INDOOR UNIT SCHEDULE

TAG No.	QTY	DESCRIPTION	BASIS OF DESIGN	SERVING	SUPPLY AIR		HEATING				COOLING				ELECTRICAL		ELECTRIC HEATER CAPACITY (KW)	CONTROLS	REMARKS
					FLOW (L/s) (SPEED H/M/L)	EXT. PRESS. DROP (Pa/in)	HEATING MEDIUM	HEATING CAPACITY (KW/MBh)	RETURN AIR DB (°C)	OUTDOOR AIR DB/WB (°C)	COOLING MEDIUM	TOTAL COOLING (KW/MBh)	RETURN AIR DB/WB (°C)	OUTDOOR AIR DB (°C)	ELECTRICAL (V/Ph/Hz)	POWER			
FC–A	2	CEILING MOUNT LOW PROFILE DUCTED FAN COIL	DAIKIN – FXMQ	HATCHERY	300/275/250	62.3/0.25	R–410A	5.9/20	21°C	8.3°C/6°C	R–410A	5.3/18	25°C/19.4°C	35°C	208/1/60	1.6 MCA	SEE NOTES RE: EXISTING HEAT BACK–UP	PROGRAMMABLE WALL CONTROLLER (NOTE 2)	1,2
FC–B	8	HI–WALL DUCTLESS FAN COIL	DAIKIN – FXAQ	RESIDENCE	123/–/76	N/A	R–410A	2.5/8.5	21°C	8.3°C/6°C	R–410A	2.2/7.5	25°C/19.4°C	35°C	208/1/60	0.4 MCA	SEE NOTES RE: EXISTING HEAT BACK–UP	PROGRAMMABLE WALL CONTROLLER (NOTE 2)	1,2

REMARKS:

1) INDOOR UNIT IS POWERED FROM OUTDOOR UNIT DISCONNECT, SEE MANUFACTURER FIELD WIRING DIAGRAM.

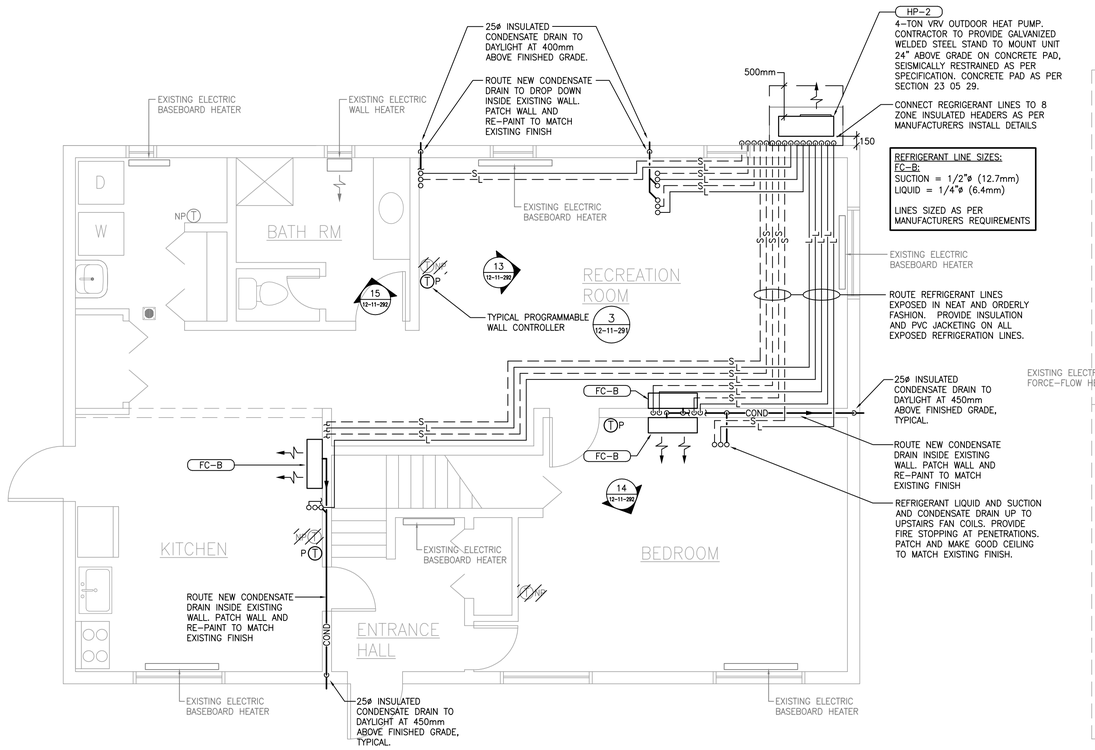
2) SUPPLY AND INSTALL 3RD PARTY PROGRAMMABLE WALL CONTROLLER (BASIS OF DESIGN COOL AUTOMATION THERMOPAD) IN PLACE OF FACTORY T–STATS. CONTROLLER TO BE CAPABLE OF OPERATING EXISTING ELECTRIC HEATERS AND STAGE 2 HEATING WHEN IN AUXILIARY HEATING MODE.

OUTDOOR UNIT SCHEDULE

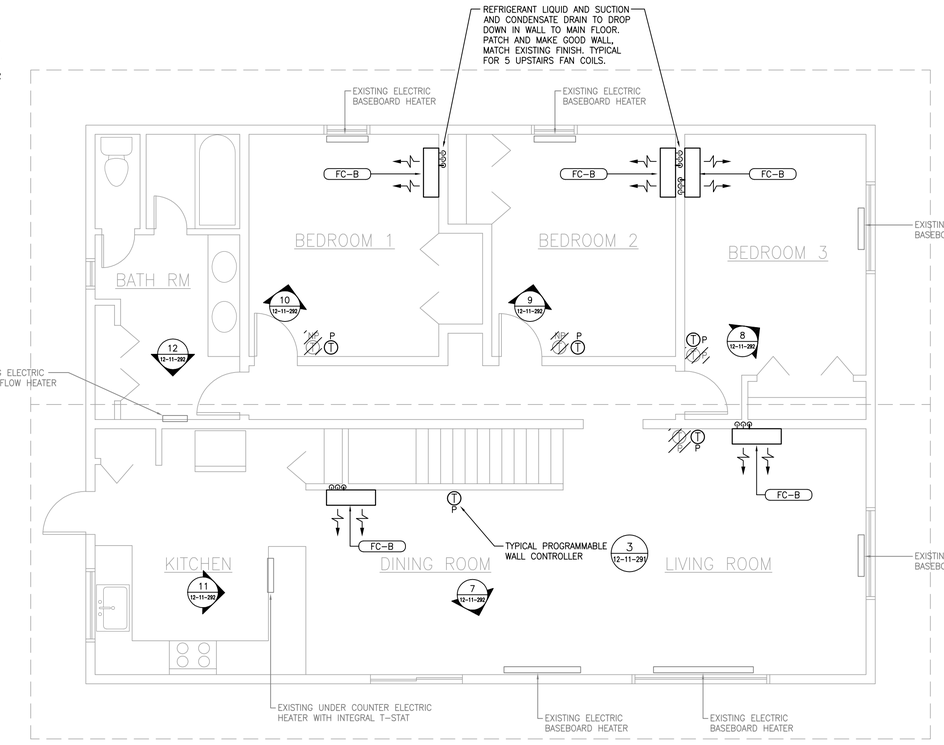
TAG No.	INDOOR UNIT / QTY	DESCRIPTION	BASIS OF DESIGN	SIZE	COOLING AMBIENT (°C/°F)	COOLING EER	HEATING AMBIENT (°C/°F)	HEATING COP	REFRIGERANT	LIQUID LINE (mm/inches)	VAPOR LINE (mm/inches)	INPUT (MCA)	ELECTRICAL (V/Ph/Hz)	REMARKS
HP–1	FC–A / 2	VARIABLE REFRIGERANT VOLUME HEAT PUMP	DAIKIN VRVIII–S	36 MBH	35°C/95°F	9.9	8.3°C/47°F	2.9	R–410A	9.5mm / 3/8"ø	15.9mm / 5/8"ø	27	208/1/60	1
HP–2	FC–B / 8	VARIABLE REFRIGERANT VOLUME HEAT PUMP	DAIKIN VRVIII–S	48 MBH	35°C/95°F	9.0	8.3°C/47°F	2.6	R–410A	9.5mm / 3/8"ø	15.9mm / 5/8"ø	27	208/1/60	2

REMARKS:

1) MANUFACTURER SUPPLIED JOINT PIPING SYSTEM AS PER PLANS. PROVIDE FACTORY JOINTS (2 REQUIRED)
2) MANUFACTURER SUPPLIED 8 ZONE HEADER PIPING SYSTEM AS PER PLANS, PROVIDE FACTORY HEADERS (2 REQUIRED)



1 / 12–11–291 HVAC UPGRADES – RESIDENCE – MAIN FLOOR PLAN
Scale: 1:50



2 / 12–11–291 HVAC UPGRADES – RESIDENCE – UPPER FLOOR PLAN
Scale: 1:50

GRILLES AND REGISTERS SCHEDULE

GRILLE TYPE	DESCRIPTION
SUPPLY AIR	
SG–1	DOUBLE DEFLECTION SUPPLY, STEEL CONSTRUCTION, C/W BALANCE DAMPER
SD–1	ADJUSTABLE ROUND CONE DIFFUSER, STEEL CONSTRUCTION
EXHAUST / RETURN AIR	
RG–1	LOUVERED RETURN, STEEL CONSTRUCTION

NOTES:
NOTE 1: COLOURS SHALL BE WHITE
NOTE 2: DESIGN BASED ON EH PRICE GRILLES / REGISTERS AND DIFFUSERS

GENERAL NOTE:
ALL GRILLES, DIFFUSERS AND REGISTERS WHICH ARE DUCT CONNECTED ARE TO BE PROVIDED WITH MANUAL DAMPERS AT CONNECTION DUCTS EXCEPT WHERE MANUAL DAMPERS ARE SPECIFIED INTEGRAL TO GRILLES.

HEAT RECOVERY VENTILATOR SCHEDULE

TAG No.	BASIS OF DESIGN	SERVICE	LOCATION	AIR			ENERGY RECOVERY		MOTOR		REMARKS
				E.S.P. (Pa)	SUPPLY AIR (L/S) 100% O/A	EXHAUST AIR (L/S)	LATENT COOLING EFF. (%)	LATENT HEATING EFF. (%)	ELECTRICAL (V/Ph/Hz)	WATTS	
HRV–1	NU–AIR	HATCHERY	CEILING	150	113.2	113.2	28%	56%	115/1/60	170	PROPYLENE CORE, AHRI CERTIFIED, 2–SPEED MOTOR, INTERNAL CONTROLS WITH DEFROST, BACK–DRAFT DAMPERS ON OUTDOOR AIR AND EXHAUST AIR, 7–DAY PROGRAMMABLE TIME CLOCK FOR UNIT OPERATION

RESIDENCE FAN COIL CONTROL / AUXILIARY ELECTRIC HEAT:

1. FOLLOWING INFORMATION IS BASED ON THE COOL AUTOMATION – THERMOPAD
2. REFER TO VIRTUAL AUTO MODE IN THE T–STAT MANUAL
3. AUXILIARY HEATER (EXISTING BASEBOARD) CONNECTS TO OUT–A/GRN AND WILL INTERLOCK WITH A RELAY (SEE DRAWINGS FOR QUANTITY). TERMINALS 7 AND 8 WILL BE USED TO POWER THE THERMOSTAT AND COMMUNICATE WITH THE VRV HEAD UNIT.
4. IN VIRTUAL AUTO MODE THE OCCUPANT IS ALLOWED TO CHANGE SET–POINT, FAN SPEED AND TURN HVAC ON/OFF BUT NOT ALLOWED TO CHANGE OPERATION MODE. T–STAT WILL DECIDE ABOUT COOLING OR HEATING MODE BASED ON SET–POINT, ROOM TEMPERATURE AND dt2C, dt2H VALUES ACCORDING TO THE BELOW RULES.
   .1 IN COOLING MODE CONTROLLER WILL STAY IN COOLING MODE WHILE: ROOM TEMPERATURE > SET–POINT
   .2 IN COOLING MODE CONTROLLER WILL PASS TO HEATING MODE IF: ROOM TEMPERATURE < SET–POINT
   .3 IN HEATING MODE CONTROLLER WILL STAY IN HEATING MODE WHILE: ROOM TEMPERATURE < SET–POINT
   .4 IN HEATING MODE CONTROLLER WILL PASS TO COOLING MODE IF: ROOM TEMPERATURE > SET–POINT
5. IN COOLING MODE HVAC IS RESPONSIBLE FOR COOLING OPERATION. CONTROLLER TAKES NO CONTROL OVER THIS PROCESS. IN AUX HEATING MODE T–STAT USES HYSTERESIS TEMPERATURE – onHS AND ofHS TO KEEP ROOM TEMPERATURE CLOSE TO THE SET–POINT ACCORDING TO THE BELOW RULES:
   .1 AUX HEATING GOES ON IF: ROOM TEMPERATURE < SET–POINT
   .2 AUX HEATING GOES OFF IF: ROOM TEMPERATURE > OR EQUAL TO SET–POINT

3 / 12–11–297 CONTROL SEQUENCE FOR FAN COILS
Scale: NT.S.

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS

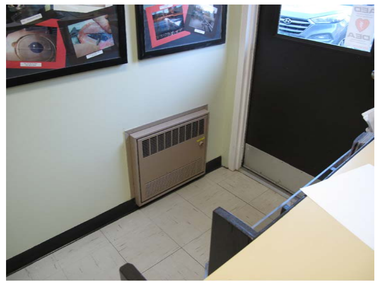
DESIGNED S.M.C.
DRAWN S.M.C.
CHECKED M.S.
RECOMMENDED
APPROVED

PRJECT NO: 9L526
SPIUS CREEK HATCHERY
HVAC UPGRADES
RESIDENCE

SCALE AS NOTED
DATE MARCH 31, 2016
DRAWING NUMBER 12-11-291

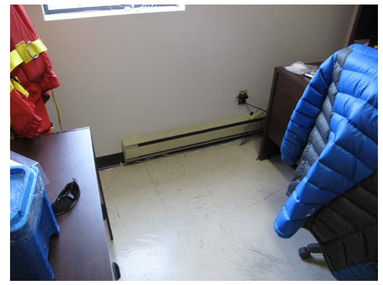
1 (12-11-292) HATCHERY – UNIT HEATER
Scale: N.T.S.

2 (12-11-292) HATCHERY – UNIT HEATER
Scale: N.T.S.



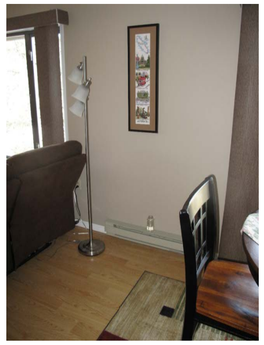
3 (12-11-292) HATCHERY – RECEPTION HEATER
Scale: N.T.S.

4 (12-11-292) HATCHERY – OFFICE HEATER
Scale: N.T.S.

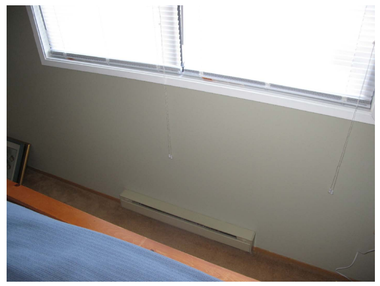


5 (12-11-292) HATCHERY – OFFICE HEATER
Scale: N.T.S.

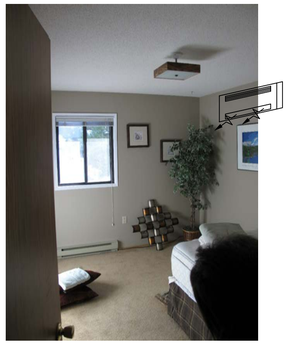
6 (12-11-292) HATCHERY – LAB HEATER
Scale: N.T.S.



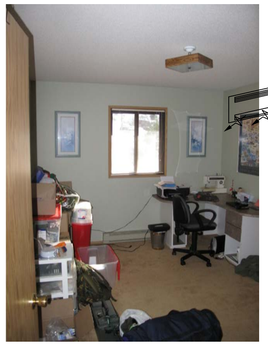
7 (12-11-292) RESIDENCE UPSTAIRS – LIVING/DINING
Scale: N.T.S.



8 (12-11-292) RESIDENCE UPSTAIRS – BEDROOM 3
Scale: N.T.S.

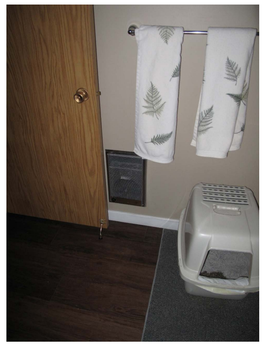


9 (12-11-292) RESIDENCE UPSTAIRS – BEDROOM 2
Scale: N.T.S.



10 (12-11-292) RESIDENCE UPSTAIRS – BEDROOM 1
Scale: N.T.S.

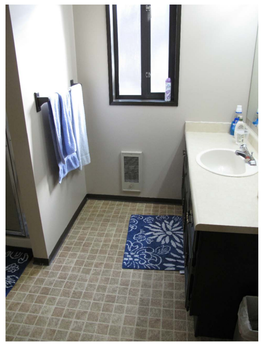
11 (12-11-292) RESIDENCE UPSTAIRS – KITCHEN
Scale: N.T.S.



12 (12-11-292) RESIDENCE UPSTAIRS – BATHROOM
Scale: N.T.S.

13 (12-11-292) RESIDENCE MAIN – RECREATION ROOM
Scale: N.T.S.

14 (12-11-292) RESIDENCE MAIN – BEDROOM
Scale: N.T.S.



15 (12-11-292) RESIDENCE MAIN – BATHROOM
Scale: N.T.S.

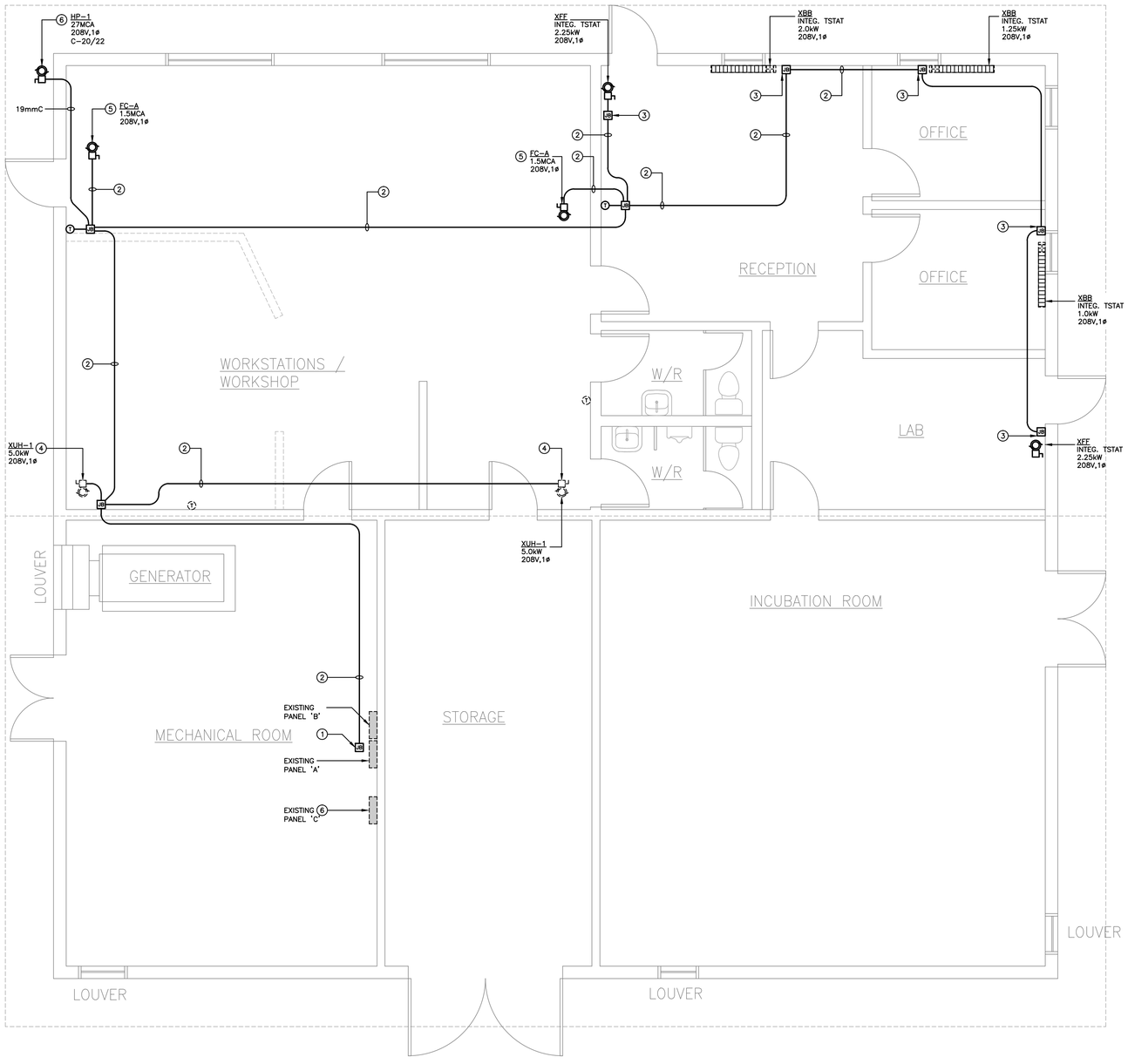
FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS

DESIGNED S.M.C.
DRAWN S.M.C.
CHECKED M.S.
RECOMMENDED
APPROVED

PROJECT NO: 9L526
SPIUS CREEK HATCHERY
HVAC UPGRADES
PHOTOS

SCALE AS NOTED
DATE MARCH 31, 2016
DRAWING NUMBER 12-11-292



HATCHERY BUILDING ELECTRICAL PLAN
HVAC UPGRADE

0 .5 1 2 ⑦

SCALE: 1:50

NOTES

1. DENOTES LOCATION OF LOW VOLTAGE CONTROL TRANSFORMER TO OPERATE THE CONTROL WIRING FOR THE NEW MECHANICAL SYSTEM.
2. DENOTES SURFACE RACEWAY LAYOUT FOR THE LOW VOLTAGE CONTROL WIRING. QUANTITY AND TYPE OF LOW VOLTAGE CABLING TO EACH DEVICES TO BE COORDINATED ON SITE WITH THE MECHANICAL CONTRACTOR. FINAL RACEWAY LAYOUT TO BE CONFIRMED ON SITE. ENSURE THAT THE RACEWAY LAYOUT DOES NOT CONFLICT WITH ANY OF THE EXISTING LIGHTING AND MECHANICAL SYSTEMS.
3. PROVIDE SURFACE JUNCTION BOX C/W RELAY TO CONTROL POWER SUPPLY TO HEATER. REFER TO MECHANICAL CONTRACT DOCUMENTS FOR DETAILS.
4. PROVIDE SURFACE JUNCTION BOX C/W RELAY TO CONTROL POWER SUPPLY TO UNIT HEATER. CONNECT CONTACTORS DOWN STREAM FROM LINE VOLTAGE THERMOSTAT. REFER TO STAGE TWO ELECTRIC HEAT WIRING SCHEMATIC ON MECHANICAL DRAWING AND SPECIFICATIONS FOR DETAILS.
5. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT DISCONNECT, SEE MANUFACTURER FIELD WIRING DIAGRAM.
6. EXISTING PANEL 'C' IS A SIEMENS 'ITE' PANEL BOARD, 24CCT, 225A, 120/208V, 3ø, 4W. PROVIDE A 2P-40A BREAKER FOR CIRCUIT C-20/22.
7. NOTE THAT THE ELECTRICAL LAYOUT SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND IS INTENDED TO REPRESENT THE ELECTRICAL SCOPE OF WORK. DO NOT SCALE THE DRAWINGS, OBTAIN ACCURATE MEASUREMENTS ON SITE.

TEXT LEGEND

CONSTRUCTION NOTES

ER	= EXISTING EQUIPMENT TO REMAIN	R	= REMOVE EXISTING EQUIPMENT
RL	= RELOCATE EXISTING EQUIPMENT	RP	= EXIST. EQUIPMENT TO BE REPLACED
BO	= BLANK OFF EXISTING EQUIPMENT	EO	= EXIST. OUTLET
RU	= RE-USE EXISTING EQUIPMENT	RE	= REMOVE & REINSTALL EXISTING EQUIPMENT
OO	= OUTLET ONLY (PROVIDE COVER PLATE)	RO	= ROUGH-IN ONLY (PROVIDE COVER PLATE)
EX. CCT	= EXISTING CIRCUIT		

EQUIPMENT ABBREVIATIONS

MDP	= MAIN DISTRIBUTION PANEL	STB	= SOUND TERMINAL BOARD
SDP	= SUB DISTRIBUTION PANEL	STC	= SOUND TERMINAL CABINET
DTB	= DATA CABLING TERMINAL BOARD	FACP	= FIRE ALARM CONTROL PANEL
TTB	= TELEPHONE TERMINAL BOARD	FAAP	= FIRE ALARM ANNUNCIATOR PANEL
TTC	= TELEPHONE TERMINAL CABINET	IACP	= INTRUSION ALARM CONTROL PANEL
TVTB	= CABLE TELEVISION TERMINAL BOARD	IATC	= INTRUSION ALARM TERMINAL CABINET

EQUIPMENT SPECIFICATIONS

SF	= SURFACE MOUNTED	PEC	= PHOTO ELECTRIC CELL CONTROLLED
WP	= WEATHER PROOF	TC	= TIMECLOCK CONTROL
EXP	= EXPLOSION PROOF	BG	= EQUIPMENT c/w BUBBLE GUARD
HSS	= HOUSE SIDE CUTOFF	WG	= EQUIPMENT c/w WIRE GUARD
G	= GRADE MOUNTED	VG	= EQUIPMENT c/w VANDAL GUARD
SMR	= RECESSED MOUNTED ON SURFACE MOUNTED RACEWAY		

MISCELLANEOUS

HD	HAND DRYER POWER CONNECTION	PP	PACK POLE
G	GARBAGE DISPOSAL POWER CONNECTION	FP	FIRE PLACE POWER CONNECTION
JB or MB	JUNCTION BOX	LS	LIMIT SWITCH

CONDUIT / CONDUCTORS

	CONDUIT RUN IN WALLS OR CEILING		BX CABLE OR FLEXIBLE METALLIC CONDUIT
	DENOTES D.C. WIRING		DENOTES GROUND WIRE
	DENOTES No. OF WIRES IN CONDUIT (THIS EXAMPLE 5-WIRES)	A-15	DENOTES PANEL & CIRCUIT (THIS EXAMPLE "PANEL A - CIRCUIT 15")
	DENOTES No. OF CIRCUITS IN CONDUIT (THIS EXAMPLE 3-CIRCUITS)		CONDUIT RUN IN OR UNDER SLAB OR UNDERGROUND

FIRE ALARM

	HEAT DETECTOR - 135 DEGREE FIXED TEMP. & RATE OF RISE ("Z"=187 DEGREE FIXED TEMP. "MP"=MOISTURE PROOF "S"=SURFACE MOUNT)	S	SMOKE DETECTOR ("D" = DUCT SMOKE DETECTOR) ("CO"= COMBINATION SMOKE/C.O. DETECTOR)
SF	SPRINKLER VALVE FLOW SWITCH	S	SMOKE DETECTOR c/w SOUNDER BASE ("CO"= COMBINATION SMOKE/C.O. DETECTOR)
ST	SPRINKLER VALVE TAMPER SWITCH	SP	SPRINKLER PRESSURE SWITCH
F	MANUAL PULLSTATION R = RECESSED	SA	SPRINKLER ALARM
B	PIEZO HORN BUZZER		ELECTROMAGNETIC DOOR HOLDER
	FIRE FIGHTERS PHONE	B	PIEZO HORN BUZZER c/w SILENCE BUTTON
S	SMOKE ALARM ("CO"= COMBINATION SMOKE/C.O. ALARM)		120V STROBE LIGHT
F	GONG	F	GONG c/w INTEGRAL STROBE LIGHT
F	HORN	F	HORN c/w INTEGRAL STROBE LIGHT
P	RECESSED FIRE ALARM SPEAKER	P	WALL MOUNTED FIRE ALARM STROBE LIGHT
	RECESSED FIRE ALARM SPEAKER c/w INTEGRAL STROBE LIGHT		CEILING MOUNTED FIRE ALARM STROBE LIGHT
EOL	END OF LINE RESISTOR		

SYMBOL LEGEND

LIGHTING

3/0	DENOTES LUMINAIRE TYPE THIS EX: TYPE 3/0" (REFER TO LUM. SCHEDULE)		SURFACE MOUNTED
	WALL MOUNTED		RECESSED
	SURFACE MOUNTED		PENDANT MOUNTED
	PENDANT MOUNTED		FIXTURE ON EMERGENCY POWER
	SURFACE MOUNTED FLOOD	NL	24 HOUR ON NIGHT LIGHT
	RECESSED		FIXTURE ON DIMMING CONTROL VIA DAYLIGHT SENSOR
	RECESSED IN WALL		FIXTURE ON EMERGENCY POWER AND DIMMING CONTROL VIA DAYLIGHT SENSOR
	THEATRICAL LTG. POWER OUTLET(S) CIRCLES INDICATES NUMBER OF OUTLETS		SURFACE MOUNT TRACK c/w HEADS
	SITE LIGHT POLE & ARM MOUNTED LUMINAIRE ON CONCRETE BASE		PENDANT MOUNT TRACK c/w HEADS
	SITE LIGHT POLE & POST TOP LUMINAIRE ON CONCRETE BASE		BOLLARD LIGHT

EMERGENCY LIGHTING / EXIT SIGNS

	CEILING MOUNTED EXIT SIGN SHADE INDICATES FACE LOCATION (NO ARROWS)		WALL MOUNTED EXIT SIGN SHADE INDICATES FACE LOCATION (NO ARROWS)
	EXIT SIGN DIRECTIONAL ARROW ARROWS TO SUIT DIRECTION SHOWN		RECESSED LOW VOLTAGE REMOTE HEAD
	REMOTE HEADS WALL OR CEILING MOUNTED		BATTERY PACK
	PENDANT MOUNTED REMOTE HEADS		PACK c/w HEADS
	COMBINATION BATTERY PACK/ EXIT SIGN c/w HEADS		

SWITCHES / CONTROL

	SINGLE POLE SWITCH 3 = THREE WAY SWITCH 2 = TWO POLE SWITCH 4 = FOUR WAY SWITCH K = KEY OPERATED SWITCH VS = VARIABLE SPEED SWITCH TS = TIMER SWITCH 3TS = THREE WAY TIMER SWITCH		D = DISCONNECT SWITCH OS = SWITCH WITH INTEGRAL OCCUPANCY SENSOR DL = SWITCH WITH INTEGRAL DAYLIGHT SENSOR P = SWITCH c/w NEON PILOT LIGHT MP = MANUAL MOTOR PROTECTION SWITCH DIM = DIMMER SWITCH DOS = SWITCH WITH DUAL TECHNOLOGY OCCUPANCY SENSOR TM = TIMER COUNTDOWN SWITCH
	LOW VOLTAGE SWITCH	#D	DIGITAL DIMMING CONTROL #D = INDICATES NUMBER OF CONTROL ZONES
	MOTION DETECTOR		DAYLIGHT SENSOR
L	THEATRICAL LTG. CONTROL STATION		MOTION DETECTING LAMP HOLDER
	EMERGENCY PUSHBUTTON		EMERGENCY PUSHBUTTON WITH MOMENTARY KEYED RESET
	PHOTOCELL	RC	DIGITAL ROOM CONTROLLER
	OCCUPANCY SENSOR ARROW INDICATES DIRECTION OF DETECTION (NO ARROW INDICATED 360° DETECTION)		W = INDICATES WIDE BEAM DETECTION N = INDICATES NARROW BEAM DETECTION

RECEPTACLES / POWER

	DUPLEX RECEPTACLE		SINGLE RECEPTACLE
	SPLIT DUPLEX RECEPTACLE		QUAD RECEPTACLE
	120 VOLT, COMBINATION 15A/20A "T-SLOT" DUPLEX RECEPTACLE		TOP SWITCHED SPLIT DUPLEX
D	DRYER RECEPTACLE		SPECIAL RECEPTACLE AS SPECIFIED
R	RANGE RECEPTACLE		DIRECT CONNECTION AS SPECIFIED
	MOUNTED IN BOX F = INDICATES FLUSH MOUNT P = INDICATES PEDESTAL MOUNT W = INDICATES WALL MOUNT		ON DROP CORD FROM CEILING
			ON DROP REEL CORD FROM CEILING

HK = HOUSEKEEPING
F = REFRIGERATOR
DF = FREEZER
MW = MICROWAVE
DW = DISHWASHER
WM = WASHING MACHINE
DC = DEDICATED CIRCUIT FOR COMPUTERS. PROVIDE GREY RECEPTACLE.

HM = HORIZONTAL MOUNT
IG = ISOLATED GROUND
SP = SURGE PROTECTED
EM = EMERGENCY POWER
HG = HOSPITAL GRADE
TL = TWIST-LOCK

TR = TAMPER RESISTANT
EV = ELECTRIC VEHICLE
BH = BLOCK HEATER
POS = POINT OF SALE
GFI = GROUND FAULT CIRCUIT INTERRUPTER
AFCI = ARC FAULT CIRCUIT INTERRUPTER

COMMUNICATIONS

	COMMUNICATION OUTLET TF = DENOTES No. OF TEL JACKS FAX = DENOTES DEDICATED FAX LINE RM = DENOTES DEDICATED REMOTE MONITORING TELEPHONE LINE EM = EMERGENCY CALL STATION HS = TELEPHONE HANDSET 1D = DENOTES No. OF DATA JACKS WAP = DENOTES WIRELESS ACCESS POINT USB = DENOTES USB OUTLET TC = DENOTES No. OF CABLE TV JACKS HDMI = DENOTES HDMI VIDEO/AUDIO OUTLET VGA = DENOTES VGA VIDEO PROJECTOR CONNECTION THESE EXAMPLES 1 (ONE) JACK EACH		ALR = DENOTES AUDIO LEFT & RIGHT STEREO RCA JACKS AMJ = DENOTES AUDIO 3.5mm JACK AM = DENOTES AUDIO MONO POST STYLE SPEAKER CONNECTORS VLR = DENOTES VIDEO AND AUDIO LEFT AND RIGHT RCA JACKS MIC = DENOTES MICROPHONE OUTLET INT = DENOTES INTERCOM STATION NC = DENOTES NURSE CALL STATION ZBAND = DENOTES Z-BAND DATA CONNECTION WH = WALL MOUNTED TELEPHONE HANDSET
	TELEPHONE SERVICE BOX		CABLE TELEVISION SERVICE BOX
VC	VOLUME CONTROL		DOOR CHIME c/w TRANSFORMER
	BATTERY OPERATED CLOCK DF = DENOTES DOUBLE FACE		MOUNTED IN FLUSH FLOOR BOX W = INDICATES WALL MOUNT
	NURSE CALL CEILING DOME LIGHT	AM	AUDIO VISUAL BOX 2-GANG DEEP MASONRY BOX
	HORN SPEAKER		RND = DENOTES ROUND SPEAKER BOX SQ = DENOTES SQUARE SPEAKER BOX PEND = DENOTES PENDANT SPEAKER PERF = DENOTES PERFORMANCE SPEAKER PA = DENOTES PUBLIC ADDRESS SPEAKER DF = DENOTES DOUBLE FACING SPEAKERS VE = DENOTES VOICE ENHANCEMENT SPEAKER MON = DENOTES MONITORING SYSTEM SPEAKER AV = DENOTES AUDIO/VISUAL SPEAKER
	RECESSED AUDIO SPEAKER		
	WALL MOUNT AUDIO SPEAKER		
	SURFACE MOUNTED AUDIO SPEAKER		

SECURITY

D	DOOR CONTACT	W	WINDOW CONTACT
	FLUSH ENTRY DOOR PUSHBUTTON OPERATOR	K	KEYPAD OUTLET
ES	ELECTRIC STRIKE DOOR LOCK		PROXIMITY READER
ML	MAGNETIC DOOR LOCK	REX	REQUEST FOR EXIT MOTION DETECTOR
A	SECURITY ALARM SIREN	A	SECURITY ALARM SIREN c/w STROBE
GB	GLASS BREAK DETECTOR		SECURITY CAMERA
	INFRARED MOTION DETECTOR ARROW INDICATES DIRECTION OF DETECTION (NO ARROW INDICATED 360° DETECTION)		W = INDICATES WIDE BEAM DETECTION N = INDICATES NARROW BEAM DETECTION

MECHANICAL EQUIPMENT

T	THERMOSTAT	R	REVERSE ACTING THERMOSTAT
DH	DEHUMIDISTAT		MAGNETIC MOTOR STARTER
M	MOTOR		DISCONNECT SWITCH
	TIME CLOCK		CARBON MONOXIDE DETECTOR
EC	ELECTRIC OR GAS HEATER POWER CONNECTION		
	BASEBOARD (EB) or KICKSPACE (EK) HEATER c/w LOW VOLTAGE CONTROL RELAY		BASEBOARD (EB) or KICKSPACE (EK) HEATER c/w INTEGRAL THERMOSTAT

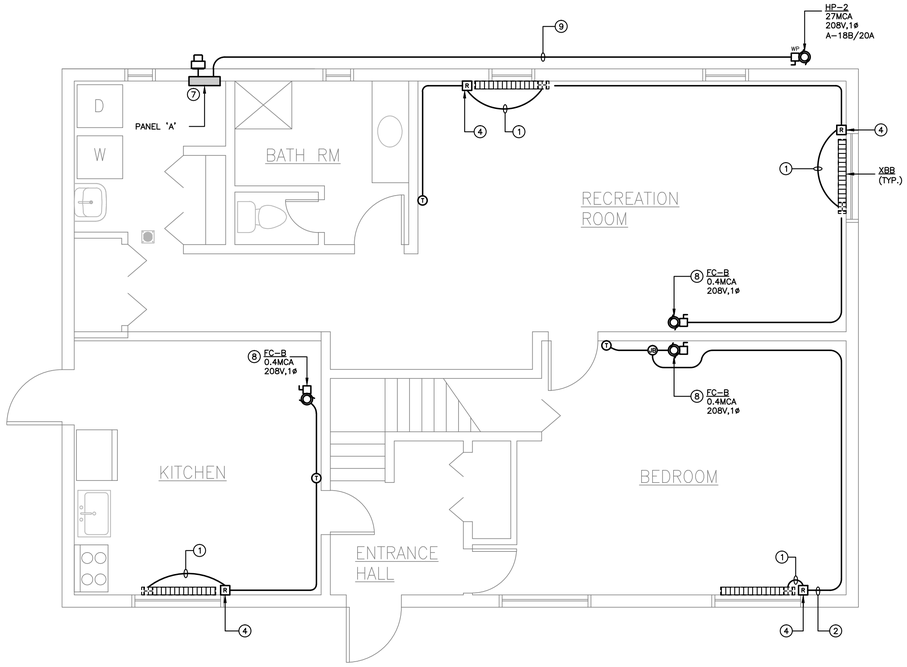
FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS

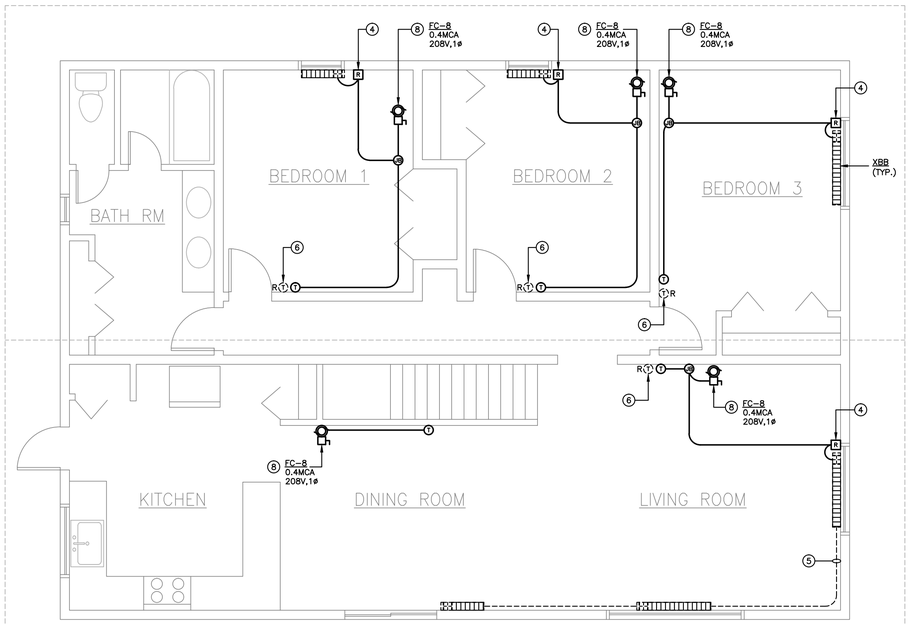
DESIGNED: R. HEBERT
DRAWN: D. SAMUELSON
CHECKED: R. HEBERT
RECOMMENDED:
APPROVED:

PROJECT NO: 9L526
SPIUS CREEK HATCHERY
HVAC UPGRADES
HATCHERY BUILDING
ELECTRICAL PLANS

SCALE: AS NOTED
DATE: MARCH 31, 2016
DRAWING NUMBER: 12-11-293



RESIDENCE - MAIN FLOOR ELECTRICAL PLAN
HVAC UPGRADE
① ② ③ ⑨
SCALE: 1:50



RESIDENCE - UPPER FLOOR ELECTRICAL PLAN
HVAC UPGRADE
① ② ③
SCALE: 1:50

MECHANICAL SCHEDULE

Tag	Rev	Load Type ☼ ◇ ❄ ♨	Quantity	Unit Description	Distribution	Location	Serving	Load	Voltage	ø	Feeder	Controls	Notes
HP-1		❄	1	HEAT PUMP	MAIN	OUTSIDE HATCHERY BLD	HATCHERY BLD	27 MCA	208	1	1/2"C- 2#10 AWG Cu	INT(FC-A)	1,4,8,14,17
HP-2		❄	1	HEAT PUMP	MAIN	OUTSIDE RESIDENCE	RESIDENCE	27 MCA	208	1	1/2"C- 2#10 AWG Cu	INT(FC-B)	1,4,8,14,17
FC-A		◇	2	FAN COIL	MAIN	HATCHERY BLD	HATCHERY BLD	1 3/5 MCA	208	1	1/2"C- 2#12 AWG Cu	TSTAT	1,8,14,17
FC-B		◇	8	FAN COIL	MAIN	RESIDENCE	RESIDENCE	2/5 MCA	208	1	1/2"C- 2#12 AWG Cu	TSTAT	1,8,14,17

NOTES:

1. DIVISION 26 TO SUPPLY, INSTALL AND WIRE DISCONNECT SWITCH.
2. DIVISION 26 TO INSTALL AND WIRE TO DISCONNECT SWITCH SUPPLIED WITH EQUIPMENT.
3. DIVISION 26 TO WIRE TO PRE-INSTALLED DISCONNECT SWITCH SUPPLIED WITH UNIT.
4. DISCONNECT SWITCH AND WIRING CONNECTIONS TO BE WEATHERPROOF.
5. DISCONNECT SWITCH AND WIRING CONNECTIONS TO BE EXPLOSION-PROOF.
6. DIVISION 26 TO SUPPLY, INSTALL AND WIRE MOTOR STARTER.
7. DIVISION 26 TO INSTALL AND WIRE TO MOTOR STARTER SUPPLIED WITH EQUIPMENT.
8. DIVISION 26 TO WIRE TO PRE-INSTALLED MOTOR STARTER SUPPLIED WITH UNIT.
9. MOTOR STARTER TO BE MAGNETIC C/W HOA AND AUXILIARY STATUS CONTACTS.
10. MOTOR STARTER TO BE MAGNETIC 2-SPEED.
11. MOTOR STARTER TO BE VARIABLE FREQUENCY DRIVE.
12. MOTOR STARTER TO BE MANUAL C/W OVERLOAD HEATERS AND PILOT LIGHT.
13. PROVIDE DUAL VOLTAGE IN-LINE RELAY WITH LOW VOLTAGE CONTROL COIL.
14. EQUIPMENT SUPPLIED AND INSTALLED BY DIVISION 23.
15. EQUIPMENT SUPPLIED BY DIVISION 23, INSTALLED BY DIVISION 26.
16. EQUIPMENT SUPPLIED AND INSTALLED BY DIVISION 26.
17. CONTROLS SUPPLIED, INSTALLED AND WIRED BY DIVISION 23.
18. CONTROLS SUPPLIED AND INSTALLED BY DIVISION 23, WIRED BY DIVISION 26.
19. CONTROLS SUPPLIED BY DIVISION 23, INSTALLED AND WIRED BY DIVISION 26.
20. CONTROLS SUPPLIED, INSTALLED AND WIRED BY DIVISION 26.
21. CONTROLS ARE INTEGRAL WITH EQUIPMENT.
22. CONTROLS SHOWN IN BRACKETS SUPPLIED, INSTALLED AND WIRED BY DIVISION 26. OTHER CONTROLS SHOWN SUPPLIED, INSTALLED AND WIRED BY DIVISION 23.
23. CONTROLS SHOWN IN BRACKETS SUPPLIED, INSTALLED AND WIRED BY DIVISION 26. OTHER CONTROLS SHOWN SUPPLIED BY DIVISION 23, INSTALLED AND WIRED BY DIVISION 26.

GENERAL NOTES:

A. ALL BREAKER AND FEEDER SIZES TO BE CONFIRMED WITH DIVISION 23 AND UNIT NAME PLATE DATA. NAMEPLATE DATA PRIOR TO ORDERING EQUIPMENT, FEEDERS OR BREAKERS AND PRIOR TO ROUGH-IN.
B. REFER ALSO TO THE ELECTRICAL SPECIFICATIONS.
C. PRIOR TO ELECTRICAL ROUGH-IN, THE ELECTRICAL CONTRACTOR SHALL REVIEW ALL EQUIPMENT SHOP DRAWINGS FOR ELECTRICAL AND CONNECTION REQUIREMENTS. ANY DESCREPANCIES BETWEEN THE SHOP DRAWINGS AND THE DESIGN DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ELECTRICAL ENGINEER IMMEDIATELY.

CONTROLS:

BMS	BUILDING MANAGEMENT SYSTEM.
LIGHT	CONTROLLED WITH AREA LIGHTING CONTROL.
SWITCH	CONTROLLED BY DEDICATED SWITCH.
PSWITCH	CONTROLLED BY DEDICATED SWITCH C/W NEON PILOT LIGHT.
VS	CONTROLLED BY VARIABLE SPEED SWITCH.
TSWITCH	CONTROLLED BY TIMER SWITCH.
OSWITCH	CONTROLLED BY OCCUPANCY SWITCH.
TSTAT	CONTROLLED BY THERMOSTAT.
RTSTAT	CONTROLLED BY REVERSE-ACTING THERMOSTAT.
DHUM	CONTROLLED BY DE-HUMIDISTAT.
TCLOCK	CONTROLLED BY PROGRAMMABLE TIMECLOCK.
INT (UNIT TAG)	INTERLOCKED WITH UNIT SHOWN IN BRACKETS.
COGAS	CONTROLLED BY C.O. GAS DETECTION SYSTEM
FA1	PROVIDE DIRECT CONNECTION TO FIRE ALARM SYSTEM TO SHUT UNIT DOWN UPON FIRE ALARM.
FA2	PROVIDE DIRECT CONNECTION TO FIRE ALARM SYSTEM TO TURN UNIT ON UPON FIRE ALARM.
FA3	PROVIDE FIRE ALARM CONNECTION TO BMS TO SHUT UNIT DOWN UPON FIRE ALARM. COORDINATE WITH BMS CONTRACTOR FOR INTERCONNECTION REQUIREMENTS.
FA4	PROVIDE HOA CONTROLS AT FIRE ALARM ANNUNCIATOR FOR FIRE FIGHTER CONTROL.
FA5	PROVIDE FIRE ALARM CONNECTION TO UNIT TO SHOW TROUBLE SIGNAL UPON UNIT POWER LOSS.
PANEL	CONTROLLED BY CONTROL PANEL SUPPLIED BY OTHERS.
AMPSENSOR	PROVIDE AMP SENSOR AND RELAY TO TURN UNIT ON WITH DRYER UNIT.
MS	MOTION SENSOR.
CONT	UNIT TO RUN CONTINUOUSLY.

PANEL 'A' SCHEDULE

Rev	Type	Description	Load		Breaker	Poles	Circuit		Poles	Breaker	Load		Description	Type	Rev
	○	EXISTING 1P-15A CIRCUIT	100	W	15	1	1A	2A	1	15	100	W	EXISTING 1P-15A CIRCUIT	○	
	○	EXISTING 2P-40A CIRCUIT	5000	W	30	2	1B	2B	2	30	5000	W	EXISTING 2P-40A CIRCUIT	○	
		▼				▼	3A	4A	▼				▼		
	○	EXISTING 2P-30A CIRCUIT	4000	W	30	2	3B	4B	2	30	4000	W	EXISTING 2P-30A CIRCUIT	○	
		▼				▼	5A	6A	▼				▼		
	○	EXISTING 2P-15A CIRCUIT	100	W	15	2	5B	6B	2	15	100	W	EXISTING 2P-15A CIRCUIT	○	
		▼				▼	7A	8A	▼				▼		
	○	EXISTING 2P-15A CIRCUIT	100	W	15	2	7B	8B	2	15	100	W	EXISTING 2P-15A CIRCUIT	○	
		▼				▼	9A	10A	▼				▼		
	○	EXISTING 2P-15A CIRCUIT	100	W	15	2	9B	10B	2	15	100	W	EXISTING 2P-15A CIRCUIT	○	
		▼				▼	11A	12A	▼				▼		
	○	EXISTING 2P-15A CIRCUIT	100	W	15	2	11B	12B	2	15	100	W	EXISTING 2P-15A CIRCUIT	○	
		▼				▼	13A	14A	▼				▼		
	○	EXISTING 1P-20A CIRCUIT	1500	W	20	1	13B	14B	1	15 GFI	100	W	EXISTING 1P-15A GFI CIRCUIT	○	
	○	EXISTING 1P-15A CIRCUIT	100	W	15	1	15A	16A	1	15	100	W	EXISTING 1P-15A CIRCUIT	○	
	○	EXISTING 1P-15A CIRCUIT	100	W	15	1	15B	16B	1	15	100	W	EXISTING 1P-15A CIRCUIT	○	
	○	EXISTING 1P-15A CIRCUIT	100	W	15	1	17A	18A	1	15	100	W	EXISTING 1P-15A CIRCUIT	○	
	○	EXISTING 1P-15A CIRCUIT	100	W	15	1	17B	18B	2	40	4493	W	NEW HEAT PUMP HP-2	◇	
							19A	20A	▼				▼		
							19B	20B							
							21A	22A							
							21B	22B							
							23A	24A							
							23B	24B							
							25A	26A							
							25B	26B							
							27A	28A							
							27B	28B							
							29A	30A							
							29B	30B							
							31A	32A							
							31B	32B							
							33A	34A							
							33B	34B							
							35A	36A							
							35B	36B							
							37A	38A							
							37B	38B							
							39A	40A							
							39B	40B							
							41A	42A							
							41B	42B							

Connected Loads (W)		Diversity (%)	Diversified Loads (W)
□	0	100%	0
○	21300	100%	21300
◇	4493	100%	4493
❄	0	100%	0
♨	0	100%	0
Total (W)	25793		25793
Amps (A)	107		107
Minimum Panel Size at 125% of diversified:			134

Panel Information	
Mounting:	Recessed
Amperage (A):	200
Voltage (V):	120/240
Phase (Ø):	1
Feeder Wires:	3
Main Breaker (A):	200A
Breaker ISCA (A)	10000

Load Type Legend	
□	Lighting
○	Receptacles
◇	Motors
❄	Air Conditioning
♨	Heating

NOTES

1. NOTE THAT THE ELECTRICAL LAYOUT SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND IS INTENDED TO REPRESENT THE ELECTRICAL SCOPE OF WORK. DO NOT SCALE THE DRAWINGS, OBTAIN ACCURATE MEASUREMENTS ON SITE. INSTALL SURFACE RACEWAY ABOVE BASEBOARDS MOLDING WHERE POSSIBLE. PROVIDE JUNCTION BOXES AS REQUIRED TO MINIMIZE THE RACEWAY LAYOUT.
2. DENOTES SURFACE RACEWAY LAYOUT FOR THE LOW VOLTAGE CONTROL WIRING. QUANTITY AND TYPE OF LOW VOLTAGE CABLING TO EACH DEVICES TO BE COORDINATED ON SITE WITH THE MECHANICAL CONTRACTOR. FINAL RACEWAY LAYOUT TO BE CONFIRMED ON SITE. ENSURE THAT THE RACEWAY LAYOUT DOES NOT CONFLICT WITH ANY OF THE EXISTING LIGHTING AND MECHANICAL SYSTEMS.
3. MINIMIZE VISIBILITY OF SURFACE RACEWAY SYSTEM ON WALLS AND CEILING. INSTALL SURFACE RACEWAY ABOVE BASEBOARDS WHERE POSSIBLE. PROVIDE JUNCTION BOXES AS REQUIRED TO MINIMIZE RACEWAY LAYOUTS.
4. PROVIDE SURFACE JUNCTION BOX C/W RELAY TO CONTROL POWER SUPPLY TO BASEBOARD HEATER. REFER TO MECHANICAL CONTRACT DOCUMENTS FOR DETAILS.
5. EXISTING HEATERS CIRCUIT TO BE CONTROLLED VIA UPSTREAM BASEBOARD HEATER CONTROL RELAY.
6. REMOVE EXISTING THERMOSTAT, CONNECT CIRCUIT TO PROVIDE PERMANENT POWER TO HEATERS AND PROVIDE A BLANK COVERPLATE.
7. REPLACE EXISTING HOUSE PANEL WITH NEW 84 CIRCUIT, 225A, 120/240V, SINGLE PHASE, 3 WIRE PANEL. PROVIDE JUNCTION BOXES ABOVE AND BELOW PANEL TO BE USED AS SPLICE BOXES FOR ALL BRANCH WIRING CIRCUITS. CONTRACTOR TO PROVIDE UPDATED PANEL SCHEDULE IDENTIFYING ALL BRANCH CIRCUITS.
8. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT DISCONNECT, SEE MANUFACTURER FIELD WIRING DIAGRAM.
9. INSTALL BRANCH CIRCUIT TO HEAT PUMP IN A WEATHERPROOF RACEWAY.

FISHERIES AND OCEANS CANADA
REAL PROPERTY AND SAFETY AND SECURITY

DWG. NO.	DRAWING REFERENCES	NOTES	NO.	DATE	REVISIONS

DESIGNED: R. HEBERT
DRAWN: D. SAMUELSON
CHECKED: R. HEBERT
RECOMMENDED
APPROVED

PROJECT NO: 9L526
SPIUS CREEK HATCHERY
HVAC UPGRADES
RESIDENCE MAIN & UPPER FLOOR ELECTRICAL PLANS

SCALE: AS NOTED
DATE: MARCH 31, 2016
DRAWING NUMBER: 12-11-294