

LIGHTING LEGEND							
\$	EMERGENCY LIGHTING HEADS						
¥	EMERGENCY BATTERY PACK C/W LIGHT HEADS						
	EXIT LIGHT, DIRECTIONAL WHEN SHOWN WITH ARROWS						
	LED EXIT SIGN/ EMERGENCY HEAD COMBINATION						
\$	LIGHTING CONTROL DEVICE:						
OS VS	OCCUPANCY SENSOR VACANCY SENSOR						
T DIM	PROGRAMMABLE TIME SWITCH DIMMER (0-10V)						
LV 3	LOW VOLTAGE SWITCH THREE-WAY SWITCH						
R	R CONTROL/RELAY						
OS	CEILING MOUNTED OCCUPANCY SENSOR						
	CONTROLLER						
POWE							
_₩ ₩							
<u><u></u></u>							
♥	Z POLE RECEPTACLE (RATING)						
<u> </u>	MOTOR						
<u>्</u>							
COMN	AUNICATIONS LEGEND						
	1V/1D-DIGITS INDICATE NO. OF						
·	VOICE AND DATA CABLES AND/OR PORTS.						
$\overline{\mathbf{A}}$	MONITOR, CATV, COMP						
▼ √	EXISTING DATA OUTLET						
FIRE AI	ARM LEGEND						
FIRE AL	ARM LEGEND MANUAL PULL STATION						
FIRE AL	ARM LEGEND MANUAL PULL STATION BELL						
FIRE AL	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT						
FIRE AL F B SL	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR						
FIRE AL F B SL D F	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR						
FIRE AL F B SL O F DH	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER						
FIRE AL F B SL D H FAA	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR						
FIRE AL F B SL D F A A F A C P	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL						
FIRE AL F B SL D F A A F A C F A C F A C F SECUR	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND						
FIRE AL F B SL D F F A A F A C R SECUR	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER						
FIRE AL F B SL D F F A A F A C R E L	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK						
FIRE AL F B SL D F F A A F A C R E L C C	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA						
FIRE AL FIRE A	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD						
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FIRE AL FIRE AL F B SL O F E A F A C F E C C C C E L O K H S SL	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT						
FIRE AL FIRE AL F B SL O F E A F C R E C R E C R E C R E C R E C R E C R E C R E C R C C C C	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT						
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FIRE AL FIRE A	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT DOOR CONTACT HANDICAPPED DOOR OPERATOR PUSH BUTTON MOTION DETECTOR TATIONS GROUND FAULT INTERRUPTING DEVICE AMP RATING OF DEVICE						
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FIRE AL FIRE AL FIRE AL F B SL O F E E C C C E C C C E C C C C C C C C C	ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT DOOR CONTACT HANDICAPPED DOOR OPERATOR PUSH BUTTON MOTION DETECTOR ANDION DETECTOR ARC FAULT INTERRUPTING DEVICE AMP RATING OF DEVICE MEATHERPROOF DEVICE FRIDGE RECEPTACLE						
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FIRE AL FIRE AL FIRE AL FIRE AL G G FI ANNO G FI ANNO G FI ANNO FR DW ANW	ARM LEGEND ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT DOOR CONTACT DOOR CONTACT DOOR CONTACT HANDICAPPED DOOR OPERATOR PUSH BUTTON MOTION DETECTOR ARC FAULT INTERRUPTING DEVICE ARC FAULT INTERRUPTING DEVICE AMP RATING OF DEVICE WEATHERPROOF DEVICE FRIDGE RECEPTACLE PROVIDE DEDICATED CIRCUIT MICROWAVE RECEPTACLE PROVIDE DEDICATED CIRCUIT						
FIRE AL FIRE AL F B S C C C C C C C C C C C C C C C C C C	ARM LEGEND ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT HANDICAPPED DOOR OPERATOR PUSH BUTTON MOTION DETECTOR TATIONS GROUND FAULT INTERRUPTING DEVICE ARC FAULT INTERRUPTING DEVICE AMP RATING OF DEVICE WEATHERPROOF DEVICE FRIDGE RECEPTACLE PROVIDE DEDICATED CIRCUIT MICROWAVE RECEPTACLE						
FIRE AL FIRE AL F B SL C F F A F C C C C C C C C C C C C C C C	ARM LEGEND ARM LEGEND MANUAL PULL STATION BELL STROBE LIGHT SMOKE DETECTOR HEAT DETECTOR HEAT DETECTOR HEAT DETECTOR MAGNETIC DOOR HOLDER FIRE ALARM ANNUNCIATOR FIRE ALARM CONTROL PANEL ITY LEGEND CARD READER ELECTRIC LOCK CAMERA KEYPAD HORN WINDOW CONTACT DOOR CONTACT DOOR CONTACT HANDICAPPED DOOR OPERATOR PUSH BUTTON MOTION DETECTOR ARC FAULT INTERRUPTING DEVICE ARC FAULT INTERRUPTING DEVICE ARP RATING OF DEVICE WEATHERPROOF DEVICE FRIDGE RECEPTACLE PROVIDE DEDICATED CIRCUIT MICROWAVE RECEPTACLE PROVIDE DEDICATED CIRCUIT ABOVE FLOOR DASHED LINE - EXISTING DEVICES						



DRAWING LIST: E1 - KEY PLAN, EXISTING ELECTRICAL PLAN, SYMBOLS LEGEND E2 - NEW ELECTRICAL PLAN E3 - DETAILS & SPECIFICATIONS



## ELECTRICAL NOTES:

- 1. PROVIDE NEW BREAKERS AND FEEDERS FROM PANEL 'N' TO DUST COLLECTOR 1.
- 2. PROVIDE NEW BREAKERS AND FEEDERS FROM PANEL 'E' & 'N' TO DUST COLLECTOR 2.
- 3. PROVIDE NEW LOCAL MOTOR DISCONNECT SWITCH FOR EACH DUST COLLECTOR AS SHOWN ON PLANS. CONNECT TO REMOTE START TERMINALS IN CONTROL PANEL.
- 4. PROVIDE 120V CONNECTION TO MOTORIZED DAMPER.
- 5. PROVIDE WIRING 208V WIRING TO CONTROL PANELS 1&2.
- 6. ALL ELECTRICAL WORK, WIRING, DEVICES, EQUIPMENT WITHIN 2M OF THE DUST HAZARD AREA SHALL BE IN THREADED RIGID METAL CONDUIT OR HAZARDOUS LOCATION CABLES RATED FOR USE IN ZONE 21 LOCATIONS.
- 7. ALL BOXES, FITTINGS, AND JOINTS SHALL BE THREADED FOR CONNECTION TO CONDUIT OR CABLE GLANDS, AND BOXES AND FITTINGS SHALL BE SUITABLE FOR USE IN ZONE 21 LOCATIONS. CABLES SHALL BE INSTALLED AND SUPPORTED SO AS TO AVOID TENSILE STRESS AT THE CABLE GLANDS.
- 8. PROVIDE FLEXIBLE CONNECTION TO EACH DUST COLLECTOR. CONNECTIONS SHALL BE LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND CONNECTORS, MARKED FOR HEAVY DUTY; OR EXTRA-HARD-USAGE FLEXIBLE CORD AND HAZARDOUS LOCATION CABLE GLANDS.
- 9. PROVIDE #6AWC CU BONDING TO ALL EXPOSED NON-CURRENT-CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT, INCLUDING THE FRAMES OR METAL EXTERIORS OF MOTORS, OR OTHER UTILIZATION EQUIPMENT, CABINETS, CASES, AND CONDUIT.
- 10. PROVIDE 2HR RATED FIRE STOPPING OF ANY PENETRATIONS IN WALLS OR FLOORS.

#### UNIT UNIT DESCRIPTION LOAD VOLT PH DISCONNECT S. LABEL S I C S DC-1 DUST COLLECTOR 10HP 208 E E E Μ 7.5HP DUST COLLECTOR DC-2 208 Μ SM-1 Shaker motor 1/3HP 208 3 E E SM-2 CONDENSING UNIT 1/3HP 208 E E 3 **DEFINITIONS:** PH = POWER PHASE E = ITEM PROVIDE BY ELECTRICAL DIVISIONRSTAT = REVERSE ACTING THERMOSTAT M = ITEM PROVIDED BY MECHANICAL DIVISION TSTAT = THERMOSTAT S = SUPPLIED BY VOLT = REQUIRED SUPPLY VOLTAGE I = INSTALLED BY FLA = UNIT FULL LOAD AMPS HP = UNIT OR MOTOR HORSE POWER C = CONNECTED BYIN = CONTROL IS INTEGRAL TO UNIT (BY MANUFACMCA = MINIMUM CIRCUIT AMPACITY HOA = MAGNETIC STARTER C/W HAND/OFF/AUT(CO = CO SENSOR MRR = MOTOR RATED RELAY DSTAT = DUCT TEMPERATURE SENSOR

VFD=VARIABLE FREQUENCY DRIVE

MS=MOTOR SWITCH

TIMER = WALL MOUNTED 7 DAY PROGRAMMABLE AQUA = PUMP CONTROLLED BY AQUASTAT

MS= MOTOR SWITCH

DD=DDC OR BMS CONTROLS

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	ISTRUCTION				
ISSUE DESCRIPTION ISSUED FOR REVIEW ISSUED FOR TENDER	NOV.14, 2024 FEB.21, 2024				
Western E WESTERN ELEMENT EN 220-145 Chad North Vancouver Phone: 604.9 www.Western	Element Engineering NGINEERING INC. wick Court 7, BC, V7M 3K1 986.4128 Element.ca				
SEAL:	RACTICE: 1000192				
PROJECT ADDRESS: 8020 NESTERS ROAD WHISTLER, BC					
PROJECT TITLE: WHISTLER PUBLIC WORKS YARD DUST COLLECTOR					
DRAWING TITLE:	CAL PLAN				
PROJECT No.:2389DESIGNED:PKCHECKED:PKDATE:FEB.02,24SCALE:AS SHOWN	DRAWING NUMBER: E2 OF 3				

# MECHANICAL MOTOR LIST

TARTER	С	с түре	CONTROL			TYPE	BREAKER	FEEDER	NOTES
I			S		C				
M	Е	MS	M	м	M		3P-50A	1"C3No.8	1
м	E	MS	М	м	М		3P-40A	1"C3No.8	1
Μ	Е	IN	м	м	М		3P-15A	1/2"C3No.12	1
Μ	E	IN	м	Μ	Μ		3P-15A	1/2"C3No.12	1
	****								
	****		NOTES:						******
			1. PROVIDI	E 3/4'' CC	NTROLS	CONDUIT	TO CONTROL	PANEL	
									****

# **DIV.26-ELECTRICAL**

#### A. GENERAL CONDITIONS

- 1. REFER TO DIVISION 1 SPECIFICATIONS FOR PROJECT INSTRUCTIONS AND ADDITIONAL REQUIREMENTS.
- 2. ELECTRICAL CONTRACTOR S SHALL VISIT SITE AND FAMILIARIZE THEMSELVES WITH ALL SITE CONDITIONS PRIOR TO SUBMITTING THEIR TENDER PRICE. PRICE SHALL INCLUDE COMPLETE AND WORKING ELECTRICAL INSTALLATION ACCORDING TO ALL CODES, LOCAL BYLAWS AND UBC CONSTRUCTION GUIDELINES.
- 3. PROVIDE COORDINATED SHOP DRAWINGS WHICH INCLUDE PHYSICAL CHARACTERISTICS OF ALL SYSTEMS, DEVICE LAYOUT PLANS, AND CONTROL WIRING DIAGRAMS.
- a. SUBMIT ELECTRONIC FILES (PDF FORMAT) ON CD/DVD OF MANUFACTURER'S OPERATION AND MAINTENANCE INSTRUCTION MANUALS AND PARTS LISTS FOR EQUIPMENT OR ITEMS REQUIRING SERVICING. SUBMIT DATA WHEN WORK IS SUBSTANTIALLY COMPLETE AND IN SAME ORDER FORMAT AS SUBMITTALS. INCLUDE NAME AND LOCATION OF SOURCE PARTS AND SERVICE FOR EACH PIECE OF EQUIPMENT.
- 1) INCLUDE COPY OF APPROVED SUBMITTAL DATA ALONG WITH SUBMITTAL REVIEW LETTERS RECEIVED FROM ENGINEER. DATA TO CLEARLY INDICATE INSTALLED EQUIPMENT MODEL NUMBERS. DELETE OR CROSS OUT DATA PERTAINING TO OTHER EQUIPMENT NOT SPECIFIC TO THIS PROJECT.
- 2) INCLUDE COPY OF MANUFACTURER'S STANDARD OPERATIONS AND MAINTENANCE FOR EQUIPMENT. AT FRONT OF EACH TAB, PROVIDE ROUTINE MAINTENANCE DOCUMENTATION FOR SCHEDULED EQUIPMENT. INCLUDE MANUFACTURER'S RECOMMENDED MAINTENANCE SCHEDULE AND HIGHLIGHT MAINTENANCE REQUIRED TO MAINTAIN WARRANTY. FURNISH LIST OF ROUTINE MAINTENANCE PARTS, INCLUDING PART NUMBERS, SIZES, QUANTITIES, RELEVANT TO EACH PIECE OF EQUIPMENT.
- 3) INCLUDE WARRANTY PER DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS, SECTION 26 00 00, ELECTRICAL BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 26, ELECTRICAL SECTIONS.
- 4) INCLUDE PRODUCT CERTIFICATES OF WARRANTIES AND GUARANTEES.
- 5) INCLUDE COPY OF COMPLETE PARTS LIST FOR EQUIPMENT. INCLUDE AVAILABLE EXPLODED VIEWS OF ASSEMBLIES AND SUB ASSEMBLIES.
- 6) INCLUDE COMMISSIONING REPORTS AND ELECTRICAL PANEL SCHEDULES.
- 7) INCLUDE COPY OF STARTUP AND TEST REPORTS SPECIFIC TO EACH PIECE OF EQUIPMENT.
- 8) ENGINEER WILL RETURN INCOMPLETE DOCUMENTATION WITHOUT REVIEW. ENGINEER WILL PROVIDE ONE SET OF REVIEW COMMENTS IN SUBMITTAL REVIEW FORMAT. CONTRACTOR MUST ARRANGE FOR ADDITIONAL REVIEWS; CONTRACTOR TO BEAR COSTS FOR ADDITIONAL REVIEWS AT ENGINEER'S HOURLY RATES.
- 9) COPIES OF CERTIFICATES OF CODE AUTHORITY INSPECTIONS, ACCEPTANCE, CODE REQUIRED ACCEPTANCE TESTS, AND OTHER SPECIAL GUARANTEES, CERTIFICATES OF WARRANTIES, SPECIFIED ELSEWHERE OR INDICATED ON DRAWINGS.
- b. THOROUGHLY INSTRUCT OWNER IN PROPER OPERATION OF EQUIPMENT AND SYSTEMS.
- 2. RECORD DRAWINGS:
- a. MAINTAIN AT SITE AT LEAST ONE SET OF DRAWINGS FOR RECORDING "AS-CONSTRUCTED" CONDITIONS. INDICATE ON DRAWINGS CHANGES TO ORIGINAL DOCUMENTS BY REFERENCING REVISION DOCUMENT, AND INCLUDE BURIED ELEMENTS, LOCATION OF CONDUIT, AND LOCATION OF CONCEALED ELECTRICAL ITEMS. INCLUDE ITEMS CHANGED BY FIELD ORDERS, SUPPLEMENTAL INSTRUCTIONS, AND CONSTRUCTED CONDITIONS.
- b. RECORD DRAWINGS ARE TO INCLUDE EQUIPMENT AND FIXTURE/CONNECTION SCHEDULES THAT ACCURATELY REFLECT "AS CONSTRUCTED OR INSTALLED" FOR PROJECT.
- C. AT COMPLETION OF PROJECT, INPUT CHANGES TO ORIGINAL PROJECT ON REVIT MODEL AND MAKE ONE SET OF BLACK-LINE DRAWINGS CREATED FROM REVIT MODEL IN VERSION/RELEASE EQUAL TO CONTRACT DRAWINGS. SUBMIT REVIT DISK AND DRAWINGS UPON SUBSTANTIAL COMPLETION.
- d. AT COMPLETION OF PROJECT, SHOW CHANGES AND DEVIATIONS FROM THE DRAWINGS IN RED ON ONE SET OF BLACK-LINE DRAWINGS, INCLUDE WRITTEN ADDENDUMS, RFIS, AND CHANGE ORDER ITEMS, MAKE CHANGES TO DRAWINGS IN A NEAT, CLEAN, AND LEGIBLE MANNER.
- B. EQUIPMENT INSTALLATION, WIRING AND SUPPORT
- 1. USE ONLY THE SPECIFIC EQUIPMENT NAMED IN THE TENDER DOCUMENTS FOR THIS CONTRACT, OR AN APPROVED SUBSTITUTE. THE DESIGN IS BASED ON THE FIRST NAMED EQUIPMENT AND ANY ADDITIONAL COSTS REQUIRED FOR THE USE OF ALTERNATIVES SHALL BE INCLUDED IN THE TENDER.
- 2. SUBSTITUTIONS MADE TO THE CONTRARY WILL BE REJECTED UNLESS APPROVED BY THE CONSULTANT PRIOR TO THE PURCHASE OF SUCH EQUIPMENT. SUBSTITUTIONS FOR NAMED MATERIAL MAY BE USED ONLY IF APPROVED BY THE CONSULTANT IN WRITING.
- 3. ALL EQUIPMENT TO BE ADEQUATELY SUPPORTED FROM BUILDING STRUCTURAL MEMBERS. WHERE POSSIBLE USE CAST IN CONCRETE INSERTS; OTHERWISE DRILLED METAL INSERTS. WHERE WOOD SCREWS ARE USED, THEY MUST PENETRATE AT LEAST 25MM (1"), EXCEPT IN COUNTERS, OBTAIN THE SERVICES OF A SEISMIC CONSULTANT TO ENSURE ALL SUPPORT METHODS COMPLY WITH LOCAL CODE REQUIREMENTS. SUBMIT SIESMIC LETTERS OF ASSURANCE FOR ELECTRICAL INSTALLATION.
- 4. IDENTIFY ALL ELECTRICAL DEVICES, PANELBOARDS, STARTERS, CONTROLLERS, FEEDERS, SWITCHES, ETC. PROVIDE TYPEWRITTEN, REMOVABLE PANELBOARD CIRCUIT DIRECTORIES. USE "LAMICOID" LABELS TO IDENTIFY EQUIPMENT. USE BLACK-ON-CLEAR "BROTHER" STYLE LABEL SHOWING CIRCUIT NUMBER ON COVERPLATE OF ALL RECEPTACLES.
- 5. PROVIDE OR ARRANGE FOR ALL CUTTING, PATCHING, FLASHING, SLEEVING, ETC. ALL DRILLING AND CORING IN EXISTING WALLS/SLABS SHALL BE RESTORED TO ORIGINAL FIRE RATING WITH APPROVED FIRESTOPPING COMPOUND.
- 6. ALL DAMAGED SURFACES SHALL BE RE-FINISHED TO ORIGINAL CONDITIONS.
- 7. COORDINATE THE DISCONNECTION AND REMOVAL OF THE EXISTING DISTRIBUTION EQUIPMENT INCLUDING EXTENSION OF FEEDERS AND BRANCH CIRCUITING TO SUIT THE NEW EQUIPMENT ARRANGEMENT.
- 8. ALL SHUTDOWNS TO BE COORDINATED WITH BUILDING MANAGER. CONFIRM, IF AFTER HOUR OR WEEKEND SHUT-DOWNS ARE REQUIRED.
- 9. THE CONTRACTOR SHALL IDENTIFY EXISTING BRANCH CIRCUITING AND EXTEND TO THE PROPER PANEL FOR TERMINATION.
- 10. ALL WIRING TO BE CONCEALED. FEEDERS SHALL BE WIRED IN CONDUIT. BRANCH WIRING SHALL BE WIRED IN CONDUIT. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH WALL/CEILING.
- 11. CONDUIT BETWEEN MOTOR DISCONNECT SWITCH AND MOTOR TERMINALS SHALL BE FLEXIBLE, LIQUID-TIGHT TYPE.
- 12. ALL CONDUCTORS TO BE RW90 XLPE STRANDED COPPER, NO SMALLER THAN NO. 12 AWG.

13. COLOUR CODING TO C.S.A STANDARDS.

14. ALL RECEPTACLES AND SWITCH FACEPLATES TO BE POLISHED STAINLESS STEEL TYPE.

15. ARMOURED CABLE MAY ONLY BE USED FOR THE FOLLOWING: 1 DROPS TO INDIVIDUAL LUMINAIRES AND FINAL CONNECTION TO MOTORS, TRANSFORMERS OR VIBRATING EQUIPMENT TO A MAXIMUM LENGTH OF 3M. CABLE SHALL BE RUN NEATLY, NOT SECURED TO HEAT EMITTING MECHANICAL SYSTEMS AND SECURED USING MECHANICAL FASTENERS NOT CABLE TIES.

### C. <u>GROUNDING</u>

- 1. GROUND METALLIC RACEWAY SYSTEMS. BOND TO GROUND TERMINAL WITH CODE SIZE JUMPER EXCEPT WHERE CODE SIZE OR LARGER EQUIPMENT GROUNDING CONDUCTOR IS INCLUDED WITH CIRCUIT, USE GROUNDING BUSHING WITH LAY-IN LUG.
- 2. CONNECT METAL RACEWAYS, WHICH TERMINATE WITHIN AN ENCLOSURE BUT WITHOUT MECHANICAL CONNECTION TO ENCLOSURE, BY GROUNDING BUSHINGS AND GROUND CONDUCTOR TO GROUNDING BUS.
- 3. WHERE EQUIPMENT SUPPLY CONDUCTORS ARE IN FLEXIBLE METALLIC CONDUIT, INSTALL STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR FROM OUTLET BOX TO EQUIPMENT FRAME. 4. INSTALL EQUIPMENT GROUNDING CONDUCTOR, CODE SIZE MINIMUM UNLESS NOTED ON DRAWINGS, IN METALLIC AND
- NONMETALLIC RACEWAY SYSTEMS. 5. PROVIDE CONTINUOUS GREEN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS.
- 6. WHERE INSTALLED IN A CONTINUOUS SOLID METALLIC RACEWAY SYSTEM AND LARGER SIZES ARE NOT DETAILED, PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE LATEST EDITION OF
- 7. BOND BOXES, CABINETS, ENCLOSURES AND PANELBOARD EQUIPMENT GROUNDING CONDUCTORS TO ENCLOSURE WITH SPECIFIED CONDUCTORS AND LUGS. INSTALL LUGS ONLY ON THOROUGHLY CLEANED CONTACT SURFACES.
- 8. MOTORS, EQUIPMENT AND APPLIANCES: INSTALL CODE SIZE EQUIPMENT GROUNDING CONDUCTOR TO (MOTOR) EQUIPMENT FRAME OR MANUFACTURER'S DESIGNATED GROUND TERMINAL.
- 9. RECEPTACLES: CONNECT GROUND TERMINAL OF RECEPTACLE AND ASSOCIATED OUTLET BOX TO EQUIPMENT GROUNDING
- 10. CONDUCTOR. SELF GROUNDING NATURE OF RECEPTACLE DEVICES DOES NOT ELIMINATE EQUIPMENT GROUNDING CONDUCTOR BOLTED TO OUTLET BOX.

#### D. <u>LIGHTING</u>

C.E.C.

#### 1. MANUFACTURERS:

- THE FOLLOWING PRODUCT LINES ARE APPROVED FOR USE BY UBC. ALTERNATIVE PRODUCT LINES ARE
- NOT APPROVED (INCLUDING ALTERNATIVE LINES FROM A MANUFACTURER LISTED BELOW) AND MUST BE REVIEWED BY UBC FACILITIES ELECTRICAL:
- .1 LEGRAND WATTSTOPPER
- .2 COPPER GREENGATE
- .3 HUBBELL CURRENT
- 2. OCCUPANCY SENSORS, SWITCHING AND DIMMING:
- .1 OCCUPANCY SENSORS SHALL MEET THE FOLLOWING REQUIREMENTS: .1 DUAL TECHNOLOGY TYPE WITH BOTH PASSIVE INFRARED (PIR) AND ACOUSTIC/ULTRA-SONIC SENSORS,
- .2 LINE VOLTAGE OR LOW VOLTAGE TYPES.
- .3 LOW VOLTAGE OCCUPANCY SENSORS SHALL HAVE 1 OR 2 POLES, LOCAL POWER PACKS AND FORM C DRY CONTACT ISOLATED RELAYS FOR BMS CONNECTION. SLAVE POWER PACKS ARE NOT ACCEPTABLE. .4 OCCUPANCY SENSOR TIME DELAY SETTINGS SHALL BE ADJUSTED TO 20 MINUTES FOR OFFICES, CLASSROOMS, THEATRES AND
- WASHROOMS. .5 OCCUPANCY SENSORS SHALL BE POSITIONED, MASKED AND CALIBRATED TO PREVENT TRIGGERING BY MOTION IN ADJACENT
- AREAS. .6 IN CLASSROOMS AND LECTURE THEATRES, OCCUPANCY SENSORS SHALL COVER 100% OF THE SEATING AREA AND INSTRUCTOR AREA. THE OCCUPANCY SENSOR SHALL BE ABLE TO DETECT THE LOWER ACTIVITY LEVELS OF SEATED OCCUPANTS.









green 'running' light, filter condition gauge, alarm in burst sensor, the two isolation damper sensors (single light).

Internally there are additional terminals for remote start/stop, e-stops, fan running indication.



ndication	lights	for	the
gle light)			



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NOT FOR CON	ISTRUCTION			
DESCRIPTION	:			
ISSUED FOR REVIEW	NOV.14, 2024 FEB.21, 2024			
$\frown$				
Western H	Llement Engineering			
western element en 220-145 Chad	NGINEERING INC. wick Court			
North Vancouver Phone: 604. www.Western	r, BC, V7M 3K1 986.4128 Element.ca			
EGBC PERMIT TO P	RACTICE: 1000192			
SEAL:				
8020 NESTE	rs road			
WHISTLER, BC				
PROJECT TITLE:				
WHISTLER PUBLIC WORKS YARD DUST COLLECTOR				
DRAWING TITLE:				
SPECIFICATIONS & DETAILS				
PROJECT 2389				
DESIGNED: PK	DRAWING NUMBER:			
CHECKED: PK	E4			
DATE: FEB.02,24	OF 3			
SCALE: AS SHOWN				