

1 SITE PLAN
WM01 1:200

TRUE NORTH

MECHANICAL ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AF	ABOVE FINISHED FLOOR
AHU	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ARCH	ARCHITECTURAL
BDD	BACKDRAFT DAMP
BHP	BREAK HORSEPOWER
BTUH	BRITISH THERMAL UNIT / HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
C/W	COMPLETE WITH
DB	DRY BULB
CTE	CONNECT TO EXISTING
DCW	DOMESTIC COLD WATER
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DHW	DOMESTIC HOT WATER
DWG	DRAWING
DWHR	DOMESTIC HOT WATER RECIRCULATION
E/A	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL
ENT	ENTERING
ESP	EXTERNAL STATIC PRESSURE
EW	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FEET/FOOT
GAL	GALLONS
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSEPOWER
IN	INCH
JS	JANITOR SINK
KW	KILOWATT
LV	LAVATORY
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS/HOUR
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MIN	MINIMUM
NC	NOISE CRITERIA/NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O/A	OUTDOOR AIR
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
R	RELOCATED
R/A	RETURN AIR
RF	RETURN FAN
RPM	REVOLUTIONS PER MINUTE
RWL	RAIN WATER LEADER
S/A	SUPPLY AIR
SF	SUPPLY FAN
SK	SINK DRAIN ABOVE
SS	STAINLESS STEEL
SP	STATIC PRESSURE
SPEC	SPECIFICATION
ST	STORM MAIN
T/A	TRANSFER AIR
TD	TRENCH DRAIN
TAD	TRANSFER AIR DUCT
TBC	TO BE CONFIRMED
TBD	TO BE DETERMINED
THRU	THROUGH
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
V	VENT
VTR	VENT THROUGH ROOF
W	WATER MAIN
WB	WET BULB
WC	WATER CLOSET

SYMBOL SCHEDULE AND ABBREVIATIONS

PIPING

NEW	
---	DOMESTIC COLD WATER (DCW)
---	DOMESTIC HOT WATER (DHW)
---	DOMESTIC HOT WATER RETURN (DHW-R)
---	CONDENSER WATER SUPPLY
---	CONDENSER WATER RETURN
---	REFRIGERANT SUPPLY
---	REFRIGERANT RETURN
---	SANITARY VENT
---	SANITARY SEWER ABOVE GRADE
---	SANITARY SEWER BELOW GRADE
---	STORM SEWER ABOVE GRADE
---	STORM SEWER BELOW GRADE
---	PIPE CLEAN-OUT
---	PIPE CLEAN-OUT TO GRADE
---	GAS
---	FOOTING DRAINAGE (DRAIN TILE)
---	CONDENSATE DRAIN

FITTINGS AND VALVES

→	DIRECTION OF FLOW
↘	PIPE DROP
↗	PIPE RISE
⊥	PIPE TEE UP
⊥	PIPE TEE DOWN
⊥	PIPE UNION
⊥	ISOLATION VALVE (NORMALLY OPEN)
⊥	ISOLATION VALVE (NORMALLY CLOSED)
⊥	CHECK VALVE
⊥	2-WAY CONTROL VALVE
⊥	BALANCING VALVE
⊥	PRESSURE REDUCING VALVE (PRV)
⊥	STRAINER
⊥	RELIEF VALVE
⊥	BACKFLOW PREVENTOR (BFP)
⊥	AUTOMATIC AIR VENT (AAV)
⊥	TEMPERATURE GAUGE
⊥	PRESSURE GAUGE
⊥	THERMOMETER
⊥	PUMP

OUTLET AND DRAINS

⊙	FLOOR DRAIN (FD)
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FIRE PROTECTION

⊙	FIRE EXTINGUISHER
⊙	FIRE DEPARTMENT CONNECTION (SIAMESE)
⊙	FIRE DEPARTMENT CONNECTION (FLUSH)

SYSTEM MONITORING

⊙	TEMP. SENSOR/THERMOSTAT
⊙	REVERSE ACTING THERMOSTAT
⊙	WALL SWITCH

DUCTWORK

⊙	SUPPLY OR OUTDOOR AIR DUCT UP
⊙	SUPPLY OR OUTDOOR AIR DUCT DOWN
⊙	RETURN AIR DUCT UP
⊙	RETURN AIR DUCT DOWN
⊙	EXHAUST AIR DUCT UP
⊙	EXHAUST AIR DUCT DOWN
⊙	TURNING VANES
⊙	ACOUSTIC INSULATION
⊙	BALANCING DAMPER (BD)
⊙	BACKDRAFT DAMPER (BDD)
⊙	MOTORIZED DAMPER (MD)
⊙	FIRE DAMPER - VERTICAL (FD)
⊙	FIRE DAMPER - HORIZONTAL (FD)
⊙	DUCT OR PIPE CAP-OFF
⊙	RETURN OR EXHAUST AIR GRILLE
⊙	UNDER-CUT DOOR

EQUIPMENT TAGS

⊙	GRILLE TYPE
⊙	NECK / GRILLE SIZE
⊙	AIR VOLUME (L/s)
⊙	EQUIPMENT / FIXTURE TYPE
⊙	GENERAL NOTE
⊙	DRAWING REVISION
⊙	DETAIL NUMBER
⊙	DRAWING NUMBER
⊙	SECTION NUMBER
⊙	DRAWING NUMBER

MECHANICAL DRAWING LIST

DWG NO.	DESCRIPTION	SCALE
WM01	SITE PLAN, SYMBOL SCHEDULE & DRAWING LIST	N.T.S.
WM02	MECHANICAL MOTOR LIST	N.T.S.
WM03	MECHANICAL SCHEDULES	N.T.S.
WM04	FOUNDATION PLAN	1:100
WM05	PLUMBING AND FIRE PROTECTION PLAN	1:100
WM06	PLUMBING ROOF PLAN	1:100
WM07	SITE SERVICES BUILDING FIRE PROTECTION PLAN	1:100
WM08	HVAC GROUND FLOOR PLAN	1:100
WM09	HVAC REFLECTED CEILING PLAN	1:100
WM10	MECHANICAL SECTIONS	1:100
WM11	MECHANICAL DETAILS	N.T.S.



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3 ISSUED FOR TENDER 20180327

2 ISSUED FOR 100% CD REVIEW 20180314

1 ISSUED FOR 90% CD REVIEW 20180228

Revision/Description/Date/Date

Client/client

Project title/Titre du projet
5071 WEST SAANICH ROAD
VICTORIA, BC, CANADA

**NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY**

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Drawing title/Titre du dessin

SITE PLAN

Project No./No. du projet
R.077596.001

Sheet/Feuille
WM01

Revision no./La Révision no.
3

OF 11

MECHANICAL MOTORLIST

EQUIP. TAG	QUANTITY	EQUIPMENT DESCRIPTION	LOCATION	EQUIPMENT					DISCONNECT					STARTER			CONTROL				NOTES			
				SUPPLIED	KW	MCA	FLA	A	VOLTAGE	PHASE	SUPPLIED	INSTALLED	WIRED	LOCATION	TYPE	SUPPLIED	INSTALLED	WIRED	LOCATION	TYPE		SUPPLIED	INSTALLED	WIRED
AIR CURTAINS																								
ACH-1	4	AIR CURTAIN	GROUND FLOOR	MECH	0.87	5	-	-	230	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	MECH	1	I	MECH	MECH	MECH	1,2,6
ACH-2	4	AIR CURTAIN	GROUND FLOOR	MECH	0.87	5	-	-	230	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	MECH	1	I	MECH	MECH	MECH	1,2,6
AIR CONDITIONING UNIT																								
AC-1	1	SPLIT DX AIR CONDITIONING UNIT - INDOOR UNIT	ELECTRICAL ROOM	MECH	-	1	-	-	208	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	T	MECH	MECH	MECH	1,2
CU-1	1	SPLIT DX AIR CONDITIONING UNIT - OUTDOOR UNIT	OUTSIDE	MECH	-	18	-	-	208	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	T	MECH	MECH	MECH	1,2
AIR HANDLING UNITS																								
AHU-1	1	NRC AIR HANDLER	GROUND FLOOR	MECH	0.75	28.2	-	-	208	3	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	T	MECH	MECH	MECH	1,2
AHU-2	1	NRC AIR HANDLER	GROUND FLOOR	MECH	0.75	28.2	-	-	208	3	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	T	MECH	MECH	MECH	1,2
AHU-3	1	NRC AIR HANDLER	GROUND FLOOR	MECH	0.75	28.2	-	-	208	3	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	T	MECH	MECH	MECH	1,2
GAS FIRED DOMESTIC HOT WATER TANK																								
DHW-1	1	GAS FIRED DOMESTIC HOT WATER TANK	REFER TO DRAWINGS	MECH	-	-	-	5	120	1	ELEC	ELEC	ELEC	1	-	-	-	-	-	T	MECH	MECH	MECH	1,2
ELECTRIC BASEBOARD HEATERS																								
EBB-1	1	WASHROOM ELECTRIC BASEBOARD HEATER	UNIVERSAL W/R	MECH	0.5	-	-	-	120	1	ELEC	ELEC	ELEC	1	-	-	-	-	-	ET	ELEC	ELEC	ELEC	
EBB-2	1	WASHROOM ELECTRIC BASEBOARD HEATER	W/R	MECH	0.5	-	-	-	120	1	ELEC	ELEC	ELEC	1	-	-	-	-	-	ET	ELEC	ELEC	ELEC	
EBB-3	1	MECHANICAL ROOM ELECTRIC BASEBOARD HEATER	MECHANICAL ROOM 106	MECH	1.5	-	-	-	120	1	ELEC	ELEC	ELEC	1	-	-	-	-	-	ET	ELEC	ELEC	ELEC	
FANS																								
EF-1	1	WASHROOM EXHAUST FAN	UNIVERSAL W/R	MECH	0.0176	-	-	-	120	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	WS	MECH	MECH	MECH	1,2,3
EF-2	1	WASHROOM EXHAUST FAN	W/R	MECH	0.0176	-	-	-	120	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	WS	MECH	MECH	MECH	1,2,3
CF-1	8	CEILING FAN	INTEGRATION AREA CEILING	MECH	0.75	-	-	-	208	3	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	WS	MECH	MECH	MECH	1,2
PUMPS																								
P-1	1	DOMESTIC RECIRCULATION PUMP	REFER TO DRAWINGS	MECH	0.115	-	-	-	120	1	ELEC	ELEC	ELEC	1	INT	MECH	MECH	ELEC	1	AQ	MECH	MECH	MECH	1,2
MISC EQUIPMENT																								
		CIRCUIT FOR NEW CONTROLS	MECHANICAL ROOM 106	MECH	-	-	-	-	120	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
		MOTORIZED DAMPERS	REFER TO DRAWINGS	MECH	-	-	-	-	120	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
FIRE PROTECTION																								
		SPRINKLER ZONE VALVES	MECHANICAL ROOM 106	MECH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		SPRINKLER TAMPER SWITCHES	MECHANICAL ROOM 106	MECH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		SPRINKLER FLOW SWITCHES	MECHANICAL ROOM 106	MECH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MISC PLUMBING																								
		ELECTRONIC SENSOR FAUCETS	REFER TO DRAWINGS	MECH	-	-	-	-	120	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5
		ELECTRONIC SENSOR FLUSH VALVES	REFER TO DRAWINGS	MECH	-	-	-	-	120	1	-	-	-	-	-	-	-	-	-	-	-	-	-	5

SUPPLIER / INSTALL / WIRE CODES:

M = MECHANICAL
 E = ELECTRICAL
 G = GENERAL CONTRACTOR

STARTER CODES:
 MAN = MANUAL STARTER
 MAG = MAGNETIC STARTER W/ HDA
 SWITCH W/ AUX. CONTACTS
 MRR = MOTOR RATED RELAY, 24 VAC COIL
 & MOTOR PROTECTION SWITCH
 PCS = PACKAGED CONTROL SYSTEM
 VSD = VARIABLE SPEED DRIVE
 RVS = REDUCED VOLTAGE STARTER
 WS = WALL SWITCH
 CP = CONTROL PANEL
 INT = CONTROL IS INTEGRAL TO UNIT (BY MANUFACTURER)

CONTROL DEVICE CODES:

BMS = BLDG MANAGEMENT SYSTEM
 ES = END SWITCH
 ET = LINE VOLTAGE T'STAT
 FA = FIRE ALARM
 FS = FLOW SWITCH
 GS = GAS SENSOR
 I = INTERLOCK, SEE NOTES
 LS = LEVEL SWITCH
 PS = PRESSURE SWITCH
 TC = TIME CLOCK
 T = LOW VOLTAGE T'STAT OR SENSOR
 TS = TAMPER SWITCH
 VS = VARIABLE SPEED SWITCH
 WS = WALL SWITCH
 FAP = FIRE ALARM PANEL
 AQ = AQUASTAT

LOCATION CODES:

1 = AT OR NEAR MOTOR
 2 = MOTOR CONTROL CENTRE
 3 = EQUIPMENT ROOM
 4 = ELECTRICAL ROOM
 5 = AS SHOWN ON DRAWINGS

MISCELLANEOUS CODES:

FFCP = FIRE FIGHTERS CONTROL PANEL

GENERAL NOTES:

1. ALL FIRE ALARM DEVICES WIRED BY ELECTRICAL
 2. PCS EQUIPMENT REQUIRES SINGLE SOURCE POWER CONNECTION, UNLESS NOTED OTHERWISE
 3. CP, VSD EQUIPMENT REQUIRES POWER WIRING TO AND FROM CONTROL PANEL TO CONTROLLED EQUIPMENT - ALL WIRED BY ELECTRICAL

NOTES:

1. ALL DISCONNECTS ARE TO S, I AND C BY ELECTRICAL
 2. SINGLE POINT CONNECTION UNIT
 3. INTERLOCK WITH WASHROOM LIGHTING
 4. UNIT C/W VFD TO BE SUPPLIED WITH A MANUAL BYPASS.
 5. 120V POWER SUPPLY TO CONNECT TO LOW VOLTAGE TRANSFORMER PROVIDED BY DIV. 15.
 6. INTERLOCK UNIT TO OPERATE WHEN DOOR OPENS



3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

Revision/Revisión	Description/Description	Date/Date
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Client/client

Project title/Titre du projet
**5071 WEST SAANICH ROAD
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MECHANICAL MOTOR LIST

Project No./No. du projet R.077596.001	Sheet/Feuille WM02 OF 11	Revision no./La Révision no. 3
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AIR CONDITIONING UNIT

EQUIPMENT TAG	CONDENSER	QTY	SERVICE	LOCATION	EVAPORATOR	CONDENSER	MANUFACTURER	EVAP. MODEL	TOTAL CLG CAP (kW)	EFFY (SEER)	AIR FLOW (LPS) WET COIL	EVAP WEIGHT (LBS)	ELEC. (V/PH/HZ)	COND. MODEL NO.	COND. WEIGHT (LBS)	COND. ELEC (V/PH/HZ)	OUTDOOR AIR TEMP. (DEG.C)	RM SETPOINT	NOTES		
EVAPORATOR	CONDENSER																				
AC-1	CU-1	1	ELECTRICAL ROOM	ELECTRICAL ROOM	OUTSIDE	MITSUBISHI	PCA-A24KA4	3.5	16.8	316	32	208/1/60	PUY-A24NH44	163	208/1/60	-7.2	23.3	17.2	24	50	ALL

NOTES:
 1. UNITS TO BE SINGLE POINT POWER CONNECTION
 2. PROVIDE WALL MOUNTED PROGRAMMABLE THERMOSTAT.
 3. NOT USED
 4. PROVIDE 3/4" COPPER CONDENSATE DRAIN
 5. PROVIDE FILTER.
 6. PROVIDE PACKAGED CONDENSATE PUMP. (120 V CONNECTION)
 7. REFRIGERANT AND SUCTION LINE SIZES BY MANUFACTURER.
 8. INDOOR UNIT POWER BY OUTDOOR UNIT
 9. PROVIDE MOUNTING BASE.
 10. PROVIDE INTERFACE WITH DDC SYSTEM
 11. PROVIDE LOW AMBIENT KIT
 EVAP: INDOOR UNIT
 COND: OUTDOOR UNIT

PLUMBING ROUGH-IN SCHEDULE

EQUIPMENT TAG	DESCRIPTION/TYP	ROUGH-IN CONNECTIONS (MM)						REMARKS
		WASTE	VENT	COLD WATER	HOT WATER	STORM WATER		
FD-1	MECH ROOM FLOOR DRAIN	4"	2"					ALL
HB-1	MECHANICAL ROOM HOSE BIB			3/4"				ALL
LAV-1	BASIN WALL HUNG	1-1/4"	1-1/4"	1/2"	1/2"			ALL
WC-1	WATER CLOSET/WALL HUNG DR FLOOR MOUNTED	3"	1-1/2"	1-1/2"				ALL

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR INSTALLATION DETAILS.

FAN SCHEDULE

EQUIPMENT TAG	SERVICE	LOCATION	TYPE	MANUFACTURER	MODEL	AIR FLOW (L/S)	FAN (GRM)	DRIVE TYPE	MOTOR (kW)	POWER (V/PH/HZ)	SOUND LEVEL (dBA)	REMARKS
EF-1	CEILING FAN	CEILING	POWER/OIL	BIG ASS FANS	POWER/OIL X2.0	45	113	DIRECT	0.75	208/3/60		1,2,5,6
EF-1	UNIVERSAL W/R	CEILING	CEILING MOUNTED	GREEN-ECK	SP-A90	45	0.25	900	DIRECT	0.02	120/1/60	1.1
EF-2	W/R	CEILING	CEILING MOUNTED	GREEN-ECK	SP-A90	45	0.25	900	DIRECT	0.0	120/1/60	1.1

NOTES:
 1. 3M (10FT) FAN DIAMETER
 2. REFER TO MOTOR LIST FOR ELECTRICAL REQUIREMENTS
 3. ACOUSTIC LINED CABINET
 4. C/W BACKDRAFT DAMPER
 5. C/W WITH MANUFACTURER CONTROLLER
 6. C/W MANUFACTURER RECOMMENDED MOUNTING OPTION

DIFFUSERS AND GRILLES SCHEDULE

EQUIPMENT TAG	DESCRIPTION/TYP	MANUFACTURER	SERVICE	MODEL NUMBER	NOTES
DG-1	DOOR GRILLE	E.H. PRICE	TRANSFER AIR	STGI	1
SD-1	SUPPLY AIR GRILLE	E.H. PRICE	SUPPLY AIR	530 SERIES	1
RD-1	RETURN AIR GRILLE	E.H. PRICE	RETURN/EXHAUST AIR	530 SERIES	1

NOTES:
1. CONTRACTOR TO REVIEW MOUNTING DETAILS AND INSTALLATION PRIOR TO CONSTRUCTION

ELECTRIC BASEBOARD HEATER SCHEDULE

EQUIPMENT TAG	QTY	LOCATION	MANUFACTURER	MODEL	HEATING CAP. (kW)	POWER (V/PH/HZ)	NOTES
EBB-1	1	UNIVERSAL W/R	QMARK	CBD500	0.5	120/1/60	1,2
EBB-2	1	W/R	QMARK	CBD500	0.5	120/1/60	1,2
EBB-3	1	MECHANICAL ROOM 106	QMARK	CBD1500	1.5	120/1/60	1,2

NOTES:
 1. PROVIDE TAMPER PROOF LINE VOLTAGE THERMOSTAT
 2. PACKAGE RELAY FOR DDC CONTROL

ELECTRIC AIR CURTAIN SCHEDULE

EQUIPMENT TAG	QTY	LOCATION	MANUFACTURER	TYPE	MOUNTING TYPE	MODEL	MAX AIR FLOW (LPS)	MOTOR (HP)	MAX AMP	AIR COIL EAT (DEG C)	AIR COIL LAT (DEG C)	DP WEIGHT (KG)	ELEC (V/PH/CYC)	WEIGHT (kg)	REMARKS
ACH-1	4	OVERHEAD DOOR	BIDDLE	ELECTRIC HEATER	WALL MOUNTED	INDAC2 ST-250-A-1R	3120	0.87	5	-4	21	124	230/1/60	124	ALL
ACH-2	4	OVERHEAD DOOR	BIDDLE	ELECTRIC HEATER	WALL MOUNTED	INDAC2 ST-250-A-1L	3120	0.87	5	-4	21	124	230/1/60	124	ALL

NOTES:
 1. C/W GRILLES AND CLEANABLE AIR FILTERS
 2. C/W FACTORY 9-TOUCH CONTROL PANEL (1 TOTAL TO CONTROL ALL)
 3. DOOR CONTACT SWITCH (INTERLOCK W/ DOOR) C/W MANUFACTURER RECOMMENDED COUPLINGS, WALL BRACKETS, FLOOR PLATE AND MOUNTING ACCESSORIES FOR VERTICAL INSTALLATION
 4. OUTDOOR TEMPERATURE SENSOR
 5. C/W CORRECTIVE HEAT & IMPULSE PREDICTION SYSTEM (CHIPS)

DOMESTIC WATER HEATER (GAS FIRED)

EQUIPMENT TAG	LOCATION	MANUFACTURER	MODEL	FUEL TYPE	INPUT (MBH)	(kW)	TANK CAPACITY (L)	THERMAL EFFICIENCY	RECOVERY CAPACITY @ TEMP RISE	LPHAMPS	POWER (V/PH/HZ)	OPERATING WEIGHT (KG)	NOTES
DHWT-1	REFER TO DRAWINGS	AD SMITH	BTB-300A	PROPANE	300	88	451	96%	2179	5	120/1/60	765	ALL

NOTES:
 1. PROVIDE DRAIN PAN AND CONNECT 40MM DIA. DRAIN TO NEAREST SINK UPSTREAM OF P-TRAP
 2. TEMPERATURE AND PRESSURE RELIEF VALVES
 3. CERTIFIED MAX 150 PSI WORKING PRESSURE
 4. TEMPERATURE LIMITING CONTROL
 5. UL APPROVED EQUIPMENT
 6. C/W EXPANSION TANK
 7. PROVIDE VENT KIT

PUMPS

EQUIPMENT TAG	QTY	DESCRIPTION	LOCATION	TYPE	MANUFACTURER	MODEL	FLOW (L/S)	HEAD (EA)	MOTOR (kW)	MOTOR (RPM)	POWER (V/PH/HZ)	WEIGHT (kg)	NOTES
P-1	1	DOMESTIC RECIRCULATION PUMP	REFER TO DRAWINGS	IN-LINE VERTICAL	ARMSTRONG	ASTRO 250 SS	0.1	45	83	1800	120/1/60	5	ALL

NOTES:
 1. ALL BRONZE CONSTRUCTION
 2. HIGH EFFICIENCY MOTOR
 3. FOR DOMESTIC USE
 4. COMPLETE WITH AQUASTAT

PLUMBING FIXTURE SCHEDULE

WC-1 TOILET - FLOOR MOUNTED - FLUSHMETER - ELECTRONIC - EXPOSED - NO TOUCH - MIRRORS

1. BOWL: AMERICAN STANDARD MADERA FLOWISE RIGHT HEIGHT ELONGATED #3461.001.020 HET TOILET, 419 MM HIGH, VITREOUS CHINA WITH EVERCLEAN ANTIMICROBIAL SURFACE WHICH INHIBITS THE GROWTH OF STAIN AND ODOR CAUSING BACTERIA MOLD AND MILDEW, ELONGATED BOWL, WHITE FINISH, FLOOR MOUNTED, SIPHON JET FLUSH ACTION, OPERATES IN THE RANGE OF 4.2 L TO 6 L (1.1 US GAL TO 1.6 US GAL) PER FLUSH, CONDENSATE CHANNEL, 305 MM X 254 MM (12" X 10") WATER SURFACE, SIPHON JET FLUSH ACTION, CONDENSATE CHANNEL, ELONGATED BOWL, 54 MM (2-1/8") FULLY GLAZED INTERNAL TRAPWAY, FLOOR OUTLET, BOLT CAPS, 38 MM (1-1/2") DIA. TOP SPUD.

2. VALVE: SLOAN ROYAL OPTIMA #ROYAL OPTIMA 111 ES-S-CP, EXPOSED FLUSHMETER FOR TOP SPUD TOILET, POLISHED CHROME FINISH, 6 L (1.6 US GAL) FACTORY SET FLOW, QUIET ACTION 'PERMEX' DIAPHRAGM TYPE WITH DUAL FILTER BY-PASS, INFRARED SENSOR LOCATED ON A 125 MM X 125 MM (4-15/16" X 4-15/16") STAINLESS STEEL PLATE, SOLENOID OPERATED FLUSH CONTROLLER CIRCUITRY, COURTESY FLUSH ELECTRONIC OVER-RIDE BUTTON, V.P. SMOOTH DESIGN STOP CAP ON BAK-CHEK ANGLE STOP (SCREWDRIVER OPERATED), FLUSH TUBE FOR 292 MM (11-1/2") ROUGH-IN, HIGH PRESSURE VACUUM BREAKER, SENSOR LOCATED ABOVE THE TOILET, 5 VA POWER REQUIRED PER UNIT, SENSOR TO CLEAR TOILET SEAT COVER.

3. SEAT: CENTOCO #820S1S.001 TOILET SEAT, EXTRA HEAVY DUTY, FOR ELONGATED BOWL, OPEN FRONT, SOLID PLASTIC, WITH COVER, STAINLESS STEEL CHECK HINGES, METAL FLAT WASHERS STAINLESS STEEL POSTS AND NUTS.

4. FLANGE: PROVIDE FLOOR FLANGE, (SAME MATERIAL AS THE CONNECTING PIPE DRAIN), WITH ALL BRASS BOLTS AND WITH RUBBER GASKET.

LAV-1 - STAINLESS STEEL COUNTERTOP SINK - BARRIER FREE

1. BASIN: FRANK COMMERCIAL V1821 SERIES #V1821/5/1 BASIN, WITHOUT OVERFLOW, CENTER HOLE ONLY, 533 MM X 457 MM X 127 MM (21" X 18" X 5") HIGH, OVAL, GRADE 18-10 18 GA. (1.2 MM) TYPE 304 STAINLESS STEEL, MIRROR FINISHED RIM, SELF-FINISHING / DROP-IN, BACK FAUCET LEDGE, UNDERCOATED TO REDUCE CONDENSATION AND RESONANCE, MOUNTING KIT PROVIDED. PROVIDE BASIN RIM SEALANT.

2. TRIM:
 • SLOAN OPTIMA #ETF-610/ETF-1024-A ELECTRONIC FAUCET, CHROME PLATED, CENTER HOLE ONLY, CAST BRASS, WITH VANDAL RESISTANT 8.3 LPM (2.2 GPM), AERATOR SPRAY OUTLET, INFRARED SENSOR WITH SCREW ADJUSTABLE RANGE, UNDER COUNTER FILTERED SOLENOID VALVE WITH SERVICEABLE STRAINER FILTER, MODULE CONTROL ASSEMBLY HOUSED IN SPLASH PROOF JUNCTION BOX, 24VAC 50/60HZ, VANDAL PROOF BOX.
 • SLOAN #EL-154, BOX MOUNT HARD WIRED TRANSFORMER, 120 VAC/ 24 VAC, 50 VA, SLOAN #BOT, THERMOSTATIC MIXING VALVE, SOLID BIMETAL (BRONZE, BRASS, STAINLESS STEEL), HOT LIMIT STOP SET TO A MAXIMUM OF 43 °C (109.4 °F), SCREWDRIVER ADJUSTMENT TEMPERATURE DIAL WITH SCALE: COLD-HOT.

• PROVIDE TEE, ADAPTORS AND FLEX. COPPER TUBING TO SUIT INSTALLATION

3. DRAIN:
 • MCGUIRE #PRODRAINWC OFFSET OPEN GRID DRAIN, CAST BRASS ONE PIECE TOP, 17 GA. (1.5 MM) MM TUBULAR 32 MM (1-1/4") TAILPIECE, LESS OVERFLOW HOLES, SUPPLY PROVIDE FAUCET SUPPLIES, CHROME PLATED FINISH ALL METAL CONSTRUCTION, LIGHT DUTY RESIDENTIAL ANGLE STOPS, ESCUTCHEONS AND FLEXIBLE METAL RISERS, LOW LEAD.

• PROVIDE P-TRAP, CHROME PLATED, ADJUSTABLE ALL METAL CONSTRUCTION, 32 MM (1-1/4") SIZE, AND ESCUTCHEON.

• MCGUIRE PROWRAP #PW2000WC SANITARY COVERING VANDAL-RESISTANT, FLEXIBLE SEAMLESS MOULDED CLOSED-CELL PVC RESIN, FORMULATED WITH ANTI-MICROBIAL ADDITIVE TO LIMIT THE GROWTH OF FUNGUS AND BACTERIA, TO EXPOSED PIPING (TO PROTECT AGAINST HEAT/CONTUSIONS) AS PER LOCAL CODES.

SEE ARCHITECTURAL DRAWINGS FOR ROUGH IN HEIGHTS

FD-1 - FLOOR DRAIN

1. JAY R. SMITH #2450 04-B-FBS-M FLOOR DRAIN, FABRICATED STEEL BODY WITH GALVANIZED COATING INSIDE AND OUTSIDE AND CAST IRON GATE AND STAINLESS STEEL PORTED BUCKET, WITH MESH SCREEN AND LIFT BAR, CASTOUT OUTLET, FLAT BOTTOM STRAINER AND DUCTILE IRON GRATE.

FD-2 - WASHROOM FLOOR DRAIN

1. JAY R. SMITH #2005 04-A-P050 1/2" - G - 316 FLOOR DRAIN, DUCO CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD DRAINABLE 8-1/2" (215MM) DIAMETER TOP, 4" (100MM) OUTLET, SEDIMENT BUCKET, VANDAL PROOF GRATE, SATIN FINISH TOP, SEEPAGE HOLES, CPBM EQUIVALENT TO TYPE 316) STAINLESS STEEL.

MB-1 - MOSE BIBB - EXTERIOR - NON FREEZE

1. JAY R. SMITH #55090T-WC-W-E-NB BOX TYPE WALL HYDRANT, 1/4 TURN NON-D RIP, CERAMIC CARTRIDGE, 3/4" (19MM) NON FREEZE WALL TYPE WITH BRONZE NICKEL FACE AND STAINLESS STEEL BOX WITH FULL 180 DEG HINGED LOCKING, COVER OPENING BOX, SELF-DRAINING INTEGRAL VACUUM BREAKER, OPERATING KEYS, ADJUSTABLE WALL CLAMP, "WATER" ON COVER, UNION ELBOW - 3/4" NPT, NICKEL BRONZE BOX FACE.

MB-2 - MOSE BIBB - INTERIOR

1. JAY R. SMITH #5670, BRASS BODY WITH MACHINED BRASS VANDAL RESISTANT LOCK SHIELD BONNET, REMOVABLE WHEEL HANDLE, 3/4" (19MM) NPT FEMALE THREADED INLET AND 3/4" (19MM) HOSE CONNECTION.

DF-1 - EMERGENCY SHOWER & EYE/FACE WASH STATION

• HAWS MODEL 8300-8309 COMBINATION SHOWER AND EYE/FACE WASH SHALL INCLUDE A STAINLESS STEEL 11" (27.9 CM) ROUND BOWL, AN AXION MSR EYE/FACE WASH HEAD SHALL FEATURE INVERTED DIRECTIONAL LAMINAR FLOW WHICH ACHIEVES ZERO VERTICAL VELOCITY SUPPLIED BY AN INTEGRAL 3.7 GPM FLOW CONTROL UNIT SHALL ALSO INCLUDE THE AXION MSR HYDRODYNAMIC DESIGNED ABS PLASTIC SHOWERHEAD WITH 20 GPM FLOW CONTROL, CHROME-PLATED BRASS STAY-OPEN BALL VALVE EQUIPPED WITH STAINLESS STEEL BALL AND STEM, AND CHROME-PLATED BRASS IN-LINE 50 X 50 MESH WATER STRAINER. UNIT SHALL ALSO INCLUDE SCHEDULE 40 HOT-DIPPED GALVANIZED STEEL PIPE AND FITTINGS, POWDER-COATED CAST-IRON 9" (22.9 CM) DIAMETER FLOOR FLANGE, SELF-ADHESIVE HIGH VISIBILITY SAFETY GREEN AND BRIGHT YELLOW STRIPES, UNIVERSAL SIGN, AND 1-1/4" NPT SUPPLY.

• HAWS THERMOSTATIC MIXING VALVE MODEL 9201E AXION EMERGENCY TEMPERING VALVE

AIR HANDLING UNIT

TAG	AHU-1	AHU-2	AHU-3
QUANTITY	1	1	1
LOCATION	NORTH SIDE	EAST SIDE	SOUTH SIDE
SERVICE	NRC	NRC	NRC
MANUFACTURER	TRANE	TRANE	TRANE
SYSTEM TYPE	UNITARY	UNITARY	UNITARY
TINNAGE	5.0	5.0	5.0
MODEL	YSC 060G	YSC 060G	YSC 060G
FAN			
NORMAL VOLUME (LPS)	945	945	945
MINIMUM OUTDOOR AIR (CFM)	425	425	425
EXTERNAL STATIC (Pa)	125	125	125
TOTAL STATIC (Pa)	1745	1745	1745
MOTOR (kW)	745.7	745.7	745.7
POWER SUPPLY	208/3/60	208/3/60	208/3/60
HEATING SECTION			
FUEL TYPE	PROPANE	PROPANE	PROPANE
CAPACITY (kW)	31.3	31.3	31.3
INPUT CAPACITY (kW)	39.2	39.2	39.2
OUTPUT CAPACITY (kW)	32.2	32.2	32.2
NO. BURNERS	3.0	3.0	3.0
STAGES	1.0	1.0	1.0
AIR PRESSURE DROP (IN. WG)	-	-	-
MAX AIR VELOCITY (FPM)	800.0	800.0	800.0
EAT (DEG C)	7.2	7.2	7.2
LAT (DEG C)	35.0	35.0	35.0
GAS PIPE CONNECTION SIZE (IN.)	1/2	1/2	1/2
DX COILING SECTION			
SENSIBLE CAPACITY (kW)	14	14	14
TOTAL CAPACITY (kW)	18	18	18
AIR PRESSURE DROP (IN. WG)	-	-	-
MAX AIR VELOCITY (FPM)	500	500	500
EAT DB (DEG. C)	-8	-8	-8
EAT WB (DEG. C)	-18	-18	-18
LAT DB (DEG. C)	24	24	24
LAT WB (DEG. C)	14	14	14
REFRIGERANT TYPE	R-410	R-410	R-410
FILTERS			
MAIN FILTER	500x750x50	500x750x50	500x750x50
DIMENSIONS			
WEIGHT (KG)	362.0	362.0	362.0
LXWXH (INCH)			
REMARKS			

NOTES:
 1. 100% ECONOMIZER CAPABILITY
 2. ALL HDA AND VSD STARTER ARE TO BE FACTORY INSTALLED AND BE INSTALLED IN NEMA 4 RATED ENCLOSURES.
 3. 100% OUTDOOR AIR WITH RETURN AIR RECIRCULATION TO PREVENT HEATING COIL FREEZING SIZED AT 30% OF UNIT AIRFLOW.
 4. SINGLE POINT POWER CONNECTION TO UNIT (EXCEPT LIGHTING)
 5. LIGHTING TO BE PROVIDED ON SEPARATE 120V CIRCUIT.



Revision/Revisão	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CB REVIEW	2018.03.14
1	ISSUED FOR 90% CB REVIEW	2018.02.28

Client/client

Project title/Titre du projet
**5071 WEST SAANICH ROAD
 VICTORIA, BC, CANADA**

**NRC HERZBERG
 ASTRONOMY AND ASTROPHYSICS
 ATP INTEGRATION FACILITY**

Consultant Signature Only

Designed by/Concept par
 A.O./F.L.L.

Drawn by/Dessiné par
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PATRICK TROUNG

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PREETIPAL PAUL

Drawing title/Titre du dessin

MECHANICAL SCHEDULES

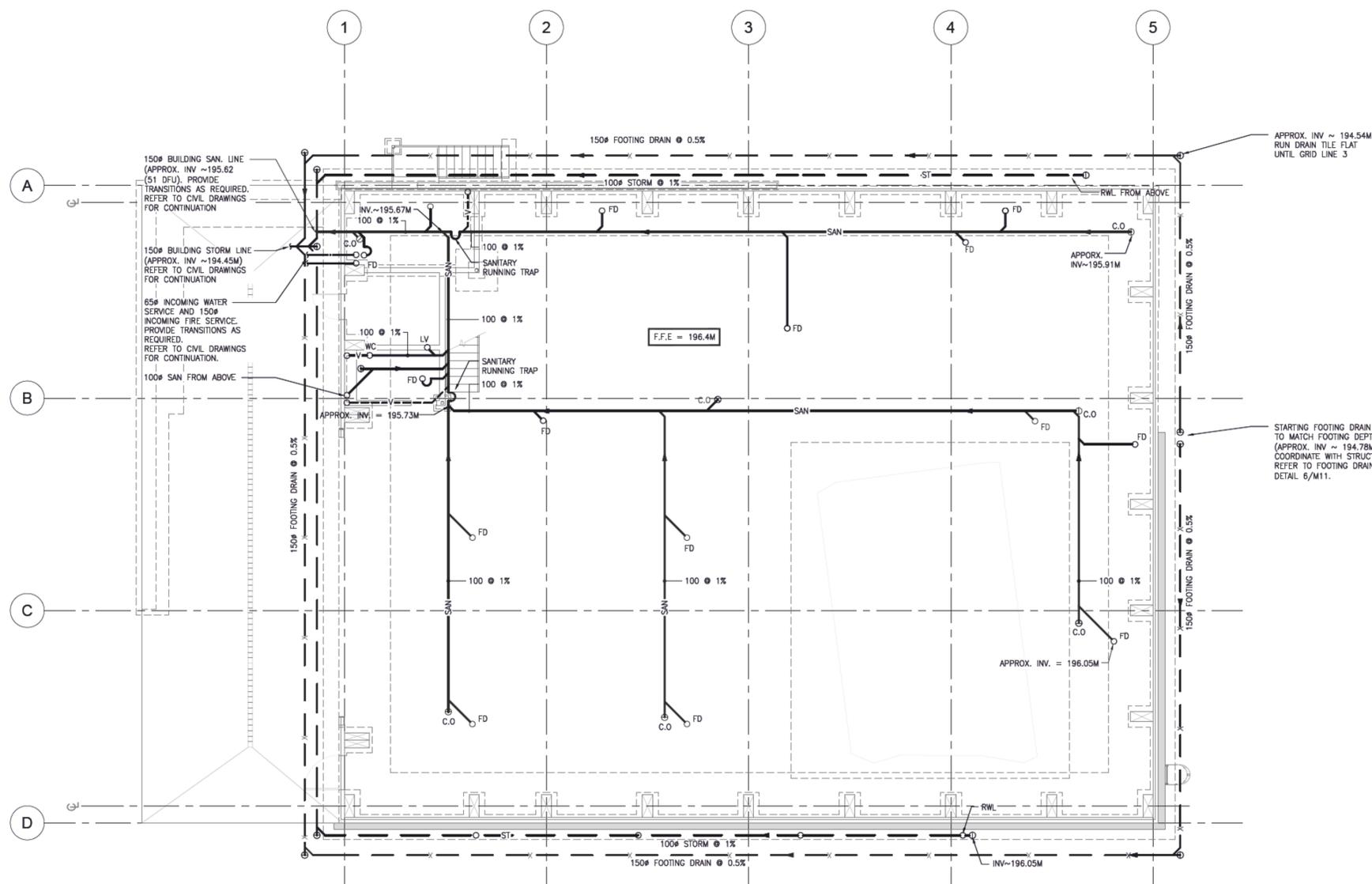
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OF 11



FOUNDATION GENERAL NOTES:

1. REFER TO CIVIL DRAWINGS FOR ALL CONNECTION POINTS FOR MECHANICAL SERVICES. THIS CONTRACTOR SHALL MAKE ALL REQUIRED CONNECTIONS.
2. CONFIRM ALL INVERTS FOR SERVICES PRIOR TO LAY-OUT OF THE SERVICE ROUTING. ADJUST AS REQUIRED.
3. INVERT LEVELS ARE INDICATIVE ONLY, CONTRACTOR TO INSTALL SANITARY PIPING TO MAINTAIN MINIMUM SLOPE AS PER PLUMBING CODE.



1 FOUNDATION PLAN
WM04 1:100

PROJECT NORTH

Revision/	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

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PREETIPAL PAUL

Drawing title/Titre du dessin

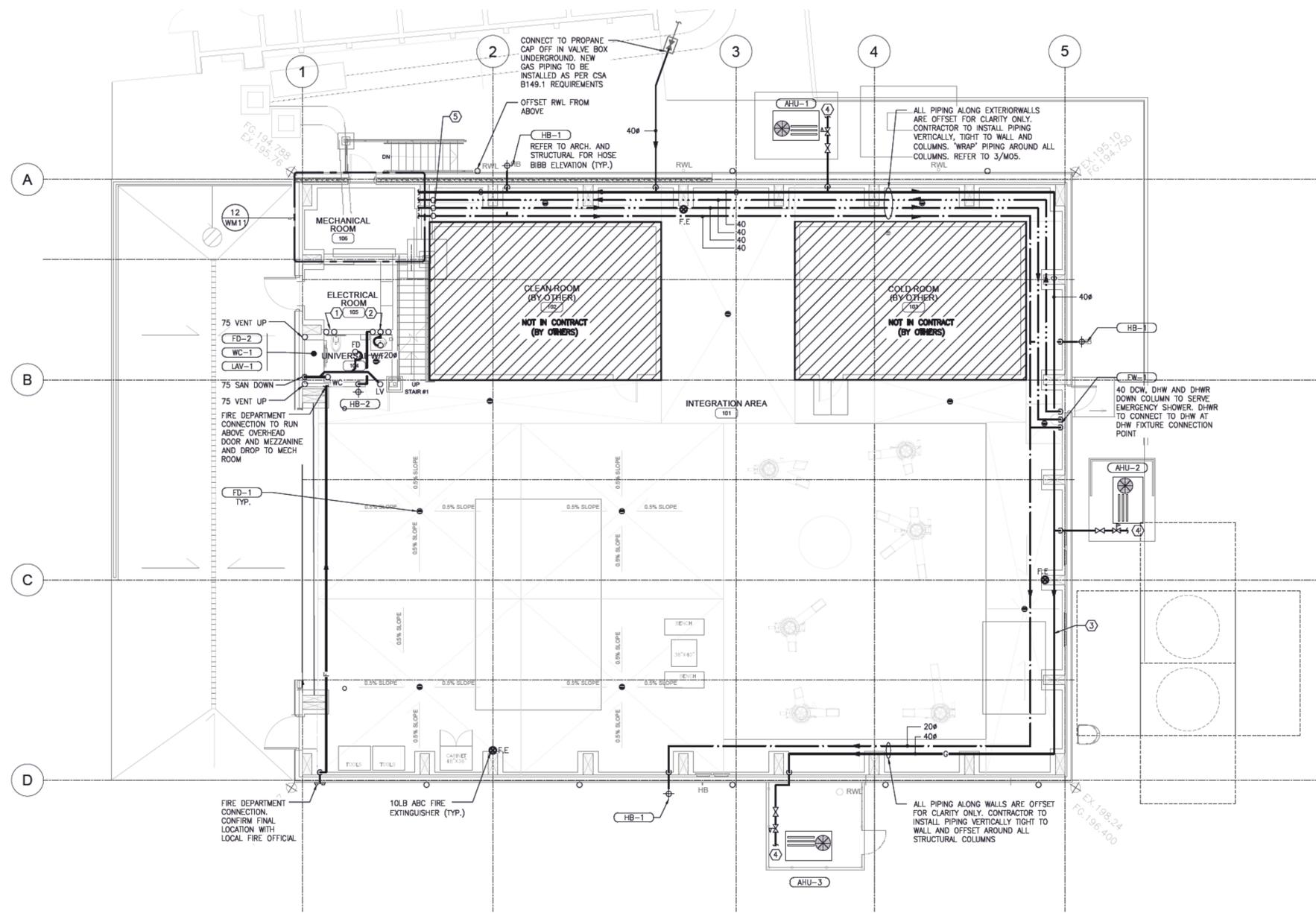
FOUNDATION PLAN

Project No./No. du projet R.077596.001	Sheet/Feuille WM04 OF 11	Revision no./ La Révision no. 3
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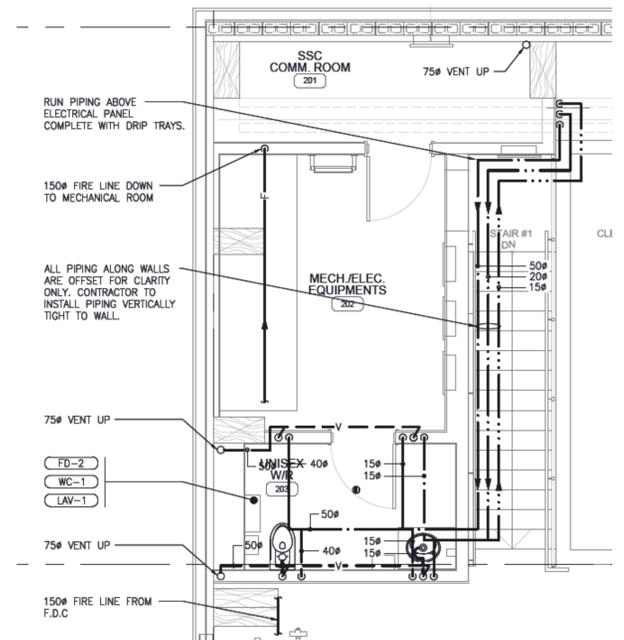
- PLUMBING GENERAL NOTES:**
- REFER TO CIVIL DRAWINGS FOR ALL CONNECTION POINTS FOR MECHANICAL SERVICES. THIS CONTRACTOR SHALL MAKE ALL REQUIRED CONNECTIONS.
 - CONFIRM ALL INVERTS FOR SERVICES PRIOR TO LAY-OUT OF THE SERVICE ROUTING. ADJUST AS REQUIRED.
 - PROVIDE TRAP PRIMERS FOR FLOOR DRAINS.
 - COORDINATE EXACT MOUNTING HEIGHTS AND LOCATIONS OF ALL PLUMBING FIXTURES WITH THE CASEWORK AND ARCHITECTURAL DRAWINGS.
 - ALL PIPING SHALL BE INSTALLED ON THE WARM SIDE OF THE BUILDING INSULATION, UNLESS OTHERWISE NOTED ON THE DRAWING.
 - PROVIDE VENTS FROM ALL PROPANE GAS REGULATORS TO THE EXTERIOR OF THE BUILDING IN COPPER PIPING.
 - PROVIDE MAIN ISOLATION VALVES INTO ALL WASHROOMS, AND DISTINCT FIXTURE AREAS AND AS SHOWN ON THE PLANS.
 - FLOOR DRAINS QUANTITIES AND LOCATIONS TO BE COORDINATED WITH ARCHITECTS.

- FIRE PROTECTION NOTES:**
- THIS BUILDING IS TO BE FULLY SPRINKLERED TO MEET NFPA 13 REQUIREMENTS. ALL AREAS TO BE SPRINKLERED.
 - FIRE SUPPRESSION SYSTEM INFORMATION SHOWN ON THESE PLANS ARE FOR GENERAL SCOPE OF WORK AND COORDINATION DURING DESIGN.
 - THE SYSTEM IS A DESIGN BUILD CONTRACT AS OUTLINED HERE AND IN THE SPECIFICATION. ALL SPRINKLER DESIGN AND WORK TO BE IN ACCORDANCE WITH NFPA-13 REQUIREMENT.
 - THE DESIGN BUILD CONTRACTOR SHALL RETAIN ON BEHALF OF THE OWNER A REGISTERED PROFESSIONAL ENGINEER IN THE PROVINCE OF BRITISH COLUMBIA FOR THE COMPLETE DESIGN IN ACCORDANCE WITH ALL CODES AND STANDARDS. THE CONTRACTOR'S ENGINEER SHALL BE THE "REGISTERED PROFESSIONAL OF RECORD" FOR THE FIRE SUPPRESSION SYSTEMS (PART 5 OF THE LETTERS OF ASSURANCE.)
 - THE BUILDING CODE REPORT FORMS AN INTEGRAL PART OF THE FIRE SUPPRESSION SYSTEM AND SHALL FORM PART OF THIS CONTRACTOR'S SCOPE OF WORK RELATED TO THE FIRE SUPPRESSION.
 - SPRINKLER HEADS ARE TO BE COORDINATED WITH LIGHTING. PROVIDE SHOP DRAWINGS FOR ACCESS PANELS INCLUDING LOCATION WITH RESPECT TO SPRINKLERS, LIGHTING AND DIFFUSER/GRILLES.
 - PROVIDE ALL ANCLLARY DEVICES AND BAFFLES REQUIRED TO MEET NFPA STANDARDS. EXPOSED PIPING WILL BE MADE READY FOR PAINTING AS SPECIFIED IN THE PAINTING SPECIFICATIONS.
 - CONTRACTOR TO PROVIDE FIRE EXTINGUISHERS TO MEET NFPA 10 REQUIREMENTS UNLESS OTHERWISE DIRECTED BY THE AUTHORITIES HAVING JURISDICTION.

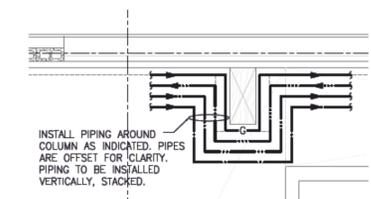
- DRAWING NOTES:**
- 40# DCW FROM ABOVE AND 40# VENT TO ABOVE SERVING WATER CLOSET.
 - 20# DCW & 15# DHW FROM ABOVE. 30# SAN DOWN AND 30# VENT UP.
 - PROVIDE DRIP TRAYS FOR PIPING RUNNING ABOVE ELECTRICAL PANELS. PIPE DRIP TRAY TO FLOOR.
 - CONNECT PROPANE LINE TO AIR HANDLER C/W ISOLATION VALVE, DRIP LEG, PRESSURE REGULATOR VALVE AND SEISMIC GAS SHUT OFF VALVE
 - 50# DCW UP, 20# DHW UP AND 15# DHWR FROM ABOVE



1 PLUMBING AND FIRE PROTECTION PLAN
WM05 1:100
PROJECT NORTH



2 PLUMBING AND FIRE PROTECTION MEZZANINE PLAN
WM05 1:50
PROJECT NORTH



3 TYPICAL PIPING DETAIL
WM05 N.T.S.

Revision/Revisión	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

Project title/Titre du projet
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**NRC HERZBERG
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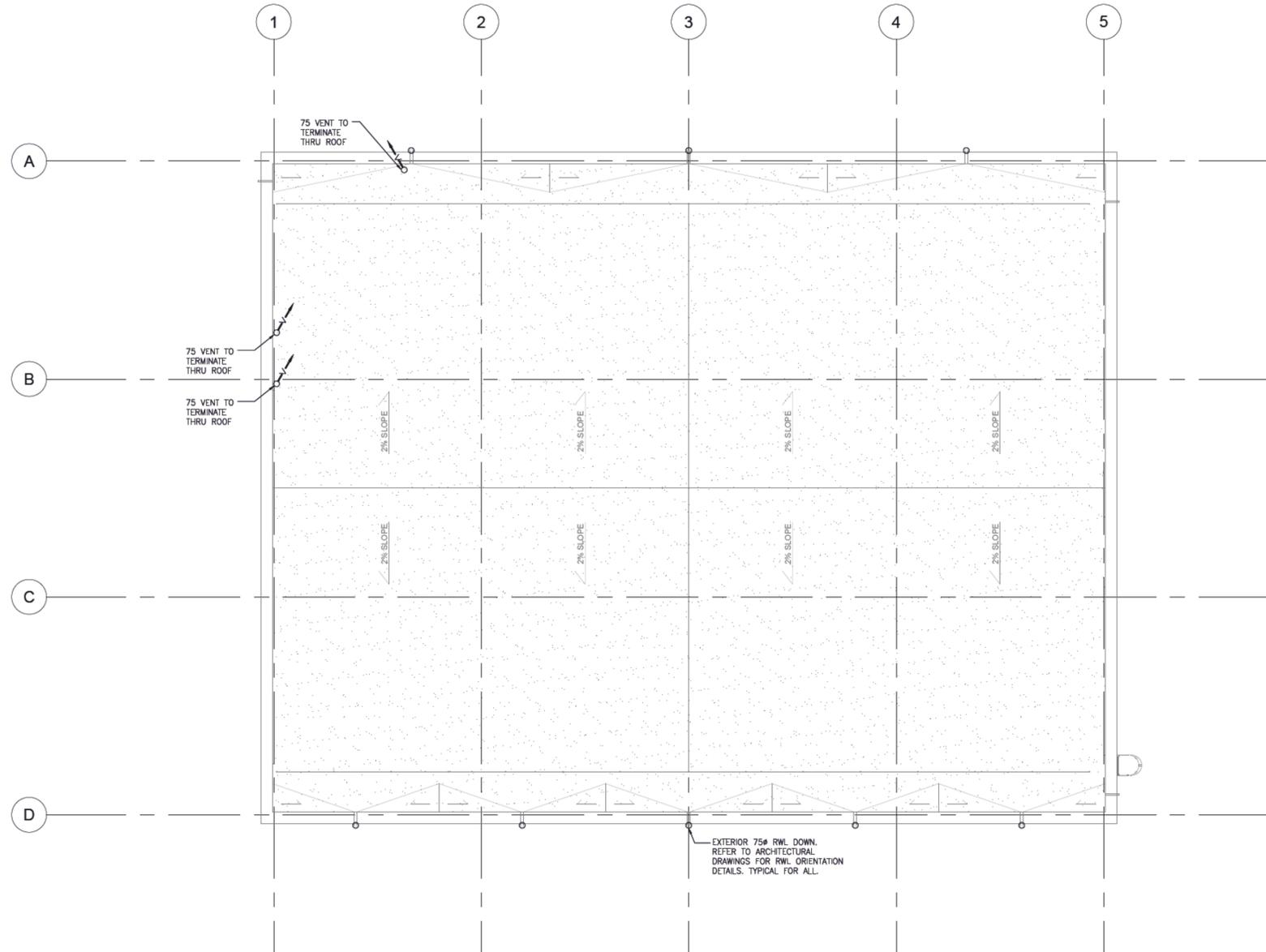
PWGS/C Project Manager/Administrateur de Projets TPSSC
PATRICK TROUNG

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSSC
PREETIPAL PAUL

Drawing title/Titre du dessin

PLUMBING AND FIRE PROTECTION PLAN

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1 PLUMBING ROOF PLAN
WM06 1:100
PROJECT NORTH

Revision/Revisión	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

Client/client

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5071 WEST SAANICH ROAD
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NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY

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Gestionnaire régionale, Services d'architecture et de génie, TPSC
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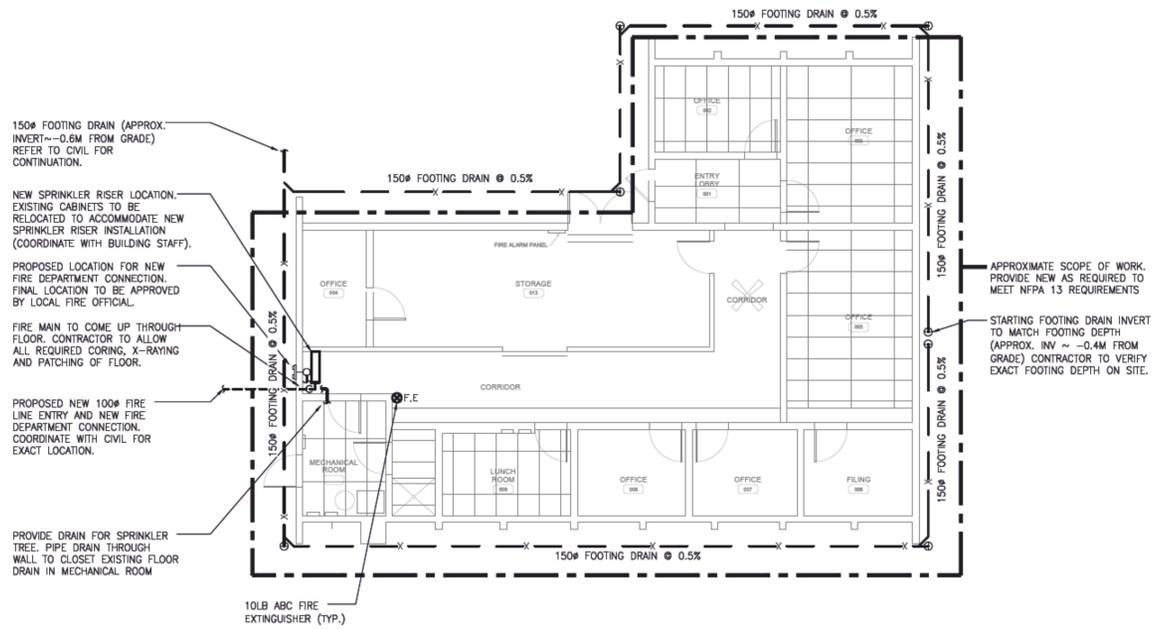
Drawing title/Titre du dessin

PLUMBING ROOF PLAN

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- FIRE PROTECTION NOTES:**
1. FIRE SUPPRESSION SYSTEM INFORMATION SHOWN ON THESE PLAN ARE FOR GENERAL SCOPE OF WORK AND COORDINATION DURING DESIGN. THE SYSTEM IS A DESIGN BUILD CONTRACT AS OUTLINED HERE AND IN THE SPECIFICATION. ALL SPRINKLER DESIGN AND WORK TO BE IN ACCORDANCE WITH NFPA-13 REQUIREMENT.
 2. THE DESIGN BUILD CONTRACTOR SHALL RETAIN ON BEHALF OF THE OWNER A REGISTERED PROFESSIONAL ENGINEER IN THE PROVINCE OF BRITISH COLUMBIA, FOR THE COMPLETE DESIGN IN ACCORDANCE WITH ALL CODES AND STANDARDS. THE CONTRACTOR'S ENGINEER SHALL BE THE "REGISTERED PROFESSIONAL OF RECORD" FOR THE FIRE SUPPRESSION SYSTEMS (PART 5 OF THE LETTERS OF ASSURANCE.)
 3. THE BUILDING CODE REPORT FORMS AN INTEGRAL PART OF THE FIRE SUPPRESSION SYSTEM AND SHALL FORM PART OF THIS CONTRACTOR'S SCOPE OF WORK RELATED TO THE FIRE SUPPRESSION. REFER TO THE DETAILS IN PARTICULAR TO THE AREAS OF SPRINKLERS REQUIRED AS ALTERNATE SOLUTIONS.
 4. SPRINKLER HEADS ARE TO BE COORDINATED WITH LIGHTING.
 5. PROVIDE ALL ANCILLARY DEVICES AND BAFFLES REQUIRED TO MEET NFPA STANDARDS. EXPOSED PIPING WILL BE MADE READY FOR PAINTING AS SPECIFIED IN THE PAINTING SPECIFICATIONS.
 6. LOCATION OF FIRE EXTINGUISHERS TO BE CO-ORDINATED ON SITE WITH ARCHITECT PRIOR TO INSTALLATION.
 7. CONTRACTOR TO PROVIDE FIRE EXTINGUISHERS TO MEET NFPA TO REQUIREMENTS UNLESS OTHERWISE DIRECTED BY THE AUTHORITIES HAVING JURISDICTION.
 8. SPRINKLER LINES IN BE INSTALLED EXPOSED IN OPEN CONCRETE CEILINGS AREAS (UPRIGHT SPRINKLER HEADS) AND ABOVE T-BAR IN T-BAR CEILING AREAS (PENDANT TYPE SPRINKLER HEAD).



1 SITE SERVICES BUILDING FIRE PROTECTION PLAN
WM07 1:100

PROJECT NORTH

Revision/Revising	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

Client/client

Project title/Titre du projet
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ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY**

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PREETIPAL PAUL

Drawing title/Titre du dessin

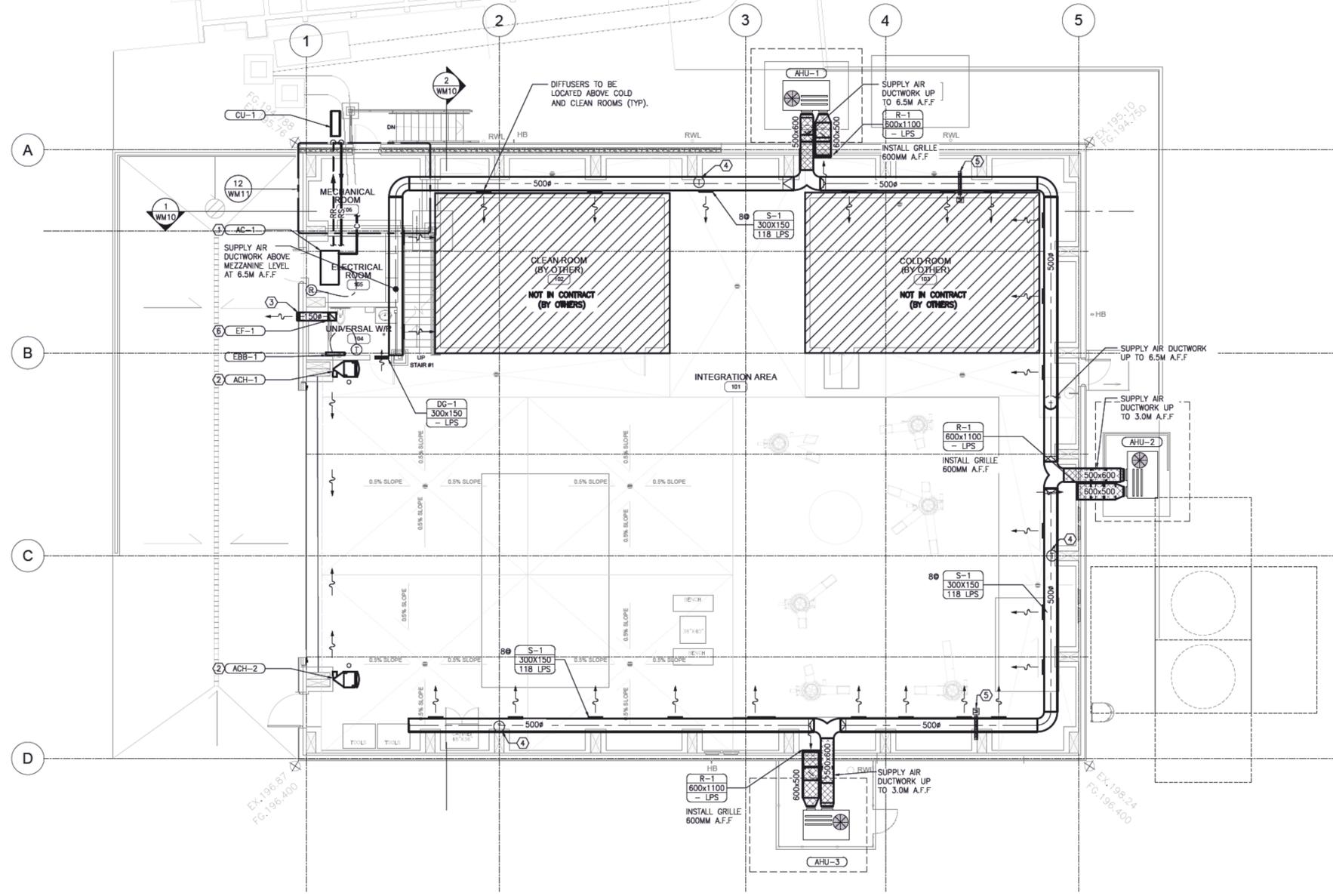
SITE SERVICES BUILDING FIRE PROTECTION PLAN

Project No./No. du projet R.077596.001	Sheet/Feuille WM07 OF 11	Revision no./La Révision no. 3
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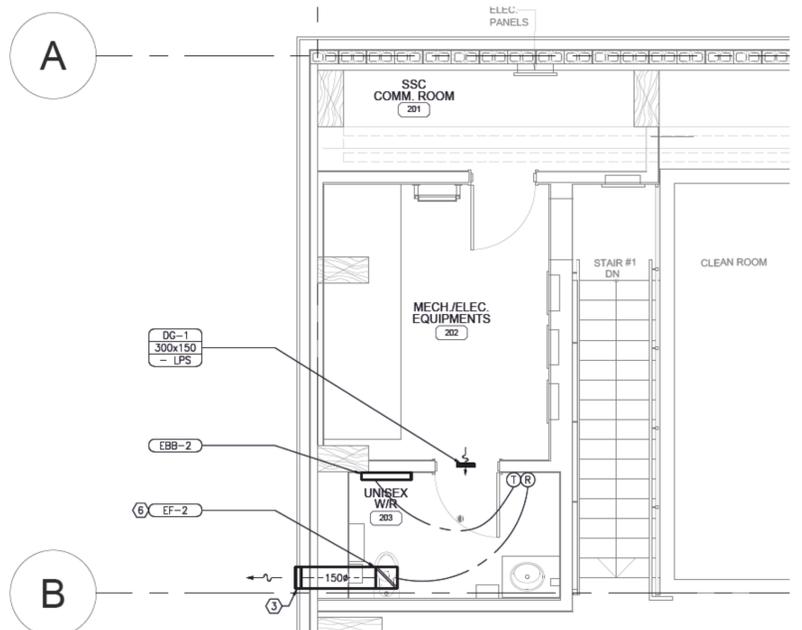


- HVAC GENERAL NOTES:**
1. INTERLOCK EXHAUST FANS EF-1 AND EF-2 TO WASHROOM LIGHTING. CONTRACTOR TO COORDINATE WITH ELECTRICAL.
 2. AHU-1, AHU-2 AND AHU-3 TO BE INSTALLED ON 100MM CONCRETE HOUSEKEEPING PADS.
 3. PROVIDE AND INSTALL BALANCING DAMPERS FOR ALL SUPPLY AIR GRILLES
 4. ALL DUCTWORK EXPOSED TO OUTDOOR ENVIRONMENT TO BE FULLY INSULATED AND WEATHERPROOFED. REFER TO SPECIFICATION FOR DETAILS.
 5. AIR CURTAINS ACH-1 AND ACH-2 TO BE INTERLOCKED WITH OVERHEAD DOOR. ADJUST AIR DISCHARGE DISTANCE TO 5M.
 6. AVERAGE OF ALL THERMOSTATS TO BE MEASURED TO CONTROL ALL AIR HANDLERS IN CONJUNCTION.
 7. MAIN SUPPLY AIR DUCTWORK TO BE SUPPORTED FROM COLLUMS/STRUCTURAL BRACING. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS

- DRAWING NOTES:**
- ① INSTALL CONDENSATE PUMP FOR AC-1, RUN CONDENSATE DRAIN TO MECHANICAL ROOM FLOOR DRAIN.
 - ② AIR CURTAINS TO BE INSTALLED VERTICALLY (STACKED). CONTRACTOR TO FOLLOW MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES FOR INSTALLATION.
 - ③ WASHROOM EXHAUST TO TERMINATE COMPLETE WITH EXHAUST WALL CAP.
 - ④ PROVIDE CONTROLLER TO TAKE THE AVERAGE TEMPERATURE OF ALL THREE THERMOSTATS AND PROVIDE RESULT TO ALL THREE AHUS, ALL THREE UNITS SHALL OPERATE BASED ON THE SAME AVERAGE TEMPERATURE.
 - ⑤ MOTORIZED DAMPER TO BE NORMALLY CLOSED. DAMPERS TO FULLY OPEN UPON FAILURE OF ANY ONE AHU OR IN CASE OF POWER FAILURE.
 - ⑥ MOUNT CEILING EXHAUST FAN AND DUCTWORK BELOW CEILING



1 HVAC GROUND FLOOR PLAN
WM08 1:100



2 HVAC MEZZANINE PLAN
WM08 1:100



Revision/Revisión	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
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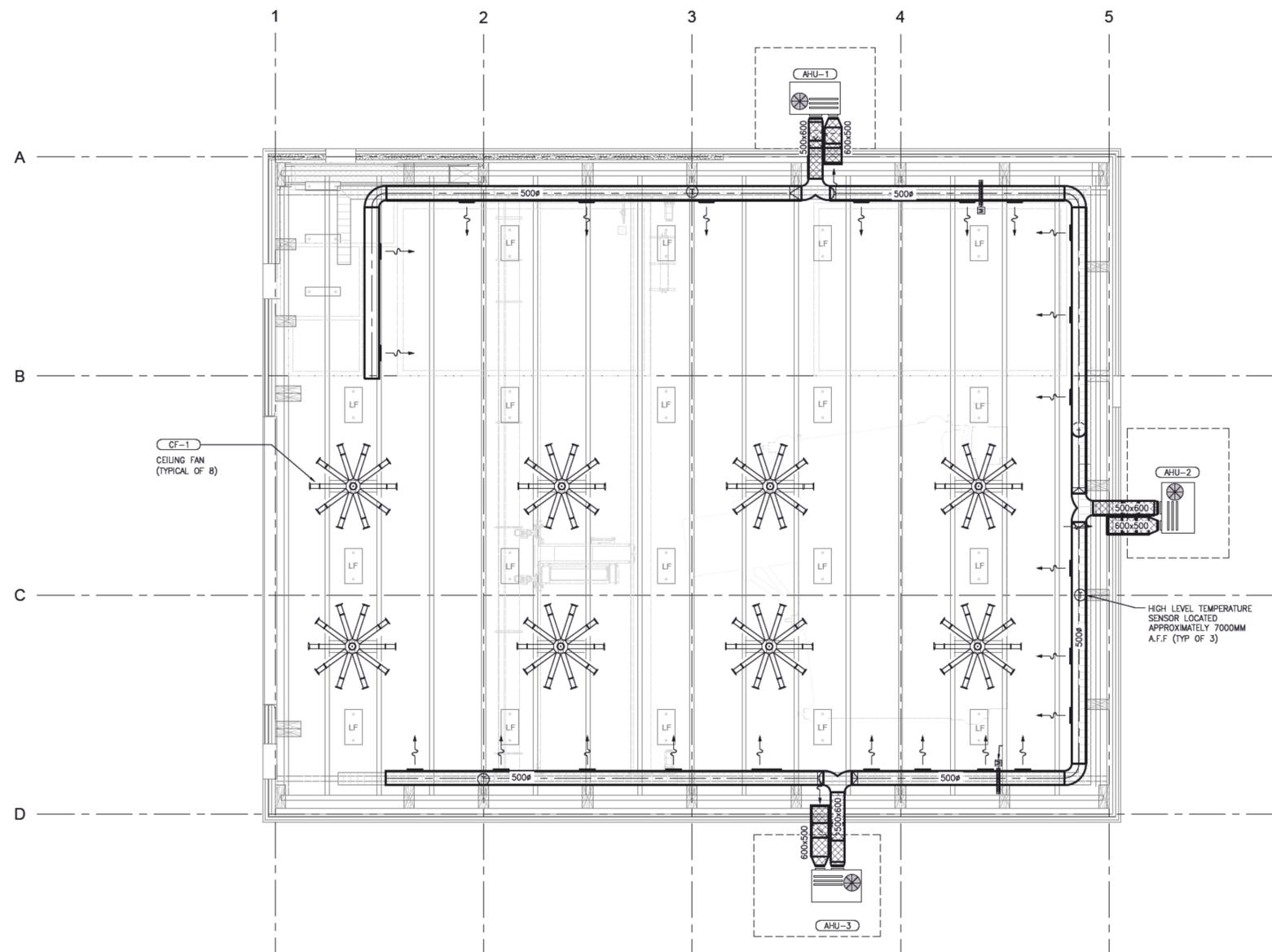
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Gestionnaire régionale, Services d'architectural et de génie, TPSOC
PREETIPAL PAUL

Drawing title/Titre du dessin

**HVAC GROUND FLOOR AND
MEZZANINE PLAN**

Project No./No. du projet R.077596.001	Sheet/Feuille WM08 OF 11	Revision no./ La Révision no. 3
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1 HVAC REFLECTED CEILING PLAN
WM09 1:100

PROJECT NORTH



Revision/Revisión	Description/Description	Date/Date
3	ISSUED FOR TENDER	2018.03.27
2	ISSUED FOR 100% CD REVIEW	2018.03.14
1	ISSUED FOR 90% CD REVIEW	2018.02.28

Project title/Titre du projet
5071 WEST SAANICH ROAD
VICTORIA, BC, CANADA

**NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY**

Consultant Signature Only

Designed by/Concept par
A.O./F.L.

Drawn by/Dessiné par
N.Y.

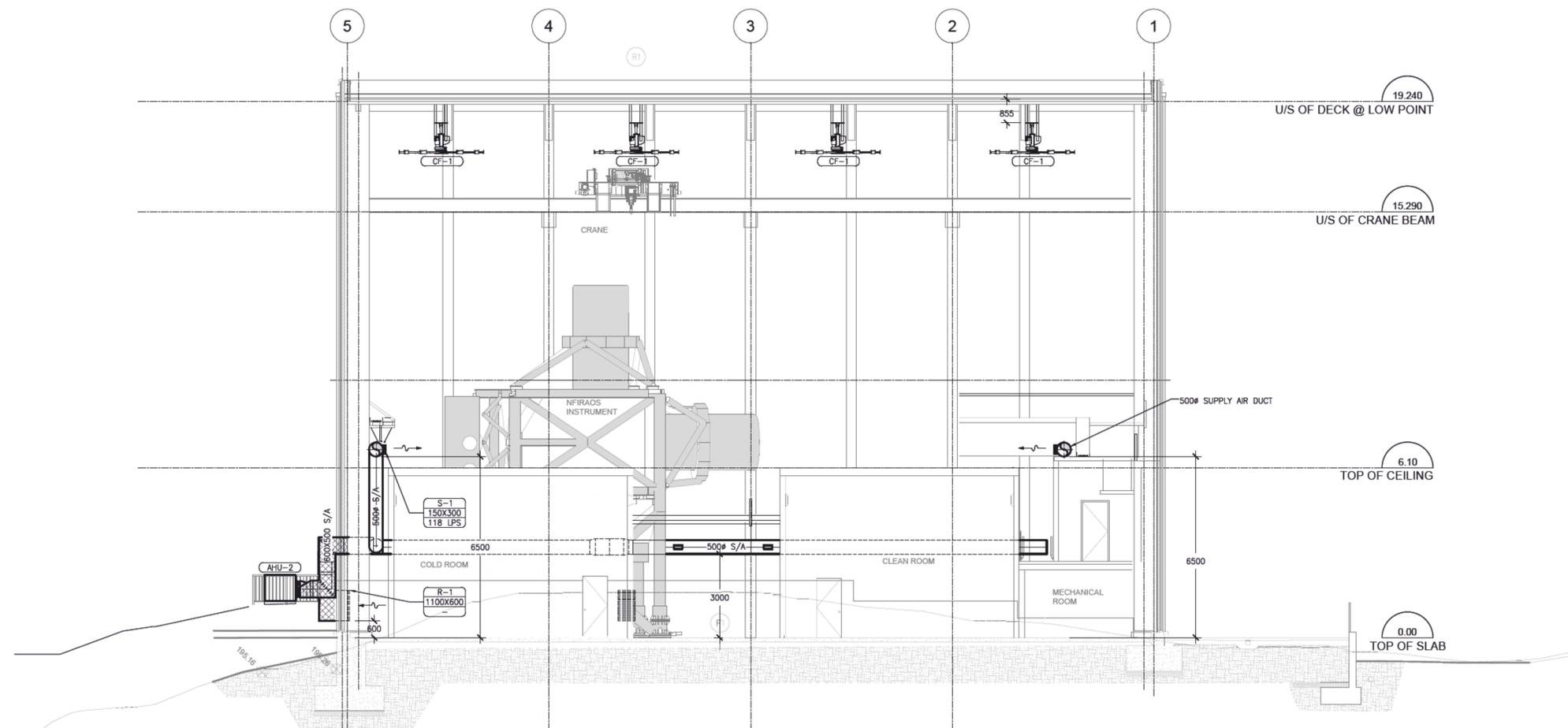
PWSC Project Manager/Administrateur de Projets TPSGC
PATRICK TROUNG

Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

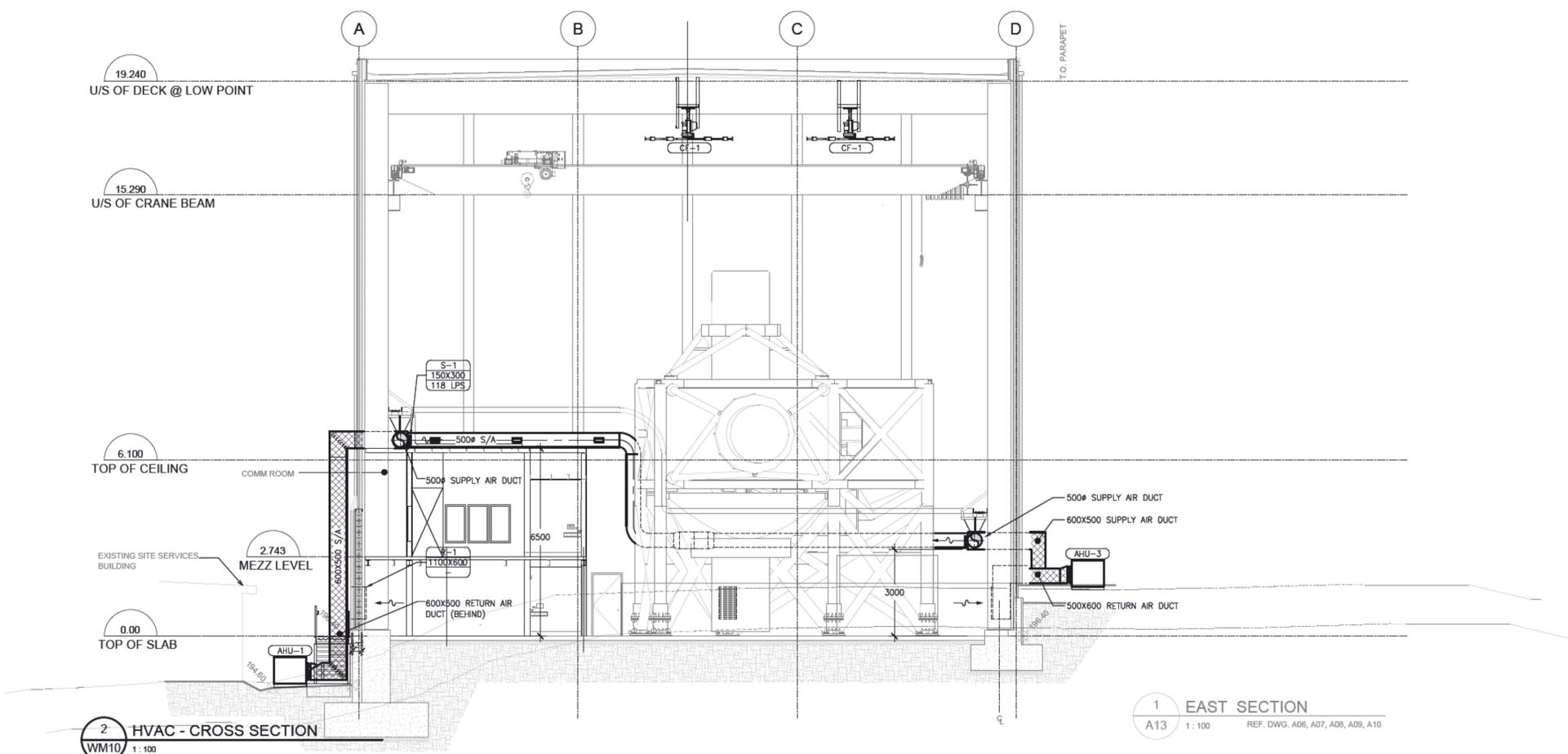
Drawing title/Titre du dessin

HVAC REFLECTED CEILING PLAN

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1 HVAC - LONGITUDINAL SECTION
WM10 1:100



2 HVAC - CROSS SECTION
WM10 1:100

1 EAST SECTION
A13 1:100 REF. DWG. A06, A07, A08, A09, A10



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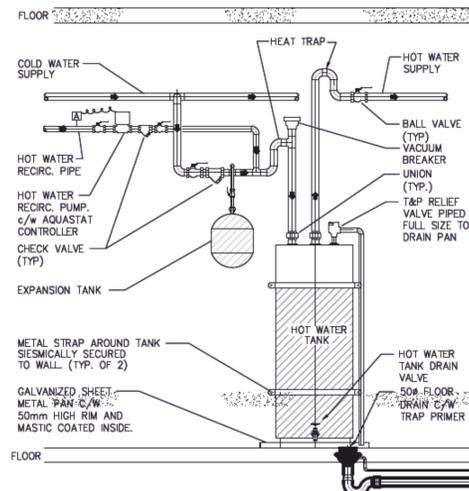
PWGSC Project Manager/Administrateur de Projets TPSC
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Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSC
PREETIPAL PAUL

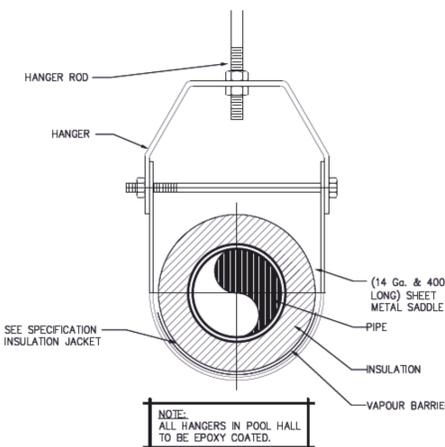
Drawing title/Titre du dessin

MECHANICAL SECTIONS

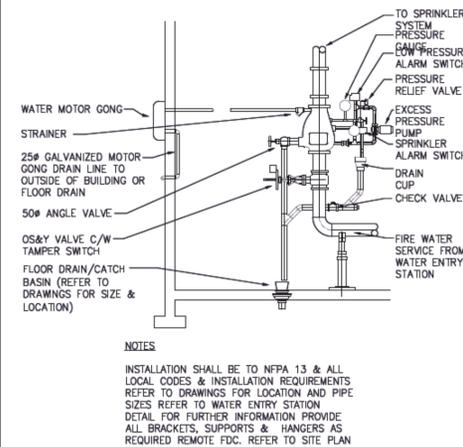
Project No./No. du projet R.077596.001	Sheet/Feuille WM10 OF 11	Revision no./La Révision no. 3
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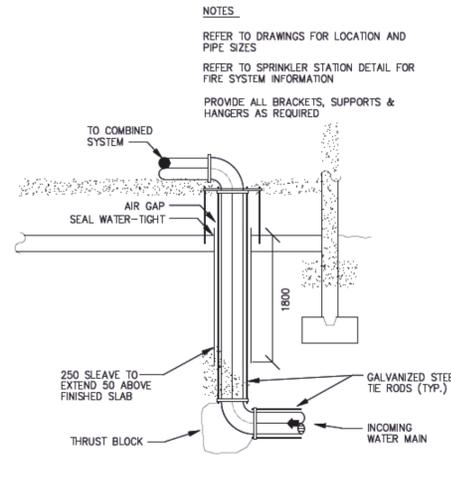
1 DOMESTIC HOT WATER TANK DETAIL
WM11 N.T.S.



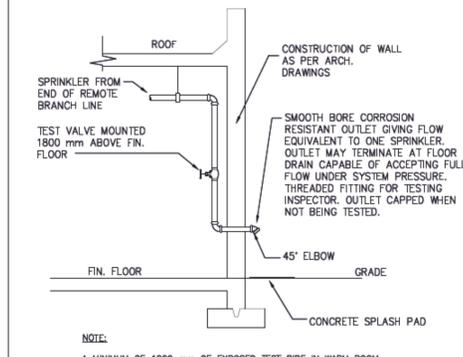
2 INSULATED PIPE HANGER DETAIL
WM11 N.T.S.



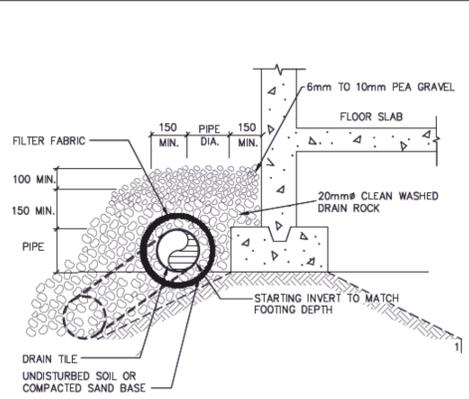
3 WET SPRINKLER ALARM STATION
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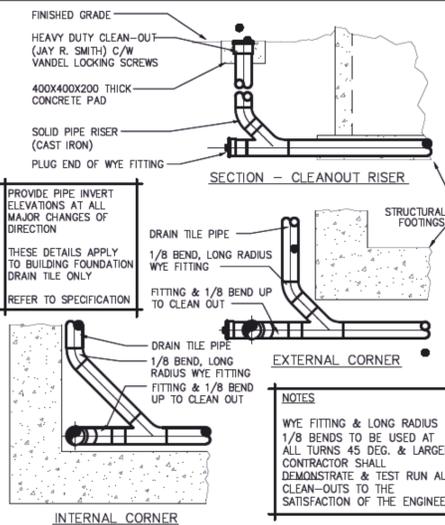
4 WATER ENTRY PIPE DETAIL
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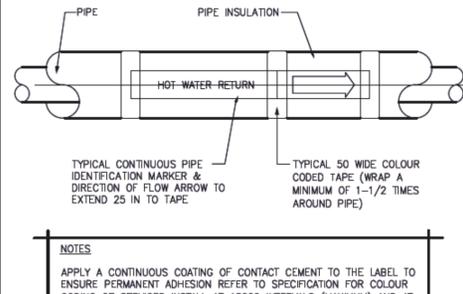
5 SPRINKLER TEST DRAIN DETAIL
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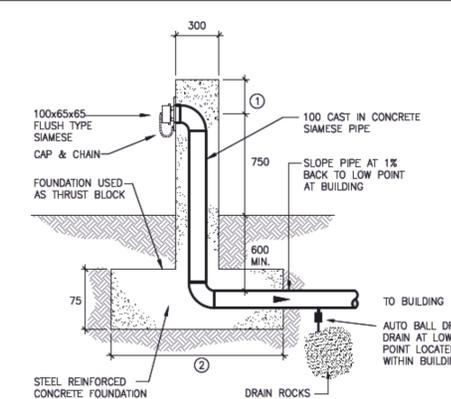
6 DRAIN TILE DETAIL
WM11 N.T.S.



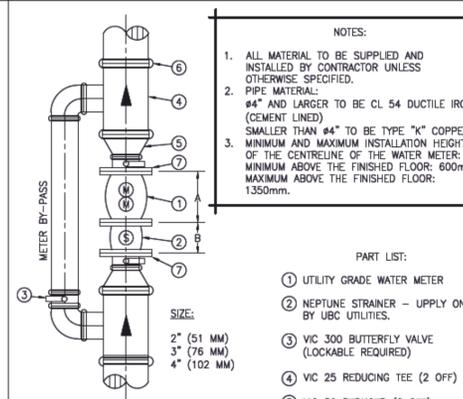
7 EXTERIOR CLEANOUT DETAIL
WM11 N.T.S.



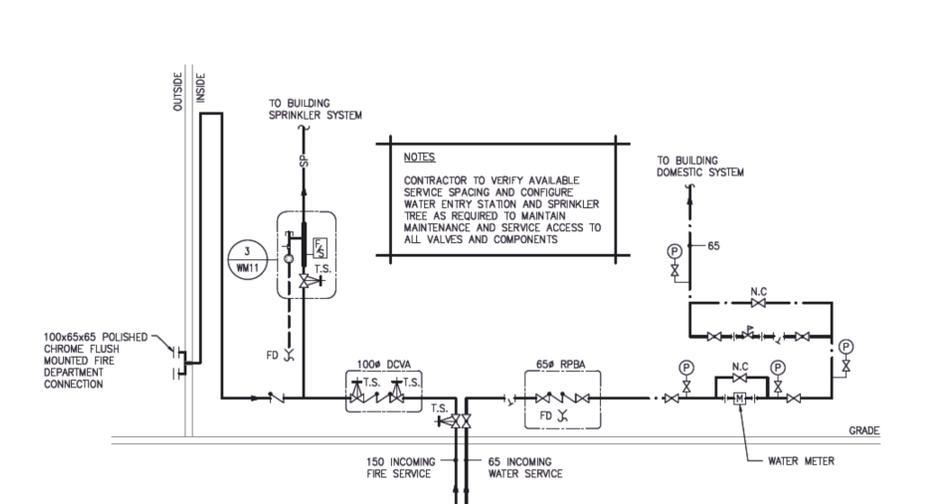
8 PIPE IDENTIFICATION DETAIL
WM11 N.T.S.



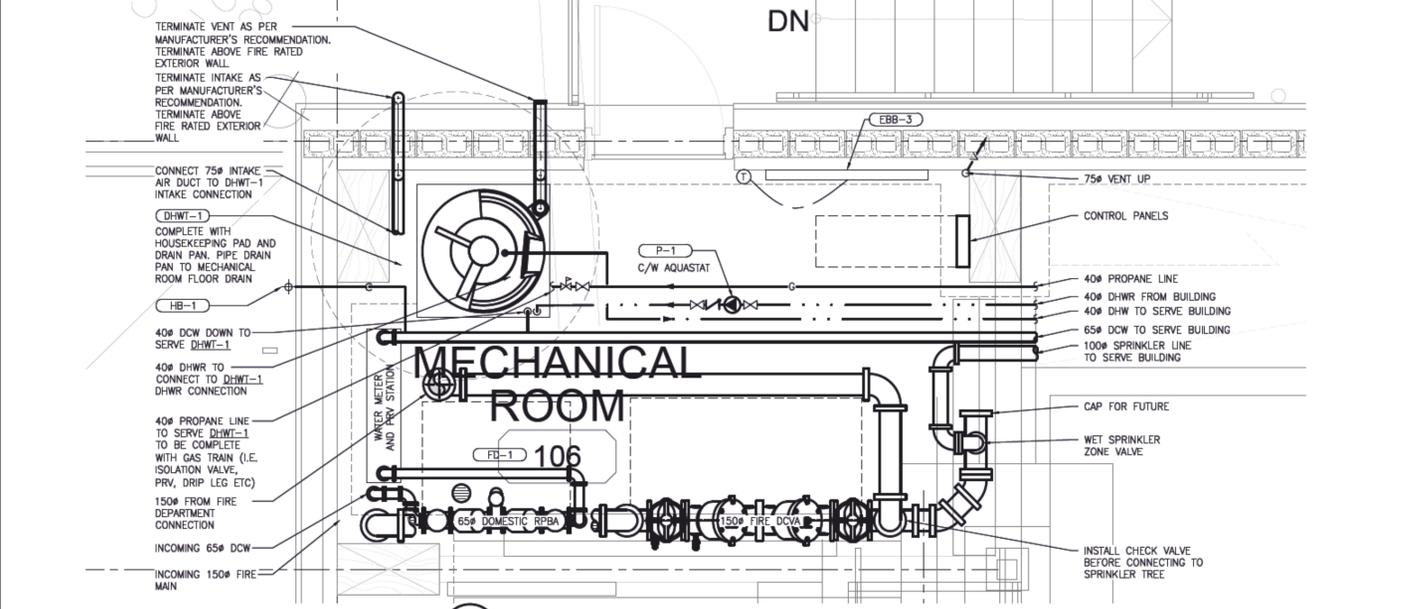
9 FLUSH F.D.C DETAIL
WM11 N.T.S.



10 METER INSTALLATION DETAIL
WM11 N.T.S.



11 DOMESTIC WATER AND FIRE PROTECTION SCHEMATIC
WM11 N.T.S.



12 MECHANICAL ROOM DETAIL
WM11 1:25

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PREETIPAL PAUL
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MECHANICAL DETAILS

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R.077596.001
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WM11
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