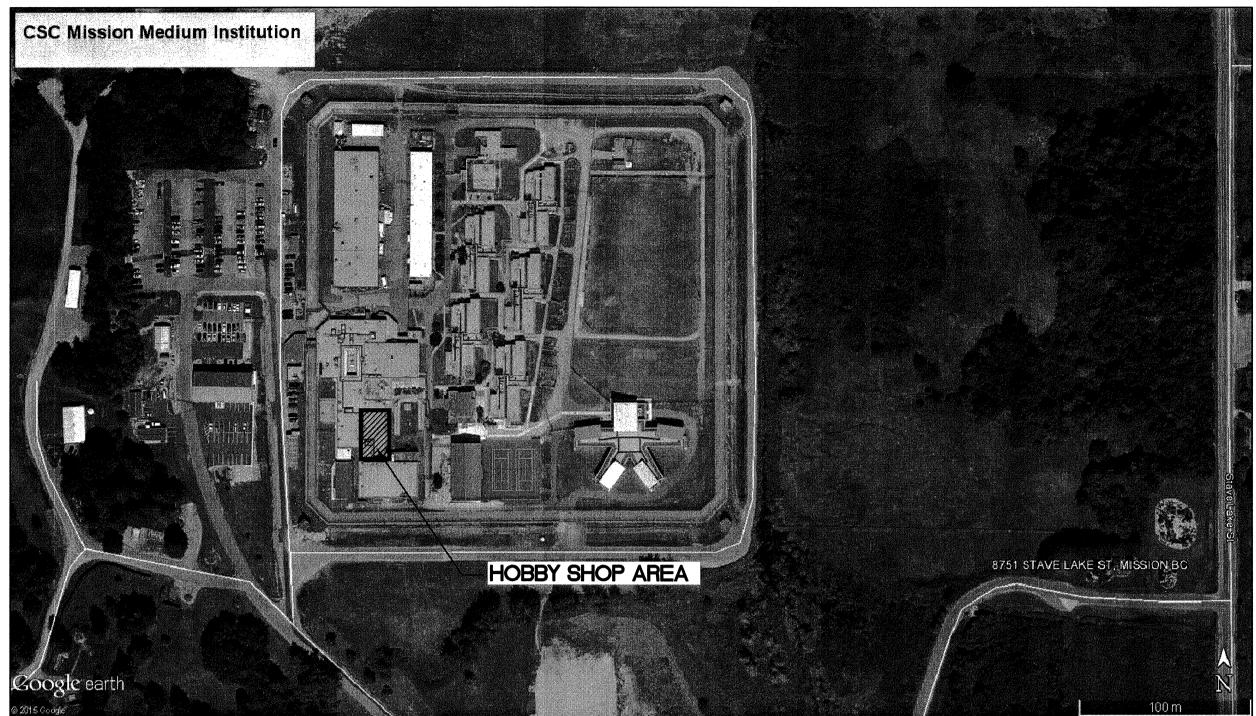


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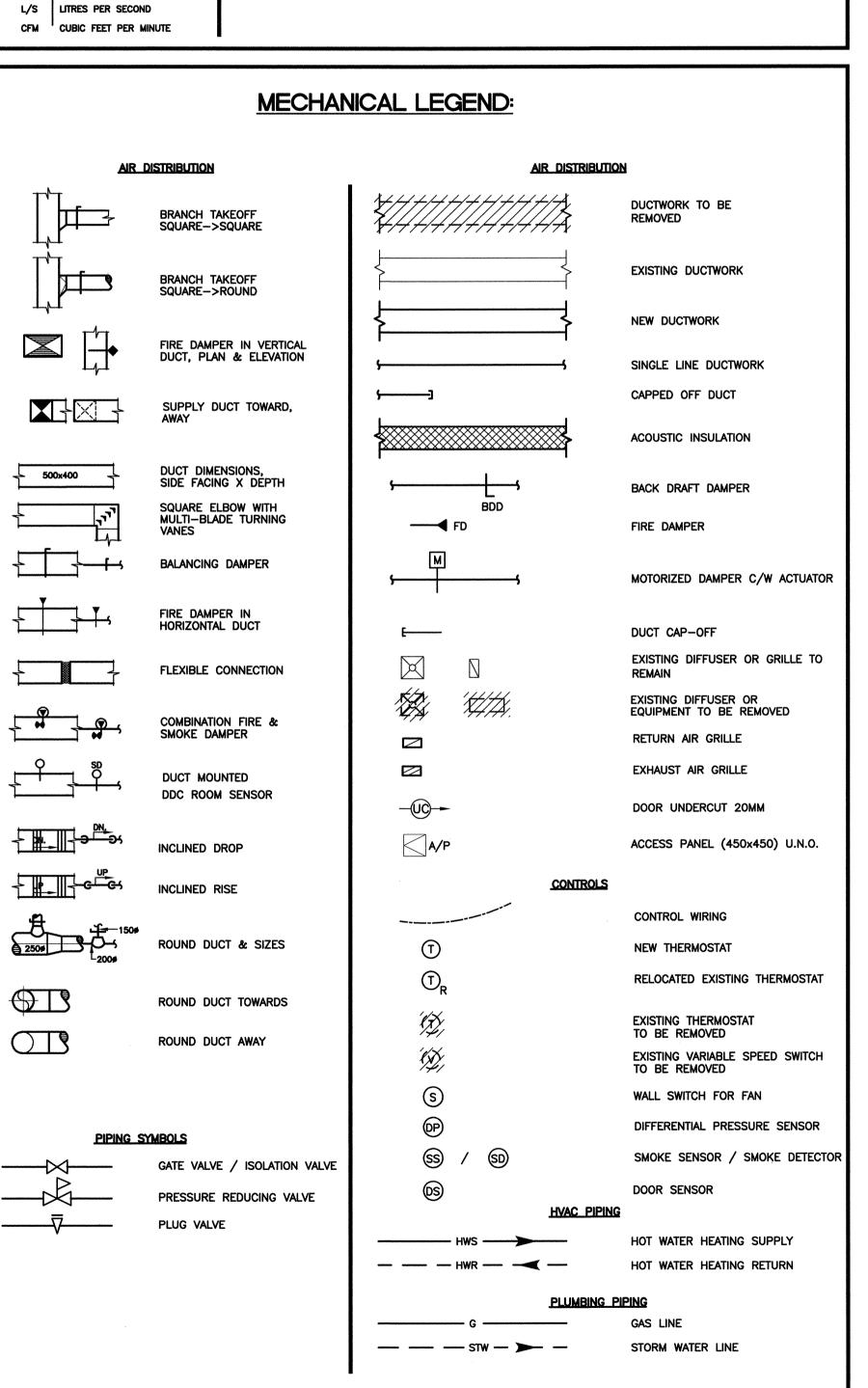
1 SITE PLAN SCALE: N.T.S.

D	RA	WING	LIST:	
DWG	3. NO.	NAME	DESCRIPTION	SCALE
1	OF 13	M001	MECHANICAL LEGEND, NOTES AND SITE PLAN	N.T.S.
2	OF 13	M100	RENOVATION NOTES	1:50
3	OF 13	M101	MECHANICAL FLOOR PLAN HOBBY SHOP DEMOLITION	1:50
4	OF 13	M102	MECHANICAL FLOOR PLAN HOBBY SHOP - NEW	1:50
5	OF 13	M103	MECHANICAL ROOF PLAN HOBBY SHOP - NEW	1:50
6	OF 13	M200	MECHANICAL HVAC SECTIONS	1:50
7	OF 13	M300	MECHANICAL DETAILS	N.T.S.
8	OF 13	M400	MECHANICAL EQUIPMENT SCHEDULES	N.T.S.
9	OF 13	E001	ELECTRICAL LEGEND, NOTES AND SITE PLAN	N.T.S.
10	OF 13	E100	ELECTRICAL FLOOR PLAN HOBBY SHOP - NEW	1:100
11	OF 13	S501	STRUCTURAL GENERAL NOTES, AND ABBREVIATIONS	N.T.S.
12	OF 13	S502	STRUCTURAL DUST COLLECTOR PAD AND FENCE, PARTIAL ROOF PLAN	1:50
13	OF 13	S503	STRUCTURAL SECTIONS AND DETAILS	AS NOTE

GENERAL NOTES :

- 1. THESE CONTRACT DRAWINGS ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL CONFIRM AND LAY—OUT EXACT LOCATIONS, SIZES, AND ELEVATIONS OF ALL CRITICAL LOCATIONS AND DIMENSIONS AT THE SITE AND PROVIDE ANY NECESSARY OFFSETS AND ADJUSTMENTS TO SUIT SITE CONDITIONS AND AVOID CONFLICT WITH OTHER TRADES PRIOR TO COMMENCING WITH WORK.
- 2. ALL TRADES TO CLOSELY COORDINATE ALL WORK WITH THE PRIME CONTRACTOR, AS WELL AS ALL OTHER AFFECTED SUB-TRADES.
- 3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE COMPLIMENTARY. ANYTHING CALLED FOR IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE CONSIDERED AS APPEARING IN BOTH. EACH DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWINGS FROM ALL OTHER DISCIPLINES, AS WELL AS WITH ALL APPLICABLE SECTIONS OF THE SPECIFICATIONS.
- 4. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND EQUIPMENT REQUIRED FOR THIS WORK SHALL BE NEW, OF GOOD QUALITY AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL, AND SHALL BE SELECTED AND ARRANGED SO AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A GOOD STANDARD ITEM AS APPROVED BY THE CONSULTANT SHALL BE FURNISHED. WHERE SPECIFIC INSTALLATION METHOD IS NOT GIVEN, INSTALL IN ACCORDANCE WITH GOOD PRACTICE.
- 5. USE SKILLED AND QUALIFIED, FITTERS, PLUMBERS, METAL WORKERS, WELDERS, HELPERS, AND LABOURERS REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECT UP, ADJUST, START, OPERATE AND TEST SUCH SYSTEMS. HELPERS AND UNQUALIFIED WORKERS SHALL BE DIRECTLY SUPERVISED AT ALL TIMES WHILE WORKING ON THE SITE BY QUALIFIED TRADES PERSONS.
- 6. PATCH AND MAKE GOOD ALL CEILINGS, ROOFS, WALLS, FLOORS, AND ALL ARCHITECTURAL FEATURES ALTERED OR REMOVED IN THE PERFORMANCE OF THE WORK.

LEGENDS AND ABBREVIATION GENERAL DRAWINGS **ABBREVIATIONS** AFF | ABOVE FINISHED FLOOR SPECIFIC KEY NOTE GWB GYPSUM WALL BOARD CONNECT TO EXISTING SERVICES SA-T DISCH. SUPPLY AIR TEMPERATURE DRAWING REVISION NO. DETAIL NO. FROM SHEET NO. OA-T OUTSIDE AIR TEMPERATURE MECHANICAL EQUIPMENT TAG OA-D OUTSIDE AIR DAMPER A SECTION NO. FROM SHEET NO. MA-D MIXED AIR DAMPER NEW AIR TERMINAL TAG TYP TYPICAL BB BLOW-BACK DAMPER SUPPLY BALANCE DAMPER BDD BACK-DRAFT DAMPER AIR FLOW TAG FOR EXISTING TERMINALS (L/S) FD FIRE DAMPER AIR FLOW DIRECTION RTU ROOF TOP UNIT MAKEUP AIR UNIT SUPPLY FAN EXHAUST FAN WF WALL-FIN HEATER

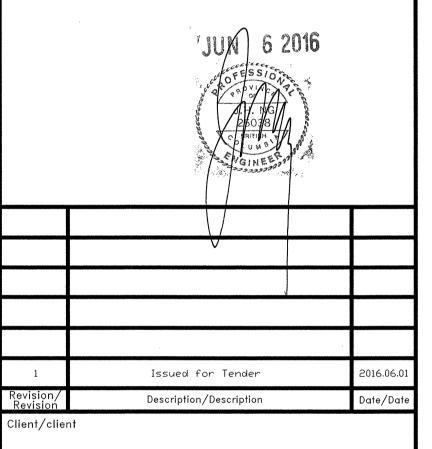




Travaux publics et
Services gouvernementaux

REAL PROPERTY SERVICES
Pacific Region
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Région de Pacifique





CORRECTIONAL SERVICE CANADA

Project title/Titre du projet

MISSION MEDIUM INSTITUTION

MISSION, BC

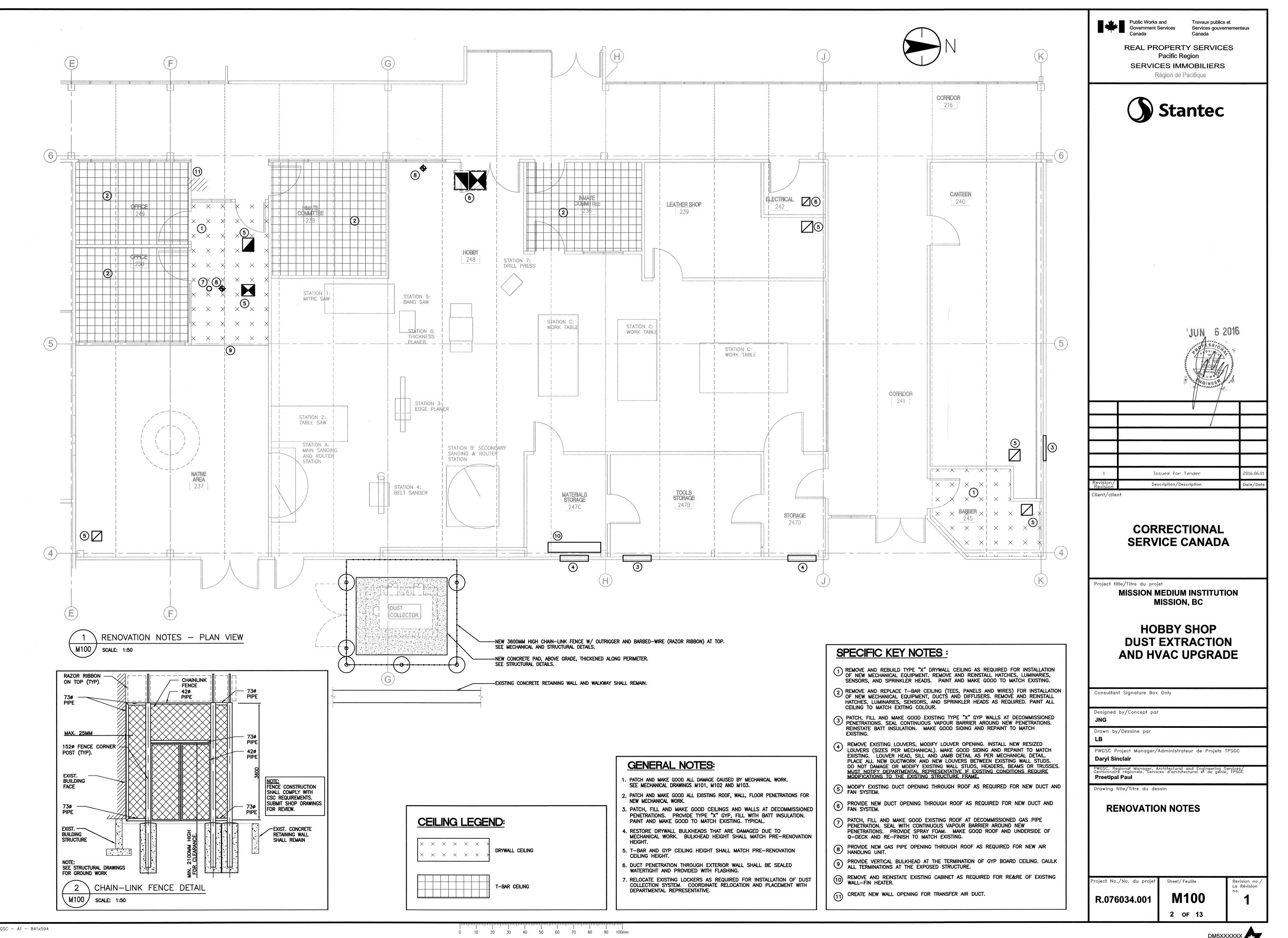
HOBBY SHOP
DUST EXTRACTION
AND HVAC UPGRADE

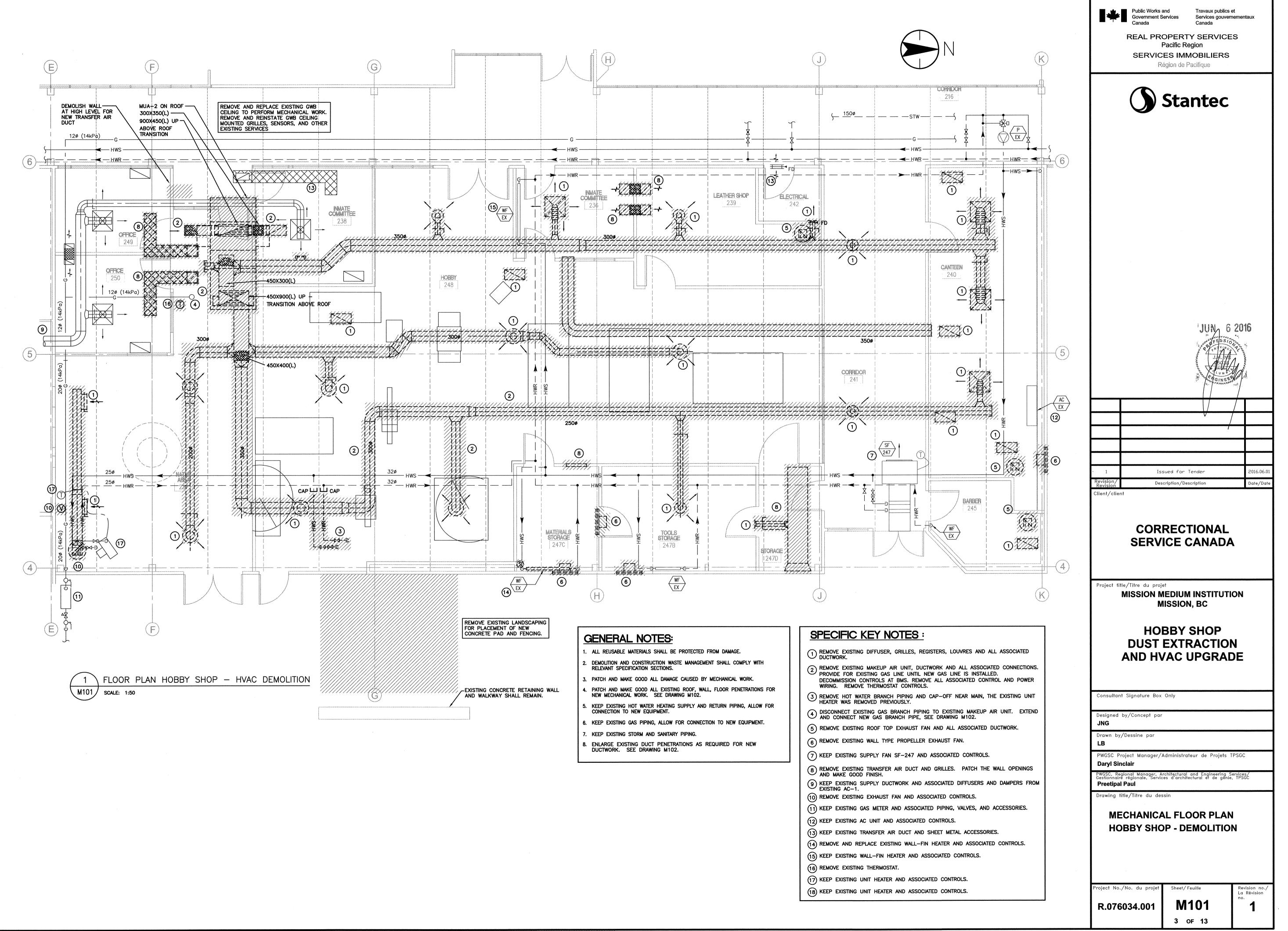
AND HVAC	
Consultant Signature Box Only	
Designed by/Concept par	
Drawn by/Dessine par	
PWGSC Project Manager/Administr	ateur de Projets TPSGC
PWGSC, Regional Manager, Architecture Gestionnaire régionale, Services d'arch Preetipal Paul	al and Engineering Services/ itectural et de génie, TPSGC
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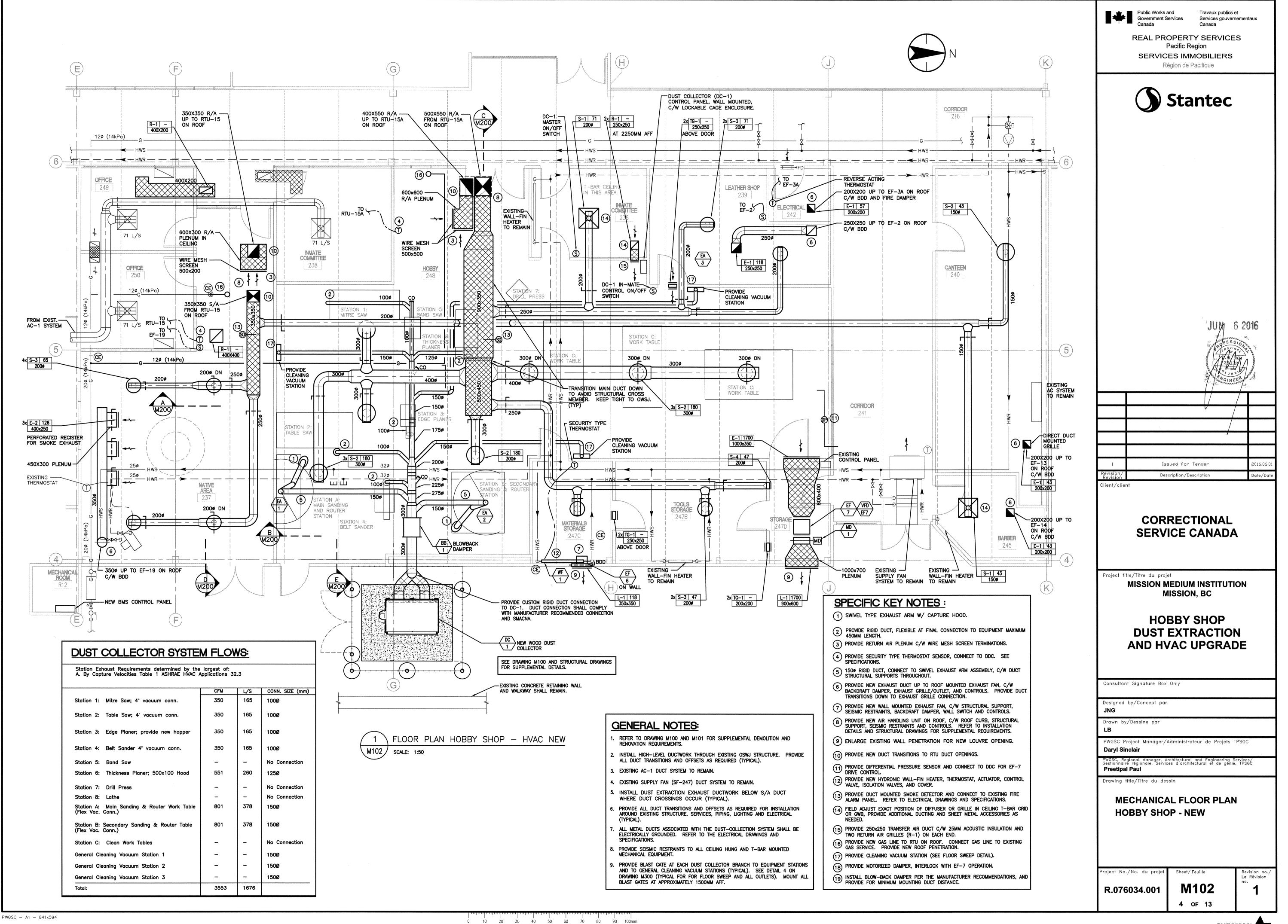
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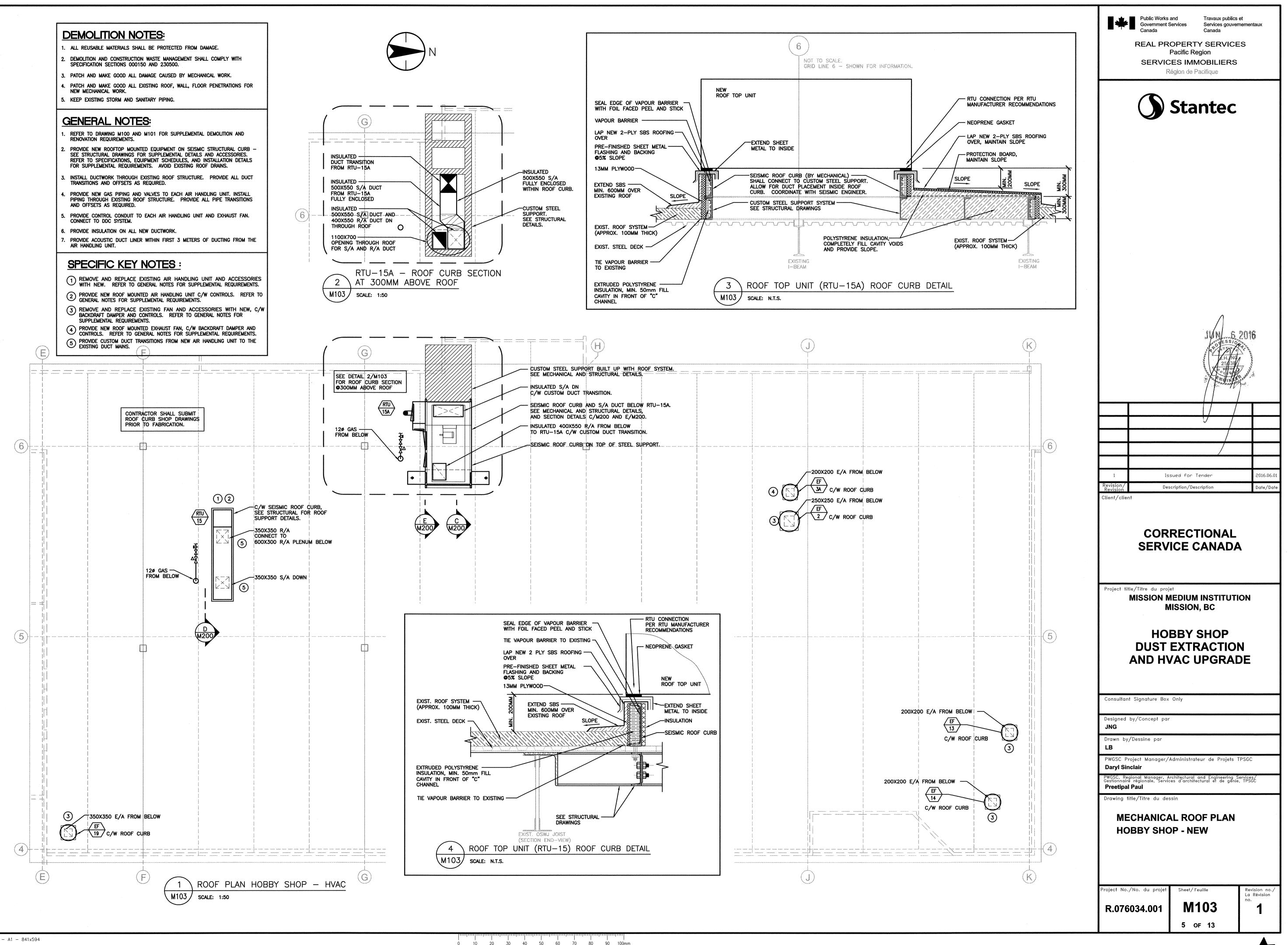
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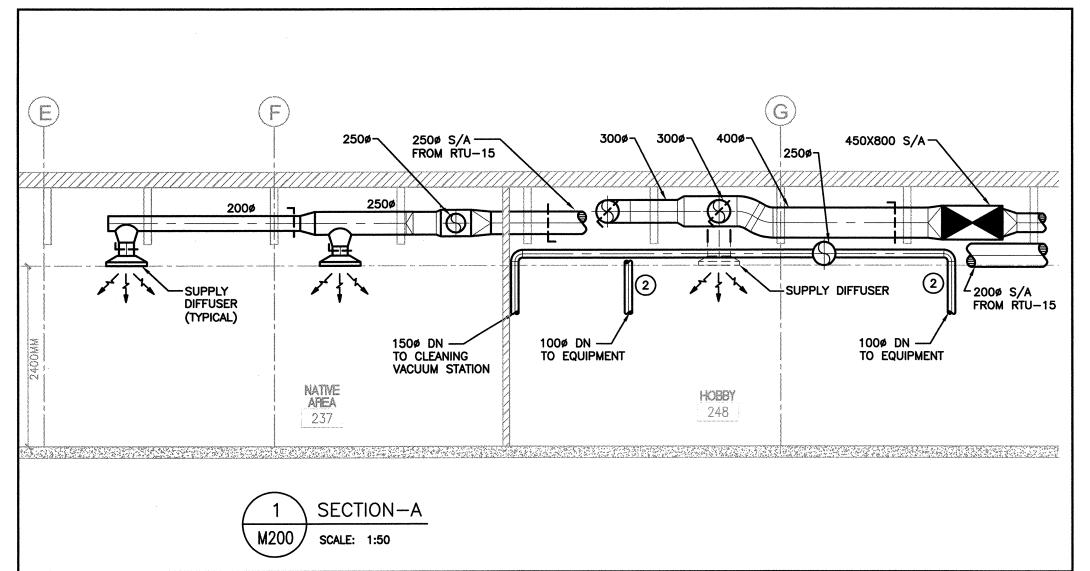
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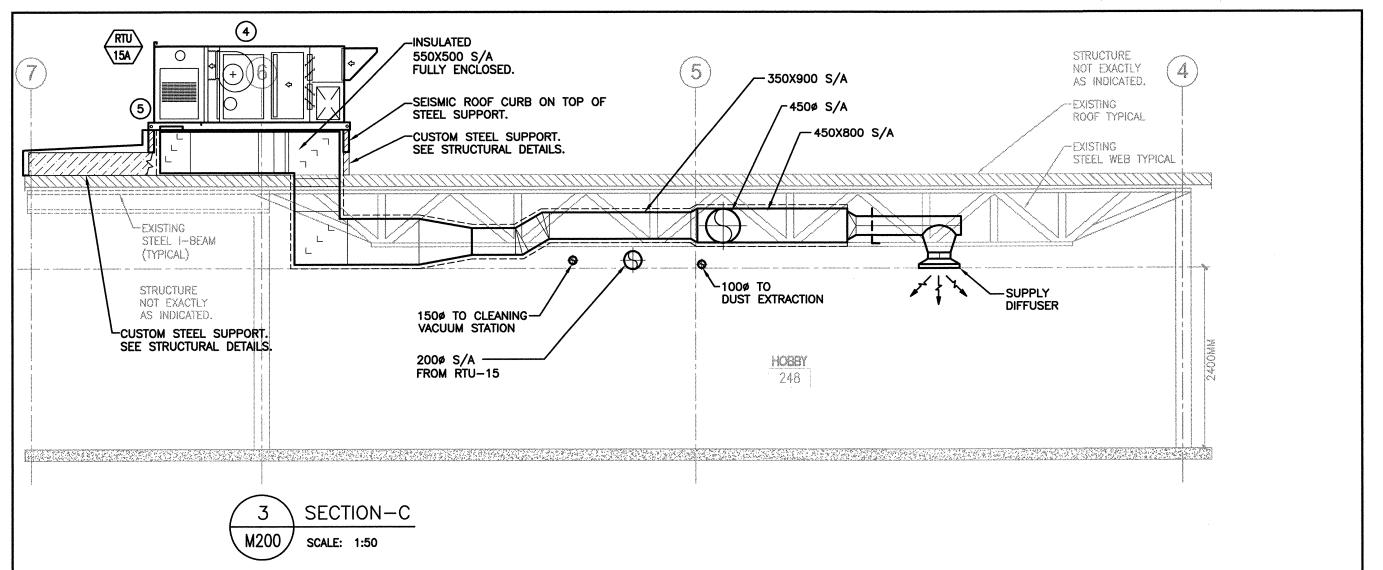


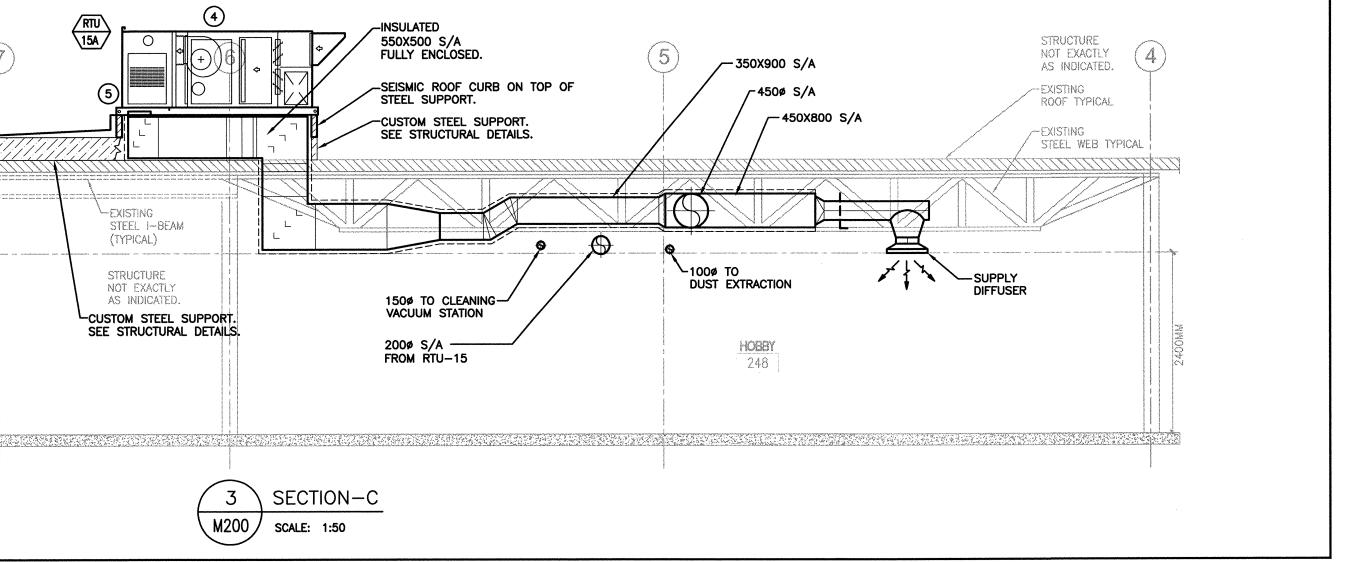


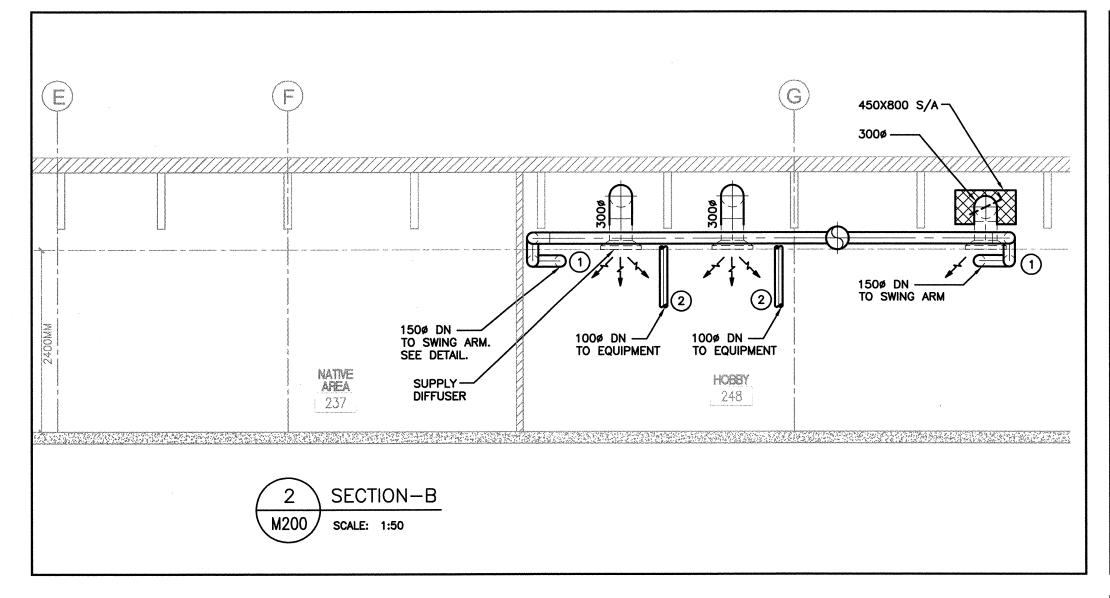


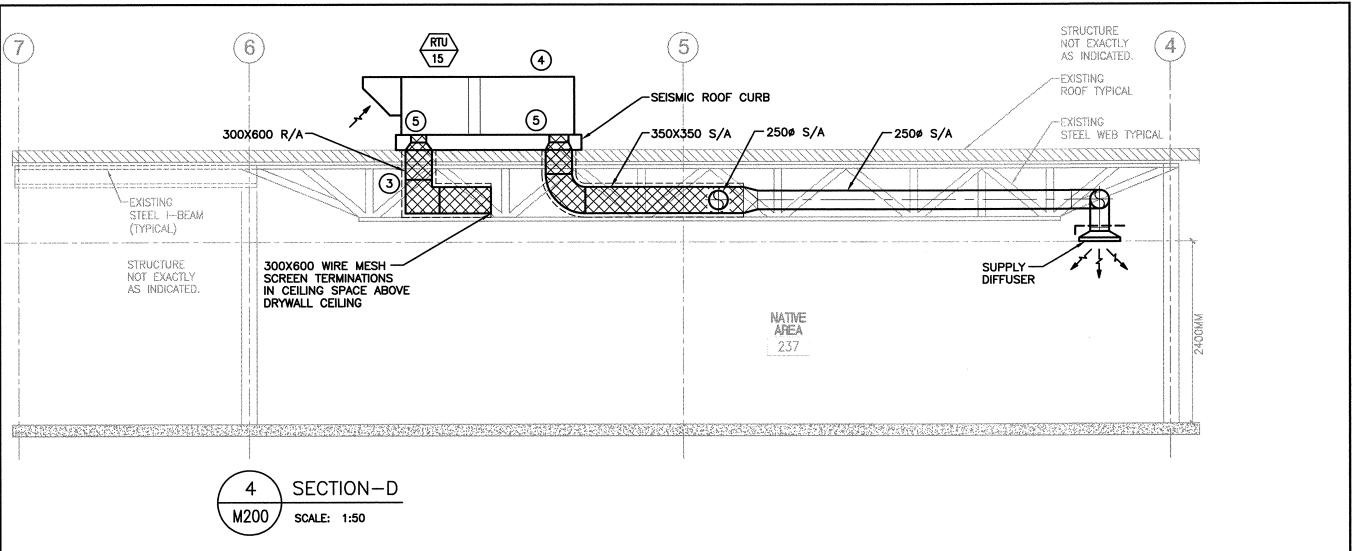


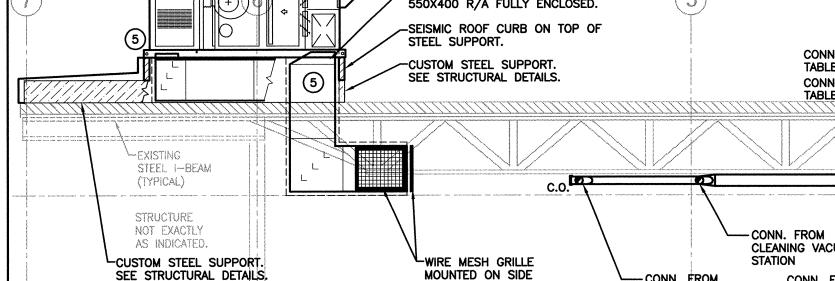


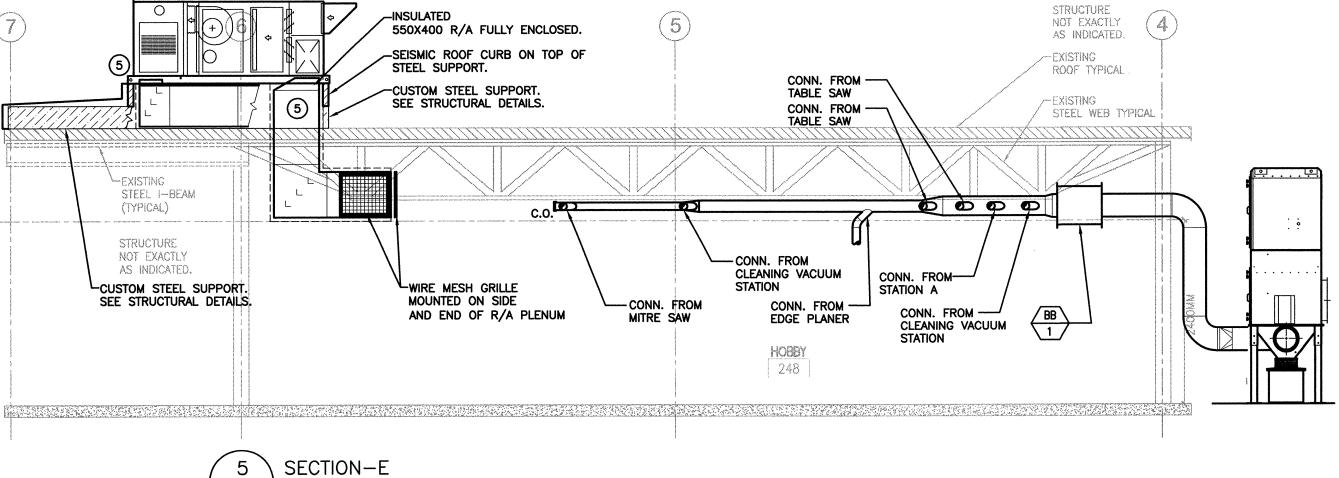












GENERAL NOTES:

- 1. REFER TO DRAWING M101 FOR DEMOLITION WORK.
- 2. INSTALL HIGH-LEVEL DUCTWORK THROUGH EXISTING OSWJ STRUCTURE. PROVIDE ALL DUCT TRANSITIONS AND OFFSETS AS REQUIRED (TYPICAL). EXACT POSITIONS OF STRUCTURAL JOISTS TO BE FIELD VERIFIED.
- 5. INSTALL DUST EXTRACTION EXHAUST DUCTWORK BELOW S/A DUCT WHERE DUCT CROSSINGS OCCUR (TYPICAL).
- PROVIDE ALL DUCT TRANSITIONS AND OFFSETS AS REQUIRED FOR INSTALLATION AROUND EXISTING STRUCTURE, SERVICES, PIPING, SPRINKLER LINES, LIGHTING AND ELECTRICAL (TYPICAL).
- 5. PROVIDE SEISMIC RESTRAINTS TO ALL CEILING HUNG MECHANICAL EQUIPMENT. 6. PROVIDE TURNING VANES AT ALL RECTANGULAR DUCT ELBOWS

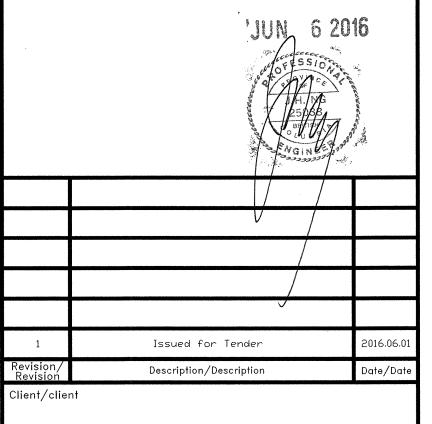
SPECIFIC KEY NOTES:

- (1) SWIVEL TYPE EXHAUST ARM W/ CAPTURE HOOD. SEE DETAIL ON M400.
- 2 100¢ RIGID DUCT, 100¢ FLEXIBLE AT FINAL CONNECTION TO EQUIPMENT MAXIMUM 450MM LENGTH.
- (3) PROVIDE RETURN AIR PLENUM C/W WIRE MESH SCREEN TERMINATIONS.
- PROVIDE NEW AIR HANDLING UNIT ON ROOF, C/W ROOF CURB, STRUCTURAL SUPPORT, SEISMIC RESTRAINTS AND CONTROLS.
- 5 PROVIDE CUSTOM DUCT TRANSITIONS TO AIR HANDLING UNIT DUCT OPENINGS C/W FLEX CONNECTIONS (TYPICAL).

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Canada Canada REAL PROPERTY SERVICES Pacific Region **SERVICES IMMOBILIERS**

Région de Pacifique





CORRECTIONAL **SERVICE CANADA**

Project title/Titre du projet MISSION MEDIUM INSTITUTION MISSION, BC

> **HOBBY SHOP DUST EXTRACTION AND HVAC UPGRADE**

Consultant	Signature	Вох	Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC Daryl Sinclair

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSC **Preetipal Paul**

Drawing title/Titre du dessin

MECHANICAL HVAC SECTIONS

Project No./No. du proje R.076034.001

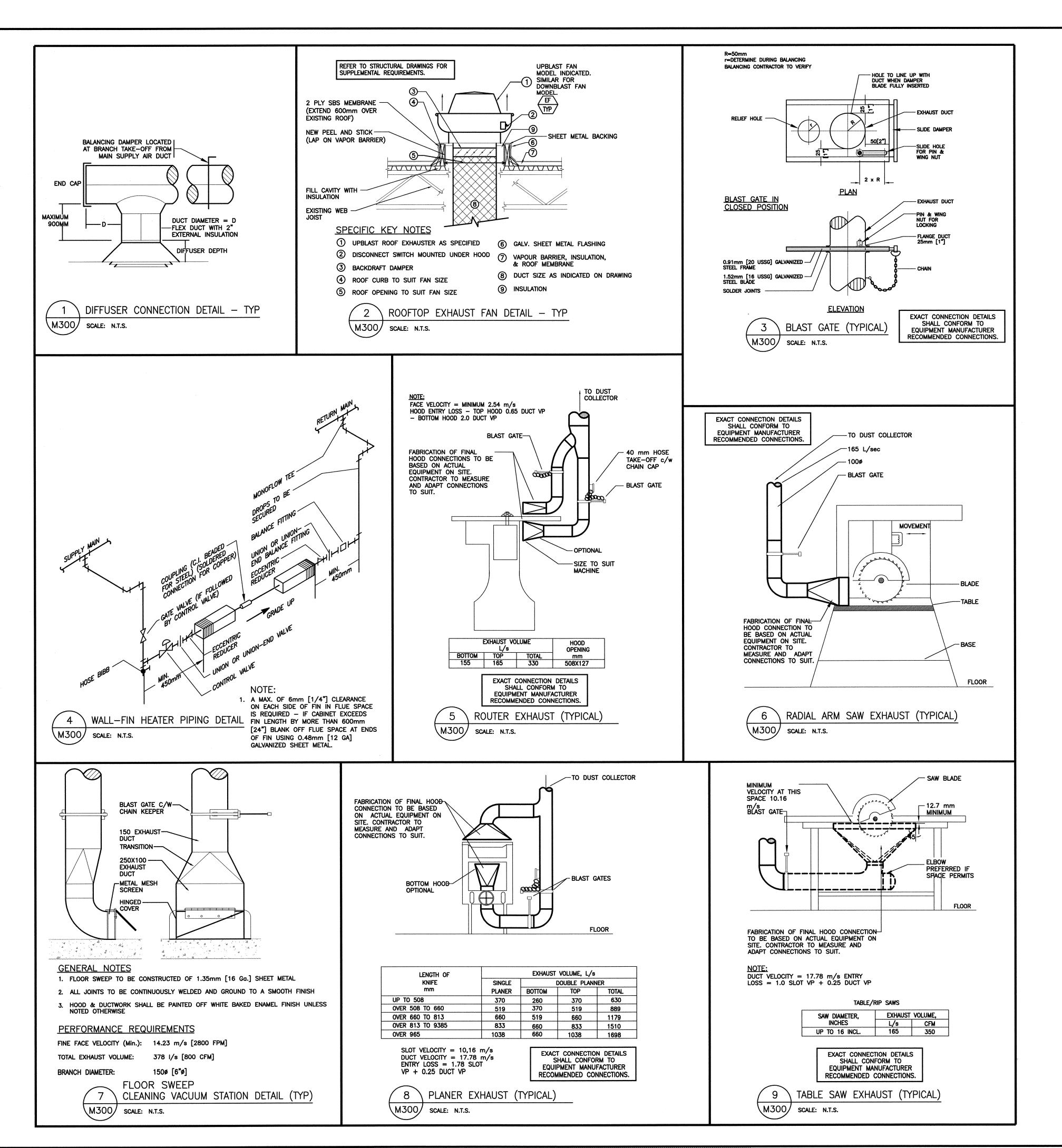
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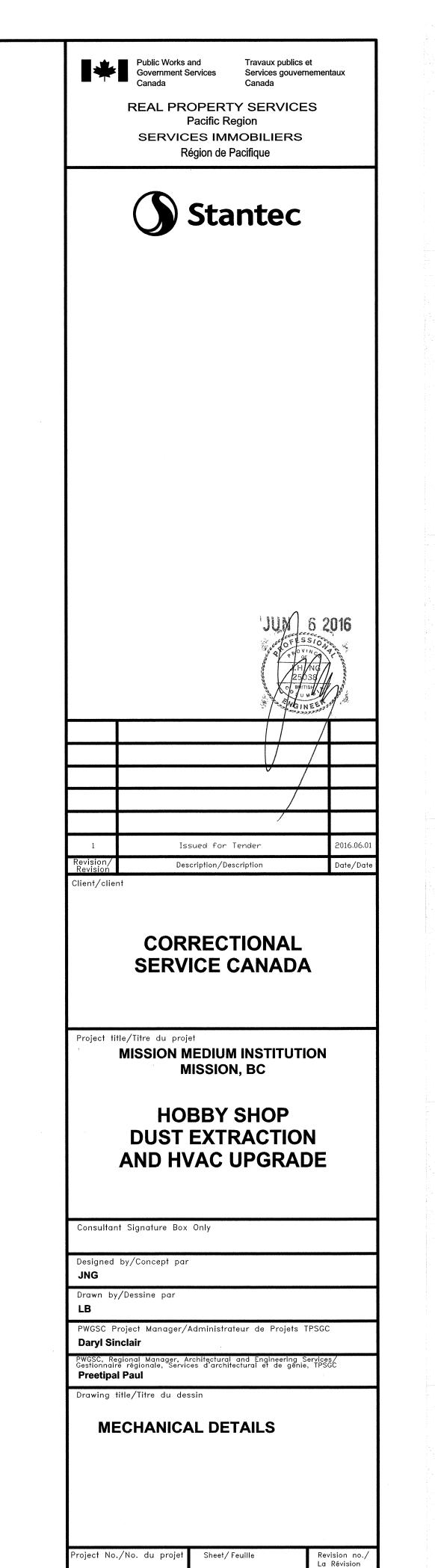
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	ROOF TOP AI	R HANDLING UNIT	•												
UNIT TAG	SERVICE	TYPE	LOCATION	SUPPLY FAN AIR FLOW L/S	SUPPLY FAN EXTERNAL S.P. MAX	FAN MOTOR	GAS HEAT OUTPUT (MBH)	BURNER EFFIC.	UNIT ELECTRICAL	MIN. OA L/S (CFM)	WEIGHT KG (LBS)	BASIS OF	DESIGN	NOTES	ACCEPTABLE
				(CFM)	Pa (i.w.g.)	HP		%	VOLT/PH/HZ		(22)	MAKE	MODEL		MATERIALS
RTU-15A	HOBBY SHOP	CONSTANT VOLUME FAN, INDIRECT GAS HEAT	ROOF ABOVE HOBBY SHOP	1,614 (3,422)	250 (1.0)	3	240	80%	575/3/60	242 (513)	1021 (2250)	ENGINEERED AIR	DJS40-300-12/12	1 TO 11	TRANE, LENNOX
PTII-15	NATIVE AREA, CANTEEN, BARBER SHOP	CONSTANT VOLUME FAN, INDIRECT GAS HEAT	ROOF ABOVE NATIVE AREA	346 (734)	200 (0.75)	1	65	80%	575/3/60	69 (146)	250 (550)	ENGINEERED AIR	RT65-10/8	1 TO 11	TRANE, LENNOX

8. MODULATING DISCHARGE AIR CONTROLLER C/W AMBIENT RESET & NIGHT SETBACK.

6. PROVIDE MODULATING GAS VALVE.7. PROVIDE SINGLE POINT POWER CONNECTION, AND LOCAL DISCONNECT.

9. HIGH EFFICIENCY TEFC MOTOR.

10. PERFORATED LINER.

11. C/W SEISMIC ROOF CURB, 300MM HIGH.

UNIT TAG	LOCATION	TYPE	MAKE	HEAT CAPACITY	DELTA-T	NOTES	ACCEPTABLE MATERIALS
WF-1	MATERIALS STORAGE 247C	HYDRONIC	TRANE	2.9 KW	11°C	1,2	STERLING, SLANTFIN

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	FAN SCHEDULE									
NEW UNIT #	SERVICE	TYPE	AIR FLOW	STATIC PRESSURE	ELECTRICAL	BLOWER MOTOR	BASIS	OF DESIGN	NOTES	ACCEPTABLE
(EXIST. TAG)	SERVICE	1112	L/S (CFM)	Pa (in.wg)	(V/PH/HZ)	(HP)	MAKE	MODEL		MATERIALS
EF-19	NATIVE AREA	ROOF UPBLAST	378 (801)	125 (0.5)	115/1/60	1/2	GREENHECK	CUE-101-VG	1,2,5,6,7	PENNBARRY, COOK
EF-2	LEATHER SHOP	ROOF MOUNTED	118 (250)	125 (0.5)	115/1/60	1	GREENHECK	G-070-D	1,4,5,6	PENNBARRY, COOK
EF-3A	ELECTRICAL ROOM	ROOF DOWNBLAST	57 (121)	63 (0.25)	115/1/60	1/4	GREENHECK	G-060-D	1,3,5,6	PENNBARRY, COOK
EF-13	CANTEEN ROOM	ROOF DOWNBLAST	43 (91)	63 (0.25)	115/1/60	1/4	GREENHECK	G-060-G	1,5,6	PENNBARRY, COOK
EF-14	BARBER SHOP	ROOF DOWNBLAST	43 (91)	63 (0.25)	115/1/60	1/4	GREENHECK	G-060-G	1,5,6	PENNBARRY, COOK
EF-6	STORAGE ROOM	WALL PROPELLER	118 (250)	63 (0.25)	115/1/60	1/4	GREENHECK	SE1-8-440-VG	5,6,8,10	PENNBARRY, COOK
EF-7	HOBBY SHOP PRESS.	CABINET INLINE	1676 (3553)	125 (0.5)	575/3/60	2	GREENHECK	SQ-160-VG	5,6,9	PENNBARRY, COOK
NOTES:									_	

3. PROVIDE MINIMUM MERV-8 FILTERS.

4. ALL UNIT ACCESS DOORS TO BE HINGED.

5. PROVIDE WITH ECONOMIZER DAMPERS.

- 9. PROVIDE VARIOGREEN ECM (MOTOR) C/W VARIABLE FREQUENCY DRIVE (VFD)
 2. PROVIDE CONTROLS VIA REMOTE (IN ROOM) SWITCH, SPEED CONTROL, AND WITH 60 MINUTE DELAY—OFF 10. DAMPER AND DAMPER ACTUATOR.
 TIMER. SPEED CONTROL AND DELAY TIMER TO BE PROVIDED W/ LOCKABLE ACCESS HOUSING.
 3. PROVIDE CONTROLS WITH ADJUSTABLE REVERSE—ACTING THERMOSTAT
- 3. PROVIDE CONTROLS WITH ADJUSTABLE REVERSE—ACTING THERMOSTAT.
- 4. PROVIDE MANUAL ON/OFF SWITCH.
- 5. PROVIDE C/W BACK-DRAFT DAMPER AND BIRD-SCREEN. 6. MOTOR TO BE UL/ULC OR ETL LISTED.
- 7. PROVIDE VARI-GREEN ECM (MOTOR) C/W MOUNTED POTENTIOMETER DIAL. 8. PROVIDE W/ OSHA RATED GUARDS, GALVANIZED DAMPER GUARD

1. REFER TO MECHANICAL SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS.
2. UNITS SHALL BE ULC OR ETL LISTED.

	DUST COLLECTOR SYSTEM											
TAG No.	DESCRIPTION	APPLICATION	LOCATION	CAPACITY L/S (CFM)	E.S.P Pa (iwg)	FILTER	BASIS OF DESIGN	NOTES	ACCEPTABLE ALTERNATES			
DC-1	SELF CONTAINED DUST COLLECTOR	WOOD DUST	OUTSIDE HOBBY SHOP	1,676 (3,553)	2425 Pa (9.7 iwg)	ANTI-STATIC BAG-TYPE	DONALDSON TORIT UMA 450	1 TO 11	FARR GOLD SERIES, NEDERMAN FLEX-FILTER EX OR AUTO M-Z			

- NOTES:

 1. REFER TO SPECIFICATIONS FOR SUPPLEMENTAL REQUIREMENTS.

 2. PROVIDE W/ MANUFACTURER'S EXPLOSION PANELS W/ DIVERTER TO VENT PRESSURE AND HEAT UPWARDS (MIN. 45° FROM HORIZONTAL)

 7. CONTROL W/ MANUFACTURER'S STANDARD DUST HOPPER.
- 4. PROVIDE 2x SPARE HOPPERS, 4x FULL SET OF BAG FILTERS AS PART OF UNIT.
 5. PROVIDE FAN W/ ALUMINUM WHEEL, SPARK RESISTANT CONSTRUCTION, AND A TEFC MOTOR
- 6. MAXIMUM 80 dBA AT 10 FT.
- 8. ALL ELECTRICAL COMPONENTS ARE TO BE NEMA-4 RATED FOR OUTDOOR INSTALLATION.
 9. PROVIDE LOCAL DISCONNECT, C/W SINGLE POINT POWER CONNECTION.
- 10. PROVIDE PACKAGED CONTROL PANEL FOR COMPLETE DUST COLLECTOR OPERATION, INCLUDING:

 -CONNECTION TO MANUALLY OPERATED MASTER ON/OFF SWITCH TO "ENABLE/DISABLE" THE DUST COLLECTOR.

 -AUXILIARY RELAY TO INTERLOCK SHOP EQUIPMENT.
- -LOCKABLE, CUSTOM STEEL CAGE COVER TO PREVENT TAMPERING. FAN MOTOR: 575/3/60, 15 HP SHAKER MOTOR: 575/3/60, 0.75 HP 11. ELECTRICAL:

	LOUVRE SCHEDULE											
TAG No.	LOCATION	MAKE	MODEL	MAX. AIR FLOW	DIMENSIONS	DEPTH mm (FT-IN)	FREE AREA Sq Meter (Sq Ft)	AIR P.D. Pa (in w.g.)	NOTES	ACCEPTABLE MATERIALS		
L-1	EAST SIDE WALL	E.H. PRICE	DE 439	SEE DRAWINGS	SEE DRAWINGS	100 (4")	0.08 (0.89)	25 (0.1)	1,2,3,4.5	NAILOR, TITUS		

- NOTES:
 1. SELECT LOUVRE FASTENING TYPE TO SUIT BUILDING CONSTRUCTION.
 2. CONFIRM THE EXACT SIZE REQUIRED PRIOR TO ORDERING. MINIMUM FREE AREA SHALL BE 50%, AND MAXIMUM FACE VELOCITY 1050FPM.
- 3. C/W BIRD AND INSECT SCREEN. 4. DRAINABLE.
- 5. ALUMINUM CONSTRUCTION

UNIT NO.	TYPE	BASIS OF MANUFACTURER	DESIGN MODEL	DAMPER	THROAT DIMENSION	OVERALL DIMENSION	COLOUR	NOTES	ACCEPTABLE MATERIALS
S-1	SUPPLY AIR DIFFUSER	E.H. PRICE	SCD	***	SEE DRAWINGS	600×600	WHITE	1	NAILOR, TUTTLE
S-2	SUPPLY AIR REGISTER	E.H. PRICE	RID		SEE DRAWINGS	686ø	WHITE	1,2	NAILOR, TUTTLE
S-3	SUPPLY AIR REGISTER	E.H. PRICE	RID		SEE DRAWINGS	457ø	WHITE	1,2	NAILOR, TUTTLE
S-4	SUPPLY AIR GRILLE	E.H. PRICE	520/F/L/A	_	SEE DRAWINGS	SEE DRAWINGS	WHITE	1	NAILOR, TUTTLE
R-1	RETURN AIR GRILLE	E.H. PRICE	530/F/L/A	_	SEE DRAWINGS	SEE DRAWINGS	WHITE	1	NAILOR, TUTTLE
E-1	EXHAUST AIR GRILLE	E.H. PRICE	_	-	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	NAILOR, TUTTLE
E-2	EXHAUST W/ FILTER MOUNT	E.H. PRICE	10FR	VCS3	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	NAILOR, TUTTLE
TG-1	TRANSFER AIR GRILLE	E.H. PRICE	530/F/L/A	-	SEE DRAWINGS	SEE DRAWINGS	WHITE	1,2	NAILOR, TUTTLE

				7''.			
	MOTORIZE	D DAMPER	SCHEDU	<u>LE</u>			
UNIT NO.	SERVICE	BASIS OF DESIGN MANUFACTURER MODEL		MAX AIR FLOW	DUCT SIZE	NOTES	ACCEPTABLE MATERIALS
MD-1	EF-7 DISCHARGE	RUSKIN	CD40X2	1700 L/S	600X600	1,2,3,4	EH PRICE, NAILOR

NOTES:

1. REFER TO MECHANICAL SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

2. ALUMINUM CONSTRUCTION, LOW-LEAKAGE.

2. DIRECT DUCT MOUNTED C/W SEISMIC RESTRAINTS.

- 3. C/W MOTORIZED ELECTRIC ACTUATORS (LOW VOLTAGE) AND ALL CONTROL HARDWARE, TRANSFORMERS, AND WIRING. CONNECT TO DDC.
- 4. C/W INSULATED BLADES.

E	LOW BACK	(BACK-BLAST) DAMPER						
UNIT TAG	SERVICE	TYPE	DUST	P.D.	BASIS OF DESIGN		NOTES	ACCEPTABLE
			EXPLOSION CLASSIFICATION	(PA)	MAKE	MODEL		EQUALS
BB-1	FOR ISOLATION OF DC-1 TO HOBBY SHOP	NON-RETURN, DAMPER-TYPE EXPLOSION VALVE	Kst MAX VALUE: 300 BAR x M/S	390	QFLAP	NW-280 HOUSING - S235JRG2	1,2,3	NEDERMAN CARZ, CAMFIL STINGER
NOTES: 1. NFPA	COMPLIANT OR A	TEX ZONE 20 RATED						

2. SHALL BE SUITABLE FOR CONVEYING EXPLOSIVE DUST OF St1 OR St2 3. FLAP BLADE: STAINLESS STEEL

	E	XHAUST/EX	TRACTION A	RM SCHEDULE							
I	TAO N.	DECODIDATION	LOCATION	490° EIELD OF BEACH	AIR FLOW	P.D.	DIAMETER	BASIS OF	DESIGN	NOTES	ACCEPTABLE MATERIALS
ı	TAG No.	DESCRIPTION	LOCATION	180° FIELD OF REACH	(L/S)	(PA)	ø (mm)	MAKE	MODEL	NOTES	
I	EA-1	EXHAUST ARM	HOBBY SHOP	1.5M AT TABLE SURFACE LEVEL	378	1125	150	NEDERMAN	NEX MD		HENLEX, PLYMOVENT, ENVIROFLEX, CORAL
I	EA-2	EXHAUST ARM	HOBBY SHOP	1.5M AT TABLE SURFACE LEVEL	378	1125	150	NEDERMAN	NEX MD	1,2,4,5,6	HENLEX, PLYMOVENT, ENVIROFLEX, CORAL

- 2. STEEL BASE MOUNT SUPPORTED WITH CUSTOM CEILING BRACKET, AND CABLE SUPPORT ON HORIZONTAL EXTENSIONS.
 3. STEEL BASE MOUNT SUPPORTED WITH WALL BRACKET, AND CABLE SUPPORT ON HORIZONTAL EXTENSIONS.
- 4. C/W EXTENSIONS. CONTRACTOR TO VERIFY LENGTH PRIOR TO ORDERING.
- 5. C/W ACCESSORIES:
- -QUICK RELEASE INTERCHANGEABLE CAPTURE HOOD
 -360° DEGREE SWIVEL,
 -AIR FLOW VOLUME CONTROLLER,
- -POSITIONING CONTROLLER
- 6. INSTALLATION AND SUPPORT SHALL COMPLY WITH MANUFACTURER RECOMMENDED METHODS.

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Revision/ Revision	Description/Description	Date/Date

CORRECTIONAL **SERVICE CANADA**

Project title/Titre du projet MISSION MEDIUM INSTITUTION MISSION, BC

> **HOBBY SHOP DUST EXTRACTION** AND HVAC UPGRADE

Consultant Signature Box Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC

Daryl Sinclair

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSCC Preetipal Paul

Drawing title/Titre du dessin

MECHANICAL EQUIPMENT **SCHEDULES**

R.076034.001

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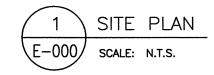
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* CONFIRM EXACT SIZE, LOCATION, AND WIRING REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO CONNECTING.

* REVIEW MECHANICAL DRAWINGS TO ENSURE LOCATIONS AND QUANTITIES.

			MEC	HAN	IICA	AL S	CHED	UL	E									
TAG	DESCRIPTION	SERVICE/LOCATION						EQI	JIPM	ENT	DISC	ONN	ECT		STA	RTE	₹	NOTES
			HORSEPOWER	VOLTAGE	PHASE	BREAKER	Cu FEEDER	SUPPLIED	INSTALLED	CONNECTED	SUPPLIED	INSTALLED	CONNECTED	SUPPLIED	INSTALLED	CONNECTED	ТҮРЕ	
RTU-15	RTU support space	Roof top Native area	1 1	575	3	15	2#12	М	M	E	М	E	E	_	_	_	- 1	1,2,3,7
RTU-15A	RTU hobby	Roof top Hobby shop	3	575	3	15	2#12	М	М	E	М	Ε	E	_	-		-	1,2,7
EF-19	Exhaust upblast	Roof top Native area	1/2	115	1	15	2#12	М	М	E	Е	Е	E	Е	Е	Е	ммѕ	2,3,4,8
EF-2	Exhaust downblast	Roof top Finishing	1/4	115	1	15	2#12	М	М	Е	E	E	Е	Е	Е	Е	ммѕ	2,3,4,8
EF-3A	Exhaust downblast	Roof top Electrical	1/4	115	1	15	2#12	М	М	E	E	E	Е	Е	E	Е	ммѕ	2,6
EF-13	Exhaust downblast	Roof top Canteen	1/4	115	1	15	2#12	М	М	E	E	E	E	Е	E	E	ммѕ	2,3,8
EF-14	Exhaust downblast	Rooftop Barber	1/4	115	1	15	2#12	М	М	E	E	E	E	E	E	Е	MMS	2,3,8
EF-6	Exhaust propeller	Sidewall	1/4	115	1	15	2#12	M	M	E	E	E	<u>E</u>	E	E	E	MAG	3,8
EF-7	Relief Air Pressurization	Hobby Shop Ceiling	2	575	3	20	3#12	M	M	E	E	E	E	E	E	E	VSD	
DC-1	Fan Shaker	Exterior Pad	15 + 1	575	3	50	3#10	··· ·M	М	М	М	М	E	-	_	-	PCS	2,5
DC-1	Dust Collector Ctrl Panel	1		115	1	15	2#12	M	M	LE_		-	-	-	-	-	-	
BMS-1	BMS Control Panel	Mech Rm 112		115	1	15	2#12	M	M	E	-	-	-	-	-	-	-	
TOTAL NOTES:																		
1 2 3 4 5 6 7	All outdoor equipment to Equipment is replacing exsufficient ampacity of exist Wire to wall switch, switch Provide CT on motor feed interlocked such that des Mount and install reverse Provide additional 120V c	xisting equipment of equal sting circuit breaker and fe the provided by division 25, ers tied to DDC and to she ignated shop equipment is	rating. Freder cab installed op equipo s only en	Re-Use ples w and v ment. ergize	e exis ith re vired DC-1 ed wh	sting of quirer by dir I to be sen du	circuit b ments o vision 20 e activat ust colle	reake f new 3. ted by ctor i	er and equi y mar is run	l feed pmen nual s ning.	it. No witch	tify de (sup)	partn olied	nenta and i	ıl repr nstall	esen	tative o	fany
ABBREVIA	TIONS/RESPONSIBLE PA	RTY:					The second second		. Š	ACT CARONEL WARREST CO.				i Kanada waxa kanputa wa	l		J	w manager come . Color of the way we have me to the
MMS	Manual motor switch c/w	and the property of the second of the contract of the second of the seco		80 pp of 6 80 m	N 100 1 1 4 4		TO THE PROPERTY OF THE SAME SAME SAME SAME SAME SAME SAME SAM		a zip yan zareka yakean agana		* **** ** **** **** ***	to the topological part		,	ander and the second of the second	· · · · · · · · · · · · · · · · · · ·	gar agasta at yan at yan angan angan sa	
MAG	Magnetic motor starter c/		***************************************				er e.c san man, makamanananka				***************************************		7 (1647-11 (644)) - 144-14-14				***************************************	
VSD	Variable Speed Drive.										y,	,		THE STATE OF THE S		10-10 or 10 11 10 10 10 10 10 10 10 10 10 10 10	184. 15.16. 81 15. 96.1 1899	THE STATE OF THE S
PCS	Packaged Control Syster	n.					to the time to be the state of	enders that assess of the second	man because a rain a rate in a			A			- 1980-100-100-100-100-100-100-100-100-100-1	2 m2 m2 m2 m2		the developing and applications of the second of the secon
	Mechanical Contractor						** 10 1 2 12 19 19 19 19 19 19 19 19 19 19 19 19 19		4940 y 110 1 110 110 110 110 1		711.74p. 31 177 10350000	8 1:						
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E	Electrical Contractor		Import of the second				-,								200100000000000000000000000000000000000		w	portuguação por tra por tata com a com

	ELECTRICAL SYMBOLS
	POWER PANELBOARD
•	PUSHBUTTON (TYPE AND WIRING AS INDICATED)
Ģ u	MOTOR c/w DISCONNECT SWITCH
Ó⊠r I	MOTOR c/w COMBINATION OF DISCONNECT AND MAGNETIC MOTOR STARTER
Ø⊠h	PACKAGED EQUIPMENT c/w DISCONNECT
Ó ∞ M	MOTOR C/W MANUAL MOTOR SWITCH
ı ⇔ -S	VARIABLE SPEED SWITCH
\	CURRENT TRANSFORMERS
- WW	TRANSFORMERS
터트	CONTACTOR
Rx	RELAY
4-	RELAY CONTACT
-x-II-	MAGNETIC MOTOR START (SCHEMATIC)
	FUSE
	CONTROL PANEL, AS NOTED
\& ∃	DUPLEX 5-20R RECEPTACLE C/W INTEGRAL GFCI PROTECTION
\bigcirc_{RA}	REVERSE-ACTING THERMOSTAT
(2)DS	FIRE ALARM SMOKE DETECTOR, DUCT MOUNTED

ELECTRICAL GENERAL NOTES

- ANY CIRCUITING SHOWN IS FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO CONFIRM AVAILABLE CIRCUITS IN PANELS. ACTUAL CIRCUITS TO BE INDICATED ON
- CONTRACTOR SHALL KEEP EXISTING FIRE ALARM SYSTEM AND DEVICES ACTIVE DURING CONSTRUCTION. THERE SHALL BE NO DISRUPTION TO THE SYSTEM.
- CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING DEVICES AND EQUIPMENT THAT REMAIN. CONTRACTOR SHALL EXTEND, REMOVE OR RELOCATE ALL ELECTRICAL DEVICES AS NOTED AND REQUIRED TO MEET THE DESIGN INTENT.
- EXISTING CIRCUITS AND DEVICES ARE SHOWN FOR REFERENCE AND DESIGN CLARITY
- EXISTING ELECTRICAL EQUIPMENT, DEVICES AND WIRING ETC. TO BE RETAINED THAT ARE MOUNTED IN OR ON WALLS THAT ARE REMOVED, RELOCATED OR REFINISHED SHALL BE RELOCATED IN A CONCEALED MANNER TO SUIT NEW CONDITIONS.
- EXISTING SITE AND BUILDING INFORMATION ON THESE DRAWINGS WERE OBTAINED FROM CASUAL SITE OBSERVATION AND INFORMATION PROVIDED BY OTHERS, CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND IMMEDIATELY NOTIFY ENGINEER OF ANY SITE CONDITION THAT MIGHT HINDER OR OBSTRUCT THE ELECTRICAL INSTALLATION AND/OR DESIGN INTENT.
- APPROXIMATE LOCATIONS OF EXISTING AND NEW DEVICES ARE SHOWN. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING DEVICES. CONTRACTOR SHALL CONFIRM EXACT MEASUREMENTS AND LOCATIONS ON SITE. CONTRACTOR SHALL CONFIRM WIRE SIZE ON SITE AND VERIFY VOLTAGE DROP CALCULATIONS, TO ENSURE CORRECT WIRE SIZING AND SYSTEM OPERATION.
- 8. CONTRACTOR SHALL FIELD VERIFY AND TEST ALL MODIFIED ELECTRICAL AND CONTROL SYSTEMS TO ENSURE THEY ARE FULLY FUNCTIONAL AND OPERATIONAL AS PER THE DESIGN INTENT. SUBMIT TEST RESULTS TO ENGINEER.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL CONDUIT, CONDUCTORS, JUNCTION BOXES AND RECEPTACLES UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 10. CONTRACTOR SHALL READ THESE DRAWINGS IN CONJUNCTION WITH THE CANADIAN ELECTRICAL CODE (CURRENT EDITION), MECHANICAL DRAWINGS, BC BUILDING CODE (CURRENT EDITION), AND ALL OTHER PROJECT RELATED DOCUMENTATION, SCOPE OF WORK IS NOT LIMITED TO THESE DRAWINGS BUT INCLUDES ALL ITEMS AS LISTED ON DRAWINGS, SPECIFICATION, AND ALL OTHER PROJECT RELATED DOCUMENTATION.
- 11. FIELD COORDINATE ELECTRICAL DEVICES AND EQUIPMENT WITH OTHER DIVISIONS ON SITE. ADJUST ELECTRICAL DEVICE AND EQUIPMENT PLACEMENT AS REQUIRED TO SUIT FIELD CONDITIONS. ALL NEW ELECTRICAL INSTALLATION SHALL BE IN CONFORMANCE WITH THE CANADIAN ELECTRICAL CODE (CURRENT EDITION) AND BC BUILDING CODE (CURRENT EDITION) INCLUDING CLEARANCES AND SETBACKS.
- 12. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL DEVICES AND COMPONENTS WITH EQUIPMENT MANUFACTURERS AND SUPPLIER. NOT ALL SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ALL COMPONENTS, DEVICES, AND MATERIAL AS REQUIRED TO ENSURE INSTALLATION OF A COMPLETE AND
- 13. CONTRACTOR SHALL CONFIRM WIRING SIZING AND PERFORM VOLTAGE DROP CALCULATIONS FOR EACH WIRE RUN BACK TO EACH SOURCE PANEL.
- 14. ALL WIRING SHALL BE INSTALLED IN CONDUIT SYSTEMS AS INDICATED. ALL CONDUITS SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE.
- 15. ENSURE THAT POWER, FIRE ALARM AND CONTROL WIRING TO BE IN SEPARATE CONDUIT
- 16. CONTRACTOR SHALL BOND ALL NON-CURRENT CARRYING METAL PARTS OF THE SYSTEM AS REQUIRED BY CODE. ENSURE ALL PARTS OF THE SYSTEM ARE GROUNDED AND EXISTING GROUNDING AND BONDING SYSTEMS ARE PROTECTED AND MAINTAIN CONDUCTIVITY. ALL BOND CONDUCTORS TO BE COPPER COMPRESSION TYPE AND
- GROUND CONDUCTORS TO BE SOLID COPPER. 17. CONTRACTOR SHALL VERIFY THE NEW ELECTRICAL SYSTEMS ARE TESTED, COMMISSIONED, AND READY FOR USE PRIOR TO TURNOVER TO THE OWNER. CONTRACTOR SHALL FIELD TEST THE ENTIRE SYSTEM AND ENSURE IT IS OPERATIONAL AND READY FOR USE. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER OF ALL SYSTEMS AND COMMISSION AS PART OF THIS SCOPE OF WORK. ALL TEST AND COMMISSIONING
- 18. UNLESS OTHERWISE NOTED ALL GROUNDING WIRES COLORS SHALL BE GREEN WITH A

REPORTS SHALL BE SUBMITTED TO ENGINEER.



Travaux publics et Services gouvernementaux

REAL PROPERTY SERVICES Pacific Region SERVICES IMMOBILIERS

Région de Pacifique





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1	Issued for Tender	2016.06.01
Revision/ Revision	Description/Description	Date/Date
Client/clien	t	

PWGSC

CORRECTIONAL **SERVICE CANADA**

Project title/Titre du projet

MISSION MEDIUM INSTITUTION MISSION, BC

HOBBY SHOP DUST EXTRACTION AND HVAC UPGRADE

Consultant	Signature	Box	Only

Designed by/Concept par Peter Necpal Drawn by/Dessine par Hung Kieu PWGSC Project Manager/Administrateur de Projets TPSGC

Daryl Sinclair PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC

Preetipal Paul

Drawing title/Titre du dessin

ELECTRICAL LEGEND, NOTES AND SITE PLAN

R.076034.001

roject No./No. du projet

9 OF 13

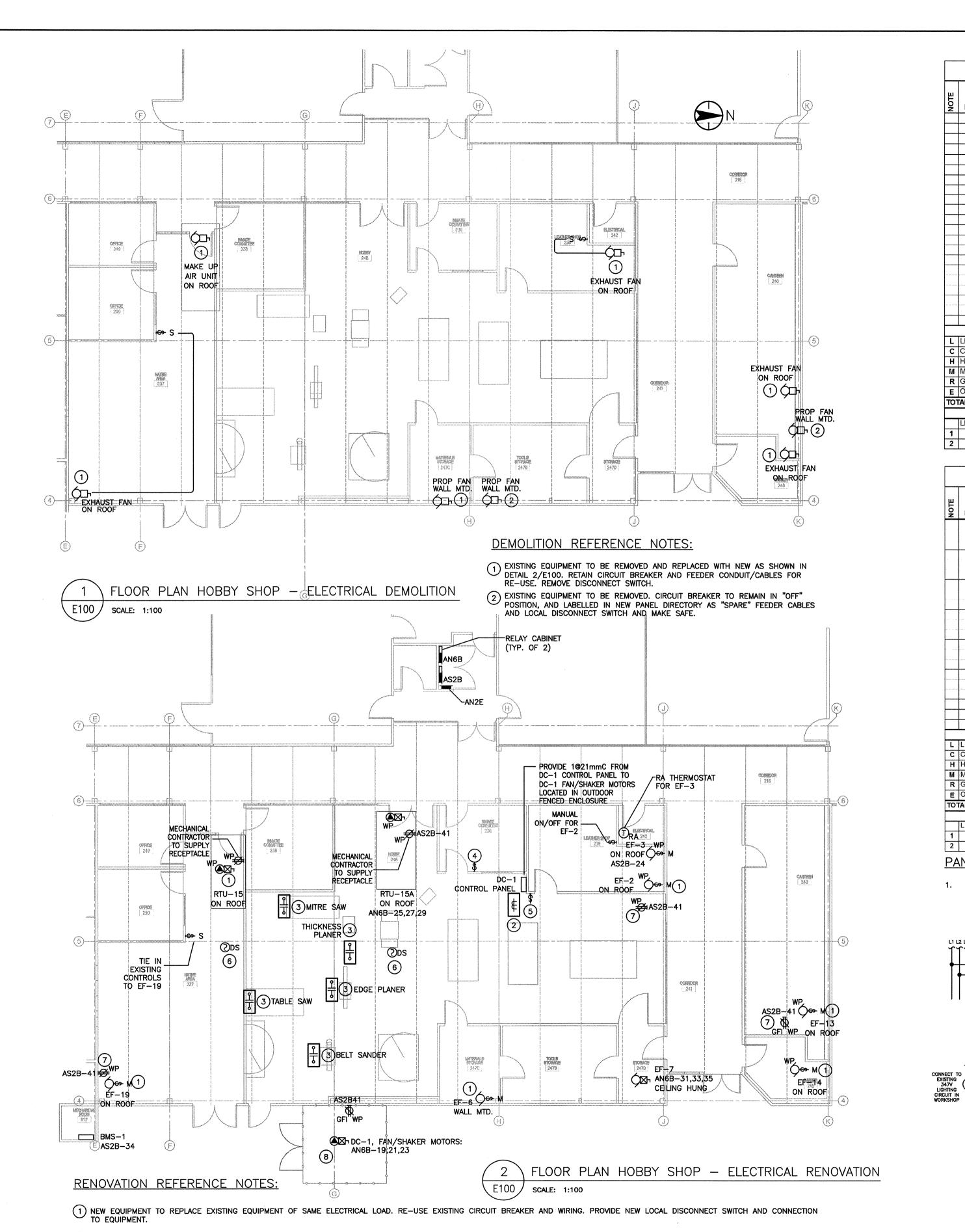
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La Révision

DM5XXXXXX

PWGSC - A1 - 841x594

0 10 20 30 40 50 60 70 80 90 100mm



LOCATION: ELECTRICAL CLOSET **PANEL: AS2B** TYPE: F.T.E. NLAB STYLE LOAD ≥ DESCRIPTION DESCRIPTION LOAD 15A 1 A 2 15A 15A 3 B 4 15A 15A 5 C 6 15A 15A 7 A 8 15A 15A 9 B 10 15A E 15A 11 C 12 15A F 15A 13 A 14 15A HOBBY SHOP FANS 20A 15 B 16 20A G-GYM CARVING SH LAN CABLE 3 A27 HALL LTG 15A 25 A 26 15A 15A 27 B 28 15A ROOM 219 S WAL ROOM 219 W WALL 15A 29 C 30 3P 31 A 32 15A RECEPTACLE-SPO OFFICE 60 33 B 34 15A BMS-1 CONTROL PANEL EXISTING LOAD A 35 C 36 TABLE SAW 15A 39 B 40 50 20A 41 C 42 A RECEPTACLE ROOF TOP MAINT. LOAD BREAKDOWN PANEL DESCRIPTION CONNECTED DERATED L LIGHTING: 208 V C COOLING: H HEATING: M MECHANICAL: PANEL AMPACITY 225 A R GENERAL RECEPTACLES: 60% MAIN BREAKER F OWNER EQUIPMENT: 80% # OF TUBS 0 | W | 0 NOTE DESCRIPTION LIGHTLY SHADED DESCRIPTIONS INDICATE EXISTING CIRCUITS; DARK SHADED DESCRIPTIONS INDICATE NEW CIRCUITS

			DANEL	MCD				·	LOCATION: ELECTRIC	AL CLO	SET	
			PANEL: A	4NOB					TYPE: EATON POW-R-LIN	STING)		
1	LOAD	TYPE	DESCRIPTION	BRKR	CCT	PHASE	сст	BRKR	DESCRIPTION	ТҮРЕ	LOAD	NOTE
				3P	1	Α	2	15A	LIGHTING			
1			TABLE SAW	15	3	В	4	15A	LIGHTING			
				Α	5	С	6	15A	LIGHTING			
				3P	7	Α	8	15A	LIGHTING			
			EXISTING LOAD	15	9	В	10	15A	LIGHTING		***************************************	
				Α	11	С	12	15A	LIGHTING			
		T		3P	13	Α	14	15A	LIGHTING			
			EXISTING LOAD	15	15	В	16	15A	LIGHTING		***************************************	
-				Α	17	С	18					
	8200	E	DUCT COLL FOTOD DO 4	3P	19	А	20	3P				
	8200	E	DUST COLLECTOR DC-1 (FAN & SHAKER)	50	21	В	22	15	EXHAUST FAN, EF-3	ľ		
	8200	E	(FAN & SHAKER)	A	23	С	24	Ä				
	1350	Н		3P	25	Α	26	3P				
-	1350	Н	RTU-15A	15	27	В	28	15	MUA-1 ENG. AIR. 3HP			
	1350	Н		Α	29	С	30	Α				
-	950	М		3P	31	Α	32	3P				
	950	М	EF-7	15	33	В	34	15	MUA-2 ENG AIR, 3HP	1		
	950	М		Α	35	С	36	Α				
					37	Α	38	3P				
					39	В	40	40	SUB-FEED TO PNL AN2L			
		T			41	С	42	Α		1 1		
_	***************************************		LOAD BREAKDOWN	CONNEC	TED	D	ERA	ED	PANEL DESCRI	NOITS		
	LIGHTIN	G:		0		100%		0	VOLTAGE	:	600	٧
	COOLIN	G:		0		0%		0	PHASE		3	
-	HEATING	3:		4050)	100%	4	1050	ADD'L AMPERAGE	: :	25.028	Α
-	MECHAN	IIC	AL:	2850)	80%	2	2280	PANEL AMPACITY	: :	100	Α
	GENERA	L F	RECEPTACLES:	0		60%		0	MAIN BREAKER	:	•	Α
	OWNER	EQ	UIPMENT:	2460	0	80%	1	9680	# OF TUBS	:	1	
7	AL:			3150	0	W	2	6010				
	***************************************		************************************	NO	TE D	ESCRIP	TION				************	
٦	LIGHTLY	'Sh	ADED DESCRIPTIONS INDICATE	EXISTING CIR	CUIT	S; DARK	SHA	DED DE	SCRIPTIONS INDICATE NEW CI	RCUITS		
1	***************************************											
٦								***************************************				

PANEL NOTES:

MASTER SWITCH LOCATED IN OFFICE

E100

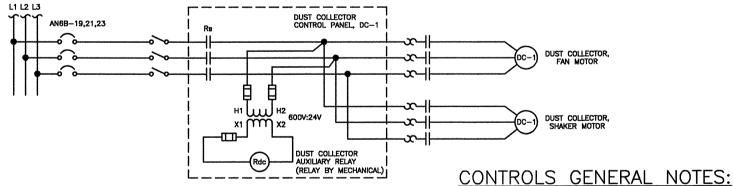
INMATE SWITCH LOCATED

--(Re)---

DC-01 MASTER/INMATE

CONTROL SCHEMATIC

PANEL A2SB IS EXISTING NLAB STYLE MANUFACTURED BY F.T.E. CIRCUIT BREAKER (CANADA) LTD. PANEL AN6B IS AN EXISTING POW-R-LINE C STYLE AND MANUFACTURED BY EATON. CONTRACTOR TO PROVIDE CIRCUIT BREAKERS TO MATCH EXISTING EQUIPMENT IN EACH PANEL WITH THE SAME FAULT CURRENT INTERRUPTING RATINGS AS EXISTING BREAKERS.



INTERCEPT EXISTING WIRING AND PROVIDE CONTACTS FROM DUST COLLECTOR TO INTERLOCK THE FOLLOWING EQUIPMENT: TABLE SAW (3P, 600V), BELT SANDER (3P, 120V), EDGE PLANER (3P, 120V), MITRE SAW

CONFIRM VOLTAGE, CURRENT RATING, AND PHASE OF ALL EXISTING EQUIPMENT PRIOR TO PROCURING CONTACTORS.

(3P, 120V) AND THICKNESS PLANER (3P, 120V).

- PROVIDE ALL NECESSARY COMPONENTS AND WIRING TO PROVIDE COMPLETE AND OPERABLE SYSTEM TO MEET DESIGN INTENT. PROVIDE COMMISSIONING, TESTING, AND DEMONSTRATION TO FACILITY STAFF.
- MASTER AND INMATE RELAYS TO BE LOCATED IN ACCESSIBLE CEILING SPACE OF OFFICE.
- UPDATE PANEL DIRECTORY FOR EXISTING LIGHTING CIRCUIT TO REFLECT THE ADDITION OF THE DC MASTER/INMATE RELAYS AS WELL AS LIGHTING.
- WIRING FOR MASTER AND INMATE RELAYS TO BE CONNECTED TO UNSWITCHED LEG OF LIGHTING CIRCUIT IN SHOP ROOM 248.
- NOT ALL CONTROLS SHOWN FOR OPERATION OF THE DUST COLLECTOR. REFER TO MANUFACTURER'S LITERATURE AND COORDINATE WITH SUPPLIER FOR ADDITIONAL RELAYS AS NECESSARY.



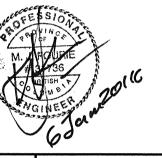
Travaux publics et Services gouvernementaux

REAL PROPERTY SERVICES

Région de Pacifique

Pacific Region SERVICES IMMOBILIERS





Issued for Tender 2016.06.01 Date/Date Description/Description

Client/client

PWGSC

CORRECTIONAL **SERVICE CANADA**

Project title/Titre du projet MISSION MEDIUM INSTITUTION MISSION, BC

> **HOBBY SHOP DUST EXTRACTION AND HVAC UPGRADE**

Consultant	Sianature	Box	Only

Designed by/Concept par Peter Necpal

Drawn by/Dessine par Hung Kieu

PWGSC Project Manager/Administrateur de Projets TPSGC **Daryl Sinclair**

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC Preetipal Paul

Drawing title/Titre du dessin

ELECTRICAL FLOOR PLAN HOBBY SHOP - NEW

Project No./No. du projet

Sheet/ Feuille

E100

R.076034.001 10 OF 13 Revision no./ La Révision

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(6) PROVIDE NEW DUCT SMOKE DETECTOR. CONNECT TO EXISTING DUCT SMOKE DETECTOR WIRING. COORDINATE WITH MECHANICAL FOR LOCATION.

AT FAN/SHAKER CONNECTION TO COMPLY WITH C.E.C. RULE 28-502(1), SAFETY FOR REMOTE CONTROL OF MOTOR STARTER.

(4) DUST COLLECTOR SYSTEM MASTER ON/OFF.

(5) DUST COLLECTOR SYSTEM INMATE CONTROL.

(7) MAINTENANCE RECEPTACLE ON ROOF LOCATED AS PER C.E.C RULE 26-704

(2) INSTALL CTs ON DC-1 FAN MOTOR FEEDER CABLES. CTs TO PROVIDE "ON" SIGNAL AND DATA TO DDC. COORDINATE WITH MECHANICAL (CTs SUPPLIED BY MECHANICAL).

3 INTERLOCK SHOP EQUIPMENT WITH DUST COLLECTOR AUXILIARY RELAY, Rdc (RELAY SUPPLIED BY MECHANICAL), TO PREVENT SHOP EQUIPMENT FROM RUNNING IF DUST COLLECTOR FAN IS NOT ON. INSTALL SHOP CONTACTORS AT UNDERSIDE OF STRUCTURE LOCATED ABOVE SHOP EQUIPMENT.

(8) PROVIDE 2012 Cu FROM DC-1 FAN/SHAKER MOTORS (SINGLE POINT CONNECTION) TO DC-1 CONTROL PANEL FOR CONTROL PANEL POWER. PROVIDE LOCAL, WEATHERPROOF DISCONNECT

DESIGN LOADS

DEAD LOAD:

STRUCTURAL SELF WEIGHT

GROUND SNOW LOAD (1/50 YEAR):

Ss = 2.4 kPa Sr = 0.3 kPa

IMPORTANCE FACTOR = NORMAL (Is = 1.0)

(1/50 YEAR):

4. SEISMIC DATA:

WIND EFFECTS

Sa(0.2) = 0.93Sa(0.5) = 0.63

q = 0.48 kPa

Sa(1.0) = 0.31Sa(2.0) = 0.17PGA = 0.46

IMPORTANCE FACTOR = NORMAL (le = 1.0) SITE CLASS = C (ASSUMED) CONVENTIONAL CONSTRUCTION (FOR DUST COLLECTOR AND RTU)

IMPORTANCE FACTOR = NORMAL (Iw = 1.0)

GENERAL

- THE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2010 AND BRITISH COLUMNBIA BUILDING CODE, 2012 EDITION, AND REFERENCED STANDARDS WITHIN. THE DESIGN OF EQUIPMENT PADS AND OTHER NON-STRUCTURAL ELEMENTS SHALL BE IN ACCORDANCE WITH CAN/CSA S832 SEISMIC RISK REDUCTION OF OPERATIONAL AND FUNCTIONAL COMPONENTS OF BUILDINGS.
- READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS. COORDINATE STRUCTURAL WORK WITH ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR DETAILED DIMENSIONS, ELEVATIONS, LOCATIONS OF DOOR AND WINDOW OPENINGS, SLOPES, CURBS, DRAINAGE AND WATERPROOFING, DUCT OPENINGS, RECESSES, INSERTS AND OTHER ITEMS.
- DO NOT INSTALL OPENINGS, SET INSERTS, DRILL OR ATTACH TO THE STRUCTURAL BUILDING COMPONENTS, EXCEPT AS NOTED ON THE STRUCTURAL DRAWINGS, WITHOUT WRITTEN CONSENT OF THE DEPARTMENTAL REPRESENTATIVE.
- 4. NOTIFY DEPARTMENTAL REPRESENTATIVE 72 HOURS IN ADVANCE FOR INSPECTION OF THE FOLLOWING: REINFORCING STEEL AND POUR CONDITIONS BEFORE EACH CONCRETE POUR.
- STRUCTURAL STEEL. DRAWINGS SHOW COMPLETED STRUCTURES ONLY. PROVIDE TEMPORARY BRACING AND SHORING FOR CONSTRUCTION LOADING CONDITIONS AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
- CONSTRUCTION LOADS INCLUDING OPERATING EQUIPMENT AND PERSONNEL MAY EXCEED DESIGN LOAD. USE ADDITIONAL SUPPORT WHERE REQUIRED. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING, OR BRACING, SHALL BE SUBMITTED TO THE DEPARTMENTAL REPRESENTATIVE FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER REGISTERED IN

THE PROVINCE OF BRITISH COLUMNBIA TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SHORING OR OTHER DESIGNS

VERIFY LOCATION OF UNDERGROUND SERVICES AND BE RESPONSIBLE FOR DISRUPTIONS.

TO COMPLETE THE CONSTRUCTION. PROVIDE SIGNED AND SEALED DRAWINGS.

ALL VERTICAL ELEVATIONS ARE IN METERS AND PLAN DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE. THE TRADE CONSTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO CONSTRUCTION START AND REPORT ALL DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.

EXCAVATION, BACKFILLING AND COMPACTION

- EXCAVATE TO LINES AND LEVELS NECESSARY TO PROPERLY COMPLETE THE WORK. MINIMUM SIDE SLOPES OF TEMPORARY EXCAVATIONS SHALL NOT EXCEED 1 TO 1, OR AS RECOMMENDED BY OCCUPATIONAL HEALTH AND SAFETY. CONTROL EXCAVATION TO ENSURE BOTTOM OF EXCAVATION DOES NOT SOFTEN DUE TO EXCESS MOISTURE. CONSTRUCT SLOPES IN BOTTOMS OF EXCAVATIONS FOR DRAINAGE AS REQUIRED.
- WHERE REQUIRED THE CONTRACTOR SHALL PROVIDE DEWATERING AND SHORING DURING EXCAVATION. SHRUBS, TREES AND NEIGHBOURING STRUCTURES SHALL BE PROTECTED AGAINST DAMAGE.
- EXPOSED SUBGRADE SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO BACKFILLING WITH ENGINEERED FILL.
- ENGINEERED FILL SHALL BE NON-FROST SUSCEPTIBLE FILL. PLACE FILL IN UNIFORM LAYERS NOT EXCEEDING 300mm LOOSE THICKNESS UP TO GRADE INDICATED. COMPACT EACH LAYER TO 100% STD PROCTOR MAX DRY DENSITY BEFORE PLACING SUCCEEDING LAYER. BACKFILL MATERIAL SHALL BE APPROVED BY QUALIFIED GEOTECHNICAL ENGINEER. COMPACTION SHALL BE TESTED AND SUBMIT TEST REPORT TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW.
- UNLESS NOTED OTHERWISE, UTILITY SERVICE TRENCHES SHALL BE BACKFILLED WITH FILL FROM EXCAVATION DURING TRENCHING, TOPSOIL AND OTHER ORGANIC MATERIAL ARE NOT SUITABLE FOR BACKFILL.
- FILL SHALL NOT BE PLACED ON FROZEN NATIVE GROUND. ALL FILL MATERIAL SHALL BE FREE FROM ICE AND SNOW, AND SHALL BE IN AN UNFROZEN STATE PRIOR TO AND DURING PLACEMENT AND COMPACTION OPERATION. DURING COLD WEATHER BACKFILLING. PLACE FILL IN LIFT HEIGHTS NOT EXCEEDING 100mm.
- 7. FOR ENGINEERED FILL TYPES INDICATED, ENGINEERED FILL SHALL EXTEND OUT TO 600mm BEYOND SLAB EDGE.

CONCRETE

- PROVIDE CONCRETE AND PERFORM WORK TO CSA STANDARD CAN / CSA A23.1-14.
- TEST CONCRETE IN ACCORDANCE WITH CSA STANDARD CAN / CSA A23.2-14.
- CONCRETE REQUIREMENTS:

	LI I I LEGON LINEIVIO								
TYPE	LOCATION	28 DAY STRENGTH f'c (MPa)	CEMENT TYPE	AGGREG. MAX. (mm)	SLUMP (mm)	TOTAL AIR (%)	EXPOSURE CLASS	MAX. W/C RATIO	FLY ASH (%)
1	EXTERIOR PADS / FOOTINGS	35	GU	20	80±30	5-8	C-1	0.4	-

- SPECIFIED SLUMPS ARE PRIOR TO THE ADDITION OF ANY APPROVED PLASTICIZING ADMIXTURE. WHEN CONCRETE IS PLACED BY PUMPING, THE LISTED SLUMPS ARE AT DISCHARGE. SLURRY OR GROUT USED IN THE PRIMING OF PUMPS IS TO BE WASTED AND NOT USED IN THE FINISHED CONSTRUCTION.
- 5. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 Kg/m³ UNLESS NOTED.

CONCRETE

6. PROVIDE CLEAR COVER TO REINFORCING STEEL AS FOLLOWS: SURFACES POURED AGAINST GROUND

FORMED SURFACES EXPOSED TO GROUND OR WEATHER

FORMED SURFACES NOT EXPOSED TO GROUND OR WEATHER:

SLAB ON GRADE

7. CONSTRUCTION JOINTS TO BE KEYED AND DOWELED AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE DEPARTMENTAL REPRESENTATIVE. SUBMIT PROPOSED DETAILS AND LOCATIONS OF ALL CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL.

40 mm - 10M AND 15M

50 mm - 20M AND LARGER

PROVIDE 25mm CHAMFER ON ALL EXPOSED CORNERS OF CONCRETE ELEMENT, UNLESS OTHERWISE SPECIFIED.

CONCRETE ACCESSORIES: **EXPANSION ANCHORS,**

ADHESIVE ANCHORS AND INSERTS

TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. MINIMUM EMBEDMENT OF ANCHORS TO BE 150 mm, UNLESS OTHERWISE SPECIFIED.

10. VERIFY SIZE AND LOCATION OF ALL MECHANICAL OPENINGS, CURBS, AND EQUIPMENT PADS WITH THE MECHANICAL

REINFORCING STEEL

DEFORMED BARS SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD G30.18-09 (R2014).

THE REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL.

- WELDED WIRE MESH SHALL CONFORM TO THE REQUIREMENTS OF CSA STANDARD G30.5-M1983 (R1998).
- REINFORCING WORK TO BE DONE IN ACCORDANCE WITH CSA STANDARD CAN / CSA A23.1-14 AND A23.3-14.
- REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL OR
- REINFORCING TO BE CONTINUOUS UNLESS NOTED. LAP TOP BARS AT MIDSPAN AND BOTTOM BARS AT SUPPORTS. EMBEDMENT AND LAP LENGTHS TO BE IN ACCORDANCE WITH THE SCHEDULE ON THE DRAWINGS. WHERE

REINFORCEMENT LAPS ARE REQUIRED IN ADJACENT BARS, STAGGER LAPS A MINIMUM OF 1200 mm UNLESS

- CHAIR SLAB REINFORCEMENT NOT FURTHER THAN 1000 mm IN EITHER DIRECTION. SUPPLY SUPPORT BARS,
- 7. DOWELS AND ANCHOR BOLTS SHALL BE SECURED IN POSITION BY MEANS OF TEMPLATES BEFORE CONCRETE IS
- MECHANICAL COUPLERS ARE PERMITTED IF REQUIRED AND WHERE SPECIFIED. SUBMIT PROPOSED COUPLER TYPE AND SPECIFICATIONS TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO USE. COUPLERS

SHALL BE CAPABLE OF DEVELOPING 125% OF THE SPECIFIED YIELD CAPACITY OF THE BARS BEING COUPLED.

- 9. 90 DEGREE AND 180 DEGREE HOOKS SHALL BE DETAILED AS STANDARD HOOKS UNLESS NOTED OTHERWISE.
- 10. PROVIDE DOWELS FROM CONCRETE BEAMS OR WALLS TO MATCH MASONRY BLOCK REINFORCING. UNLESS NOTED OTHERWISE DOWELS ARE TO PROJECT A MINIMUM OF 40 BAR DIAMETERS FROM FACE OF SUPPORT.

REINFORCEMENT SPLICES

CHAIRS, AND CARRIERS AS NECESSARY.

UNLESS NOTED OTHERWISE ON THE DRAWINGS THE FOLLOWING REINFORCEMENT SPLICES SHALL APPLY. USE TENSION AND COMPRESSION SPLICES AS INDICATED ON THE DRAWINGS. USE TENSION SPLICE WHERE NO SPLICE

		TENSION SPLICE - CLASS B (mm)									
BAR SIZE	COMP	CONCRETE STRENGTH (MPa)									
	SPLICE (mm)	20	25	30	35	40	45				
10M	330	470	425	390	390	390	390				
15M	470	670	600	545	505	470	445				
20M	570	820	730	670	620	580	545				
25M	740	1320	1180	1080	1000	935	880				
30M	870	1565	1400	1275	1180	1105	1040				
35M	1050	1865	1670	1525	1410	1320	1245				

MULTIPLY ABOVE VALUES BY THE FOLLOWING AS THEY APPLY:

1.3 FOR TOP BARS 1.15 FOR SHEARWALLS

REINFORCEMENT EMBEDMENT

UNLESS NOTED OTHERWISE ON THE DRAWINGS THE FOLLOWING REINFORCEMENT EMBEDMENT LENGTHS SHALL APPLY, USE TENSION AND COMPRESSION EMBEDMENT LENGTHS AS INDICATED ON THE DRAWINGS. USE TENSION EMBEDMENT WHERE NO SPLICE TYPE IS INDICATED ON THE DRAWINGS.

	COMP.	EMBEDMEN	T (mm)	TENSION EMBEDMENT (mm)									
BAR	CONCRE	TE STRENG	TH (MPa)		CONCRETE STRENGTH (MPa)								
SIZE	20	25	30 (+)	20	25	30	35	40	45				
10M	240	220	200	365	325	300	300	300	300				
15M	340	310	280	515	460	420	390	365	345				
20M	420	375	345	630	560	515	475	445	420				
25M	540	485	445	1015	910	830	765	715	675				
30M	640	575	525	1205	1075	985	910	850	800				
35M	765	685	630	1435	1285	1175	1085	1015	960				

STRUCTURAL STEEL

- FABRICATE AND ERECT STRUCTURAL STEEL TO MEET THE REQUIREMENTS OF CSA STANDARD CAN3-S16-14.
- PROVIDE STRUCTURAL STEEL TO MEET THE REQUIREMENTS OF CSA STANDARD G40.21-13 WITH THE

FOLLOWING GRADES: WIDE FLANGE SECTIONS CHANNELS AND ANGLES 300W HSS SECTIONS (CLASS 'C') 350W STRUCTURAL BARS AND PLATES 300W

MISCELLANEOUS STEEL PIPE SECTIONS ASTM A53-241 MPa MIN. YIELD STRENGTH

STRUCTURAL BOLTS ASTM A325 ASTM A307 ANCHOR RODS

FABRICATOR TO BE CERTIFIED AS A DIVISION 2 COMPANY IN ACCORDANCE WITH CSA STANDARD W47.1-09(R2014).

DIMENSIONS SHOWN ARE TO CENTRELINES OF SECTIONS AND TO BACK OF CHANNELS AND ANGLES. ELEVATIONS

- SHOWN ARE TO UNDERSIDE OF METAL DECK UNLESS NOTED OTHERWISE.
- PROVIDE ERECTION BOLTS TO MEET ASTM A325, MINIMUM 19mm DIAMETER. DESIGN BOLTED CONNECTIONS AS A325 FOR THREADS EXCLUDED FROM SHEAR PLANE. BOLTS TO BE TIGHTENED BY THE "TURN OF NUT" METHOD
- WELDING TO MEET THE REQUIREMENTS OF CSA STANDARD W59-13 BY FABRICATORS QUALIFIED TO CSA
- FIELD WELDING AND FIELD MODIFICATION OF STRUCTURAL STEEL WILL NOT BE ALLOWED WITHOUT PRIOR REVIEW AND WRITTEN APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE.
- TEMPORARY BRACING DURING CONSTRUCTION TO BE DESIGNED, INSTALLED AND MAINTAINED BY THE CONTRACTOR, ERECTION BRACING TO BE REMOVED BY THE CONTRACTOR ONLY AFTER PERMANENT FLOOR DIAPHRAGMS, ROOF DIAPHRAGMS, SHEAR WALLS AND BRACING ARE COMPLETE.
- WHERE SHOWN ON THE DRAWING, PERIMETER ANGLES ARE REQUIRED TO BE CONTINUOUS AND SHALL BE MAINTAINED THROUGH THE USE OF APPROVED SPLICES.
- 10. CONNECTIONS
 - UNLESS OTHERWISE NOTED. CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR IN ACCORDANCE WITH CAN/CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.
 - UNLESS OTHERWISE NOTED, ALL SHOP CONNECTIONS SHALL BE WELDED AND ALL FIELD CONNECTIONS SHALL BE BOLTED. ALL FORCES THROUGH ANY CONNECTION SHALL PASS THROUGH A COMMON WORK POINT WHICH SHALL BE THE INTERSECTION OF THE PRINCIPLE AXES OF THE CONNECTED MEMBERS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. BRACING SHALL BE CONNECTED TO THE MAIN MEMBERS USING GUSSET PLATES WELDED OR BOLTED TO THE MAIN MEMBERS. ALL STRUCTURAL TEES SHALL BE FLANGE CONNECTED.
 - ALL COLUMNS SHALL BE MILLED AT SPLICES AND AT THE BASE PLATES, AND THE BASE PLATES SHALL BE MILLED AT THE COLUMN FAYING SURFACE. THE MILLING TOLERANCE SHALL BE WITHIN 0.100mm (0.004").
 - UNLESS NOTED OTHERWISE, BRACING CONNECTIONS SHALL BE DESIGNED TO RESIST THE FACTORED LOADS SHOWN ON THE DRAWINGS, AND REQUIREMENTS AS PER CLAUSE 27 OF CAN/CSA-S16 FOR THE TYPE OF FRAME SPECIFIED FOR THE BUILDING.

THE NUMBER OF BOLTS FOR BRACING CONNECTIONS SHALL NOT BE LESS THAN:

STRUCTURAL TEES 4 BOLTS 2 BOLTS ANGLES TUBE OR PIPE 4 BOLTS

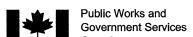
LOADED TO ITS MAX CAPACITY.

BEAM CONNECTIONS SHALL BE DESIGNED TO RESIST THE FACTORED BEAM SHEAR, Vf, WHICH SHALL BE THE GREATER OF EITHER: THE FACTORED BEAM SHEAR SHOWN ON THE DRAWINGS, OR THE FACTORED "DESIGN SHEAR CAPACITY" OF A LATERALLY SUPPORTED BEAM UNIFORMLY

BEAM CONNECTIONS THAT FORM PART OF THE LATERAL LOAD RESISTING SYSTEM OF THE BUILDING SHALL, IN ADDTION TO THE ABOVE FACTORED BEAM SHEAR, Vf, BE DESIGNED FOR THE BRACING LOADS AND PASS THROUGH LOADS SHOWN ON THE DWG.

- BOLTS ARE TO BE ASTM A325 WITH A MINIMUM DIAMETER OF 19mm. UNLESS NOTED OTHERWISE, BOLTED CONNECTIONS SHALL BE BEARING TYPE.
- MINIMUM WELDS FOR CONNECTIONS SHALL BE 5mm FILLET WELDS, WELDS EXPOSED IN THE FINISHED STRUCTURE SHALL BE GROUND SMOOTH.
- FACTORED LOADS ARE DENOTED AS FOLLOWS: Mf = MOMENT, kN.m Tf = TENSION, kN Cf = COMPRESSION, kN Vf = VERTICAL SHEAR, kN
- 11. PROVIDE BOLT HOLES IN STRUCTURAL STEEL MEMBERS WHERE SHOWN AND WHERE REQUIRED FOR THE ATTACHMENT OF BOLTED BLOCKING OR FASTENINGS BY OTHER TRADES.
- 12. PROVIDE STIFFENER / BEARING PLATES ON BOTH SIDES OF W-SHAPE SECTIONS AND ON ONE SIDE OF C-SHAPE SECTIONS AT ALL LOCATIONS WHERE CONCENTRATED LOADS OCCUR (EXCLUDING OWSJ SEATS) AND AT BEARING SUPPORTS, EACH STIFFENER SHALL BE DESIGNED TO PREVENT BUCKLING OF THE SECTION WEB AT THE POINT OF
- PROVIDE SEAL WELDED CLOSURE PLATES AT ALL OPEN ENDS OF HSS MEMBERS. PLATE THICKNESS TO BE EQUAL TO THE WALL THICKNESS OF THE HSS MEMBER.
- 14. FRAME ALL OPENINGS IN ROOF AND FLOOR DECK THAT ARE LARGER THAN 400 mm AS DETAILED ON THE DRAWINGS. IF FRAMING IS NOT SPECIFICALLY DETAILED, DESIGN FRAMES TO SUPPORT SPECIFIED LOADS INCLUDING EQUIPMENT WHERE APPLICABLE.
- 15. CLEAN ALL STEEL PRIOR TO PAINTING TO SSPC SURFACE PREPARATION SPECIFICATION NO. 7 "BRUSH-OFF BLAST CLEANING" EXCEPT STRUCTURAL MEMBERS WHICH WILL BE EXPOSED IN THE COMPLETED STRUCTURE IN WHICH CASE CLEANING SHALL CONFORM TO SSPC NO. 6 " COMMERCIAL BLAST CLEANING".
- 16. ALL STEEL SHALL BE PREPARED AND PAINTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- 17. APPLY TWO COATS OF APPROVED ASPHALT BASED PAINT TO ALL STEEL SURFACES TO BE EXPOSED TO SOIL
- 18. ALL EXPOSED EXTERIOR STEEL TO BE UNPAINTED, GALVANIZED.

ABBREVIATIONS				
ARCH BOT BS CL CLR COL CONC C/W DET DIM DWG EL ELECT ES EW EXIST	ARCHITECTURAL BOTTOM BOTH SIDES CENTRE LINE CLEAR COLUMN CONCRETE COMPLETE WITH DETAIL DIMENSION DRAWING ELEVATION ELECTRICAL EACH SIDE EACH WAY EXISTING	MAX MECH MIN NTS OC PL REF REINF REQD R/W T & B TOS TYP T= UNO U/S W/	MAXIMUM MECHANICAL MINIMUM NOT TO SCALE ON CENTRE PLATE REFERENCE REINFORCE, REINFORCEMENT REQUIRED REINFORCE WITH TOP AND BOTTOM TOP OF STEEL TYPICAL TENSION= UNLESS NOTED OTHERWISE UNDERSIDE WITH	



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Région de Pacifique

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2016.06.0° Issued for tender Description/Description Date/Date Client/client

> CORRECTIONAL **SERVICE CANADA**

Project title/Titre du projet MISSION MEDIUM INSTITUTION MISSION. BC

> **HOBBY SHOP DUST EXTRACTION AND HVAC UPGRADE**

Consultant Signature Box Only

Designed by/Concept par

Drawn by/Dessine par

PWGSC Project Manager/Administrateur de Projets TPSGC **Daryl Sinclair**

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC Preetipal Paul

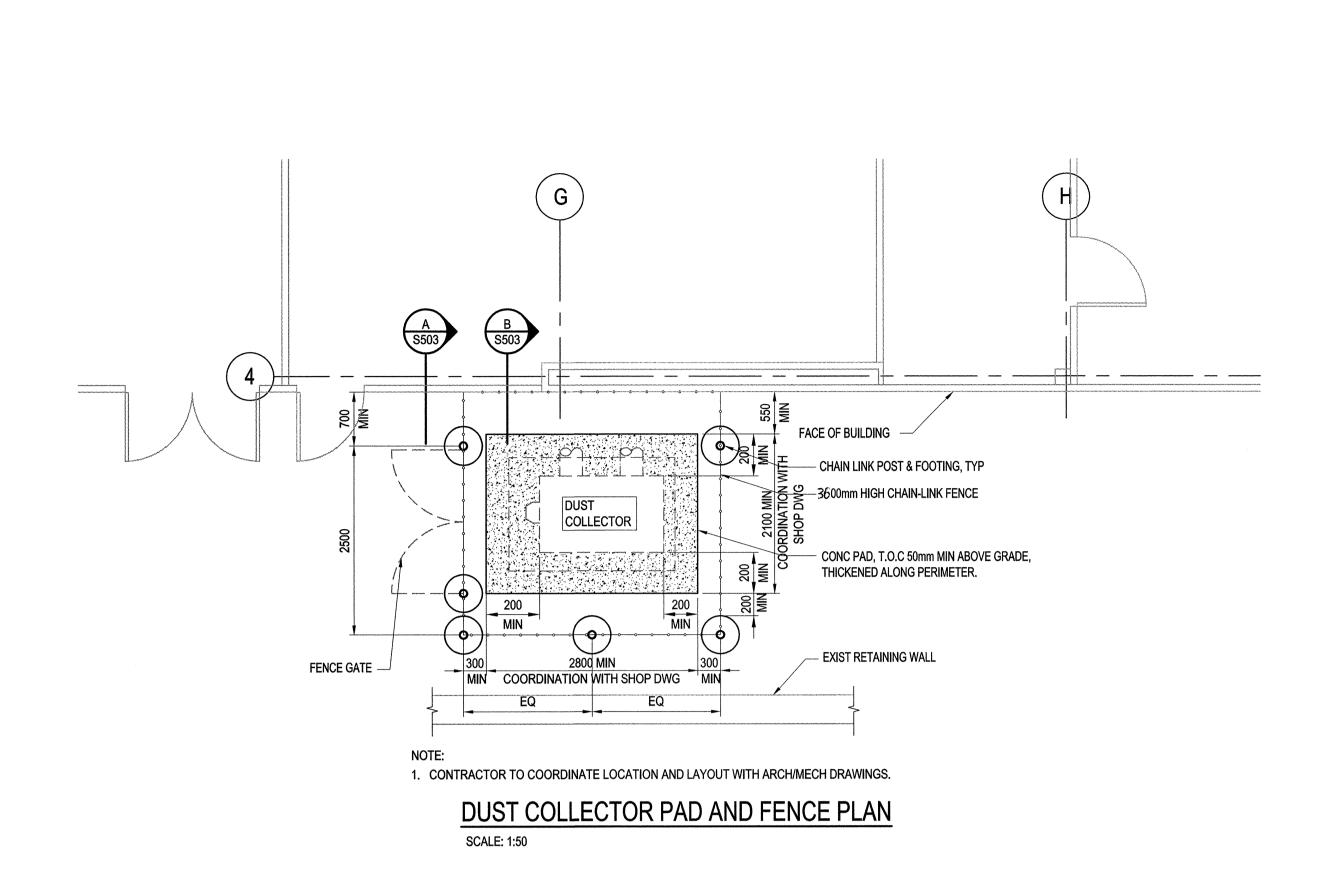
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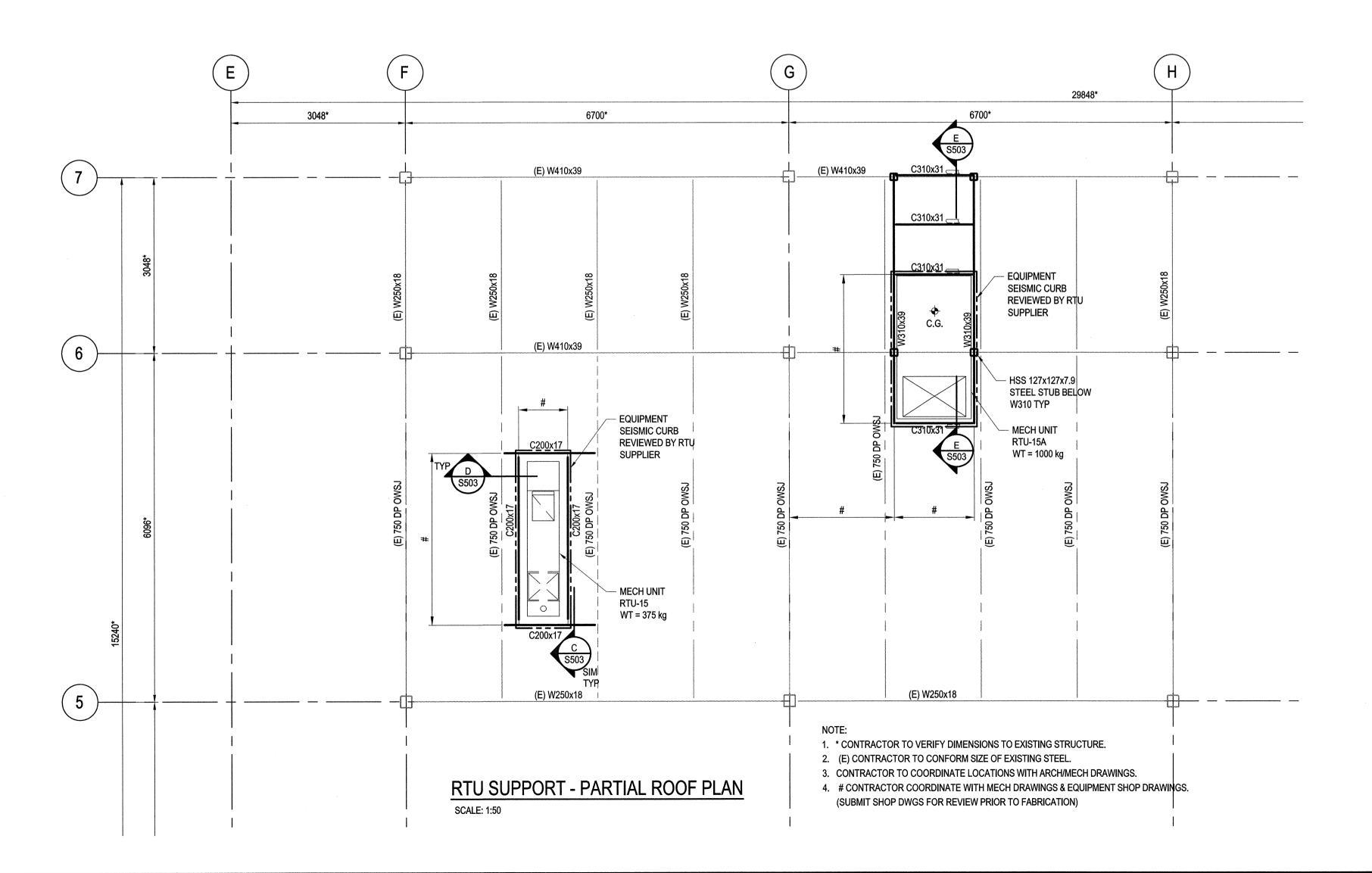
STRUCTURAL **GENERAL NOTES,** AND ABBREVIATIONS

roject No./No. du projet **S501** R.076034.001

11 OF 13

.a Révision







Travaux publics et Services gouvernementaux

REAL PROPERTY SERVICES Pacific Region SERVICES IMMOBILIERS Région de Pacifique



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STRUCTURAL **DUST COLLECTOR PAD AND FENCE** PARTIAL ROOF PLAN

R.076034.001

S502 12 OF 13

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Revision no. La Révision

PWGSC - A1 - 841x594

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