALL UNISTRUT TOGETHER AT INTERSECTIONS W/ P1026 ON EACH SIDE OR P1047. USE ½" BOLTS & CHANNEL NUT.



SECTION 2 / S10 / 2 / - (1:20)

XR UNIT SUPPORT FRAME: IF MECHANICAL EQUIPMENT CONFLICTS WITH LAYOUT CONTACT CYLA FOR ALTERNATE FRAMING



SECTION 4 / - (1:10)

SECTION 3 / - (1:10)

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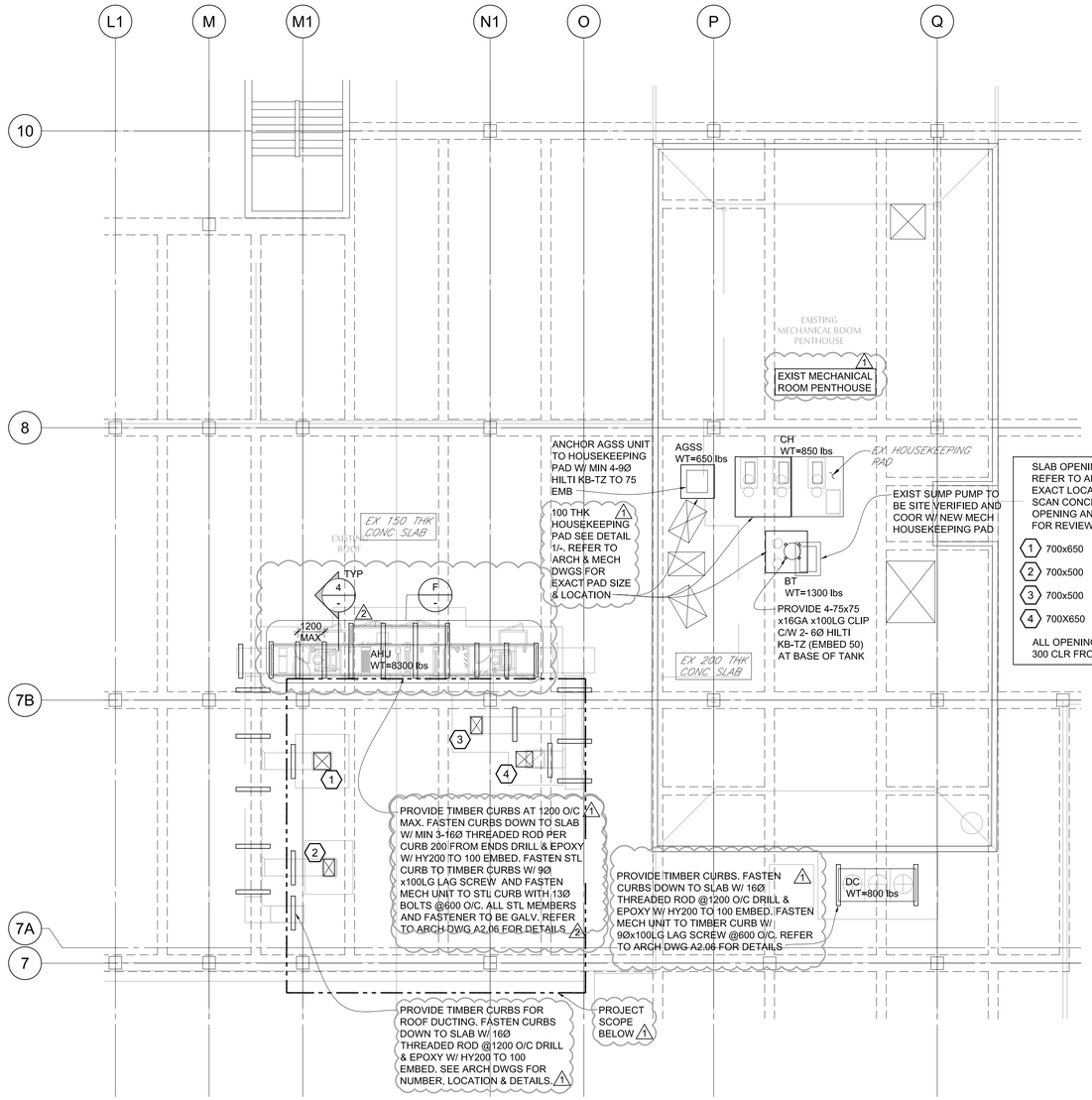
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

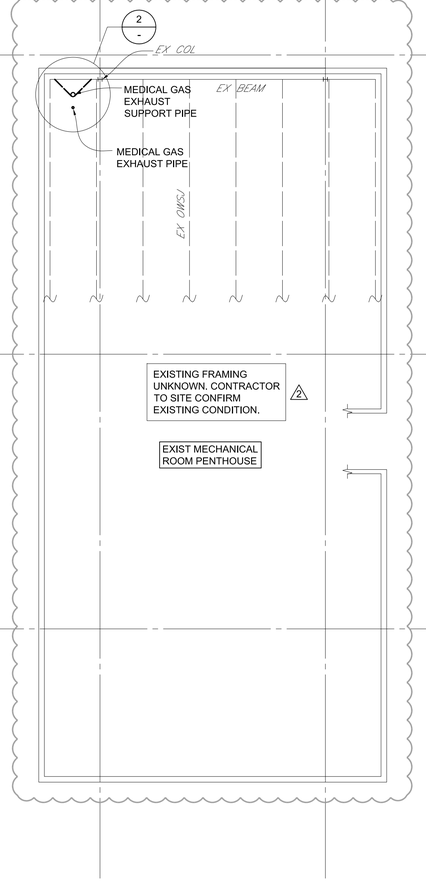
PHASE 1 - INTER FLUORO LEVEL 1 & RCP PLANS & SECTIONS

SCALE: AS NOTED
DATE: FEBRUARY 2021
DRAWN: SAL
CHECKED: KM
JOB No.: 11815

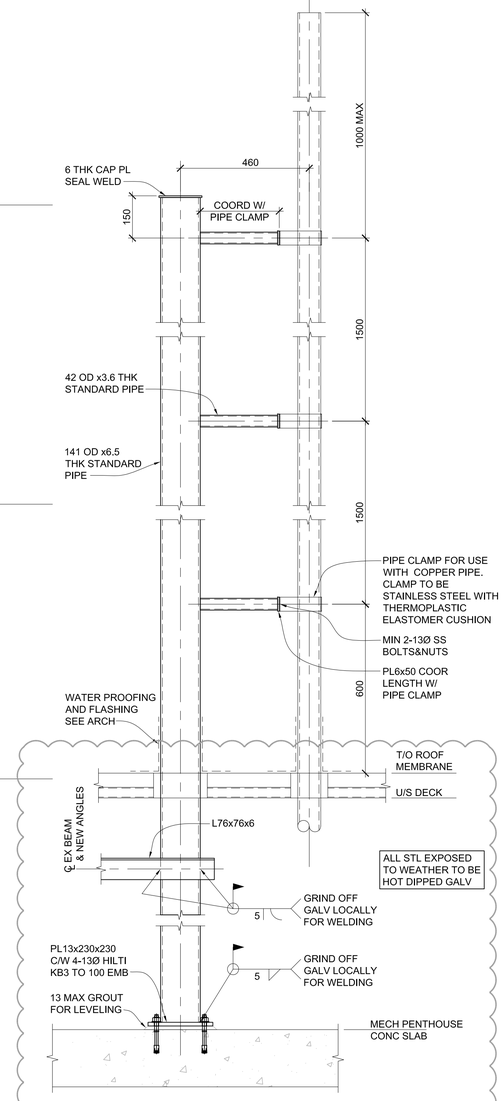
PHASE 1
S10



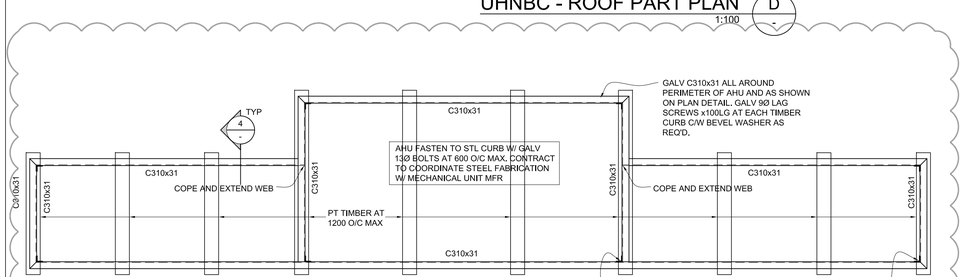
UHNBC - ROOF PART PLAN D 1:100



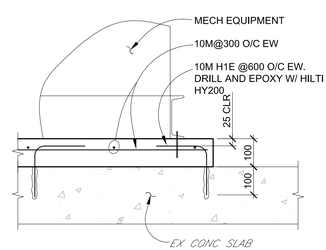
UHNBC - PENTHOUSE ROOF PLAN E 1:100



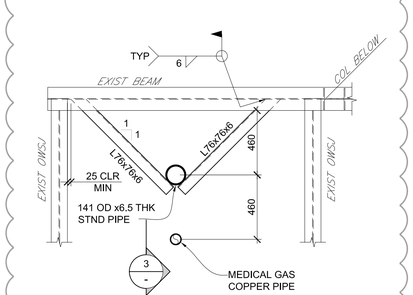
SECTION 3 1:10



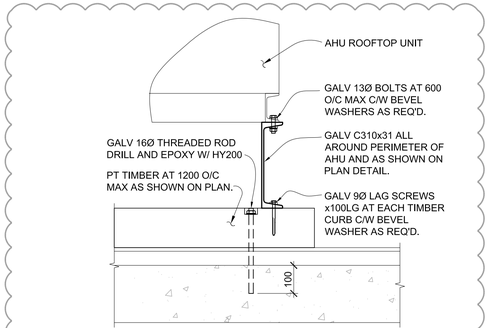
SECTION F NTS



TYP HOUSEKEEPING PAD 1 1:10



PLAN DETAIL 2 1:20



AHU CURB DETAIL 4 1:10

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	ISSUED FOR CONSTRUCTION	2020.05.14	SAL
02	ISSUED FOR TENDER ADDENDUM 2	2020.02.26	CN
01	ISSUED FOR TENDER ADDENDUM 1	2020.02.22	SAL
	ISSUED FOR TENDER	2020.02.10	SAL

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UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO ROOF & PENTHOUSE PLANS & SECTIONS

SCALE: AS NOTED
DATE: FEBRUARY 2021
DRAWN: SAL
CHECKED: KM
JOB No.: 11815

PHASE 1
S11

UHNBC FLUOROSCOPY REPLACEMENT
PHASE 1 - INTER FLUORO

DRAWING LEGEND

	SUPPLY AIR DUCT
DOWN UP	RETURN AIR DUCT
DOWN UP	EXHAUST AIR DUCT
VER. HOR.	FIRE DAMPER
	TURNING VANES
	ACOUSTIC DUCT LINER
	FLEX DUCT
	MOTORIZED DAMPER
	BALANCING DAMPER
EQUIP	EQUIPMENT TAG
C/W	COMPLETE WITH
U/C	DOOR UNDER CUT BY 3/4"
S/A	SUPPLY AIR
R/A	RETURN AIR
VTR	VENT THROUGH ROOF
BDD	BACK DRAFT DAMPER
FDA	FIRE DAMPER
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
HD	HUB DRAIN
RD	ROOF DRAIN
FA	FROM ABOVE
FB	FROM BELOW
V	VENT
LV	LAVATORY
WC	WATER CLOSET
ST	PLUMBING STACK
BT	BATHTUB
SH	SHOWER
KS	KITCHEN SINK
S	SWITCH
S_{VS}	VARIABLE SPEED SWITCH
T	THERMOSTAT / TEMPERATURE SENSOR
T_R	REVERSE ACTING THERMOSTAT
TYPE / SIZE / FLOW	DIFFUSER/GRILLE/LOUVER TAG
	HEATING WATER SUPPLY
	HEATING WATER RETURN
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RECIRC. (DHWR)
SAN	SANITARY PIPING BELOW GRADE
SAN	SANITARY PIPING ABOVE GRADE
PDTS	PARKING SANITARY (ROUTE TO OIL INTERCEPTOR)
V	SANITARY VENTING
FTG	PERIMETER DRAINTILE
STM	STORM PIPING ABOVE GRADE
F	FIRE PROTECTION PIPE
DROP DROP/RISE	PIPING DROP / RISE
	STRAINER
	BALANCING VALVE
	CIRCUIT BALANCE VALVE
	UNION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	2 WAY CONTROL VALVE
	3 WAY CONTROL VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	PUMP
	FLEXIBLE CONNECTOR
RPBFP	APPROVED REDUCED PRESSURE BACKFLOW PREVENTER
PRV	PRESSURE RELIEF VALVE PIPED TO DRAIN
	FIRE DEPT. SIAMESE CONNECTION/ FIRE STANDPIPE
	TEMPERATURE GAUGE AND DDC SENSOR LOCATION
	PRESSURE GAUGE C/W GAUGE COCK
AV	AIR VENT
AAV	AUTOMATIC AIR VENT, PIPED TO FLOOR DRAIN OR P-TRAP
	SANITARY & STORM PIPE CLEAN-OUT FLUSH TO FLOOR SLAB
	SANITARY & STORM PIPE CLEAN-OUT AT END OF PIPE
	FIRE DAMPER HORIZONTAL/ VERTICAL
	SPRINKLER PENDANT

BUILDING CODE

BC BUILDING CODE 2018

FIRE PROTECTION

BUILDING IS SPRINKLERED TO THE REQUIREMENTS OF NFPA 13-2013

CIVIC ADDRESS

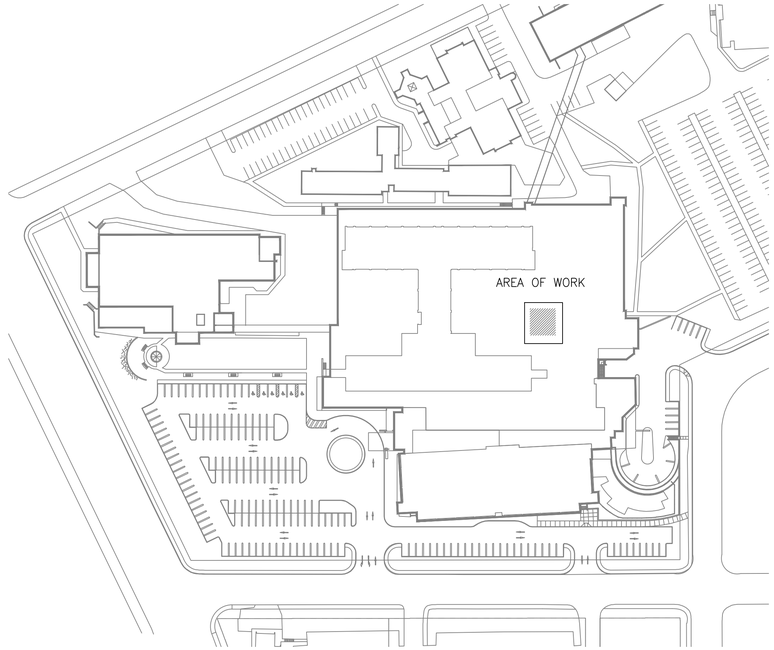
1475 EDMONTON STREET, PRINCE GEORGE, BC V2M 1S2

DRAWING LIST

DWG NO.	DRAWING NAME	SCALE
M0.000	COVERPAGE	NTS
M1.100	LEVEL 0 EXISTING SANITARY DEMO PLAN	1 : 50
M1.101	LEVEL 1 EXISTING PLUMBING DEMO PLAN	1 : 50
M1.102	LEVEL 1 EXISTING MEDICAL GAS DEMO PLAN	1 : 50
M1.200	LEVEL 1 EXISTING MECHANICAL DEMO PLAN	1 : 50
M1.300	LEVEL 1 FIRE SUPPRESSION DEMO PLAN	1 : 50
M2.100	LEVEL 0 SANITARY PLAN	1 : 50
M2.101	LEVEL 1 PLUMBING PLAN	1 : 50
M2.102	LEVEL 1 MEDICAL GAS PLAN	1 : 50
M2.103	ROOF MEDICAL GAS PLAN	1 : 100
M2.104	LEVEL 0 MEDICAL GAS PLAN	1 : 100
M2.200	LEVEL 1 MECHANICAL PLAN	1 : 50
M2.201	LEVEL 1 MECHANICAL CEILING PLAN	1 : 50
M2.202	ROOF MECHANICAL PLAN	1 : 50
M2.203	ROOF MECHANICAL PIPING PLAN	1 : 50
M2.204	LEVEL 1 MECHANICAL PIPING PLAN	1 : 50
M2.205	LEVEL 0 MECHANICAL HEATING WATER PLAN	1 : 50
M2.206	LEVEL 0 MECHANICAL CHILLED WATER PLAN	1 : 100
M2.300	LEVEL 1 FIRE SUPPRESSION PLAN	1 : 50
M4.100	SCHEMATICS	NTS
M4.200	DETAILS	NTS
M4.201	DETAILS	NTS
M5.100	SCHEDULES	NTS
M5.101	SCHEDULES	NTS
M5.201	SPECIFICATIONS	NTS
M5.202	SPECIFICATIONS	NTS
M5.203	SPECIFICATIONS	NTS

GENERAL NOTES

1. THE MECHANICAL SYSTEM SHALL CONSIST OF ALL THE WORK SHOWN ON DRAWINGS, SCHEMATICS, AND AS DESCRIBED IN SPECIFICATIONS.
2. INSTALL ALL MECHANICAL WORK AS HIGH AS POSSIBLE, TIGHT TO STRUCTURE ABOVE, EXCEPT WHERE CONFLICT OCCURS WITH REQUIREMENTS LISTED UNDER SPECIFICATION (VIBRATION ISOLATION).
3. THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND DO NOT ATTEMPT TO SHOW ALL REQUIRED OFFSETS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CONSTRUCTION DETAILS.
4. ITEMS NOTED "TYPICAL" OR "TYP" ON ANY SHEET APPLY TO THAT PARTICULAR SHEET.
5. COORDINATE WITH SPECIFICATION. IN CASE OF CONFLICT BETWEEN SPECIFICATIONS AND DRAWINGS THE MORE STRINGENT SHALL APPLY.
6. PROVIDE ELECTRICAL CODE MINIMUM HORIZONTAL AND VERTICAL WORKING CLEARANCE FOR ALL ELECTRICAL PANELS AND EQUIPMENT. OFFSET MECHANICAL AS REQUIRED.
7. COORDINATE ALL MECHANICAL WORK WITH THAT OF OTHER TRADES TO ENSURE PROPER AND ADEQUATE INTERFACE OF THEIR WORK WITH THE WORK OF THIS CONTRACTOR. PROVIDE COORDINATED SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION.
8. MECHANICAL EQUIPMENT SHALL NOT BE USED FOR TEMPORARY HEAT DURING CONSTRUCTION.
9. ALL DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS. ADD APPROPRIATE DIMENSION FOR INSULATION OR DUCT LINER TO OBTAIN "TOTAL" DUCT SIZE.
10. INSTALL DYNAMIC FIRE DAMPERS AT ALL LOCATIONS WHERE DUCTS PENETRATE FIRE RATED WALLS OR OCCUPANCY SEPARATION WALLS. DAMPER FIRE RATING SHALL BE 1-1/2 HOUR UNLESS NOTED OTHERWISE. COORDINATE DAMPER ACCESS WITH ARCHITECT.
11. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL DIFFUSERS AND GRILLES.
12. CONTRACTOR TO PROVIDE A SIMILAR TYPE DUCT CONSTRUCTION FOR ALL EXPOSED APPLICATIONS (I.E. NO LONGITUDINAL SEAM AND SPIRAL SEAM IN EXPOSED APPLICATIONS). FLANGE TYPE DUCT CONNECTIONS FOR EXPOSED AREAS IS PROHIBITED UNLESS OTHERWISE NOTED. CONTRACTOR TO REFER TO SPECIFICATIONS FOR TYPE OF DUCT CONSTRUCTION ALLOWED.
13. PROVIDE CONCEALED DAMPER REGULATORS FOR ALL VOLUME DAMPERS OVER INACCESSIBLE CEILINGS AND SOFFITS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
14. PROVIDE TRANSITIONS AND FLEXIBLE CONNECTORS AS REQUIRED TO CONNECT DUCTWORK TO FANS AND OTHER MECHANICAL EQUIPMENT.
15. PROVIDE DIFFUSER AND GRILLE FRAMES COMPATIBLE WITH ARCHITECTURAL CEILING TYPE. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPE. COORDINATE DIFFUSER AND GRILLE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
16. COORDINATE EXACT LOCATIONS OF ALL ROOM THERMOSTATS AND/OR ROOM TEMPERATURE SENSORS WITH ARCHITECT PRIOR TO INSTALLATION.
17. PROVIDE VOLUME DAMPER FOR EACH SUPPLY, RETURN AND EXHAUST OPENING. PROVIDE BALANCING DAMPER IN BRANCHES WHERE THREE OR MORE OPENINGS ARE ASSOCIATED WITH THE BRANCH AND ELSEWHERE AS NOTED ON THE DRAWINGS AND SPECIFICATIONS.
18. PROVIDE 1" THICK FIBRE FREE DUCT LINER IN ALL TRANSFER DUCTWORK UNLESS NOTED OTHERWISE.
19. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES WITH CASEWORK AND ARCHITECTURAL DRAWINGS.
20. TRAP PRIMERS ARE REQUIRED ON ALL FLOOR DRAIN TRAPS UNLESS OTHERWISE NOTED. NOTE THAT THE PIPING AND TRAP PRIMERS ARE NOT SHOWN ON DRAWINGS AND ARE TO BE FIELD ROUTED ONSITE BY MECHANICAL CONTRACTOR.
21. INSULATE DUCT PLENUMS FOR OUTSIDE AIR, RETURN AIR AND EXHAUST AIR. FOR ALL OTHER DUCTWORK INSULATION REFER TO SPECIFICATIONS.
22. REFER TO MECHANICAL DETAILS FOR ADDITIONAL ACOUSTICAL AND THERMAL INSULATION REQUIREMENTS FOR DUCT AND EQUIPMENT.
23. SEISMIC RESTRAINTS FOR ALL EQUIPMENT AND PIPING SHALL BE COVERED BY MECHANICAL CONTRACTOR.
24. SEISMIC ENGINEER SHALL BE RETAINED UNDER THE MECHANICAL CONTRACTOR'S SCOPE OF WORK TO ENSURE SEISMIC INSTALLATIONS ARE INSTALLED IN ACCORDANCE WITH CODE. SEISMIC INSTALLATION SHALL BE APPROVED BY A CERTIFIED SEISMIC ENGINEER AND PROVIDE SIGNED SEALED SHOP DRAWINGS TO THAT EFFECT.
25. WHEREVER POSSIBLE, ALL PIPING TO BE RUN AS HIGH AS POSSIBLE TO PROVIDE SUFFICIENT CLEARANCE FOR DUCTWORK.
26. UNLESS NOTED OTHERWISE, ALL SANITARY AND STORM DRAINS OF SIZES 3 INCHES (75 MM) AND SMALL SHALL BE SLOPED TO 2%, AND DRAINS OF SIZES 4 INCHES (100MM) AND LARGER TO BE SLOPED AT 1%.
27. PROVIDE CONDENSATE DRAIN LINE FOR ALL COOLING EQUIPMENT TO NEAREST DRAIN.
28. SLAB PENETRATION TO WOOD FRAME OR RESIDENTIAL AREAS, AS WELL AS ALL PENETRATION FROM PARKADE AREAS AS WELL AS ALL PENETRATIONS INTO THE COMMERCIAL AREAS WILL REQUIRE 2 HR. FT RATED FIRE STOP SYTEMS.



1 M0.000 SITE PLAN
SCALE: NTS

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www.impacteng.ca
(604) 200-9087

No.	REVISION	DATE	BY
5	ISSUED FOR CONSTRUCTION	2021.05.17	JL
4	ISSUED FOR TENDER	2021.02.10	JL
3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

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COVERPAGE

SCALE: NTS
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M0.000

N

DRAWING NOTES

1. EXISTING SANITARY MAIN TO BE REMOVED AND CAPPED BACK AT MAIN.

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1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

LEVEL 0 EXISTING SANITARY PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M1.100

DRAWING NOTES

1. EXISTING PLUMBING FIXTURE TO BE REMOVED C/W EXISTING POTABLE WATER PIPING, VENT AND SANITARY DRAIN. REMOVE PIPING BACK TO MAINS WITHIN CEILING AND TO SANITARY MAINS WITHIN THE LEVEL BELOW.
2. EXISTING POTABLE WATER MAINS AND VENT TO BE OFFSET TO ACCOMMODATE STRUCTURAL SUPPORTS FOR NEW IMAGING EQUIPMENT. REFER TO NEW PLAN FOR DETAILS. PROVIDE ALL REQUIRED FITTINGS AND PIPING. COORDINATE SHUTDOWN WITH FMO.

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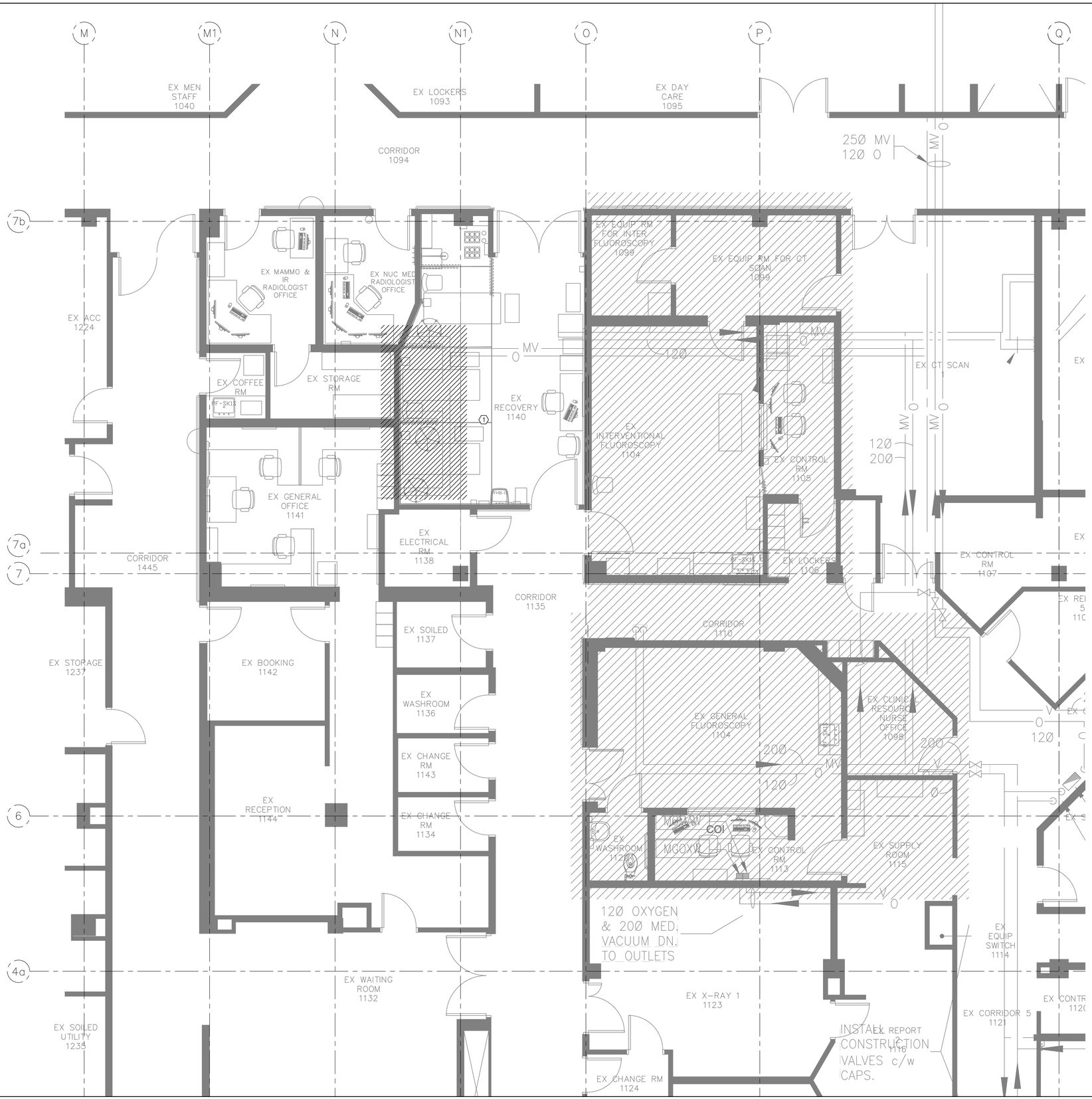
1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

LEVEL 1 EXISTING PLUMBING PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M1.101



DRAWING NOTES

1. EXISTING MEDICAL VACUUM AND OXYGEN OUTLETS TO BE REMOVED. REMOVE PIPING AND CAP BACK AT MAINS C/W NEW CONSTRUCTION VALVES. COORDINATE SHUTDOWN WITH FMO.

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3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

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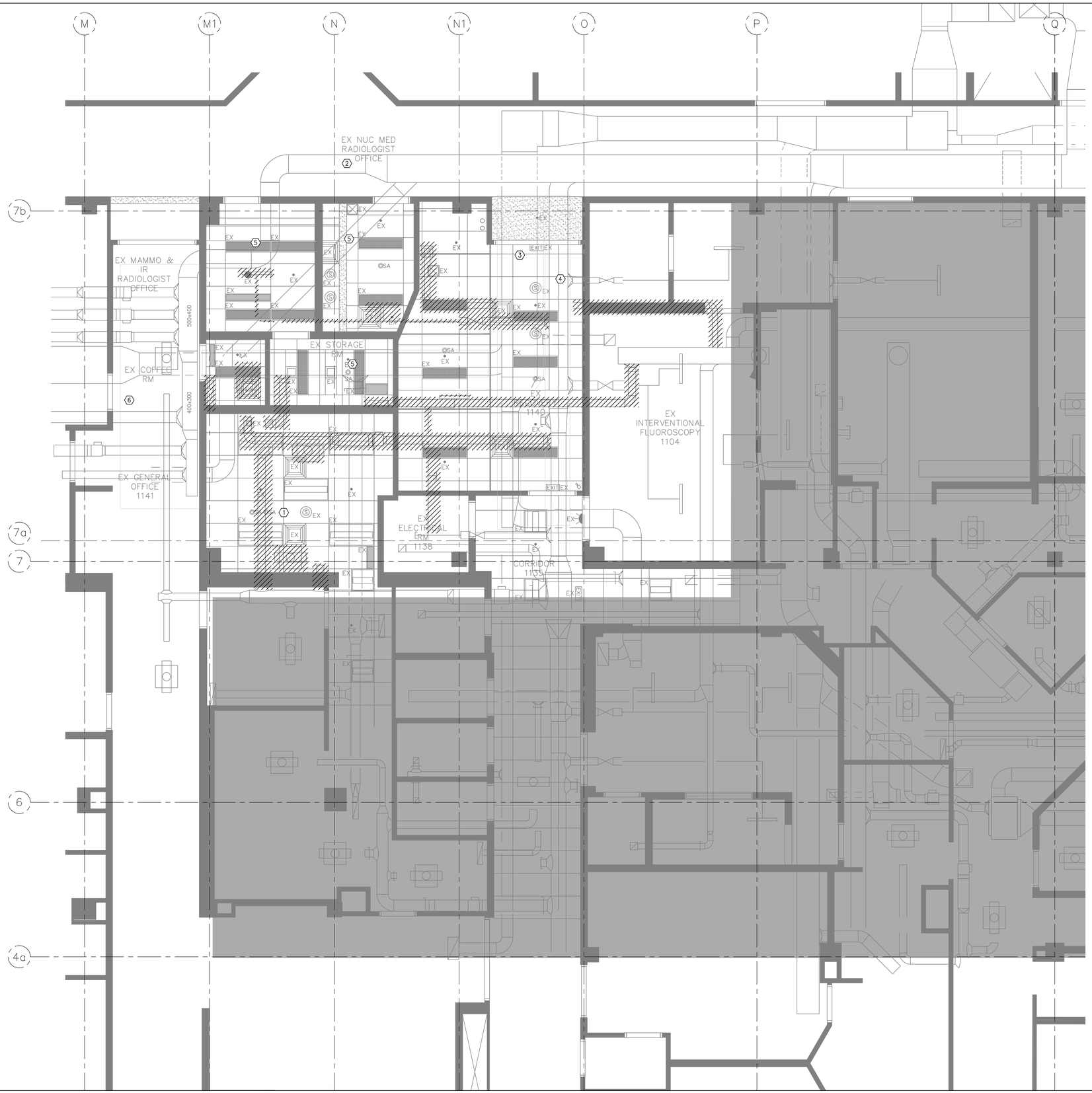
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

LEVEL 1 EXISTING MEDICAL GAS PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M1.102



DRAWING NOTES

1. REMOVE EXISTING DIFFUSERS/GRILLS C/W ASSOCIATED DUCTWORK AS SHOWN.
2. EXISTING DUCT MAIN TO BE ENLARGED RECONNECT EXISTING BRANCH MAIN. PROVIDE ALL NEW SHEET METAL AS REQUIRED. COORDINATE WORK WITH FMO. REFER TO NEW PLANS FOR DETAILS.
3. EXISTING SUPPLY DUCT MAIN SECTION TO BE MODIFIED TO ACCOMMODATE NEW STRUCTURAL SUPPORTS REQUIRED FOR IMAGING EQUIPMENT. OFFSET AND FLATTEN DUCT AS SHOWN. REFER TO NEW PLANS FOR DETAILS. COORDINATE FINAL LOCATION OF RELOCATE DUCT ON SITE.
4. EXISTING EXHAUST DUCT MAIN SECTION TO BE MODIFIED TO ACCOMMODATE NEW STRUCTURAL SUPPORTS REQUIRED FOR IMAGING EQUIPMENT. OFFSET AND FLATTED DUCT AS SHOWN. REFER TO NEW PLANS FOR DETAILS. COORDINATE FINAL LOCATION OF RELOCATED DUCT ON SITE.
5. EXISTING SUPPLY DUCT BRANCH TO BE REROUTED TO ACCOMMODATE NEW STRUCTURAL SUPPORTS REQUIRED FOR IMAGING EQUIPMENT. REFER TO NEW PLANS FOR DETAILS. COORDINATE FINAL LOCATION OF RELOCATED DUCT ON SITE.
6. EXISTING SUPPLY DUCT MAIN AND BRANCHES TO BE OFFSET AS REQUIRED TO ACCOMMODATE NEW DUCT MAIN WITHIN CORRIDOR. PROVIDE AND INSTALL ALL SHEET METAL FITTINGS AS REQUIRED. WORK TO BE COMPLETE AFTER HOURS. COORDINATE WORK WITH FMO. REFER TO NEW DUCTING PLAN FOR ROUTING OF NEW DUCT MAIN

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LEVEL 1 EXISTING MECHANICAL PLAN

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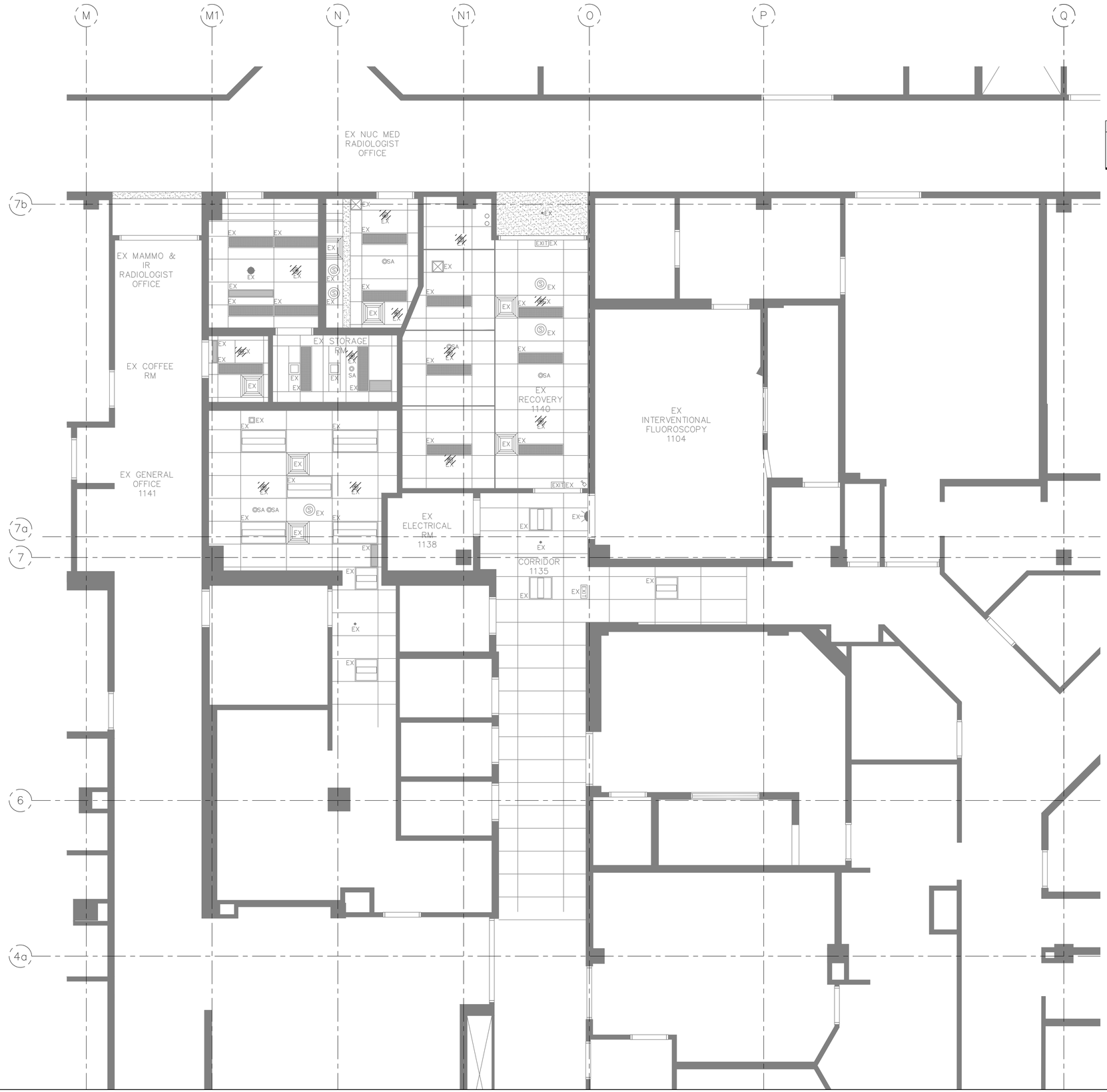
M1.200



DRAWING NOTES

1. REMOVE ALL SPRINKLER PENDANTS, PIPING, MAINS, AND BRANCHES WITHIN RENOVATION AREA. REFER TO NEW PLANS FOR NEW PENDANT LAYOUTS. COORDINATE NEW SPRINKLER PIPING WITH NEW STRUCTURAL SUPPORTS FOR IMAGING EQUIPMENT.

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LEVEL 1 EXISTING FIRE SUPPRESSION

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
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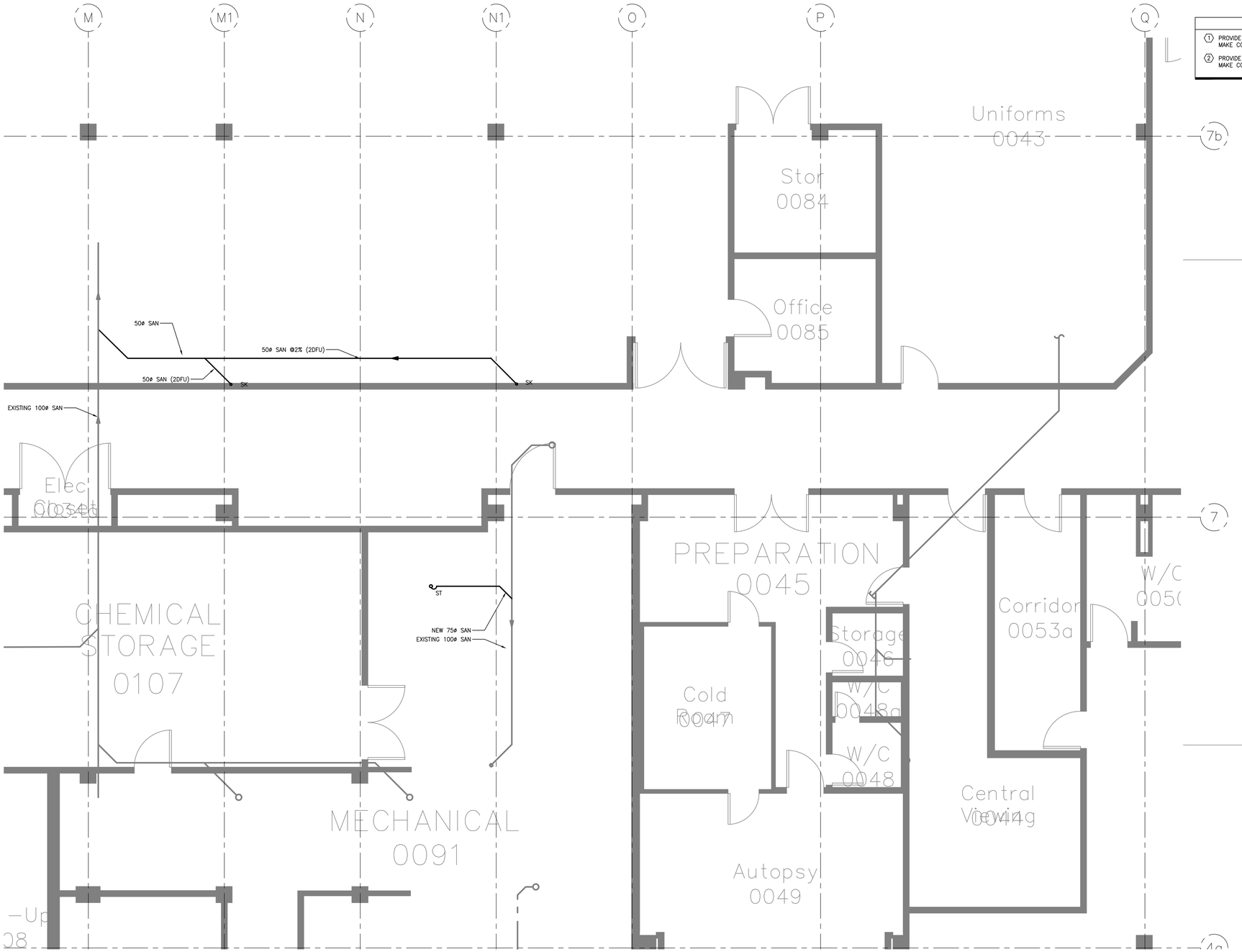
JOB No.: 20_002

M1.300



DRAWING NOTES

1. PROVIDE AND INSTALL NEW 50ø SANITARY PIPING FOR NEW PLUMBING FIXTURE ABOVE. MAKE CONNECTION TO EXISTING 100ø MAIN.
2. PROVIDE AND INSTALL NEW 75ø SANITARY STACK TO SERVE RPBP DRAIN ON LEVEL 1. MAKE CONNECTION TO EXISTING 100ø SANITARY MAIN.

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LEVEL 0 SANITARY PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
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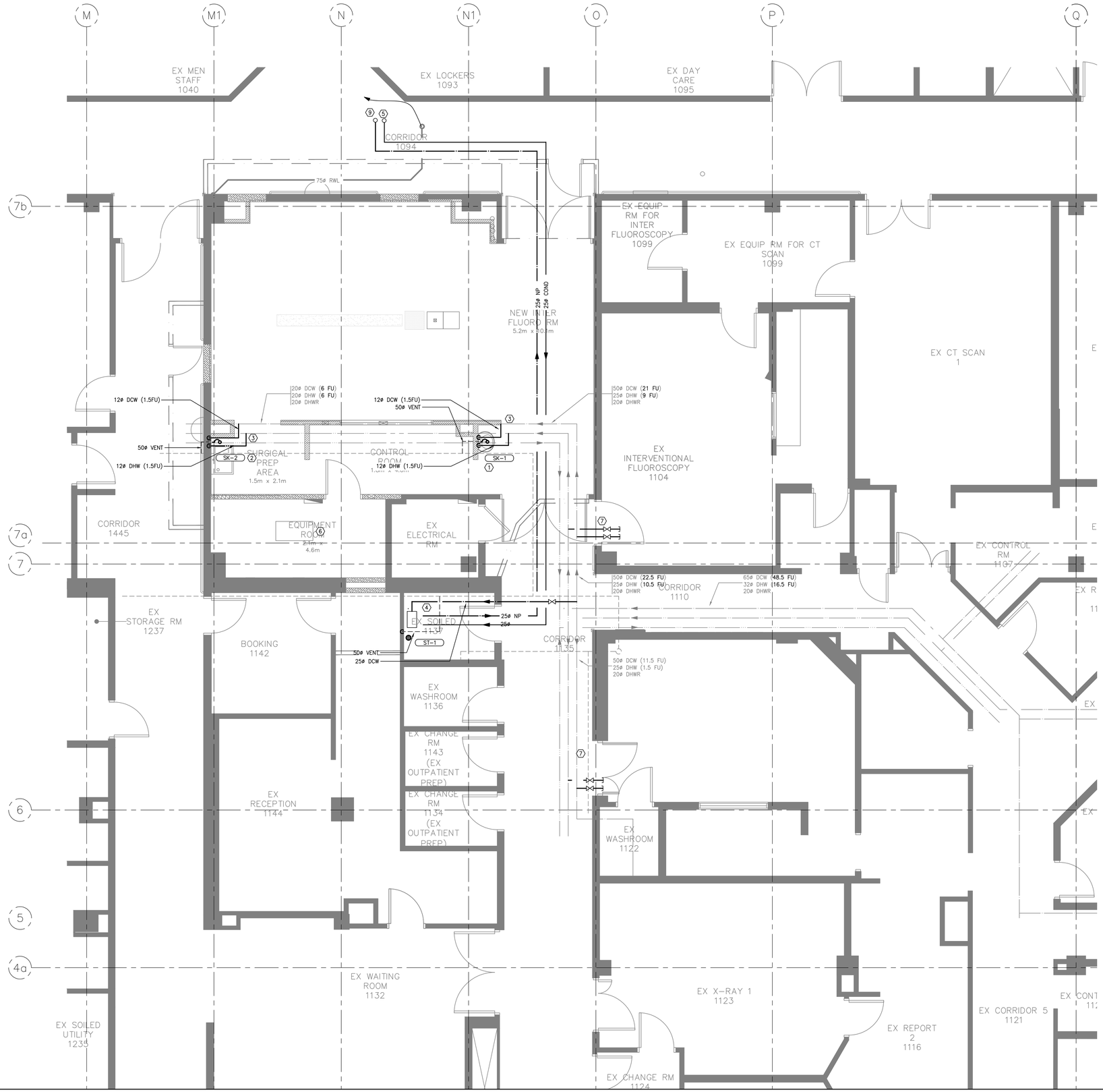
JOB No.: 20_002

M2.100



DRAWING NOTES

1. PROVIDE AND INSTALL NEW ELECTRONIC HANDS-FREE HAND HYGIENE SINK C/W 12ø DCW, 12ø DHW, 50ø SAN AND 40ø VENT CONNECTIONS. PROVIDE AND INSTALL NEW MIXING VALVE UNDER SINK. DHW PIPING FROM CEILING TO MIXING VALVE SHALL BE HEAT TRACED. RAYCHEM DHW TEMPERATURE HWAT HEAT TRACING. COORDINATE POWER CONNECTIONS FOR HEAT TRACING AND ELECTRONIC FAUCET WITH ELECTRICAL.
2. PROVIDE AND INSTALL NEW SCRUB SINK C/W 12ø DCW, 12ø DHW, 50ø SAN AND 40ø VENT CONNECTIONS. PROVIDE AND INSTALL NEW MIXING VALVE UNDER SINK. DHW PIPING FROM CEILING TO MIXING VALVE SHALL BE HEAT TRACED. RAYCHEM DHW TEMPERATURE HWAT HEAT TRACING. COORDINATE POWER CONNECTIONS FOR HEAT TRACING AND ELECTRONIC FAUCET WITH ELECTRICAL.
   SCRUB SINK TO BE C/W FOOT PEDAL OPERATED FAUCET. PROVIDE AND INSTALL STAINLESS STEEL SHROUD TO COVER WASTE PIPING AND PIPING TO FOOT PEDALS.
3. MAKE CONNECTION OF NEW POTABLE WATER PIPING TO EXISTING DCW, DHW, DHWR MAINS C/W NEW ISOLATION VALVES.
4. PROVIDE AND INSTALL NEW 25ø DCW RPBP TO SERVE ELECTRONIC STEAM GENERATOR IN CEILING ABOVE. RPBP TO BE C/W 75ø DRAIN STACK.
5. 50ø DRAIN FROM HUMIDIFIER IN AHU ABOVE. PIPE 25ø NON-POTABLE DCW TO NEW DRAIN COOLER IN SOILED UTILITY ROOM. PIPE DRAIN COOLER TO RPBP STACK.
6. PIPE 25ø CONDENSATE FROM FAN COIL TO SINK P-TRAP
7. PROVIDE NEW 12 DCW AND 12 DHW PIPING TO FUTURE SINKS IN PHASE 2 AND 3. PROVIDE VALVE AND CAPPED STUB OUTS IN CORRIDOR.
8. PROVIDE AND INSTALL NEW 75ø SANITARY STACK C/W P-TRAP AND TRAP PRIMER TO SERVE RPBP DRAIN AND CONDENSATE DRAIN COOLER. PIPE NEW 50ø VENT TO EXISTING 75ø VENT IN CEILING
9. PIPE 25ø NON POTABLE DCW UP TO STEAM GENERATOR IN AHU ABOVE C/W HEAT TRACE. RAYCHEM 5XL2.
10. EXISTING 75ø ROOF DRAIN ABOVE. RELOCATE ROOF DRAIN AND STORM PIPING AS SHOWN TO AVOID CONFLICT WITH NEW AHU. RECONNECT TO EXISTIGN 75ø STORM.

PLUMBING FIXTURE CONNECTIONS SCHEDULE

TAG	DESCRIPTION	SANITARY		DOMESTIC WATER		REMARKS
		CONN. SIZE	F.U.	CONN. SIZE	TOTAL F.U.	
SK-1	HAND HYGIENE SINK	50ø	2.0	12ø	1.5	HAND HYGIENE
SK-2	SCRUB SINK	50ø	2.0	12ø	1.5	SCRUB SINK
ST-1	DRAIN FOR RPBP	75ø	3.0			STACK DRAIN C/W TRAP

DOMESTIC WATER SIZING

DOMESTIC WATER PIPING IS SIZED AS PER BCBC SECTION 2.6.3.1.(2) AND A-2.6.3.1.(2) USING THE AVERAGE PRESSURE LOSS METHOD.

1. FIXTURE UNITS ARE BASED ON BCBC TABLE 2.6.3.2.A
2. COLD WATER PIPING SIZE BASED ON TABLE A-2.6.3.1.(2)G USING A VELOCITY OF 5 FT/S
3. HOT WATER PIPING SIZE BASED ON TABLE A-2.6.3.1.(2)G USING A VELOCITY OF 4 FT/S
4. PIPING MATERIAL: TYPE K COPPER

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LEVEL 1 PLUMBING PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
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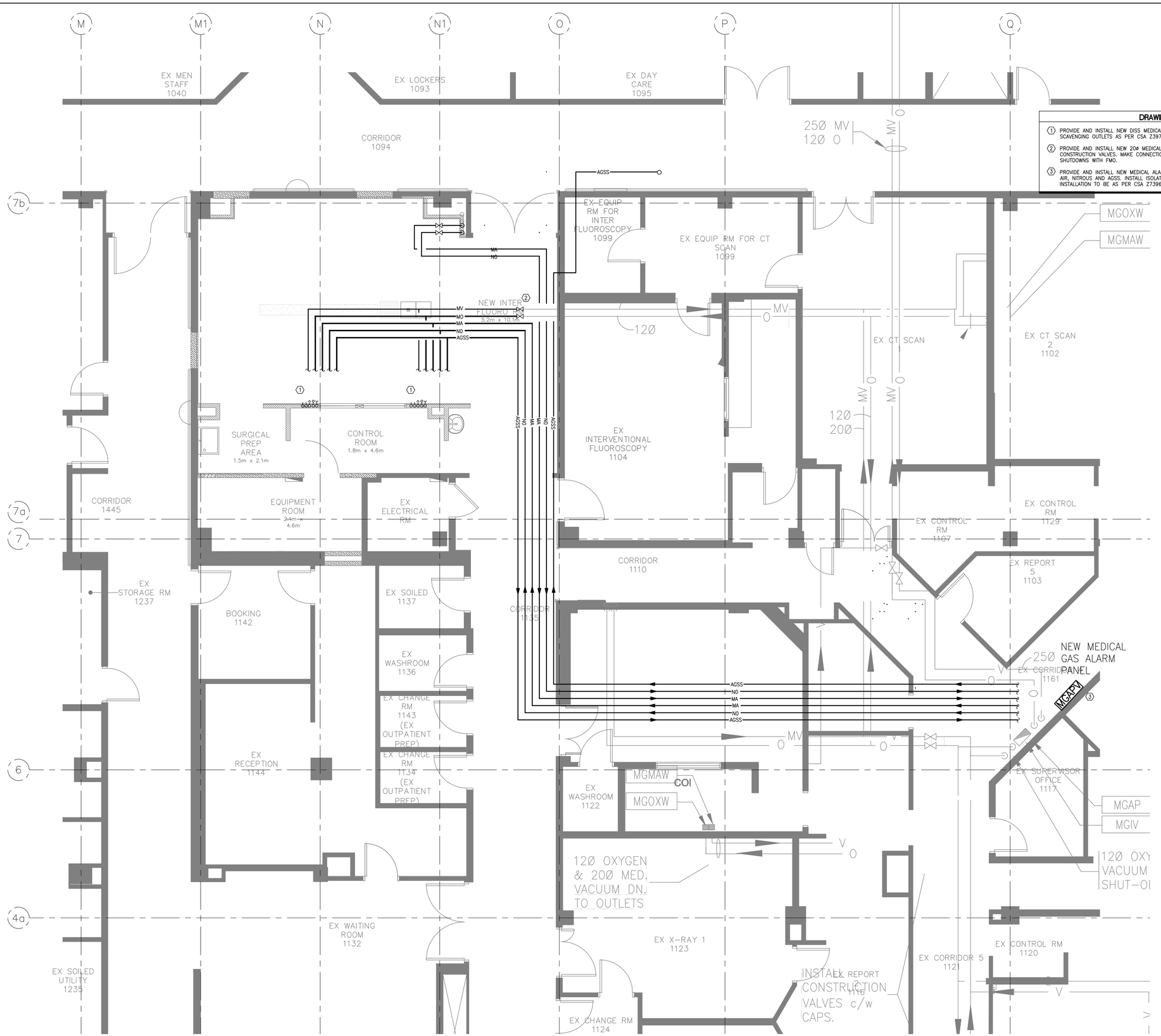
M2.101



DRAWING NOTES

1. PROVIDE AND INSTALL NEW DISS MEDICAL VACUUM, OXYGEN, AIR, NITROUS, AND SCAVENGING OUTLETS AS PER CSA Z3976.1-12.
2. PROVIDE AND INSTALL NEW 20ø MEDICAL VACUUM AND 12ø MEDICAL OXYGEN CONSTRUCTION VALVES. MAKE CONNECTION TO EXISTING MEDICAL GAS PIPING. COORDINATE SHUTDOWNS WITH FMO.
3. PROVIDE AND INSTALL NEW MEDICAL ALARM AND ZONE VALVE PANEL FOR NEW MEDICAL AIR, NITROUS AND AGSS. INSTALL ISOLATION VALVES UPSTREAM OF ZONE VALVE BOX. INSTALLATION TO BE AS PER CSA Z7396.1.

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LEVEL 1 MEDICAL GAS PLAN

SCALE: 1:50
DATE: MAY 14 2021
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JOB No.: 20_002

M2.102

DRAWING NOTES

1. PROVIDE AND INSTALL NEW ANAESTHETIC GAS SCAVENGING SYSTEM C/W TRIPLEX VACUUM PUMPS, CONTROL PANEL, REDUNDANT ELECTRICAL CONNECTIONS, 75ø TYPE K MEDICAL GAS GRADE COPPER DISCHARGE TO OUTDOORS, CONCRETE PAD, VIBRATION ISOLATORS, SEISMIC RESTRAINTS. PROVIDE ALL NEW HARDWIRED ALARM POINTS TO MASTER AND SLAVE ALARM PANELS. COORDINATE INSTALLATION WITH ELECTRICAL. PROVIDE BACNET DDC POINTS TO BMS. INSTALLATION TO BE AS PER MANUFACTURER'S LITERATURE AND CSA Z7396.1 MEDICAL GAS CODE. PIPE 25ø DRAIN TO NEAREST FLOOR DRAIN.
2. PROVIDE NEW 50ø MEDICAL GAS GRADE COPPER PIPING TO LEVEL BELOW. INSTALLATION TO BE AS PER CSA Z7396.1 MEDICAL GAS CODE.
3. DISCHARGE EXHAUST UP THROUGH ROOF C/W GOOSENECK. DISCHARGE AT A MINIMUM 15FT ABOVE ROOF DECK. PROVIDE AND INSTALL UNISTRUT SUPPORT STRUCTURE AND ANCHOR TO ROOF STRUCTURE. COORDINATE INSTALLATION WITH SEISMIC AND STRUCTURAL. PROVIDE AND INSTALL WARNING SIGNAGE INDICATING AGSS EXHAUST DISCHARGE

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PENTHOUSE MEDICAL GAS PLAN

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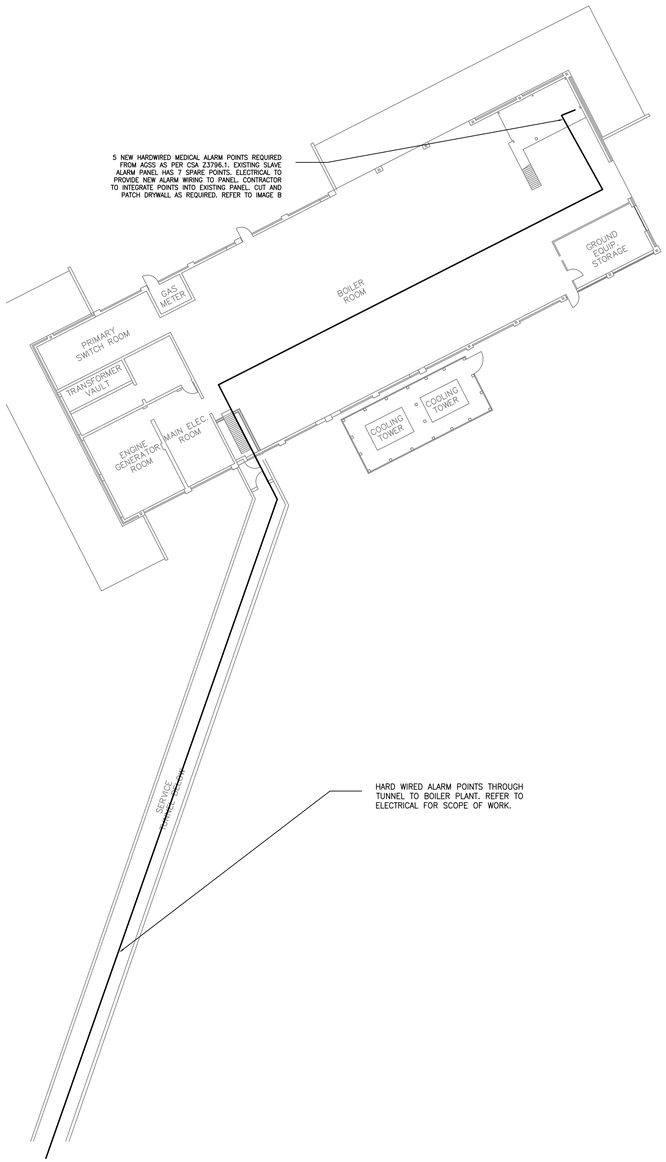
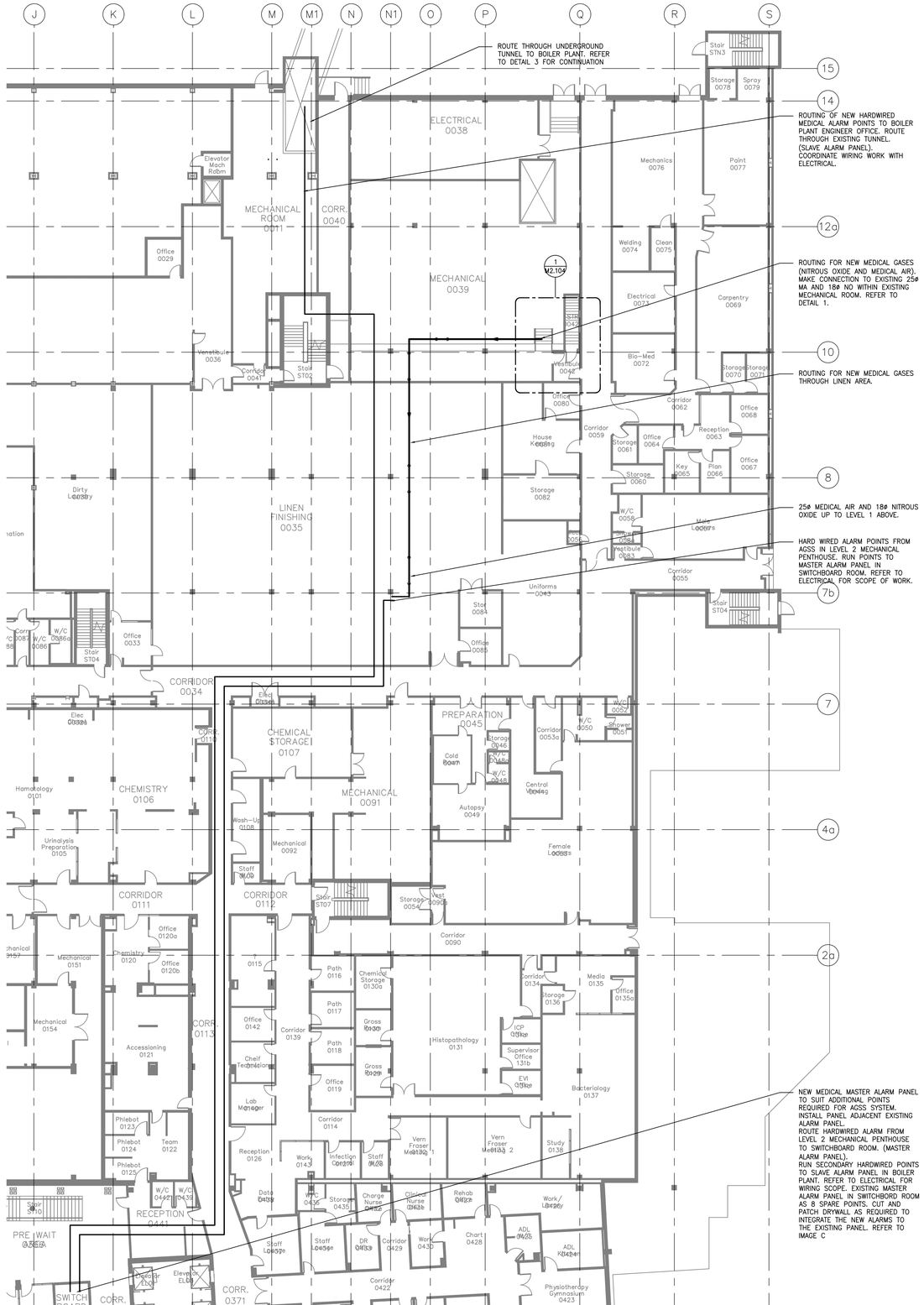
M2.103

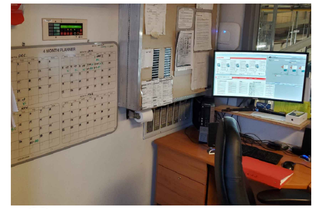


3 BOILER PLANT
M2.104 SCALE: 1:250



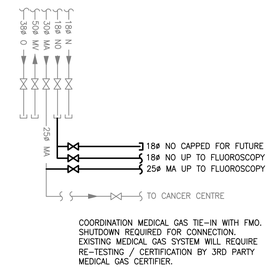
2 LEVEL 0 PLAN
M2.104 SCALE: 1:100

A UNDERGROUND TUNNEL TO BOILER PLANT
M2.104 SCALE: N/A



B SLAVE ALARM PANEL IN BOILER PLANT
M2.104 SCALE: N/A

C MASTER ALARM PANEL IN SWTICHBOARD
M2.104 SCALE: N/A



COORDINATION MEDICAL GAS TIE-IN WITH FMO. SHUTDOWN REQUIRED FOR CONNECTION. EXISTING MEDICAL GAS SYSTEM WILL REQUIRE RE-TESTING / CERTIFICATION BY 3RD PARTY MEDICAL GAS CERTIFIER.

1 MEDICAL GAS CONNECTION
M2.104 SCALE: N/A

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LEVEL 0 MEDICAL GAS PLAN

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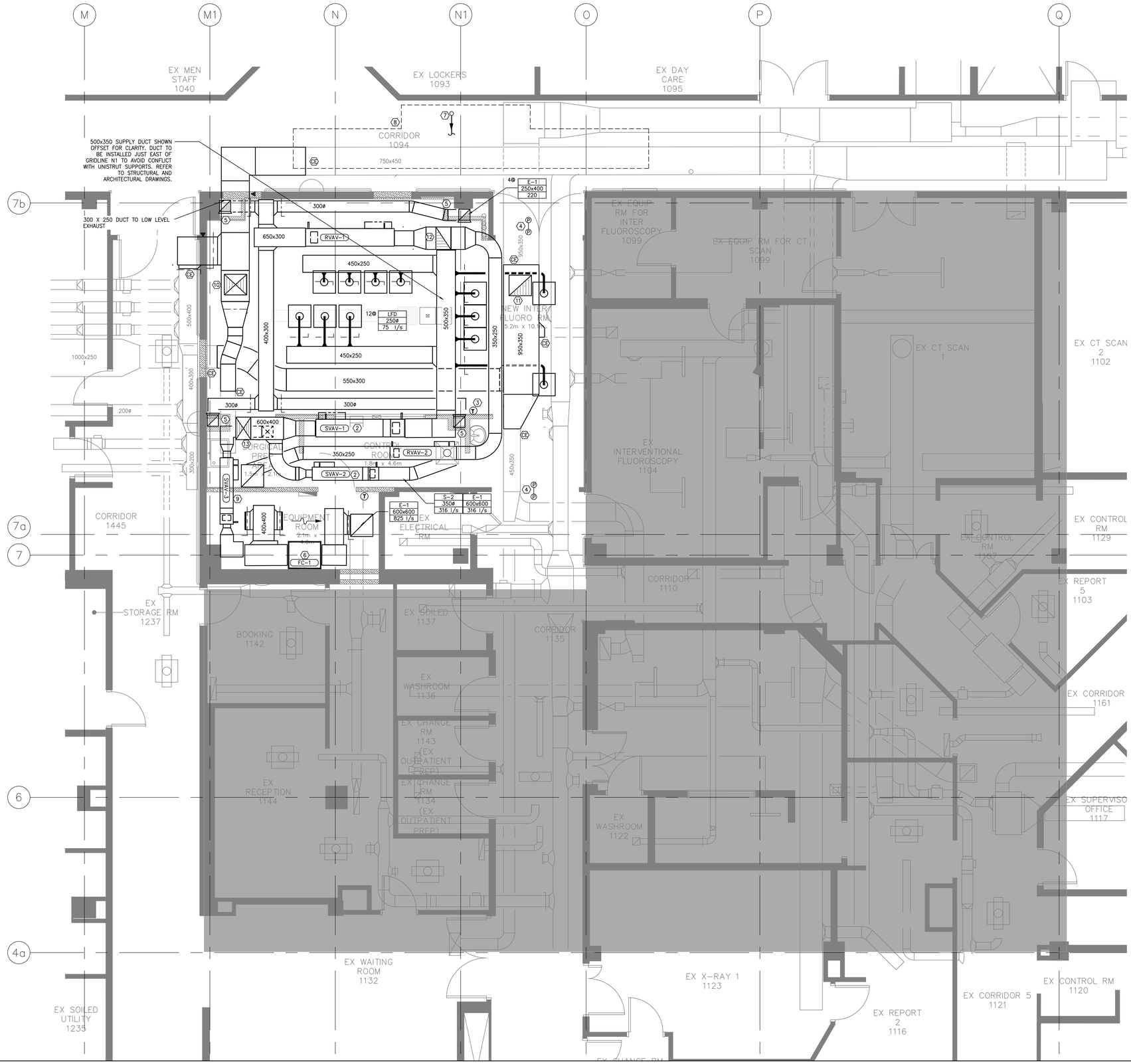

DRAWING NOTES

1. PROVIDE AND INSTALL NEW LAMINAR FLOW DIFFUSERS C/W PLENUM BOXES AND BAFFLES.
2. PROVIDE AND INSTALL NEW VAV BOX C/W REHEAT COIL, AND FIBRE FREE ATTENUATOR. MAKE CONNECTION OF REHEAT COIL TO EXISTING 50ø HWS/R PIPING IN CORRIDOR C/W NEW CONTROL VALVE.
3. PROVIDE AND INSTALL NEW ROOM THERMOSTAT AND RH SENSOR
4. PROVIDE AND INSTALL NEW DIFFERENTIAL PRESSURE SENSORS. ROOM TO BE MAINTAINED AT +2.5 Pa. MONITOR PRESSURE AT THE CENTRAL DDC SYSTEM. PROVIDE DOOR CONTACTS ON EACH DOOR.
5. PROVIDE AND INSTALL NEW LOW LEVEL STAINLESS STEEL EXHAUST GRILLES C/W REMOTE DAMPER. COORDINATE DUCT WITH NEW WALL FURRING.
6. PROVIDE AND INSTALL NEW CHILLED WATER FAN COIL TO SERVE EQUIPMENT ROOM. FAN COIL TO BE C/W FLEXIBLE CONNECTIONS, SEISMIC, VIBRATION ISOLATORS, AND 25ø CHWS/R PIPING, CONTROL VALVE AND THERMOSTAT. MAKE CONNECTION TO EXISTING 50ø CHWS/R MAINS IN CORRIDOR
7. NEW 50ø CONDENSATE FROM STEAM HUMIDIFIER IN AHU ABOVE TO SOILED UTILITY ROOM. REFER TO PLUMBING PLANS FOR DETAIL.
8. OUTLINE OF NEW AHU ON ROOF ABOVE.
9. PROVIDE AND INSTALL NEW VAV BOX AND FIBRE FREE ATTENUATOR. VAV BOX TO BE NORMALLY FULLY CLOSED. INTENDED TO BE A BACK-UP SOURCE OF COOLING SHOULD THE CHILLED WATER COIL FAIL.
10. NEW 600x550 S/A DUCT TO ROOF TOP ABOVE.
11. NEW 600x550 R/A DUCT TO ROOF TOP ABOVE
12. NEW 600x400 R/A DUCT TO ABOVE
13. NEW 600x400 S/A FROM ABOVE.

N

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LEVEL 1 MECHANICAL PLAN

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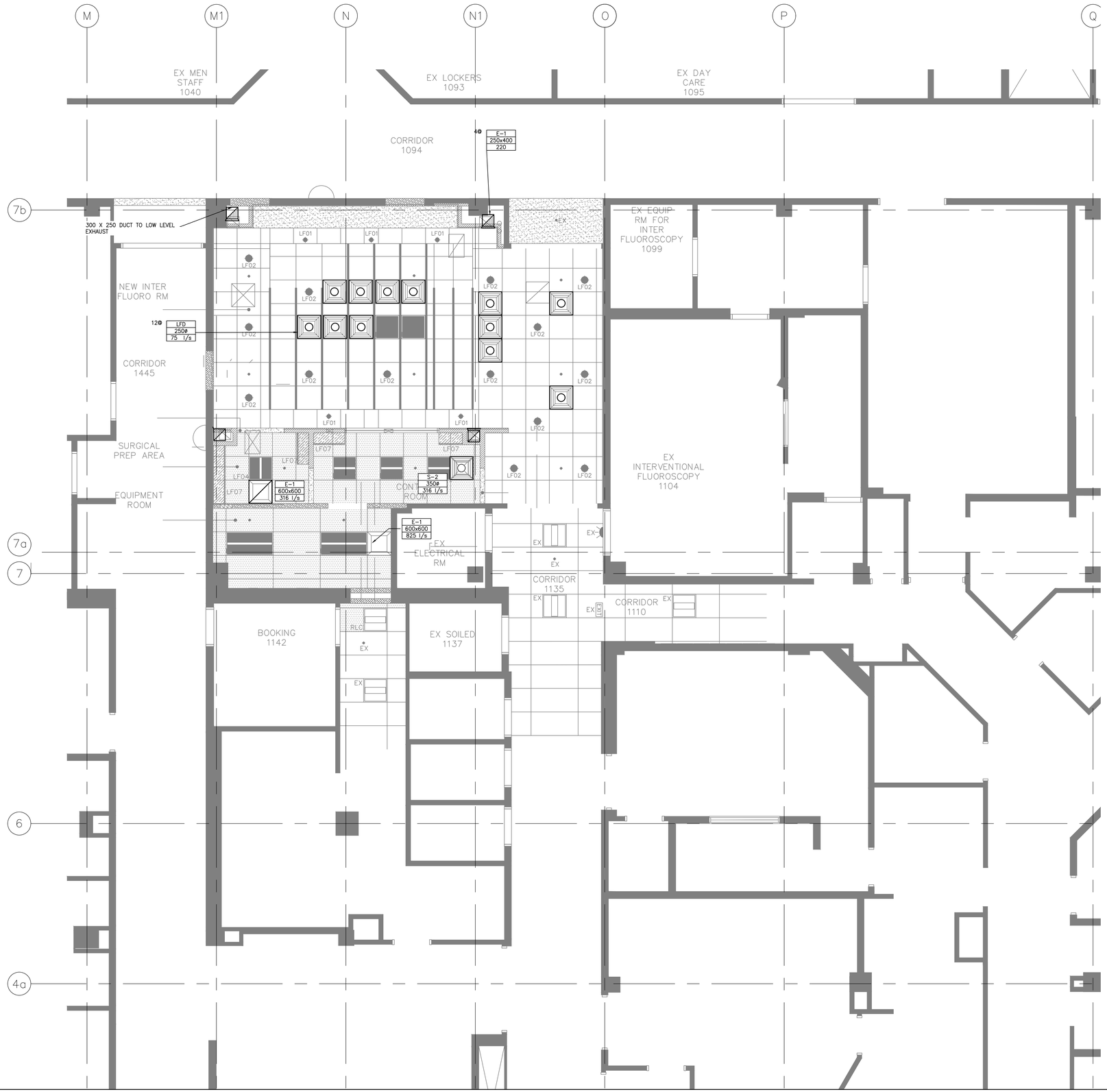
M2.200



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LEVEL 1 REFLECTED CEILING PLAN

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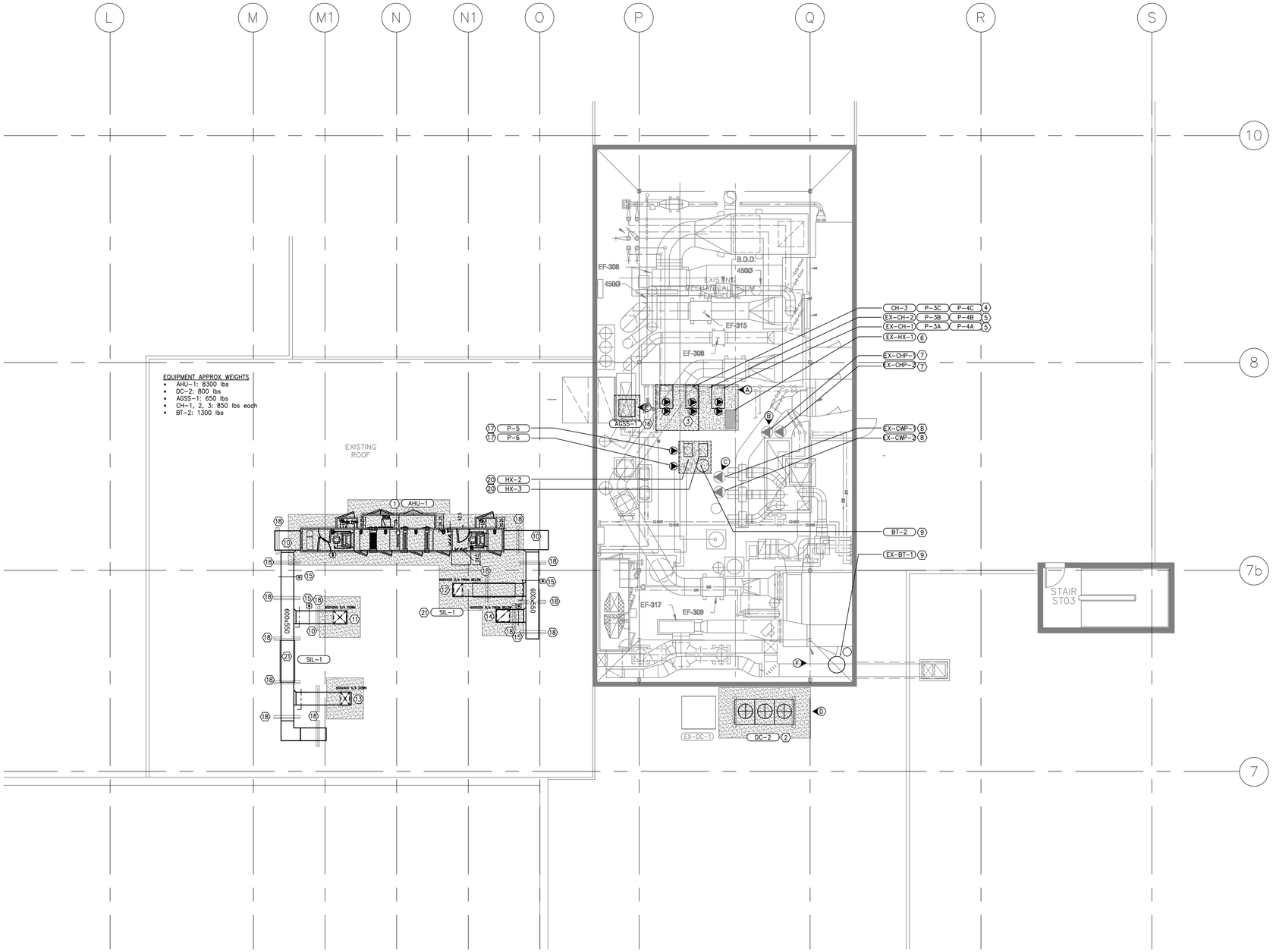
M2.201

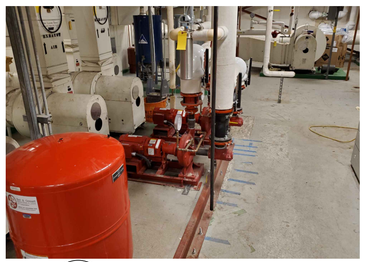


A EXISTING CH-1 AND CH-2
M2.202 SCALE: N/A

F EXISTING BUFFER TANK
M2.202 SCALE: N/A

E AGSS LOCATION
M2.202 SCALE: N/A

D EXISTING DC-1
M2.202 SCALE: N/A



C EXISTING CWP-1 AND CWP-2
M2.202 SCALE: N/A

B EXISTING CHP-1 AND CHP-2
M2.202 SCALE: N/A

DRAWING NOTES

1. PROVIDE AND INSTALL NEW ROOF TOP CUSTOM AIR HANDLING UNIT C/W COOLING COIL, PREHEAT COIL, HEATING COIL, HUMIDIFER GRID, MERV 8 FILTER, MERV 14 FINAL FILTER, VFDs, PIPING VESTIBULE, STEAM GENERATOR, VIBRATION ISOALTION, CURB, AND FLEXIBLE CONNECTIONS. PROVIDE AND INSTALL NEW CHILLED WATER PIPING, HEATING WATER PIPING, AND CONDENSER WATER PIPING(50% GLYCOL) TO PUMPED COILS C/W 3-WAY VALVE AND PUMPS. PIPING VESTIBULE TO BE C/W ELECTRIC UNIT HEATER.
2. PROVIDE AND INSTALL NEW FLUID COOLER, DC-2, C/W NEW 75ø CWS/R PIPING, INSULATION AND ALUMINUM JACKET. INSTALLATION TO BE AS PER MANUFACTURER'S LITERATURE. PROVIDE NEW ROOF CURBS. INSTALL ADJACENT EXISTING DC-1.
3. PROVIDE AND INSTALL NEW LARGER EQUIPMENT PAD.
4. PROVIDE AND INSTALL NEW HEAT PUMP C/W VIBRATION ISOLATORS, SEISIMC, AND FLEXIBLE CONNECTIONS. MAKE CONNECTION TO EXISTING 75ø CONDENSER WATER AND CHILLED WATER HEADERS.
5. EXISTING HEAT PUMPS, CH-1 AND CH-2, TO BE REMOVED AND REPLACED WITH NEW. EXISTING UNITS ARE 10 TONS EACH. NEW UNITS ARE 12.5 TONS EACH. PHASE REPLACEMENT TO ENSURE EXISTING CHILLED WATER SYSTEM REMAINS OPERATIONAL. COORDINATE INSTALLATION WITH FMO.
6. EXISTING HEAT EXCHANGER HX-1 TO REMAIN.
7. EXISTING CHILLED WATER PUMPS TO TO BE REPLACED WITH NEW LARGER PUMPS C/W VSD. MAKE CONNECTION TO EXISTING 75ø CHWS/R HEADER. PHASE REPLACEMENT TO ENSURE SYSTEM REMAINS FUNCTIONAL. COORDINATE INSTALLATION WITH FMO
8. EXISTING CONDENSER WATER PUMPS TO TO BE REPLACED WITH NEW LARGER PUMPS C/W VSD. MAKE CONNECTION TO EXISTING 75ø CWS/R HEADER. PHASE REPLACEMENT TO ENSURE SYSTEM REMAINS FUNCTIONAL. COORDINATE INSTALLATION WITH FMO
9. EXISTING 80 GA BUFFER TANK TO REMAIN
10. PROVIDE AND INSTALL NEW ROOF TOP DUCTWORK C/W 25MM THICK FIBRE FREE ACOUSTIC LINER AND R-12 (IP) EXTERNAL INSULATION WRAP C/W ALUMINUM CLADDING AND ROOD DUCT SUPPORTS.
11. 600x550 SUPPLY DUCT DOWN TO BELOW.
12. 600x550 RETURN DUCT UP FROM BELOW.
13. 600x550 SUPPLY DUCT FROM EXISTING SF-309 C/W MOTORIZED DAMPER.
14. 600x550 SUPPLY DUCT FROM EXISTING RF-303 C/W MOTORIZED DAMPER.
15. PROVIDE AND INSTALL NEW MOTORIZED DAMPER.
16. NEW ANAESTHETIC GAS SCAVENGING SYSTEM. REFER TO MEDICAL GAS PLAN FOR DETAILS.
17. PROVIDE AND INSTALL NEW PUMPS C/W INTEGRATED VSD, VIBRATION ISOLATION, AND SEISMIC RESTRAINTS. INLINE PUMPS TO SERVE NEW AHU COILS.
18. PROVIDE AND INSTALL DUCT SUPPORTS. REFER TO ARCHITECTURAL DRAWINGS FOR DUCT SUPPORT CURBS.
19. PROVIDE AND INSTALL NEW BUFFER TANK C/W PAD
20. PROVIDE AND INSTALL NEW HYDRONIC TO 50% PROPYLENE GLYCOL PLATE AND FRAME HEAT EXCHANGER C/W RELIEF, PAD, AND GAUGES.
21. PROVIDE AND INSTALL 2000mm LONG FIBRE FREE SILENCER.

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No.	REVISION	DATE	BY
5	ISSUED FOR CONSTRUCTION	2021.05.17	JL
4	ISSUED FOR TENDER	2021.02.10	JL
3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

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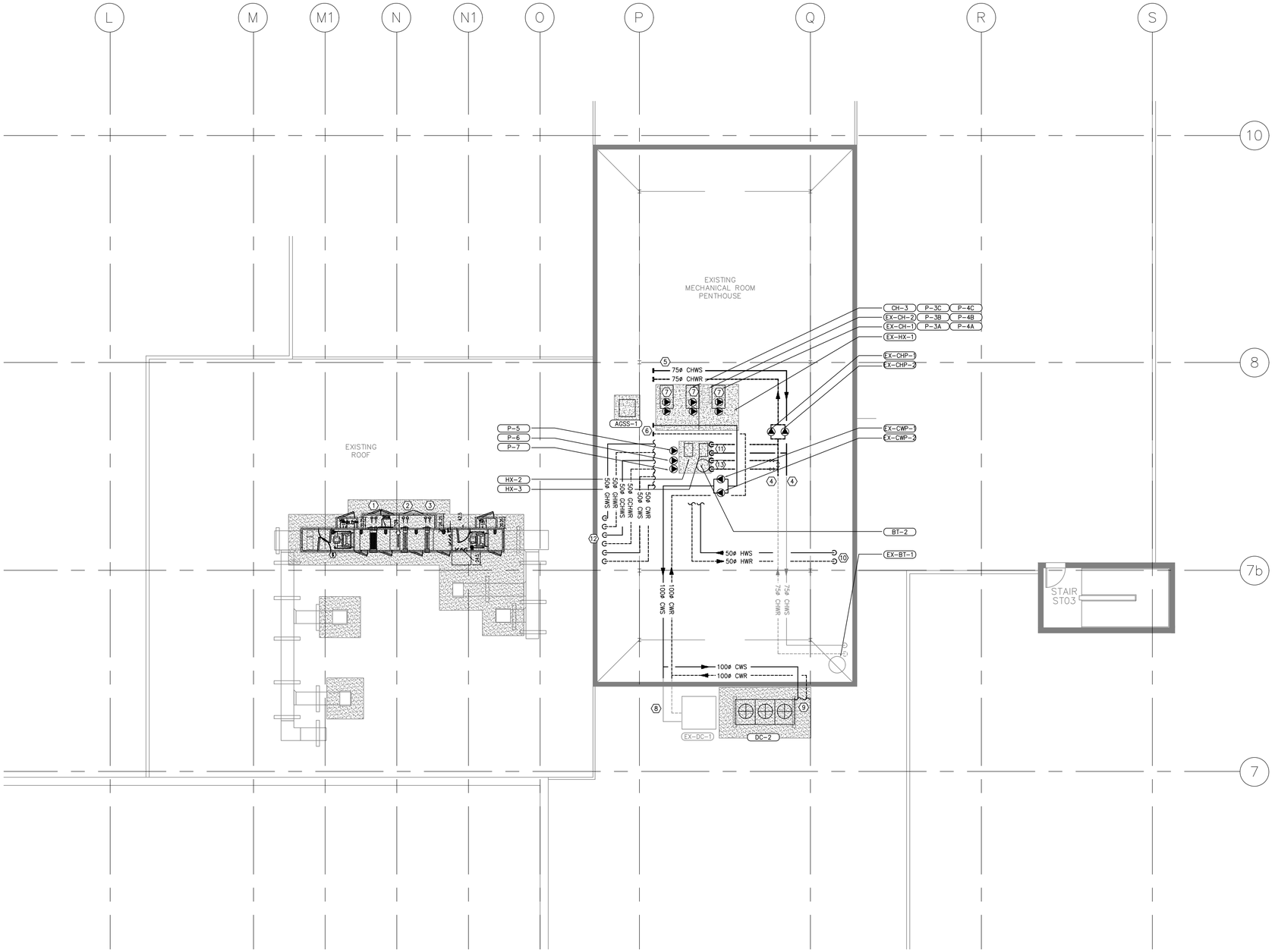
UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

ROOF MECHANICAL PLAN

SCALE: 1:100
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.202



DRAWING NOTES

1. 50ø GLYCOL HWS/R UP FROM BELOW TO SERVE AHU COIL.
2. 50ø GLYCOL CHWS/R UP FROM BELOW TO SERVE AHU COIL.
3. 50ø GLYCOL CONDENSER WATER UP FROM BELOW TO SERVE AHU COIL.
4. MAKE CONNECTION OF NEW 75ø CHWS/R PIPING TO EXISTING.
5. EXISTING 75ø CHWS/R MAINS TO BE REPLACED WITH NEW 75ø CHWS/R MAINS. REFER TO SCHEMATIC FOR DETAILS
6. EXISTING 75ø CWS/R PIPING TO BE REPLACED WITH NEW 100ø CWS/R PIPING. REFER TO SCHEMATIC FOR DETAILS.
7. PIPE NEW CHILLERS, CH-1, 2 AND 3 TO NEW CWS/R AND CHWS/R HEADERS C/W NEW PRIMARY PUMPS, CONTROLS, FLEXIBLE CONNECTIONS. REFER TO SCHEMATIC FOR DETAILS.
8. MAKE CONNECTION OF NEW 100ø CWS/R PIPING TO EXISTING 75ø CWS/R PIPING SERVING EXSTING DRY COOLER DC-1.
9. MAKE CONNECTION OF NEW DRY COOLER, DC-2 TO 100ø CWS/R PIPING. EXTERIOR PIPING TO BE C/W INSULATION AND CLADDING.
10. 50ø HWS/R PIPING UP FROM BELOW. MAKE CONNECTION TO HX-2 (HYDRONIC TO 50% PROPYLENE GLYCOL).
11. PIPE 50ø CHWS/R PIPING TO HX-3 (HYDRONIC TO 50% PROPYLENE GLYCOL).
12. PIPE 50ø GLYCOL CHWS/R, 50ø GLYCOL HWS/R, AND CWS/R PIPING DOWN TO CEILING SPACE BELOW, AND THEN UP INTO AHU PIPING CORRIDOR.
13. PIPE 75ø CHWS/R PIPING TO NEW 80 GA BUFFER TANK.

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1	ISSUED FOR DD	2020.11.19	KM

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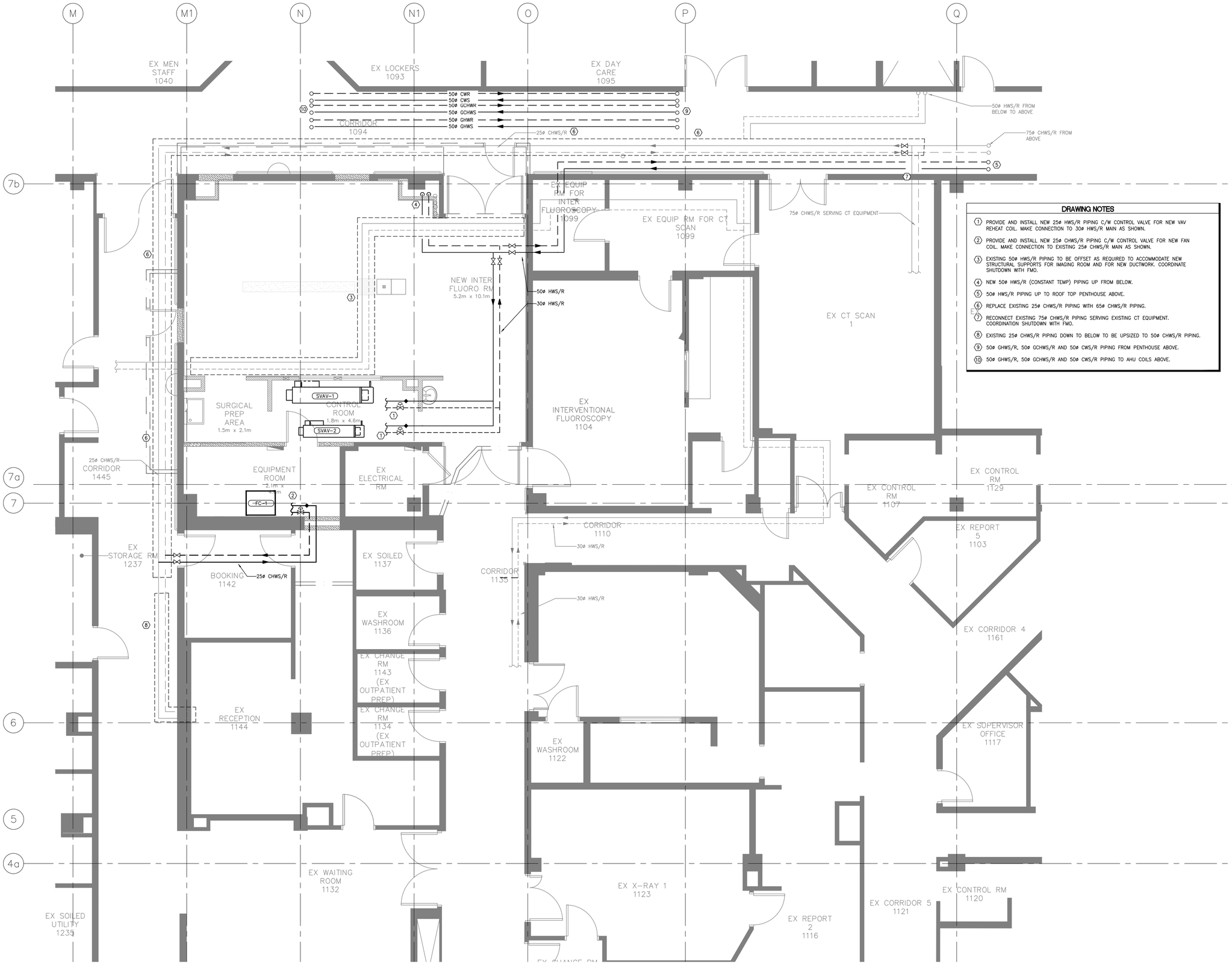
ROOF MECHANICAL PIPING PLAN

SCALE: 1:100
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.203



DRAWING NOTES

1. PROVIDE AND INSTALL NEW 25ø HWS/R PIPING C/W CONTROL VALVE FOR NEW VAV REHEAT COIL. MAKE CONNECTION TO 30ø HWS/R MAIN AS SHOWN.
2. PROVIDE AND INSTALL NEW 25ø CHWS/R PIPING C/W CONTROL VALVE FOR NEW FAN COIL. MAKE CONNECTION TO EXISTING 25ø CHWS/R MAIN AS SHOWN.
3. EXISTING 50ø HWS/R PIPING TO BE OFFSET AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL SUPPORTS FOR IMAGING ROOM AND FOR NEW DUCTWORK. COORDINATE SHUTDOWN WITH FMO.
4. NEW 50ø HWS/R (CONSTANT TEMP) PIPING UP FROM BELOW.
5. 50ø HWS/R PIPING UP TO ROOF TOP PENTHOUSE ABOVE.
6. REPLACE EXISTING 25ø CHWS/R PIPING WITH 65ø CHWS/R PIPING.
7. RECONNECT EXISTING 75ø CHWS/R PIPING SERVING EXISTING CT EQUIPMENT. COORDINATION SHUTDOWN WITH FMO.
8. EXISTING 25ø CHWS/R PIPING DOWN TO BELOW TO BE UPSIZED TO 50ø CHWS/R PIPING.
9. 50ø GHWS/R, 50ø GCHWS/R AND 50ø CWS/R PIPING FROM PENTHOUSE ABOVE.
10. 50ø GHWS/R, 50ø GCHWS/R AND 50ø CWS/R PIPING TO AHU COILS ABOVE.

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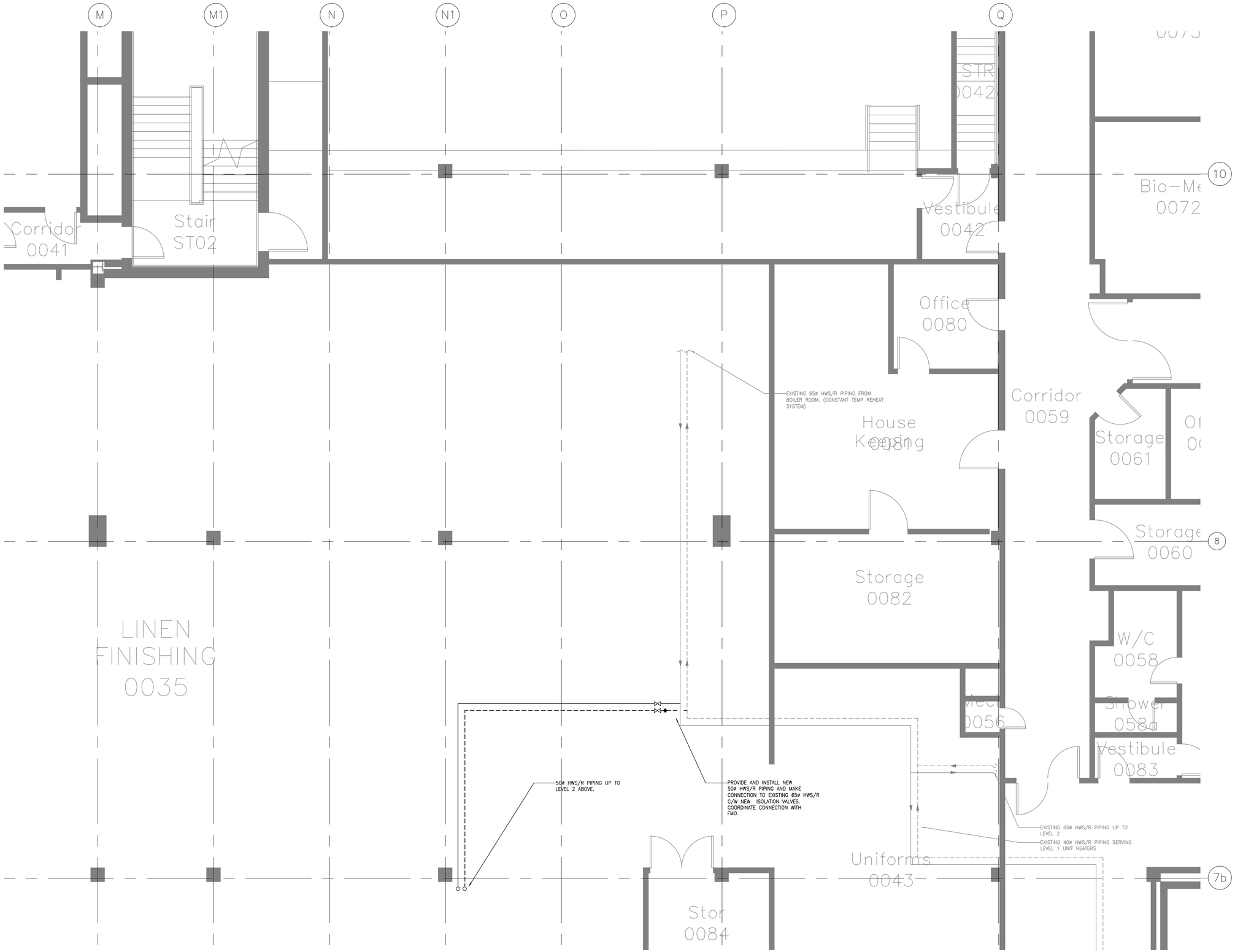
LEVEL 1 MECHANICAL PIPING

SCALE: 1 : 50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.204



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LEVEL 0 HEATING WATER PIPING

SCALE: 1 : 50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.205

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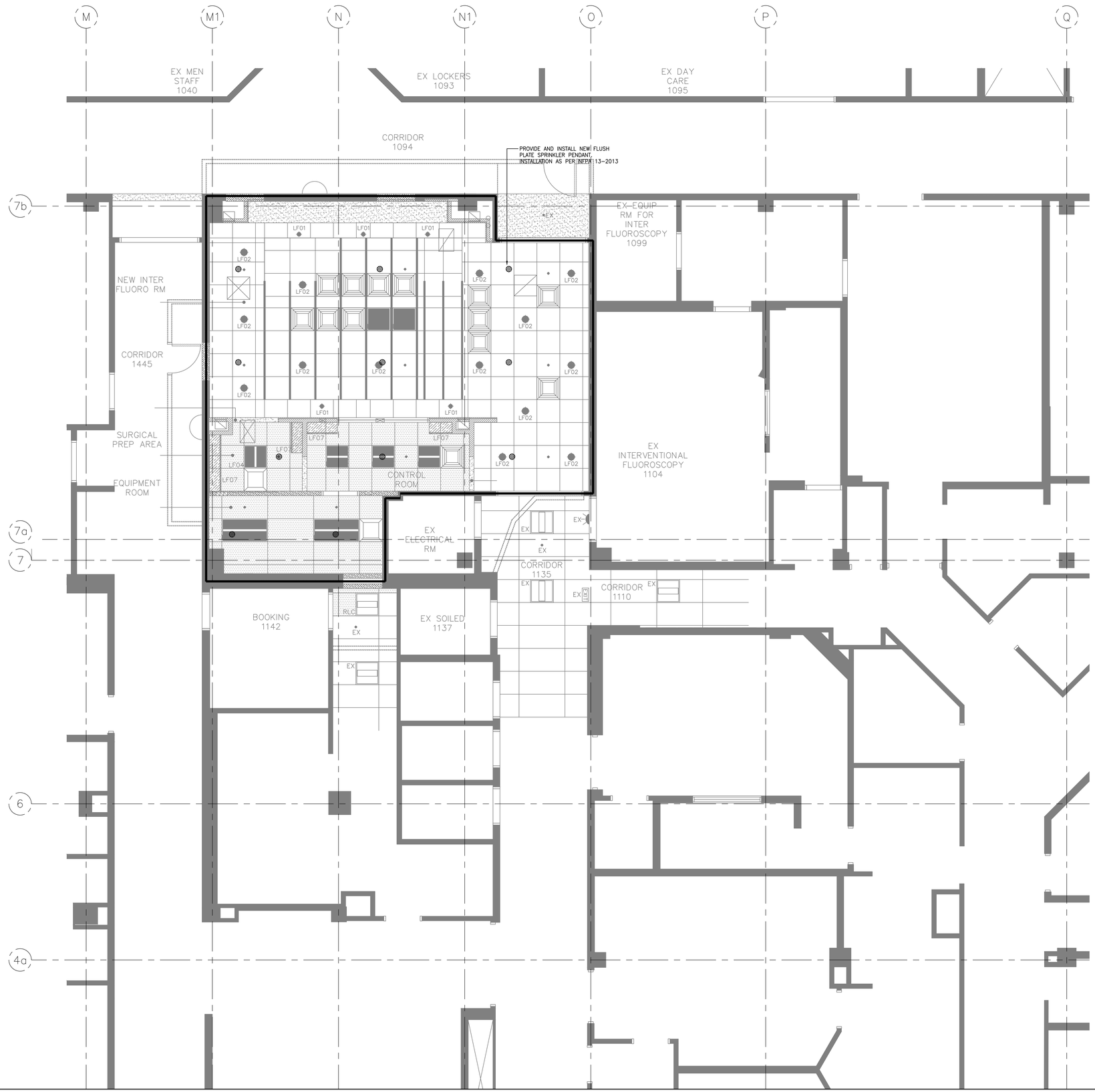
LEVEL 0 CHILLED WATER PIPING

SCALE: 1:100
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.206



DRAWING NOTES

(A) DESIGN AND INSTALLATION TO BE AS PER NFPA-13 2013

(B) CONTRACTOR TO RETAIN A SPRINKLER ENGINEER TO DESIGN SPRINKLER LAYOUT TO SERVE THE RENOVATION AREA. PROVIDE ALL REQUIRED DETAILED DRAWINGS, HYDRAULIC CALCULATIONS, AND SCHEDULES. PROVIDE ALL NEW SPRINKLER MAINS AND BRANCHES AND COORDINATE WITH THE NEW STRUCTURAL SUPPORTS FOR THE IMAGING EQUIPMENT.
HAZARD: LIGHT HAZARD OCCUPANCY

(C) COORDINATE WIT FMO, SHUTDOWN OF SPRINKLER ZONE IN ORDER TO OFFSET SPRINKLER MAINS. SUBMIT WORK PLAN TO FMO AND COORDINATE FIRE WATCH THROUGH DURATION OF SHUTDOWN.

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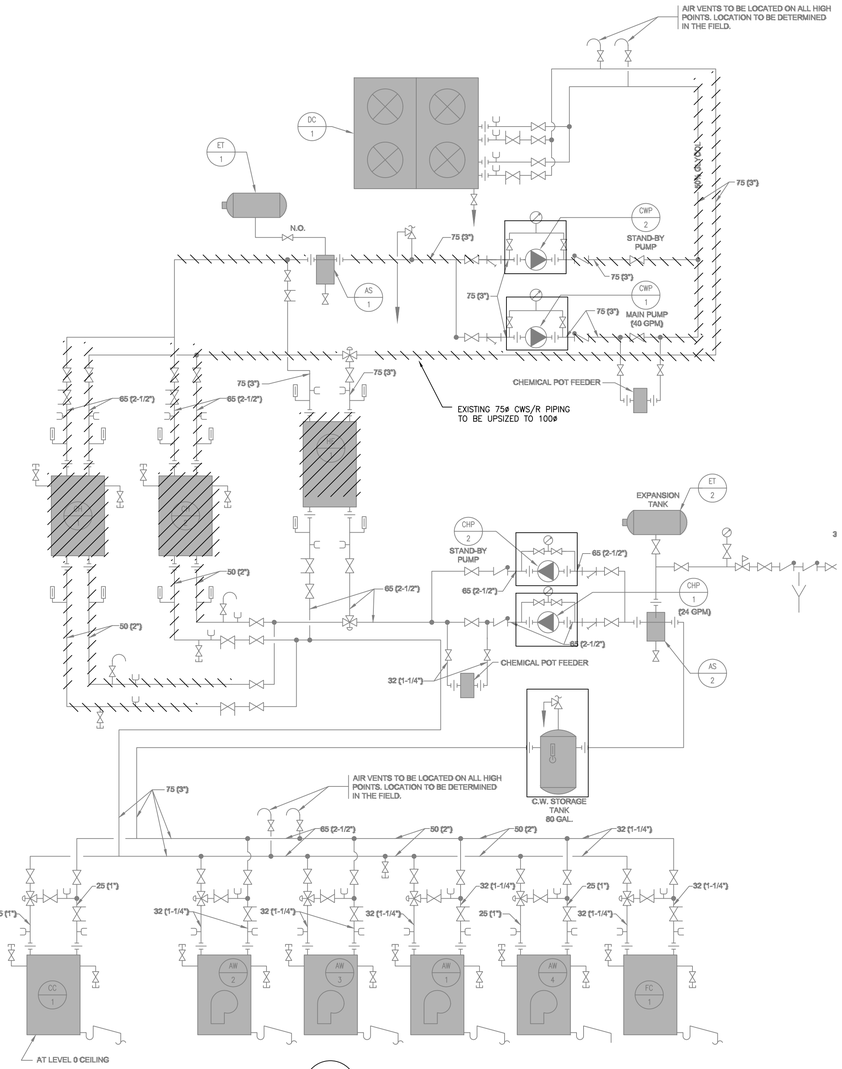
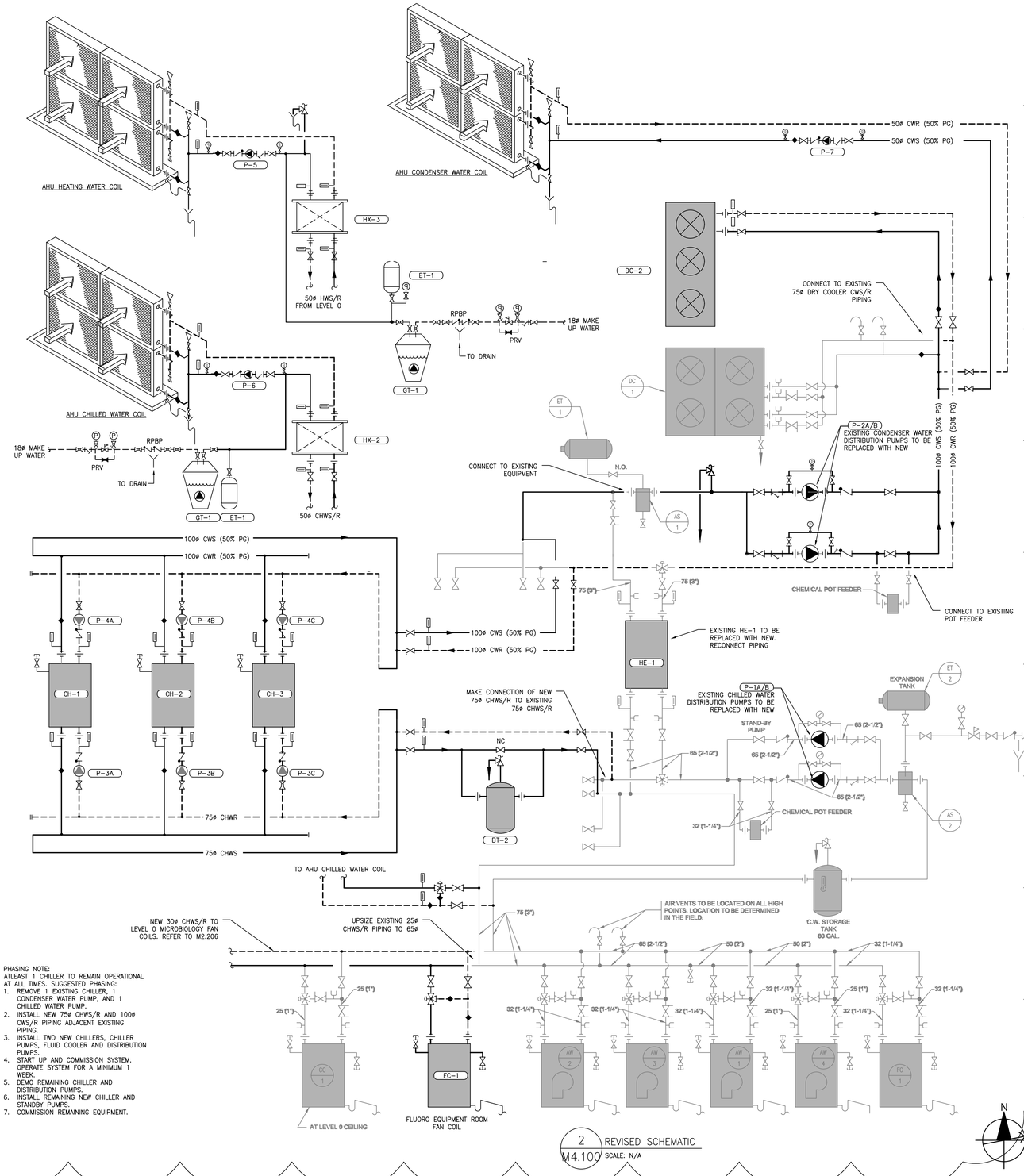
LEVEL 1 FIRE SUPPRESSION PLAN

SCALE: 1:50
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M2.300



1 / M4.100 EXISTING SCHEMATIC
SCALE: N/A



PHASING NOTE:
ATLEAST 1 CHILLER TO REMAIN OPERATIONAL AT ALL TIMES. SUGGESTED PHASING;

1. REMOVE 1 EXISTING CHILLER, 1 CONDENSER WATER PUMP, AND 1 CHILLED WATER PUMP.
2. INSTALL NEW 75ø CHWS/R AND 100ø CWS/R PIPING ADJACENT EXISTING PIPING.
3. INSTALL TWO NEW CHILLERS, CHILLER PUMPS, FLUID COOLER AND DISTRIBUTION PUMPS.
4. START UP AND COMMISSION SYSTEM. OPERATE SYSTEM FOR A MINIMUM 1 WEEK.
5. DEMO REMAINING CHILLER AND DISTRIBUTION PUMPS.
6. INSTALL REMAINING NEW CHILLER AND STANDBY PUMPS.
7. COMMISSION REMAINING EQUIPMENT.

2 / M4.100 REVISED SCHEMATIC
SCALE: N/A

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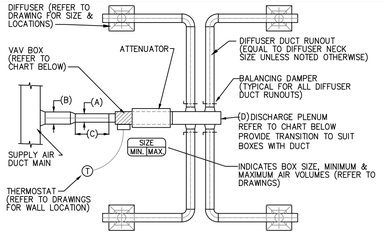
SCHEMATICS

SCALE: NTS
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M4.100



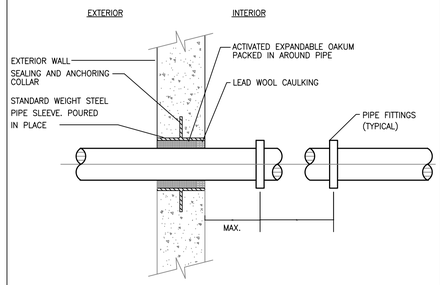
BOX SIZE	(A) mm	(B) mm	(C) mm	(D) mm
4	100ø	150ø	400	300X200
5	125ø	150ø	500	300X200
6	150ø	200ø	600	300X200
7	175ø	200ø	700	300X250
8	200ø	250ø	800	300X250
9	225ø	250ø	900	350X300
10	250ø	300ø	1000	350X300
12	300ø	350ø	1200	400X400
14	350ø	400ø	1400	500X450
16	400ø	450ø	1600	600X450

NOTES

(C) IS THE STRAIGHT LENGTH (Min.) OF DUCT EQUAL TO 4 TIMES THE INLET DIAMETER OF THE BOX.

ONE THERMOSTAT PER VAV BOX UNLESS NOTED OTHERWISE. EXACT LOCATION TO BE CONFIMED WITH ARCHITECT PRIOR TO INSTALLATION, REFER TO DRAWINGS.

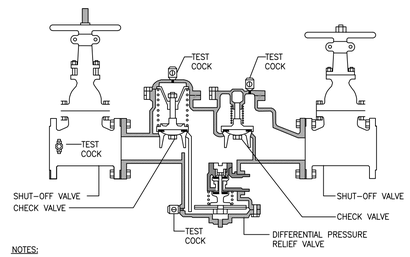
1 VAV CONNECTION DETAIL
M4.200 Scale: N.T.S.



NOTES:

1. EXCAVATE AND INSTALL EXTERIOR PIPING ONLY AFTER BACKFILLING TO GRADE HAS BEEN COMPACTED TO 85% MODIFIED PROCTOR DENSITY.
2. REFER TO GEOTECHNICAL CONSULTANT SOILS REPORT. PROVIDE FLEXIBLE PIPE FITTING AT WALL PENETRATION IF DIFFERENTIAL SETTLEMENT IS EXPECTED.
3. PROVIDE WATER PROOF SEALANT AROUND PIPE AND INTO CORE HOLE AT EXTERIOR PENETRATION

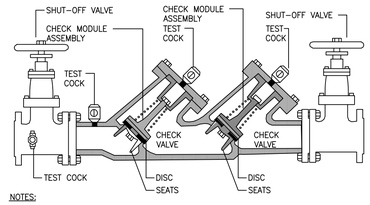
2 EXTERIOR WALL PIPE PENETRATION
M4.200 Scale: N.T.S.



NOTES:

1. MAINTAIN A MINIMUM OF 750mm CLEARANCE IN FRONT OF BACKFLOW PREVENTER.
2. MAINTAIN A MINIMUM OF 20mm CLEAR SPACE FROM BACK SIDE OF WATER ENTRY STATION TO ANY WALLS OR OBSTRUCTIONS.
3. MAINTAIN MINIMUM 300mm CLEARANCE ABOVE ASSEMBLY.
4. CENTERLINE HEIGHT OF ASSEMBLY SHALL BE BETWEEN 750mm & 1500mm ABOVE FINISHED FLOOR.

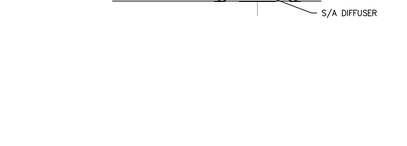
3 TYPICAL RP BACKFLOW PREVENTOR
M4.200 Scale: N.T.S.



NOTES:

1. MAINTAIN A MINIMUM OF 750mm CLEARANCE IN FRONT OF BACKFLOW PREVENTER.
2. MAINTAIN A MINIMUM OF 20mm CLEAR SPACE FROM BACK SIDE OF WATER ENTRY STATION TO ANY WALLS OR OBSTRUCTIONS.
3. MAINTAIN MINIMUM 300mm CLEARANCE ABOVE ASSEMBLY.
4. CENTERLINE HEIGHT OF ASSEMBLY SHALL BE BETWEEN 750mm & 1500mm ABOVE FINISHED FLOOR.

4 TYPICAL DCVA BACKFLOW PREVENTOR
M4.200 Scale: N.T.S.



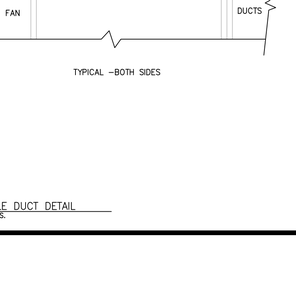
NOTES

APPLY A CONTINUOUS COATING OF CONTACT CEMENT TO THE LABEL TO ENSURE PERMANENT ADHESION

REFER TO SPECIFICATION FOR COLOUR CODING OF SERVICES

INSTALL AT 15000 INTERVALS (MAXIMUM) AND AT EACH CHANGE DIRECTION.

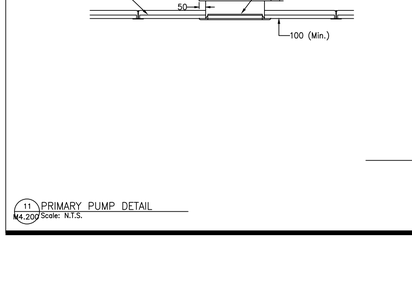
5 PIPE IDENTIFICATION DETAIL
M4.200 Scale: N.T.S.



NOTE:

CLEANOUTS TO BE INSTALLED IN CONCEALED LOCATIONS WHEREVER POSSIBLE. (IE. CABINETS, BELOW COUNTERS, ETC.)
IN FINISHED ARERAS WHERE THIS IS NOT ACHIEVABLE,CONSULT WITH MECHANICAL ENGINEER PRIOR TO INSTALLATION.

6 WALL CLEAN OUT DETAIL
M4.200 Scale: N.T.S.



7 VAV COIL DETAIL
M4.200 Scale: N.T.S.

8 INSULATED PIPE HANGER DETAIL
M4.200 Scale: N.T.S.

NOTE: SEISMIC RESTRAINTS AS PER SPECIFICATIONS

TYPICAL -BOTH SIDES

10 FLEXIBLE DUCT DETAIL
M4.200 Scale: N.T.S.

NOTE: SEISMIC RESTRAINTS AS PER SPECIFICATIONS.

11 PRIMARY PUMP DETAIL
M4.200 Scale: N.T.S.

FIRE WALL PENETRATIONS

FLOOR SLAB PENETRATIONS

NOTES

ALL PIPE PENETRATIONS THROUGH THE FIRE RATED SLAB/WALL SHALL BE INSULATED WITH MOULDED HIGH TEMPERATURE HYDROUS CALCIUM SILICATE INSULATION USING AVAILABLE PREFORMED SHAPES. THE INSULATION SHALL BE INSTALLED AS OUTLINED BELOW.

THE INSULATION PRODUCT IS TO BE 25mm THICK CALCIUM SILICATE INSULATION, MANUFACTURED BY MANVILLE (THERMO-12) OR MANSON (CALMAX)

THE INSULATION IS TO BE INSTALLED ON THE PIPING THAT PENETRATES THE FIRE RATED SLAB/WALL FROM THE UNDERSIDE OF THE RATED SLAB TO A POINT 150 BEYOND THE POINT OF PENETRATION.

INSULATION SHALL BE APPLIED TO CLEAN, DRY SURFACES OF STRAIGHT RUN PIPE WITH ALL JOINTS BUTTED TIGHTLY TO ENSURE A SNUG FIT

MINERAL FIBRE PACKING TO BE MANVILLE (CERAFIBRE) OR CARBORUNDUM (FIBERFRAX) TIGHTLY PACKED.

FIRE STOPPING SHALL BE INSTALLED BY A QUALIFIED APPLICATOR

12 FIRE RATED WALL/SLAB PENETRATION DETAIL
M4.200 Scale: N.T.S.

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DETAILS

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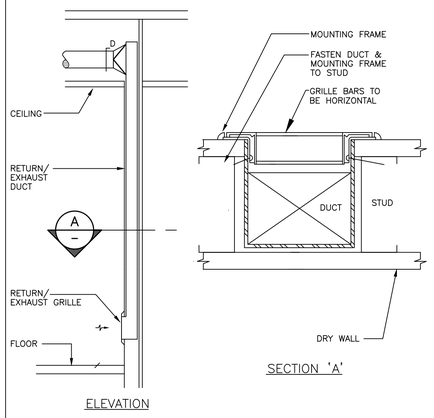
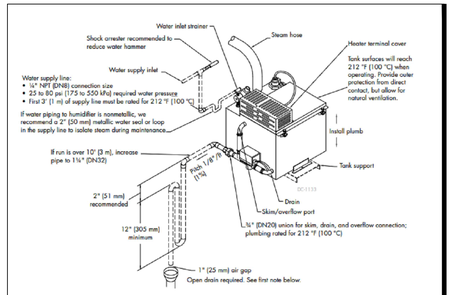
M4.200

N

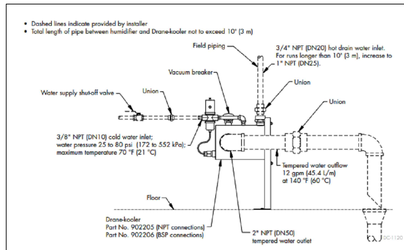


1 LOW LEVEL EXHAUST DETAIL
M4.201 Scale: N.T.S.

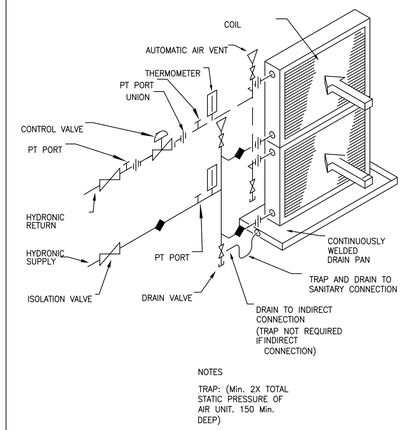


Notes:
- Locate air gap only in spaces with adequate temperature and air movement to absorb flash steam; otherwise, condensation may form on nearby surfaces. Refer to governing codes for drain pipe size and maximum discharge water temperature.
- Offset humidifier from floor drain to prevent flash steam from rising into the humidifier.
- Dashed lines indicate provided by installer.
- The water supply inlet is more than 1" (25 mm) above the skim/overflow port, eliminating the possibility of backflow or siphoning from the tank.

2 HUMIDIFER STEAM GENERATOR DETAIL
M4.201 Scale: N.T.S.



3 STEAM GENERATOR DRAIN COOLER
M4.201 Scale: N.T.S.



NOTES

TRAP: (Min. 2X TOTAL STATIC PRESSURE OF AIR UNIT. 150 Min. DEEP)

4 AHU COIL CONNECTION DETAIL
M4.201 Scale: N.T.S.

5 VAV COIL DETAIL
M4.201 Scale: N.T.S.

NOTE:

1. CONTRACTOR TO RETAIN THE SERVICES OF AN RCABC INSPECTOR TO PROVIDE ENVELOPE/ROOFING DETAILS FOR THE DUCT PENETRATION

6 VAV COIL DETAIL
M4.201 Scale: N.T.S.

ARCHITECT :

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Vancouver, BC, V6A 2T2
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No.	REVISION	DATE	BY
5	ISSUED FOR CONSTRUCTION	2021.05.17	JL
4	ISSUED FOR TENDER	2021.02.10	JL
3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

DETAILS

SCALE: NTS
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M4.201

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1

1475 Edmonton Street, Prince George — **DIFFUSERS AND GRILLES**

EQUIPMENT DATA

UNIT NO.	S-1	S-2	E-1
TYPE	LAMINAR FLOW	SQUARE PLAQUE	STAINLESS
SERVICE	SUPPLY	SUPPLY	GRILLE
LOCATION	INTER	CONTROL	INTER
	FLUORO	ROOM	FLUORO
MANUFACTURER	EH PRICE	EH PRICE	EH PRICE
MODEL	LFD	SPD	730H
SIZE (W x H)	600x600	600x600	REFER TO DRAWINS
INLET SIZE	REFER TO DRAWINGS	REFER TO DRAWINGS	REFER TO DRAWINGS
MOUNTING FRAME	T-BAR	T-BAR	REFER TO DRAWINGS
FINISH	STANDARD	STANDARD	STANDARD
NOTES	1, 2	1	

NOTE (1) VOLUME DAMPER
NOTE (2) INSULATED

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 2

1475 Edmonton Street, Prince George — **PUMPS**

EQUIPMENT DATA

UNIT NO.		P-1A & B	P-2A & B	P-3A & B & C	P-4A & B & C
SERVICE		CHILLED WATER DISTRIBUTION	CONDENSER WATER DISTRIBUTION	CHILLED WATER PRIMARY	CONDENSER WATER PRIMARY
LOCATION		MECH ROOM	MECH ROOM	MECH ROOM	MECH ROOM
MANUFACTURER		GRUNDFOS	GRUNDFOS	GRUNDFOS	GRUNDFOS
MODEL		12707 2P VLC	12707 2P VLC	MAGNA3 40-80F	MAGNA3 65-150F
PUMP DATA					
FLOW RATE	(L/s)	7.3	10.4	2.4	3.2
	(GPM)	115	165	38	50
HEAD	(m)	35	35	5	11
	(FT)	115	115	15	35
FLUID		100% WATER	50% P.GLYCOL	100% WATER	50% P.GLYCOL
PUMP TYPE		INLINE	INLINE	INLINE	INLINE
CONNECTION	(MM)	75	75	50	50
	(IN)	3	3	2	2
OP. TEMP	(C)	15.6	57	15.6	15.6
MAX	(F)	60	135	135	135
MIN	(C)	15.6	37	15.6	15.6
	(F)	37	90	37	37
MOTOR HP		7.50	10.00	278 WATTS	1385 WATTS
ELECTRICAL SERVICE		575/3/60	575/3/60	208/1/60	208/1/60
EFFICIENY	(%)	52	56	56	56
NOTES		1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4

NOTES

NOTE (1) INTEGRATED VFD
NOTE (2) INTELLIGENT PUMP WITH BACNET CARD
NOTE (3) C/W FLANGES
NOTE (4) MANUFACTURER STARTUP

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 2 of 2

1475 Edmonton Street, Prince George — **PUMPS**

EQUIPMENT DATA

UNIT NO.		P-5	P-6	P-7
SERVICE		HEATING WATER COIL	CHILLED WATER COIL	CHILLED WATER COIL
LOCATION		MECH ROOM	MECH ROOM	MECH ROOM
MANUFACTURER		GRUNDFOS	GRUNDFOS	GRUNDFOS
MODEL		MAGNA3 40-120F	MAGNA3 40-120	MAGNA3 32-100F
PUMP DATA				
FLOW RATE	(L/s)	1.9	2.2	1.3
	(GPM)	30	35	20
HEAD	(m)	9	9	6
	(FT)	30	30	20
FLUID		50% P.GLYCOL	50% P.GLYCOL	50% P.GLYCOL
PUMP TYPE		INLINE	INLINE	INLINE
CONNECTION	(MM)	50	50	50
	(IN)	2	2	2
OP. TEMP	(C)	82	82	82
MAX	(F)	180	180	180
MIN	(C)	65	65	65
	(F)	150	150	150
MOTOR HP		440 WATTS	600 WATTS	178 WATTS
ELECTRICAL SERVICE		208/1/60	208/1/60	208/1/60
EFFICIENY	(%)	56	56	56
NOTES		1,2,3,4	1,2,3,4	1,2,3,4

NOTES

NOTE (1) INTEGRATED VFD
NOTE (2) INTELLIGENT PUMP WITH BACNET CARD
NOTE (3) C/W FLANGES
NOTE (4) MANUFACTURER STARTUP

UHN Fluoroscopy — **MECHANICAL**

University Hospital of Northern BC — **EQUIPMENT SCHEDULES --** — Page 1 of 1

FAN COIL

SYSTEM DATA

SYSTEM			EQUIPMENT ROOM		
MANUFACTURER			TRANE		
MODEL					
CAPACITY	(MBH)		24.0		
INDOOR SECTION EQUIPMENT DATA					
UNIT NO.			FC-1		
LOCATION			Equip Room		
MODEL			BCHD024		
AIR FLOW	(L/s)		378		
	(CFM)		800		
ESP	(IN H20)		0.5		
WIDTH	(Inches)		28		
HEIGHT	(Inches)		18		
DEPTH	(Inches)		33		
WEIGHT	(LBS)				
BACKUP HEAT	(kW)				
ELECTRICAL SERVICE			208/1/60		
ELECTRICAL DATA	HP		0.5		
COIL DATA					
TOTAL CAPACITY	MBH		24		
EWT	(F)		45		
LWT	(F)		55		
FLOW RATE	(GPM)		4.5		
WPD	(FT H20)		2.7		

NOTES

NOTE (1) INDOOR UNITS C.W CONDENSATE PUMPS, AND WALL CONTROLLI
NOTE (2) PROVIDE EXTERNAL DRAIN PAN UNDER INDOOR UNIT.
NOTE (3) BACnet interface

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 2

1475 Edmonton Street, Prince George — **VAV BOXES**

EQUIPMENT DATA

UNIT NO.		S-VAV-1	S-VAV-2	S-VAV-3
SERVICE		INTER FLUORO	CONTROL ROOM	EQUIPMENT ROOM
MANUFACTURER		EH PRICE	EH PRICE	EH PRICE
MODEL SERIES		SDV-5000	SDV-5000	SDV-5000
AIRFLOW DATA				
SIZE		10	8	8
DESIGN	(L/s)	897	316	316
AIR FLOW	(CFM)	1900	670	670
MINIMUM AIRFLOW	(L/s)	897	94	94
ALLOWABLE	(CFM)	1900	200	200
ATTENUATOR	L	36"	36"	36"
HYDRONIC REHEAT COIL DATA				
CAPACITY	(kW)	3.23	0.34	
	(MBH)	51.3	5.4	
WATER FLOW	(L/s)	0.32	0.03	
	(USGPM)	5.13	0.54	
ENT WATER	(Deg C)	82.2	82.2	
	(Deg F)	180	180	
LEAV WATER	(Deg C)	71.1	71.1	
	(Deg F)	160	160	
ENT AIR	(Deg C)	12.8	12.8	
	(Deg F)	55	55	
LEAVING AIR	(Deg C)	26.7	26.7	
	(Deg F)	80	80	
NOTES		1,3,4	2,3,4	3,4

NOTE (1) 2 ROW COIL
NOTE (2) 1 ROW COIL
NOTE (3) FIBRE FREE ATTENUATOR
NOTE (4) AIRFLOW SENSOR

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 2 of 2

1475 Edmonton Street, Prince George — **VAV BOXES**

EQUIPMENT DATA

UNIT NO.		R-VAV-1	R-VAV-2
SERVICE		INTER FLUORO	CONTROL ROOM
MANUFACTURER		EH PRICE	EH PRICE
MODEL SERIES		SDV-5000	SDV-5000
AIRFLOW DATA			
SIZE		10	8
DESIGN	(L/s)	897	316
AIR FLOW	(CFM)	1900	670
MINIMUM AIRFLOW	(L/s)	897	94
ALLOWABLE	(CFM)	1900	200
ATTENUATOR	L	36"	36"
HYDRONIC REHEAT COIL DATA			
CAPACITY	(kW)		
	(MBH)		
WATER FLOW	(L/s)		
	(USGPM)		
ENT WATER	(Deg C)		
	(Deg F)		
LEAV WATER	(Deg C)		
	(Deg F)		
ENT AIR	(Deg C)		
	(Deg F)		
LEAVING AIR	(Deg C)		
	(Deg F)		
NOTES		3,4	3,4

NOTE (1) 2 ROW COIL
NOTE (2) 1 ROW COIL
NOTE (3) FIBRE FREE ATTENUATOR
NOTE (4) AIRFLOW SENSOR

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1

1475 Edmonton Street, Prince George — **HEAT EXCHANGERS**

EQUIPMENT DATA

UNIT NO.		HEX-1		HEX-2		HEX-3	
SERVICE		EXISTING REPLAED WITH NEW		HEATING WATER TO GLYCOL		CHILLED WATER TO GLYCOL	
MANUFACTURER		ARMSTRONG		ARMSTRONG		ARMSTRONG	
MODEL		A32H-150-101-750		A32H-150-23-400		A56NG-150-64-600	
MEDIA DATA		**SIDE A (SOURCE)**	**SIDE B (LOAD)**	**SIDE A (SOURCE)**	**SIDE B (LOAD)**	**SIDE A (SOURCE)**	**SIDE B (LOAD)**
HEAT EXCHANGED	(KW)	138		683		683	
	(MBH)	470		2,331		2,331	
FLUID TYPE		WATER	PROPYLENE GLYCOL	WATER	PROPYLENE GLYCOL	WATER	PROPYLENE GLYCOL
%			50		50		50
DESIGN FLOW	(L/s)	37	51	11	14	19	19
	(GPM)	78	107	23	30	40	40
ENT FLUID TEMP	(Deg C)	12.8	4.4	82.2	69.4	7.2	11.7
	(Deg F)	55	40	180	157	45	53
LEAVING FLUID TEMP	(Deg C)	6.1	10.0	71.1	78.3	11.1	7.8
	(Deg F)	43	50	160	173	52	46
PRESSURE DROP	(M Head)	1.5	3.5	1.9	3.4	0.8	0.7
	(PSI)	2.1	4.96	2.7	4.78	1.2	0.96
PHYSICAL PROPERTIES							
PLATE MATERIAL		AISI304		AISI304		AISI304	
CONNECTIONS		2.5"		2.5"		4"	
FLOW ARRANGEMENT		COUNTER FLOW		COUNTER FLOW		COUNTER FLOW	
NOTES		1		1		1	

NOTE (1) ASME WITH CRN

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1

1475 Edmonton Street, Prince George — **WATER COOLED CHILLER**

SYSTEM DATA

TAG			CH-1,2,3	
SERVICE			CHILLED WATER	
MANUFACTURER			WATER FURNACE	
MODEL			ENVISION 2	REVERSIBLE FUNCTION
CAPACITY	(NOMINAL TONS)		15.0	NOT REQUIRED)
COOLING DATA			**SOURCE**	**LOAD**
HEAT REJECTION	(MBH)	229		
COOLING CAPACITY	(MBH)	174		
EER		10.7		
TOTAL POWER	(Kw)	16.4		
FLUID			50% P GLYCOL	100% WATER
EWT	(F)		100	55
LWT	(F)		110	45
FLOW	(GPM)		45	38
PD	(PSI)		2.9	1.5

NOTES

NOTE (1) COMPLIANCE TO ASHRAE 90.1, CSA B52, ASME PRESSURE VESSEL, AHRI CERTIFIED
NOTE (2) NON FUSED DISCONNECT
NOTE (3) BACNET CONTROLLER
NOTE (4) WATER CONNECTION KIT, FLOW SWITCH, STRAINER, AND DIFFERENTIAL PRESSURE SWITCH
NOTE (5) FACTORY START UP SERVICE

MECHANICAL

UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1

1475 Edmonton Street, Prince George — **STORAGE TANK**

EQUIPMENT DATA

UNIT NO.		BT-2		
SERVICE		CHILLED WATER SYSTEM		
LOCATION		MECH ROOM		
MANUFACTURER		AO SMITH		
MODEL		ACVU-120-3NZ		
DATA				
STORAGE	(GA)	120		
NOTES		1,2		

NOTES

NOTE (1) TANK INSULATION
NOTE (2) ASME RATED

ARCHITECT :

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MECHANICAL CONSULTANT :

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No.	REVISION	DATE	BY
5	ISSUED FOR CONSTRUCTION	2021.05.17	JL
4	ISSUED FOR TENDER	2021.02.10	JL
3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

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UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

SCHEDULES

SCALE: NTS
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M5.100

N

MECHANICAL
UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1
1475 Edmonton Street, Prince George — **PLUMBING FIXTURES**

TAG	Type	DESCRIPTION
SK-1	HAND HYGIENE SINK	American Standard ICU Basin #9118.111.020, Center hole only, 509 mm x 432 mm x 663 mm (20-1/16" x 17" x 26-1/8") high, Rectangular, Vitreous china with EverClean antimicrobial surface which inhibits the growth of stain and odor causing bacteria mold and mildew, White Finish, 65 mm (2-9/16") dia. Faucet perch, back of sink 93 mm (3-11/16") higher than faucet perch, Offset grid drain included, integrated mounting brackets,P-trap with Saniguard coating provided. American Standard Selectronic I.C. #605B.193.002 Electronic Faucet, Polished Chrome finish, Center hole only, Vandal resistant brass construction, 1.5 GPM (5.7 LPM) pressure compensating laminar flow device in spout base with plain spout end, Rigid gooseneck spout, 127 mm (5") projection reach, Self-adjusting sensor, AC Powered (Hard Wired). American Standard #PK00.HAC, Hardwired Hardwired Ac - Power Kit, Includes 10' long extension cable. American Standard PK00.BBU Battery Back Up Includes standard CR-P2 lithium battery for back-up power, Allows Selectronic AC faucets and flush valces to continue operating during a power failure and maintains fail-safe operation, Installs between Selectronic product and AC Power Supply (Plug-In or Hard-Wired), 4- amstd, Selectronic Battery Back-Up. Lawler #TMM-1070, Below Deck Mechanical Water Mixing Valve, Bronze body, temperature adjusting dial, 10 mm (3/8") inlets and outlet compression fittings, high temperature thermostatic limit stop, shut-off with automatic reset when temperature exceeds 120 °F (48.8 °C), Integral checks, offer temperature range from full cold through 46 °C (114.8 °F). Provide tee adaptors and flex. copper tubing to suit installation. McGuire #LFH165LKN3 Faucet Supplies, Chrome plated finish polished brass, heavy duty angle stops, 10 mm (3/8") I.P.S. Inlet x 76 mm (3") long rigid horizontal nipples, V.P. Loose keys, Escutcheon and flexible copper risers. Watts #CA-311 Fixture Carrier, mounted on concrete floor, steel hanger plate, heavy gauge epoxy coated steel offset uprights with welded feet supports. For one unit: 102 mm (4") for two to six units in a row: 152 mm (6") finished metal stud wall to back of pipe
SK-2	SCRUB SINK WITH FOOT PEDAL	Franke Commercial #SSU1-00/1 Surgeon Scrub Sink, 1 hole, 762 mm (30") wide x 584 mm (23") long x 660 mm (26") high deep, Wall hung, faucet on backsplash, Grade 18-10 18 GA. (1.2 mm) type 304 stainless steel, polished satin finish rim and bowls, 102 mm (4") high backsplash, radius coved bowls corners, access panel for service and maintenance, Wall hanger, grid strainer with 38 mm (1-1/2") tailpiece. Faucet by others. Lawler #TMM-1070, Below Deck Mechanical Water Mixing Valve, Bronze body, temperature adjusting dial, 10 mm (3/8") inlets and outlet compression fittings, high temperature thermostatic limit stop, shut-off with automatic reset when temperature exceeds 120 °F (48.8 °C), Integral checks, offer temperature range from full cold through 46 °C (114.8 °F), Provide tee, adaptors and flex. copper tubing to suit installation. McGuire #LFST155LKSB-SDF-NS Faucet Supplies, polished brass, heavy duty straight stops, 13 mm (1/2") I.P.S. Inlet x 127 mm (5") long rigid horizontal nipples, V.P. Loose keys. McGuire #8903C/P Trap, heavy cast brass adjustable body, with slip nut, 38 mm (1-1/2") inlet / 51 mm (2") outlet, Shallow wall flange and Seamless tubular wall bend. Watts #CA-421 Fixture Carrier, universal steel hangar support plates with integral mounting brackets, heavy gauge epoxy coated steel uprights with welded feet. For one unit: 102 mm (4") for two to six units in a row: 152 mm (6") finished metal stud wall to back of pipe space.)Chicago Faucets #626-ABCP Pedal operated Faucet, Chrome plated finish, Center hole only, ECAST construction lead free (equal or less than 0.25%) Solid brass body with integral deck flange, Aerator outlet. Chicago Faucets GN2FCJKABCP 137 mm (5-3/8") rigid/swing gooseneck spout, 5.7 LPM (1.5 GPM) laminar flow control insert (non-aerating) in spout inlet. Chicago Faucets #625-SLO Floor Mounted Pedal Valve, 13 mm (1/2") FNPT back inlets, 10 mm (3/8") FNPT back outlet, short indexed pedals. Provide custom removable stainless steel shroud to cover p-trap and piping to foot pedal.

MECHANICAL
UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1
1475 Edmonton Street, Prince George — **CUSTOM AHU**

SYSTEM DATA				
TAG			AHU-1	
SERVICE			Fluoroscopy Project	
MANUFACTURER			Haakon	
MODEL			Custom	
TYPE			Roof Top Unit	
AIRFLOW	(CFM)		4000.0	
DIMENSIONS	(LxWxH)		373x44x58"	REFER TO DRAWINGS FOR PIPING CABINET DIMENSIONS
WEIGHT	(LBS)		8290.0	

FAN DATA			SUPPLY	RETURN	
PHASE 1: AIRFLOW	(CFM)		2300	2300	
PHASE 1: TOTAL STATIC	(IN WC)		2	1.2	
PHASE 1: EXTERNAL STATIC	(IN WC)		1	1	
PHASE 2: AIRFLOW	(CFM)		3000	3000	
PHASE 2: TOTAL STATIC	(IN WC)		2.7	1.3	
PHASE 2: EXTERNAL STATIC	(IN WC)		1	1	
PHASE 3: AIRFLOW	(CFM)		3500	3500	
PHASE 3: TOTAL STATIC	(IN WC)		3.3	1.4	
PHASE 3: EXTERNAL STATIC	(IN WC)		1	1	
PHASE 4: AIRFLOW	(CFM)		4000	4000	
PHASE 4: TOTAL STATIC	(IN WC)		4	1.5	
PHASE 4: EXTERNAL STATIC	(IN WC)		1	1	
MOTOR	(HP)		5	3	
RPM	(RPM)		1750	1750	
ELECTRICAL	(V)		575/3/60	575/3/60	

COILS			COOLING	HEATING (HIGH TEMP)	HEATING (PREHEAT)
COOLING TOTAL	(MBH)		117.52	-	-
COOLING SENSIBLE	(MBH)		96.56	-	-
HEATING	(MBH)		-	220	110
APD	(IN WC)		1	0.13	0.17
EDB	(F)		80	30	30
EWB	(F)		67	-	-
LDB	(F)		57	80	55
LWB	(F)		57	-	-
FLUID			50% PG	50% PG	50% PG
FLUID FLOW RATE	(GPM)		34	24	12
EWT	(F)		45	180	100
LWT	(F)		53	160	80
WPD	(FT)		12.7	6.1	9
ROW			8	2	2
SIZE			39x30	39x30	39x30

NOTES	
NOTE (1)	MERV 8 PREFILTER, MERV 14 FINAL FILTER (AFTER SUPPLY FAN)
NOTE (2)	REFER TO DRAWINGS FOR DIMENSIONS AND SIZE OF REQUIRED PIPING CABINETS
NOTE (3)	AHU SUPPLIED WITH BASE RAIL ~~AND STEEL SUMP~~
NOTE (4)	C/W VIBRATION ISOLATORS
NOTE (5)	C/W HUMIDIFER AND ELECTRIC STEAM GENERATOR 30.76 LBS/HR STEAM,BASIS OF DESIGN; DRISTEEM CRUV-12 HUMIDISTAT, AIR PROVING SWITCH, DRAIN COOLER, VAPOR LOGIC CONTROLS WITH BACNET.
NOTE (6)	CABINET HEATER. 0.5 KW BASEBOARD HEATER
NOTE (7)	FANS C/W VFDS.
NOTE (8)	REFER TO SPECITICATIONS FOR ADDITIONAL DETAILS

MECHANICAL
UHN Inter Fluoro — **EQUIPMENT SCHEDULES --** — Page 1 of 1
1475 Edmonton Street, Prince George — **TANKS**

EQUIPMENT DATA				
UNIT NO.		GT-1	ET-1	
SERVICE		GLYCOL FILL TANK	EXPANSION TANK	
LOCATION		PENTHOUSE ROOM	PENTHOUSE ROOM	
MANUFACTURER		AXIOM	ARMSTRONG	
MODEL (CUSTOM)		SF100	AMTROL	
VOLUME	(GAL)	55	AX-15 (V)	
DIAMETER	(mm)	600	300	
	(Inches)	24	12	
HEIGHT	(mm)	1225		
	(Inches)	49		

MECHANICAL
UHN Inter Fluoro — **EQUIPMENT SCHEDULES --**
1475 Edmonton Street, Prince George — **DRY COOLER** — Page 1 of 1

SYSTEM DATA					
TAG			DC-2		
SERVICE			CHILLED WATER		
MANUFACTURER			GUTNER		
MODEL			S-GFH 080		
TYPE			1x2		
CAPACITY					
CAPACITY	MBH		470.0		

UNIT OVERVIEW					
LOCATION			ROOF TOP		
# OF FAN SECTIONS			2		
FAN SPEED	(RPM)		975		
FAN POWER PER FAN	(HP)		2		
WIDTH	(Inches)		60		
LENGTH	(Inches)		183		
HEIGHT	(Inches)		59		
DRY WEIGHT	(LBS)		1553		
ELECTRICAL SERVICE	(kW)		208/3/60		
SINGLE POINT POWER	MCA / MOP		13.05/15		

AIR SIDE			Max Operating		
AIRFLOW	(CFM)		26404.0		
FAN SPEED					
FAN MOTOR	(RPM)		975		
AIR INLET	(DEG F)		85.0		
AIR OUTLET	(DEG F)				
AIR PRESSURE (MAX)	(PSI)		14		

WATER SIDE					
CAPACITY	(MBH)		470		
LEAVING FLUID TEMP	(F)	50% Prop. Glycol	100		
ENTERING FLUID TEMP	(F)	50% Prop. Glycol	108		
FLOW RATE	(GPM)		124		
PRESSURE DROP	(FT.H20)		30.03		

SOUND					
AT 30' DISTANCE	(DBA)	51			

NOTES	
NOTE (1)	COMPLIANCE TO ASHRAE 90.1, AHRI CERTIFIED
NOTE (2)	MANUFACTURER TO SUPPLY SOUND DATA AT FULL LOAD AND PART LOAD CONDITIONS
NOTE (3)	ECM FAN MOTORS FOR VARIABLE SPEED OPERATION AND REDUCED FAN NOISE
NOTE (4)	PROVIDE FACTORY TERMINAL STRIP FOR CONTROL CONNECTION BY CONTROLS CONTRACT
NOTE (5)	UNIT SUITABLE FOR OUTDOOR INSTALLATION
NOTE (6)	NEMA ENCLOSURES FOR PANELS
NOTE (7)	COMPLETE WITH CONTROLS TRANSORMER AND PANEL HEATER
NOTE (8)	SINGLE POINT POWER CONNECTION.

ARCHITECT :
DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN
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MECHANICAL CONSULTANT :
Impact ENGINEERING
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Vancouver, BC, V6A 2T2
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No.	REVISION	DATE	BY
5	ISSUED FOR CONSTRUCTION	2021.05.17	JL
4	ISSUED FOR TENDER	2021.02.10	JL
3	ISSUED FOR 80% CD	2020.12.15	JL
2	ISSUED FOR BUILDING PERMIT	2020.12.04	JL
1	ISSUED FOR DD	2020.11.19	KM

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

SCHEDULES

SCALE: NTS
DATE: MAY 14 2021
DRAWN: KM
CHECKED: JL
JOB No.: 20_002

M5.101

MECHANICAL WORK SPECIFICATION

GENERAL

1.1 REFERENCES

.1 THE GENERAL CONDITIONS OF THE CONTRACT, THE SUPPLEMENTARY CONDITIONS, AND ALL SECTIONS OF DIVISION 01 APPLY TO AND ARE A PART OF THIS SECTION OF THE SPECIFICATION.

1.2 SUBMITTALS

.1 PRIOR TO SUPPLYING PRODUCTS TO THE SITE, SUBMIT FOR REVIEW, 8 COPIES OF SHOP DRAWINGS AND/OR PRODUCT DATA SHEETS INDICATING IN DETAIL THE DESIGN, CONSTRUCTION & PERFORMANCE OF MECHANICAL EQUIPMENT, & ALL MECHANICAL PRODUCTS EXCEPT PIPE & FITTINGS, SLEEVES, ESCUTCHEON PLATES, DUCTWORK, & SIMILAR ITEMS. ENDORSE SHOP DRAWINGS & PRODUCT DATA SHEETS WITH 'CERTIFIED TO BE IN ACCORDANCE WITH ALL REQUIREMENTS'.

.2 READ THE FOLLOWING IN CONJUNCTION WITH THE WORDING ON THE CONSULTANT'S REVIEW STAMP APPLIED TO SHOP DRAWINGS FOR PRODUCT DATA SHEETS SUBMITTED:

1. "THIS REVIEW IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT APPROVE THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH REMAINS WITH THE CONTRACTOR & SUCH REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS OR OF HIS RESPONSIBILITY FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. BE RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED & CORRELATED AT THE JOB SITE, FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESS OR TO TECHNIQUES OF CONSTRUCTION & INSTALLATION, AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES."

.3 SUBMIT THE FOLLOWING TO THE CONSULTANT:

.1 PROJECT CLOSE-OUT DOCUMENTATION: O & M MANUALS, RECORD AS-BUILT DRAWINGS, AND ALL ASSOCIATED DATA

.2 PROGRESS PAYMENT BREAKDOWN: A DETAILED BREAKDOWN OF THE MECHANICAL WORK COST SUITABLE FOR EVALUATION OF PROGRESS PAYMENTS

.3 EXTENDED WARRANTIES: COPIES OF ALL EXTENDED WARRANTIES

1.3 DEFINITIONS

.1 THE FOLLOWING ARE DEFINITIONS OF WORDS FOUND IN THIS MECHANICAL WORK SPECIFICATION AND ON ASSOCIATED DRAWINGS:

.1 "PROVIDE" (AND TENSES OF PROVIDE) - MEANS SUPPLY AND INSTALL COMPLETE

.2 "INSTALL" (AND TENSES OF INSTALL) - MEANS INSTALL AND CONNECT COMPLETE

.3 "SUPPLY" - MEANS SUPPLY ONLY

.4 "CONSULTANT" - MEANS THE ARCHITECT OR CONSULTING ENGINEER WHO HAS PREPARED THE CONTRACT DOCUMENTS ON BEHALF OF THE OWNER

.5 'EQUAL TO'- MEANS THAT A PRODUCT PROPOSED FOR INSTALLATION, OTHER THAN THE SPECIFIED PRODUCT, MUST BE EQUAL TO THE SPECIFIED PRODUCT IN SIZE, MATERIALS OF CONSTRUCTION, PERFORMANCE, DURABILITY, & WARRANTY REQUIREMENTS, & THE FINAL DECISION IN THIS MATTER RESTS WITH THE CONSULTANT.

1.4 CODES, REGULATIONS, AND STANDARDS

.1 ABIDE BY THE LATEST EDITION ALL CODES, REGULATIONS, AND STANDARDS REFERRED TO AND/OR APPLIED BY GOVERNING AUTHORITIES.

.2 INSTALL TO THE REQUIREMENTS OF THE BC BUILDING CODE 2018, CSA HEALTHCARE STANDARDS AND THE RECOMMENDED PROCEDURES OF SMACNA AND ALL EQUIPMENT MANUFACTURERS AND SUPPLIERS

1.5 EXAMINATION OF SITE

.1 PRIOR TO SUBMITTING A BID, VISIT THE SITE & REVIEW & INCLUDE FOR EXISTING SITE CONDITIONS.

1.6 DRAWINGS AND SPECIFICATION

.1 MECHANICAL DRAWINGS ARE PERFORMANCE DRAWINGS, DIAGRAMMATIC, SHOW APPROXIMATE LOCATIONS OF EQUIPMENT & SERVICES, ARE INTENDED TO CONVEY SCOPE OF WORK, & DO NOT SHOW ARCHITECTURAL AND STRUCTURAL DETAILS. PROVIDE OFFSETS, FITTINGS, TRANSFORMATIONS, & SIMILAR PRODUCTS REQUIRED AS A RESULT OF OBSTRUCTIONS & OTHER ARCHITECTURAL & STRUCTURAL DETAILS BUT NOT SHOWN ON DRAWINGS.

1.7 PLANNING AND LAYOUT OF THE WORK

.1 PROPERLY PLAN, COORDINATE, & ESTABLISH LOCATIONS & ROUTING OF SERVICES WITH SUBCONTRACTORS SUCH THAT SERVICES WILL CLEAR EACH OTHER AS WELL AS ANY OBSTRUCTIONS.

.2 CONCEAL WORK IN PARTIALLY FINISHED OR UNFINISHED AREAS TO THE EXTENT MADE POSSIBLE BY AREA CONSTRUCTION. INSTALL PIPING, TO EACH OTHER.

1.8 GENERAL RE: INSTALLATION OF EQUIPMENT

.1 UNLESS OTHERWISE SPECIFIED INSTALL EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS' RECOMMENDATIONS & INSTRUCTIONS. GOVERNING CODES, STANDARDS, & REGULATIONS TAKE PRECEDENCE OVER MANUFACTURER'S INSTRUCTIONS.

1.9 PERMITS, FEES, AND CERTIFICATES

.1 UNLESS OTHERWISE SPECIFIED, APPLY FOR, OBTAIN & PAY FOR ALL PERMITS REQUIRED TO COMPLETE THE MECHANICAL WORK.

1.10 WORKPLACE SAFETY

.1 COMPLY WITH REQUIREMENTS OF THE WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS). SUBMIT WHMIS MSDS (MATERIAL SAFETY DATA SHEETS) FOR PRODUCTS WHERE REQUIRED, & MAINTAIN 1 COPY AT THE SITE.

.2 COMPLY WITH REQUIREMENTS OF OCCUPATIONAL HEALTH & SAFETY REGULATIONS & ALL OTHER REGULATIONS PERTAINING TO HEALTH AND SAFETY, INCLUDING WORKER'S COMPENSATION/ INSURANCE BOARD & FALL PROTECTION REGULATIONS.

.3 IF, DURING THE COURSE OF WORK, ASBESTOS CONTAINING MATERIALS, BLACK MOULD, LEAD PAINT, OR ANY OTHER SUCH MATERIALS ARE ENCOUNTERED OR SUSPECTED, IMMEDIATELY REPORT THE DISCOVERY TO THE CONSULTANT & CEASE ALL WORK IN THE AREA IN QUESTION. DO NOT RESUME WORK IN AFFECTED AREAS UNTIL THE SITUATION HAS BEEN PROPERLY CORRECTED & WITHOUT WRITTEN APPROVAL FROM THE OWNER.

1.11 LIABILITY

.1 THE MECHANICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYOUT OUR THE WORK OF DIVISION 15 AND FOR ANY DAMAGE CAUSED BY IMPROPER LOCATION OR PERFORMANCE OF WORK

.2 PROTECT WORK AND BUILDING SURFACES FROM DAMAGE DUE TO THE CONTRACTOR'S PERFORMANCE OF WORK. PAY PARTICULAR ATTENTION TO THE PROTECTION OF BUILDING VAPOUR BARRIERS AND WATER PROOF MEMBRANES. COVER FLOORS AND OTHER FINISHED SURFACE TO AVOID DAMAGE. DURING PERIODS OF FREEZING WEATHER, ENSURE ALL PIPING IS PROTECTION FROM POTENTIAL FREEZE-UP AND ANY MECHANICAL OPENINGS IN THE BUILDING ENVELOPE ARE WEATHER AND TEMPERATURE PROTECTED.

.3 MAINTAIN THE SITE IN A CLEAN AND ORDERLY CONDITION AT ALL TIMES.

.4 AT THE COMPLETION OF THE WORK, REMOVE TOOLS, WASTE AND SURPLUS EQUIPMENT AND MATERIALS FROM THE SITE.

.5 MAINTAIN INSURANCE THAT WILL FULLY PROTECT THE OWNER, THE GENERAL CONTRACTOR, THE MECHANICAL CONTRACTOR AND THE MECHANICAL CONTRACTOR'S SUB-TRADES FROM ALL CLAIMS WHICH MAY ARISE FROM THE MECHANICAL CONTRACTOR'S PERFORMANCE OF WORK.

1.12 SCAFFOLDING, RIGGING, AND HOISTING

.1 ERECT AND OPERATE SCAFFOLDING, RIGGING, HOISTING EQUIPMENT & ASSOCIATED HARDWARE REQUIRED FOR YOUR WORK.

1.13 CLOSEOUT SUBMITTALS

.1 PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE, SUBMIT ALL REQUIRED ITEMS & DOCUMENTATION SPECIFIED, INCLUDING OPERATING & MAINTENANCE MANUALS, AS-BUILT RECORD DRAWINGS, EXTENDED WARRANTIES, TEST CERTIFICATES, FINAL COMMISSIONING REPORT, & TAB REPORT.

.2 OPERATING AND MAINTENANCE MANUALS: SUBMIT 3 HARD COPIES OF OPERATING & MAINTENANCE MANUALS IN HARDCOVER 3 "D" RING BINDERS, & IDENTIFIED WITH PROJECT NAME, & "MECHANICAL OPERATING AND MAINTENANCE MANUAL" WORDING. MANUALS ARE TO INCLUDE:

.1 NAME OF ENGINEER AND MECHANICAL CONTRACTOR AND PHONE NUMBER

.2 DESCRIPTION OF SYSTEM AND SCOPE OF WORK

.3 SHOP DRAWING OF ALL EQUIPMENT

.4 LIST OF TAGGED VALVES

.5 EXTENDED WARRANTIES

.6 MAINTENANCE AND OPERATION INSTRUCTIONS

.7 LIST OF MANUFACTURERS SOURCE AND TRADE NAMES

.8 BALANCE REPORT OF AIR & WATER SYSTEMS

.9 COPY OF RECORD DRAWING

.10 LIST OF INSPECTION AND TEST CERTIFICATES

.3 RECORD "AS-BUILT" DRAWINGS: AS WORK PROGRESSES, CLEARLY MARK ON WHITE PRINTS OF THE CONTRACT DRAWINGS, SIGNIFICANT CHANGES FROM THE ROUTING OF SERVICES & LOCATIONS OF EQUIPMENT SHOWN ON THE CONTRACT DRAWINGS. KEEP THE SET UP-TO-DATE AT ALL TIMES, & AVAILABLE FOR PERIODIC REVIEW. WHEN WORK IS COMPLETE, TRANSFER AS-BUILT INFORMATION FROM AS-BUILT DRAWINGS TO A RECORDABLE AND IDENTIFIED CAD DISC WITH CAD WORK OF EQUAL QUALITY TO THE CONTRACT DRAWINGS. CAD DISCS WILL BE SUPPLIED FREE OF CHARGE BY THE CONSULTANT.

1.14 PHASING OF THE WORK

.1 PHASING OF THE WORK IS REQUIRED TO MAINTAIN THE EXISTING BUILDING IN OPERATION. INCLUDE ALL COSTS FOR PHASING INCLUDING "OFF HOURS" PREMIUM TIME LABOUR COSTS.

1.15 EQUIPMENT AND SYSTEM MANUFACTURER'S CERTIFICATES

.1 PRIOR TO EQUIPMENT & SYSTEM START-UP PROCEDURES, PAY FOR EQUIPMENT/SYSTEM MANUFACTURERS' AUTHORIZED REPRESENTATIVES TO EXAMINE THE INSTALLATION, & WHEN ANY REQUIRED CORRECTIVE MEASURES HAVE BEEN MADE, TO CERTIFY IN WRITING TO THE CONSULTANT THAT THE EQUIPMENT/SYSTEM INSTALLATION IS COMPLETE & IN ACCORDANCE WITH THE EQUIPMENT/SYSTEM MANUFACTURER'S INSTRUCTIONS.

1.16 EQUIPMENT AND SYSTEM START-UP

.1 PRIOR TO COMMISSIONING, & UNDER SUPERVISION OF EQUIPMENT/SYSTEM MANUFACTURERS' REPRESENTATIVES, START-UP EQUIPMENT/SYSTEMS, MAKE REQUIRED ADJUSTMENTS, DOCUMENT PROCEDURES, LEAVE EQUIPMENT/SYSTEMS IN PROPER OPERATING CONDITION, & SUBMIT START-UP DOCUMENTATION SHEETS SIGNED BY THE MANUFACTURER/SUPPLIER & THE CONTRACTOR

1.17 EQUIPMENT AND SYSTEM COMMISSIONING

.1 AFTER SUCCESSFUL START-UP AND PRIOR TO SUBSTANTIAL PERFORMANCE, COMMISSION THE MECHANICAL WORK IN ACCORDANCE WITH REQUIREMENTS OF CSA Z320, BUILDING COMMISSIONING. USE COMMISSIONING SHEETS INCLUDED WITH THE CSA STANDARD, & ANY SUPPLEMENTAL COMMISSIONING SHEETS REQUIRED.

1.18 O & M DEMONSTRATION & TRAINING

.1 TRAIN THE OWNER'S DESIGNATED PERSONNEL IN ALL ASPECTS OF OPERATION & MAINTENANCE OF EQUIPMENT & SYSTEMS USING TECHNICIANS EMPLOYED BY THE EQUIPMENT/SYSTEM MANUFACTURER/SUPPLIER. THE NUMBER OF HOURS OF TRAINING ARE TO BE SUFFICIENT FOR THE OWNER'S PERSONNEL TO COMPLETELY UNDERSTAND OPERATION & MAINTENANCE OF THE EQUIPMENT/SYSTEM.

1.19 INSTALLATION OF PIPE SLEEVES

.1 WHERE PIPES PENETRATE NEW CONCRETE AND/OR MASONRY SURFACES PROVIDE PIPE SLEEVES, MINIMUM #16 GAUGE FLANGED GALVANIZED STEEL OR, WHERE PERMITTED, FACTORY FABRICATED PLASTIC SLEEVES IN POURED CONCRETE CONSTRUCTION, & SCHEDULE 40 GALVANIZED STEEL PIPE OR CLASS 3000 CAST IRON PIPE IN CONCRETE OR MASONRY WALLS. SLEEVES IN WATERPROOFED SLABS OR WALLS ARE TO BE C/W A WATER STOP PLATE.

.2 SIZE SLEEVES TO LEAVE 12 MM (½") CLEARANCE AROUND THE PIPES, OR WHERE THE PIPE IS INSULATED, A 12 MM (½") CLEARANCE AROUND PIPE INSULATION. PACK & SEAL THE VOID BETWEEN PIPE SLEEVES & THE PIPE OR PIPE INSULATION IN INTERIOR NON-FIRE RATED CONSTRUCTION FOR THE LENGTH OF THE SLEEVES WITH MINERAL WOOL & SEAL BOTH ENDS OF THE SLEEVE WITH SILICONE BASE CAULKING. PACK SEALS IN FIRE RATED CONSTRUCTION AS ABOVE BUT USE ROCK WOOL & LEAVE SPACE AT SLEEVE ENDS FOR FIREPROOFING. SEAL SLEEVES IN EXTERIOR WALLS BELOW GRADE (& ANY OTHER WALL WHERE WATER LEAKAGE MAY BE A PROBLEM) WITH THUNDERLINE CORP. (POWER PLANT SUPPLY CO.) "LINK SEAL" MODEL S-316 OR EQUAL MECHANICAL SEALS. REFER TO FIRESTOPPING SECTION FOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.

.3 TERMINATE SLEEVES FOR EXPOSED SO THAT THE SLEEVE IS FLUSH AT BOTH ENDS WITH THE BUILDING SURFACE CONCERNED & PROVIDE CHROME PLATED BRASS OR BRUSHED STAINLESS STEEL ESCUTCHEON PLATES TIGHT AGAINST THE BUILDING SURFACE TO COMPLETELY COVER BOTH ENDS.

1.20 DUCT OPENINGS

.1 DUCT OPENINGS, AIR INLET AND OUTLET OPENINGS, FIRE DAMPER & SIMILAR OPENINGS WILL BE PROVIDED IN NEW POURED CONCRETE WORK, MASONRY, DRYWALL & OTHER BUILDING SURFACES BY THE TRADE RESPONSIBLE FOR THE PARTICULAR CONSTRUCTION IN WHICH THE OPENING IS REQUIRED.

1.21 FIRESTOPPING AND SMOKE SEALS

.1 UNLESS OTHERWISE SPECIFIED, WHERE MECHANICAL WORK PENETRATES FIRE RATED CONSTRUCTION, PROVIDE ULC LISTED & LABELLED FIRESTOPPING & SMOKE SEAL MATERIALS INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF CAN4-S115 (RATINGS F, FT, FH, & FTH AS REQUIRED), CAN/ULC-S101, BC BUILDING CODE SECTION 3.1.7 & OTHER GOVERNING AUTHORITIES TO SEAL THE PENETRATIONS.

.2 ACCEPTABLE PRODUCTS

.1 3M BRAND FIRE BARRIER PENETRATION SEALING SYSTEM

.2 JOHN MANVILLE FIRE TEMP PRODUCTS

.3 INSTALL IN STRICT ACCORDANCE WITH MANUFACTURERS PRINTED SPECIFICATIONS, INCLUDING FIELD QUALITY CONTROL AFTER INSTALLATION

.4 ONLY APPROVED SPECIALIST FIRM, EMPLOYING SKILLED TRADESMAN EXPERIENCED IN FIRESTOPPING AND SMOKE SEALS APPLICATION SHALL CARRY OUT THE WORK OF THIS SECTION

.5 CONTRACTOR SHALL SUBMIT TO THE CONSULTANT, SUITABLE DOCUMENT SIGNED BY THE MANUFACTURER OR HIS REPRESENTATIVE STATING THE CONTRACTOR HAS RECEIVED SUFFICIENT INSTALLATION INSTRUCTION FROM THE MANUFACTURER OR REPRESENTATIVE

.6 THE CONTRACTOR SHALL REMOVE UP TO FOUR (4) FIRESTOPPING ASSEMBLIES FOR RANDOM INSPECTION IF REQUESTED BY THE CONSULTANT AND REPLACE AT NO COST TO THE OWNER.

.7 SUBMIT SHOP DRAWINGS AND PRODUCT DATA IN ACCORDANCE WITH THE SHOP DRAWINGS SECTION

.8 INSTALL FIRE STOPPING AND SMOKE SEAL MATERIAL AND COMPONENTS THAT HAVE BEEN TESTED BY CERTIFIED TESTING AGENCIES (ULC, CUL OR INTERTEK) AND MANUFACTURER'S INSTRUCTIONS TO PROVIDE A FLAME RATED SEAL NOT LESS THAT THE FIRE RESISTANCE RATED OF THE SURROUNDING WALL OR FLOOR ASSEMBLY.

1.22 PIPE HANGERS AND SUPPORTS

.1 PROVIDE PIPE HANGERS AND SUPPORTS. PROVIDE ADDITIONAL STRUCTURAL STEEL CHANNELS, ANGLES, INSERTS, BEAM CHAMPS & SIMILAR ACCESSORIES REQUIRED FOR HANGING OR SUPPORTING PIPE. ALL FERROUS HANGER & SUPPORT PRODUCTS ARE TO BE GALVANIZED.

.2 FOR INSULATED PIPE: SIZE THE HANGER OR SUPPORT TO SUIT THE DIA. OF THE INSULATED PIPE & INSTALL THE HANGER OR SUPPORT ON THE OUTSIDE OF THE INSULATION FINISH.

.3 HORIZONTAL ABOVE GROUND PIPING: HANGERS FOR SUSPENDED PIPE TO & INCLUDING 25 MM (1") DIA. ARE TO BE CLEVIS TYPE OR ADJUSTABLE RING TYPE, & HANGERS FOR SUSPENDED PIPE 40 MM (1½") DIAMETER & LARGER ARE TO BE ADJUSTABLE CLEVIS TYPE. SPACE HANGERS & SUPPORTS IN ACCORDANCE WITH CODE REQUIREMENTS.

.4 VERTICAL PIPING: SUPPORT VERTICAL PIPING BY MEANS OF STEEL OFFSET PIPE CLAMPS OR HEAVY-DUTY STEEL BRACKETS OR SOIL PIPE BRACKETS SPACED AT MAXIMUM 3 M (10') INTERVALS OR AT LEAST ONCE FOR PIPING LESS THAN 3 M (10') IN HEIGHT.

.5 PIPING ON THE ROOF: SUPPORT PIPING ON THE ROOF AS FOLLOWS:

.1 ON EXISTING ROOF - PROVIDE PORTABLE PIPE HANGERS (CANADA) INC. "PP" SERIES SUPPORT SYSTEM COMPONENTS TO SUIT THE PIPE, INCLUDING BASES, GALVANIZED STRUCTURAL STEEL FRAMES, & GALVANIZED STEEL PIPE HANGERS AND/OR SUPPORTS CONFORMING TO MSS SP-58, & CAREFULLY SCRAPE AWAY THE ROOFING GRAVEL, BED THE SUPPORT IN A HEAVY COVERING OF ROOFING MASTIC, THEN SCRAPE THE GRAVEL BACK UP AROUND THE SUPPORT

.2 ON NEW ROOF - SUPPLY LEXCOR "FLASH-TITE" OR THALER ROOFING SPECIALTIES PRODUCTS INC. "MERS" SERIES INSULATED ALUMINUM SUPPORT RISERS TO SUIT THE APPLICATION, ALL REQUIRED ACCESSORIES, CHANNEL TYPE ALUMINUM CROSS MEMBERS, & GALVANIZED STEEL PIPE HANGERS AND/OR SUPPORTS CONFORMING TO MSS TYPE SP-58, & HAND TO THE ROOFING TRADE FOR INSTALLATION AT REQUIRED SPACING

.6 FIRE PROTECTION PIPING - GENERALLY AS ABOVE BUT ULC LISTED AND/OR FM APPROVED, & IN ACCORDANCE WITH CHAPTER REQUIREMENTS OF THE NFPA STANDARD APPLICABLE TO THE PIPING SYSTEM

.7 ISOLATION FOR BARE COPPER TUBING: ISOLATE HANGERS, SUPPORT OR SECUREMENTS FOR HORIZONTAL COPPER TUBING FROM THE PIPE BY MEANS OF STRIPS OF FLEXIBLE RUBBER INSERTS.

.8 INSULATION PROTECTION SHIELDS: FOR INSULATED HORIZONTAL PIPING TO & INCLUDING 40 MM (1½") DIA., PROVIDE GALVANIZED STEEL INSULATION PROTECTION SHIELDS BETWEEN THE INSULATION & THE HANGER OR SUPPORT. INSTALL SHIELDS IMMEDIATELY AFTER THE PIPE IS INSULATED.

.9 PIPE SUPPORT FROM STEEL DECK: DO NOT SUPPORT PIPING FROM STEEL DECK WITHOUT WRITTEN CONSENT FROM THE CONSULTANT.

.10 HANGER RODS: ELECTRO-GALVANIZED CARBON STEEL (UNLESS OTHERWISE SPECIFIED), ROUND, THREADED, COMPLETE WITH CAPTIVE MACHINE NUTS WITH WASHERS AT HANGERS, SIZED TO SUIT THE LOADING IN ACCORDANCE WITH TABLE 3 IN MSS SP-58.

1.23 SUPPLY OF ACCESS DOORS

.1 SUPPLY PRIME COATED STEEL ACCESS DOORS FOR MECHANICAL WORK WHICH MAY NEED MAINTENANCE OR REPAIR BUT WHICH IS CONCEALED IN INACCESSIBLE CONSTRUCTION. ACCESS DOORS ARE TO BE C/W MOUNTING & FINISHING FEATURES TO SUIT THE CONSTRUCTION IN WHICH THEY ARE TO BE INSTALLED, & SIZES ARE TO SUIT THE CONCEALED WORK. ACCESS DOORS IN FIRE RATED CONSTRUCTION ARE TO BE ULC LISTED AND LABELLED AND OF A RATING TO MAINTAIN THE FIRE SEPARATION INTEGRITY. RECESSED DOOR TYPE ACCESS DOORS LOCATED IN SURFACES WHERE SPECIAL FINISHES ARE REQUIRED ARE TO BE CONSTRUCTED OF STAINLESS STEEL WITH A #4 FINISH.

1.24 ELECTRIC MOTORS

.1 MOTORS ARE TO CONFORM TO EEMAC STANDARD MG1, APPLICABLE IEEE STANDARDS, & APPLICABLE CSA C22.2 STANDARDS, & MEET NEMA STANDARDS FOR MAXIMUM SOUND LEVEL RATINGS UNDER FULL LOAD. THE EFFICIENCY OF 1 PHASE AC MOTORS TO 1 HP IS TO BE IN ACCORDANCE WITH CAN/CSA C747. THE EFFICIENCY OF 3 PHASE MOTORS 1 HP & LARGER IS TO BE IN ACCORDANCE WITH CAN/CSA C390 OR IEEE 112B.

1.25 ELECTRICAL POWER & CONTROL WIRING

.1 LINE AND LOAD SIDE POWER WIRING FOR MECHANICAL WORK WILL BE DONE AS PART OF THE ELECTRICAL WORK.

.2 DO ALL REQUIRED CONTROL WIRING SHOWN AND SPECIFIED.

1.26 MECHANICAL WORK IDENTIFICATION

.1 IDENTIFY ALL NEW/RELOCATED MECHANICAL WORK IN ACCORDANCE WITH EXISTING IDENTIFICATION STANDARDS AT THE SITE, OR, IF ALL NEW WORK OR NO EXISTING SITE STANDARD, IDENTIFY NEW EXPOSED PIPING & DUCTWORK SUCH THAT IT CAN BE EASILY SEEN.

.2 PIPING: PAINT GAS PIPING WITH PRIMER & 2 COATS OF YELLOW PAINT IN ACCORDANCE WITH CODE REQUIREMENTS. FOR ELECTRICALLY TRACED MECHANICAL WORK INCLUDE "ELECTRICALLY TRACED". PIPE IDENTIFICATION IS TO BE EQUAL TO SMS LTD. OR BRADY VINYL PLASTIC WITH INDOOR/OUTDOOR TYPE VINYL INK LETTERING & DIRECTIONAL ARROWS. FOR PIPE TO AND INCLUDING 150 MM (6") DIA., USE COILED TYPE SNAP-ON MARKERS. FOR PIPE LARGER THAN 150 MM (6") DIA., USE SADDLE TYPE STRAP-ON MARKERS WITH 2 OPPOSITE IDENTIFICATION LOCATIONS & C/W NYLON CABLE TIES. IDENTIFICATION WORDING & COLOURS, UNLESS OTHERWISE INDICATED, IS TO BE IN ACCORDANCE WITH CAN/CGSB-24.3.

.3 DUCTWORK: CUSTOM MADE MYLAR STENCILS WITH 50 MM (2") HIGH LETTERING TO ACCURATELY DESCRIBE THE DUCT SERVICE, I.E. "AHU-1 SUPPLY", C/W A DIRECTIONAL ARROW, & COLOURED INK WITH INK PADS & ROLLER APPLICATORS. INK COLOUR IS GENERALLY TO BE BLACK BUT MUST CONTRAST WITH THE LETTERING BACKGROUND.

.4 EXPOSED PIPING AND DUCTWORK: IDENTIFY AT EVERY END, ADJACENT TO VALVES, STRAINERS, DAMPER & SIMILAR ACCESSORY, AT CONNECTING EQUIPMENT, ON BOTH SIDES OF PIPES & DUCTS PENETRATING FLOORS, WALLS, OR PARTITIONS, AT 6 M (20') INTERVALS ON RUNS EXCEEDING 6 M (20') IN LENGTH, AT LEAST ONCE IN EACH ROOM, & AT LEAST ONCE ON RUNS LESS THAN 6 M (20').

.5 CONCEALED PIPING & DUCTWORK: IDENTIFY AT POINTS WHERE PIPES OR DUCTS ENTER & LEAVE ROOMS, SHAFTS, PIPE CHASES, FURRED SPACES, & SIMILAR AREAS, AT MAXIMUM 6 M (20') INTERVALS ABOVE SUSPENDED ACCESSIBLE CEILINGS, AT LEAST ONCE IN EACH ROOM, AT EACH ACCESS DOOR LOCATION, & AT EACH PIECE EQUIPMENT, AUTOMATIC VALVE, ETC.

.6 EQUIPMENT: PROVIDE AN IDENTIFICATION NAMEPLATE FOR PIECE OF EQUIPMENT, INCLUDING CONTROL VALVES, MOTORIZED DAMPERS, INSTRUMENTS, & SIMILAR PRODUCTS. NAMEPLATES ARE TO BE 2-PLY LAMINATED BLACK/WHITE PLASTIC, MINIMUM 12 MM X 50 MM (½" X 2") FOR SMALLER ITEMS, MINIMUM 25 MM X 65 MM (1" X 2½") FOR EQUIPMENT, & MINIMUM 50 MM X 100 MM (2" X 4") FOR CONTROL PANELS & SIMILAR ITEMS. SECURE NAMEPLATES WITH STAINLESS STEEL SCREWS UNLESS PROHIBITIVE, IN WHICH CASE USE EPOXY CEMENT. EQUIPMENT IDENTIFICATION TERMINOLOGY IS TO BE AS PER DRAWING IDENTIFICATION.

.7 VALVE TAGS & CHART: ATTACH A TAG TO EACH NEW VALVE, EXCEPT VALVES LOCATED AT THE EQUIPMENT THEY CONTROL. TAGS ARE TO BE COLOURED, 40 MM (1½") SQUARE, 2-PLY LAMINATED PLASTIC WITH BEVELLED EDGES, RED-WHITE, GREEN-WHITE, YELLOW-BLACK, ETC., TO MATCH THE PIPING IDENTIFICATION COLOUR, C/W A 3.2 MM (1/8") DIA. BY 100 MM (4") LONG BRASS PLATED STEEL BEAD CHAIN, AND 4 LINES OF ENGRAVED IDENTIFICATION WORDING TO INDICATE THE VALVE NUMBER, SIZE, SERVICE, & NO OR NC. PREPARE A COMPUTER PRINTED CHART TO LIST TAGGED VALVES. IF AN EXISTING CHART IS AVAILABLE, VALVE TAG NUMBERING IS TO BE AN EXTENSION OF EXISTING NUMBERING & THE NEW VALVE TAG CHART IS TO INCORPORATE THE EXISTING CHART. FRAME & GLAZE 1 COPY OF THE CHART & AFFIX TO A WALL IN EACH MAIN MECHANICAL AND/OR EQUIPMENT ROOM

1.27 FASTENING AND SECURING HARDWARE

.1 PROVIDE FASTENING & SECURING HARDWARE TO MAINTAIN INSTALLATIONS ATTACHED TO THE STRUCTURE OR TO FINISHED FLOORS, WALLS & CEILINGS IN A SECURE & RIGID MANNER CAPABLE OF WITHSTANDING THE DEAD LOADS, LIVE LOADS, SUPERIMPOSED DEAD LOADS, & ANY VIBRATION OF THE INSTALLED PRODUCTS. WHERE CONSTRUCTION IS NOT SUITABLE TO SUPPORT THE LOADS, PROVIDE ADDITIONAL FRAMING OR SPECIAL FASTENERS TO ENSURE PROPER SECUREMENT TO THE STRUCTURE. DO NOT ATTACH FASTENERS TO STEEL DECK WITHOUT WRITTEN CONSENT FROM THE CONSULTANT.

1.28 GENERAL RE: INSTALLATION OF VALVES

.1 GENERALLY, VALVE LOCATIONS ARE INDICATED OR SPECIFIED, HOWEVER, REGARDLESS OF LOCATIONS SHOWN, PROVIDE SHUT-OFF VALVES TO ISOLATE ALL SYSTEMS, AT THE BASE OF VERTICAL RISERS, IN BRANCH TAKE-OFFS AT MAINS & RISERS, TO ISOLATE EQUIPMENT, TO PERMIT WORK PHASING AS REQUIRED, & WHEREVER ELSE REQUIRED FOR PROPER SYSTEM OPERATION & MAINTENANCE.

1.29 PIPE LEAKAGE TESTING

.1 BEFORE NEW PIPING HAS BEEN INSULATED OR CONCEALED, & BEFORE EQUIPMENT, FIXTURES AND FITTINGS HAVE BEEN CONNECTED, PRESSURE TEST PIPING FOR LEAKAGE IN ACCORDANCE WITH REQUIREMENTS OF APPLICABLE CODES AND STANDARDS. HAVE COMPLETED TEST REPORT SHEETS DATED & SIGNED BY THOSE PRESENT TO CONFIRM PROPER TEST RESULTS. ENSURE THAT PIPING HAS BEEN PROPERLY FLUSHED, CLEANED & IS CLEAR OF FOREIGN MATTER PRIOR TO PRESSURE TESTING.

1.

1.30 CONCRETE WORK FOR MECHANICAL EQUIPMENT BASES/PADS

.1 UNLESS OTHERWISE SPECIFIED, PROVIDE ALL POURED CONCRETE WORK, INCLUDING REINFORCING & FORMWORK, REQUIRED FOR MECHANICAL WORK. CONCRETE IS TO BE MINIMUM 20,700 KPA READY-MIX CONCRETE IN ACCORDANCE WITH CAN/CSA-A23.1 & THE BUILDING CODE.

1.31 EXCAVATION AND BACKFILL WORK

.1 UNLESS OTHERWISE SPECIFIED, DO EXCAVATION, BACKFILL & RELATED WORK REQUIRED FOR YOUR WORK. GRADE TRENCH EXCAVATIONS AS REQUIRED. UNLESS OTHERWISE SPECIFIED, BACKFILL TRENCHES WITHIN THE BUILDING WITH CLEAN SHARP SAND IN INDIVIDUAL LAYERS OF MAXIMUM 150 MM (6"). THICKNESS COMPACTED TO A DENSITY OF 100% STANDARD PROCTOR. HAND COMPACT THE FIRST LAYERS UP TO A COMPACTED LEVEL OF MINIMUM 300 MM (12") ABOVE THE TOP OF THE PIPE. HAND OR MACHINE COMPACT THE BALANCE UP TO GRADE. DEPTH OF EXTERIOR TRENCHES OR THOSE IN UNHEATED INTERIOR AREAS MUST PREVENT PIPES FROM FREEZING.

.2 UNLESS OTHERWISE SPECIFIED, BACKFILL TRENCHES OUTSIDE THE BUILDING (NOT UNDER ROADS, PARKING LOTS OR TRAFFIC AREAS), UP TO A COMPACTED LEVEL OF 450 MM (18") THICK ABOVE THE PIPE, HAND COMPACTED TO A DENSITY OF 95% STANDARD PROCTOR, USING GRANULAR "A" GRAVEL. BACKFILL THE BALANCE IN 150 MM (6") LAYERS WITH APPROVED EXCAVATED MATERIAL, COMPACTED TO 95% STANDARD PROCTOR DENSITY.

.3 PRIOR TO EXCAVATION, CAREFULLY CHECK INVERTS AND LOCATIONS OF EXISTING SERVICES AND REPORT ANY SERIOUS DISCREPANCY. CONTACT UTILITIES TO ACCURATELY LOCATE THEIR SERVICES.

1.32 CUTTING, DRILLING, AND PATCHING FOR MECHANICAL WORK

.1 DO ALL CUTTING, DRILLING AND PATCHING OF THE EXISTING BUILDING FOR THE INSTALLATION OF YOUR WORK. CONFIRM EXACT LOCATIONS PRIOR TO CUTTING AND/OR DRILLING WORK. PATCH SURFACES, WHERE REQUIRED, TO EXACTLY MATCH EXISTING FINISHES USING TRADESMEN SKILLED IN THE PARTICULAR TRADE OR APPLICATION WORKED ON.

.2 WHERE NEW PIPES PASS THROUGH EXISTING CONSTRUCTION, CORE DRILL AN OPENING SIZED TO LEAVE 12 MM (½") CLEARANCE AROUND PIPES OR PIPE INSULATION. IN POURED CONCRETE CONSTRUCTION, DETERMINE THE LOCATION, IF ANY, OF EXISTING CONCEALED SERVICES.

.3 PACK AND SEAL THE VOID BETWEEN PIPE OPENINGS AND THE PIPE OR PIPE INSULATION FOR THE LENGTH OF THE OPENING IN INTERIOR CONSTRUCTION WITH ROCK WOOL & SEAL BOTH ENDS OF THE OPENING WITH NON-HARDENING SILICONE BASE CAULKING. SEAL SLEEVES IN EXTERIOR WALLS BELOW GRADE (& ANY OTHER WALL WHERE WATER LEAKAGE MAY BE A PROBLEM) WITH LINK TYPE MECHANICAL SEALS.

1.33 ROOFING WORK

.1 DO FLASHING WORK, INCLUDING COUNTER-FLASHING, FOR MECHANICAL WORK PENETRATING AND/OR SET IN THE ROOF.

.2 WHERE ROOF REVISIONS AND/OR REPLACEMENT

ii. PIPING, LARGER THAN 100 MM (4") DIA. - 40 MM (1½") THICK

7. HOT WATER HEATING PIPING, SUPPLY & RETURN:
   i. TO 30 MM (1 ¼ ") DIA. - 40 MM (1 ½ ") THICK
   ii. 40 MM (1 ½ ") DIA. - 40 MM (1.5") THICK
   iii. LARGER THAN 40 MM (1½") DIA. - 40 MM (1½") THICK
8. GLYCOL SOLUTION HEATING OR HEAT RECLAIM PIPING, SUPPLY & RETURN
   iij. TO 30 MM (1 ¼ ") DIA. - 25 MM (1") THICK
   ii. 40 MM (1 ½ ") DIA. - 40 MM (1.5") THICK
   iii. LARGER THAN 40 MM (1½") DIA. - 50 MM (2") THICK
9. PIPING AS ABOVE LOCATED INSIDE THE BUILDING IN UNHEATED AREAS OR OUTSIDE THE BUILDING & INDICATED TO BE TRACED WITH ELECTRIC HEATING CABLE:
   i. 50 MM (2") THICK
10. "WET" TYPE FIRE PROTECTION PIPING IN UNHEATED AREAS & INDICATED TO BE TRACED WITH ELECTRIC HEATING CABLE:
   i. 50 MM (2") THICK
11. REFRIGERANT PIPING INSIDE BUILDING:
   i. 25 MM (1") THICK
12. STEAM PIPING
   i. TO 100MM (4") - 65 MM (2½") THICK
   ii. LARGER THAN 100 MM (4") DIA. - 75 MM (3") THICK
13. CONDENSATE
   i. TO & INCLUDING 50 MM (2") DIA. - 40 MM (1½") THICK
   ii. 65 MM (2 ½ ") DIA AND ABOVE - 50 MM (2") THICK
12. PIPING INSULATION-NON-COMBUSTIBLE INSULATION: WHERE PIPE (INSIDE THE BUILDING & ABOVE GROUND) WHICH IS TO BE INSULATED AS SPECIFIED ABOVE PENETRATES FIRE RATED CONSTRUCTION, PROVIDE NON-COMBUSTIBLE, RIGID, SECTIONAL, LONGITUDINALLY SPLIT MINERAL FIBRE PIPE INSULATION WITH A REINFORCED VAPOUR BARRIER JACKET IN ACCORDANCE WITH REQUIREMENTS OF CAN/ULC-S114 & COMPATIBLE WITH FIRESTOPPING AS PER CAN/ULC-S101.
13. PIPING INSULATION-FLEXIBLE ELASTOMERIC INSULATION: INSULATE REFRIGERANT PIPING OUTSIDE THE BUILDING WITH 25 MM (1") THICK CLOSED CELL, SLEEVE TYPE, LONGITUDINALLY SPLIT, SELF-SEAL, FOAMED PLASTIC PIPE INSULATION IN ACCORDANCE WITH REQUIREMENTS OF ASTM C534 & EQUAL TO ARMACELL AP/ARMAFLEX SS & INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTION TO PRODUCE A WATER-TIGHT INSTALLATION.
14. BARRIER-FREE LAVATORY INSULATION KITS: PROVIDE REMOVABLE, FLEXIBLE, REUSABLE, WHITE MOULDED PLASTIC INSULATION KITS EQUAL TO ZESTON "SNAP-TRAP" FOR BARRIER-FREE LAVATORY DRAIN PIPING & WATER SUPPLIES EXPOSED UNDER BARRIER-FREE LAVATORIES.
15. EQUIPMENT INSULATION-BLANKET MINERAL FIBRE: INSULATE EQUIPMENT LISTED BELOW WITH ROLL FORM MINERAL FIBRE BLANKET TYPE INSULATION EQUAL TO JOHNS MANVILLE INC. TYPE 150 "MICROLITE" TO ASTM STANDARD C553, 24 KG/M³ (1½ LB./FT.³) DENSITY, WITH A FACTORY APPLIED VAPOUR BARRIER FACING:
   1. CHILLED WATER AND/OR DOMESTIC COLD WATER PUMP CASINGS - 40 MM (1½") THICK
2. ROOF DRAIN SUMPS WHERE INSIDE THE BUILDING - 25 MM (1") THICK
3. WATER METER(S) - 40 MM (1½") THICK
16. EQUIPMENT INSULATION-SEMI-RIGID MINERAL FIBRE INSULATION: INSULATE THE EQUIPMENT LISTED BELOW WITH ROLL FORM SEMI-RIGID MINERAL FIBRE BOARD INSULATION WITH A FACTORY APPLIED VAPOUR BARRIER FACING CONSISTING OF LAMINATED ALUMINUM FOIL & KRAFT PAPER, EQUAL TO JOHNS MANVILLE INC. PIPE AND TANK INSULATION TO ASTM STANDARD C1393:
1. UNINSULATED DOMESTIC HOT WATER STORAGE TANK(S) - 50 MM (2") THICK
2. SHELL & TUBE TYPE HEAT EXCHANGERS - 50 MM (2") THICK
3. HEATING MAIN AIR SEPARATOR - 50 MM (2") THICK
4. CHILLED WATER EXPANSION TANK - 40 MM (1½") THICK
17. EQUIPMENT INSULATION-REMOVABLE & REUSABLE TYPE: INSULATE THE EQUIPMENT LISTED BELOW WITH CUSTOM DESIGNED & MANUFACTURED REMOVABLE & REUSABLE INSULATION COVERS EQUAL TO CROSSBY DEWAR INC., MINIMUM 95 KG/M³ (6 LB./FT.³) DENSITY CERAMIC FIBRE INSULATION SEWN BETWEEN MINIMUM 542.5 G/M² (1.8 OZ./FT.²) WEIGHT SILICONE IMPREGNATED FIBREGLASS FABRIC IN A QUILTED PATTERN USING DOUBLE STITCHES MADE WITH KELVAR OR TEFLON COATED FIBREGLASS THREAD. OVERLAP FLAPS ARE TO BE SECURED USING LACES, SNAPS, OR VELCRO DOUBLE STITCHED IN PLACE:
1. PLATE TYPE HEAT EXCHANGER(S)
2. 150 MM (6") DIAMETER & LARGER PIPING STRAINERS, BACKFLOW PREVENTERS, ETC.
3. PROVIDE "WRAP TYPE" REMOVABLE AND REUSABLE INSULATION COVERS EQUAL TO INSUFAB SYSTEMS INC. COVERS FOR "COLD" CIRCUIT BALANCING VALVES, BACKFLOW PREVENTERS, & SIMILAR ITEMS IN PIPING LESS THAN 150 MM (6") DIA
18. MINERAL FIBRE INSULATION-DUCTWORK INSIDE BUILDING: INSULATE THE FOLLOWING DUCTWORK SYSTEMS INSIDE THE BUILDING WITH MINERAL FIBRE INSULATION OF THE THICKNESS INDICATED BELOW. INSULATION TO BE TYPE B-2 AS DEFINED BY BCICA STANDARD SPECIFICATION 1502:
1. FRESH AIR INTAKE DUCTWORK, CASINGS & PLENUMS TO & INCLUDING MIXING PLENUMS OR SECTIONS, OR, IF MIXING PLENUMS OR SECTIONS ARE NOT PROVIDED, TO THE 1ST HEATING COIL OR IF BOTH MIXING PLENUMS OR SECTIONS & HEATING COIL SECTIONS ARE NOT PROVIDED, & THE FRESH AIR IS NOT TEMPERED, THEN THE FRESH AIR DUCTWORK SYSTEM COMPLETE
   i. 40 MM (1½") THICK
2. MIXED SUPPLY AIR OR PREHEATED SUPPLY AIR CASINGS, PLENUMS & SECTIONS TO & INCLUDING THE FAN SECTION WHERE NOT FACTORY INSULATED:
   i. 25 MM (1") THICK
3. SUPPLY AND RETURN AIR DUCTWORK, EXCEPT FOR DUCTWORK EXPOSED IN THE AREA IT SERVES:
   i. 25 MM (1") THICK RIGID BOARD OR 40 MM (1½") THICK FLEXIBLE BLANKET
4. EXHAUST DISCHARGE DUCTWORK FOR A DISTANCE OF 3 M (10') DOWNSTREAM (BACK) FROM EXHAUST OPENINGS TO ATMOSPHERE, INCLUDING EXHAUST PLENUMS WITHIN THE 3 M (10') DISTANCE:
   i. 25 MM (1") THICK RIGID BOARD OR 40 MM (1½") THICK FLEXIBLE BLANKET
5. ANY OTHER DUCTWORK, CASINGS, PLENUMS OR SECTIONS SPECIFIED OR DETAILED ON THE DRAWINGS TO BE INSULATED - THICKNESS AS SPECIFIED.
6. ACCEPTABLE MATERIALS:
   i. EQUAL TO JOHNS MANVILLE INC. TYPE 814 "SPIN-GLAS" PREFORMED BOARD TYPE INSULATION TO ASTM C612, WITH A FACTORY APPLIED REINFORCED ALUMINUM FOIL & KRAFT PAPER FACING FOR EXPOSED RECTANGULAR DUCTWORK,
   ii. ROLL FORM SEMI-RIGID INSULATION EQUAL TO MULTI-GLASS INSULATION LTD. "MULTI-FLEX MKF" TO ASTM C1393 WITH A FACTORY APPLIED VAPOUR BARRIER FACING FOR EXPOSED ROUND & OVAL DUCTS,
   iii. BLANKET TYPE ROLL FORM INSULATION EQUAL TO JOHNS MANVILLE INC. DUCT WRAP TYPE 150 "MICROLITE" TO ASTM STANDARD C553, 24 KG/M³ (1½ LB./FT.³) DENSITY, 40 MM (1½") THICK WITH A FACTORY APPLIED VAPOUR BARRIER FACING FOR CONCEALED RECTANGULAR, ROUND & OVAL DUCTWORK.
19. FLEXIBLE ELASTOMERIC INSULATION-DUCTWORK OUTSIDE BUILDING: INSULATE ALL EXPOSED EXTERIOR DUCTWORK (EXCEPT FRESH AIR INTAKE DUCTWORK) & ASSOCIATED PLENUMS AND/OR CASINGS WITH 50 MM (2") THICK FLEXIBLE ELASTOMERIC SHEET INSULATION EQUAL TO ARMACELL "AP/ARMAFLEX SA" CLOSED CELL, SELF-ADHERING ELASTOMERIC EDPM RUBBER INSULATION IN ACCORDANCE WITH ASTM C534, APPLIED IN TWO 25 MM (1") THICK LAYERS WITH STAGGERED TIGHTLY BUTTED JOINTS TO PRODUCE A WEATHER-TIGHT INSTALLATION.
20. INSULATION COATINGS, FINISHES & JACKETS: PROVIDE COATINGS, FINISHES OR JACKETS AS FOLLOWS
   1. CANVAS: ULC LISTED AND LABELLED, 25/50 RATED, ROLL FORM, MINIMUM 170 G (6 OZ.) CANVAS JACKET MATERIAL SECURED IN PLACE WITH A FULL 100% COVERING COAT OF LAGGING ADHESIVE FOR, UNLESS OTHERWISE SHOWN AND/OR SPECIFIED, EXPOSED MINERAL FIBRE INSULATION INSIDE THE BUILDING
   2. WHITE PVC: ROLL FORM SHEET & FITTING COVERS EQUAL TO JOHNS MANVILLE INC. "ZESTON" 300. 25/50 RATED, FOR EXPOSED MINERAL FIBRE PIPE INSULATION IN WET OR WASH-DOWN AREAS
   3. RIGID ALUMINUM: EQUAL TO CHILDERS METALS (ITW INSULATION SYSTEMS CANADA) "LOCK-ON EMBOSSED ALUMINUM JACKET MATERIAL TO ASTM B209, FACTORY CUT TO SIZE & C/W MOISTURE BARRIER & CONTINUOUS MODIFIED PITTSBURGH Z-LOCK, "FABSTRAPS" & BUTT STRAPS TO COVER END TO END JOINTS, & 2-PIECE EPOXY COATED PRESSED ALUMINUM WITH WEATHER LOCKING EDGES FOR EXPOSED MINERAL FIBRE PIPE INSULATION OUTSIDE THE BUILDING OR IN "WET" AREAS C/W LETTERS OF ASSURANCE.
4. PROTECTIVE COATING - FLEXIBLE FOAM ELASTOMERIC INSULATION: EQUAL TO ARMACELL "WB ARMAFLEX" WEATHERPROOF, WATER-BASED LATEX ENAMEL FINISH. APPLY 1 COAT FOR INTERIOR INSULATION & 2 COATS (WITH 24 HOURS BETWEEN COATS) FOR INSULATION OUTSIDE THE BUILDING.
21. INSULATION APPLICATION REQUIREMENTS: UNLESS OTHERWISE SPECIFIED APPLY INSULATION MATERIALS IN ACCORDANCE WITH REQUIREMENTS OF THE CURRENT EDITION OF THE THERMAL INSULATION ASSOCIATION OF CANADA NATIONAL INSTALLATION STANDARD.

FIRE PROTECTION

.1 PROVIDE FIRE PROTECTION WORK AS SHOWN & SPECIFIED.

.2 SYSTEM DESIGNER: FIRE PROTECTION WORK IS TO BE DESIGNED BY A FULLY QUALIFIED MECHANICAL P. ENG. REGISTERED & LICENSED IN THE JURISDICTION OF THE PROJECT. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BC TO PERFORM DETAILED SPRINKLER DESIGN AND HYDRAULIC LOADS. THE DRAWINGS SHALL BE SIGNED AND SEALED C/W LETTERS OF ASSURANCE.

.3 STANDPIPE SYSTEM DESIGN CRITERIA: FIRE PROTECTION STANDPIPE WORK IS TO BE DESIGNED IN ACCORDANCE WITH NFPA 14 AND PROVINCIAL STANDARDS, &, WHERE REQUIRED, LOCAL BUILDING & FIRE DEPARTMENT REQUIREMENTS & THE STANDARDS OF THE OWNER'S INSURER.

.4 SPRINKLER SYSTEM DESIGN CRITERIA: FIRE PROTECTION SPRINKLER WORK IS TO BE DESIGNED IN ACCORDANCE WITH NFPA 13 & PROVINCIAL STANDARDS, &, WHERE REQUIRED, LOCAL BUILDING & FIRE DEPARTMENT REQUIREMENTS & THE STANDARDS OF THE OWNER'S INSURER.

.5 SUBMITTALS: SUBMIT AS SHOP DRAWINGS, CAD WHITE PRINT LAYOUT DRAWINGS INDICATING SOURCE OF WATER SUPPLY, WITH PIPE SIZE & TEST FLOW & PRESSURE, "HEAD-END" EQUIPMENT AND PIPING SCHEMATIC, PIPE ROUTING & SIZING, & RISERS, ALL SIGNED & SEALED BY THE DESIGN P. ENG., AS WELL AS CALCULATIONS & A LIST OF DESIGN DATA USED IN PREPARING THE CALCULATIONS, SYSTEM LAYOUT & SIZING.

.6 EXISTING SYSTEM: VERIFY THE WORKING CONDITION OF EXISTING FIRE PROTECTION SYSTEM EQUIPMENT WHICH HAS DIRECT INTERFACE WITH THE NEW WORK & IS TO REMAIN. REPLACE WITH NEW EQUIPMENT WHERE NECESSARY. WHERE SHUTDOWN OF A ZONE IS REQUIRED TO PERFORM THE WORK, THE CONTRACTOR IS TO COORDINATE A FIRE WATCH FOR THE DURATION OF THE SHUTDOWN.

.7 PIPING: DO PIPING WORK IN ACCORDANCE WITH "REVIEWED" SHOP DRAWINGS & NFPA REQUIREMENTS. "WET" ZONE STEEL PIPING, FITTINGS, UNIONS, COUPLINGS & FLANGES FOR FIRE PROTECTION WORK EXPOSED TO WEATHER (EITHER INSIDE OR OUTSIDE THE BUILDING (INCLUDING PARKING GARAGES), ARE TO BE GALVANIZED. FERROUS PIPE HANGERS, SUPPORTS, & SIMILAR HARDWARE USED FOR GALVANIZED STEEL PIPING ARE TO BE ELECTRO-GALVANIZED.
   .1 PIPE SIZES, PIPE ROUTING, EQUIPMENT QUANTITIES & LOCATIONS, & LAYOUT OF WORK SHOWN ON THE DRAWINGS ARE TO ASSIST YOU DURING THE TENDERING PERIOD. ENSURE ADEQUATE FIRE PROTECTION SYSTEM COVERAGE. DO NOT REDUCE THE SIZE OF THE FIRE PROTECTION SYSTEM MAIN OR RE-ROUTE THE MAIN UNLESS APPROVED.
   .2 SLOPE HORIZONTAL PIPING SO THAT IT MAY BE COMPLETELY DRAINED. PROVIDE CAPPED DRAIN POINTS.
   .3 PROVIDE A PRESSURE GAUGE AT THE HIGHEST OUTLET IN EACH STANDPIPE RISER. WHERE POSSIBLE, LOCATE GAUGES IN FIRE HOSE CABINETS.
   .4 WHEN FIRE PROTECTION WORK IS COMPLETE, TEST THE SYSTEM COMPONENTS & THE OVERALL SYSTEM(S) & SUBMIT COMPLETED NFPA MATERIAL & TEST CERTIFICATE(S), & ANY OTHER DOCUMENTATION REQUIRED.
   .5 PROVIDE SHUT-OFF & CHECK VALVES WHERE SHOWN & WHEREVER ELSE REQUIRED.
   .6 SCHEDULE 40 MILD BLACK CARBON STEEL, ASTM A53, GRADE B, C/W FITTINGS & COUPLINGS EQUAL TO VICTAULIC "FIRELOCK" FITTINGS & VICTAULIC STYLE 005 RIGID COUPLING JOINTS, OR, SCHEDULE 40 MILD BLACK CARBON STEEL, ASTM A53, GRADE B, C/W CLASS 125 CAST IRON SCREWED FITTINGS TO ANSI/ASME B16.4

.16 SPRINKLER HEADS: PROVIDE SPRINKLER HEADS OF THE TYPES IN ACCORDANCE WITH THE DRAWING SCHEDULE. CAREFULLY COORDINATE HEAD LOCATIONS WITH ALL DRAWINGS, INCLUDING ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS, & WHERE APPLICABLE, ELECTRICAL DRAWINGS. CONFIRM LOCATIONS PRIOR TO ROUGHING-IN. MAINTAIN MAXIMUM HEADROOM IN AREAS WITH NO CEILINGS. PROVIDE GUARDS FOR HEADS WHERE THEY ARE SUBJECT TO DAMAGE. PROVIDE HIGH TEMPERATURE HEADS IN EQUIPMENT ROOMS & SIMILAR AREAS OVER HEAT PRODUCING OR GENERATING EQUIPMENT. SUPPLY A FULL COMPLEMENT (TO FILL CABINET) OF SPARE SPRINKLER HEADS OF THE TYPES USED (MINIMUM 4 OF EACH TYPE) & PLACE IN A WALL MOUNTED STORAGE CABINET LOCATED ADJACENT TO THE SPRINKLER SYSTEM "HEAD END" EQUIPMENT.

.17 FIRE HOSE CABINETS: PROVIDE FIRE HOSE CABINETS WHERE SHOWN BUT CONFIRM EXACT CABINET LOCATIONS PRIOR TO ROUGHING-IN. WHERE LOCATED IN PARKING GARAGE AREAS INSTALL ON FLOOR TO CEILING PRIME COAT PAINTED STRUCTURAL STEEL FRAMEWORKS LOCATED SO AS NOT TO BE DAMAGED BY VEHICLES.

.18 FIRE EXTINGUISHER: STORED PRESSURE, RECHARGEABLE, DRY CHEMICAL TYPE IN ACCORDANCE WITH NFPA 10 & CAN/ULC-S508, 3A10B:C RATED UNLESS OTHERWISE SPECIFIED/SHOWN, C/W PRESSURE GAUGE & WALL MOUNTING BRACKET. PROVIDE WHERE SHOWN. IF INDICATED ADJACENT TO A DOOR, INSTALL AT THE STRIKE SIDE OF THE DOOR. PROVIDE CABINETS WHERE INDICATED.

.19 DRAINS: SYSTEM DRAINS SHALL BE PIPED TO FLOOR DRAINS. PROVIDE INSPECTOR TEST VALVES ON EACH FLOOR OF EACH SYSTEM. PROVIDE MAIN DRAINS AT ALL SYSTEM AND FLOOR CONTROL VALVES. DISCHARGE INTO A DRAIN RISER. PROVIDE A FLOOR DRAIN AT THE BASE OF EACH RISER.

DOMESTIC WATER SYSTEMS

.1 THE INSTALLATION SHALL CONFORM TO THE BC PLUMBING CODE 2018

.2 PROVIDE DOMESTIC WATER PIPING SYSTEMS. ALL PRODUCTS IN CONTACT WITH DOMESTIC WATER ARE TO BE NSF/ANSI 61 CERTIFIED LEAD FREE.

.3 DOMESTIC WATER SERVICE: MAKE ARRANGEMENTS WITH THE MUNICIPALITY FOR INSTALLATION OF DOMESTIC WATER SERVICE FROM THE MUNICIPAL MAIN TO THE PROPERTY LINE. PAY CHARGES LEVIED BY THE MUNICIPALITY FOR THE SERVICE CONNECTION WORK

.4 PIPING INSTALLATION: CONFORM TO THE FOLLOWING REQUIREMENTS:
   .1 DO NOT CONCEAL ANY PLUMBING INSTALLATION, WHETHER BURIED OR WITHIN WALLS PRIOR TO REVIEW BY THE CONSULTANT OR LOCAL AUTHORITY. ENSURE 72 HOURS WRITTEN NOTICE IS PROVIDED TO EACH PARTY PRIOR TO REQUIREMENT FOR INSPECTION OF THE WORK

.2 FIRE STOP ALL PENETRATIONS THROUGH RATED SEPARATIONS. PROVIDE NECESSARY THERMAL INSULATION AND VAPOUR BARRIER AT PENETRATIONS. CONTRACTOR TO PROVIDE PROFESSIONAL CERTIFICATION FROM SPECIALIST FIRE-STOPPING TRADE PRIOR TO REPORT FOR COMPLETION OR OCCUPANCY INSPECTION, WHICHEVER IS THE EARLIER

.3 IF AND WHERE REQUIRED, BRACE & SECURE U/G WATER SERVICE PIPE ENTERING THE BUILDING IN ACCORDANCE WITH MUNICIPAL STANDARDS & DETAILS & PAINT METALLIC RESTRAINT DEVICES WITH 2 COATS OF CORROSION RESISTANT BLACK ASPHALT BASE COATING PRIOR TO BACKFILLING

.4 PROVIDE PROPER DIELECTRIC UNIONS IN CONNECTIONS BETWEEN COPPER PIPE & FERROUS PIPE OR EQUIPMENT

.5 SECURE TRAP SEAL PRIMER TUBING EMBEDDED IN CONCRETE TO REINFORCING STEEL & BE PRESENT DURING THE CONCRETE POUR TO ENSURE THAT THE TUBING IS NOT DAMAGED OR DISLODGED

.6 PROVIDE BALANCING VALVES IN DOMESTIC HOT WATER RECIRCULATION PIPING WHERE SHOWN OR REQUIRED

.7 PROVIDE WATER METER C/W REMOTE READ-OUT AS PER THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

.8 PROVIDE UNIONS TO ALL EQUIPMENT AND VALVE CONNECTIONS FOR PIPE SIZES 65MM (2½") AND BELOW. FLANGED CONNECTIONS FOR PIPE SIZES 75MM (3") AND OVER

.9 PROVIDE NECESSARY THRUST BLOCK, ANCHOR, ETC. TO UNDERGROUND WATER PIPING 100MM (4") AND LARGER AT ALL CHANGE OF DIRECTION, ALL TEES AND AT THE END OF ALL MAINS AND BRANCHES

.10 ALL COMBUSTIBLE MATERIALS MUST MEET THE FLAME AND SMOKE RATING FOR THE BUILDING.

.11 FLUSH NEW AND/OR REWORKED DOMESTIC WATER PIPING AFTER LEAKAGE TESTING IS COMPLETE, & WHEN FLUSHING IS COMPLETE, DISINFECT THE PIPING WITH A SOLUTION OF SODIUM HYPOCHLORITE TO AWWA B-300 IN ACCORDANCE WITH REQUIREMENTS OF THE MINISTRY OF ENVIRONMENT DOCUMENT ENTITLED PROCEDURE FOR DISINFECTION OF DRINKING WATER IN BC, UNDER SUPERVISION OF A P. ENG. AUTHORIZED BY THE PROFESSIONAL ENGINEERS OF BC TO PERFORM SUCH WORK, & WHEN DISINFECTING IS COMPLETE, SUBMIT WATER SAMPLES TO A CERTIFIED LABORATORY FOR PURITY TESTING & WHEN TESTING INDICATES PURE WATER IN ACCORDANCE WITH GOVERNING STANDARDS, SUBMIT A COPY OF THE TEST RESULTS & FILL THE SYSTEMS

.12 ABOVE GROUND DOMESTIC WATER PIPING:
   .1 COLD AND HOT: TYPE "K" HARD DRAWN SEAMLESS COPPER TO ASTM B88, C/W COPPER SOLDER TYPE FITTINGS TO ASME/ANSI B16.18 & SOLDERED JOINTS USING NSF/ANSI 61 CERTIFIED SILVER ALLOY LEAD-FREE SOLDER

.2 RECIRCULATION: TYPE "K" HARD DRAWN SEAMLESS COPPER TO ASTM B88, C/W COPPER SOLDER TYPE FITTINGS TO ASME/ANSI B16.18 & SOLDERED JOINTS USING NSF/ANSI 61 CERTIFIED SILVER ALLOY LEAD-FREE SOLDER,

.13 BELOW GROUND DOMESTIC WATER PIPING:
   .1 TYPE "K" SOFT COPPER TO ASTM B88, SUPPLIED IN A CONTINUOUS COIL WITH NO JOINTS IF POSSIBLE, & C/W, IF JOINTS ARE REQUIRED, COMPRESSION TYPE FLARED JOINT COUPLINGS.
   .2 ULC LISTED, RIGID, CLASS 150, DR18 PRESSURE RATED BELL & SPIGOT PATTERN PVC PIPE TO CAN/CSA-B137.3, & CSA CERTIFIED FITTINGS TO CAN/CSA B137.2, & AWWA C900, C/W GASKET JOINTS, & RESTRAINT HARDWARE AS REQUIRED.
   .3 CEMENT LINED DUCTILE IRON WITH GROOVED MECHANICAL JOINTS PIPE TO CAN/CSA-B151 AWWA A21.51 C/W GASKET JOINTS, & RESTRAINT HARDWARE AS REQUIRED

DRAINAGE & VENT SYSTEMS

.1 THE INSTALLATION SHALL CONFORM TO THE BC PLUMBING CODE 2018.

.2 PROVIDE DRAINAGE & VENT PIPING SYSTEMS

.3 DRAINAGE SERVICE: MAKE ARRANGEMENTS WITH THE MUNICIPALITY FOR INSTALLATION OF DRAINAGE SERVICE FROM THE MUNICIPAL MAIN(S) TO THE PROPERTY LINE. PAY CHARGES LEVIED BY THE MUNICIPALITY FOR THE SERVICE CONNECTION WORK.

.4 PIPING INSTALLATION: CONFORM TO THE FOLLOWING REQUIREMENTS:
   .1 SLOPE HORIZONTAL DRAINAGE PIPING ABOVE GROUND AS PER CODE.

.2 INSTALL & SLOPE U/G DRAINAGE PIPING TO INVERTS OR SLOPES INDICATED TO FACILITATE STRAIGHT & TRUE GRADIENTS BETWEEN THE POINTS SHOWN, & VERIFY AVAILABLE SLOPES BEFORE INSTALLING THE PIPES.

.3 SLOPE HORIZONTAL BRANCHES OF VENT PIPING DOWN TO THE FIXTURE OR PIPE TO WHICH THEY CONNECT WITH A MINIMUM PITCH OF 25 MM (1") IN 1.2 M (4').

.4 EXTEND VENT STACKS UP THROUGH THE ROOF GENERALLY WHERE SHOWN BUT WITH EXACT LOCATIONS TO SUIT SITE CONDITIONS & IN ANY CASE A MINIMUM OF 3 M (10') FROM FRESH AIR INTAKES. TERMINATE VENT STACKS A MINIMUM OF 330 MM (13") ABOVE THE ROOF (INCLUDING ROOF PARAPETS) IN VENT STACK COVERS.

.5 PROVIDE PROPER DIELECTRIC UNIONS AT CONNECTIONS BETWEEN COPPER PIPE AND FERROUS PIPE OR EQUIPMENT

.6 BED BURIED LINES WITH A MINIMUM 150MM BEDDING SAND ABOVE AND BELOW PIPE.

.7 INSTALL NEOPRENE PADS UNDER ALL CLAMPS AT VERTICAL WASTE PIPING WHICH RESTS ON STUDY FLOOR SYSTEMS

.5 ABOVE GROUND SANITARY AND STORM DRAINAGE PIPING:
   .1 TYPE DWV COPPER TO ASTM B306, WITH FORGED COPPER SOLDER TYPE DRAINAGE FITTINGS 95/5 SOLDER JOINTS.
   .2 CAST IRON TO CAN/CSA B-70-M WITH MECHANICAL JOINTS WITH SS BANS AND CLAMPS

.6 UNDERGROUND SANITARY AND STORM DRAINAGE PIPING:
   .1 CAST IRON TO CAN/CSA B-70-M WITH MECHANICAL JOINTS WITH SS BANS AND CLAMPS
   .2 FOR PIPING EMBEDDED IN CONCRETE, RIGID SOLVENT WELD IPS PVC DRAIN, WASTE AND VENT PIPE

.7 DOMESTIC COLD WATER SHUT-OFF VALVES: CLASS 600, 4140 KPA (600 PSI) WOG RATED FULL PORT BALL TYPE VALVES, EACH EQUIPPED WITH AN IDENTIFYING TAG, AND C/W A FORGED BRASS BODY WITH SOLDER ENDS, FORGED BRASS CAP, & BLOWOUT-PROOF STEM, SOLID FORGED BRASS CHROME PLATED BALL, "TEFLON" OR "PTFE" SEAT, & A REMOVABLE LEVER HANDLE. VALVES IN INSULATED PIPING ARE TO BE COMPLETE WITH STEM EXTENSIONS

.8 TRAP SEAL PRIMER: FOR PRIMING 1 OR 2 FLOOR DRAINS, PRECISION PLUMBING PRODUCTS INC. MODEL P2-500 TRAP PRIMER VALVE C/W "O" RING SEALS, 12 MM (½") DIA. THREADED INLET & OUTLET CONNECTIONS, & FOR PRIMING 2 TRAPS FROM THE SAME PRIMER, A DU-2 DUAL OUTLET DISTRIBUTION UNIT. FOR PRIMING FROM 3 TO 6 FLOOR DRAINS, PRECISION PLUMBING PRODUCTS INC. MODEL P1-500 TRAP PRIMER VALVE C/W A MODEL DU-3 OR DU-4, 3 OR 4 OUTLET DISTRIBUTION UNIT FOR PRIMING 3 OR 4 TRAPS, & A MODEL "YG-8" SUPPLY TUBE WITH COMBINATIONS OF MODEL DU-3 & DU-4 DISTRIBUTION UNITS FOR PRIMING FROM 5 TO 6 TRAPS

.9 BACKFLOW PREVENTER: LEAD FREE REDUCED PRESSURE ZONE DUAL CHECK VALVE DESIGN BACKFLOW PREVENTER IN ACCORDANCE WITH CAN/CSA B64, BRONZE OR EPOXY COATED CAST IRON BRONZE FITTED CONSTRUCTION DEPENDING ON SIZE, & C/W INLET STRAINER, INLET & OUTLET SHUT-OFF VALVES, AN INTERMEDIATE RELIEF VALVE, BALL VALVE TYPE TEST COCKS, & A PROPER AIR GAP FITTING

PLUMBING FIXTURES & FITTINGS

.1 PROVIDE DRAINAGE & VENT PIPING SYSTEMS

.2 PROVIDE PLUMBING FIXTURES & FITTINGS AS SHOWN & SCHEDULED ON THE DRAWINGS. WATER SUPPLY FITTINGS ARE TO BE LEAD-FREE IN ACCORDANCE WITH NSF/ANSI 61 REQUIREMENTS

.3 UNLESS OTHERWISE SPECIFIED, VITREOUS CHINA, PORCELAIN ENAMELLED, & ACRYLIC FINISHED FIXTURES ARE TO BE WHITE. UNLESS OTHERWISE SPECIFIED, FITTINGS & PIPING EXPOSED TO VIEW ARE TO BE CHROME PLATED & POLISHED. FITTINGS LOCATED IN AREAS OTHER THAN PRIVATE WASHROOMS ARE TO BE VANDAL-RESISTANT

.4 PROVIDE AND INSTALL THERMOSTATIC MIXING VALVES AT ALL END FIXTURES FOR ANTI-SCALDING PROTECTION. SET HOT WATER TEMPERATURE LIMITS TO NOT EXCEED 49C (120F)

.5 FOR HEALTHCARE APPLICATIONS, PROVIDE AND INSTALL CLEANOUTS BELOW AND ABOVE THE FLOOD LEVEL RIM OF SINKS.

.6 FIXTURE EXPOSED TRAPS: EXPOSED TRAPS FOR FIXTURES NOT EQUIPPED WITH INTEGRAL TRAPS, SUCH AS LAVATORIES, ARE TO BE ADJUSTABLE CHROME PLATED CAST BRASS "P" TRAPS WITH CLEANOUTS, MINIMUM #17 GAUGE CHROME PLATED TUBULAR EXTENSIONS, & CHROME PLATED ESCUTCHEONS.

.7 FIXTURE CONCEALED TRAPS: CONCEALED TRAPS FOR FIXTURES NOT EQUIPPED WITH INTEGRAL TRAPS, SUCH AS COUNTER SINKS, ARE TO ADJUSTABLE CAST BRASS WITH CLEANOUT PLUGS.

.8 FIXTURE EXPOSED SUPPLIES: EXPOSED SUPPLIES FOR FIXTURES WHICH DO NOT HAVE SUPPLY TRIM/FITTINGS WITH INTEGRAL STOPS, I.E. LAVATORIES, ARE TO BE SOLID CHROME PLATED BRASS ANGLE VALES WITH SCREWDRIVER STOPS FOR PUBLIC AREAS, WHEEL HANDLE STOPS FOR PRIVATE AREAS, FLEXIBLE STAINLESS STEEL RISERS, & STAINLESS STEEL OR CHROME PLATED STEEL ESCUTCHEONS. DAHL BROTHERS CANADA LTD, NSF/ANSI 61 CERTIFIED CHROME PLATED 'MINI-BALL' VALVE ASSEMBLIES WILL BE ACCEPTABLE

.9 FIXTURE CONCEALED SUPPLIES: WATER PIPING AS SPECIFIED, C/W BALL TYPE SHUT-OFF VALVES AS SPECIFIED WITH THE WATER PIPING OR NST/ANSI 61 CERTIFIED DAHL BROS. CANADA LTD. ¼ TURN 'MINI BALL' VALVES.

.10 BARRIER-FREE FIXTURES: COMPLY WITH MOUNTING HEIGHT & OTHER REQUIREMENTS OF THE GOVERNING CODE(S).

.11 CAULKING: CAULK AROUND PLUMBING FIXTURES & FITTINGS WHERE THEY CONTACT WALLS, FLOORS, & ANY OTHER BUILDING SURFACE USING GUN APPLIED CAULKING EQUAL TO GENERAL ELECTRIC SERIES SCS-1200 SILICONE CONSTRUCTION SEALANT OR DOW CORNING 780 SILICONE RUBBER SEALANT WITH PRIMERS AS RECOMMENDED BY THE SEALANT MANUFACTURER. CAULKING COLOUR OTHER THAN WHITE, IF ANY, WILL BE SELECTED BY THE CONSULTANT.

.12 TRAP SEAL PRIMER: FOR PRIMING 1 OR 2 FLOOR DRAINS, PRECISION PLUMBING PRODUCTS INC. MODEL P2-500 TRAP PRIMER VALVE C/W "O" RING SEALS, 12 MM (½") DIA. THREADED INLET & OUTLET CONNECTIONS, & FOR PRIMING 2 TRAPS FROM THE SAME PRIMER, A DU-2 DUAL OUTLET DISTRIBUTION UNIT. FOR PRIMING FROM 3 TO 6 FLOOR DRAINS, PRECISION PLUMBING PRODUCTS INC. MODEL P1-500 TRAP PRIMER VALVE C/W A MODEL DU-3 OR DU-4, 3 OR 4 OUTLET DISTRIBUTION UNIT FOR PRIMING 3 OR 4 TRAPS, & A MODEL "YG-8" SUPPLY TUBE WITH COMBINATIONS OF MODEL DU-3 & DU-4 DISTRIBUTION UNITS FOR PRIMING FROM 5 TO 6 TRAPS

.13 TESTING & ADJUSTING: WHEN INSTALLATION IS COMPLETE,CHECK & TEST THE OPERATION OF EACH FIXTURE & FITTING. ADJUST OR REPAIR AS REQUIRED.

MEDICAL GASES

.1 INSTALLATION OF COMPLETE, OPERATIONAL, TESTED AND CERTIFIED MEDICAL GAS SYSTEMS, INSTALLED IN ACCORDANCE WITH CSA STANDARD Z7396.1-12, 'MEDICAL GAS PIPELINE SYSTEMS - PART 1 PIPELINES FOR MEDICAL GASES AND VACUUM' AND ASTM B813 FOR COPPER FLUX

.2 MEDICAL GAS SYSTEMS WORK MUST BE PERFORMED BY A CONTRACTOR COMPLETELY FAMILIAR WITH THE REQUIREMENTS OF CAN/CSA-Z7396.1, AND WHO ARE QUALIFIED AND CERTIFIED (WITH JURISDICTIONAL AUTHORITY ISSUED CERTIFICATE) FOR SILVER BRAZING WITH NITROGEN BACKING WITHOUT USING FLUX IN ACCORDANCE WITH CLAUSE 4.5 OF CSA-B51,

PORT BRONZE BALL VALVE C/W A LEVER HANDLE, THREADED OUTLET SUITABLE FOR COUPLING CONNECTION OF 20 MM (¾") DIA. HOSE, & A CAP & CHAIN. PROVIDE AT THE BOTTOM OF PIPING RISERS, AT OTHER PIPING LOW POINTS, & WHEREVER ELSE SHOWN OR SPECIFIED

.3 PRESSURE GAUGE: EQUAL TO H. O. TRERICE 690 SERIES WITH PSI/KPA SCALE RANGE SUCH THAT THE SYSTEM WORKING PRESSURE IS AT THE APPROXIMATE MID-POINT OF THE SCALE, C/W BRONZE BALL TYPE SHUT-OFF VALVE, FOR PIPING & EQUIPMENT WITH NORMAL EVERYDAY FLOW, A BRASS PRESSURE SNUBBER, &, FOR GAUGES IN DOMESTIC WATER PIPING, ANSI/NSF 61 LEAD FREE CERTIFICATION. PROVIDE IN VALVED TUBING ACROSS THE SUCTION, SUCTION STRAINER (IF APPLICABLE), AND DISCHARGE PIPING OF EACH CIRCULATING PUMP, IN SUPPLY AND RETURN PIPING CONNECTIONS TO MAIN MECHANICAL PLANT EQUIPMENT, IN EXPANSION TANK(S) OR PIPING IMMEDIATELY AT EXPANSION TANK(S), IN SEPARATE DOMESTIC HOT WATER STORAGE TANK(S), IN PIPING AT EACH SIDE OF A PRESSURE REDUCING VALVE, & WHEREVER ELSE SHOWN AND/OR SPECIFIED ON THE DRAWINGS

.4 THERMOMETER: EQUAL TO H. O. TRERICE #80030 C/W °C & °F SCALE DIAL & A RANGE SUCH THAT THE SYSTEM OPERATING TEMPERATURE IS THE APPROXIMATE MID-POINT OF THE SCALE, A SUITABLE THERMOWELL, &, FOR THERMOMETERS IN DOMESTIC WATER PIPING, ANSI/NSF 61 LEAD FREE CERTIFICATION. PROVIDE IN SUPPLY & RETURN PIPING CONNECTIONS TO MAIN MECHANICAL PLANT EQUIPMENT, IN WATER PIPING CONNECTIONS TO HOT WATER HEATERS, IN THE DOWNSTREAM SIDE OF MIXING VALVES, & WHEREVER ELSE SHOWN AND/OR SPECIFIED. FOR INSTALLATION OF THERMOMETERS IN PIPING WELLS, PROVIDE A COAT OF METALLIC BASE HEAT TRANSFER PASTE OR GREASE IN THE PIPING WELL

.5 FLEXIBLE PIPE CONNECTION: DOUBLE WALL STAINLESS STEEL FLEXIBLE CONNECTORS FOR PIPING CONNECTIONS SELECTED BY THE MANUFACTURER TO SUIT THE APPLICATION. SHOP DRAWINGS OR PRODUCT DATA SHEETS MUST INDICATE CONSTRUCTION AND PERFORMANCE REQUIREMENTS THAT SUIT THE APPLICATION. PROVIDE FLEXIBLE CONNECTORS FOR PIPING CONNECTIONS TO VIBRATION ISOLATED EQUIPMENT

.6 HYDRONIC PIPING SHUT-OFF VALVE: CLASS 600, 4140 KPA (600 PSI) WOG RATED FULL PORT BALL VALVES, EACH C/W A FORGED BRASS OR BRONZE BODY & CAP, BLOWOUT-PROOF STEM, SOLID FORGED BRASS CHROME PLATED BALL, "TEFLON" OR "PTFE" SEAT, THREADED ENDS, & REMOVABLE LEVER HANDLE

.7 HYDRONIC PIPING CHECK VALVE: CLASS 125, 1380 KPA (200 PSI) WOG RATED HORIZONTAL SWING CHECK VALVES, EACH C/W A "Y" PATTERN BRONZE BODY, HINGED BRASS DISC, EASY ACCESS SCREW-IN CAP, & SCREWED ENDS, OR, VICTAULIC CO. OF CANADA LTD. SERIES 716 "VIC-CHECK" GROOVED END CARBON STEEL CHECK VALVES SUITABLE FOR MOUNTING HORIZONTALLY OR VERTICALLY

.8 HYDRONIC PIPING BALANCING VALVE: SCREWED, GLOBE STYLE, NON-FERROUS CIRCUIT BALANCING VALVE DESIGNED TO FACILITATE PRECISE FLOW MEASUREMENT, PRECISION FLOW BALANCING, & POSITIVE SHUT-OFF, C/W CAPPED & VALVED DRAIN CONNECTION, & VALVED PORTS FOR CONNECTION TO A DIFFERENTIAL PRESSURE METER

.9 AUTOMATIC AIR VENT: STANDARD FLOAT VENT: BRASS BODY AND NPS 1/8 CONNECTION AND RATED AT 690 KPA WORKING PRESSURE. INSTALL AT HIGH POINTS OF SYSTEMS. INSTALL GATE VALVE ON AUTOMATIC AIR VENT INLET. RUN COPPER VENT TUBING DISCHARGE TO NEAREST DRAIN

.10 AIR SEPARATOR - INLINE: WORKING PRESSURE: 860 KPA, SIZE NPS 4

.11 PIPE STRAINERS: NPS 1/2 TO 2: BRONZE BODY TO ASTM B62, SCREWED CONNECTIONS, Y PATTERN. NPS 2 1/2 TO 12: CAST IRON BODY TO ASTM A278/A278M, CLASS 30 FLANGED CONNECTIONS. WORKING PRESSURE: 860KPA.

.1 INSTALL AHEAD OF EACH PUMP AND AHEAD OF EACH AUTOMATIC CONTROL VALVE LARGER THAN NPS 1AND AS INDICATED

.13 PUMPS

.1 SUPPORT AT INLET AND OUTLET FLANGES OR UNIONS. ENSURE THAT PUMP BODY DOES NOT SUPPORT PIPING OR EQUIPMENT.

.2 PIPE DRAIN TAPPING TO FLOOR DRAIN. INSTALL PRESSURE GAUGE TEST COCKS

.3 PROVIDE LINE SIZED GATE VALVE AND STRAINER ON SUCTION AND LINE SIZED SOFT SEATED CHECK VALVE AND MEMORY STOP BALANCING VALVE ON DISCHARGE. DECREASE FROM LINE SIZE, WITH LONG RADIUS REDUCING ELBOWS OR REDUCERS. SUPPORT PIPING ADJACENT TO PUMP SUCH THAT NO WEIGHT IS CARRIED ON PUMP CASINGS. PROVIDE SUPPORT UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE LINE SIZES 100 MM AND OVER

.4 PROVIDE SEISMIC RESTRAINTS FOR PUMPS

AIR HANDLING UNIT

.1 UNIT AND MAJOR COMPONENTS SHALL BE PRODUCT OF THE SAME MANUFACTURERS REGULARLY ENGAGED IN PRODUCTION OF SUCH UNITS WHO ISSUES COMPLETE CATALOGUE DATA ON SUCH PRODUCTS

.2 UNIT SHALL BE FACTORY BUILT, AND CARRY ALL NECESSARY APPROVALS. COILS SHALL BE WATER TESTED AND ARI CERTIFIED. FAN SHALL BE RUN AND TESTED TO PERFORMANCE. TEST RESULTS SHALL BE SUBMITTED FOR VIBRATION SOUND AND AIRFLOW PERFORMANCE.

.3 MANUFACTURERS SHALL PROVIDE CONSTRUCTION METHODS TO ACHIEVE SOUND DATA AS SPECIFIED AND PROVIDE DATA OBTAINED BY EITHER:

.1 AMCA LAB SIMULATION

.2 TEST DATA OF ACTUAL UNIT

.3 ALL SOUND DATA SHALL BE MEASURED AND PROVIDED IN ACCORDANCE WITH ARI STANDARD 260P

.4 MOTORS POWERED BY VARIABLE SPEED DRIVE CONTROLLERS SHALL BE EEMAC CLASS B WITH TYPE F INSULATION, SHALL HAVE A 1.15 SERVICE FACTOR AND SHALL BE SUITABLE TO BE DRIVEN BY PWM VARIABLE SPEED DRIVE CONTROLLERS. THE MOTOR MANUFACTURER SHALL SUBMIT IN WRITING CONFIRMATION THAT THE MOTORS ARE DESIGNED TO WITHSTAND VOLTAGE PEAKS OF 1400 VOLTS AND A VOLTAGE RATE OF RISE OF 2000 VOLTS / MICROSECOND AT A FREQUENCY OF 20 KHZ

.5 FACTORY FABRICATED AND ASSEMBLED MODULAR COMPONENTS AS INDICATED. FIELD FABRICATION OF THE UNITS WILL NOT BE ACCEPTED. FIELD ASSEMBLY OF UNIT SECTIONS IS ACCEPTABLE IF THE UNIT CANNOT BE INSTALLED AS A SINGLE UNIT. INCLUDE FOR COST OF ANY FIELD ASSEMBLY

.6 OVERALL DIMENSIONS AND CONFIGURATIONS ARE TO BE AS SHOWN ON THE PLANS. HOWEVER, SUCH A CONSTRAINT, AS THIS MAY IMPOSE, DOES NOT ABSOLVE THE MANUFACTURER FROM RESPONSIBILITY FOR THE ENGINEERING, OPERATIONAL INTEGRITY AND PERFORMANCE OF THE UNIT PROVIDED

.7 UNIT SHALL CARRY ALL NECESSARY APPROVALS.

.8 PIPE FROM CONDENSATE DRAINS TO ROOF DRAIN COMPLETE WITH TRAP. INSTALL UNIT SO THAT THE CURB / HOUSEKEEPING PAD HEIGHT IS SUFFICIENT TO ACCOMMODATE DEPTH OF 'P' TRAP.

.9 SEISMICALLY SECURE FLOOR/ROOF MOUNTED AHU'S TO CURBS OR HOUSE KEEPING PADS BY EITHER BOLTING OR WELDING TO EMBEDDED STEEL PLATES. ENSURE CURBS/HOUSEKEEPING PADS ARE SECURELY ATTACHED TO STRUCTURE.

.10 SUBMIT A SITE INSPECTION AND START-UP REPORT FROM THE MANUFACTURER'S REPRESENTATIVE. SUBMIT WITH DELIVERY OF EACH UNIT A COPY OF THE FACTORY TEST AND INSPECTION REPORT

.11 ELECTRICAL

.1 WIRING SHALL BE FACTORY CSA APPROVED. COMPLETE FACTORY POWER WIRING IN EMT CONDUIT FROM MOTORS AND LIGHTS TO POINT POWER CONNECTIONS. PROVIDE POWER CONNECTIONS FROM EACH FAN MOTOR TO JUNCTION BOXES ON THE OUTSIDE OF THE UNIT CASING

.2 PROVIDE ONE 120VOLT/1PHASE CONNECTION TO A JUNCTION BOX FOR MARINE LIGHTS

.12 CONSTRUCTION

.1 CASINGS SHALL BE SUPPORTED ON WELDED STRUCTURAL CHANNEL SUPPORTS DESIGNED FOR SUPPORT OF ENTIRE UNIT WITHOUT DEFLECTION. STEEL BASE SHALL BE SUITABLE FOR SEISMICALLY BOLTING UNIT TO ROOF CURBS OR HOUSE KEEPING PADS OR WELDING UNIT TO EMBEDDED STEEL PLATES IN CONCRETE ROOF CURBS OR HOUSE KEEPING PADS/CURBS. PROVIDE INTEGRAL LIFTING LUGS FOR HOISTING

.2 UNIT SHALL BE MOUNTED ON METAL SEISMIC ROOF CURB(S) PROVIDED WITH THE UNIT(S). ROOF CURBS SHALL BE SEISMICALLY SECURED TO THE ROOF. WHEN FLASHED TO THE MOUNTING CURB IT SHALL PROVIDE A WEATHERPROOF WHOLE

.3 UNIT(SHALL MATE TO THE CONCRETE MOUNTING CURB. WHEN FLASHED TO THE MOUNTING CURB IT SHALL PROVIDE A WEATHERPROOF WHOLE

.4 PLENUM FLOORS SHALL BE RIGID OF WELDED CONSTRUCTION USING, AS A MINIMUM, STRUCTURALLY REINFORCED 2.52 MM [12 GA] M.S. CHECKER PLATES; BE FREE FROM DISHING AND BE FORMED AS A DRAIN PAN WITH A STANDING UPTURNED ANGLE. ALL SEAMS AND CORNERS SHALL BE CONTINUOUSLY WELDED. FLOOR SHALL BE COMPLETELY FLOODED AFTER ASSEMBLY AND WRITTEN CERTIFICATION SUBMITTED BY THE MANUFACTURER INDICATING THAT THERE ARE NO LEAKS

.5 FLOOR SHALL BE FINISHED WITH TWO-COMPONENT EPOXY POLYAMIDE NON-SKID PAINT

.6 ALL PIPE/DUCT PENETRATIONS THROUGH THE FLOOR SHALL HAVE MINIMUM 40 MM [1½"] SLEEVE UP-STAND, WELDED

.7 REMOVABLE OPEN GRATINGS SHALL BE PROVIDED OVER ALL FLOOR OPENINGS

.8 THE UNDERSIDE OF THE BASE SHALL BE INSULATED WITH 50MM [2"] THICK 64 KG/CU.M [4 LB/FT^3] DENSITY GLASS FIBRE ACOUSTIC INSULATION

.9 COIL DRAIN PANS OF 1.47 MM [16 GA] MINIMUM STAINLESS STEEL SHALL BE RECESSED INTO THE FLOOR AND SHALL BE AN INTEGRAL PART OF THE FLOOR PANELING, A MINIMUM OF 150 MM [6"] AND 50 MM [2"] DEEP RESPECTIVELY WITH WELDED CORNERS. DRAIN PANS UNDER EACH "WET" COIL MUST EXTEND UPSTREAM AND DOWNSTREAM AS REQUIRED TO ENSURE NO CARRYOVER. DRAIN PANS SHALL ALSO EXTEND UNDER COLD COIL HEADERS AND RETURN BENDS. THE DRAIN PAN SHALL BE SLOPED TO OUTLET AND OUTLET PIPE BOTTOM INVERT SHALL BE BELOW BOTTOM OF PAN. THE DRAIN PAN SHALL BE PROVIDED WITH AN INTERIOR 32 MM [1-1/4"] COPPER PIPE DRAIN PIPED TO THE OUTSIDE OF THE UNIT. PROVIDE DRAIN PANS UNDER ALL COIL BANKS TO ALLOW FOR CLEANING. CAP ALL DRAIN CONNECTIONS AT EXTERIOR OF UNIT FOR DRY COILS

.10 UNIT CASING SHALL BE OF MINIMUM 1.47 MM [16 GA] GALVANIZED SHEET METAL. FINISH COAT SHALL BE AIR-DRY ENAMEL, TO ALL EXPOSED SURFACES.

.11 OUTDOOR UNITS ARE TO BE INSULATED WT 100 MM (4") THICK INSULATION, AND ARE TO BE COMPLETELY WEATHERPROOF WITH ROOF AREAS SLOPED DOWN IN TWO DIRECTIONS WHERE GREATER THAN 3.6 M (12') WIDE, AND SLOPED DOWN IN ONE DIRECTION IF LESS THAN 3.6 M (12') WIDE, WITH DRIP SHIELDS LOCATED OVER ALL ACCESS DOORS

.12 INSULATE ALL INTERIOR WALLS WITH 50 MM [2"] THICK, 48 KG/CU.M [3 LBS/CU. FT.] MIN. DENSITY GLASS FIBRE NEOPRENE COATED ACOUSTIC INSULATION. ALL EDGES OF INSULATION SHALL BE COVERED WITH METAL Z BARS. ALL INSULATION PINS SHALL BE SECURE AND ENDS TRIMMED AND COVERED WITH NEOPRENE CAP. PROVIDE 0.76 MM [22 GA] GALVANIZED SHEET METAL COVERING ON ACOUSTICALLY LINED PLENUM WALLS FOR A DISTANCE OF 1.2 M [4 FT] DOWNSTREAM FROM COOLING AND HEAT EXTRACT COILS

.13 UNITS SHALL BE TESTED TO 3% LEAKAGE AT 1.5 TIMES OPERATING PRESSURE

.14 FANS

.1 FAN SECTIONS SHALL BE EQUIPPED WITH A STRUCTURAL STEEL CHANNELS LOCATED UNDER THE ISOLATOR LOADS TO ADD RIGIDITY, ELIMINATE FLOOR DEFLECTION, AND DISTRIBUTE LOADS TO THE PERIMETER STRUCTURAL CHANNEL

.2 ALL FANS AND FAN ASSEMBLIES SHALL BE DYNAMICALLY BALANCED DURING FACTORY TEST RUN

.3 FAN SHAFTS SHALL BE SELECTED FOR STABLE OPERATION AT LEAST 25% BELOW THE FIRST CRITICAL RPM

.4 BEARINGS: HEAVY-DUTY PILLOW-BLOCK GREASE LUBRICATED BALL OR ROLLER SELF-ALIGNING TYPE. BEARINGS SHALL HAVE AN AVERAGE LIFE OF 200,000 HOURS AT DESIGN OPERATING CONDITIONS IN ACCORDANCE WITH AMSI B3.15. INBOARD BEARING LUBE LINE SHALL BE EXTENDED TO THE OUTBOARD BEARING

.5 BEARING SUPPORT SHALL BE FROM A RIGID STRUCTURAL STEEL BASE FRAME. THIS FRAME SHALL BE INTERNALLY ISOLATED AND SEISMICALLY RESTRAINED FROM THE FAN CABINET STRUCTURAL FRAME

.6 DRIVES SHALL BE ADJUSTABLE ON FANS WITH MOTORS 5 H.P. OR SMALLER. ON FANS WITH MOTORS ABOVE 5 H.P. FIXED DRIVE SHALL BE PROVIDED. INCLUDE FOR ONE SHEAVE CHANGE PER FAN, DURING THE AIR BALANCE PROCEDURE. DRIVES SHALL BE SELECTED FOR 150% OF MOTOR NAMEPLATE HORSEPOWER AND INCLUDING 2 BELTS MINIMUM

.7 PLENUM FAN ASSEMBLIES FULLY ENCLOSED WITH EXPANDED MESH SCREEN, APPROVED TO WCB STANDARDS

.15 CONTROL DAMPERS TO BE T.A. MORRISON - (1000) AIRFOIL OR RUSKIN CD-50

.16 COILS:

.1 DRAINABLE COILS DESIGNED AND CONSTRUCTED TO MEET REQUIREMENTS OF THE ASME CODE CATEGORY "A" AS A REGISTERED FITTING, AND COMPLETE WITH A TSBC CRN. COIL DATA, PERFORMANCE AND SPECIFIC FEATURES NOT SPECIFIED BELOW ARE TO BE IN ACCORDANCE WITH THE DRAWING DETAIL. EACH COIL IS TO BE COMPLETE WITH A SLIDE IN-SLIDE OUT GALVANIZED STEEL MOUNTING FRAMEWORK, 16 MM (5/8") O.D. SEAMLESS COPPER TUBES MECHANICALLY EXPANDED INTO AND BONDED TO ALUMINUM PLATE TYPE OR CONFIGURATED FINS, WELDED SCHEDULE 40 ASTM A106 SEAMLESS STEEL PIPE HEADERS WITH SAME END SUPPLY AND RETURN CONNECTIONS, AND 9.5 MM (⅜") TAPPINGS FOR AN AIR VENT AND A DRAIN VALVE, A FLANGED #14 GAUGE TYPE 304 STAINLESS STEEL CASING DESIGNED TO DRAIN OFF STANDING WATER, AND STAINLESS STEEL INTERMEDIATE TUBE SUPPORT SHEETS AS REQUIRED

.17 FILTERS:

.1 FILTER MEDIA SHALL BE ULC LISTED, CLASS I OR CLASS II

.2 FILTERS: SUITABLE FOR AIR AT 100% RH AND AIR TEMPERATURES BETWEEN 3°C [37°F] AND 50°C [122°F

.3 REPRESENTATIVE FILTERS SHALL HAVE BEEN TESTED BY AN INDEPENDENT TEST LABORATORY AND TEST RESULTS SHALL BE MADE AVAILABLE ON REQUEST

.4 PROVIDE TWO (2) SETS OF FILTER MEDIA (FOR EACH FILTER) -ONE FOR INSTALLATION AND ONE FOR HANDOVER TO THE OWNER AS A SPARE.

.5 PROVIDE FILTER GAUGES ACROSS EACH FILTER BANK. UNLESS OTHERWISE SPECIFIED, DWYER INSTRUMENTS INC. SERIES 605 "MAGNEHELIC", 24 VOLT DC DIFFERENTIAL PRESSURE GAUGES, ONE FOR EACH PRE-FILTER BANK, ONE FOR EACH FINAL FILTER BANK, EACH WITH ± 3% ACCURACY WITH A RANGE TO SUIT THE APPLICATION, AN INDICATING TRANSMITTER WITH 4-20 MA OUTPUT SUITABLE FOR CONNECTION TO THE BUILDING AUTOMATION SYSTEM, AND A MOUNTING BRACKET

.13 SUBMITTALS:

.1 PRODUCT DATA SHALL INCLUDE DIMENSIONS, WEIGHTS, CAPACITIES, CERTIFICATIONS, CASING CONSTRUCTION DETAILS, GAUGES AND FINISHES OF MATERIAL. SUBMIT FAN CURVE DETAILS, SHOWING OPERATING POINTS AT CLEAN FILTER, DIRTY FILTER AND MID-POINT LOADED FILTER WITH THE PARAMETERS SPECIFIED. SELECT FANS AT MAXIMUM EFFICIENCY FOR SPECIFIED DUTY

.2 SUBMIT SOUND POWER LEVELS FOR AIR HANDLING UNIT INLET AND OUTLET AND CASING RADIATION AT RATED CAPACITY IN ACCORDANCE WITH AMCA

.3 SUBMIT MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS

DUCTWORK

.1 PROVIDE ALL REQUIRED GALVANIZED STEEL DUCTWORK, RECTANGULAR AND/OR ROUND AND/OR FLAT OVAL AS SHOWN. NOTE THAT WHERE RECTANGULAR DUCTWORK IS SHOWN, ROUND OR FLAT OVAL DUCTWORK OF EQUIVALENT CROSS-SECTIONAL AREA IS ACCEPTABLE

.2 DUCT ROUTING AND DIMENSIONS: CONFIRM THE ROUTING OF DUCTWORK AT THE SITE & SITE MEASURE DUCTWORK PRIOR TO FABRICATION. DUCT DIMENSIONS MAY BE REVISED TO SUIT SITE ROUTING & BUILDING ELEMENT REQUIREMENTS, IF DIMENSION REVISIONS ARE REVIEWED WITH & APPROVED BY THE CONSULTANT. DUCT ROUTING AND/OR DIMENSION REVISIONS TO SUIT CONDITIONS AT THE SITE ARE NOT GROUNDS FOR A CLAIM FOR AN EXTRA COST.

.3 AUTOMATIC CONTROL COMPONENTS: INSTALL (BUT DO NOT CONNECT) DUCT SYSTEM MOUNTED AUTOMATIC CONTROL COMPONENTS SUPPLIED AS PART OF THE AUTOMATIC CONTROL WORK.

.4 HEAT TRANSFER EQUIPMENT CONNECTIONS: WHERE INDICATED, PROVIDE DUCT CONNECTIONS TO FAN POWERED HEAT TRANSFER EQUIPMENT WITH INTEGRAL COILS.

.5 ROUND & FLAT OVAL DUCT SUPPORT INSIDE BUILDING: SUPPORT ROUND & FLAT OVAL DUCTS INSIDE THE BUILDING IN ACCORDANCE WITH ANSI/SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL & FLEXIBLE, BUT, UNLESS OTHERWISE SPECIFIED, FOR BOTH UNINSULATED AND INSULATED DUCTS EXPOSED IN FINISHED AREAS, USE BANDS & SECURE AT THE TOP OF THE DUCT TO A HANGER ROD, ALL SIMILAR TO DUCTMATE CANADA LTD. TYPE "BA". IF THE DUCT IS INSULATED, SIZE THE STRAP TO SUIT THE DIAMETER OF THE INSULATED DUCT.

.6 SUPPORT OF ROOF MOUNTED DUCTS: SUPPORT ROOF MOUNTED DUCT ON FACTORY FABRICATED ALUMINIUM SUPPORT ASSEMBLIES TO SUIT ROOF CONSTRUCTION, SIZED & ARRANGED TO SUIT THE DUCT, & PROPERLY SPACED.

.7 WATERTIGHT DUCTWORK: WHERE WATERTIGHT HORIZONTAL DUCTWORK IS REQUIRED, CONSTRUCT WITHOUT BOTTOM LONGITUDINAL SEAMS. SOLDER OR WELD THE JOINTS OF BOTTOM AND SIDE SHEETS. SEAL ALL OTHER JOINTS WITH DUCT SEALER. SLOPE HORIZONTAL DUCT TO HOODS, RISERS, OR DRAIN POINTS. PROVIDE DUCT DRAIN FITTINGS AT DRAIN POINTS. PROVIDE WATERTIGHT DUCTWORK FOR, AS APPLICABLE ALL GALVANIZED STEEL DUCTWORK OUTSIDE THE BUILDING OR OTHERWISE EXPOSED TO THE ELEMENTS, FRESH AIR INTAKES, & WHEREVER ELSE SHOWN

.8 FLEXIBLE DUCTWORK: PROVIDE MAXIMUM 3 M (10') LONG LENGTHS OF FLEXIBLE DUCTWORK FOR CONNECTIONS BETWEEN GALVANIZED STEEL DUCTS & NECKS OF CEILING GRILLES & DIFFUSERS. DO NOT INSTALL FLEXIBLE DUCTWORK THROUGH WALLS, EVEN IF SHOWN ON THE DRAWINGS. AT RECTANGULAR GALVANIZED STEEL DUCT, ACCURATELY CUT HOLES & PROVIDE FLANGED OR "SPIN-IN" ROUND FLEXIBLE DUCT CONNECTION COLLARS. SEAL JOINTS WITH DUCT SEALER. INSTALL FLEXIBLE DUCTS AS STRAIGHT AS POSSIBLE & SECURE AT EACH END WITH NYLON OR STAINLESS STEEL GEAR TYPE CLAMPS, & SEAL JOINTS. PROVIDE LONG RADIUS DUCT BENDS WHERE THEY ARE REQUIRED.

.9 SHEET METAL DUCTWORK: UNLESS OTHERWISE SPECIFIED, CONSTRUCT & INSTALL DUCTWORK IN ACCORDANCE WITH ANSI/SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL & FLEXIBLE TO SUIT THE DUCT PRESSURE CLASS DESIGNATION OF MINIMUM 500 PA (2" W.C.) POSITIVE OR NEGATIVE AS APPLICABLE, A MINIMUM VELOCITY OF 10 M/S (2000 FPM), & SO THAT THE DUCTWORK DOES NOT "DRUM". ALL FLAT SURFACES OF RECTANGULAR DUCTWORK ARE TO BE CROSS-BROKEN. DUCT SYSTEM SEALING IS TO MEET ANSI/SMACNA SEAL CLASS A REQUIREMENTS.

.10 DUCT FIRE DAMPER: CURTAIN BLADE TYPE, DYNAMIC, GALVANIZED STEEL FUSIBLE LINK DAMPER, ULC CLASSIFIED TO CAN/ULC-S112 & AS PER NFPA 90A REQUIREMENTS. 1½ OR 3 HOUR RATED AS REQUIRED, &, UNLESS OTHERWISE INDICATED, C/W A 74° C (165° F) FUSIBLE LINK. PROVIDE WHERE SHOWN. INSTALL IN ACCORDANCE WITH CODE REQUIREMENTS, INCLUDING EXPANSION CLEARANCE BETWEEN DAMPER SLEEVE

.11 DUCT ACCESS DOOR: CONSTRUCT & INSTALL AS PER ANSI/SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL & FLEXIBLE, & SIZE TO SUIT THE APPLICATION. PROVIDE FOR DUCT COMPONENTS REQUIRING MAINTENANCE AND/OR REPAIR, WHERE DUCTS/PLENUMS/CASINGS CONNECT TO FANS, & WHEREVER ELSE SHOWN. IDENTIFY WITH "FLD" MARKER TYPE RED LETTERING

.12 BACKDRAFT DAMPER: EQUAL TO T. A. MORISON & CO. INC. "TAMCO" COUNTERBALANCED BACKDRAFT DAMPERS, SERIES 7000 WT FOR VERTICAL MOUNTING, SERIES 7000 CW FOR HORIZONTAL MOUNTING. PROVIDE WHERE SHOWN

.13 BALANCING DAMPER: PROVIDE BALANCING DAMPERS AT ALL TAKE-OFFS AND BRANCH DUCTWORK AND WHERE SHOWN ON THE DRAWINGS.

.14 ACOUSTIC LINING: PROVIDE ACOUSTIC LINING IN DUCTWORK IN LOCATIONS AS FOLLOWS WHEREVER SHOWN AND/OR SPECIFIED ON THE DRAWINGS, IN DUCTWORK DOWNSTREAM OF AIR TERMINAL BOXES FOR A DISTANCE OF 2.4 M (8') MEASURED ALONG THE DUCT & OUTWARD FROM THE BOX IN ALL DIRECTIONS, & FOR ALL TRANSFER AIR DUCTS. INSTALL LINING IN ACCORDANCE WITH REQUIREMENTS OF ANSI/SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL & FLEXIBLE, HOWEVER, REGARDLESS OF VELOCITY, AT LEADING & TRAILING EDGES OF DUCT LINER SECTIONS, PROVIDE GALVANIZED STEEL NOSING CHANNEL AS PER THE DETAIL ENTITLED FLEXIBLE DUCT LINER INSTALLATION FOUND IN THE ANSI/SMACNA MANUAL REFERRED TO ABOVE. FOR ALL HEALTHCARE APPLICATIONS, ACOUSTIC LINER SHALL BE FIBRE FREE.

.15 TESTING, ADJUSTING & BALANCING: INCLUDE FOR A SITE WALK-THROUGH WITH TESTING & BALANCING PERSONNEL FOLLOWING THE ROUTE OF DUCT SYSTEMS TO BE TESTED, ADJUSTED & BALANCED FOR THE PURPOSE OF CONFIRMING THE PROPER POSITION & ATTITUDE OF DAMPERS, THE LOCATION OF PITOT TUBE OPENINGS, & ANY OTHER WORK AFFECTING THE TESTING & BALANCING PROCEDURES. PERFORM CORRECTIVE WORK REQUIRED AS A RESULT OF THIS WALK-THROUGH.

AUTOMATIC CONTROL SYSTEMS

.1 THE CONTROLS SCOPE SHALL BE COMPLETED BY THE BASE BUILDING CONTROLS CONTRACTOR, HOULE CONTROLS.

.2 PROVIDE COMPLETE SYSTEMS OF CONTROL & INSTRUMENTATION TO CONTROL & SUPERVISE BUILDING EQUIPMENT & SYSTEMS. THE CONTROL SYSTEMS ARE TO GENERALLY BE AS INDICATED ON DRAWING CONTROL DIAGRAMS & ARE TO HAVE ALL THE ELEMENTS THEREIN INDICATED OR IMPLIED. THE CONTROL DIAGRAMS SHOW ONLY THE PRINCIPAL COMPONENTS CONTROLLING THE EQUIPMENT & SYSTEMS. SUPPLEMENT EACH CONTROL SYSTEM WITH RELAYS, TRANSFORMERS, SENSORS, ETC., REQUIRED TO ENABLE EACH SYSTEM TO PERFORM AS SPECIFIED & TO PERMIT PROPER OPERATION & SUPERVISION

.3 SHOP DRAWINGS/PRODUCT DATA: SHOP DRAWINGS/PRODUCT DATA SHEETS ARE TO INCLUDE ALL CONTROL SYSTEM COMPONENTS, IDENTIFIED SCHEMATIC CONTROL DIAGRAMS WITH COMPONENT IDENTIFICATION, CATALOGUE NUMBERS, & SEQUENCE OF OPERATION FOR ALL SYSTEMS, & CERTIFIED WIRING DIAGRAMS FOR ALL SYSTEMS.

.4 INSTALLATION REQUIREMENTS: THE CONTROL SYSTEMS ARE TO BE INSTALLED BY THE CONTROL COMPONENT MANUFACTURER OR BY LICENSED PERSONNEL AUTHORIZED BY THE CONTROL COMPONENT MANUFACTURER. THE CONTROL SYSTEM INSTALLATION COMPANY IS TO HAVE LOCAL PARTS & SERVICE AVAILABILITY ON A 24/7 BASIS. CONTROL WIRING WORK IS TO BE PERFORMED BY LICENSED JOURNEYMAN ELECTRICIANS, OR UNDER DIRECT DAILY SUPERVISION OF JOURNEYMAN ELECTRICIANS.

.5 AUTOMATIC CONTROL VALVES: SUPPLY ALL REQUIRED AUTOMATIC CONTROL VALVES. HAND THE VALVES TO THE APPROPRIATE PIPING TRADES AT THE SITE IN THE LOCATIONS THEY ARE REQUIRED FOR INSTALLATION AS PART OF THE PIPING WORK. ENSURE THAT EACH VALVE IS PROPERLY LOCATED & INSTALLED. ALL VALVES ARE TO HAVE POSITION INDICATORS. HEATING VALVES ARE TO BE NORMALLY OPEN UNLESS OTHERWISE SPECIFIED. COOLING VALVES ARE TO BE NORMALLY CLOSED UNLESS OTHERWISE SPECIFIED. EACH CONTROL VALVE MUST BE SUITABLE IN ALL RESPECTS FOR THE APPLICATION, INCLUDING SYSTEM PRESSURE, & MUST HAVE DESIGN OUTPUT & FLOW RATES WITH MAXIMUM PRESSURE DROPS AS FOLLOWS:

.1 CHILLED WATER VALVES FOR COILS: 28 KPA (4 PSI)

.2 HEATING WATER/GLYCOL SOLUTION VALVES FOR COILS: 17.5 KPA (2.5 PSI)

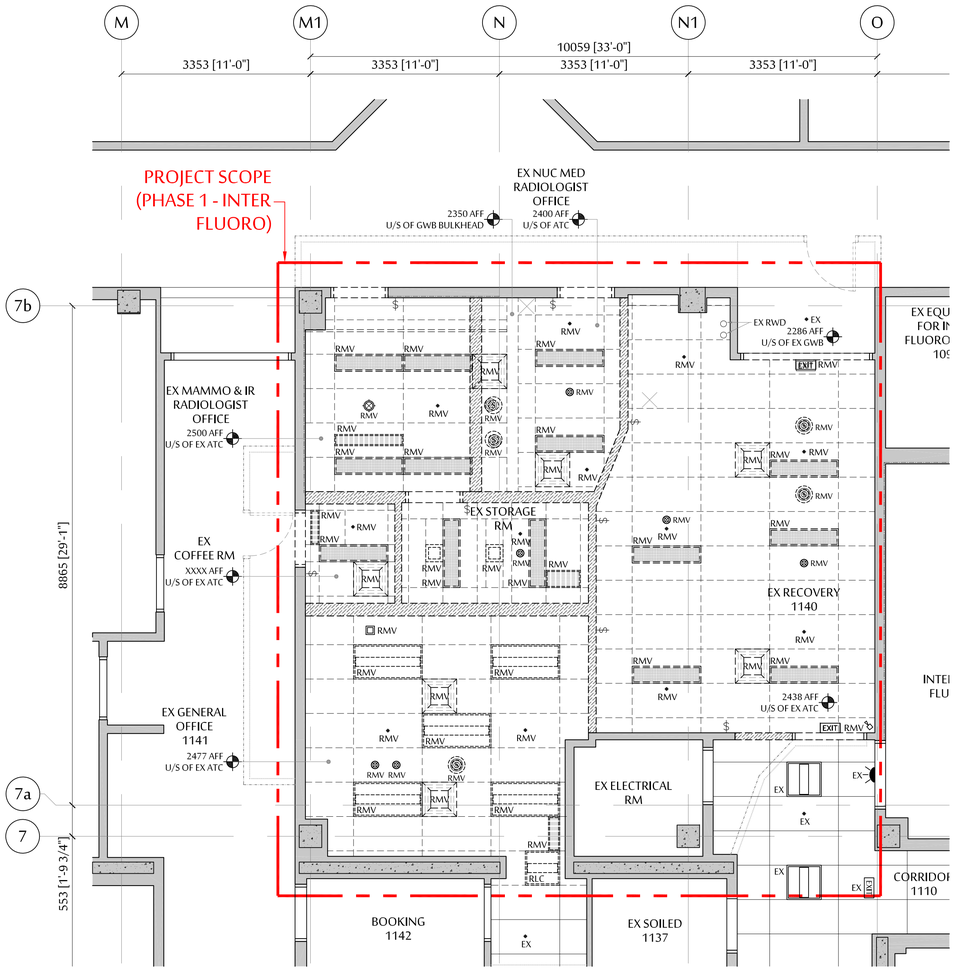
.6 AUTOMATIC CONTROL DAMPERS: DAMPERS FOR MODULATING & MIXING APPLICATIONS ARE TO BE PARALLEL BLADE TYPE. DAMPERS FOR OPEN-SHUT SERVICE ARE TO BE OPPOSED BLADE TYPE. MAXIMUM BLADE LENGTH IS TO BE 1 M (4'). DAMPERS GREATER THAN 2 SECTIONS WIDE ARE TO BE C/W A JACKSHAFT. DAMPER MOTORS ARE TO BE SIZED TO CONTROL THE DAMPER AGAINST MAXIMUM PRESSURE OR DYNAMIC CLOSING PRESSURE, WHICHEVER IS GREATER, TO SUIT THE SIZES OF DAMPERS INVOLVED, & TO PROVIDE SUFFICIENT FORCE TO MAINTAIN THE DAMPER RATED LEAKAGE CHARACTERISTICS. OPERATORS FOR DAMPERS TO BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM OR TO FREEZE PROTECTION DEVICES ARE TO BE EQUIPPED WITH ADDITIONAL RELAYS TO PERMIT THE DAMPERS TO RESPOND AND GO TO THE REQUIRED POSITION IN LESS THAN 15 SECONDS UPON RECEIPT OF A SIGNAL. OPERATOR ENCLOSURES ARE TO BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE LOCATED.

.7 MOTORIZED DAMPER: EQUAL TO T. A. MORRISON & CO. INC. "TAMCO" SERIES 1000 (SERIES 9000 FOR FRESH & EXHAUST AIR APPLICATIONS) ALUMINIUM DAMPERS, PARALLEL BLADE TYPE FOR MODULATING & MIXING APPLICATIONS, OPPOSED BLADE TYPE FOR OPEN-SHUT SERVICE. DAMPER MOTORS ARE TO BE EQUAL TO BELIMO EF SERIES, SPRING RETURN, FAIL-SAFE, 24 OR 120 VAC AS REQUIRED, MODULATING OR 2-POSITION AS REQUIRED, OVERLOAD PROTECTED & C/W ENCLOSURE TO SUIT MOUNTING LOCATION. PROVIDE WHERE SHOWN. CONNECT WITH CONTROL WIRING IN CONDUIT AS SHOWN/SPECIFIED

.8 THERMOSTAT: WALL MOUNTING, 24V UNLESS OTHERWISE SPECIFIED, 7-DAY PROGRAMMABLE HEAT-COOL DIGITAL THERMOSTAT FOR F° OR C° INDICATION, C/W BACKLIT DISPLAY, THERMOMETER, REAL TIME CLOCK, & MOMENTARY OVERRIDE FOR AFTER-HOURS OCCUPATION

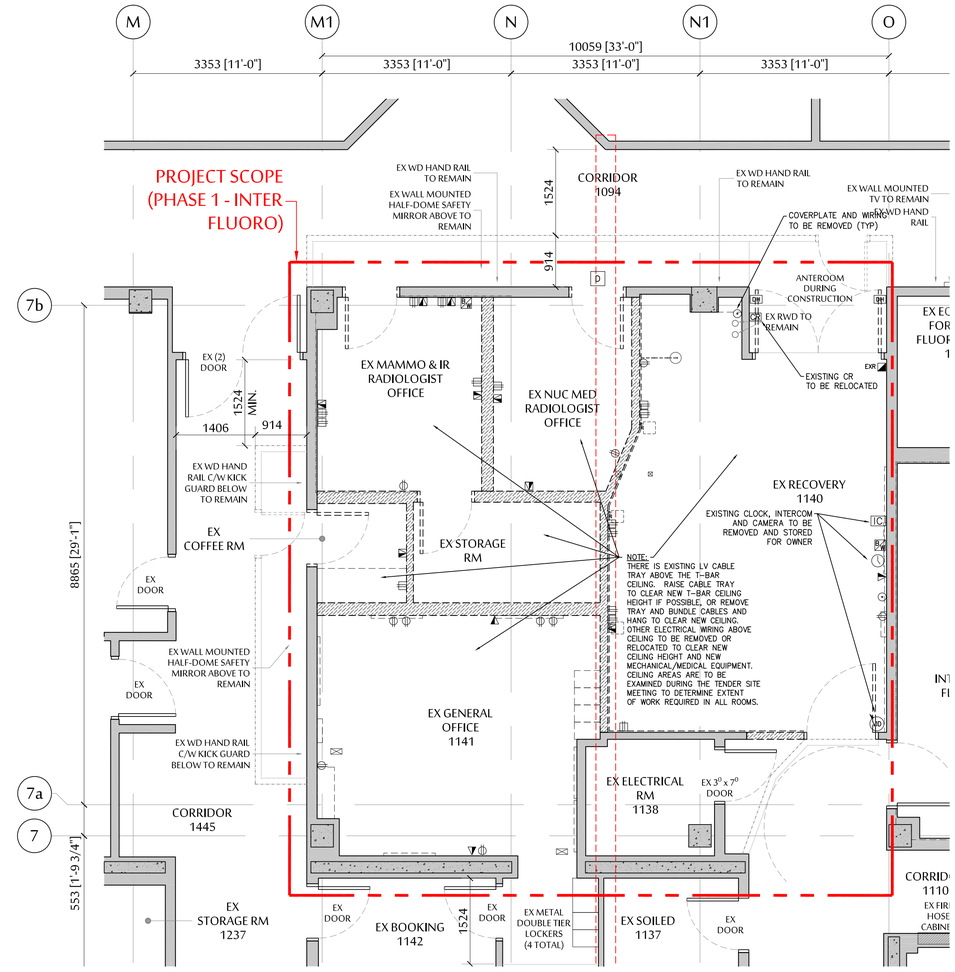
.9 CONTROL SYSTEM COMPONENTS: PROVIDE ALL REQUIRED CONTROL SYSTEM COMPONENTS & RELATED HARDWARE. REFER TO DRAWING CONTROL DIAGRAMS, POINTS LISTS, & SEQUENCES. WHERE COMPONENTS ARE PIPE, DUCT, OR EQUIPMENT MOUNTED SUPPLY THE COMPONENTS AT THE PROPER TIME, COORDINATE INSTALLATION WITH THE APPROPRIATE TRADE, & ENSURE THAT THE COMPONENTS ARE PROPERLY LOCATED & MOUNTED.

.10 CONTROL WIRING: DO ALL REQUIRED CONTROL WIRING FROM 15A-1P CIRCUITS TERMINATED AS PART OF THE ELECTRICAL WORK IN JUNCTION BOXES IN EQUIPMENT ROOMS/AREAS. COORDINATE EXACT JUNCTION BOX LOCATIONS AT THE SITE WITH THE ELECTRICAL TRADE. EXCEPT AS SPECIFIED BELOW, INSTALL WIRING IN CONDUIT. UNLESS OTHERWISE SPECIFIED THE FINAL 600 MM (2') CONNECTIONS TO SENSORS & TRANSMITTERS, & WHEREVER CONDUIT EXTENDS ACROSS FLEXIBLE DU



1 PHASE 1 - LEVEL 1 - DEMOLITION RCP

SCALE : 1 = 50



2 PHASE 1 - LEVEL 1 - DEMOLITION PLAN

SCALE : 1 = 50

ELECTRICAL DEMOLITION LEGEND

COUNTER HEIGHT	300mm HEIGHT	ITEM DESCRIPTION
		DUPLEX RECEPTACLE
		COMMUNICATION OUTLET
		NURSE CALL SYSTEM CODE BLUE/WHITE STATION
	D	NURSE CALL SYSTEM DOME LIGHT
		FIRE ALARM SYSTEM MANUAL PULL STATION
		FIRE ALARM SYSTEM FIRE DETECTOR
		CEILING MOUNT SPEAKER FIRE/PAGING
	DH	FIRE ALARM SYSTEM DOOR HOLDER
		BLANKED OFF OUTLET BOX
		LIGHT SWITCH
	EXIT	EXIT SIGN
	EX	EXISTING LIGHT FIXTURE
	EX	EXISTING LIGHT FIXTURE

DEMOLITION NOTES:

1. NURSE CALL EQUIPMENT TO BE REMOVED, KEPT SAFE AND REUSED IN NEW LOCATIONS SHOWN.
2. FIRE ALARM EQUIPMENT TO BE REMOVED, KEPT SAFE AND REUSED IN NEW LOCATIONS SHOWN.
3. PAGING AND FIRE ALARM SPEAKERS TO BE REMOVED, KEPT SAFE AND REUSED IN NEW LOCATIONS SHOWN.
4. EXISTING LIGHTING, SWITCHES, RECEPTACLES, DATA OUTLETS TO BE REMOVED AND DISPOSED/RECYCLED OFF SITE BY CONTRACTOR.
5. LINE VOLTAGE WIRING TO BE REMOVED BACK TO NEAREST JUNCTION BOX. WHERE ALL ITEMS ON A CIRCUIT ARE REMOVED, TURN OFF THE BREAKER AND LABEL AS 'SPARE'.
6. WHERE ELECTRICAL OUTLETS ARE TO REMAIN, REPLACE EXISTING RECEPTACLE WITH NEW DEVICE AND NEW STAINLESS COVERPLATE.
7. COMMUNICATION WIRING TO BE REMOVED BACK TO DATA/TEL CLOSET. COORDINATE WITH UHNBC IT DEPARTMENT TO REMOVE WIRING FROM DATA RACKS.
8. NOT ALL EXISTING ELECTRICAL EQUIPMENT MAY BE SHOWN – CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED ELECTRICAL DEMOLITION AND REMOVALS REQUIRED.
9. CONTRACTOR TO REMOVE ALL ELECTRICAL WIRING AND EQUIPMENT ASSOCIATED WITH MECHANICAL DEMOLITION – REFER TO MECHANICAL DRAWINGS FOR DETAILS.

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN

WWW.DCYTARCHITECTURE.CA

DRAWING LEGEND

- PROJECT AREA
- EXISTING WALL TO BE REMOVED (INCL ELEC, MECH, PLUMB & SPRINKLER WORK WITHIN WALL)
- EXISTING WALL TO REMAIN
- NEW WALL
- NEW WALL WITH ACOUST INSULATION
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO REMAIN (SEE DOOR SCHEDULE)
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO BE REMOVED OR RELOCATED (SEE DOOR SCHEDULE)
- D1 — NEW DOOR & FRAME (SEE DOOR SCHEDULE)
- 1 / A6.01 — INTERIOR ELEVATION # / DWG #
- 1 / A1.01 — CROSS SECTION # / DWG #
- W1 — WALL TYPE (SEE WALL SCHEDULE)
- W1 — WINDOW TYPE (SEE WINDOW SCHEDULE)
- GP1 — GLAZING PARTITION TYPE (SEE GLAZING PARTITION SCHEDULE)
- CG1 — 90° CORNER GUARD
- CG2 — 135° (OR CUSTOM ANGLE) CORNER GUARD
- FD — FLOOR DRAIN
- GB — GRAB BAR
- HMI — HANDICAPPED MIRROR
- MI — MIRROR
- EXTENT OF ACCENT WALL (SEE ROOM FINISH SCHEDULE) - ALLOW FOR 1 COLOUR
- EXTENT OF LEAD LINING (SEE RAD. REPORT)
- EXTENT OF FIRE RETARDANT TREATED PLYWOOD BACKING
- FE — FIRE EXTINGUISHER (36" A.F.F. TO BOTTOM OF CABINET) - SEE MECH DWGS

No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	MAY 14, 2021	SY
	ISSUED FOR TENDER	FEB 10, 2021	SY
	ISSUED FOR 80% CD REVIEW	DEC 16, 2020	SY
	ISSUED FOR BUILDING PERMIT	DEC 4, 2020	SY
-	ISSUED FOR DD	NOV 20, 2020	SY
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

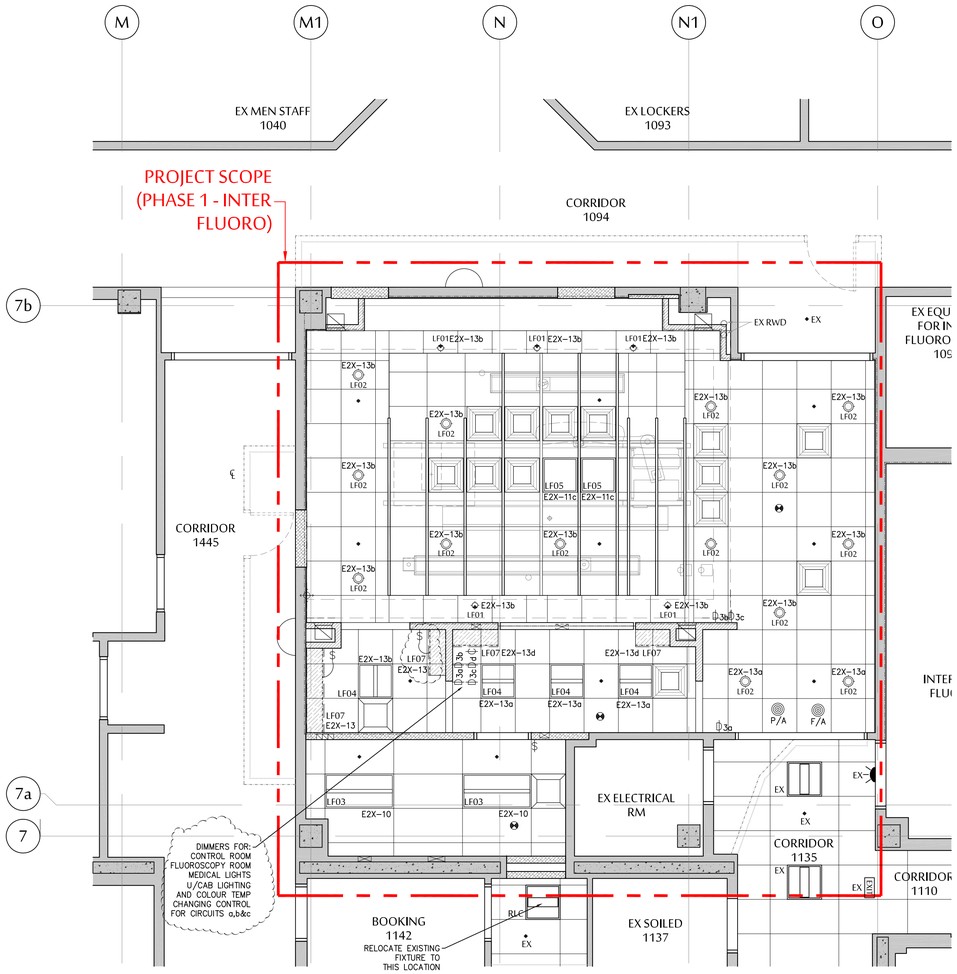
PHASE 1 - INTER FLUORO ELECTRICAL DEMO & LAYOUT RCP

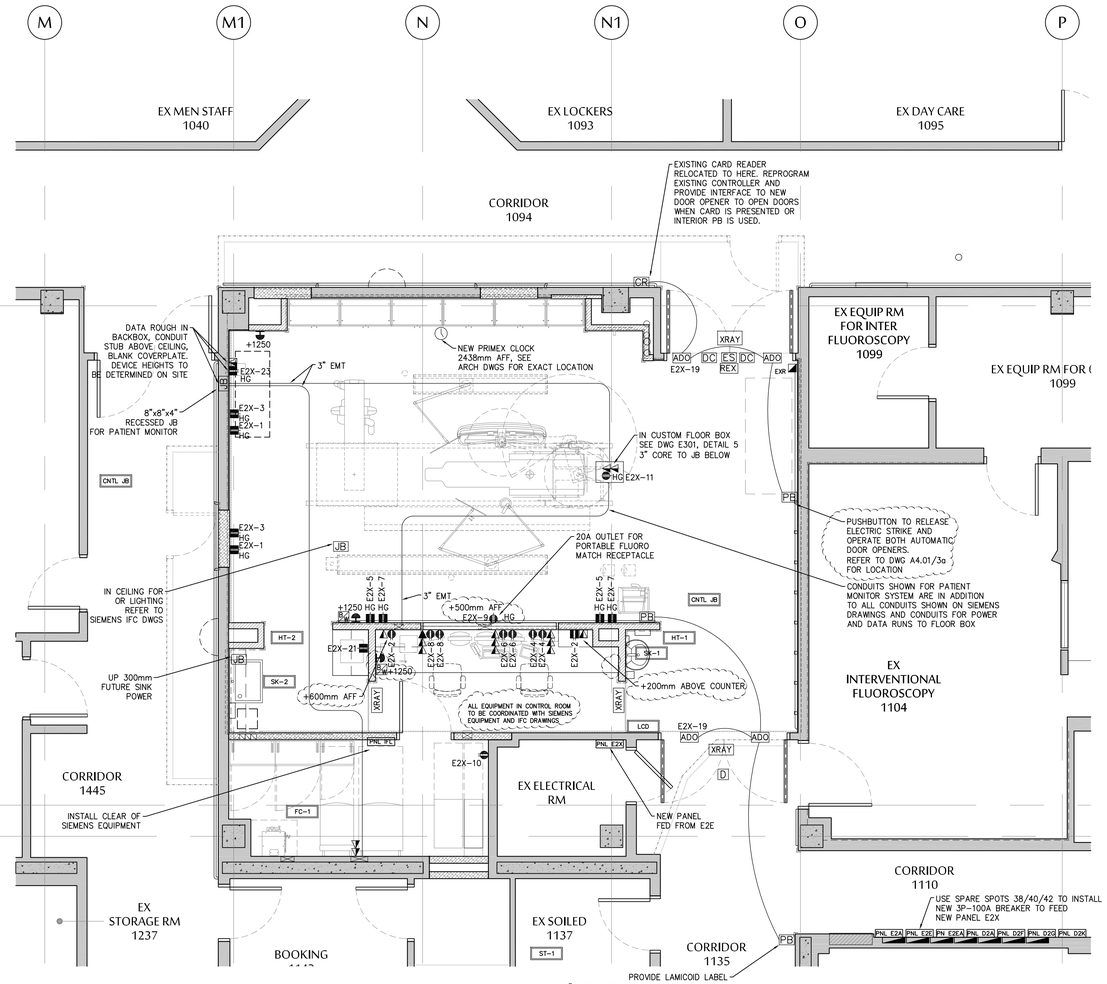
SCALE: 1 : 50
DATE: NOVEMBER 2020
DRAWN: NRS
CHECKED: NRS/SY
JOB No.: N2674

PHASE 1
E1.01

NRS ENGINEERING LTD
Consulting Electrical Engineers
#212-556 North Nechako Road
Prince George BC V2K 1A1
www.nrsengineering.ca
Tel 250.562.0551
Fax 250.562.0558

N2674-UHN Fluoro





1 PHASE 1 - LEVEL 1 -LAYOUT RCP

SCALE : 1 = 50

LIGHTING LEGEND

LF01	RECESSED 4" LED 1% DIMMING LIGHT, WALL WASH 11 WATTS, 1000 LUMENS, TUNABLE WHITE 2700–6500K, 90 CRI	COOPER LD4B 10 D010 EU4B 1020 90 1020W2N902765 4LB SWOGPH
LF02	RECESSED 4" LED 1% DIMMING LIGHT 21 WATTS, 2000 LUMENS, TUNABLE WHITE 2700–6500K, 90 CRI	COOPER LD4B 20 D010 EU4B 1020 90 1020W2N902765 4LB M02GPH
LF03	2'x4' LED FLAT PANEL, 0–10V DIMMING LIGHT 30W, 3600 LUMENS, 3500K	LITELINE LEDP–24–WH–35–30W–120
LF04	2'x2' LED ARCHITECTURAL FIXTURE, 1% 0–10V DIMMING, CLEAN ROOM 20W, 2500 LUMENS, TUNABLE WHITE 2700–3500K, 90 CRI	METALUX ENCOUNTER ENC 242 LED2 25 2765 CA125 UNV ED1D 1 90
LF05	2'x2' LED CLEANROOM FIXTURE, 0–10V DIMMING, EMERGENCY LIGHTING PACK 112W, 12,225 LUMENS, 3500K	COOPER FAILSAFE CLM–242–INS–A12125–LD4–5HI–35–120–ED1D–1–EL14W
LF06	1'x2' LED CLEANROOM FIXTURE, 0–10V DIMMING 45W, 3850 LUMENS, 3500K	COOPER FAILSAFE CLM–122–INS–A12125–LD4–2HI–35–120–ED1D–1–EL14W
LF07	LED UNDERCABINET LIGHTING, CUSTOM LENGTHS, 24VDC DIMMING, WITH ALUMINUM PROFILE AND DIFFUSER, MOUNTING CLIPS 25W DIMMING POWER SUPPLY AND POWER FEEDS HWB–DIM–EDC–24V–25W	LITELINE LED–TP1VH–xx–35 (LENGTH VARIES, REFER TO DWGS) LED–TP–AL1607, LED–TP–AL1607–EC, LED–TP–AL1607–MC
$	15A LIGHT SWITCH ANTIMICROBIAL, WITH ANTIMICROBIAL STAINLESS COVERPLATE	LEVITON A1221–2 / 84001–A40 COVER
m	MOTION ACTIVATED DIMMER SWITCH 1250mm ABOVE FLOOR	LUTRON MS–2101–WH
3	DIMMER SWITCH FOR LED, 3 WAY DIMMING WHERE NOTED FOR 3 WAY DIMMING USE ONE DIMMER AND ONE MA–R COMPANION DIMMER	LUTRON MACL–153M–WH MA–R COMPANION DIMMER FOR 3–WAY
¢	SLIDE DIMMER SWITCH, 0–10V FOR COLOUR TEMPERATURE CONTROL	LUTRON NOVA–T NTST–DV
XRAY	X–RAY WARNING LIGHT – LED, 24 VOLT WITH "RADIATION IN USE" WORDING	BIGHELLI STELLA RM WITH SPECIAL WORDING
EXIT	LED EXIT LIGHT WITH INTEGRAL BATTERY BACKUP	BIGHELLI STELLA RM

¢ COLOUR TEMPERATURE CONTROL IS TO ADJUST THE COLOUR TEMPERATURE OF ALL LF01, LF02 AND LF04 FIXTURES ON DIMMING CCTs a,b,c FOR COLOUR TEMPERATURE CONTROL

NOTES:

1. WIRING FOR 'HG' HOSPITAL GRADE RECEPTACLES TO BE IN #10 COPPER WITH #10 INSULATED BONDING CONDUCTOR, AND COMPLY WITH CEC SECTION 24 AND CSA Z32 STANDARDS.
2. TERMINATE BONDING CONDUCTOR ON INSULATED BONDING BUS IN PANEL INDICATED.
3. PROVIDE TESTING OF ALL 'HG' RECEPTACLES FROM THIRD PARTY TESTING AGENCY TO CSA Z32 STANDARDS BY INDEPENDENT THIRD PARTY TESTING AGENCY.
4. REFER TO SPECIFICATIONS FOR TESTING REQUIREMENTS FOR FIRE ALARM AND NURSE CALL SYSTEMS.
5. PROVIDE SERVICES OF HOSPITAL SECURITY CONTRACTOR TO REPROGRAM EXISTING KANTECH DOOR CONTROLLER IF REQUIRED TO PROVIDE CARD ACCESS CONTROL. SECURITY CONTRACTOR TO INCLUDE ALL WORK ASSOCIATED WITH ACCESS CONTROL AND CCTV WORK.
6. ELECTRICAL CONTRACTOR TO SCAN/X–RAY SLAB FOR ALL REQUIRED FLOOR PENETRATIONS PRIOR TO CORING, AND CONFIRM LOCATIONS WITH HOSPITAL'S FACILITIES MANAGER AND PROJECT STRUCTURAL ENGINEER PRIOR TO CORING.
7. FINAL LOCATIONS OF ALL RECEPTACLES TO BE APPROVED BY ARCHITECT ON SITE.
8. FINAL LOCATIONS OF E–STOP BUTTONS TO BE CONFIRMED BY CLIENT ON SITE.
9. PROVIDE RELAY AND CONNECTION FROM SIEMENS SYSTEM CABINET TO ALLOW CONTROL OF FLUOROSCOPY LIGHTING FROM FOOT PEDAL CONTROL.
10. EXISTING NON–ESSENTIAL POWER CIRCUITS MAY BE REUSED FOR LOADS INDICATED AS NON–ESSENTIAL. SHOW CIRCUITS ON AS BUILT DRAWINGS AND REVISE PANEL SCHEDULES.
11. EXISTING ESSENTIAL POWER CIRCUITS ARE TO BE RENDERED SPARE – REMOVE WIRING, TURN OFF BREAKER AND REVISE PANEL SCHEDULES.
12. USE #10 CU WIRING FOR ALL HOSPITAL GRADE RECEPTACLES WITH #12 INSULATED GROUND CONDUCTOR.
13. E–STOP BUTTON TO BE WIRED TO SHUNT TRIP MAIN BREAKER IN PANEL IFL AND ALSO TO UPS CONTACTOR TO DISABLE ALL POWER TO THE FLUOROSCOPY MACHINE. REFER TO SIEMENS DRAWINGS.
14. ALL DEVICE LOCATIONS TO BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND SIEMENS EQUIPMENT DRAWINGS.

2 PHASE 1 - LEVEL 1 - LAYOUT PLAN

SCALE : 1 = 50

SECURITY SYSTEM LEGEND

CR	EXISTING KANTECH CARD READER TO BE RELOCATED
PB	PUSH BUTTON FOR DOOR OPERATION – PROVIDED BY ELEC CONTRACTOR RELEASES STRIKE AND OPERATES BOTH DOOR OPENERS
ADO	AUTOMATIC (HANDICAPPED) DOOR OPERATOR PROVIDED BY OTHERS, WIRED BY ELECTRICAL
DC	DOOR CONTACT PROVIDED BY ELECTRICAL CONTRACTOR
ES	ELECTRIC STRIKE AND POWER TRANSFER HINGE SUPPLIED WITH DOOR
REX	REQUEST TO EXIT SENSOR PROVIDED BY ELECTRICAL CONTRACTOR

E–STOP BUTTON DETAIL

(DOOR CONTROL PUSHBUTTONS TO BE SIMILAR, WITHOUT 'EMERGENCY' LABEL)

ELECTRICAL LEGEND

COUNTER HEIGHT	300mm A.F.F.	ITEM DESCRIPTION	MANUFACTURER PART NUMBER
		15A/20A DUPLEX RECEPTACLE – WHITE – ESSENTIAL POWER WITH STAINLESS STEEL COVERPLATE	HUBBELL 5362–R
		15A DUPLEX ISOLATED RECEPTACLE – ESSENTIAL POWER WITH STAINLESS STEEL COVERPLATE	HUBBELL 5262–R
HG	HG	DUPLEX RECEPTACLE – HOSPITAL GRADE WITH STAINLESS STEEL COVERPLATE	HUBBELL HBL8200R / HBL8300R
		COMMUNICATION OUTLET – FT6 RATED CATEGORY 6 CABLE TO ROOM 1238 PROVIDE PLASTER RING AND 3/4" EMT TO ABOVE SUSPENDED CEILING SPACE	TO MATCH EXISTING NHA STANDARD EQUIPMENT
		PACS COMMUNICATION OUTLET – FT6 RATED CATEGORY 6 TO ROOM 1128 PROVIDE PLASTER RING AND 3/4" EMT TO ABOVE SUSPENDED CEILING SPACE	TO MATCH EXISTING NHA STANDARD EQUIPMENT
UP 2438mm		PRIMEX BATTERY POWERED WALL CLOCK REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING LOCATION	TO MATCH EXISTING NHA STANDARD EQUIPMENT
ON CEILING		FIRE ALARM HEAT DETECTOR	EXISTING SIMPLEX TO BE REUSED/RELOCATED
EX TO REMAIN		FIRE ALARM PULL STATION	EXISTING SIMPLEX TO BE REUSED
UP 1250 AFF		EMERGENCY E–STOP BUTTON – 2NC/2NO CONTACTS, TURN/PULL TO RESET RED, WITH RECESSED BACKBOX AND PROTECTION SHROUD	IDEC HW SERIES – METAL NAMEPLATE HWIZ–BV422–R WITH NSR NAMEPLATE

NURSE CALL LEGEND

B	NURSE CALL SYSTEM CODE BLUE / STATION WITH NEW HINGED PLASTIC COVER	RAULAND EXISTING TO BE RELOCATED
BW	NURSE CALL SYSTEM CODE BLUE / CODE WHITE STATION WITH NEW HINGED PLASTIC COVER	RAULAND EXISTING TO BE RELOCATED
D	NURSE CALL SYSTEM CORRIDOR ROOM INDICATOR LIGHT – WALL/CEILING MOUNTED	

PANEL IFL

DESCRIPTION: INTERVENTIONAL FLUOROSCOPY
SERVICE: 480/277V, 3ø, 4W
FEEDER: –
BUS: 200A MOUNTING: FLUSH

MAIN BREAKER			200A SHUNT	
Circuit Description	No. Brk.		No. Brk.	Circuit Description
–	1		2	–
–	70A		15A	–
GENERATOR	3		4	–
CABINET	70A		15A	–
–	5		6	–
–	70A		15A	–
–	7		8	–
–	15A		15A	–
–	9		10	–
–	50A		15A	–
UPS	11		12	–
CABINET	50A		15A	–
–	13		14	–
–	50A		15A	–
–	15		16	–
–	15A		15A	–
–	17		18	–
–	15A		15A	–
–	19		20	–
–	15A		15A	–
–	21		22	–
–	15A		15A	–
–	23		24	–
–	15A		15A	–

SHUNT TRIP MAIN BREAKER
CONFIRM ALL BREAKER SIZES WITH SIEMENS

MECHANICAL EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	UNIT LOCATION	SERVICE	LOAD	VOLTAGE	PHASE	BREAKER	FEEDER	CIRCUIT	STARTER			TYPE	DISC SW	NOTES
										SUPPLIED	INSTALLED	CONNECTED			
FC–1	CHILLED WATER FAN COIL	ABOVE EQ. ROOM	EQUIP ROOM COOLING	0.5 HP	208	1	15A	2c#12	E2X–14/16	MECH	MECH	ELEC	–	ELEC	
HT–1,2	HEAT TRACE ON COLD WATER LINE	ABOVE EQ. ROOM	FLUORO ROOM	mech	208	1	15A	2c#12	NON–ESS	MECH	MECH	ELEC	–	ELEC	GFI BREAKER – TRACE SUPPLIED BY MECHANICAL
ONTL JB	JUNCTION BOX FOR CONTROLS	SEE DRAWINGS	120 VOLT CONTROL POWER	frac	120	1	15A	2c#12	EDX–12	MECH	MECH	MECH	–	ELEC	
MISC															
SK–1	HANDS FREE SINK	INTER FLOURO ROOM	HAND HYGIENE SINK	frac	120	1	15A	2c#12	EDX–2						PROVIDE ESSENTIAL POWER – JB FOR POWER
SK–2	SCRUB SINK JB	INTER FLOURO ROOM	SCRUB SINK JB	frac	120	1	15A	2c#12	EDX–2						PROVIDE ESSENTIAL POWER FOR CONTROL POWER
LCD	LCD PRESSURE MONITOR	INTER FLOURO ROOM	LCD DISPLAY POWER	frac	120	1	15A	2c#12	EDX–12						

ABOVE INFORMATION HAS BEEN PROVIDED FROM THE MECHANICAL DESIGNER AND MAY NOT BE COMPLETE. ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS, SPECIFICATIONS AND ADDENDA FOR A COMPLETE LIST OF MECHANICAL EQUIPMENT BEFORE SUBMITTING TENDER. PROVIDE ELECTRICAL CONNECTION AND CONTROL AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AND INCLUDE ALL COSTS IN THE TENDER PRICE. CONTRACTOR TO CONFIRM STARTER AND CONTROL REQUIREMENTS WITH MECHANICAL DIVISION BEFORE SUBMITTING TENDER.

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL . INTERIOR DESIGN

WWW.DCYTARCHITECTURE.CA

DRAWING LEGEND

- PROJECT AREA
- EXISTING WALL TO BE REMOVED (INCL ELEC, MECH, PLUMB & SPRINKLER WORK WITHIN WALL)
- EXISTING WALL TO REMAIN
- NEW WALL
- NEW WALL WITH ACOUST INSULATION
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO REMAIN (SEE DOOR SCHEDULE)
- EX DOOR (EX01) — EXISTING DOOR & FRAME TO BE REMOVED OR RELOCATED (SEE DOOR SCHEDULE)
- D1 — NEW DOOR & FRAME (SEE DOOR SCHEDULE)
- 1 / A6.01 — INTERIOR ELEVATION # / DWG #
- 1 / A1.01 — CROSS SECTION # / DWG #
- W1 — WALL TYPE (SEE WALL SCHEDULE)
- W1 — WINDOW TYPE (SEE WINDOW SCHEDULE)
- GP1 — GLAZING PARTITION TYPE (SEE GLAZING PARTITION SCHEDULE)
- CG1 — 90° CORNER GUARD
- CG2 — 135° (OR CUSTOM ANGLE) CORNER GUARD
- FD — FLOOR DRAIN
- GB — GRAB BAR
- HMI — HANDICAPPED MIRROR
- MI — MIRROR
- EXTENT OF ACCENT WALL (SEE ROOM FINISH SCHEDULE) - ALLOW FOR 1 COLOUR
- EXTENT OF LEAD LINING (SEE RAD. REPORT)
- EXTENT OF FIRE RETARDANT TREATED PLYWOOD BACKING
- FE — FIRE EXTINGUISHER (36" A.F.F. TO BOTTOM OF CABINET) - SEE MECH DWGS

No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	MAY 14, 2021	SY
	ISSUED FOR ADDENDUM 1	FEB 22, 2021	SY
	ISSUED FOR TENDER	FEB 10, 2021	SY
	ISSUED FOR 80% CD REVIEW	DEC 16, 2020	SY
	ISSUED FOR BUILDING PERMIT	DEC 4, 2020	SY
-	ISSUED FOR DD	NOV 20, 2020	SY
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

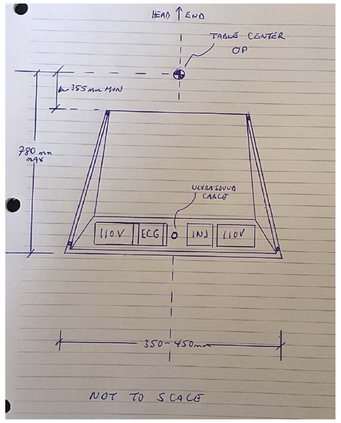
PHASE 1 - INTER FLUORO ELECTRICAL LAYOUT PLAN

SCALE: 1 : 50
DATE: NOVEMBER 2020
DRAWN: NRS
CHECKED: NRS/SY
JOB No.: N2674

PHASE 1
E2.01

NRS ENGINEERING LTD
Consulting Electrical Engineers
#212-556 North Nechako Road
Prince George BC V2K 1A1
www.nrsengineering.ca
Tel 250.562.0551
Fax 250.562.0558

N2674-UHN Fluoro



5 PHASE 1 - CUSTOM FLOORBOX #6974

NTS

FLUOROSCOPY MACHINE INSTALL NOTES:

1. CONTRACTOR TO REFER TO SIEMENS IFC DRAWINGS FOR ALL INSTALLATION REQUIREMENTS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT, WIRING AND LABOUR REQUIRED TO PERFORM ALL WORK SHOWN ON SIEMENS DRAWINGS.

2. GENERALLY, WORK REQUIRED BY ELECTRICAL CONTRACTOR INCLUDES:
   - CONDUITS, TRANSFORMER, FEEDER, PANELBOARD AND BREAKERS
   - FEEDERS TO GENERATOR CABINET AND UPS
   - INTERCONNECTING WIRING OF UPS AND FEEDERS FROM UPS TO SYSTEM CABINET
   - GROUNDING FROM POWER SUPPLIES TO CONNECTION POINTS AT CABINETS & UPS
   - EMERGENCY STOP BUTTONS AND WIRING
   - XRAY IN USE SIGNS AND WIRING
   - CONNECTION AND RELAYS FOR LIGHTING CIRCUITS TO FLUOROSCOPY CONTROL
   - POWER SUPPLY FOR OR LIGHTING BOOM

3. INFORMATION SHOWN ON ELECTRICAL DRAWINGS IF FOR GENERAL REFERENCE ONLY AND MAY NOT SHOW ALL WORK REQUIRED.

4. ELECTRICAL CONTRACTOR RESPONSIBLE FOR COMPLETE INSTALLATION OF UPS FOR SIEMENS EQUIPMENT – REFER TO EQUIPMENT DRAWINGS.

5. ELECTRICAL CONTRACTOR RESPONSIBLE TO PROVIDE CUSTOM FLOORBOX #6974, AVAILABLE FROM SILVER FERN STAINLESS LTD, VICTORIA, BC www.silverfernstainless.com

PANEL E2X

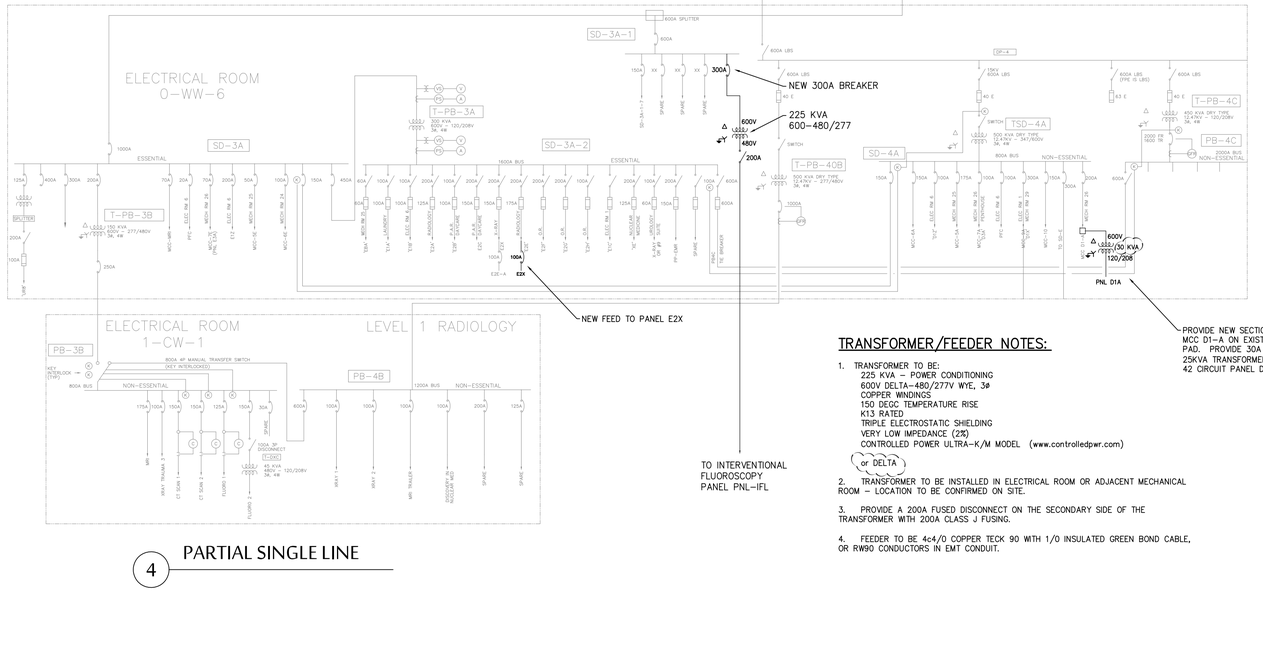
DESCRIPTION: ESSENTIAL POWER – IMAGING
SERVICE: 120/208V, 3ø, 4W
FEEDER: 4c#3
BUS: 100A MOUNTING: SURFACE

MAIN BREAKER — NONE

	Circuit Description	No. Brk.			No. Brk.	Circuit Description	
HG	INTER FLUORO	1	○	○	2	INTER FLUORO	
	ROOM RECEPT	20A	○	○	15A	CNTL RM REC	
HG	INTER FLUORO	3	○	○	4	INTER FLUORO	
	ROOM RECEPT	20A	○	○	15A	CNTL RM REC	
HG	INTER FLUORO	5	○	○	6	INTER FLUORO	
	ROOM RECEPT	20A	○	○	15A	CNTL RM REC	
HG	INTER FLUORO	7	○	○	8	INTER FLUORO	
	ROOM RECEPT	20A	○	○	15A	CNTL RM REC	
HG	INTER FLUORO	9	○	○	10	INTER FLUORO	
	PORT RECEPT	20A	○	○	15A	EQ RM REC	
HG	INTER FLUORO	11	○	○	12	INTER FLUORO	
	FLOORBOX REX	20A	○	○	15A	CNTL POWER	
	INTER FLUORO	13	○	○	14	–	
	LIGHTING	15A	○	○	15A	INTER FLUORO	
	INTER FLUORO	15	○	○	16	FAN COIL UNIT	
	LIGHTING	15A	○	○	15A	–	
		17	○	○	18	–	
		15A	○	○	15A	–	
	INTER FLUORO	19	○	○	20	–	
	ADO DOOR PWR	15A	○	○	15A	–	
	CONTRAST WARMER	21	○	○	22	SPARE	
		20A	○	○	15A		
HG	PATIENT MONITOR	23	○	○	24	SPARE	
		15A	○	○	15A		
	SPARE	25	○	○	26	SPARE	
		15A	○	○	15A		
	SPARE	27	○	○	28	SPARE	
		15A	○	○	15A		
	SPARE	29	○	○	30	SPARE	
		15A	○	○	15A		
	SPARE	31	○	○	32	SPARE	
		15A	○	○	15A		
	–	33	○	○	34	–	
	–	15A	○	○	15A	–	
	–	35	○	○	36	–	
	–	15A	○	○	15A	–	
	–	37	○	○	38	–	
	–	15A	○	○	15A	–	
	–	39	○	○	40	–	
	–	15A	○	○	15A	–	
	–	41	○	○	42	–	
	–	15A	○	○	15A	–	
	–	43	○	○	44	–	
	–	15A	○	○	15A	–	
	–		○	○	46	–	
	–	15A	○	○			
	–	61	○	○	62		
	–	15A	○	○	15A	–	
	–	63	○	○	64	–	
	–	15A	○	○	15A	–	
	–	65	○	○	66	–	
	–	15A	○	○	15A	–	

PROVIDE SEPARATE GROUNDING BUS TO ACCEPT INSULATED GROUND WIRES ON HG GRADE RECEPTACLE CIRCUITS

PROVIDE SEPARATE INSULATED #6 CU BONDING CONDUCTOR WITH FEEDER TO PANEL E2X AND TERMINATE IN PANEL E2E

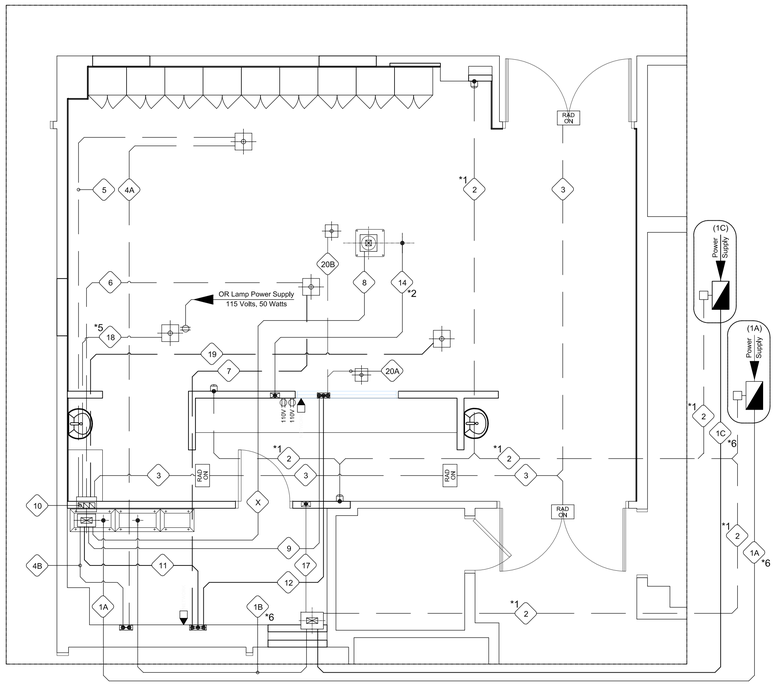


4 PARTIAL SINGLE LINE

TRANSFORMER/FEEDER NOTES:

1. TRANSFORMER TO BE:
   225 KVA – POWER CONDITIONING
   600V DELTA–480/277V WYE, 3ø
   COPPER WINDINGS
   150 DEGC TEMPERATURE RISE
   K13 RATED
   TRIPLE ELECTROSTATIC SHIELDING
   VERY LOW IMPEDANCE (2%)
   CONTROLLED POWER ULTRA–K/M MODEL (www.controlledpwr.com)
   or DELTA
2. TRANSFORMER TO BE INSTALLED IN ELECTRICAL ROOM OR ADJACENT MECHANICAL ROOM – LOCATION TO BE CONFIRMED ON SITE.
3. PROVIDE A 200A FUSED DISCONNECT ON THE SECONDARY SIDE OF THE TRANSFORMER WITH 200A CLASS J FUSING.
4. FEEDER TO BE 4c4/0 COPPER TECK 90 WITH 1/0 INSULATED GREEN BOND CABLE, OR RW90 CONDUCTORS IN EMT CONDUIT.

RACEWAY LAYOUT 1 : 50



1 PHASE 1 - RACEWAY LAYOUT

SCALE : 1 = 50

RACEWAY LAYOUT IS SCHEMATIC ONLY - CONTRACTOR TO ENSURE CONDUIT RUNS ARE ARRANGED SO THAT THEY DO NOT EXCEED THE MAXIMUM CABLE LENGTHS SHOWN ON SIEMENS DRAWINGS. REFER TO SIEMENS IFC DRAWINGS

RACEWAY SCHEDULE

	RUN	FROM POINT / RUN(R)	TO POINT / RUN(R)	DUCT(CABLE WIREWAY)	CONDUIT (RIGID CONDUIT ONLY)	TRENCH DUCT(FLOOR FLUSH)	CABLE TRAY	VERTICAL DUCT(V)	CONTAINS POWER SUPPLY CABLES	REMOVEABLE ACCESSIBLE COVER	# OF EQUAL COMPARTMENTS	–	FLUSH FLOOR(F) ACCESS FL(A)	FLUSH WALL(W) CEILING(C)	CEILING SPACE ABOVE	CEILING SPACE BELOW	ACCESS FLOOR SPACE	ABOVE FINISHED FLOOR ℄	SURFACE FL(F) ACCESS FL(A)	SURFACE CEILING(C) WALL(W)	EXISTING	AS SHOWN	WALL SPACE	TO SUIT (BY CONTRACTOR)	SIZE REQUIRED (CLEAR OPENING)
*6	1A	OD	PU1		●					●							●							●	SEE ELECTRICAL NOTE #15
*6	1B	X4	SC		●												●							●	SEE ELECTRICAL NOTE #15
*6	1C	OD	X4		●					●							●							●	SEE ELECTRICAL NOTE #15
*1	2	CR	EM		●										●									●	--
	3	RI	X2		●										●									●	1" Ø
	4A	P1	CU1		●										●									●	2½" Ø
	4B	X1	CU1		●											●								●	2" Ø
	5	P1	X2		●										●										3 @ 3" Ø + 2" Ø
	6	D1	X2		●										●										2 @ 3" Ø
	7	D1	IS		●										●									●	2 @ 2½" Ø
	8	X3	X1		●											●									2 @ 3" Ø
	9	X1	CRX		●											●									2 @ 3" Ø
	10	CC2	X2	●				V		●	3		W												4" x 12"
	11	IS	X1		●											●								●	2" Ø 3" Ø
	12	IS	CRX		●											●								●	2"Ø + 3"Ø
	--																								
*2	14	NJ1	SCK		●										●									●	*2
	--																								
	--																								
	17	X4	M1		●										●									●	1" Ø
*5	18	ORL	X2		●										●										1" Ø
	19	X2	TR1		●										●										3" Ø
	20A	CRX	SPK		●										●									●	1½" Ø
	20B	CRX	MC		●										●									●	1½" Ø

2a PHASE 1 - RACEWAY SCHEDULE

NTS

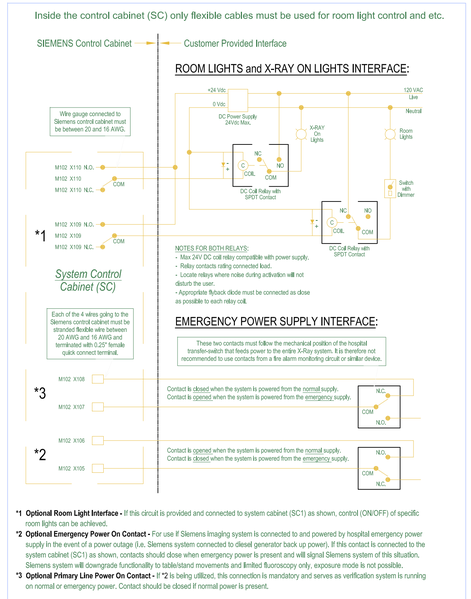
CONNECTION POINT SCHEDULE

	POINT	ON/OFF DISCONNECT	CONTACTOR	EMERGENCY SHUNT TRIP	PULL BOX	ACCESS FLOOR OPENING	SLEEVE TERMINATION	DUCT TERMINATION	CONDUIT TERMINATION	REMOVEABLE COVER	SPLIT REMOVEABLE COVER	DUCT COVER PLATE OPENING	GROMMETED HOLE DIAMETER	FLUSH FLOOR(F) ACCESS FL(A)	FLUSH WALL(W) CEILING(C)	CEILING SPACE ABOVE	CEILING SPACE BELOW	ACCESS FLOOR SPACE	ABOVE FINISHED FLOOR ℄	SURFACE FL(F) ACCESS FL(A)	SURFACE CEILING(C) WALL(W)	BELOW FINISHED CEILING ℄	x THRU COVER WIDTH	TO SUIT (BY CONTRACTOR)	SIZE REQUIRED (CLEAR OPENING)
	OD	●																	5'	W				●	--
*1	CR		●																5'	W				●	--
*1	EM			●															5'	W				●	--
	CC1						●							F											4" X 8"
	T						●							F											6" X 6"
*4	CC2											●	●						*4						4" X 12"
	PU1											●		F										●	--
	SC											●		F										●	--
*2	SCK											●		F										●	--
	CRX			●									●		W				18"					●	--
	CU1			●									●		W				12"					●	--
	IS			●									●		W				18"					●	--
	D1			●									●	3"	C	●								●	--
	ORL			●									●	2"	C	●								●	--
	P1			●									●	4"		●								●	--
*4	NJ1			●									●		W				*4					●	--
	X1			●								●					●								●	--
	X2			●								●				●									●	--
	X3, X4			●								●					●								●	--
	RI	"RADIATION ON" SIGN ABOVE EXTERIOR DOOR (BY HOSPITAL)																			W			●	--
*7	UPS					●								F											4" x 6"
	M1			●									●		W				*4					●	--
	SPK, MC			●									●		C									●	--
	TR1			●									●		C									●	--

2b PHASE 1 - CONNECTION SCHEDULE

NTS

SYSTEM CONNECTIONS: Room Light, Radiation Warning, and UPS Connections



*1 **Optional Room Light Interface -** If this circuit is provided and connected to system cabinet (SC1) as shown, control (ON/OFF) of specific room lights can be achieved.

*2 **Optional Emergency Power On Contact -** For use If Siemens Imaging system is connected to and powered by hospital emergency power supply In the event of a power outage (i.e. Siemens system connected to diesel generator back up power). If this contact is connected to the system cabinet (SC1) as shown, contacts should close when emergency power is present and will signal Siemens system of this situation. Siemens system will downgrade functionality to table/stand movements and limited fluoroscopy only, exposure mode is not possible.

*3 **Optional Primary Line Power On Contact -** If *2 is being utilized, this connection is mandatory and serves as verification system is running on normal or emergency power. Contact should be closed If normal power Is present.

3 PHASE 1 - LIGHTING CONTROL SCHEMATIC

NTS

ARCHITECT :
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No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	MAY 14, 2021	SY
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-	ISSUED FOR DD	NOV 20, 2020	SY
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO ELECTRICAL DETAILS

SCALE: 1 : 50
DATE: NOVEMBER 2020
DRAWN: NRS
CHECKED: NRS/SY
JOB No.: N2674

PHASE 1
E3.01

NRS ENGINEERING LTD
Consulting Electrical Engineers
#212-556 North Nechako Road
Prince George BC V2K 1A1
www.nrsengineering.ca
Tel 250.562.0551
Fax 250.562.0958

N2674-UHN Fluoro

DIVISION 16 – ELECTRICAL SPECIFICATION:

16.1 GENERAL

1. THE CONTRACTOR SHALL PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED FOR THE WORK, TO PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION.
2. IT IS THE INTENT OF THE DRAWINGS AND NOTES TO PROVIDE A COMPLETE AND WORKABLE INSTALLATION. ANY WORK, FITTING AND/OR NECESSARY MATERIAL NOT SPECIFICALLY MENTIONED OR SHOWN ON THE PLANS, BUT OBVIOUSLY NECESSARY TO COMPLETE THE INSTALLATION, SHALL BE FURNISHED BY THE CONTRACTOR AS IF SPECIFICALLY MENTIONED HEREIN AND DETAILED.
3. EXAMINE THE SITE OF WORK AND BECOME FAMILIAR WITH ALL FEATURES AND CHARACTERISTICS AFFECTING THIS WORK BEFORE SUBMITTING TENDER. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR EXTRA WORK DUE TO EXISTING CONDITIONS WHICH SUCH EXAMINATION SHOULD HAVE DISCLOSED.
4. IF DISCREPANCIES OR OMISSIONS IN THE DRAWINGS ARE FOUND, OR IF INTENT OR MEANING IS NOT CLEAR, ADVISE THE ENGINEER FOR CLARIFICATION BEFORE SUBMITTING TENDER.
5. MAINTAIN A MARKED UP SET OF "AS BUILT" DRAWINGS ON THE SITE AND SUBMIT TO THE ENGINEER AT COMPLETION OF THE PROJECT.
6. ALL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE CANADIAN ELECTRICAL CODE C22.1, CURRENT EDITION AS MODIFIED FOR USE IN BRITISH COLUMBIA, TOGETHER WITH ALL DIRECTIVES, BULLETINS AND AMENDMENTS BY AUTHORITIES HAVING JURISDICTION OVER THE WORK AND ANY LOCAL BYLAWS.
7. REQUESTS FOR APPROVAL OF ALTERNATE MATERIALS MUST BE SUBMITTED AS FOLLOWS: FOUR COPIES OF DRAWING AND SPECIFICATION ARE TO BE SUBMITTED, CLEARLY INDICATING WHICH MAKE, MODEL AND/OR CATALOGUE NUMBER IS PROPOSED AND TO WHICH PRODUCT IT IS SUBMITTED AS EQUAL.
8. IMMEDIATELY AFTER NOTIFICATION OF AWARD OF CONTRACT, SUBMIT A LIST OF PROPOSED PRODUCTS. AFTER RECEIVING APPROVAL OF LIST OF PRODUCTS AND PRIOR TO DELIVERY OF ANY PRODUCTS TO JOB SITE, SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW.
9. SHOP DRAWINGS TO BE SUBMITTED VIA EMAIL IN PDF FORMAT FOR ALL ELECTRICAL EQUIPMENT TO BE USED ON THE PROJECT. FIRST PROGRESS PAYMENT WILL NOT BE APPROVED UNTIL ALL SHOP DRAWINGS HAVE BEEN SUBMITTED AND APPROVED.
10. ALL PRODUCTS PROVIDED SHALL BE APPROVED BY CSA, OR OTHER B.C. ACCREDITED TESTING AND CERTIFICATION ORGANIZATION, OR CARRY AN EQUIVALENT APPROVAL ACCEPTABLE TO THE BC INSPECTION AUTHORITY AND SHALL BE NEW, UNLESS OTHERWISE SPECIFIED.
11. UNLESS OTHERWISE SPECIFICALLY CALLED FOR IN THE DRAWINGS, UNIFORMITY OF MANUFACTURER SHALL BE MAINTAINED FOR SIMILAR PRODUCTS THROUGHOUT THE WORK.
12. EXAMINE THE DRAWINGS AND SPECIFICATIONS OF ALL DIVISIONS OF THE PROJECT. BEFORE COMMENCING WORK, OBTAIN A RULING FROM THE ENGINEER IF ANY CONFLICT EXISTS; OTHERWISE NO ADDITIONAL COMPENSATION WILL BE MADE FOR ANY NECESSARY ADJUSTMENTS.
13. MAINTAIN SEPARATION BETWEEN ELECTRICAL WIRING SYSTEM AND BUILDING PIPING, DUCT WORK, ETC., SO THAT WIRING SYSTEM IS ISOLATED (EXCEPT AT APPROVED CONNECTIONS TO SUCH SYSTEMS) TO PREVENT GALVANIC CORROSION OR OTHER ADVERSE CONDITIONS. DO NOT USE TY-WRAPS TO SUPPORT WIRING FROM PIPING, BUILDING OR OTHER SYSTEMS.
14. BEFORE ENERGIZING THE SYSTEM, CHECK ALL CONNECTIONS AND SET AND CALIBRATE ALL CIRCUIT BREAKERS, RELAYS AND INSTRUMENTS FOR PROPER OPERATION. OBTAIN NECESSARY CLEARANCES, APPROVAL AND INSTRUCTIONS FROM SUPPLY AUTHORITY.
15. ARRANGE FOR AND PAY ALL COSTS ASSOCIATED WITH ALL CUTTING AND PATCHING REQUIRED AS A RESULT OF WORK PERFORMED BY THIS DIVISION. REPAIR ANY DAMAGED SURFACES TO THE CONDITION OF SURROUNDING SURFACES AT NO COST TO THE OWNER.
16. ALL EQUIPMENT REMOVED AND MADE SURPLUS BY THE PROJECT SHALL BE REVIEWED WITH THE OWNER TO DETERMINE IF THEY WISH TO RETAIN IT. ALL EQUIPMENT NOT IDENTIFIED AS BEING RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRASH REMOVAL AND DISPOSAL COSTS. ALL EQUIPMENT IDENTIFIED AS BEING RETAINED BY THE OWNER SHALL BE CAREFULLY REMOVED AND TRANSPORTED BY THE CONTRACTOR TO A LOCATION ON SITE DETERMINED BY THE OWNER. WHERE EVER POSSIBLE, ALL EQUIPMENT REMOVED SHALL BE SENT FOR RECYCLING OR SALVAGE. ANY SALVAGE VALUE MAY BE RETAINED BY THE CONTRACTOR.
17. PROVIDE A WRITTEN GUARANTEE AGAINST ALL DEFECTIVE MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
18. PROVIDE ALL PERMITS AND LICENSES

16.2 WIRE

1. CONDUCTORS ARE TO BE COPPER WITH 600V MIN. INSULATION OF CHEMICALLY CROSS-LINK THERMOSETTING POLYETHYLENE MATERIAL. NO WIRE SMALLER THAN #12 AWG SOLID FOR BRANCH CIRCUITS. CONTROL WIRING SHALL BE #14 AWG OR #12 AWG STRANDED, OR AS INDICATED ON THE DRAWING.
2. ALL BUILDING WIRE SHALL BE AWG/MCM GAUGE, 98% CONDUCTIVITY COPPER WITH MINIMUM 600V INSULATION AND BEAR CSA APPROVAL LABEL. ALARM AND COMMUNICATION CABLES ARE TO BE TYPES APPROVED FOR THE AREA OF INSTALLATION AND AS RECOMMENDED BY THE MANUFACTURER OF THE SPECIFIC EQUIPMENT.
3. SOLDERLESS, SELF-INSULATED CONNECTORS FOR HAND TWIST JOINTS FOR LIGHTING, SMALL POWER, HEATING AND ASSOCIATED CONTROL DEVICES, ARE TO BE IDEAL "WING-NUT", OR ENGINEER APPROVED EQUAL.
4. TERMINATE CONDUCTORS #8AWG AND LARGER WITH THOMAS & BETTS COLOUR-KEYED COMPRESSION CONNECTORS SERIES 54000 OR ON LUGS PROVIDED WITH EQUIPMENT. PROVIDE THOMAS & BETTS 'KOPR-SHIELD' COMPOUND SERIES CP8 ON ALL TERMINATIONS FOR COMPRESSION CONNECTORS.
5. INSTALL AND RATE WIRE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE REQUIREMENTS, AS AMENDED FOR USE IN BRITISH COLUMBIA AND IN ACCORDANCE WITH THE DRAWINGS. UNLESS OTHERWISE NOTED ON SINGLE LINE PANEL FEEDERS AND SERVICES TO MECHANICAL EQUIPMENT 100 AMPS OR LARGER MAY BE IN ALUMINUM, PROVIDED THE AMPACITY IS EQUAL TO OR GREATER THAN THE SPECIFIED COPPER FEEDER. CONDUCTOR AMPACITY TO BE RATED IN ACCORDANCE WITH THE TEMPERATURE RATING OF THE EQUIPMENT BEING SERVED.
6. EXPOSED WIRING, OR WIRING SUBJECT TO MECHANICAL DAMAGE, IS TO BE IN CONDUIT. WIRING RUN EXPOSED ABOVE T-BAR CEILINGS SHALL BE IN EMT CONDUIT, WITH AC90 DROPS TO FIXTURES AND SWITCHES.
7. NO HORIZONTAL WIRING PERMITTED IN INTERIOR REMOVABLE PARTITION WALLS. VERTICAL DROPS FROM JUNCTION BOXES ONLY TO FACILITATE FUTURE CHANGES.

16.3 CONDUIT & JUNCTION BOXES

1. ALL WIRING IS TO BE IN EMT CONDUIT EXCEPT WHERE OTHERWISE INDICATED.
2. ALL EMPTY CONDUIT IS TO BE LEFT WITH 4mm NYLON PULLCORD INSTALLED.
3. ALL CONDUIT IS TO BE SUPPORTED BY CSA APPROVED METALLIC TWO-HOLE CONDUIT STRAPS, BY CANSTRUT AND CONDUIT CLAMPS. SECURE CONDUIT WITH APPROVED SUPPORTS WITHIN 3 FEET OF EVERY JUNCTION BOX OR PANEL. TY-WRAPS ARE NOT ACCEPTABLE FOR ANY SUPPORT ON THIS PROJECT.
4. WHERE NOT OTHERWISE INDICATED, CONDUIT SHALL BE SIZED TO THE NUMBER AND TYPE OF CONDUCTORS USED. CONDUIT FILL SHALL NOT EXCEED THE MAXIMUM CONDUIT FILL ALLOWED UNDER THE CANADIAN ELECTRICAL CODE, RULE 12-1014.
5. SURFACE RUNS OF CONDUIT WILL BE NEAT IN APPEARANCE, INSTALLED IN STRAIGHT RUNS FOLLOWING LINES OF THE BUILDING.
6. BENDS WILL NOT BE MADE OVER SHARP OBJECTS. IMPROPERLY FORMED BENDS WILL NOT BE ACCEPTED. CONDUITS ARE TO BE LAID OUT TO AVOID INTERFERENCE WITH OTHER WORK AND TO AVOID POCKETS IN WHICH WATER CAN COLLECT.
7. EXPANSION JOINTS SHALL BE INSTALLED IN ALL STRAIGHT CONDUIT RUNS EXCEEDING 100 METERS AND ALL TRANSITIONS FROM BELOW TO ABOVE GRADE CONDUIT UNLESS EXPLICITLY STATED OTHERWISE.
8. BEFORE PULLING WIRE, ENSURE CONDUIT IS DRY AND CLEAN. IF MOISTURE IS PRESENT, THOROUGHLY DRY OUT CONDUITS, VACUUM IF NECESSARY. EMPLOY SUITABLE TECHNIQUES TO PREVENT DAMAGE TO WIRE AND INSULATION DURING PULLING. CONDUITS SHALL BE CAPPED AT INSTALLATION TO PREVENT ENTRY OF FOREIGN MATERIAL.
9. GALVANIZED RIGID CONDUIT IS TO BE USED ABOVE GROUND AND RIGID PVC CONDUIT BELOW GROUND, SIZED AS INDICATED ON THE DRAWINGS. EXPOSED CONDUITS ARE TO BE COMPLETELY PAINTED AFTER INSTALLATION TO MATCH SURROUNDING SURFACES.
10. NOTWITHSTANDING PREVIOUS PARAGRAPH INDOOR RUNS OF CONDUIT NOT SUBJECT TO MECHANICAL DAMAGE MAY BE OF EMT USING STEEL BODIED SET-SCREW COUPLINGS AND CONNECTORS. CONNECTORS WILL HAVE INSULATED THROATS.
11. CONCEAL RACEWAYS WITHIN ATTIC SPACES, CRAWL SPACES AND WITHIN WALLS. SURFACE RACEWAYS WILL BE PERMITTED IN ELECTRICAL AND MECHANICAL ROOMS ONLY. SURFACE RACEWAYS IN PUBLIC AREAS SHALL ONLY BE ACCEPTABLE WHEN APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. SURFACE RACEWAYS IN PUBLIC AREAS SHALL BE WIREMOLD, WITH ALL CONNECTORS, BOXES AND HARDWARE, COLOUR TO MATCH SURROUNDING SURFACES.

16.4 GROUNDING & BONDING

1. INSTALL A COMPLETE, PERMANENT GROUNDING AND BONDING SYSTEM. ENSURE UNIFORMITY OF GROUNDING PRACTICES THROUGHOUT INSTALLATION.
2. GROUNDING EQUIPMENT AND BONDING CONDUCTORS ARE TO BE BARE, STRANDED, SOFT ANNEALED COPPER, UNLESS THEY ARE PART OF A MULTI-CONDUCTOR CABLE CONSTRUCTION OR REQUIRED TO BE INSULATED BY CEC RULE 10-806(5).
3. PROVIDE A GROUND BUS IN THE ELECTRICAL ROOM TO CONNECT ALL GROUNDING COMPONENTS, INCLUDING MAIN SERVICE GROUNDS, MAIN CDP/SWITCHBOARD, TRANSFORMERS, WATER LINES, BUILDING STEEL, GAS LINES AND SIMILAR EQUIPMENT. LABEL EACH CONNECTING GROUND WIRE.

16.5 IDENTIFICATION

1. PROVIDE A COMPLETE SYSTEM OF LAMICOID LABELS, WIRE LABELS AND OTHER ITEMS TO COMPLETELY IDENTIFY ALL ELECTRICAL SYSTEMS. LABELS ARE TO BE 3 PLY LAMICOID, OUTER PLIES WHITE, CENTER PLY BLACK. TEXT IS TO BE 6mm HIGH, CENTERED ON LABEL. LABELS ARE TO BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT INCLUDING THE MAIN SWITCH, SPLITTER, DISCONNECT SWITCHES, DISTRIBUTION PANELBOARDS AND RECEPTACLES. CONFIRM EXACT WORDING WITH ENGINEER PRIOR TO MANUFACTURING LABELS.
2. LABELS FOR OUTLETS AND JUNCTION BOXES MAY BE OF A TYPE SIMILAR TO BROTHER P-TOUCH, CLEAR LABEL WITH BLACK LETTERING. ALL LABELS MUST BE CLEAN AND INSTALLED TO THE SATISFACTION OF THE ENGINEER, EXCEPT THAT LABELS FOR ALL 'HG' OUTLETS ARE TO BE LAMICOID, INDICATING CIRCUIT NUMBER.
3. FOR ALL WIRE CONTAINED IN CONTROL PANELS PROVIDED BY THIS DIVISION, PROVIDE PERMANENT HEAT SHRINK OR GRAFOPLAST WIRE MARKERS AT BOTH ENDS OF EACH WIRE. NO WRAP-ON MARKERS WILL BE ACCEPTABLE.

16.6 MECHANICAL EQUIPMENT CONTROL & POWER WIRING

1. LINE VOLTAGE AND LOW VOLTAGE CONTROL WIRING WILL BE BY DIVISION 15. POWER SUPPLY TO MECHANICAL EQUIPMENT IS BY DIVISION 16. MOTOR STARTERS, CONTACTORS, RELAYS AND DISCONNECT SWITCHES ARE TO BE PROVIDED BY DIVISION 16.
2. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR OR CONTROLS CONTRACTOR TO DETERMINE LINE VOLTAGE WIRING REQUIREMENTS, CONTROL WIRING REQUIREMENTS AND TYPE OF STARTERS REQUIRED.
3. FINAL CONNECTIONS TO MOTORS, CONTROL DEVICES, PRESSURE SWITCHES AND SIMILAR EQUIPMENT SHALL BE IN FLEXIBLE LIQUID-TIGHT CONDUIT, PROPERLY SUPPORTED WHERE REQUIRED, WITH SUPPORTS CONSTRUCTED FROM CANSTRUT OR SIMILAR MATERIAL. MAXIMUM LENGTH OF 600MM.

16.7 LIGHTING

1. FIXTURES ARE TO BE LOCATED TO SCALE FROM DRAWINGS. EXACT LOCATION IS TO BE DETERMINED BY SITE CONDITIONS.
2. ALL LIGHT FIXTURES WILL BE CLEANED AFTER INSTALLATION AND LEFT FREE OF DIRT, GREASE, CHIPS, DENTS AND DEFECTS.
3. REFER TO LIGHTING LEGEND FOR DESCRIPTION OF ALL LIGHT FIXTURES.
4. RECESSED FIXTURES SHALL BE REMOVABLE. THEY ARE TO BE CONNECTED TO JUNCTION BOX USING AT LEAST 3000mm OF 12mm FLEXIBLE CONDUIT AND APPROVED FIXTURE WIRE OR AC90 CABLE. JUNCTION BOX MUST BE ACCESSIBLE AND LOOPING BETWEEN FIXTURES WILL NOT BE ACCEPTED.
5. PROVIDE TWO AIR CRAFT CABLE HANGER WIRES, INDEPENDENT OF THE T-BAR CEILING, FOR ALL NEW RECESSED FIXTURES. HANGER WIRES TO BE ON OPPOSITE CORNERS OF THE FIXTURE.

16.9 PANELBOARDS & SWITCHGEAR

1. PROVIDE AND INSTALL DISTRIBUTION PANELS AND SERVICE SWITCHGEAR TO ACCOMMODATE 600/347 VOLT AND 120/208V, 3 PHASE, 4 WIRE SYSTEMS AS INDICATED ON THE DRAWINGS.
2. PANELBOARDS ARE TO BE 42 CIRCUIT, 225 AMP UNLESS OTHERWISE INDICATED. BREAKERS ARE TO BE BOLT ON STYLE, 10,000 AMP INTERRUPTING CAPACITY BREAKERS AS REQUIRED FOR SUPPLY OF THE IDENTIFIED LOADS, PLUS SPARE 15A SINGLE POLE BREAKERS AS INDICATED.
3. PROVIDE TYPEWRITTEN PANEL DIRECTORIES FOR ALL PANELBOARDS.
4. PRE-APPROVED MANUFACTURERS ARE: EATON, SIEMENS AND SQUARE-D.

16.10 WIRING DEVICES

1. ALL WIRING DEVICES ARE TO BE "SPECIFICATION GRADE" UNLESS OTHERWISE INDICATED. PRE-APPROVED MANUFACTURERS ARE: ARROW-HART, BRYANT, HUBBELL, LEVITON AND PASS-SEYMOUR. DEVICES IN FLUOROSCOPY ROOM TO BE HOSPITAL GRADE WHERE NOTED 'HG' AND WIRING TO BE IN ACCORDANCE WITH CEC SECTION 24.
2. RECEPTACLES ARE TO SPECIFICATION GRADE, HAVE IMPACT RESISTANT NYLON FACE, FOUR SIDE WIRING SCREWS, TRIPLE WIPE POWER CONTACTS AND RIVETED GROUNDING CONTACTS. CSA TYPE 5-15R, 125V RATED.
3. LIGHT SWITCHES ARE TO HAVE HEAVY DUTY MOUNTING STRAP, SIDE WIRING SCREWS, ONE PIECE NYLON TOGGLE AND BE 15A, 125V RATED.
4. PROVIDE BRUSHED STAINLESS STEEL COVERPLATES FOR ALL WIRING DEVICES. USE SHEET STEEL UTILITY BOX COVER FOR ALL WIRING DEVICES INSTALLED IN SURFACE MOUNTED UTILITY BOXES.
5. ALL OUTLET BOXES INSTALLED IN STEEL STUD WALLS ARE TO HAVE AN OUTLET BOX SUPPORT INSTALLED ON THE NON-STUD SIDE OF THE BOX.
6. WHEREVER POSSIBLE, MOUNT EQUIPMENT IN A STRAIGHT LINE AT A UNIFORM HEIGHT, COORDINATED WITH OTHER EQUIPMENT AND MATERIALS.
   - RECEPTACLES: 450mm ABOVE FLOOR OR AS INDICATED.
   - SWITCHES: 1150mm ABOVE FLOOR OR AS INDICATED.

16.12 COMMUNICATION WIRING

1. CONFIRM ALL COMMUNICATION WIRING REQUIREMENTS WITH THE OWNER PRIOR TO INSTALLATION. REQUIREMENTS SHOWN BELOW ARE FOR TENDER PURPOSES ONLY. ALL WIRING TO COMPLY WITH NORTHERN HEALTH IT STANDARDS, AVAILABLE FROM THE ENGINEER.
2. FOR DATA, INSTALL FOUR TWISTED PAIR, 24 GAUGE, FT6 RATED IN PLENUM AREAS, SOLID COPPER WIRE, CATEGORY 6 INSULATED & UNSHIELDED, FROM THE RACK MOUNTED PATCH PANEL TO THE MODULAR JACK AT EACH OUTLET. CABLE IS TO BE BLUE JACKETED.
3. FOR TELEPHONE, INSTALL FOUR TWISTED PAIR, 24 GAUGE, FT6 RATED IN PLENUM AREAS, SOLID COPPER WIRE, CATEGORY 6 INSULATED & UNSHIELDED, FROM THE RACK MOUNTED PATCH PANEL TO THE MODULAR JACK AT EACH OUTLET. CABLE IS TO BE WHITE JACKETED.
4. ALL DATA AND TELEPHONE CABLES ARE TO TERMINATE IN RESPECTIVE PATCH PANELS. PATCH PANELS ARE TO BE FACTORY ASSEMBLED 24 PORT, 19" WIDE WITH, 110 STYLE IDC CONNECTORS. PROVIDE PATCH PANELS TO ACCOMMODATE ALL COMMUNICATION OUTLETS WITH 10% SPARE CAPACITY.
5. ALL DATA CABLES ARE TO BE TESTED FOR CONTINUITY, CROSSTALK AND ATTENUATION AND BE WITHIN LIMITS SPECIFIED IN EIA/TIA BULLETIN TSB67. SUBMIT TEST RESULTS TO ENGINEER FOR REVIEW.
6. HORIZONTAL RUNS OF COMMUNICATION CABLE ARE TO BE SUPPORTED USING CAT-5 J HOOKS CONNECTED TO THE BUILDING STRUCTURE OR T-BAR CEILING SYSTEM. CADDY CABLE-CAT OR APPROVED EQUAL. USE VELCRO TY-RAPS TO NEATLY BUNDLE CABLES.
7. PROVIDE LABELING OF OUTLETS, CABLING AND PATCH PANELS. CONFIRM METHODS WITH THE ENGINEER PRIOR TO INSTALLATION. REFER TO NHA IT STANDARDS WHEN CONFIRMING LABELING TECHNIQUES.
8. PROVIDE 1 METER SPARE CABLE AT WORKSTATION OUTLET AND 3 METERS SPARE CABLE AT COMMUNICATION BACKBOARD, FOR ALL CABLES.
9. WHERE OUTLETS ARE INSTALLED BELOW T-BAR CEILINGS, PROVIDE 1" EMT CONDUIT FROM OUTLET LOCATION TO 6" ABOVE T-BAR CEILING.

16.13 MAINTENANCE MANUALS & GUARANTEES

1. PREPARE MANUALS COVERING THE OPERATING AND MAINTENANCE OF ALL ELECTRICAL EQUIPMENT INSTALLED UNDER THIS CONTRACT.
2. PROVIDE A DRAFT COPY TO THE ENGINEER FOR APPROVAL AT LEAST 15 DAYS BEFORE FINAL INSPECTION. PROVIDE 1 FINAL APPROVED COPY IN SUITABLY LABELED, COLOUR CODED, TAB INDEXED, 3-RING, LOOSE LEAF HARD COVERED BINDER, AND ELECTRONIC COPY IN SINGLE PDF FILE FORMAT.
3. THE MANUALS ARE TO CONTAIN THE FOLLOWING INFORMATION, ORGANIZED FOR EASY INTERPRETATION AND REFERENCE BY OPERATING PERSONNEL:
   - GENERAL DESCRIPTION OF EACH SYSTEM STATING FUNCTION OF EQUIPMENT.
   - COPIES OF APPROVED SHOP DRAWINGS AND AS-BUILT DRAWINGS
   - MANUFACTURERS MAINTENANCE BROCHURES FOR EACH ITEM, INCLUDING WIRING DIAGRAMS AND PARTS LISTS. CLEARLY INDICATE THE SPECIFIC MODEL, OPTIONS, FEATURES AND MODE OF CONTROL ON ALL SHEETS.
   - NORMAL MAINTENANCE SCHEDULE AND TROUBLE SHOOTING INFORMATION.
   - COPIES OF THE ULC FIRE STOPPING INSTALLATION SHEETS FOR EACH DIFFERENT METHOD USED.
   - DESCRIPTION OF AUTOMATIC CONTROL SYSTEMS, INSTRUCTIONS COVERING THE OPERATION AND MAINTENANCE OF SYSTEMS AND SCHEMATIC DIAGRAMS INDICATING FINAL CONTROL SETTINGS.
   - LETTER FROM CONTRACTOR STATING THAT ALL LABOUR AND EQUIPMENT INSTALLED UNDER THE CONTRACT WILL BE WARRANTIED FOR ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. ANY EQUIPMENT THAT FAILS DURING THIS TIME WILL BE REPAIRED/ REPLACED AT NO COST TO THE OWNER.
   - INCLUDE CONTRACTOR'S NAME, ADDRESS, AND TELEPHONE NUMBER.

16.15 FIRE ALARM SYSTEM

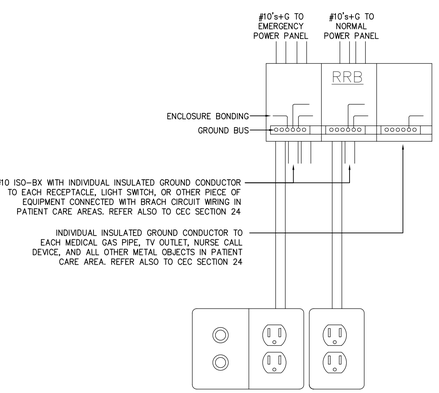
1. PROVIDE ALL MATERIALS AND LABOUR TO FURNISH A COMPLETE AND FULLY OPERATIONAL FIRE ALARM SYSTEM TO CARRY OUT ALL FUNCTIONS AS DESCRIBED BELOW AND ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
2. PROVIDE AND VERIFY CHANGES AND NEW DEVICES FOR THE FIRE ALARM SYSTEM IN ACCORDANCE WITH CAN/ULC S537. AN INDEPENDENT THIRD PARTY VERIFICATION AGENT OR FACTORY TECHNICIAN MAY BE USED.
3. PROVIDE A COMPLETE WIRING SYSTEM FOR ALL DEVICES SHOWN.
4. INSTALL AND WIRE ALL EQUIPMENT AND ACCESSORIES AS DESCRIBED HEREIN AND MUST COMPLY WITH CAN/ULC S524, BC BUILDING CODE AND CANADIAN ELECTRICAL CODE.
5. ALL WIRING IS TO BE 18 AWG FAS CABLE, 105°C, RED JACKET IN EMT CONDUIT, OR ARMOURED CABLE, CABLE TO BE RED JACKETED SECUREX FIRE ALARM CABLE.
6. PROVIDE THE SERVICES OF AN AUTHORIZED SIMPLEX FIRE ALARM TECHNICIAN TO PROGRAM AND VERIFY THE NEW OR RELOCATED DEVICES. FIRE ALARM TECHNICIAN TO REPROGRAM SYSTEM WITH NEW ROOM DESCRIPTIONS AND VOICE MESSAGES, AND UPDATE THE GRAPHICS IN THE FIRE ALARM COMPUTER SYSTEM. AUTOCAD FLOOR PLANS WILL BE PROVIDED BY THE ENGINEER IF REQUIRED.
7. FIRE ALARM TECHNICIAN TO REPROGRAM VOICE MESSAGES FOR THE NURSE CALL CODE BLUE AND CODE WHITE CALLS.
8. PROVIDE COMPLETE VERIFICATION REPORT, INCLUDING SCREEN SHOTS OF UPDATED GRAPHICS.

16.16 NURSE CALL SYSTEM

1. PROVIDE ALL MATERIALS AND LABOUR TO FURNISH A COMPLETE AND FULLY OPERATIONAL NURSE CALL SYSTEM TO CARRY OUT ALL FUNCTIONS AS DESCRIBED BELOW AND ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
2. PROVIDE A COMPLETE WIRING SYSTEM FOR ALL DEVICES SHOWN.
3. ALL WIRING IS TO BE CAT5E CABLE, JACKET COLOUR TO MATCH EXISTING.
4. PROVIDE THE SERVICES OF AN AUTHORIZED RAULAND NURSE CALL TECHNICIAN TO PROGRAM AND VERIFY THE NEW OR RELOCATED DEVICES. RAULAND TECHNICIAN TO REPROGRAM SYSTEM WITH NEW ROOM DESCRIPTIONS AND COORDINATE WITH FIRE ALARM TECHNICIAN FOR UPDATED VOICE MESSAGES FOR CODE BLUE AND CODE WHITE CALLS.
5. PROVIDE COMPLETE VERIFICATION REPORT.

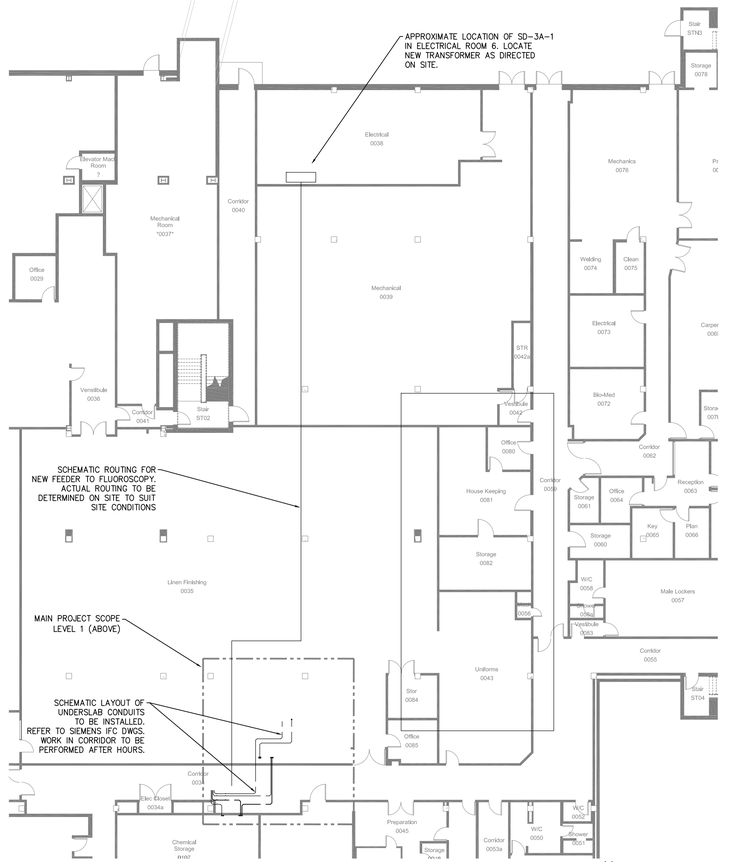
16.16 MOUNTING OF ELECTRICAL EQUIPMENT

1. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED MOUNTING HARDWARE, SUPPORTS, BRACKETS AND SIMILAR EQUIPMENT REQUIRED TO FIRMLY ATTACH ALL EQUIPMENT PROVIDED TO THE LOCATIONS SHOWN ON THE DRAWINGS. THE USE OF TY-WRAPS IS NOT ACCEPTABLE.
2. WHEREVER POSSIBLE THE CONTRACTOR SHALL UTILIZE MANUFACTURER APPROVED AND SUPPLIED MOUNTING HARDWARE. WHERE CUSTOM FABRICATED HARDWARE IS PROVIDED BY THE CONTRACTOR, HE SHALL REVIEW THE PROPOSED INSTALLATION METHOD WITH THE ARCHITECT OR HIS REPRESENTATIVE PRIOR TO INSTALLATION, AND SHALL PROVIDE SHOP DRAWINGS WHERE REQUIRED.
3. ALL MOUNTING HARDWARE SHALL SEISMICALLY RESTRAIN THE ELECTRICAL EQUIPMENT AND PREVENT INJURY TO PERSONS IN AND AROUND THE BUILDING DURING AN EARTHQUAKE.
4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION, UPON REQUEST, FROM THE MANUFACTURER OR A REGISTERED PROFESSIONAL ENGINEER INDICATING THAT THE PROPOSED SEISMIC RESTRAINTS COMPLY FULLY WITH THE BC BUILDING CODE, ACCEPTED PRACTICE AND SOUND ENGINEERING PRINCIPLES.



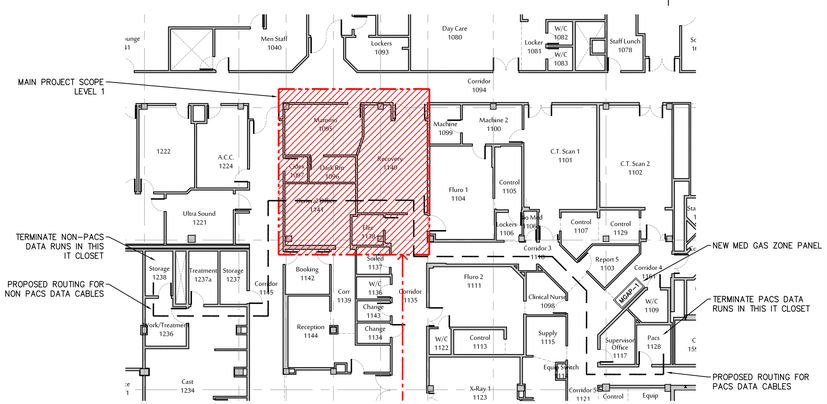
FLUOROSCOPY ROOM REFERENCE GROUND DETAILS

1. ALL GROUND WIRES TO BE GREEN INSULATED #10 RW90, INSTALLED IN CONDUIT WITH BRANCH CIRCUIT WIRING, OR RUN WITHIN 10/3 ISO-BX. ALL ISO-BX TO BE #10 AWG, WITH #10 AWG INSULATED GREEN GROUND CONDUCTOR. NEXANS ISO-BX XLPE OR EQUAL. ROOM REFERENCE BOXES TO BE BONDED TOGETHER WITH GREEN #6 COPPER BOND, WITH HOME RUN BACK TO PANEL.
2. CONNECT ALL EQUIPMENT PATIENT CARE AREA TO REFERENCE GROUND BOXES. PATIENT CARE AREA DEFINED UNDER CEC RULE AS A ZONE WITHIN 1.5 M OF THE BED WITHIN 2.3 M OF THE FLOOR.
3. ALL CIRCUITS SHALL HAVE DEDICATED NEUTRAL. NO 3-WIRE CIRCUITS PERMITTED.
4. A GREEN INSULATED BONDING CONDUCTOR (MINIMUM #10 AWG) TO BE INSTALLED IN EACH CONDUIT OR ISO-BX CABLE.
5. ALL PATIENT ROOM REFERENCE BOXES TO BE BONDED TOGETHER WITH #6 AWG COPPER BONDING CONDUCTOR, WITH HOME RUN BACK TO PANEL.
6. ALL PATIENT AREA RECEPTACLES TO BE TESTED TO CSA Z32 STANDARDS. PROVIDE REPORT TO ENGINEER.



1 PHASE 1 - LEVEL 0 - SCOPE OF WORK

SCALE : 1 = 200



2 PHASE 1 - LEVEL 1 - SCOPE OF WORK

SCALE : 1 = 200

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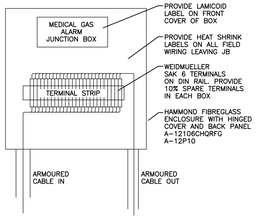
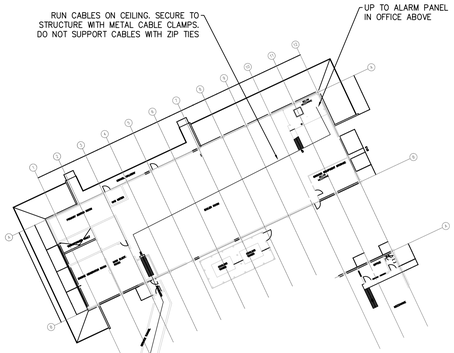
No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	MAY 14, 2021	SY
	ISSUED FOR TENDER	FEB 10, 2021	SY
	ISSUED FOR 80% CD REVIEW	DEC 16, 2020	SY
	ISSUED FOR BUILDING PERMIT	DEC 4, 2020	SY
-	ISSUED FOR DD	NOV 20, 2020	S



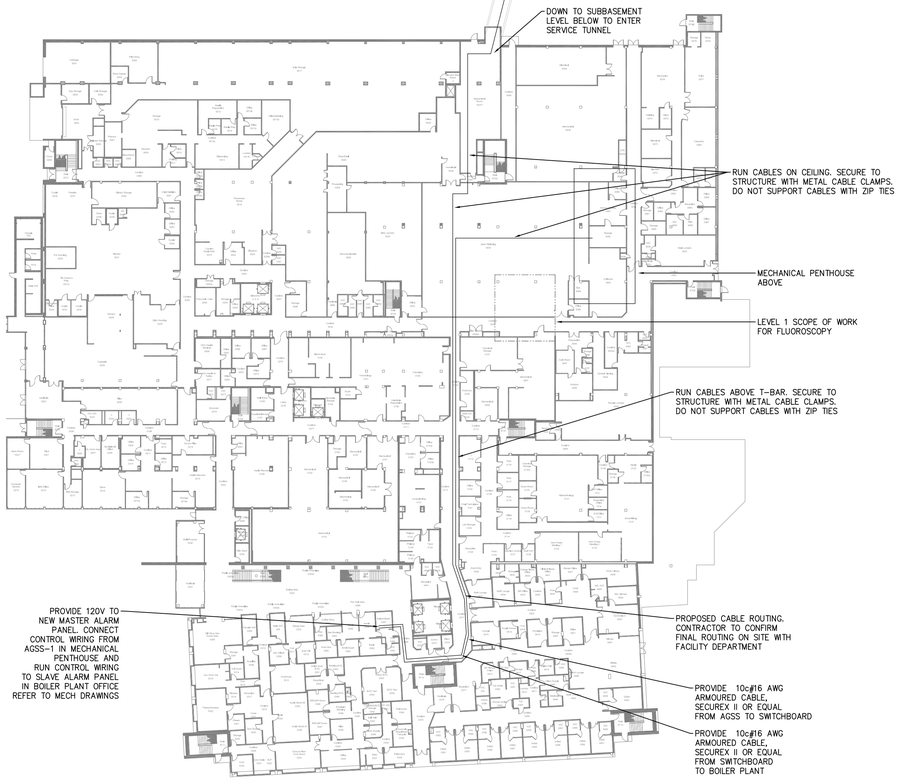
JUNCTION BOX DETAIL

IF ALARM WIRING REQUIRES SPLICING, USE DETAIL ABOVE. LOCATE JUNCTION BOXES ON WALLS IN NON-PUBLIC AREAS 1200mm UP TO BOTTOM. SHOW JB LOCATIONS ON AS BUILT DRAWINGS



RUN CABLE IN EXISTING PIPE/CABLE RACKS SECURE TO RACK WITH NYLON ZIP TIES

CONTRACTOR TO CONFIRM CABLE ROUTING AND LENGTHS WITH ON SITE MEASUREMENTS



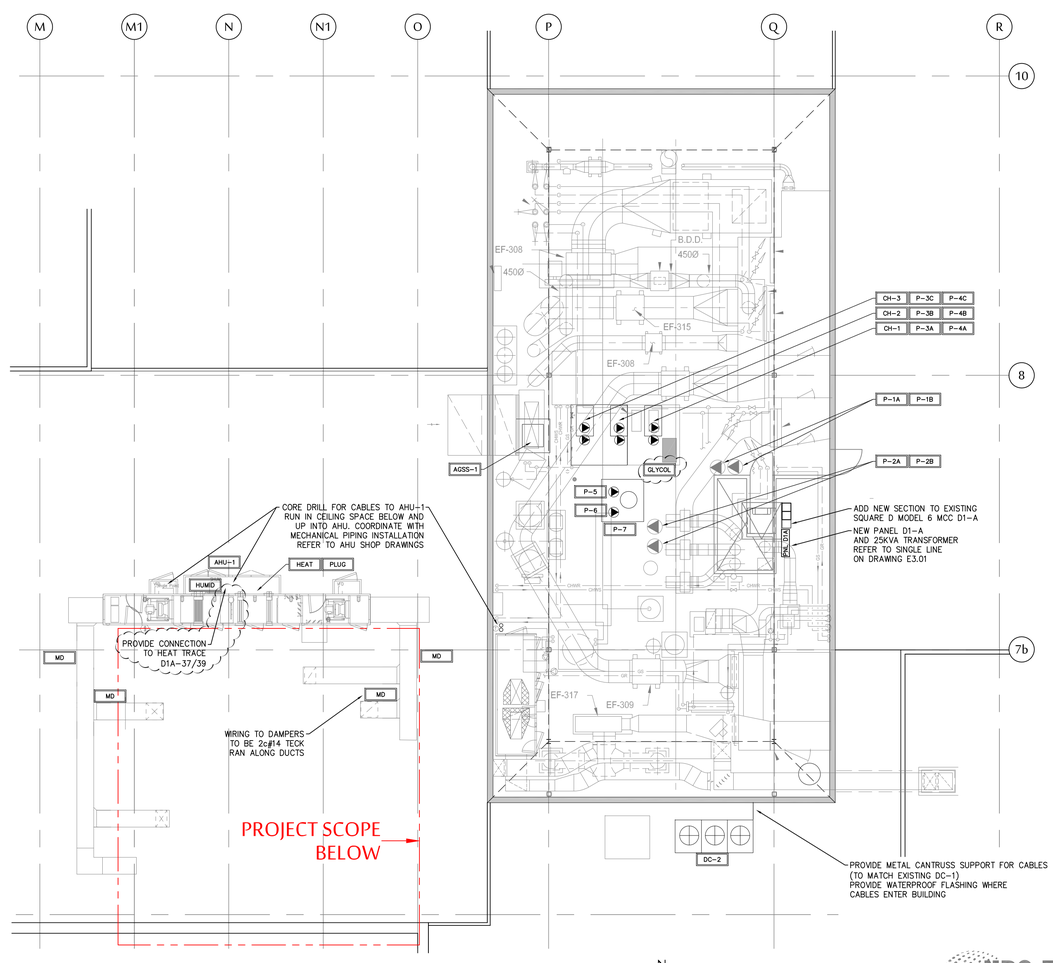
1 PHASE 1 - LEVEL 0/SUB-BASEMENT - SCOPE OF WORK

SCALE : 1 = 500

MECHANICAL UPGRADE EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	UNIT LOCATION	SERVICE	LOAD	VOLTAGE	PHASE	BREAKER	FEEDER	CIRCUIT	STARTER				DISC SW	NOTES
										SUPPLIED	INSTALLED	CONNECTED	TYPE		
AHU-1	RETURN FAN	ROOF	FLUOROSCOPY	3 HP	600	3	15A	3c#10	MCC-D1A	MECH	MECH	ELEC	VSD	ELEC	SINGLE POINT FEED FOR RETURN/SUPPLY FANS
	SUPPLY FAN	ROOF	FLUOROSCOPY	5 HP	600					MECH	MECH	ELEC	VSD	ELEC	PROVIDE NEW STARTER IN MCC D1-A
HEAT	ELECTRIC HEATER	ROOF	FLUOROSCOPY	500W	120	1	15A	2c#12	D1A-1						SUPPLIED BY MECH IN AHU-SEPARATE FEED
PLUG	SERVICE RECEPTACLES/LIGHTS	ROOF	FLUOROSCOPY	1500W	120	1	15A	2c#12	D1A-3						SUPPLIED BY MECH IN AHU-SEPARATE FEED
HUMID	HUMIDIFIER	ROOF-IN AHU	FLUOROSCOPY	33 FLA	208	3	40A	3c#8	D1A-2/4/6						SUPPLIED BY MECH IN AHU-SEPERATE FEED
MD	MOTRIZED DAMPER x 4	ROOF-IN AHU DUCT	FLUOROSCOPY	frac	120V	1	15A	2c#12	D1A-5					ELEC	LOCATE JBx4 ON EXTERIOR DUCTS-REFER TO MECH
DC-2	HEAT REJECTION FLUID COOLER	ROOF	COOLING SYSTEM	11.6_FLA	208V	3	15A	3c#12	D1A-8/10/12	MECH	MECH	ELEC	CP	ELEC	
P-1A (DUTY)	SECONDARY PUMP	PENTHOUSE MECH	LOAD SIDE PUMP - DISTRIBUTION	10 HP	600	3	15A	EX	MCC D1A	MECH	MECH	ELEC	VSD	ELEC	REPLACE EX 5 HP PUMP - REUSE EXISTING STARTER AND FEEDER
P-1B (STANDBY)	SECONDARY PUMP	PENTHOUSE MECH	LOAD SIDE PUMP - DISTRIBUTION	10 HP	600	3	15A	EX	MCC D1A	MECH	MECH	ELEC	VSD	ELEC	REPLACE EX 5 HP PUMP - REUSE EXISTING STARTER AND FEEDER
P-2A (DUTY)	SECONDARY PUMP	PENTHOUSE MECH	SOURCE SIDE PUMP - DISTRIBUTION	7.5 HP	600	3	15A	EX	MCC D1A	MECH	MECH	ELEC	VSD	ELEC	REPLACE EX 3 HP PUMP - REUSE EXISTING STARTER AND FEEDER
P-2B (STANDBY)	SECONDARY PUMP	PENTHOUSE MECH	SOURCE SIDE PUMP - DISTRIBUTION	7.5 HP	600	3	15A	EX	MCC D1A	MECH	MECH	ELEC	VSD	ELEC	REPLACE EX 3 HP PUMP - REUSE EXISTING STARTER AND FEEDER
P-3A	PRIMARY PUMP FOR CH-1	PENTHOUSE MECH	LOAD SIDE PUMP - PRIMARY	274 W	208	1	15A	2c#12	D1A-13/15	MECH	MECH	ELEC	VSD	ELEC	
P-3B	PRIMARY PUMP FOR CH-2	PENTHOUSE MECH	LOAD SIDE PUMP - PRIMARY	274 W	208	1	15A	2c#12	D1A-17/19	MECH	MECH	ELEC	VSD	ELEC	
P-3C	PRIMARY PUMP FOR CH-3	PENTHOUSE MECH	LOAD SIDE PUMP - PRIMARY	274 W	208	1	15A	2c#12	D1A-21/23	MECH	MECH	ELEC	VSD	ELEC	
P-4A	PRIMARY PUMP FOR CH-1	PENTHOUSE MECH	SOURCE SIDE PUMP - PRIMARY	1385 W	208	1	15A	2c#12	D1A-14/16	MECH	MECH	ELEC	VSD	ELEC	
P-4B	PRIMARY PUMP FOR CH-2	PENTHOUSE MECH	SOURCE SIDE PUMP - PRIMARY	1385 W	208	1	15A	2c#12	D1A-18/20	MECH	MECH	ELEC	VSD	ELEC	
P-4C	PRIMARY PUMP FOR CH-3	PENTHOUSE MECH	SOURCE SIDE PUMP - PRIMARY	1385 W	208	1	15A	2c#12	D1A-22/24	MECH	MECH	ELEC	VSD	ELEC	
P-5	PUMPED COIL	PENTHOUSE MECH	COOLING COIL PUMP	600 W	208	1	15A	2c#12	D1A-25/27	MECH	MECH	ELEC	VSD	ELEC	
P-6	PUMPED COIL	PENTHOUSE MECH	HEATING COIL PUMP	600 W	208	1	15A	2c#12	D1A-29/31	MECH	MECH	ELEC	VSD	ELEC	
P-7	PUMPED COIL	PENTHOUSE MECH	CONDENSOR COIL PUMP	178 W	208	1	15A	2c#12	D1A-33/35	MECH	MECH	ELEC	VSD	ELEC	SEPARATE PRICE
CH-1	WATER TO WATER HEAT PUMP	PENTHOUSE MECH	CHILLER	24.5 MCA	600	3	35A	EX	MCC D1A	MECH	MECH	ELEC	CP	ELEC	REPLACE EX CHILLER - CHANGE BREAKER TO 35A
CH-2	WATER TO WATER HEAT PUMP	PENTHOUSE MECH	CHILLER	24.5 MCA	600	3	35A	EX	MCC D1A	MECH	MECH	ELEC	CP	ELEC	REPLACE EX CHILLER - CHANGE BREAKER TO 35A
CH-3	WATER TO WATER HEAT PUMP	PENTHOUSE MECH	CHILLER	24.5 MCA	600	3	35A	3c#8	MCC D1A	MECH	MECH	ELEC	CP	ELEC	NEW CHILLER - PROVIDE NEW STARTER IN MCC D1-A
AGSS-1	MED GAS SCAVENGING SYSTEM	PENTHOUSE MECH	MED GAS SCAVENGING	30A	208	3	30A	3c#10	MCC-26/28/30	MECH	MECH	ELEC	CP	ELEC	
MGAP-1	MEDICAL GAS ZONE PANEL	LEVEL 1 NEAR CT	MEDICAL GAS SYSTEM	frac	120	1	15A	2c#12	EX						LOCATION SHOWN ON E3.02 LEVEL 1 PLAN
GLYCOL	GLYCOL TANK	PENTHOUSE MECH		frac	120	1	15A	2c#12	D1A-32						POWER FROM EXISTING ADJACENT MED GAS PANEL

ABOVE INFORMATION HAS BEEN PROVIDED FROM THE MECHANICAL DESIGNER AND MAY NOT BE COMPLETE. ELECTRICAL CONTRACTOR SHALL REVIEW THE MECHANICAL DRAWINGS, SPECIFICATIONS AND ADDENDA FOR A COMPLETE LIST OF MECHANICAL EQUIPMENT BEFORE SUBMITTING TENDER. PROVIDE ELECTRICAL CONNECTION AND CONTROL AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AND INCLUDE ALL COSTS IN THE TENDER PRICE. CONTRACTOR TO CONFIRM STARTER AND CONTROL REQUIREMENTS WITH MECHANICAL DIVISION BEFORE SUBMITTING TENDER.



1 ROOFTOP MECHANICAL PENTHOUSE

SCALE : 1 = 100

PANEL D1A

DESCRIPTION: MECHANICAL ROOM 26
SERVICE: 120/208V, 3ø, 4W
FEEDER: 4c#3 COPPER IN EMT
BUS: 100A MOUNTING: SURFACE

MAIN BREAKER — NONE

Circuit Description	No. Brk.	No. Brk.	Circuit Description
AHU	1	2	–
HEATER	15A	40A	–
AHU	3	4	AHU
LIGHTS/REC	15A	40A	HUMIDIFIER
AHU	5	6	–
DAMPERS	15A	40A	–
SPARE	7	8	–
–	15A	15A	–
SPARE	9	10	FLUID COOLER
	15A	15A	DC-2
SPARE	11	12	–
–	15A	15A	–
–	13	14	–
PUMP	15A	15A	PUMP
P3-A	15	16	P4-A
–	15A	15A	–
–	17	18	–
PUMP	15A	15A	PUMP
P3-B	19	20	P4-B
–	15A	15A	–
–	21	22	–
PUMP	15A	15A	PUMP
P3-C	23	24	P4-C
–	15A	15A	–
–	25	26	–
PUMP	15A	30A	SCAVENGING
P-5	27	28	PANEL
–	15A	30A	AGSS-1
–	29	30	–
PUMP	15A	30A	–
P-6	31	32	GLYCOL
–	15A	15A	TANK
–	33	34	–
PUMP	15A	15A	–
P-7	35	36	–
–	15A	15A	–
–	37	38	–
HEAT	15A	15A	–
TRACE	39	40	–
–	15A	15A	–
–	41	42	–
–	15A	15A	–

PROVIDE FULL COMPLEMENT OF SPARE 15A BREAKERS AS SHOWN. SPARE BREAKERS TO BE LEFT IN "OFF" POSITION.

ARCHITECT :

DCYT ARCHITECTURE
HEALTHCARE . COMMERCIAL . RESIDENTIAL INTERIOR DESIGN

WWW.DCYTARCHITECTURE.CA

No.	REVISION	DATE	BY
	ISSUED FOR CONSTRUCTION	MAY 14, 2021	SY
	ISSUED FOR TENDER	FEB 10, 2021	SY
	ISSUED FOR 80% CD REVIEW	DEC 16, 2020	SY
	ISSUED FOR BUILDING PERMIT	DEC 4, 2020	SY
-	ISSUED FOR DD	NOV 20, 2020	SY
2	NOT ISSUED	-	-
1	NOT ISSUED	-	-

northern health
the northern way of caring

UHNBC FLUOROSCOPY REPLACEMENT

1475 EDMONTON STREET, PRINCE GEORGE BC V2M 1S2

PHASE 1 - INTER FLUORO ELECTRICAL MECHANICAL UPGRADES

SCALE: AS NOTED
DATE: FEBRUARY 2021
DRAWN: NRS
CHECKED: NRS/SY
JOB No.: N2674

PHASE 1
4.01

N2674-UHN Fluoro

NRS ENGINEERING LTD
Consulting Electrical Engineers
#212-556 North Nechako Road
Prince George BC V2K 1A1
Tel 250.562.0551
Fax 250.562.0558
WWW.NRSENGINEERING.CA

GENERAL NOTES:

NOTE: This room is minimal in size. The equipment in this room will function properly. However, the space around the system must be considered (i.e. space for additional equipment such as millwork, storage cabinets, stretchers, utility carts, injector cart, anesthesia cart, and etc.). The customer must review the layout and determine if enough space is available for their needs.

NOTE: The purpose of this layout drawing is primarily/specifically to illustrate the location(s) of the Siemens-supplied equipment. All non-Siemens and/or future and/or existing equipment (e.g. millwork, furniture, carts, etc.) is shown for representational purposes and may not accurately represent the actual on-site configurations. It is the responsibility of the customer/contractor that all related codes, policies (e.g. hospital requirements, building codes) and clearances to the Siemens equipment are followed when locating these ancillary items.

NOTE: All construction room upgrades (such as: new walls, doors, windows, millwork, plumbing, furniture, medical equip, and etc.) are shown for proposal purposes only. The customer is to provide these room upgrades. In the case of a turnkey, these room upgrades will be detailed in the contractor's quote. The contractor's quote takes precedence over the room layout drawings.

NOTE: This layout is preliminary only. Siemens reserves the right to make changes as dictated by new technical developments.

NOTE: The customer is responsible to have the transport route for Siemens equipment verified by the Structural Engineer (from point of delivery to final location).

NOTE: Additional anchoring may be required if the site is deemed as 'Seismic Zone' by local codes. the customer must verify the local code requirements and advise the Siemens Project Manager.

NOTE: Siemens is not an Architectural or Engineering firm. Drawings supplied by Siemens are not construction drawings. Therefore, these drawings are to be used only for information to complement actual construction drawings available from a customer-appointed Architectural representative or a Customer's Engineering design group. The Customer's Architect and General Contractor shall be ultimately responsible for compliance with all applicable codes and professional design requirements.

NOTE: Additional accessories that typically accompany the system will require storage space.

WALL and DOOR LEGEND:

Existing walls

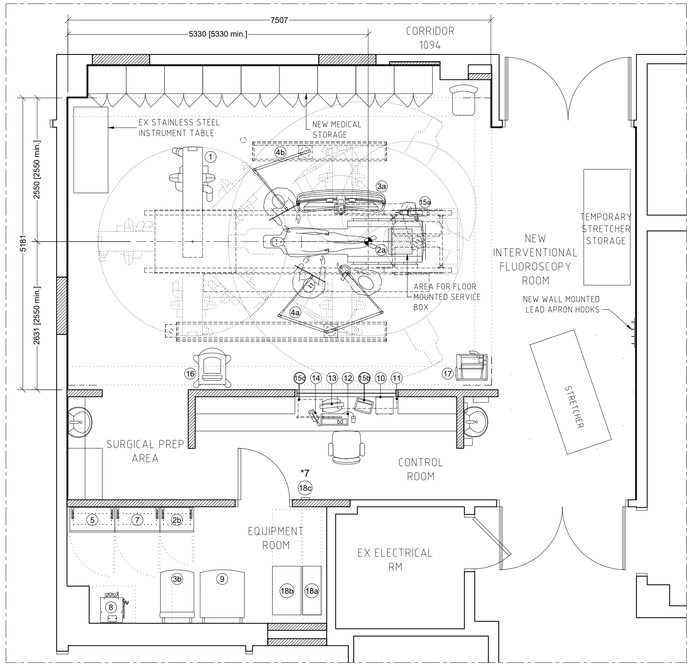
New walls (by others).

Existing doors

New doors (by others)

NOTE: Contractor to site verify locations of all existing walls. The locations of existing walls may be different than as shown in this layout proposal.

PROPOSED EQUIPMENT LAYOUT - Q Ceiling 1 : 50



EQUIPMENT LEGEND - Q Ceiling

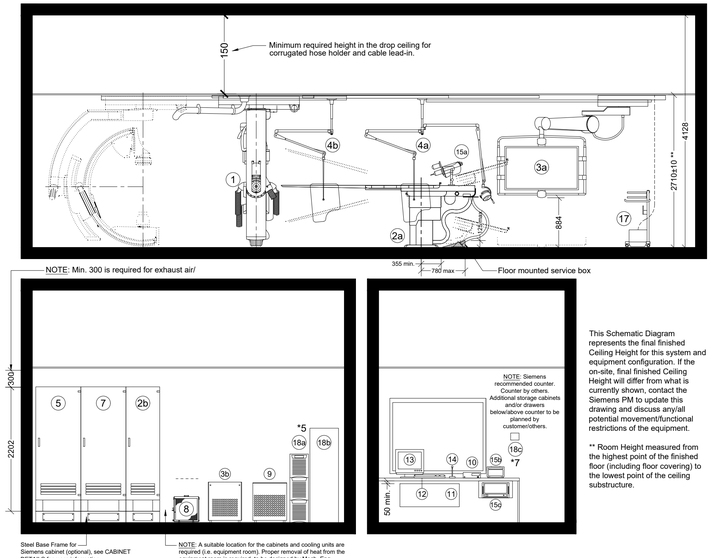
	No	DESIGNATION	HEAT (kW)	WEIGHT (kg)
	1	Artis Q Ceiling Stand	0.20	904
*	2a	KOORDINAT Patient Table (OR Table)	0.10	550
	2b	System Control Cabinet #2	0.20	125
	3a	DCS Ext. Large Display, clg/mtd monitor (1.20m rails)	0.50	225
*8	3b	Large Display Container (LDC)	0.45	115
	4a	Radiation Shield+OR Light(1 bulb), clg/mtd (3725 mm rail length)	--	85
	4b	Radiation Shield, clg/mtd (2375 mm rail length)	--	71
	5	Polydoros A100 Generator Cabinet	1.20	328
*2	6	Cables Cabinet (not shown) (option)	--	120
	7	System Control Cabinet #1	1.60	297
	8	Cooling Unit	4.50	31
*3/*8	9	Image System Cabinet	1.27	150
	10	ACE (Archive Control Extension)	0.05	6
	11	Control Room Distributor (under counter)	0.10	29
	12	Keyboard and Mouse	0.10	1
	13	Display, 19" Monitor (flat screen)	0.08	9
	14	Intercom Microphone and Loudspeaker	--	--
	15a	Injector Head (table mounted)	--	10
	15b	Injector Console (on counter)	--	21
	15c	Injector Electronic Box (under counter)	--	--
	16	Mobile IVUS system	--	--
*10	17	Control Console and ECC I on Trolley	--	26
*5/*6	18a	EATON 9355 15kVA UPS	1.95	263
	18b	Transformer Cabinet (only with 480V)	--	244
*7	18c	Status Display (wall mounted or on countertop)	--	--

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED

NOTE: These drawings reflect the installation requirements for all equipment provided by Siemens. Installation information from the manufacturer, and all resulting design requirements, are the responsibility of the customer/contractor should the customer purchase non-Siemens products or equipment by other means

NOTE: This set of final installation drawings reflects the latest sales configuration. Any changes to the sales configuration may require a revision to these project drawings. Siemens will produce a revised set of drawings to reflect the change(s), but Siemens will not be responsible for any construction costs associated with the change(s) that occur from this plan modification.

EQUIPMENT SCHEMATIC (n.t.s.)



This Schematic Diagram represents the final finished Ceiling Height for this system and equipment configuration. If the on-site, final finished Ceiling Height will differ from what is currently shown, contact the Siemens PM to update this drawing and discuss any/all potential movement/functional restrictions of the equipment.

** Room Height measured from the highest point of the finished floor (including floor covering) to the lowest point of the ceiling substructure.

*2 When the cable cabinet is not included in the equipment order, it is recommended to install all other electronics cabinets on base frames (by customer).

*3 Maximum heat dissipation = 1.27 KW. Typical heat dissipation = 0.88 kW. NOTE: This item can be located in the equipment room by including the optional long-cable set.

*5 **POWERWARE 9355 (15kVA):** Note, the Eaton UPS system will be delivered to the site by Siemens. Customer/contractor is responsible to provide complete installation of the UPS (in a suitable location). Commissioning by Eaton only after customer/contractor has completed the installation of the UPS.

*6 Maximum heat dissipation during full load operation.

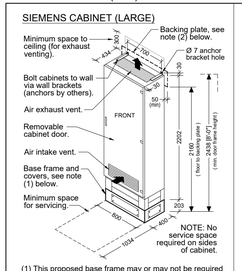
*7 Remote Control Panel (18c) is to be located in the control room (max. 30m cable).

*8 The LDC (3b) and the IMS (9) must be directly next to each other due to the cable length requirements (2.7m max.).

*10 NOTE: The trolley and its ceiling outlet are positioned in the recommended/standard location. The customer must verify this location suits their workflow needs; or an alternate location must be determined.

EQUIPMENT DETAILS (n.t.s.)

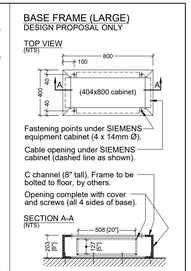
SIEMENS CABINET (LARGE)



(1) This proposed base frame may or may not be required depending upon site conditions - contact the Siemens Project Manager to confirm.

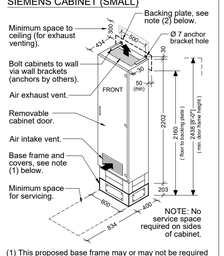
(2) Contractor to supply / install a 350 mm high backing at 2160 mm to bottom edge of backing, flush mounted, for wall mounting/anchoring of Siemens Electronics Cabinets. Backing must cover the entire width of the electronics cabinet(s) plus min. 50 mm on each side.

BASE FRAME (LARGE)
DESIGN PROPOSAL ONLY



NOTES:
- Frame to be designed by Structural Engineer in order to be a solid and vibration-free mounting for Siemens equipment Cabinet.
- Mounting Frame and Floor Fasteners to be supplied by others/customer.

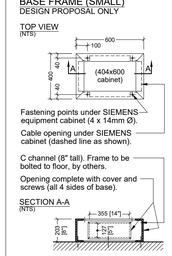
SIEMENS CABINET (SMALL)



(1) This proposed base frame may or may not be required depending upon site conditions - contact the Siemens Project Manager to confirm.

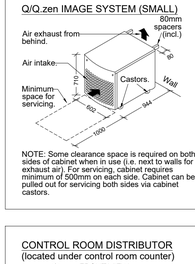
(2) Contractor to supply / install a 350 mm high backing at 2160 mm to bottom edge of backing, flush mounted, for wall mounting/anchoring of Siemens Electronics Cabinets. Backing must cover the entire width of the electronics cabinet(s) plus min. 50 mm on each side.

BASE FRAME (SMALL)
DESIGN PROPOSAL ONLY



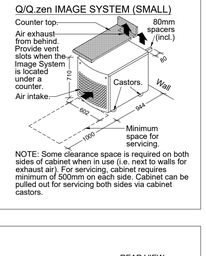
NOTES:
- Frame to be designed by Structural Engineer in order to be a solid and vibration-free mounting for Siemens equipment Cabinet.
- Mounting Frame and Floor Fasteners to be supplied by others/customer.

Q/Q.zen IMAGE SYSTEM (SMALL)



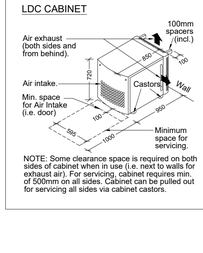
NOTE: Some clearance space is required on both sides of cabinet when in use (i.e. next to walls for exhaust air). For servicing, cabinet requires minimum of 500mm on each side. Cabinet can be pulled out for servicing both sides via cabinet castors.

Q/Q.zen IMAGE SYSTEM (SMALL)



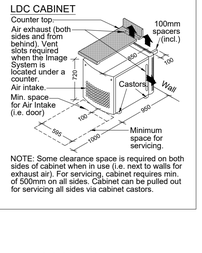
NOTE: Some clearance space is required on both sides of cabinet when in use (i.e. next to walls for exhaust air). For servicing, cabinet requires minimum of 500mm on each side. Cabinet can be pulled out for servicing both sides via cabinet castors.

LDC CABINET



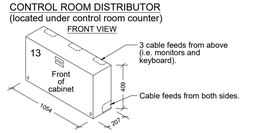
NOTE: Some clearance space is required on both sides of cabinet when in use (i.e. next to walls for exhaust air). For servicing, cabinet requires min. of 500mm on all sides. Cabinet can be pulled out for servicing all sides via cabinet castors.

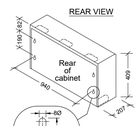
LDC CABINET



NOTE: Some clearance space is required on both sides of cabinet when in use (i.e. next to walls for exhaust air). For servicing, cabinet requires min. of 500mm on all sides. Cabinet can be pulled out for servicing all sides via cabinet castors.

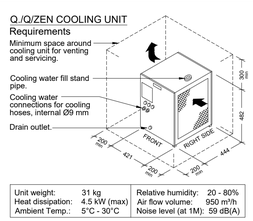
CONTROL ROOM DISTRIBUTOR
(located under control room counter)





NOTE: The Control Room Distributor cabinet has 4 pads underneath for placing the cabinet directly on to the floor. The Cabinet can also be wall mounted with 4 mounting screws; to enable access to the cable feeds on top, make sure there is minimum 50 mm clearance between the top of the unit and the underside of the countertop. See Rear View for mounting point locations.

Q./Q/ZEN COOLING UNIT
Requirements



Unit weight:	31 kg	Relative humidity:	20 - 80%
Heat dissipation:	4.5 kW (max)	Air flow volume:	950 m³/h
Ambient Temp.:	5°C - 30°C	Noise level (at 1M):	59 dB(A)

NOTES:
- Air Intake through the right side and Air Exhaust through the left side. A minimum space of 200mm is required for air flow (front and sides).
- A minimum space of 300mm is required above the unit for air flow and servicing.
- All hose connections on Front of unit. A minimum space of 200mm is required for hose connections.
- When 2 cooling units are used. Position the units so that the exhaust of one unit does not enter the intake of the other unit.
- Maximum height difference between the tube assembly and the cooling unit is ±10 meters.
- If possible, do not plan the cooling unit in the examination room because of the noise levels and heat loads.
- The cooling water hoses may only be installed in frost-free rooms.

RECOMMENDED ROOM HEIGHT - ARTIS Q CEILING

Recommended Ceiling Height:	**2710 mm optimum** (from the highest point of the finished floor to the lowest point of the ceiling structure).
Possible Room Heights:	2700 - 2720mm

ENVIRONMENTAL CONDITIONS (operation)

Ambient Temprature	+15°C ... +30°C
Relative Humidity	20% ... 75%
Barometric Pressure	70 kPa to 104 kPa
Mechanical Impact	Max. 10 g / 16 ms
Vibrations	Max. 0.1 g / 10 - 200 Hz

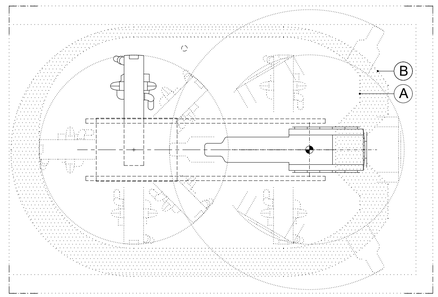
MAGNETIC FIELD PRECAUTIONS

The presence of magnetic fields in the vicinity of equipment may have an adverse effect. It is the Customer's responsibility to verify that the following values are not exceeded.

Maximum Allowable Magnetic Field	Devices
1.0mT (10 Gauss)	Computers, magnetic disk drives, oscilloscopes, processors
0.5mT (5 Gauss)	X-Ray tubes, b/w monitors, magnetic data carriers, data storage devices
0.2mT (2 Gauss)	Siemens CT Scanners
0.15mT (1.5 Gauss)	Colour monitors, Siemens Linear Accelerators
0.05mT (0.5 Gauss)	X-Ray image intensifiers, gamma cameras, PET/Cyclotron, other linear accelerators

Magnetic fields should be measured prior to delivery of Siemens equipment.

EQUIPMENT CLEARANCES:
CEILING STAND IN THE PARKING POSITION (n.t.s.)



Area A: In this area (Area A), only components that are part of the system may be installed on the ceiling. This includes an Accessories Rail ordered from Siemens if it is installed as per the Planning Guide.

Area B: This area (Area B), represents the safety clearance of 500 mm between motor-driven parts and personnel. No external system components may be installed whose fixed part (e.g. support arm column) is less than the clear minimum height of 2000 mm to the finished floor. Moving parts (e.g. support arm) of the components that are below the minimum height of 2000 mm must be able to swing freely outside of this safety area in the event of a collision with the floor stand.

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
348016-01	EQUIPMENT LAYOUT & GENERAL NOTES
348016-02	STRUCTURAL REQUIREMENTS
348016-03	ELECTRICAL REQUIREMENTS (PROJECT)
348016-04	ELECTRICAL REQUIREMENTS (GENERAL)

No	REVISIONS	CHK'D
A	LM.S. 09 MAY 19 - Update layout for new space as per customer request.	--
B	LM.S. 17 NOV 20 - Update equipment as per current equipment quote. - Update floor plan as per customer-supplied CAD background.	--
C	LM.S. 27 NOV 20 - Update equipment as per current equipment quote (injector). - General revisions for installation drawings.	--
D	LM.S. 08 MAR 21 - Update equipment legend with IVUS.	--

SUBMITTED FOR:
- ☐ Approval
- ☐ Your use
- ☐ Your records
- ✱ Installation

APPROVED: _____

Siemens Healthcare Limited
Planning Department

NOTE: ALL DIMENSIONS SHOWN MUST BE VERIFIED ON THE SITE. THIS DRAWING IS NOT TO BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION.

CUSTOMER:
UNIVERSITY HOSPITAL OF NORTHERN B.C.
PRINCE GEORGE, B.C.

EQUIPMENT LAYOUT

EQUIPMENT:	ARTIS Q CEILING
PGI#:	AXAQ-060.891.01.01.02
DRAWN BY: LYNDA S	SCALE: AS NOTED
CHK'D BY: ---	DATE: 10 APR 19
HOSPITAL #: 348	PROJECT #: 016
DRAWING/SKETCH #: 01	REVISION #: D

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (eg. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

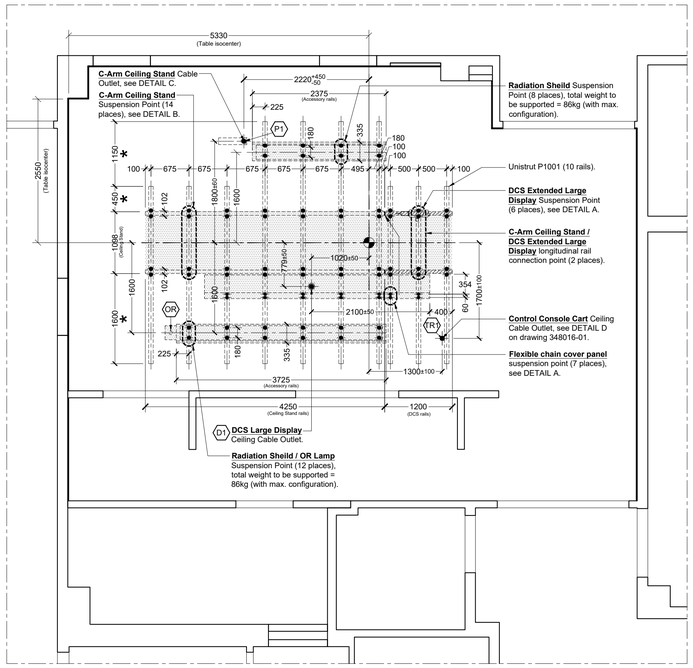
METRIC to IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

SEISMIC REQUIREMENTS:
ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE 'BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

CEILING STRUCTURAL LAYOUT 1 : 50



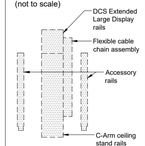
CEILING HEIGHT: FINISH FLOOR TO UNDERSIDE OF UNISTRUT P1001 STRUCTURAL RAIL = **2710** mm

NOTE: Possible ceiling height range from finish floor to underside of unistrut p1001 structural rails = 2700-2720 mm (2710mm is recommended). Room Height measured from the highest point of the finished floor (including floor covering) to the lowest point of the ceiling substructure.

* NOTE: Unistrut length past the last anchor point to be 150mm minimum / 450mm recommended.

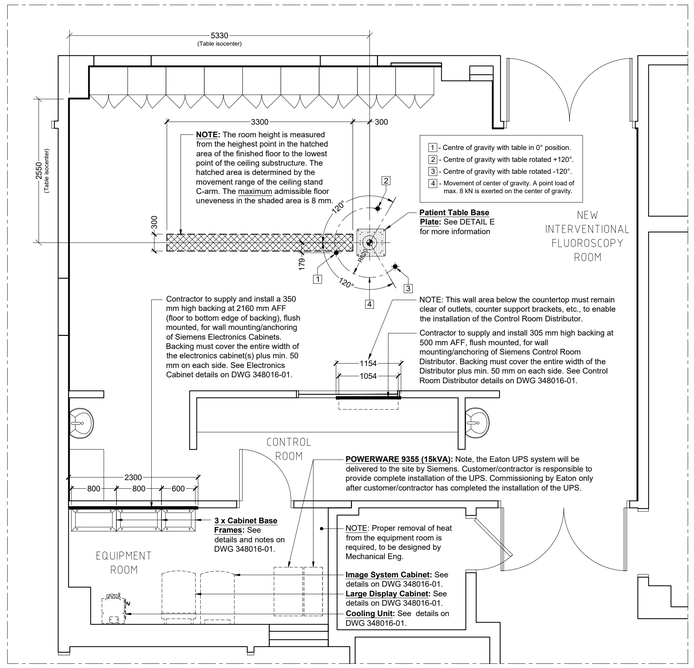
All Siemens electrical and structural systems shown on the STRUCTURAL CEILING LAYOUT have been coordinated with the Siemens equipment locations as shown on the EQUIPMENT LAYOUT PLAN (see DWG 348016-01). Any changes to the Siemens equipment configuration as shown, due to placement of OEM/non-Siemens lighting, structural, electrical and mechanical systems must be approved, in writing, by the Siemens Project Manager prior to the completion of construction documents.

Ceiling Rails Diagram (not to scale)



NOTE: Do not install any electrical or mechanical devices (light fixtures, ventilation outlets, sprinkler heads, etc.) in the hatched area shown. Lighting and HVAC devices have the potential to heat or cool Siemens components, they may be located within Siemens ceiling rail systems. If placed within Siemens rail systems, the customer must accept responsibility for the fact that, depending on the position of the carriage within the ceiling rails, there is potential for certain lights, diffusers, and/or sprinklers in this area to be blocked.

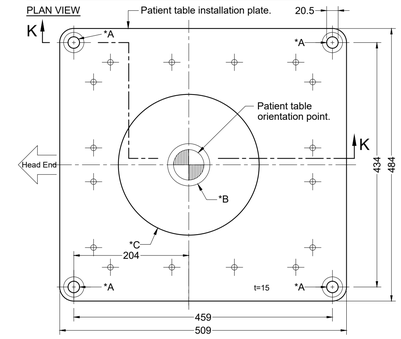
FLOOR STRUCTURAL LAYOUT 1 : 50



DETAIL E (n.t.s.)

PATIENT TABLE INSTALLATION PLATE - FLOOR MOUNTED

PLAN VIEW



*A Hilti heavy-duty expansion bolts, HSL-3 M 12/25.
*B Opening in the floor (Ø100mm) for leading cables into the patient table installation plate from below.
*C Opening in the patient table installation plate.

SECTION K-K

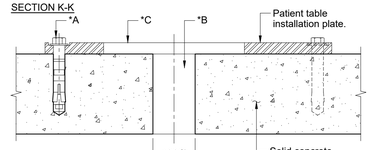
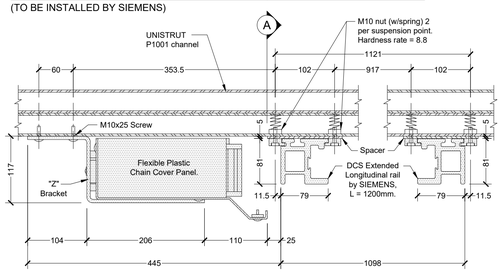


TABLE GENERAL NOTES:

1) Installation plate to be anchored in reinforced concrete using 4 Hilti heavy-duty expansion bolts, HSL-3 M12/25 (4 pieces, included in shipment).
2) Load of mounting point at table foot-end: Max. tensile force = 4.5 kN.
3) A maximum point load of 8 kN is exerted on the centre of gravity (orientation point is the centre of rotation).
4) Permissible minimum quality of the concrete: C20/25.
5) The maximum extraction forces occur with rotated table (+/- 45°) with fully extended tabletop at the head-end. The maximum extraction forces were determined with a patient weight of 250 kg and table accessories weighing 40 kg.
6) Prior to the start of installation, it is the Customer's responsibility to ensure that the floor has sufficient load-bearing capacity for the Patient Table system. Please include finished floor surfaces (tile, wood, carpeting, etc.).
7) If necessary, the mounting plates can be installed using M12 threaded studs installed through the floor/ceiling (minimum hardness rated = 8.8 per ISO norm). Threaded studs and etc. must be obtained locally, by others.

DETAIL A (n.t.s.)

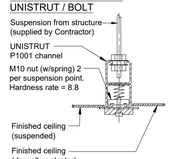
TYPICAL INSTALLATION OF SUSPENSION POINT FOR EXTENDED DCS LARGE DISPLAY
(TO BE INSTALLED BY SIEMENS)



NOTES:

1 - UNISTRUT rails P1001 to be installed flush with finished ceiling (by others).
2 - UNISTRUT rails and shown amount of M10 UNISTRUT nuts with springs (2 per suspension point) to be supplied and installed by contractor. Min hardness rating = 8.8
3 - No dynamic forces are stated, since there is no motor drive. Braking force and dynamic load from manual operation are included in the listed pull forces. Maximum deflection of the installation ceiling is 2 mm. Longitudinal rails must be level and parallel to each other. Maximum allowable deviation < 0.5mm / 1m.
4 - Vertical LOAD per mounting point (two screws per mounting point) = 5.4 kN max. LOAD on the individual screws is different = 4.2 kN max. (Note: does not apply for the Extended DCS in the ceiling stand longitudinal rails).
5 - Mounting point spacing, max. 675 m. Admissible rail overhang: 100-400 mm.
NOTE: the dynamic load is exerted on each attachment point since it is a single moving load. The listed values are without a safety margin. Clamping nuts for the ceiling sub-construction are not included in the shipment Observe the hardness rating of 8.8! The clamping nuts must be able to withstand 4 times the specified load.

SECTION "A" THROUGH UNISTRUT / BOLT

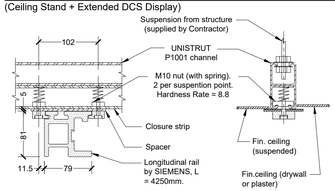


STRUCTURAL NOTES:

1 - All slab coring and drilling for final equipment mounting are provided by the Contractor/Customer. These areas shall be scanned using acceptable industry methods.
2 - When installation does not conform with drawing submitted, the SIEMENS Project Manager must be contacted before any design changes may be made.
3 - All dimensions shown are from finished surfaces.
4 - All pre-installed base plates are to be mounted by the Contractor/Customer. Installation must be coordinated with, and under the supervision of, the SIEMENS Project Manager.
5 - All structural support details shown are sample details based upon typical and standard building practices and are not intended as actual construction details. All construction details and support calculations shall be prepared by a professional Structural Engineer at the Customer's expense. In the event an existing support system is to be used, it will be the Customer's responsibility to verify the integrity of that system.

DETAIL B (n.t.s.)

TYPICAL INSTALLATION OF SUSPENSION POINT FOR CEILING STAND
(Ceiling Stand + Extended DCS Display)



CEILING STAND GENERAL NOTES:

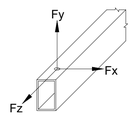
1) UNISTRUT rails P1001, installed flush with finished ceiling.
2) Channels must be level and parallel to each other (max. deviation: < 0.5 mm / 1m).
3) The longitudinal and transverse forces must be absorbed without vibration. The unistrut may need to be reinforced with longitudinal or transverse bracing, if applicable.
4) Longitudinal or diagonal connection must be provided.
5) The substructure may move by no more than 0.3 mm with an effective horizontal force of 600 N.
6) The heaviest single movable load (ceiling tube support) exerts a force of 8 kN onto the ceiling. The maximum sag of the installation ceiling caused by this single load may not exceed 3 mm.
7) Optimal Ceiling Hieght = **2710 mm** (alternate height is possible, between 2700-2720 mm).
* **8)** UNISTRUT and shown amount of M10 UNISTRUT nuts with springs (2 per suspension point) to be supplied and installed by Contractor. Minimum Hardness Rate = 8.8
9) Mounting point spacing, max. 675 mm.
Admissible rail overhang: 100-325 mm.

CEILING STAND LOAD VALUES:

Vertical ceiling load Fy(max) = 12.4 kN (dynamic load exerted on each point). 2 screws per point, 9.9 kN per screw.

Max. transverse force Fx(max) = 2.0 kN (exerted on the rail).

Max. longitudinal force Fz(max) = 4.0 kN (exerted on the rail).



NOTE: The dynamic load is exerted on each attachment point since it is a single moving load. The listed values are without a safety margin.

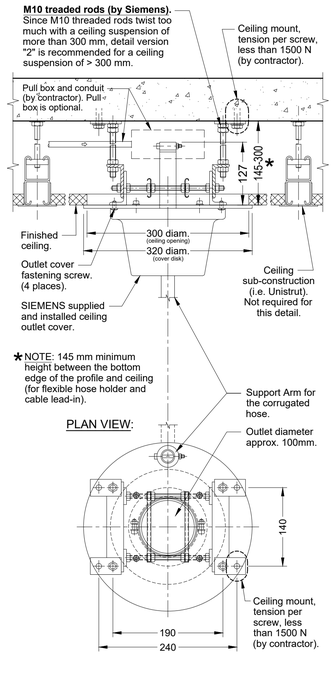
NOTE: The above ceiling load values are valid when the Extended DCS Display is used together with the Ceiling Stand system.

* **NOTE:**
- Profile Nuts for Longitudinal Rails: High tension forces are exerted on the ceiling rails of ceiling-suspended systems; for this reason, the profile nuts must be designed for 4 times the load. This is not ensured with all profile nuts.
- Unistrut nuts (for example), may not be used for: May not be used with the Artis Ceiling system . With this system, **PM17 beveled nuts** are included in the shipment. These PM17 beveled nuts are designed for **4 times the load** with the **MSR TP1, MSR BR 75/125, Unistrut P1000/1001, Unistrut 1 5/8", Halfen HM 52/34,** and **Halfen 50/30** ceiling profiles.

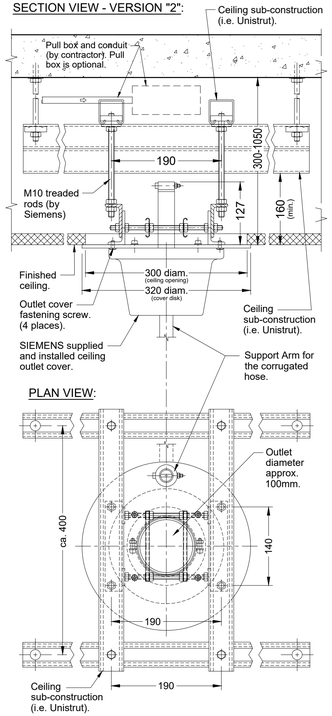
DETAIL C (n.t.s.)

CEILING OUTLET DETAIL FOR ARTIS CEILING STAND (VERSION "1" OR "2")

SECTION VIEW - VERSION "1":

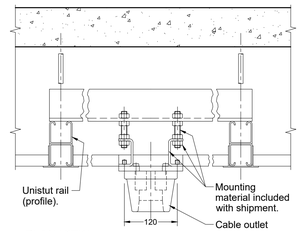


SECTION VIEW - VERSION "2":

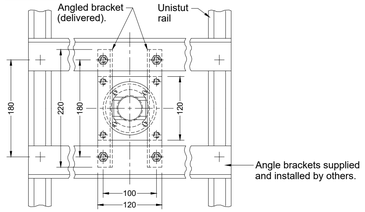


DETAIL D (n.t.s.)

CEILING OUTLET DETAIL FOR TROLLEY:



PLAN VIEW:



THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
348016-01	EQUIPMENT LAYOUT & GENERAL NOTES
348016-02	STRUCTURAL REQUIREMENTS
348016-03	ELECTRICAL REQUIREMENTS (PROJECT)
348016-04	ELECTRICAL REQUIREMENTS (GENERAL)

No	REVISIONS	CHK'D

SUBMITTED FOR:
- ☐ Approval
- ☐ Your use
- ☐ Your records
- ☒ Installation

APPROVED: _____

Siemens Healthcare Limited
Planning Department

NOTE: ALL DIMENSIONS SHOWN MUST BE VERIFIED ON THE SITE. THIS DRAWING IS NOT TO BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION.

CUSTOMER:
UNIVERSITY HOSPITAL OF NORTHERN B.C.
PRINCE GEORGE, B.C.
STRUCTURAL REQUIREMENTS

EQUIPMENT: ARTIS Q CEILING
PG#: AXAQ-060.891.01.01.02
DRAWN BY: LYNDA S
SCALE: AS NOTED
CHK'D BY: ---
DATE: 30 NOV 20
HOSPITAL #: 348
PROJECT #: 016
DRAWING/SKETCH #: 02
REVISION #:

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (eg. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

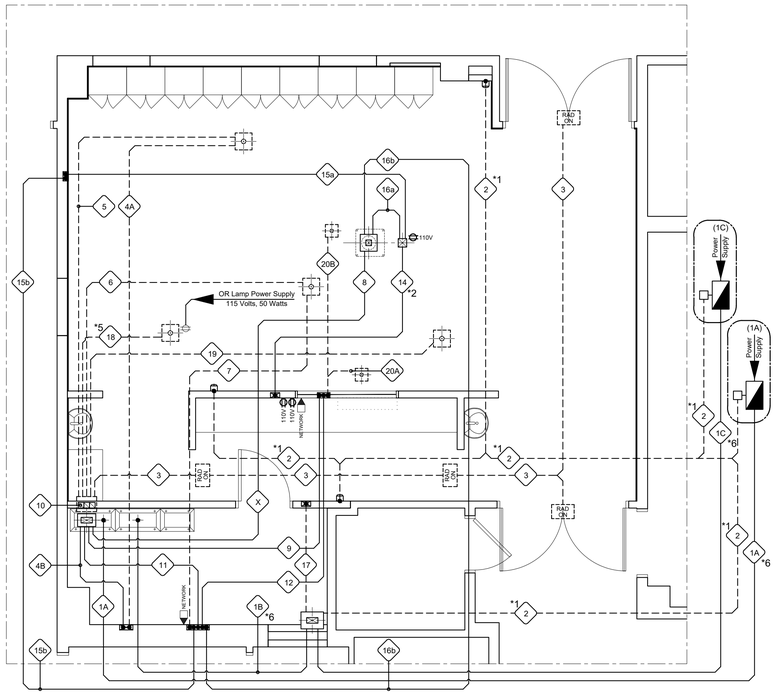
METRIC to IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50
0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

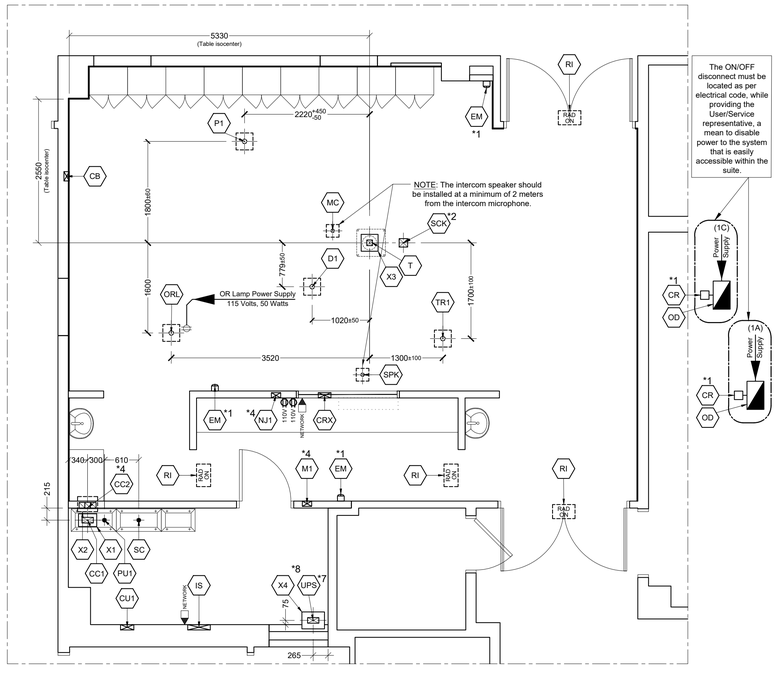
THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

SEISMIC REQUIREMENTS:
ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE 'BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

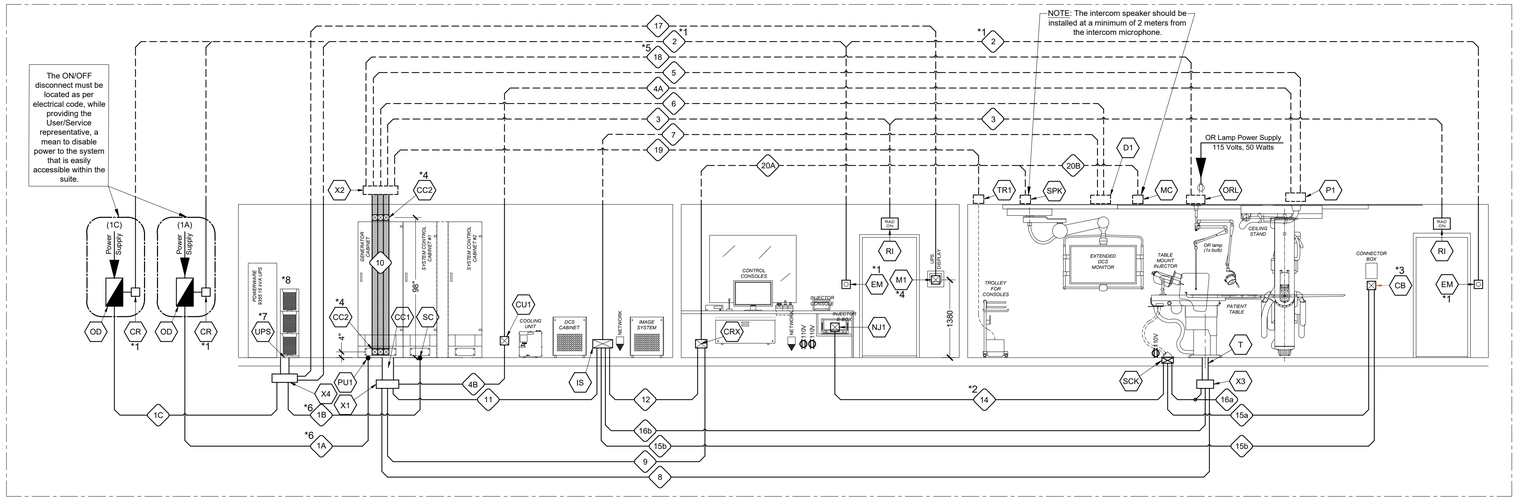
RACEWAY LAYOUT 1 : 50



CONNECTION POINT LAYOUT 1 : 50



SCHEMATIC DIAGRAM (N.T.S.)



GENERAL NOTES

- The information contained in this drawing is based on the most current technical information available at the time this drawing was issued. We reserve the right to make changes as dictated by technical product developments.

- Connection points that are not dimensioned may be located at the Customer's discretion. The location of these items as shown on this drawing indicate the preferred SIEMENS location only.

*1 Emergency Shunt Trip is at the Customer's discretion, unless required by local electrical code.

*2 NOTE: The conduit size to be determined by the injector's manufacturer. Customer to approve the injector's connection point location. Siemens recommends 2 x 3" Ø conduits.

*3 Siemens connector box wall mounted at a suitable height AFF. Coordinate with the Siemens PM.

*4 See Schematic Diagram for pull box height.

*5 The Run 18 is optional unless the customer requires the OR Light to be connected to an additional foot switch (option) or via the potential-free contact of the D102/M102 (switched on and off with fluoro/exposure).

*6 Conduit and power supply cables supplied by contractor. Also see note 14.

*7 In case of an emergency, the UPS must be switched OFF and held, until mechanical/electrical reset. via an on-site EPO/EM switch.

*8 **POWERWARE 9355 (15kVA):** Note, the Eaton UPS system will be delivered to the site by Siemens. Customer/contractor is responsible to provide complete installation of the UPS. Commissioning by Eaton only after customer/contractor has completed the installation of the UPS.

SYMBOL LEGEND (ALL MAY NOT APPLY)

CONNECTION POINT
- Raceway termination
- Conduit termination
- Underfloor duct and junction box/pull box
- Ceiling space above junction box/pull box
- On/Off disconnect

RACEWAY
- Raceway duct in ceiling space below/floor space
- Raceway duct in ceiling space above
- Conduit in ceiling space below/floor space
- Conduit in ceiling space above

RACEWAY
- Vertical raceway

MISCELLANEOUS
- Network connection point

POWER SUPPLY
- 110v 1-Ph 110V ±10%, Duplex o/l 12" above finished floor.

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348016-04	ELECTRICAL REQUIREMENTS (GENERAL)

RACEWAY SCHEDULE

RUN		DESIGNATION											MOUNTING											SIZE	
		FROM POINT / RUN(R)	TO POINT / RUN(R)	DUCT(CABLE WIREWAY)	CONDUIT (RIGID CONDUIT ONLY)	TRENCH DUCT(FLOOR FLUSH)	CABLE TRAY	VERTICAL DUCT(V)	CONTAINS POWER SUPPLY CABLES	REMOVEABLE ACCESSIBLE COVER	# OF EQUAL COMPARTMENTS	--	FLUSH FLOOR(F) ACCESS FL(A)	FLUSH WALL(W) CEILING(C)	CEILING SPACE ABOVE	CEILING SPACE BELOW	ACCESS FLOOR SPACE	ABOVE FINISHED FLOOR ℄	SURFACE FL(F) ACCESS FL(A)	SURFACE CEILING(C) WALL(W)	EXISTING	AS SHOWN	WALL SPACE	TO SUIT (BY CONTRACTOR)	SIZE REQUIRED (CLEAR OPENING)
	1A	OD	PU1		●				●								●						●	●	SEE ELECTRICAL NOTE #15
*6	1B	X4	SC		●				●								●						●	●	SEE ELECTRICAL NOTE #15
*6	1C	OD	X4		●				●								●						●	●	SEE ELECTRICAL NOTE #15
*1	2	CR	EM		●										●								●	●	--
	3	RI	X2		●										●								●		1" Ø
	4A	P1	CU1		●										●								●		2½" Ø
	4B	X1	CU1		●											●							●		2" Ø
	5	P1	X2		●										●										3 @ 3" Ø + 2" Ø
	6	D1	X2		●										●										2 @ 3" Ø
	7	D1	IS		●										●								●		2 @ 2½" Ø
	8	X3	X1		●											●									2 @ 3" Ø
	9	X1	CRX		●											●									2 @ 3" Ø
	10	CC2	X2	●				V		●	3		W										●		4" x 12"
	11	IS	X1		●											●							●		2" Ø 3" Ø
	12	IS	CRX		●											●							●		2"Ø + 3"Ø
	--																								
*2	14	NJ1	SCK		●											●							●	●	*2
	15a	CB	SCK		●											●							●		3" Ø
	15b	CB	IS		●											●							●		3" Ø
	16a	X1	SCK		●											●									3" Ø
	16b	X1	IS		●											●									3" Ø
	17	X4	M1		●										●								●		1" Ø
*5	18	ORL	X2		●										●										1" Ø
	19	X2	TR1		●										●										3" Ø
	20A	CRX	SPK		●										●								●		1½" Ø
	20B	CRX	MC		●										●								●		1½" Ø

CONNECTION POINT SCHEDULE

POINT		DESIGNATION										MOUNTING										SIZE	
		ON/OFF DISCONNECT	CONTACTOR	EMERGENCY SHUNT TRIP	PULL BOX	ACCESS FLOOR OPENING	SLEEVE TERMINATION	DUCT TERMINATION	CONDUIT TERMINATION	REMOVEABLE COVER	SPLIT REMOVEABLE COVER	DUCT COVER PLATE OPENING	GROMMETED HOLE DIAMETER	FLUSH FLOOR(F) ACCESS FL(A)	FLUSH WALL(W) CEILING(C)	CEILING SPACE ABOVE	CEILING SPACE BELOW	ACCESS FLOOR SPACE	ABOVE FINISHED FLOOR ℄	SURFACE FL(F) ACCESS FL(A)	SURFACE CEILING(C) WALL(W)	BELOW FINISHED CEILING ℄	x THRU COVER WIDTH	TO SUIT (BY CONTRACTOR)	SIZE REQUIRED (CLEAR OPENING)
	OD	●																	5"		W			●	--
*1	CR		●																5"		W			●	--
*1	EM			●															5"		W			●	--
	CC1					●								F											4" X 8"
	T					●								F											6" X 6"
*4	CC2									●	●								*4						4" X 12"
	PU1							●						F										●	--
	SC							●						F										●	--
*2	SCK			●										F										●	--
	CRX			●							●				W				18"					●	--
	CU1			●							●				W				12"					●	--
	IS			●							●				W				18"					●	--
	D1			●							●		3"		C	●								●	--
	ORL			●							●		2"		C	●								●	--
	P1			●							●		4"			●								●	--
*4	NJ1			●							●				W				*4					●	--
	X1			●				●										●						●	--
	X2			●				●									●							●	--
	X3, X4			●				●										●						●	--
	RI	"RADIATION ON" SIGN ABOVE EXTERIOR DOOR (BY HOSPITAL)																			W			●	--
*7	UPS						●							F											4" x 6"
	M1			●						●				W					*4					●	--
	SPK, MC			●						●				C										●	--
	TR1			●						●				C										●	--
*3	CB			●						●				W					*3					●	--

No	REVISIONS	CHK'D
A	LM.S. 08 MAR 21 - Update with requirements for IVUS and LD connections (R15a/b, R16a/b, SCK and CB)	--

SUBMITTED FOR:
- ☐ Approval
- ☐ Your use
- ☐ Your records
- ☒ Installation

APPROVED: _____

Siemens Healthcare Limited
Planning Department

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CUSTOMER:
UNIVERSITY HOSPITAL OF NORTHERN B.C.
PRINCE GEORGE, B.C.
ELECTRICAL REQUIREMENTS

EQUIPMENT: ARTIS Q CEILING
PO#: AXAQ-060.891.01.01.02
DRAWN BY: LYNDA S | SCALE: AS NOTED
CHK'D BY: --- | DATE: 02 DEC 20
HOSPITAL # 348 | PROJECT # 016
DRAWING/SKETCH # 03 | REVISION # A

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

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Scale 1:50 0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

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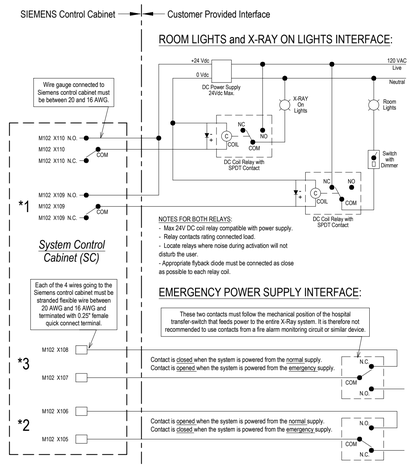
SYSTEM CONNECTIONS: Room Light, Radiation Warning, and UPS Connections

Inside the control cabinet (SC) only flexible cables must be used for room light control and etc.



***1 Optional Room Light Interface -** If this circuit is provided and connected to system cabinet (SC1) as shown, control (ON/OFF) of specific room lights can be achieved.

***2 Optional Emergency Power On Contact -** For use if Siemens imaging system is connected to and powered by hospital emergency power supply in the event of a power outage (i.e. Siemens system connected to diesel generator back up power). If this contact is connected to the system cabinet (SC1) as shown, contacts should close when emergency power is present and will signal Siemens system of this situation. Siemens system will downgrade functionality to table/stand movements and limited fluoroscopy only, exposure mode is not possible.

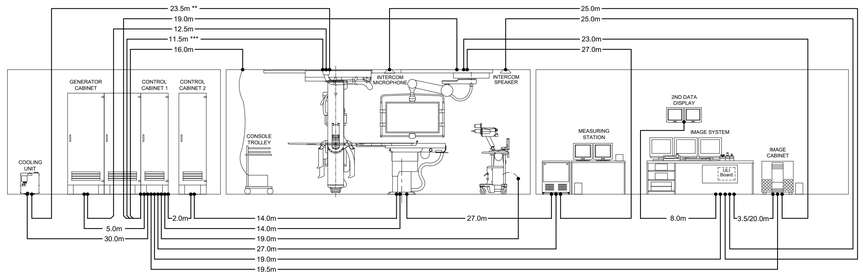
***3 Optional Primary Line Power On Contact -** If *2 is being utilized, this connection is mandatory and serves as verification system is running on normal or emergency power. Contact should be closed if normal power is present.

CABLE SPECIFICATIONS (n.t.s.)

** THE BENDING RADIUS FOR THE CABLE = MAX. 50 mm
*** THE BENDING RADIUS FOR THE CABLE = MAX. 80 mm

NOTE: WHEN CABLES ROUTED IN CONDUITS IN THE CEILING SPACE ABOVE ARE TOO SHORT, IT IS RECOMMENDED TO ROUTE THE CABLES IN CONDUITS IN THE CEILING SPACE BELOW (THIS WILL HELP REDUCE THE TOTAL CONDUIT LENGTH). ALSO, CONTRACTOR IS TO ENSURE THAT ALL CONDUITS ARE INSTALLED USING THE SHORTEST ROUTE POSSIBLE AND MUST RESPECT THE MAXIMUM CABLE LENGTHS.

- WHERE TWO LENGTHS ARE INDICATED, THIS REFERS TO THE SHORT/LONG SETS OF CABLE AVAILABLE (TO BE SPECIFIED BY SIEMENS' PROJECT MANAGER).



POWER SUPPLY REQUIREMENTS

VALUES REQUIRED	POWER SUPPLY (PS)		
	1A	1B	1C
EQUIPMENT	POLYDOROS A100	System Cabinet	POWERWARE UPS
VOLTS ± 10% (Phase) (Y) 60 Hz ± 1% (# wires)	480V 3Ph + N + Isol. Ground	480V 3Ph + N + Isol. Ground	480V 3Ph + N + Isol. Ground
FUSES (slow-blow) (A)	63 A	50 A	** REFER TO MANUFACTURER'S SPECIFICATIONS
LINE IMPEDANCE (Ohm)	≤ 0.12 Ω (Phase to Phase)	--	
CONNECTED LOAD (kVA)	41.6 kVA	29.1 kVA	
MAXIMUM POWER CONSUMPTION: (DURING EXPOSURE)	162 kVA	8.5 kVA	
MAX. CABLE CROSS SECTION THAT CAN BE CONNECTED	70 mm ²	16 mm ²	

POWER QUALITY PARAMETERS

MAXIMUM LINE VOLTAGE VARIATION	± 10% of system voltage
PHASE BALANCE:	2% max. between any 2 phases
FREQUENCY VARIATION:	± 1 Hz of 60 Hz

Power Supply Notes:

1. Incoming power supplies for Siemens equipment should be dedicated (back to source), isolated and insulated from any other equipment such as elevators, generators, HVAC systems, etc.

2. Siemens Healthcare requires that the incoming power meets the power quality requirements.

ELECTRICAL NOTES

1 - All wires and multi-conductor cables installed by contractor shall be standard, flexible and flame seal type, and are to be left with minimum 6'-0" tail at each termination unless otherwise specified.

2 - The electrical contractors shall provide all necessary pull boxes, conduits, raceways, fittings, bushings, cables and other items as per the electrical plan unless otherwise specified.

3 - All cable outlets, pull boxes and raceways described in this drawing as being set flush with finished floor are to be of the waterproof type with gasketted metal covers.

4 - All conduits which are left empty for the cables supplied by SIEMENS shall be provided with Greenlee Conduit Measuring tape (Cat.# N435 or equivalent).

5 - All conduit bends are to have large sweeping radius. Only standard conduit elbows are to be used. Only rigid conduits can be used for the entire conduit run.

6 - All cable ducts shown are to be supplied with a removable cover.

7 - Each conduit termination indicated on the drawing shall be finished with plastic bushing.

8 - Conduits and raceways shown are indicated schematically and are not to be used for actual runs. Contractor is to determine the SHORTEST RUN available prior to installation. Refer to the CABLE SPECIFICATION detail on this sheet.

9 - The electrical work in this installation shall be performed in strict compliance with Canadian Electrical Code, or local Codes, whichever is more stringent.

10 - When installation does not conform with drawing submitted, the Siemens Project Manager must be contacted before any design changes may be made.

11 - All slab coring and drilling for raceway installations and final equipment mounting are provided by the Contractor/Customer. These areas shall be scanned using acceptable industry methods.

12 - All dimensions shown are from finished surfaces.

13 - If the Line Impedance specification is not met, the maximum generator output (kW) will not be possible.

14 - The conduit/duct layout as shown considers the mandatory separation of power and signal cables. Any changes to, or consolidation of, conduits/ducts must must be approved by the Siemens Project Manager.

15 - ALL WIRES/CONDUCTORS of the POWER SUPPLY MUST be of EQUAL SIZE, regardless of local codes, and supplied BY CONTRACTOR. The safety GROUND MUST be ISOLATED, to protect the system from interference. All materials and equipment not by SIEMENS MUST be GROUNDED SEPARATELY. The Siemens equipment ground must be continuous, with no breaks or use of conduit,chassis or earth as the sole grounding path.

16 - All power supply requirements are to be designed and/or approved by a Electrical Engineer. SIEMENS recommends the incoming power lines be analyzed for transient surges and impulses, sags and overvoltages.

17 - Cable trays shown in the access floor space are to be supplied only if required by local Electric Code.

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
348016-01	EQUIPMENT LAYOUT & GENERAL NOTES
348016-02	STRUCTURAL REQUIREMENTS
348016-03	ELECTRICAL REQUIREMENTS (PROJECT)
348016-04	ELECTRICAL REQUIREMENTS (GENERAL)

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (eg. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

METRIC to IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50
0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

SEISMIC REQUIREMENTS:
ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE 'BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

No	REVISIONS	CHKD

SUBMITTED FOR:
- ☐ Approval
- ☐ Your use
- ☐ Your records
- ☒ Installation

APPROVED: _____

Siemens Healthcare Limited
Planning Department

NOTE: ALL DIMENSIONS SHOWN MUST BE VERIFIED ON THE SITE. THIS DRAWING IS NOT TO BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION.

CUSTOMER:
UNIVERSITY HOSPITAL OF NORTHERN B.C.
PRINCE GEORGE, B.C.

ELECTRICAL REQUIREMENTS

EQUIPMENT: ARTIS Q CEILING
PG#: AXAQ-060.891.01.01.02
DRAWN BY: LYNDA S
SCALE: AS NOTED
CHK'D BY: ---
DATE: 02 DEC 20
HOSPITAL #: 348
PROJECT #: 016
DRAWING/SKETCH #: 04
REVISION #: