BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE

LEGAL DESCRIPTION: LOT 1 SECTION 18 TOWNSHIP 40 PLAN EPP92199 PID - 030-902-291

PROJECT ADDRESS: 3537 PRINCETON AVENUE, COQUITLAM, BC

ELECTRICAL DRAWING INDEX

BC BUILDING CODE:	2018
BC FIRE CODE:	2018
Electrical Design:	
Electrical Code:	CEC 2018
Energy Standard/Code:	NECB 2015
Power Compliance Path	Prescriptive - 8.1.5 Alt's
Lighting Compliance Path	Prescriptive - 9.1.2 Alt's
Lighting Design Method	SPACE BY SPACE Method

GENERAL NOTE:

1. READ THIS DRAWING IN CONJUNCTION WITH THE LATEST ARCHITECTURAL AND MECHANICAL DRAWING. BEFORE ROUGH-IN WIRING, REFER TO ARCHITECTURAL DRAWING FOR DIMENSION, MOUNTING HEIGHTS, CONSTRUCTION HEIGHTS, CONSTRUCTION DETAILS, FINISHES, AND COLORS.
2. COORDINATE FINAL LOCATIONS OF ALL NEW EQUIPMENT AND DEVICES ON SITE WITH GENERAL CONSTRUCTOR PRIOR TO INSTALLATION.
3. ALL ELECTRICAL WORK SHALL CONFORM TO THE BCBC 2018 AND CANADIAN ELECTRICAL CODE 2018. THE FOLLOWING SPECIFIC ITEMS SHALL BE COMPLIED AS REQUIRED.

   3.1 ALL WIRES AND CABLE WITH COMBUSTIBLE INSULATION ARE REQUIRED TO BE RATED AS FT6.

   3.2 ALL CABLES SHALL BE CAT6 WITH RJ45 JACKS AT USER PLATE.

   3.3 ALL SERVICE PENETRATION THROUGH A FIRE SEPARATION ARE REQUIRED TO BE SEALED WITH A ULC OR cUL LISTED FIRE STOP SYSTEM WITH AN F RATING, TESTED IN COMFORMANCE WITH CAN/ULC-S115. ALL SERVICE PENETRATIONS THROUGH THE 2 HOURS FIRE SEPARATIONS ARE REQUIRED TO BE SEALED WITH A ULC OR cUL LISTED FIRE STOP SYSTEM WITH A 1.5 HOUR WITH A F RATING.

   3.4 EMERGENCY POWER SUPPLY FOR FIRE ALARM SYSTEM, EXIT SIGNS AND EMERGENCY LIGHTING MUST NOT LESS THAN A PERIOD OF 1 HOUR.

NOTES

NOTES

DATE	REVISION
2020.03.06	ISSUED FOR 50% REVIEW
2020.04.02	ISSUED FOR 65% REVIEW
2020.04.17	ISSUED FOR 75% REVIEW
2020.05.25	ISSUED FOR LIGHTING CALCULATION ONLY
2020.06.30	ISSUED FOR 95% REVIEW
2020.07.15	ISSUED FOR BP
2020.08.26	ISSUED FOR RFP
2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

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SEAL

PROJECT

BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE

3537 PRINCETON AVENUE
COQUITLAM, BC

TITLE

COVER SHEET AND LEGEND

SCALE: AS NOTED

DRAWING NUMBER: E-0

PROJECT NUMBER: 29367

DRAWN BY: ZZF/WGW

16010.0 GENERAL PROVISIONS

1. GENERAL
   .1 THE CONTRACTOR IS TO SUPPLY AND INSTALL ALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE AND OPERATING ELECTRICAL SYSTEMS AS SPECIFIED OR INDICATED ON THE DRAWINGS. ANY WORKS, EVEN IF NOT SHOWN OR SPECIFIED WHICH IS OBVIOUSLY NECESSARY OR REASONABLY IMPLIED TO COMPLETE THE WORK, IS TO BE DONE AS IF IT WERE BOTH SHOWN OR SPECIFIED.

   .2 THE RESPONSIBILITY AS TO WHICH SUB-TRADE PROVIDES REQUIRED ARTICLES OR MATERIALS TO BE BUILT IN OR PROVIDED RESTS SOLELY WITH THE CONTRACTOR. EXTRAS WILL NOT BE CONSIDERED BASED ON GROUNDS OF DIFFERENCE IN INTERPRETATION OF DRAWINGS OR NOTES AS TO WHICH TRADE INVOLVED IS TO PROVIDE CERTAIN SPECIALITIES OR MATERIALS.

   .3 THE DRAWING OF THE DIVISION ARE PERFORMANCE DRAWINGS AND INDICATE THE GENERAL ARRANGEMENT OF WORK. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL THE EXISTING CONSTRUCTION DETAILS. ANY INFORMATION INVOLVING EXITING CONDITIONS SHALL BE VERIFIED ON SITE. ALL NECESSARY ADJUSTMENTS, CHANGES, AND ADDITIONAL TO CARRY OUT THE DESIGN INTENT IS TO BE MADE WITHOUT ADDITIONAL CHARGE.

   .4 SHOULD ANY DISCREPANCY BETWEEN THE SPECIFICATION AND DRAWINGS LEAVE THE CONTRACTOR IN DOUBT AS TO THE TRUE INTENT AND MEANING, A RULING SHALL BE OBTAINED FROM THE CONSULTANT BEFORE THE TENDER IS SUBMITTED. IF THIS IS NOT DONE IT WILL BE ASSUMED THAT THE MORE EXPENSIVE ALTERNATE HAS BEEN INCLUDED.

   .5 CHECK FOR ANY ADDENDA TO THE ORIGINAL DRAWINGS AND SPECIFICATIONS AND ALLOW FOR RESULTING ADJUSTMENTS IN TENDER QUOTATIONS.

2. CODES AND STANDARDS
   .1 ALL WORK AND INSTALLATION IS IN ACCORDANCE WITH LATEST EDITION OF THE CANADIAN ELECTRICAL CODE, B.C.B.C. AND THE REGULATIONS OF THE LOCAL INSPECTION AUTHORITY. COMPLY WITH THE REQUIREMENTS OF THE BASE BUILDING SPECIFICATIONS AND STANDARDS.

   .2 ALL WORK COMPLY WITH THE REQUIREMENTS OF THE BASE BUILDING SPECIFICATIONS AND REQUIRED STANDARDS.

3. FEE AND PERMIT
   .1 THE CONTRACTOR IS TO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES, AND PAY THE FEE IN CONNECTION WITH THIS WORK. SUBMIT ALL DRAWINGS REQUIRED BY THE INSPECTION AUTHORITY, FOR APPROVAL PRIOR TO START OF CONSTRUCTION AND PROMPTLY REPORT ANY COMMENTS TO THE CONSULTANT.

   .2 CERTIFICATES OF ACCEPTANCE FROM THE ELECTRICAL INSPECTIONS DEPARTMENT ON COMPLETION OF THE WORK SHALL SUBMIT TO CONSULTANT AS RECORD.

4. SHOP DRAWINGS
   .1 COMPLETE AND DETAILED SHOP DRAWINGS OF EACH ELECTRICAL COMPONENT AND SYSTEM SHALL BE SUBMITTED TO THE CONSULTANT FOR APPROVAL. DETAILS OF CONSTRUCTION, DIMENSIONS, CAPACITIES, WEIGHTS AND ELECTRICAL PERFORMANCE CHARACTERISTICS OF EQUIPMENT AND MATERIAL SHALL BE INDICATED. WIRING, SINGLE LINE AND SCHEMATIC DIAGRAMS SHALL BE INDICATED WHERE POSSIBLE BEFORE FABRICATION. SUBMIT COPIES OF PDF THEREOF AS DRAWINGS TO THE CONSULTANT, FOR REVIEW FOR ALL ITEMS AS REQUIRED IN THIS SPECIFICATION.

   .2 REVIEW OF SHOP DRAWINGS BY THE CONSULTANT IS FOR ASCERTAINING CONFORMANCE PURPOSE OF THE GENERAL DESIGN CONCEPT. THE REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS OR OF THE RESPONSIBILITY FOR MEETING ALL DESIGN REQUIREMENTS OF THE CONTRACT DOCUMENTS.

   .3 SHOP DRAWINGS SUBMITTED SHALL BE CERTIFIED BY THE MANUFACTURER, BE CHECKED BY THE CONTRACTOR AND SHALL BEAR HIS APPROVAL STAMP AND SIGNATURE. DRAWINGS NOT PREVIOUSLY CHECKED BY THE CONTRACTOR WILL NOT BE REVIEWED.

   .4 DRAWINGS SHALL BEAR RELEVANT ULC/CSA APPROVALS.

5. PROJECT RECORD DRAWINGS
   .1 ONE SET OF RED-LINE RECORD DRAWINGS INDICATING ALL CHANGES SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT. SUBMIT THE SET TO THE ENGINEER PRIOR TO SUBSTANTIAL PERFORMANCE INSPECTION.

   .2 ALLOW $200 PER SHEET SHALL BE CHARGED BY THE CONSULTANT/ENGINEER TO PRODUCE FINAL AS BUILT DRAWINGS AND TURN AS THE OWNER'S RECORD.

6. EXISTING CONDITIONS
   .1 PRIOR TO TENDERING, BE FAMILIAR WITH ALL EXISTING CONDITIONS THAT WILL AFFECT THE WORK.

   .2 VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND EXAMINE CONDITIONS IN RELATION TO THE WORK. FAILURE TO NOTE SITE CONDITIONS AND MAKE SUITABLE ALLOWANCE FOR SAME WILL IN NO WAY JUSTIFY A CLAIM FOR ADDITIONAL CHARGES OR COMPENSATION.

   .3 THE CONTRACTOR SHALL INSPECT ALL EXISTING BUILDING AND STRUCTURES FOR CONSIDERATION OF NECESSARY STRUCTURAL CHANGES TO FACILITATE INSTALLATIONS COVERED BY THE CONTRACT.

   .4 WHERE BUILDINGS, STRUCTURES OR INSTALLATIONS HAVE TO BE DEMOLISHED, REMOVED, RELOCATED OR RE-ROUTED, THIS CONTRACTOR SHALL ENSURE THAT EXISTING BUILDINGS OR REMAINING STRUCTURES WILL NOT BE CUT OFF FROM ELECTRICAL AND COMMUNICATION SERVICES WHICH THEY MAY RECEIVE FROM THE BUILDING OR STRUCTURE TO BE ELIMINATED. HE SHALL RE-ROUTE SUCH SERVICES FOR TEMPORARY OR PERMANENT CONNECTION, WHATEVER THE NECESSITY MAY BE, AND SHALL ALLOW IN HIS TENDER FOR SUCH ADDITIONAL WORK.

   .4 OBTAIN A RULING FROM THE ENGINEER IF DISCREPANCIES EXIST PRIOR TO TENDER SUBMISSION.

7. SCHEDULING OF WORK
   .1 WORK SHALL BE SCHEDULED AND PERFORMED CONTINUOUSLY AND EXPEDITIOUSLY SO THAT THEY PROJECT IS COMPLETED AS PER SCHEDULE.

   .2 CHANGE OF THE SCHEDULE REQUIRED BY THE OWNER TO EXPEDITE ANY PART OF WORK, SHALL BE CARRIED OUT WITH ADDITIONAL FORCES TO PERFORM SAME.

8. GUARANTEE
   .1 GUARANTEE ALL ELECTRICAL EQUIPMENT PROVIDED AND/OR INSTALLED AND/OR CONNECTED UNDER THESE SPECIFICATIONS SHALL BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS, AND TO REMAIN SO FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL PERFORMANCE. ANY DEFECTS, OTHER THAN THOSE CAUSED BY NORMAL WEAR-AND-TEAR DURING THE AFORESAID PERIOD SHALL BE REMEDIED AT NO EXPENSE TO THE OWNER.

   .2 WHERE, IN THE OPTION OF THE CONSULTANT, AN UNREASONABLE DELAY IN REPLACEMENT OR ACCEPTABLE REPAIR OCCURS ON THE PART OF THE CONTRACTOR, REPAIRS OR REPLACEMENT WILL BE MADE BY THE OWNER, AND THE COST OF SUCH REPAIRS SHALL BE BORNE BY THIS CONTRACTOR.

9. MATERIALS AND EQUIPMENT
   .1 ALL MATERIAL AND EQUIPMENT SUPPLIED ARE TO BE NEW AND CSA CERTIFIED, OR AN APPROVED ALTERNATE. WHERE EQUIPMENT OR MATERIAL IS SPECIFIED BY TECHNICAL DESCRIPTION ONLY, IT IS TO BE OF THE BEST COMMERCIAL QUALITY OBTAINABLE FOR THE PURPOSE.

   .2 ALL IMPORTED EQUIPMENT SHALL BE INSPECTED AND APPROVED BY AUTHORITY HAVING JURISDICTION AND CERTIFIED TO BE USED LEGALLY IN THIS COUNTRY.

10. INSPECTION AND TESTING
   .1 AT THE TIME OF FINAL INSPECTION AND TEST, ALL CONNECTIONS SHALL BE MADE, ALL EQUIPMENT SHALL BE INSTALLED, AND THE ENTIRE SYSTEM SHALL BE CONTINUOUSLY CONNECTED AS FOR NORMAL OPERATION. THE ENTIRE SYSTEM MUST TEST FREE FROM SHORT CIRCUITS AND GROUNDS, AND THE INSULATION RESISTANCE BETWEEN CONDUCTORS AND BETWEEN CONDUCTORS AND GROUND, WITH CONNECTIONS MADE, MUST NOT BE LESS THAN REQUIRED BY THE CANADIAN ELECTRICAL CODE (PART 1). SUPPLY ALL NECESSARY TESTING EQUIPMENT REQUIRED BY THE ENGINEER. BEAR ALL EXPENSES IN CONNECTION WITH THE CARRYING OUT OF THESE TESTS. DEMONSTRATE TO THE ENGINEER THE PROPER OPERATION OF ALL ELECTRICAL SYSTEMS INSTALLED AND/OR CONNECTED UNDER THESE SECTIONS OF THE SPECIFICATIONS.

11. IDENTIFICATION
   .1 ALL ITEMS OF NEW ELECTRICAL EQUIPMENT SUCH AS POWER, LIGHTING, SIGNAL AND TELEPHONE PANELS DISCONNECT SWITCHES, MANUAL AND AUTOMATIC CONTROL DEVICES, ETC. SHALL HAVE NAMEPLATES. THESE NAMEPLATES SHALL BE, UNLESS OTHERWISE SPECIFIED, BLACK PLASTIC LAMICOID WITH ENGRAVED WHITE LETTERING. NAMEPLATES SHALL BE NEAT AND UNIFORM IN APPEARANCE. P-TOUCH LABELS ARE ACCEPTABLE FOR DEVICE COVER PLATE.

   .2 NAMEPLATES SHALL INDICATE THE USE AND VOLTAGE OF EQUIPMENT, AS SPECIFIED AND SHOWN IN THE DRAWINGS

   .3 PANEL IDENTIFICATION SHALL INCLUDE VOLTAGE, AMPERAGE, AND PHASE INFORMATION. SIGNAL PANEL IDENTIFICATION SHALL INCLUDE SYSTEM NAME INFORMATION. MANUAL CONTROLS IDENTIFICATION SHALL INCLUDE NAME OF EQUIPMENT CONTROLLED. AUTOMATIC CONTROLS IDENTIFICATION SHALL INCLUDE IDENTIFICATION AS ON SCHEMATIC DIAGRAMS

12. FIRE STOPPING
   .1 WHERE CABLES, CONDUITS PASS, OR OTHER OPENINGS THROUGH FLOORS AND RATED WALLS, SHALL BE FIRE STOPPED AND SMOKE SEALED IN ACCORDANCE WITH CAN 4-S115, CAN4-S101 AND MANUFACTURER'S RECOMMENDATIONS.

   .2 SEAL HOLES OR VOIDS MADE BY THROUGH PENETRATIONS, POKE-THROUGH TERMINATION DEVICES, AND UN-PENETRATED OPENINGS OR JOINTS TO ENSURE CONTINUITY AND INTEGRITY OF FIRE SEPARATION ARE MAINTAINED.

   .3 FIRE STOPPING SHALL BE THOMAS & BETTS, "FLAME-SAFE" OR DOW CORNING "FIRE STOP" FIRE RETARDANT, OR HILTI FIRE STOP SYSTEM DESIGNED AND INSTALLED TO SUIT THE APPLICATION.

13. DAMAGE
   .1 MAKE GOOD ANY DAMAGES TO EXISTING BUILDING COMPONENTS AT NO EXTRA COST TO THE OWNER.

14. WORKMANSHIP
   .1 THE CONSULTANT OR HIS AUTHORIZED REPRESENTATIVE SHALL HAVE THE RIGHT TO REJECT ANY ITEM THAT, IN HIS OPINION, DOES NOT CONFORM TO AN ACCEPTABLE APPEARANCE AND PERFORMANCE; AND THE CONTRACTOR MUST RECTIFY UNACCEPTABLE MATERIAL AND/OR WORKMANSHIP TO THE APPROVAL OF THE CONSULTANT.

15. LOCATION OF EQUIPMENT
   .1 LOCATION OF EQUIPMENT, INDICATED OR SPECIFIED ARE TO BE CONSIDERED AS APPROXIMATE.

   .2 LOCATE EQUIPMENT, TO PROVIDE MINIMUM INTERFERENCE AND MAXIMUM USABLE SPACE IN ACCORDANCE WITH RECOMMENDATIONS FOR SAFETY, ACCESS AND MAINTENANCE.

16. CUTTING, FITTING AND PATCHING
   .1 EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE WORK FIT PROPERLY.

   .2 WHERE NEW WORK CONNECTS WITH EXISTING AND WHERE EXISTING WORK IS ALTERED, BUT, PATCH AND MAKE GOOD TO MATCH EXISTING WORK.

   .3 OBTAIN STRUCTURAL ENGINEER'S APPROVAL BEFORE CUTTING, BORING OR SLEEVING LOAD-BEARING MEMBERS.

17. CLEANING
   .1 MAINTAIN PROJECT SITE AND PUBLIC PROPERTIES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH. REMOVE WASTE MATERIALS AND RUBBISH FROM SITE. CLEAN ALL LUMINAIRES REFLECTORS AND LENSES.

   .2 CLEAN ALL ELECTRICAL EQUIPMENT, VACUUM TRANSFORMER AND PANELS, RE-TORQUE ALL MAIN TERMINATIONS IN ACCORDANCE WITH MANUFACTURER'S AND INDUSTRY STANDARDS. REPLACE ALL DAMAGED OR MISSING BLANKING STRIPS WITH NEW UNITS MATCHING ORIGINAL.

   .3 ALL ELECTRICAL COMPONENTS; WHETHER NEW OR RE-USED, SHALL BE IN A CLEAN STATE OF EQUAL QUALITY AND CONDITION TO NEW PRODUCTS.

18. FEEDERS
   .1 FEEDERS SHALL BE SIZED ON THE DRAWINGS AND/OR TABULATED IN THE SPECIFICATION. THE DOCUMENTS INDICATE CONDUIT AND WIRE; EQUIVALENT TECK MULTI-CONDUCTOR CABLE WILL BE DEEMED ACCEPTABLE.

19. CONDUIT
   .1 CONDUITS RUN EXPOSED INDOORS AND SUPPORTED INDIVIDUALLY OR ON RACKS MAY BE RIGID GALVANIZED STEEL, RIGID ALUMINUM OR E.M.T.

   .2 CONDUIT OR CABLE RUN THROUGH FLOORS OR WALLS SHALL BE "CANNED" WHERE POSSIBLE.

   .3 CONDUIT RUN IN CONCRETE OR SUBJECT TO MECHANICAL INJURY ON SURFACE SHALL BE RIGID GALVANIZED STEEL.

20. OUTLETS AND SWITCH BOXES
   .1 UNLESS OTHERWISE NOTED OR SPECIFIED HEREIN, ALL OUTLETS SHALL BE INSTALLED FLUSH. WHERE CONDUIT IS EXPOSED, SURFACE MOUNTED BOXES SHALL BE USED. SECTIONAL BOXES WILL NOT BE ACCEPTED.

   .2 BOXES ARE TO BE 100 MM SQUARE TYPE (52-151), NO OTHER BOX TYPES WILL BE ACCEPTED WITHOUT ENGINEER'S APPROVAL. BOXES USED WITH SURFACE MOUNTED EMT ARE TO BE STANDARD SHEET METAL TYPE. PROVIDE PLASTER RINGS FOR ALL BOXES FOR SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, ETC.

   .3 OUTLET BOXES IN SOUND ATTENUATING PARTITIONS ARE TO BE OFFSET TO AVOID UNDUE TRANSMISSION OF SOUND BETWEEN THE PARTITION ELEMENTS.

   .4 A FULL COMPLEMENT OF COVER PLATES ARE TO BE PROVIDED FOR ALL SWITCHES RECEPTACLES, TELEPHONE OUTLETS, LOW TENSION OUTLETS, ETC. PLATES FOR ALL FLUSH MOUNTING DEVICES ARE TO BE AS PER SYMBOL SCHEDULE.

   .5 PLATES ON STAINLESS STEEL SURFACES ARE TO BE STAINLESS STEEL PLATES.

21. WIRING, METHOD AND DEVICES
   .1 ALL BUILDING WIRE TO BE COPPER, 98% CONDUCTIVITY, 600 VOLT, RW90 X-LINK INSULATION, MINIMUM #12 AWG OR BE ALUMINUM,600 VOLT, RW90 X-LINK INSULATION, MINIMUM #10 UNDER CONSULTANT'S APPROVAL. EXCEPT FOR CONTROL WIRING AND LOW VOLTAGE WIRING. ARMOURED CABLE (BX) WILL BE ACCEPTABLE WITHIN PARTITIONS. CONDUIT AND WIRE OR ARMORED CABLE TO BE USED IN EXPOSED AREAS OR WHERE REQUIRED BY CODE.

   .2 ALL WIRING TO BE INSTALLED CONCEALED EXCEPT IN ELECTRICAL ROOMS AND IN THE CEILING PLENUM. OUTLET BOXES TO BE GALVANIZED. SECTIONAL BOXES WILL NOT BE PERMITTED. SWITCHES (DIMMER, LOW VOLTAGE AND LINE VOLTAGE SWITCHES) TO MATCH EXISTING.

   .3 RECEPTACLES TO BE FULL GANG SIZE, POLARIZED, DUPLEX, PARALLEL BLADE, U-GROUNDING SLOT, RATED AT 15 AMPS, 125 VOLT SPECIFICATION GRADE. GROUND ALL COMPONENTS AS REQUIRED BY CANADIAN ELECTRICAL CODE. LABEL ALL RECEPTACLES WITH CIRCUIT NUMBER.

22. FUSES
   .1 FUSES SHALL BE HRC, CURRENT LIMITING, FORM I: FOR GENERAL DISTRIBUTION, FAST ACTING, BUSS CLASS T TYPE JJN(JJS), OR CLASS J, TYPE JKS. OR:FOR MOTOR DISTRIBUTION, TIME DELAY BUSS CLASS H, TYPE LP (LPS).

   .2 PROVIDE 2 SPARE FUSED FOR EACH SIZE USED.

23. FUSED SWITCH AND UNFUSED SWITCH
   .1 THESE SHALL BE HIGHEST QUALITY INDUSTRIAL GRADE MANUFACTURED BY SQUARE D, WESTINGHOUSE, OR C.G.E.

   .2 FUSED SWITCHES SHALL ACCEPT ONLY NEMA J OR L HRC CURRENT LIMITING FUSES.

   .3 ENSURE W.C.B. LOCK-OUT FEATURES ARE INCORPORATED.

24. PANEL BOARD

   .1 PROVIDE AND INSTALL BRANCH CIRCUIT PANEL BOARDS WHERE AND AS SHOWN ON THE DRAWINGS.

   .2 PANEL BOARDS SHALL COMPLETE WITH HINGED DOOR, LATCH, LOCK, AND KEYS. LOCKS SHALL BE KEYED ALIKE. COVER SCREW SHALL BE CONCEALED. PANELS SHALL BE FACTORY-PAINTED. BLANK PLATES SHALL BE INSTALLED FOR ALL UNUSED BREAKER SPACE.

   .3 PANEL BOARD MAIN BUSSING SHALL BE OF PLATED COPPER OR ALUMINUM OF AMPERAGE SIZES AS INDICATED ON THE SINGLE LINE DIAGRAM. MAIN LUGS SHALL BE SUITABLE FOR EITHER COPPER OR ALUMINUM FEEDER CONDUCTORS.

   .4 PANEL BOARD CIRCUIT NUMBERING ON BOTH SINGLE AND DOUBLE TUB PANELS SHALL BE CONSECUTIVE, WITH ODD NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT. TYPEWRITTEN CIRCUIT DIRECTORIES INDICATING EACH CIRCUIT'S USE SHALL BE MOUNTED IN ALL PANEL BOARDS BEHIND CLEAR PLASTIC ON THE INSIDE OF THE PANEL DOOR.

25. GROUNDING

   .1 A COMPLETE GROUNDING SYSTEM IS INSTALLED AS REQUIRED BY THE CANADIAN ELECTRICAL CODE AND MEET THE REQUIREMENT OF THE LOCAL INSPECTION DEPARTMENT, WHETHER OR NOT GROUNDING IS SPECIFICALLY INDICATED ON DRAWINGS OR SPECIFIED HEREIN OR EXTEND EXISTING BUILDING GROUNDING SYSTEM TO THIS TENANT SPACE IN ACCORDANCE WITH CODE REQUIREMENTS.

   .2 GROUND CONDUCTORS SHALL BE INSTALLED FROM A NEW COPPER GROUND BUS TO BE LOCATED IN ELECTRICAL ROOM AT NEW PANEL TUBS, GROUND BUSSES, EQUIPMENT ETC. THEY SHALL TERMINATE WITH BURNDY TYPE GAR CONNECTORS INSTALLED TO MANUFACTURER'S INSTRUCTIONS.

26. LIGHTING
   .1 SUPPLY AND INSTALL ALL WIRING AND MATERIALS REQUIRED TO PROVIDE A COMPLETE LIGHTING SYSTEM. CLEAN ALL LUMINAIRES AFTER INSTALLATION.

   .2 INSTALL LUMINAIRES IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS, C.E.C. REQUIREMENTS AND AS INDICATED ON THE DRAWINGS. GROUND ALL LUMINAIRES IN ACCORDANCE WITH C.E.C. REQUIREMENTS.

   .3 ALL LIGHTING CONTROL SYSTEM SUPPLIED SHALL COMPLY WITH THE ASHRAE REQUIREMENT BY CODE.

   .4 ALL LIGHTING TO BE CSA/ULC APPROVED.

27. EMERGENCY LIGHTING
   .1 BATTERY OPERATED EMERGENCY LIGHTING PACK TO COMPLY WITH THE REQUIREMENTS OF THE LUMINAIRE SCHEDULE.
   .2 UNIT TO COMPLY WITH CSA PERFORMANCE STANDARD C22.2 NO 141, C/W 4W MAXIMUM LED LAMP HEAD. BATTERY TO BE CAPABLE OF SUPPLYING FULL LOAD FOR A MINIMUM OF 1 HOUR UNLESS NOTED ON THE DRAWING.
   .3 SUBMIT SHOP DRAWINGS OF PROPOSED UNIT PRIOR TO ORDERING SAME.

28. EXIT LIGHTS
   .1 EXIT LIGHTS TO BE PROVIDED WHERE INDICATED AND PER SPECIFICATION.

29. REFERENCE CODE/STANDARDS

- 2018 BRITISH COLUMBIA BUILDING CODE
- 2018 CANADIAN ELECTRICAL CODE
- 2018 BRITISH COLUMBIA FIRE CODE
- NFPA 10-2010

FIRE ALARM SYSTEM

1 REGULATORY REQUIREMENTS
   .1 INSTALLATION SUBJECT TO APPROVAL, INSPECTION AND TEST OF ENGINEER PRIOR TO FINAL ACCEPTANCE.

   .2 ALL EQUIPMENT TO BE LISTED BY CSA AND ULC OR NATIONALLY RECOGNIZED FIRE TEST LABORATORY, COMPATIBLE TO FORM INTEGRATED FIRE ALARM SYSTEM AND APPROVED TO OPERATE AS A SYSTEM.

   .3 COMPLETE FIRE ALARM SYSTEM TO COMPLY WITH THE REQUIREMENTS OF ULC INCLUDING MANUFACTURE, INSTALLATION AND VERIFICATION.

2 SHOP DRAWINGS
   .1 SHOP DRAWINGS TO CONTAIN A COMPLETE LIST OF SYSTEM COMPONENTS AND LOCATIONS USED, SIZES OF COMPONENTS, DETAIL WIRING SCHEMATICS OF THE WIRING SYSTEMS AND COMPLETE OPERATIONAL DETAILS.

3 OPERATION AND MAINTENANCE MANUALS
   .1 OPERATION AND MAINTENANCE MANUALS TO BE FURNISHED AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE. OPERATING INSTRUCTIONS TO CONSIST OF THE FOLLOWING:

   • EACH MANUAL TO BE BOUND IN A SEPARATE PERMANENT HARD COVER LOOSE-LEAF BINDER AND TO CONTAIN A TITLE PAGE, TABLE OF CONTENTS, STATEMENT OF GUARANTEE INCLUDING TERMINATION DATE AND NAME OF PERSON TO BE CALLED IN EVENT OF EQUIPMENT FAILURE.

   • INDIVIDUAL FACTORY ISSUED MANUALS CONTAINING ALL TECHNICAL INFORMATION ON EACH PIECE OF EQUIPMENT INSTALLED. IN THE EVENT SUCH MANUALS ARE NOT AVAILABLE FROM THE FACTORY, THE SYSTEM INSTALLER TO ESTABLISH SAME AND COMPILE WITHIN THE MANUAL TO THE SATISFACTION OF THE ENGINEER.

   • EACH MANUAL TO CONTAIN A SYSTEM PARTS LIST, A PARTS LIST FOR INDIVIDUAL COMPONENTS, DETAILED SCHEMATICS AND RECOMMENDED MAINTENANCE PROCEDURES. ADVERTISING BROCHURES OR OPERATIONAL INSTRUCTIONS SHALL NOT BE CONSIDERED AS TECHNICAL MANUALS.

   .2 IN ADDITION TO THE ABOVE DESCRIBED MANUALS, SYSTEM INSTALLER TO DELIVER ONE (1) SET OF TRANSPARENCIES OF ALL SHOP AND CIRCUIT DRAWINGS, WIRING SCHEDULES AND SINGLE LINE BLOCK DRAWINGS.

4 SYSTEM TYPE
   .1 SUPERVISED, ADDRESSABLE, NON CODED, SINGLE STAGE, ANNUNCIATED, CLOSED CIRCUIT, 24 VOLT AC/DC SYSTEM COMPLETE WITH AUTOMATIC DETECTION, MANUAL STATIONS, SPRINKLER FLOW AND GATE VALVES, FIRE ALARM BELLS AND IN SUITE AUDIBLE DEVICES.

5 SYSTEM OPERATION
   .1 FIRE ALARM MANUAL STATIONS, ALARM BELLS/HORNS, PRODUCTS OF COMBUSTION DETECTORS, ANNUNCIATOR CIRCUITS, BELL CIRCUITS TO BE FULLY SUPERVISED.

   .2 OPERATION OF A MANUAL STATION, AUTOMATIC DETECTOR TO CAUSE THE FOLLOWING TO OCCUR:

   • ACTUATE THE CONTROL PANEL TO CAUSE THE EVACUATION ALARM TO SOUND THROUGHOUT THE PROJECT.

   • INDICATE THE ALARM ORIGIN ON THE ANNUNCIATOR PANEL.

   • SHUT DOWN AIR SUPPLY SYSTEMS.

   • TRANSMIT SIGNAL TO CENTRAL STATION VIA A ULC APPROVED MONITORING DEVICE.

   .3 INDICATE TROUBLE ON ANNUNCIATOR PANEL WHEN FAULT OCCURS ON SYSTEM. BUZZER AND SILENCING SWITCH TO BE INCORPORATED IN ANNUNCIATOR PANEL.

   .4 TROUBLE ANNUNCIATOR TO BE PROVIDED AT ANNUNCIATOR/CONTROL PANEL FOR ALL INDIVIDUAL BOX CIRCUITS, ALARM CIRCUITS, SPEAKER CIRCUITS, FIRE PHONE CIRCUITS AND ANNUNCIATOR CIRCUITS.

6 MANUFACTURERS
   .1 MANUFACTURERS THAT ARE PRE APPROVED TO SUPPLY THE FIRE ALARM SYSTEM COMPONENTS ARE CHUBB-EDWARDS, SIMPLEXGRINNELL, MIRCOM OR APPROVED EQUAL.

7 MANUAL FIRE ALARM STATIONS
   .1 MANUAL, NON CODED, SEMI FLUSH MOUNTED, TO PHYSICALLY INDICATE THAT IT HAS BEEN OPERATED UNTIL RESET BY A GLASS ROD WITH PULL HANDLE IN OPERATING POSITION.

8 HEAT DETECTION EQUIPMENT
   .1 DETECTORS: FIXED TEMPERATURE, COMBINED FIXED TEMPERATURE AND RATE OF RISE, 580C TYPE FOR NORMAL CEILING MOUNTING. RATE OF RISE RATE 90C PER MINUTE.

   .2 580C FIXED TEMPERATURE AND RATE OF RISE DETECTORS TO BE AUTOMATIC RESET TYPE.

   .3 SOME 580C DETECTORS TO BE FIXED TEMPERATURE ONLY.

   .4 FIXED TEMPERATURE DETECTORS TO BE OF THE NON RESET TYPE.

   .5 ALL 880C DETECTORS TO BE FIXED TEMPERATURE ONLY.

9 PRODUCTS OF COMBUSTION DETECTORS
   .1 CAPABLE OF DETECTING PRODUCTS OF COMBUSTION WITHOUT THE REQUIREMENT OF HEAT OR SMOKE, SHALL BE UNAFFECTED BY CHANGES IN ENVIRONMENTAL TEMPERATURE, HUMIDITY AND PRESSURE; TO BE COMPLETE WITH SENSITIVITY MEASURING FACILITY, FIELD ADJUSTABLE; SURFACE MOUNTED, INDICATOR LAMP, PROVISION FOR REMOTE MOUNTING, DESIGNED FOR OPERATION ON 24 VOLTS, DESIGN AND FUNCTION SHALL BE BASED ON DUAL CHAMBER PRINCIPLE.

   .2 EACH PRODUCTS OF COMBUSTION ZONE TO HAVE SEPARATE POWER FEED TO PREVENT FAULT ON ONE ZONE AFFECTING ANY OTHER ZONE.

10 SUPERVISION
   .1 SUPERVISION OF THE FIRE ALARM SYSTEM TO BE AS FOLLOWS:
   • AN OPEN OR GROUND ON AN INITIATING CIRCUIT, BELL CIRCUIT OR ANNUNCIATOR CIRCUIT TO CAUSE A TROUBLE SIGNAL AND THE TROUBLE LAMP TO OPERATE. THE TROUBLE SIGNAL SILENCE SWITCH TO SILENCE THE BUZZER BUT THE TROUBLE LAMP TO REMAIN ILLUMINATED. UPON RESTORATION OF THE SYSTEM, THE TROUBLE SIGNAL TO RESET TO NORMAL AUTOMATICALLY. A LOSS OF NORMAL AC POWER TO CAUSE THE TROUBLE ALARM TO OPERATE AND THE STANDBY POWER SUPERVISORY PILOT LAMP TO ILLUMINATE. THE TROUBLE SIGNAL SILENCE SWITCH TO REMAIN ILLUMINATED. THE SYSTEM TO RESET AUTOMATICALLY UPON RESTORATION OF NORMAL POWER.

11 ANNUNCIATOR PANEL
   .1 THERE IS ONE ANNUNCIATOR ASSOCIATED WITH THIS SYSTEM. SYSTEM TO CONTAIN THE FOLLOWING:

   1 TO BE LED TYPE. ANNUNCIATOR/EVAC PANEL TO INCORPORATE MULTI COLORED LAMPS TO DIFFERENTIATE BETWEEN MANUAL STATIONS, AUTOMATIC DETECTORS OR WITH LCD DISPLAY PROVIDING A DETAILED DESCRIPTION OF EACH ZONE LISTED.

   2 PROVIDE THE FOLLOWING CONTROL FEATURES FOR THE MAIN PANEL:
   • SEPARATE SWITCH SO TO ACTIVATE EVACUATION SIGNAL AS REQUIRED.
   1. TROUBLE SILENCE SWITCH, INDICATING LIGHT AND TROUBLE BUZZER.

12 END OF LINE RESISTORS
   .1 END OF LINE RESISTORS FOR EACH BELL CIRCUIT UNLESS OTHERWISE SPECIFICALLY NOTED ON THE DRAWINGS, TO BE MOUNTED WHERE INDICATED ON THE DRAWINGS IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE AND ULC REQUIREMENTS.

13 BELLS/HORNS
   .1 SURFACE WALL BELLS/FLUSH MOUNTED HORNS ARE UTILIZED THROUGHOUT THE PROJECT. BELLS TO BE 12 INCH VIBRATING TYPE. HORNS TO BE FLUSH MOUNTED WITH FIELD PROGRAMMABLE SOUND LEVEL.

   .2 UTILIZE RECESSED BACK-BOXES SUITABLE FOR RECESSING IN DRYWALL.

14 INSTALLATION
   .1 ALL FIRE ALARM WIRING TO BE INSTALLED IN CONDUIT OR ARMORED FIRE ALARM CABLE.

   .2 MINIMUM WIRE SIZE NO. 16 B & S GAUGE COPPER INITIATING CIRCUITS WHERE INDIVIDUAL CONDUCTORS ARE USED. ALL CONDUCTORS TO BE COLOR CODED.

   .3 WIRE INSULATION RW90 XLINK FOR SINGLE CONDUCTORS. CONDUCTOR INSULATION TO BE 105EC WHERE MULTI CONDUCTOR CABLES ARE USED. MULTI CONDUCTOR CABLES TO BE CSA APPROVED FOR USE ON FIRE ALARM SYSTEMS COMPLETE WITH OUTER PVC JACKET.

   .4 FIRE ALARM CONDUCTOR TERMINATIONS IN ANNUNCIATOR/CONTROL PANELS TO BE MADE ON TERMINAL STRIPS WITH SEPARATE POINT FOR EACH CONDUCTOR. ALL SUCH STRIPS TO BE NUMBER IDENTIFIED AS SCHEDULED FOR IN WIRING DIAGRAM ATTACHED TO INSIDE OF DOOR OF CONTROL PANEL. WIRING TO BE NEATLY INSTALLED TO ALL TERMINAL STRIPS AND CLIPPED WITH NYLON CABLE STRAPS OR LACED WITH JUTE CORD. TERMINATION OF CABLING TO BE SET UP IN SUCH A MANNER THAT SECTIONS OF THE SYSTEM MAY BE ISOLATED OR SHORTED OUT FOR SERVICING A TROUBLE OR FAULT.

   .5 END OF LINE RESISTOR FOR EACH INITIATING AND INDICATING CIRCUIT TO BE MOUNTED WHERE INDICATED ON THE DRAWINGS.

   .6 FROM FIRE ALARM CONTROL PANEL, MAKE CONNECTION TO ALL RELATED MECHANICAL EQUIPMENT AS REQUIRED FOR MECHANICAL SYSTEM SHUTDOWN.

   .7 FROM THE FIRE ALARM CONTROL PANEL, PROVIDE ONE 3/4 INCH CONDUIT C/W 4#14 AWG WIRES TO THE TELEPHONE BACKBOARD LOCATION FOR TIE_IN TO CENTRAL STATION VIA A ULC APPROVED SIGNALING DEVICE.

   .8 INDICATE PROPOSED LOCATION OF ALL EQUIPMENT ON SUBMITTED SHOP DRAWINGS.

   .9 RETAIN THE SERVICES OF A RECOGNIZED FIRE ALARM EQUIPMENT INSTALLER FOR THE INSTALLATION OF THE FIRE ALARM SYSTEM COMPONENTS AND DEVICES.

15 SYSTEM VERIFICATION
   .1 FIRE ALARM EQUIPMENT SUPPLIER TO MAKE A THOROUGH INSPECTION OF THE COMPLETE INSTALLED FIRE ALARM SYSTEM INCLUDING ALL COMPONENTS SUCH AS MANUAL STATIONS, BELLS, THERMAL DETECTORS, PRODUCTS OF COMBUSTION DETECTORS, SPRINKLER FLOW VALVES AND CONTROLS TO ENSURE THE FOLLOWING:

   • SYSTEM IS COMPLETE AND FUNCTIONAL IN ACCORDANCE WITH THE SPECIFICATIONS.

   • SYSTEM IS CONNECTED ACCORDING TO UNDERWRITERS LABORATORIES OF CANADA LIMITED REQUIREMENTS.

   • SYSTEM IS INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

   • REGULATIONS COVERING SUPERVISION OF COMPONENTS ARE ADHERED TO.

   • SUBSEQUENT CHANGES NECESSARY TO CONFORM TO ITEMS 1, 2, 3 AND/OR 4 TO BE DONE BY DIVISION 16 WITH TECHNICAL ASSISTANCE SUPPLIED BY THE MANUFACTURER.

   • DURING THE PERIOD OF THIS INSPECTION BY THE MANUFACTURER, SUPPLY TO THE MANUFACTURER ONE JOURNEYMAN ELECTRICIAN AND ONE APPRENTICE.

   • MANUFACTURER TO SPECIFY NUMBER OF HOURS REQUIRED TO PERFORM THIS INSPECTION.

   • MANUFACTURER TO SUBMIT TO THE ENGINEER ON COMPLETION OF INSPECTION, A POINT BY POINT CHECK LIST INDICATING THE DATE AND TIME OF EACH ITEM INSPECTED AND ALSO ISSUE A CERTIFICATE FOR HIS RECORDS CONFIRMING THAT THE INSPECTION HAS BEEN COMPLETED AND THE SYSTEM IS INSTALLED AND FUNCTIONING IN ACCORDANCE WITH THE SPECIFICATIONS. INCLUDED WITH THIS CERTIFICATE TO BE SATISFACTORY PROOF OF LIABILITY INSURANCE VALID FOR NOT LESS THAN ONE (1) YEAR FROM DATE OF FINAL INSPECTION.

   • SYSTEM VERIFICATION TO BE CONDUCTED IN THE PRESENCE OF ENGINEER.

POWER / DATA

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	WALL MOUNTED SINGLE RECEPTACLE 120V, 15A		DATA OUTLET CAT6, RJ45 JACKS
	WALL MOUNTED DUPLEX RECEPTACLE 120V, 15A LEVITON T5325		TELEPHONE OUTLET
	WALL MOUNTED DUPLEX RECEPTACLE 120V, 20A, T-SLOT LEVITON T16342		TELEVISION OUTLET
	WALL MOUNTED GFCI RECEPTACLE 120V, 15A, LEVITON X7599		DATA & TELEPHONE OUTLET COMBINATION 2#CAT-6E
	WALL MOUNTED SPLIT-FEED DUPLEX RECEPTACLE 120V, 15A		CEILING MOUNT DATA/TEL/TELVISION OUTLET
	WALL MOUNTED QUADPLEX RECEPTACLE 120V, 15A		FLOOR MOUNT DATA/TEL/TELVISION OUTLET
	TAMPER RESISTANT DUPLEX RECEPTACLE 120V, 15A		TELEPHONE/DATA JUNCTION BOX
	TAMPER RESISTANT QUADPLEX RECEPTACLE 120V, 15A		TELEVISION/DATA JUNCTION BOX
	TAMPER RESISTANT GFCI RECEPTACLE 120V, 15A	WAP	WIRELESS ACCESS POINT – 2#CAT-6E
	CEILING MOUNTED DUPLEX RECEPTACLE 120V, 15A	6	KITCHEN EQUIPMENT LABEL
	FLOOR MOUNTED DUPLEX RECEPTACLE 120V, 15A	1	NOTE LABEL
	WEATHER PROOF DUPLEX RECEPTACLE WITH GFCI 120V, 15A, HUBBELL TAYMAC MX4280S	4	ELCTRICAL EQUIPMENT LABEL
	WEATHER PROOF DUPLEX RECEPTACLE WITH GFCI 120V, 20A, HUBBELL TAYMAC MX4280S	1	LIGHTING LABEL
	WALL MOUNTED 240V, 2 POLE RECEPTACLE 240V, 15A	A	ELEVATION LABEL
	WALL MOUNTED 208V, 3 POLE RECEPTACLE 208V, 3PH	1	REVISION LABEL
	ELECTRIC VEHICLE CHARGER OUTLET 40A AS NOTED ADDENERGIE DOUBLE PEDESTAL OR EQUIVALENT		CONDUIT RUN
J	JUNCTION BOX		THERMOSTAT CONTROL
	DISCONNECT SWITCH	##-##	EQUIPMENT TAG
	MOTOR c/w DISCONNECT SWITCH	D	DEDICATED
	ELECTRICAL PANEL	N	NEW
	METERING STACK	EX	EXISTING TO REMAIN
	SPLITTER	REL	EXISTING TO BE RELOCATED
	BASEBOARD HEATER	ER	EXISTING TO REMOVE
	FORCE FLOW HEATER	RR	REMOVE AND RE-INSTALL
	POWER DROP	WP	WEATHER PROOF
M	METER		PULL BOX CARSON TRUSS-T 10151088
	HOT WATER TANK c/w DISCONNECT SWITCH		FLUSHOMETER SLOAN SENSOR CAT# 3450055 TRANSFORMER CAT# 0345154PK
	DUCT HEATER c/w DISCONNECT SWITCH	HD	HAND DRYER HYSON CAT# 307174-01
C	POWER COLUMN		

NOTE: NOT ALL SYMBOLS APPLY HERE, REFER TO FLOOR PLANS AND DRAWINGS.
EQUIVALENT PRODUCT ARE ACCEPTABLE UNDER ENGINEER'S APPROVAL ONLY.

LIGHTING / FIRE ALARM

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
LT-1	4" SQUARE RECESSED DOWNLIGHT	F	FIRE ALARM PULL STATION MIRCOM MS-400AP
LT-2	TRACK LIGHT		FIRE ALARM SMOKE DETECTOR
LT-3	2X2 RECESSED SQUARE LIGHT		FIRE ALARM HEAT DETECTOR
LT-4	2X2 RECESSED SQUARE LIGHT		FIRE ALARM HEAT DETECTOR ON SOUNDER BASE
LT-5	WALL MOUNT SCONCE – WASHROOM	SE	FIRE ALARM SPEAKER
LT-6	4' STRIP LIGHT	SE	WALL MOUNTED FIRE ALARM SPEAKER
ELT-1	4" SQUARE RECESSED DOWNLIGHT – EXTERIOR	F	FIRE ALARM BELL
ELT-2	WALL MOUNT SCONCE – EXTERIOR	F	FIRE ALARM HORN MIRCOM FH-400
ELT-3	WALL MOUNT SCONCE – EXTERIOR	F S	FIRE ALARM BUZZER c/w SILENCING SWITCH
P1	PARKING LOT POLE LIGHTING – EXTERIOR	S	FIRE ALARM HORN/STROBE COMBINATION MIRCOM FHS-400
	EXIT SIGN	S	FIRE ALARM STROBE LIGHT
	EXIT SIGN WITH LEFT ARROW	S	WALL MOUNTED FIRE ALARM STROBE LIGHT
	EXIT SIGN WITH RIGHT ARROW	R	FIRE ALARM RELAY
	EXIT SIGN WITH DOUBLE ARROWS	G	FIRE ALARM GAS VALVE RELAY
	DOUBLE HEADS EMERGENCY LIGHT	F	FIRE ALARM FLOW VALVE RELAY
	DOUBLE HEADS WITH BATTERY LIGHT	T	FIRE ALARM TAMPER RELAY
TC	TIME CLOCK TORK DGUM100A	P	FIRE ALARM PRESSURE RELAY
$	WALL MOUNTED SWITCH c/w OS/VS SENSOR LEVITON OSSMD-MF	ISO	FIRE ALARM ISOLATION MODULE
$2	WALL MOUNTED 2-POLE SWITCH		FIRE ALARM END OF LINE RESISTOR
$3	WALL MOUNTED 3-POLE SWITCH	S CO	SMOKE AND CARBON MONOXIDE DETECTOR MIRCOM MIX-COSAP
$T	WALL MOUNT TIMER SWITCH LEVITON VPT24-1PZ	SA	SMOKE ALARM
$M	MASTER CONTROL SWITCH	F	FIRE ALARM PHONE
$D	DIMMING CONTROL SWITCH LEVITON DDL06-1LZ		FIRE ALARM ADDRESSABLE CONTROL PANEL MIRCOM FX-2000 SERIES
	PHOTOCELL SENSOR LEVITON PCOUT-SV		FIRE ALARM ANNUNCIATOR
OS	OCCUPANCY/VACANCY SENSOR LEVITON O2C10-UDW	M	SUPPRESSION MANUAL DUMP STATION
os	AUTO ON/AUTO OFF		SUPPRESSION CHEMICAL BOTTLE
vs	MANUAL ON/AUTO OFF		
NL	NIGHT LIGHT		

NOTE: NOT ALL SYMBOLS APPLY HERE, REFER TO FLOOR PLANS AND DRAWINGS.
EQUIVALENT PRODUCT ARE ACCEPTABLE UNDER ENGINEER'S APPROVAL ONLY.

SECURITY

SYMBOL	DESCRIPTION
DO	DOOR OPENER
C	CARD OPENER
S	ELECTRONIC DOOR STRIKE
DS	DOOR CONTACT SWITCH
M	ELECTRO-MAGNETIC DOOR LOCK
	DOOR OPEN BUTTON
	KEYPAD
GBS	GLASS BREAKER SENSOR
	DOME CAMERA
MS	MOTION SENSOR
VO	VIDEO MONITOR OUTLET
S	SECURITY SIREN

NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS. EQUIVALENT PRODUCT ARE ACCEPTABLE UNDER ENGINEER'S APPROVAL ONLY.

NOTES

NOTES

DATE	REVISION
2020.03.06	ISSUED FOR 50% REVIEW
2020.04.02	ISSUED FOR 65% REVIEW
2020.04.17	ISSUED FOR 75% REVIEW
2020.05.25	ISSUED FOR LIGHTING CALCULATION ONLY
2020.06.30	ISSUED FOR 95% REVIEW
2020.07.15	ISSUED FOR BP
2020.08.26	ISSUED FOR RFP
2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

ARCHITECT
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SEAL

PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

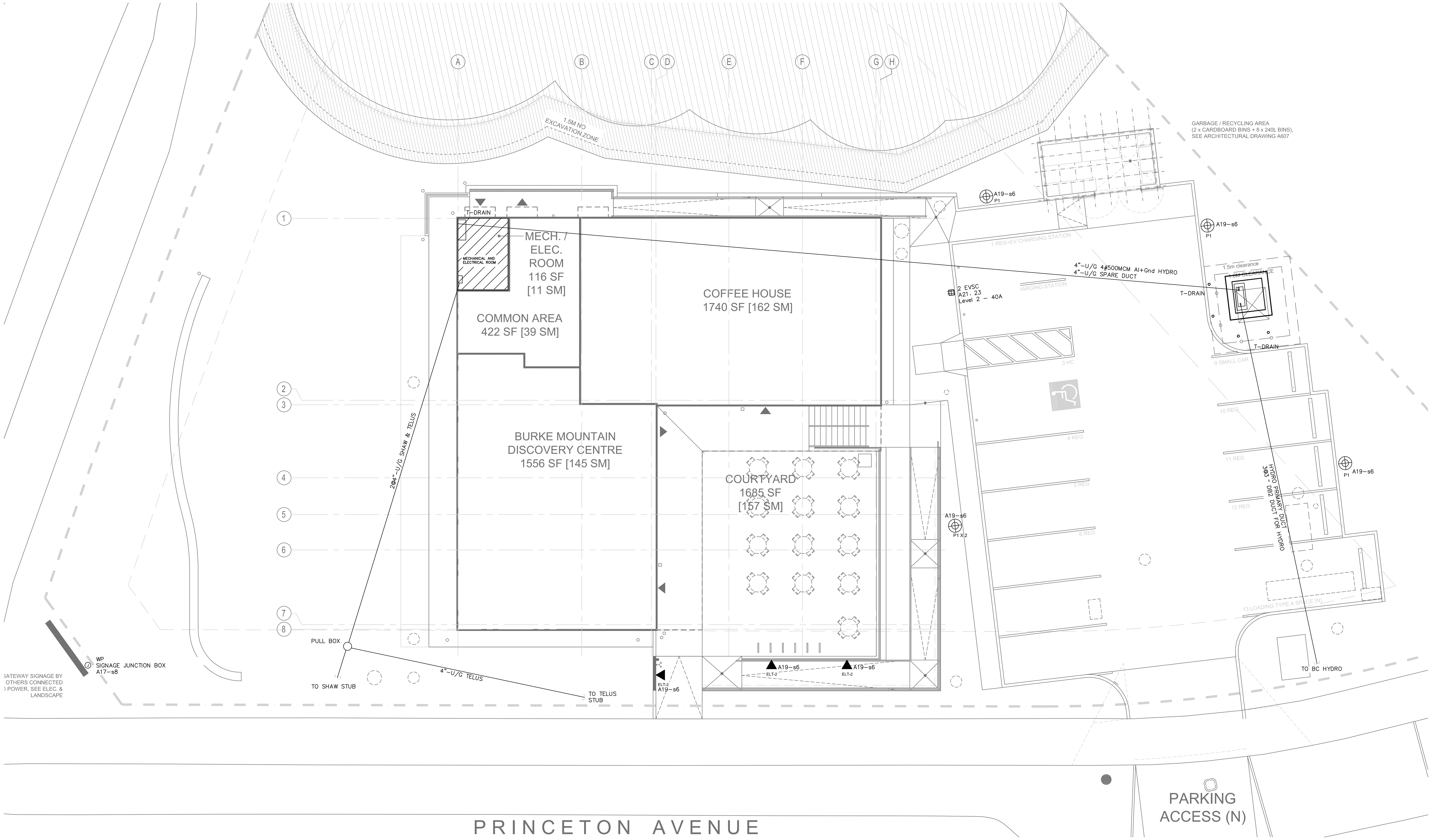
TITLE
NOTES

SCALE
AS NOTED

DRAWING NUMBER
E-1

PROJECT NUMBER
29367

DRAWN BY
ZZF/WGW



SITE LAYOUT

SCALE: 1/8" = 1'-0"

UTILITY SERVICE NOTE:

1. REFER TO BC HYDRO, TELUS AND SHAW CABLE UG SERVICE CONSTRUCTION DOCUMENTS BEFORE PROCEEDING WITH ANY CIVIL WORK. SERVICE CABLES ARE SUPPLIED AND INSTALLED BY THE UTILITY SERVICE COMPANY APPROVED CONTRACTORS.
2. CONTRACTOR TO CONFIRM THE EXACT LOCATION OF BOTH ON AND OFFSITE HYDRO, TELEPHONE AND SHAW SERVICE CONNECTIONS POINTS WITH LOCAL UTILITY COMPANIES BEFORE COMMENCING WITH EXCAVATION AND INSTALLATION.
3. CONTRACTOR TO INCLUDE LABORS AND MATERIALS COSTS IN BASE TENDER BID FOR THE PRIMARY DUCT INSTALLATION UP TO THE HYDRO STUB-UP POINT.
4. CONTRACTOR TO INCLUDE LABORS AND MATERIALS COSTS FOR THE PMT INSTALLATION EXCEPT THAT BC HYDRO WILL SUPPLY PMT, CONCRETE PAD, COUNTER-POISE AND BOLLARDS.
5. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE APPROVAL OF ANY REVISION OF THE U/G UTILITY CONDUIT ROUTE PRIOR TO INSTALLATION.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE INSPECTION AND APPROVAL OF ALL U/G CONDUIT RUNS WITH THE LOCAL BC HYDRO REPRESENTATIVE PRIOR TO BACKFILL.

UTILITIES CONTACT INFORMATION:

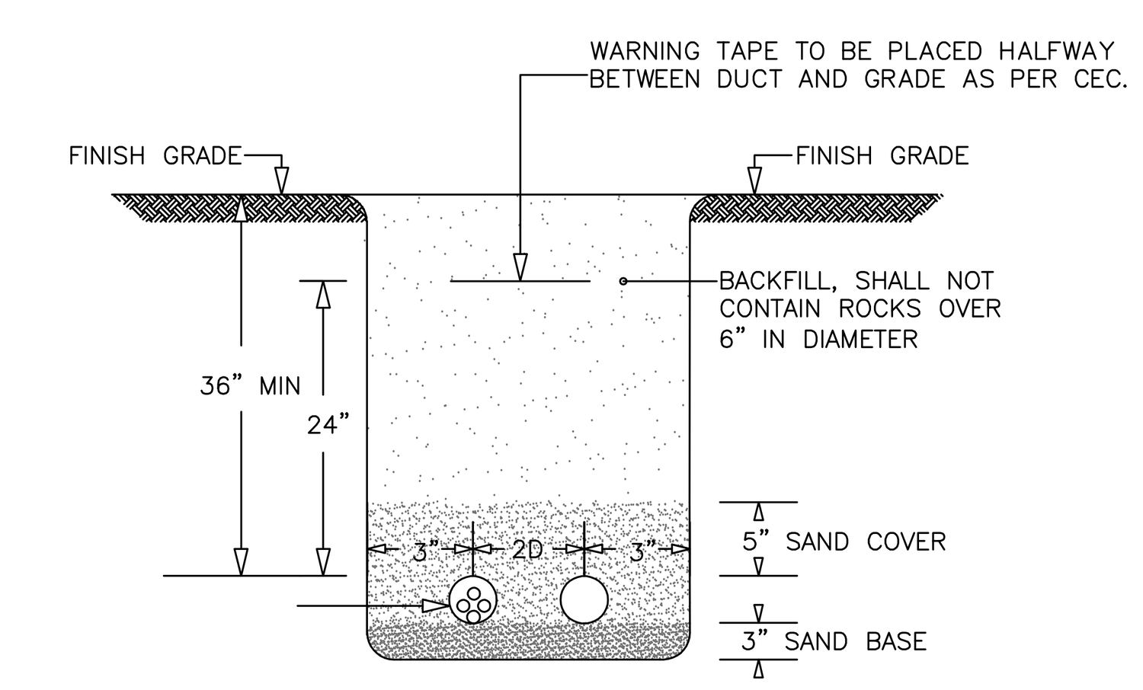
BC HYDRO:
REFERENCE# 4290022
2590 Barnet Highway Coquitlam BC
Tel: 604 220-1878
Email: marcel.eigenmann@bchydro.com

TELUS:
Tel: 310-4DEV(4338)
Email: mudassar.farhan@telus.com

SHAW:
10445 138 STREET SURREY BC
Tel: 604 629-4372
Email: Neil.David@sjrb.ca

ELECTRICAL VEHICLE SUPPLY EQUIPMENT NOTE:

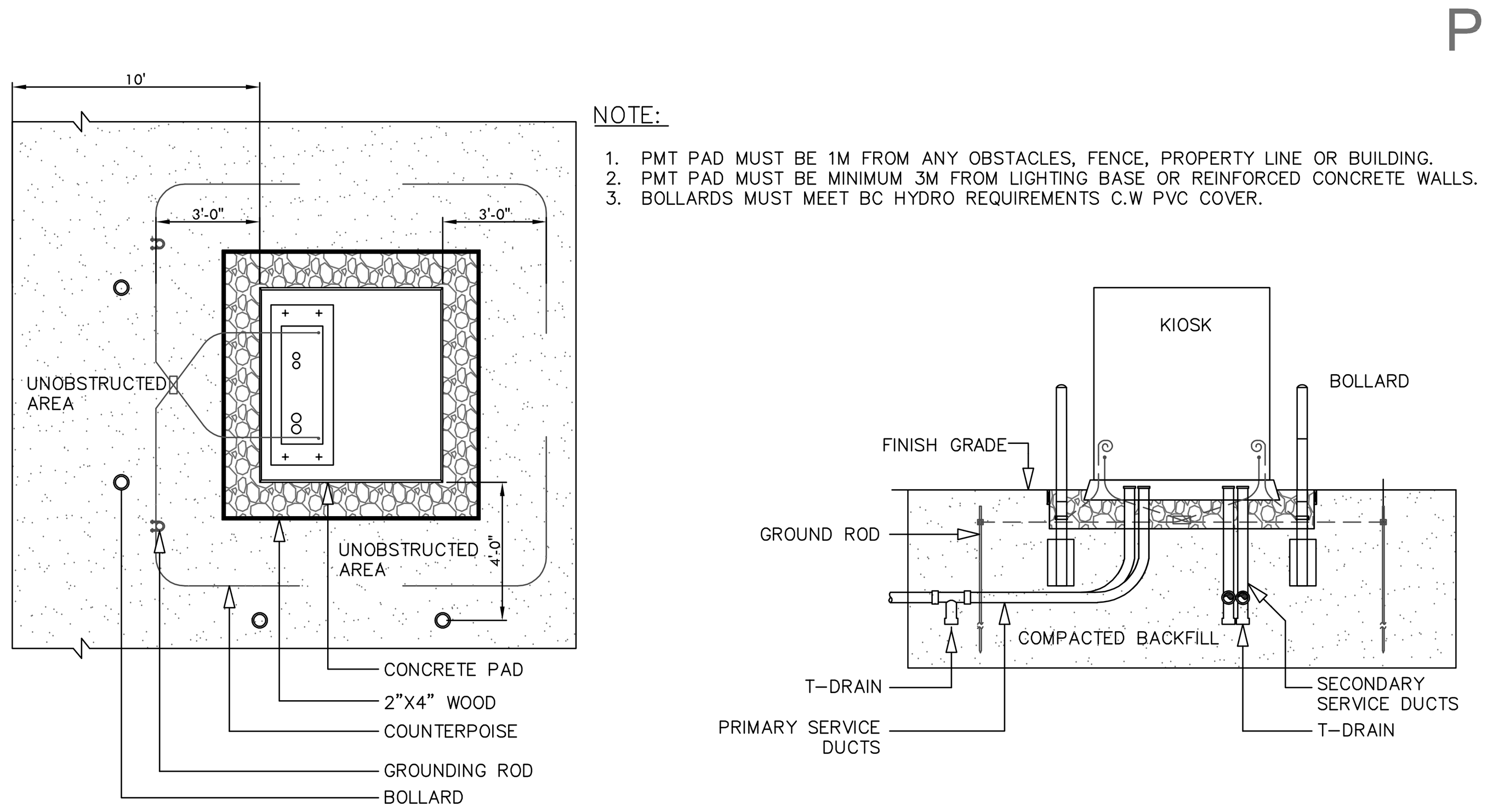
1. LEVEL-2 ELECTRICAL VEHICLE SUPPLY EQUIPMENT (EVSE) SHALL COMPLY WITH CITY'S LATEST EV GUIDE.
2. PROVIDE A DEDICATED 40A CIRCUIT FOR EVSE. PROVIDE IT'S OWN METERING FUNCTION AND ABLE TO MAKE THE PAYMENT BY CREDIT CARDS.
3. PROVIDE THE EV ENERGY MANAGEMENT SYSTEMS FOR THE EVSE.
4. PROVIDE LABELS ON THE EVSE THAT INTENDED FOR ELECTRICAL VEHICLE ONLY.



DUCT NOTE:
THIS DETAIL IS DIAGRAMMATIC ONLY. CONFIRM WITH LOCAL UTILITIES SIZE AND QUANTITY OF INCOMING DUCTS. ALL CLEARANCES AND SPACING TO BE TO CEC 2018 AND LOCAL CODES AND BY-LAWS.

SECONDARY DUCT SECTION

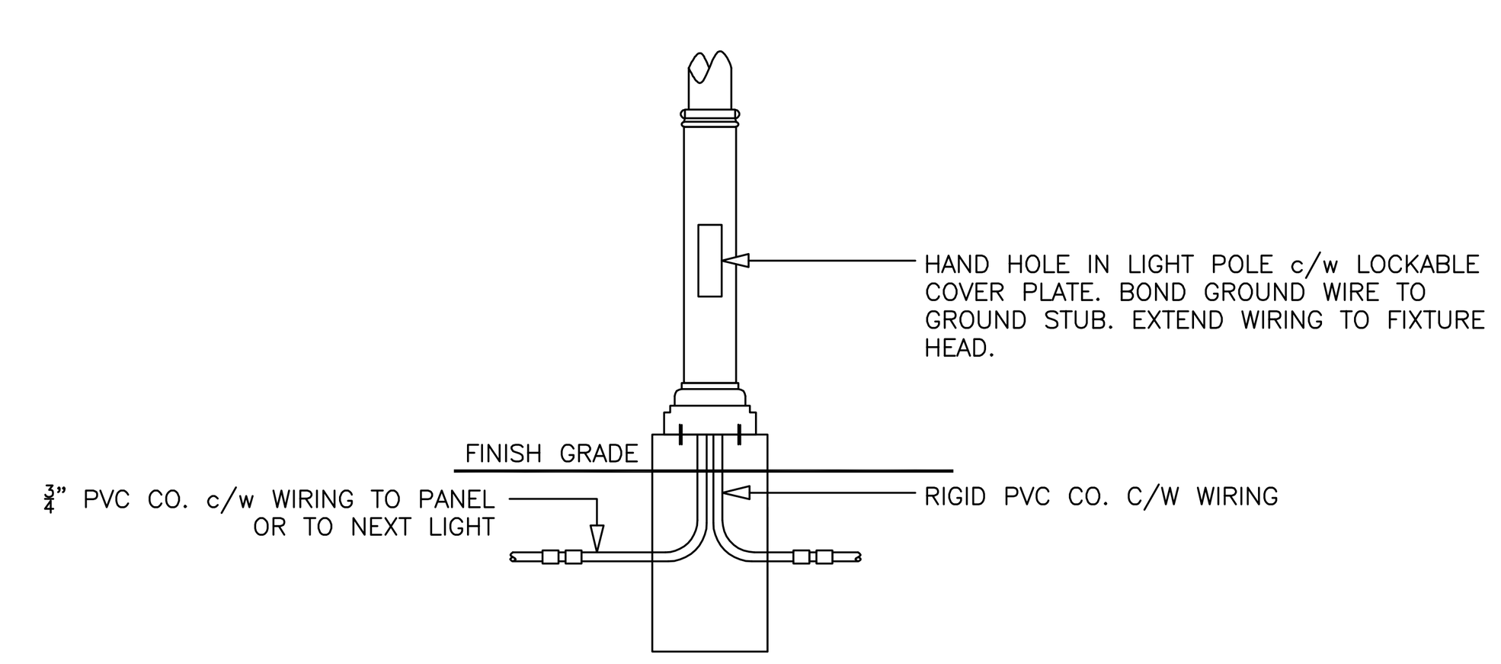
SCALE: NTS



NOTE:
1. PMT PAD MUST BE 1M FROM ANY OBSTACLES, FENCE, PROPERTY LINE OR BUILDING.
2. PMT PAD MUST BE MINIMUM 3M FROM LIGHTING BASE OR REINFORCED CONCRETE WALLS.
3. BOLLARDS MUST MEET BC HYDRO REQUIREMENTS C.W PVC COVER.

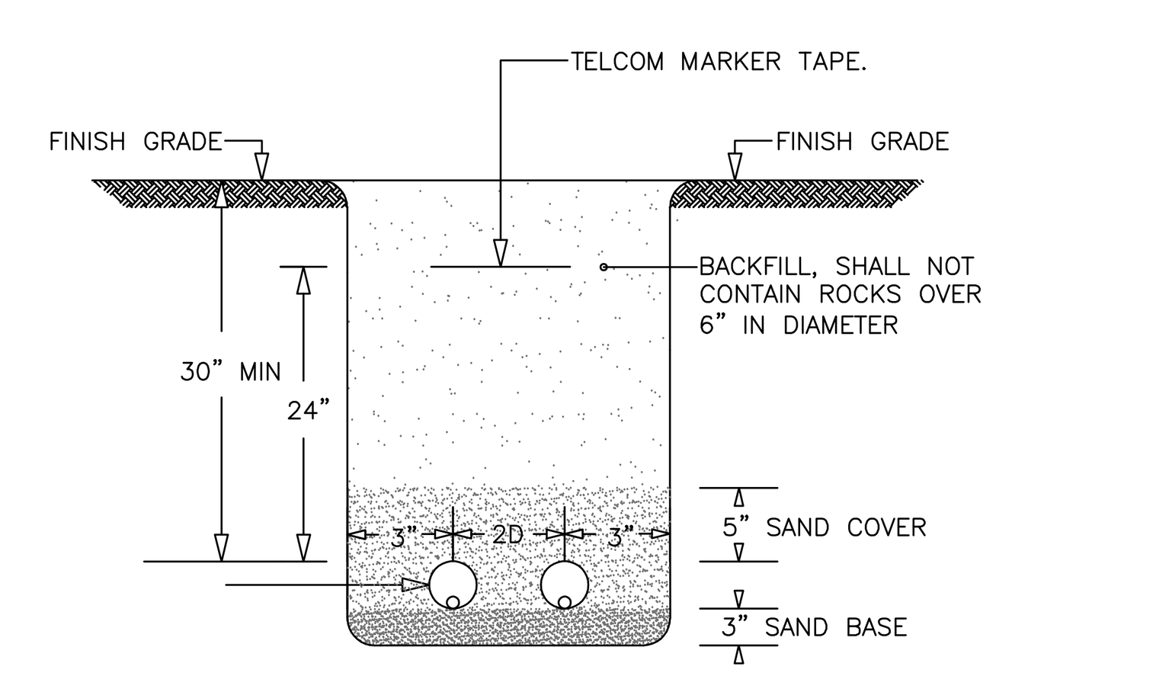
PMT GROUNDING DETAILS

SCALE: NTS



LIGHTING POLE BASE DETAIL

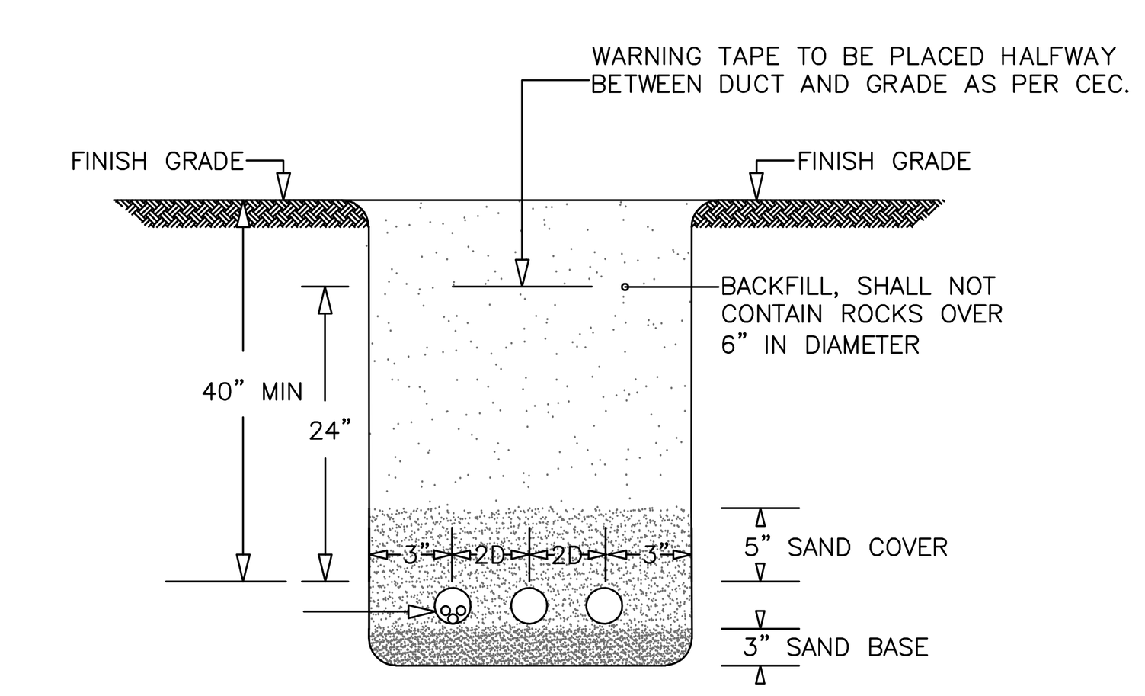
SCALE: NTS



NOTE:
CONTRACTOR TO PROVIDE A COMMUNICATION PULL BOX. CARSON CAT#10151089.

TELUS/SHAW DUCT SECTION

SCALE: NTS



DUCT NOTE:
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PRIMARY DUCT SECTION

SCALE: NTS

NOTES

NOTES

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2020.09.14	ISSUED FOR RFP ADDENDUM #2
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2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

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SEAL

PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

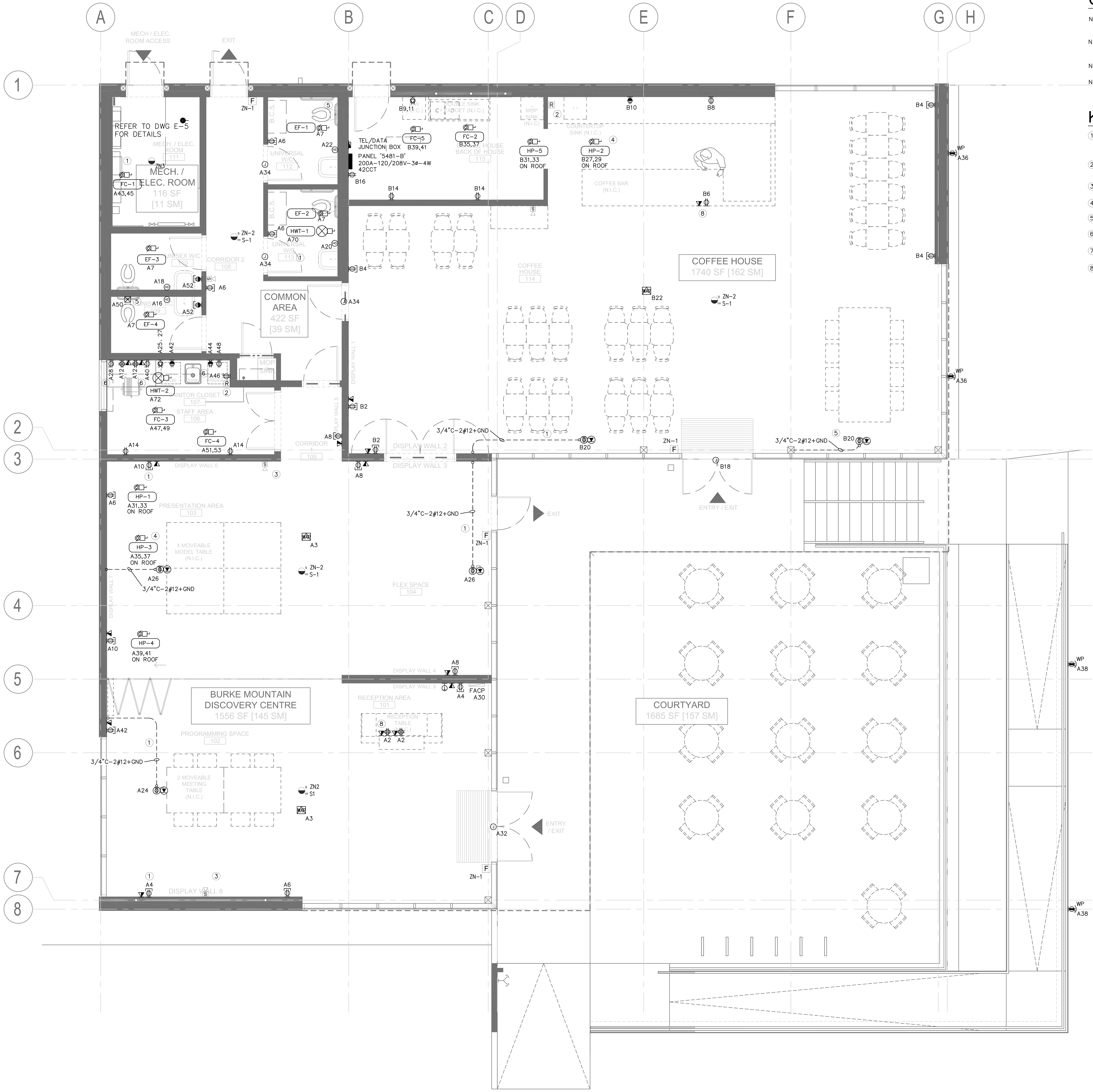
TITLE
SITE PLAN LAYOUT

SCALE
AS NOTED

DRAWING NUMBER
E-2

PROJECT NUMBER
29367

DRAWN BY
ZZF/WGW



POWER LAYOUT

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

GENERAL NOTE:

N1 – FLUSH MOUNT ALL RECEPTACLES ON THE FINISHED SURFACE OF THE WALL. LABEL CIRCUIT NUMBER ON EACH RECEPTACLES AND JUNCTION BOXES. PROVIDE DEDICATED CIRCUITS FOR ALL EQUIPMENT.

N2 – EQUIPMENT AND MECHANICAL SCHEDULE ARE USED FOR LOAD CALCULATION ONLY. CONFIRM WITH OWNER FOR THE FINAL EQUIPMENT RATING AND LOCATION PRIOR TO ROUGHING IN.

N3 – ALL TEL/DATA CABLING SHALL BE CAT6 WITH RJ45 JACKS AT THE USER PLATES.

N4 – CONNECT THE WASHROOM EXHAUST FAN AND LIGHTING TO THE SAME CIRCUIT.

KEY NOTE:

(1) – COORDINATE WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR CORING DRILL OR TRENCH THE FLOOR ON/BELOW THE CONCRETE FLOOR. DO NOT DRILL ON BUILDING STRUCTURE SLAB BAND.

(2) – PRE-INSTALL FIRE ALARM RELAYS TO DISABLE THE SOUND SYSTEM DURING FIRE ALARM ACTIVATION. COORDINATE WITH THE OWNER FOR EXACT LOCATION.

(3) – INSTALL A SYNC MODULE TO SYNCHRONIZE THE STROBE LIGHTS IN THE SAME ROOM.

(4) – PROVIDE A FIRE ALARM SUPERVISORY ZONE FOR CARBON MONOXIDE DETECTORS.

(5) – SUPPLY AND INSTALL A HARDWIRED WATER FLUSHOMETER SENSORS FOR ALL WATER CLOSETS.

(6) – CONFIRM THE FINAL IT/SOUND/SECURITY EQUIPMENT PRIOR TO ROUGHING IN.

(7) – RUN 3/4" CONDUIT WITH PULL STRING IN THE BUILDING FOR FUTURE SECURITY CAMERAS.

(8) – CONFIRM WITH CLIENT/ARCHITECT FOR THE FINAL LOCATION.

FIRE ALARM ZONE	DESCRIPTION
ALARM	
ZN-1	PULL STATION - DISCOUVERY CENTER AND COFFE HOUSE
ZN-2	SMOKE DETECTOR - DISCOUVERY CENTER AND COFFE HOUSE
ZN-3	SMOKE DETECTOR - MECH/ELEC ROOM
ZN-4	FLOW SWITCH - MECH/ELEC ROOM SPRINKLER
ZN-5	PRESSURE SWITCH - MECH/ELEC ROOM SPRINKLER
SUPERVISOR	
S-1	CARBON MONOXIDE DETECTOR
S-2	TAMPER SWTICH - MECH/ELEC ROOM SPRINKLER

FIRE ALARM ZONE

PANEL "5481-A"

BUSSING	400A	VOLTS	120/208V-3ø-4W
MAIN BREAKER		MOUNTING	RECESS/SURFACE

CCT	DESCRIPTION	BRKR	LOAD	PHASE	LOAD	BRKR	DESCRIPTION	CCT
1	EM LIGHT/NL/EXIT	1P15	300	A	600	1P15	REC. - RECEPTION	2
3	WIRELESS ACCESS POINT	1P15	400	B	800	1P15	REC. - DISPLAY WALL 9 AND 8	4
5	LIGHT - DISCOVERY AREA - s1, s2	1P15	800	C	400	1P15	REC. - OFFICE GENERAL AND CORRIDOR GENERAL	6
7	LIGHT - OFFICE, CORRIDOR & ELECT RM & EXHAUST FAN	1P15	800	A	800	1P15	REC. - DISPLAY WALL 3, 4 AND 5	8
9	LIGHT/FAN - WASHROOMS	1P15	220	B	800	1P15	REC. - DISPLAY WALL 6 AND 7	10
11	OUTDOOR LIGHT - CORRIDOR - S4	1P15	220	C	800	1P15	REC. - STAFF AREA - COMPUTER	12
13	OUTDOOR LIGHT - BACK CORRIDOR - S5	1P15	220	A	800	1P15	REC. - STAFF AREA - GENERAL	14
15	SIGNAGE JUNCTION BOX	1P15	400	B	1000	1P15	REC. - WASHROOM HANDDRYER	16
17	ENTRANCE SIGNAGE JUNCTION BOX	1P15	800	C	1000	1P15	REC. - WASHROOM HANDDRYER	18
19	OUTDOOR LIGHT - PARKING POLE LIGHT	1P15	500	A	1000	1P15	REC. - WASHROOM HANDDRYER	20
21	CAR CHARGER	2P40	6000	B	100	1P15	REC. - WASHROOM HANDDRYER	22
23				C	400	1P15	REC. - FLOOR MOUNT RECEPTACLE	24
25	DISH WASHER	2P15	1900	A	200	1P15	REC. - FLOOR MOUNT RECEPTACLE	26
27				B	1400	1P20	REC. - STAFF AREA - IT EQUIPMENT	28
29				C	500	1P15	FACP	30
31	HEAT PUMP UNIT-OUTDOOR UNIT - HP-1	2P20	2808	A	400	1P15	MAIN DOOR OPENER	32
33				B	600	1P15	WASHROOM DOOR OPENER	34
35	HEAT PUMP UNIT-OUTDOOR UNIT - HP-3	2P50	6531	C	2500	1P20	REC. - OUTSIDE FLOOR MOUNT RECEPTACLE	36
37				A	2500	1P20	REC. - OUTSIDE FLOOR MOUNT RECEPTACLE	38
39	HEAT PUMP UNIT-OUTDOOR UNIT - HP-4	2P50	6531	B	1500	1P20	REC. - SECURITY EQUIPMENT	40
41				C	1000	1P15	REC. - STAFF AREA - GFI	42
43	HEAT PUMP UNIT-INDOOR UNIT - FC-1	2P15	894	A	1000	1P15	REC. - STAFF AREA - GFI	44
45				B	1500	1P20	REC. - STAFF AREA - SOUND SYSTEM	46
47	HEAT PUMP UNIT-INDOOR UNIT - FC-3	2P15	894	C	400	1P15	REC. - SRAFF AREA FRIDGE	48
49				A	600	1P15	REC. - WASHROOM SENSOR TRANSFORMER	50
51	HEAT PUMP UNIT-INDOOR UNIT - FC-4	2P15	645	B	600	1P15	REC. - WASHROOM GFI	52
53				C	600	1P15	REC. - TEL/CATV JUNCTION BOX	54
55				A	600	1P15	REC. - PANEL	56
57	SUPPLEMENTARY ELEC HEAT - HP-3	3P20	5000	B				58
59				C				60
61				A				62
63	SUPPLEMENTARY ELEC HEAT - HP-4	3P20	5000	B				64
65				C				66
67				A				68
69	PANEL "5481-B"	3P200	36095	B	1500	1P20	HOT WATER TANK - HWT-1	70
71				C	1500	1P20	HOT WATER TANK - HWT-2	72
TOTAL:	104358	WATTS						
PANEL LOAD CALCULATION:								
EQUIPMENT:	10600	WATTS						
MECHANICAL:	29121	WATTS						
MISCELLANEOUS:	47625	WATTS						
	290	A @ 208V/3ɸ						

PANEL 5481-A

PANEL "5481-B"

BUSSING	200A	VOLTS	120/208V-3ø-4W
MAIN BREAKER	200A	MOUNTING	

CCT	DESCRIPTION	BRKR	LOAD	PHASE	LOAD	BRKR	DESCRIPTION	CCT
1	EM LIGHT/NL/EXIT	1P15	300	A	216	1P15	REC. - DISPLAY WALL	2
3	LIGHT - FRONT OF HOUSE - s6	1P15	450	B	960	1P15	REC. - FRONT OF HOUSE GENERAL	4
5	LIGHT - BACK OF HOUSE - s7	1P15	400	C	1200	1P15	REC. - COFFEE BAR - POS	6
7	SIGNAGE JUNCTION BOX	1P15	300	A	600	1P15	REC. - COFFEE BAR	8
9	DISH WASHER	2P15	1900	B	600	1P15	REC. - COFFEE BAR - GFCI	10
11				C	600	1P15	REC. - FLOOR MOUNTED RECEPTACLE	12
13				A	600	1P15	REC. - BACK OF HOUSE	14
15				B	600	1P15	REC. - BACK OF HOUSE - PANEL	16
17	SUPPLEMENTARY ELEC HEAT - HP-2	3P20	5000	C	600	1P15	DOOR OPENER	18
19				A	600	1P15	REC. - COFFE HOUSE - FLOOR MOUNT	20
21				B	300	1P15	WIRELESS ACCESS POINT	22
23	SUPPLEMENTARY ELEC HEAT - HP-5	3P20	5000	C				24
25				A				26
27	HEAT PUMP UNIT-OUT DOOR UNIT - HP-2	2P40	5075	B				28
29				C				30
31	HEAT PUMP UNIT-OUT DOOR UNIT - HP-5	2P60	8486	A				32
33				B				34
35	HEAT PUMP UNIT-INDOOR UNIT - FC-2	2P15	894	C				36
37				A				38
39	HEAT PUMP UNIT-INDOOR UNIT - FC-5	2P15	1414	B				40
41				C				42
TOTAL:	36095	WATTS						
PANEL LOAD CALCULATION:								
EQUIPMENT:	2500	WATTS						
MECHANICAL:	25870	WATTS						
MISCELLANEOUS:	7425	WATTS						
	100	A @ 208V/3ɸ						

PANEL 5481-B

NOTES

NOTES

DATE	REVISION
2020.03.06	ISSUED FOR 50% REVIEW
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2020.04.17	ISSUED FOR 75% REVIEW
2020.05.25	ISSUED FOR LIGHTING CALCULATION ONLY
2020.06.30	ISSUED FOR 95% REVIEW
2020.07.15	ISSUED FOR BP
2020.08.26	ISSUED FOR RFP
2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

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PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

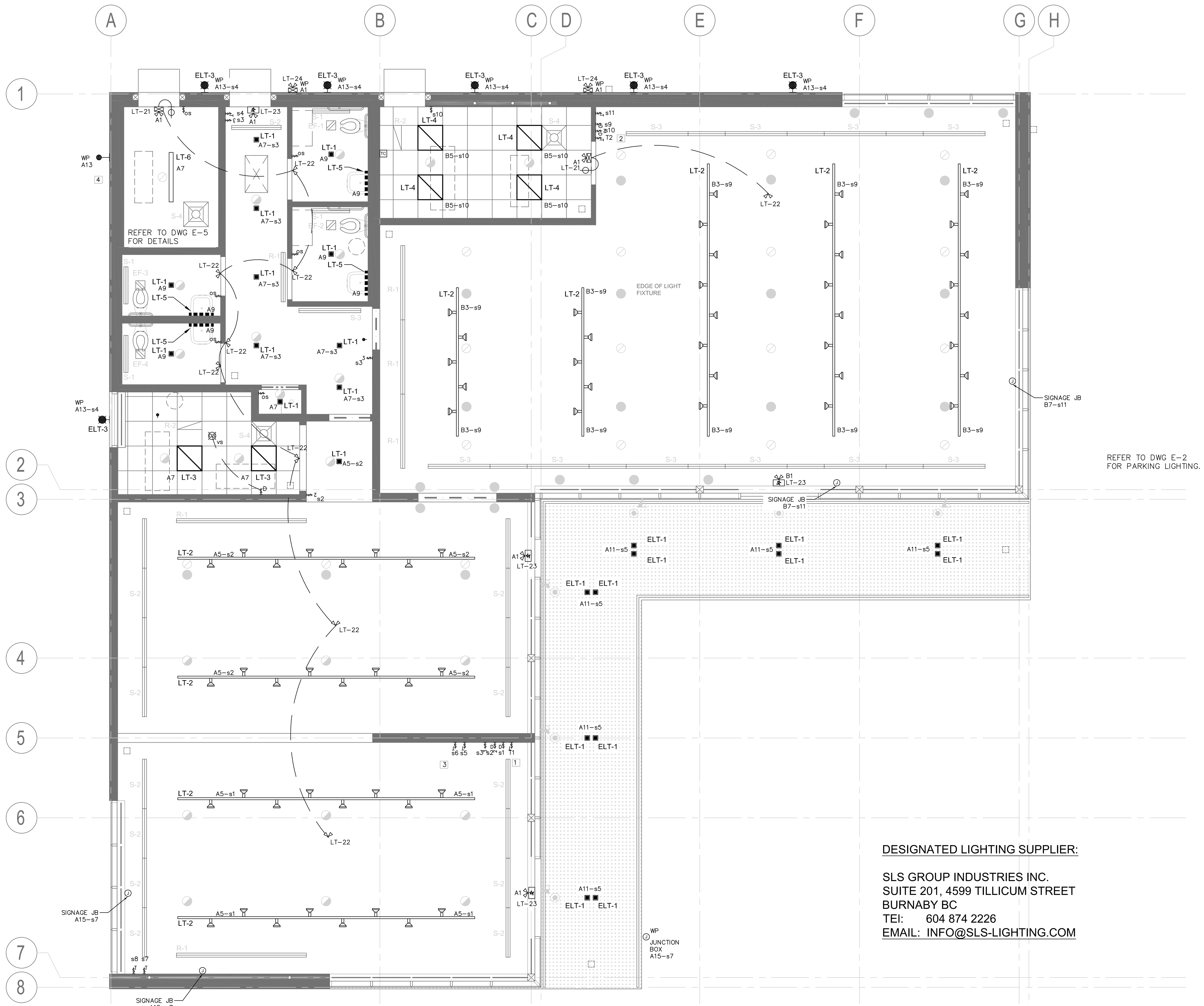
TITLE
POWER LAYOUT

SCALE: AS NOTED

DRAWING NUMBER: E-3

PROJECT NUMBER: 29367

DRAWN BY: ZZF/WGW



LIGHTING LAYOUT

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

DESIGNATED LIGHTING SUPPLIER:

SLS GROUP INDUSTRIES INC.
SUITE 201, 4599 TILLICUM STREET
BURNABY BC
TEl: 604 874 2226
EMAIL: INFO@SLS-LIGHTING.COM

NECB LIGHTING CONTROL:

1. MASTER TIME CLOCK/TIMER SWITCH TO TURN OFF ALL INDOOR LIGHTING BASED ON THE OPERATION TIME OF DAY, EXCEPT SIGNAGE, EXTERIOR LIGHTING AND WASHROOMS.
2. PROVIDE A OCCUPANCY SENSOR SWITCH (AUTO ON/AUTO OFF) FOR EACH WASHROOM AND ELECTRICAL ROOM.
3. PROVIDE SWITCH AND A SEPARATE VACANCY SENSOR (MANUAL ON/AUTO OFF) FOR OFFICE.
4. PROVIDE TIMER SWITCH FOR EXTERIOR SIGNAGE.
5. PROVIDE A TIMER SWITCH C/W HAND/AUTO/OPEN FUNCTION FOR EXTERIOR LIGHTING.
6. ALL OCCUPANCY SENSOR MUST BE DUAL TECH TYPE.

GENERAL NOTE:

N1 – REFER TO ARCHITECTURAL DRAWINGS FOR LIGHTING FIXTURES SPECIFIED LOCATION. THE DRAWING FOR LOAD CALCULATION ONLY.
N2 – FEED EMERGENCY LIGHTING FROM BATTERY UNIT. EXIT SIGN AND BATTERY UNITS ARE REQUIRED TO BE SIZED FOR THE PERIOD OF MINIMUM 1 HOUR.
N3 – SEISMIC RESTRAINT ARE REQUIRED FOR ALL LIGHTING FIXTURES.

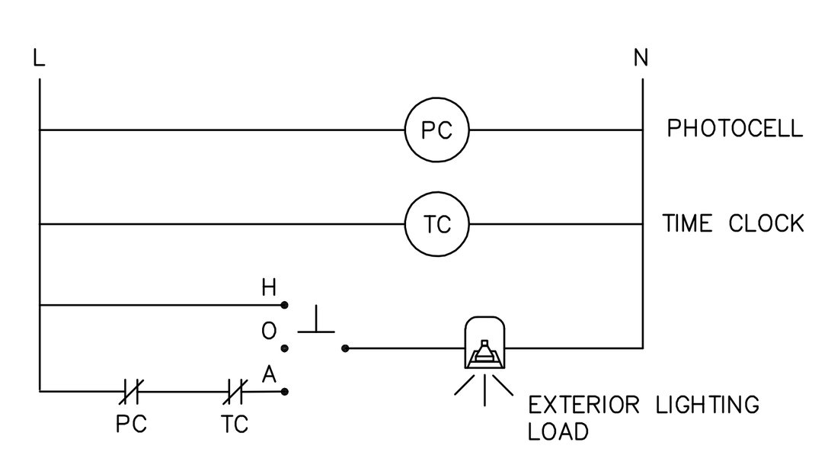
KEY NOTE:

1 – MASTER TIMER SWITCH T1 TO SCHEDULE SWITCH S1, S2 & S3 AT DISCOVERY CENTER.
2 – MASTER TIMER SWITCH T2 TO SCHEDULE SWITCH S9 & S10 AT COFFEE HOUSE.
3 – OUTDOOR LIGHTING TO HAVE HAND/OFF/AUTO SWITCH CONTROLLED BY PHOTOCELL SENSOR AND TIME CLOCK.
4 – INSTALL PHOTOCELL SENSOR FACING NORTH, AWAY FROM AMBIENT LIGHTS.

LIGHTING LEGEND — A11–s5 (LIGHTING CIRCUIT), ELT-1 (LIGHTING TYPE)

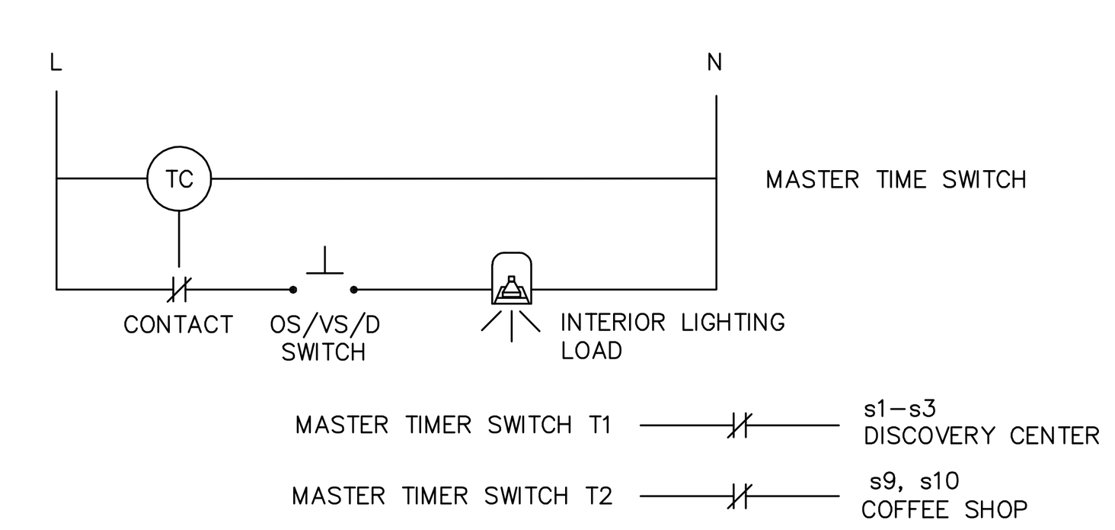
NECB 2015 Lighting Compliance Documentation					
Space By Space Method					
Room	In Door Area	UPD	FLOOR AREA	ALLOWED LPD	CONNETED LPD
Tag	Activity	W/sq.m	sq.m	W	W
	DISCONVERY CENTER				
	RECREATION AREA	13.3	125	1663	1174
	OFFICE	12	11.6	139	114
	CORRIDOR	7.1	18	128	154
	WASHROOM	10.5	21.6	227	148
	ELECTRICAL ROOM	4.6	10.2	47	45
	COFFEE HOUSE				
	KITCHEN	13.1	15	197	114
	DINNING AREA	7	145	1015	1248
			Total	**3415**	**2,997**
	Out Door Area	UPD	FLOOR AREA	ALLOWED LPD	CONNECTED LPD
Tag	Activity	W/sq.m	sq.m	W	W
	BASIC SITE ALLOWANCE - ZONE 2			600	
	PARKING	0.7	435	305	420
	COUNTYARD	1.5	107	161	105
	WALKWAY + STAIRWAY	2.3	126	290	436
			Total	**1355**	**961**

NECB COMPLIANCE



SCHEMATIC ONLY. REFER TO PRODUCT SPEC FOR WIRING REQUIREMENT.

EXTERIOR LIGHTING CONTROL



TYP LIGHTING CONTROL

FIXTURE SCHEDULE

NOTES

NOTES

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2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

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PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

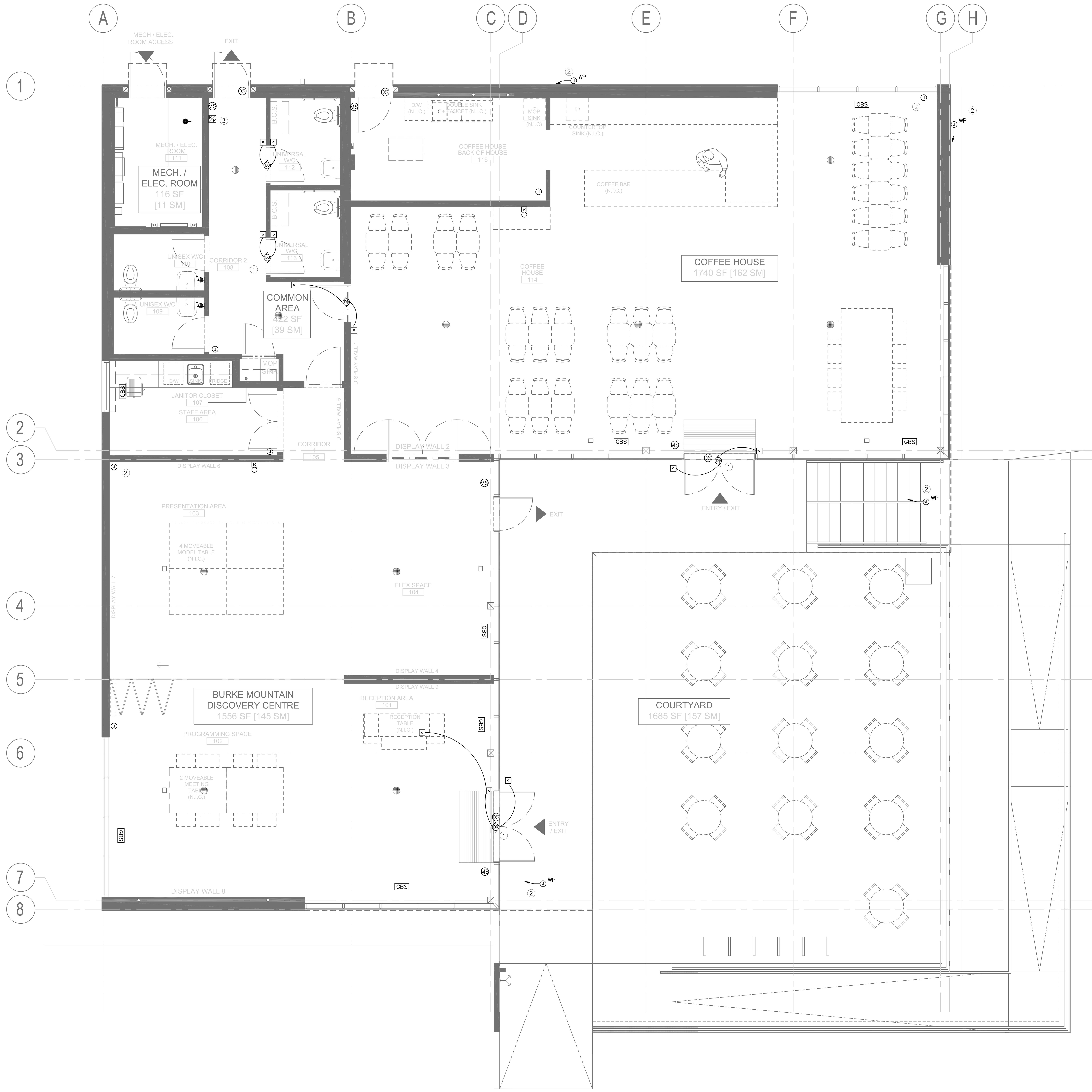
TITLE
LIGHTING LAYOUT

SCALE: AS NOTED

DRAWING NUMBER: E-4

PROJECT NUMBER: 29367

DRAWN BY: ZZF/WGW



SECURITY LAYOUT

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

GENERAL NOTE:

N1 – INSTALL ALL CONDUITS C/W PULL STRING, AND JUNCTION BOXES FOR LOWER VOLTAGE EQUIPMENT AT ROUGH IN LOCATION. ALL EQUIPMENT LISTED ARE FOR REFERENCE USE ONLY SHALL BE SUPPLIED AND INSTALLED BY OTHERS UNDER CLIENT/ARCHITECT'S APPROVAL.

SECURITY SYSTEM:

DSC PC1616 6–ZONE SECURITY CONTROL PANEL

36" FLUSH MOUNT ENCLOSED PANEL WITH FIXED COVER

HEAVY DUTY 7 AMP BACK–UP POWER SUPPLY

DSC PK5501 KEYPAD X1
(REAR DOOR)

HARD WIRED DSC INFRARED MOTION DETECTORS X5

HARD WIRED DOOR CONTACT X5

15W SIREN X2

GLASS BREAK DETECTOR X7

BACKGROUND SOUND SYSTEM:

ONKYO AMPLIFIER WITH BLUETOOTH X1
6.5" FLUSH CEILING SPEAKERS X10

KEY NOTE:

(1) – SUPPLY AND INSTALL A DOOR OPENER UNDER ENGINEER'S APPROVAL.

(2) – INSTALL AND RUN ¾" CONDUITS WITH PULL STRING AND JUNCTION BOXES IN THE BUILDING FOR FUTURE SECURITY CAMERAS.

(3) – SITE TO CONFIRM THE PROPER KEYPAD LOCATION UNDER CLIENT'S APPROVAL.

NOTES

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2020.06.30	ISSUED FOR 95% REVIEW
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2020.08.26	ISSUED FOR RFP
2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

DATE	REVISION

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PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

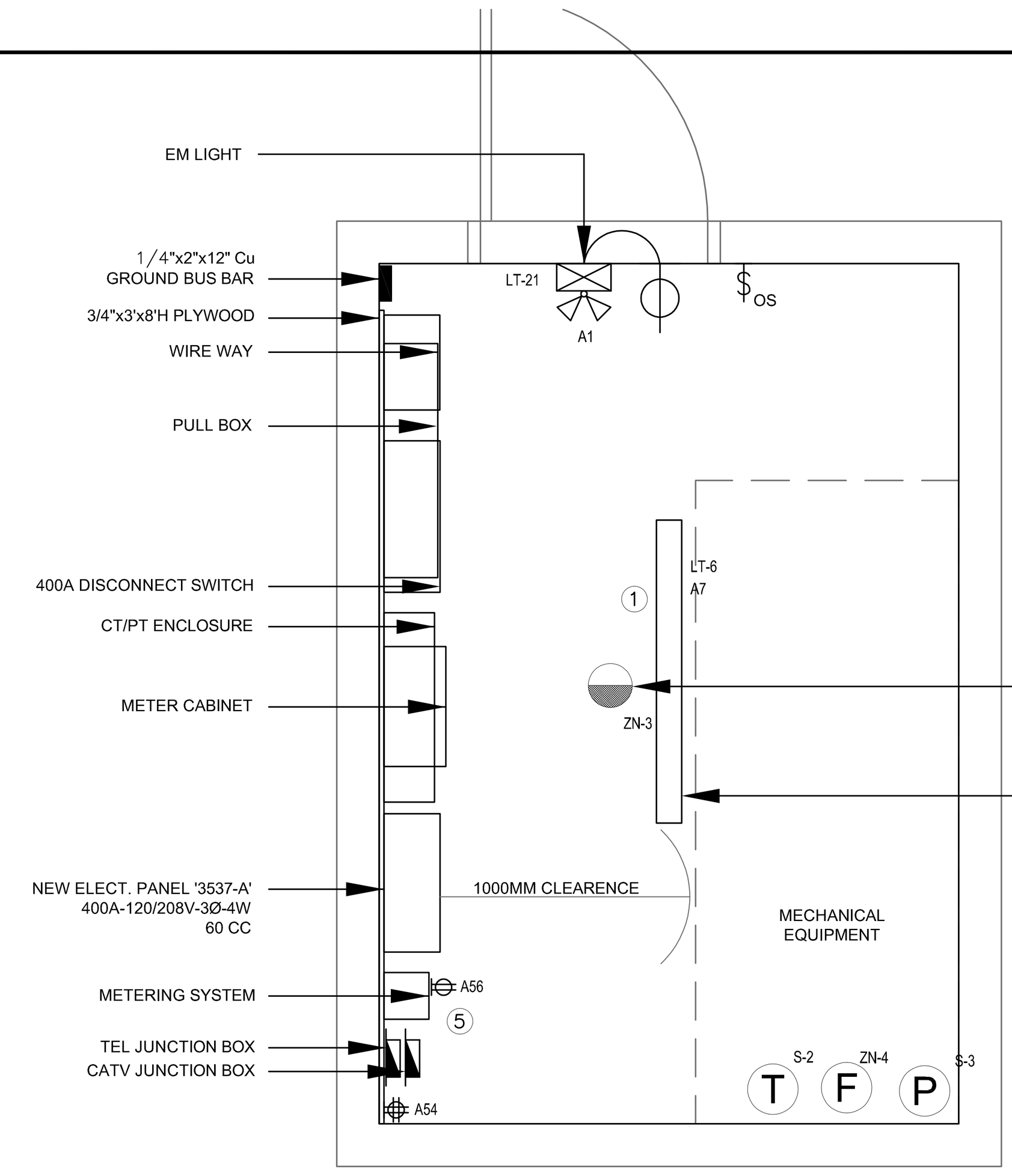
TITLE
SECURITY LAYOUT

SCALE: AS NOTED

DRAWING NUMBER: E-5

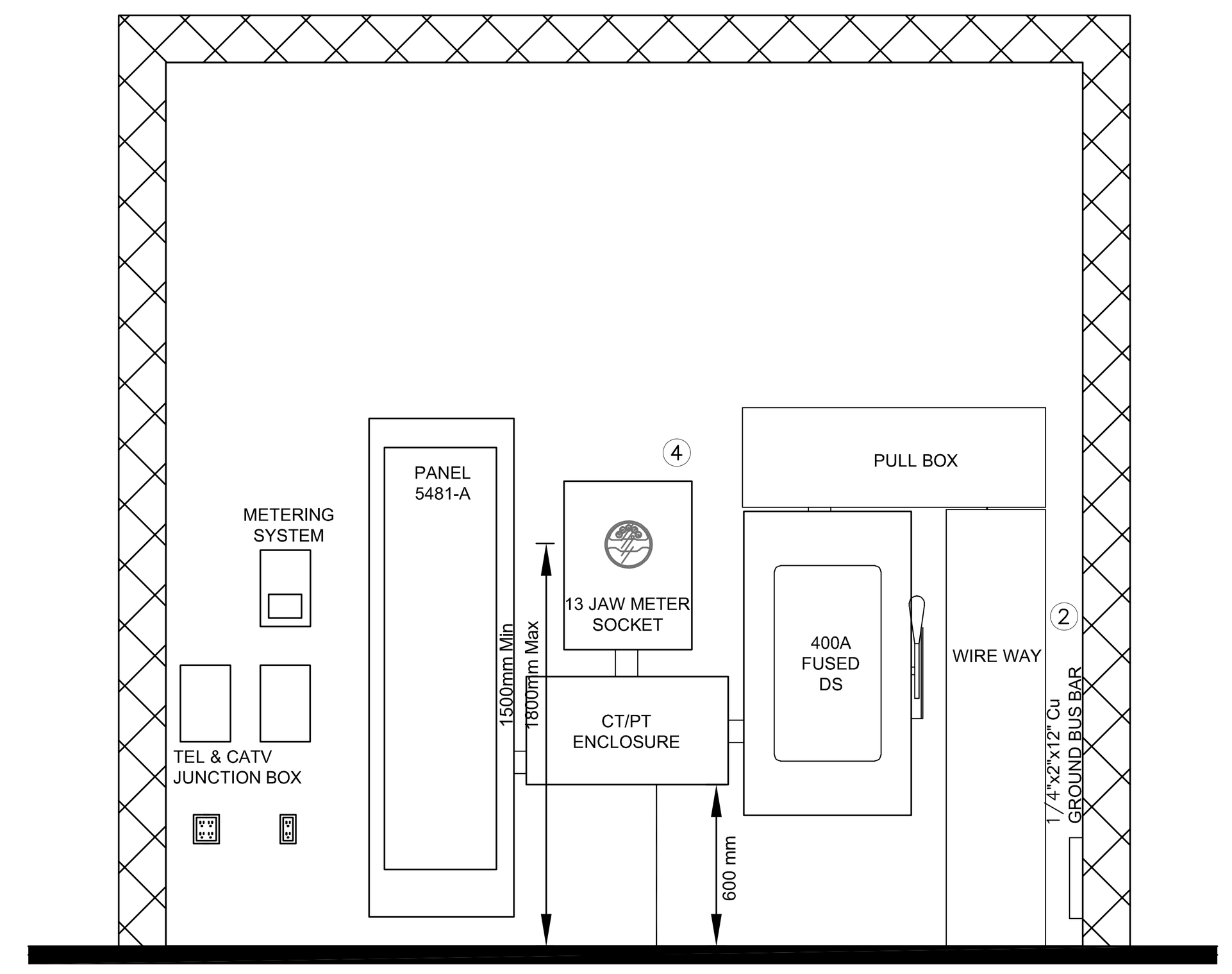
PROJECT NUMBER: 29367

DRAWN BY: ZZF/WGW



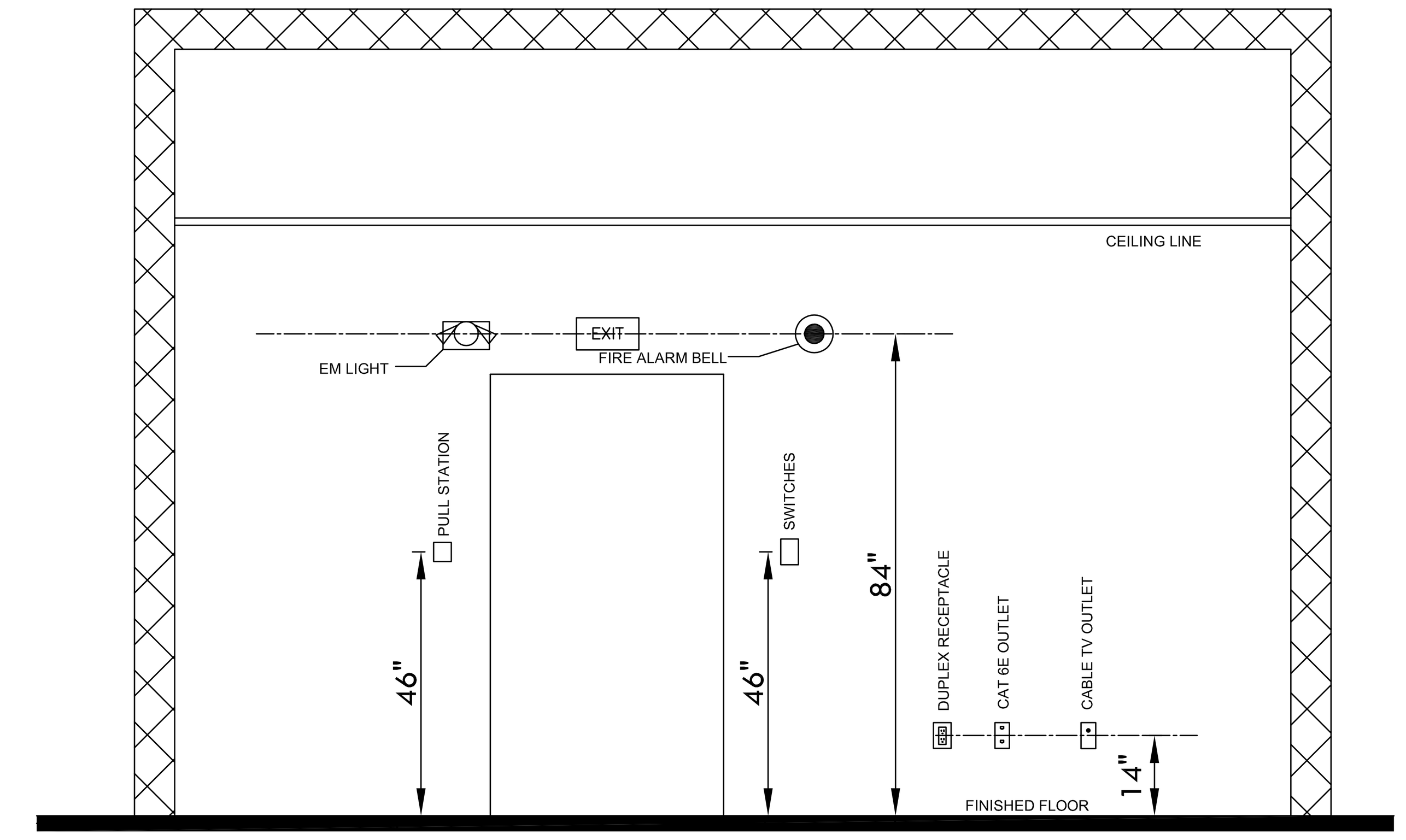
ELECT RM LAYOUT

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



ELECT RM ELEVATION

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



1. WHERE LIGHT SWITCHES AND THERMOSTATS ARE LOCATED TOGETHER, THEY SHALL LINE UP.
2. MOUNT FIRE ALARM END-OF-LINE-RESISTORS AT 66".

TYPICAL DEVICE MOUNT HEIGHT

SCALE: NTS

LOAD SUMMARY					
SERVICE	VOLTAGE	PHASE	AMP	MAX. WATTAGE	
	120/208V	3	400A	144	KW
LOAD CALCULATION -DISCOVERY CENTER					
TYPE OF LOAD	CONNECTED	QUANTITY	DEMAND FACTOR	DEMAND WATTAGE	
BASIC LOAD - DISCOVERY CENETER	4500	1	100%	4500	WATTS
MECHANICAL	32033	1	100%	32033	WATTS
ELECTRIC VEHICAL CHARGER	6000	1	100%	6000	WATTS
MISCELLANOUS LOADS	10000	1	100%	10000	WATTS
OTHERS	50760	1	100%	50760	WATTS
TOTAL OCCUPANCY DEMAND				103293	WATTS
				*125%	
MINIMUM DEMAND				358	AMP @208V, 3PH
LOAD CALCULATION -COFFEE HOUSE					
TYPE OF LOAD	CONNECTED	QUANTITY	DEMAND FACTOR	DEMAND WATTAGE	
BASIC LOAD - COFFEE HOUSE	4590	1	100%	4590	WATTS
MECHANICAL	25870	1	100%	25870	WATTS
MISCELLANOUS LOADS	5000	1	100%	5000	WATTS
TENANT IMPROVEMENT 10W/SQFT	15300	1	100%	15300	WATTS
TOTAL OCCUPANCY DEMAND				50760	WATTS
				*125%	
MINIMUM DEMAND				176	AMP @208V, 3PH
SERVICE DEMAND				400	AMP @208V, 3PH

LOAD SUMMARY

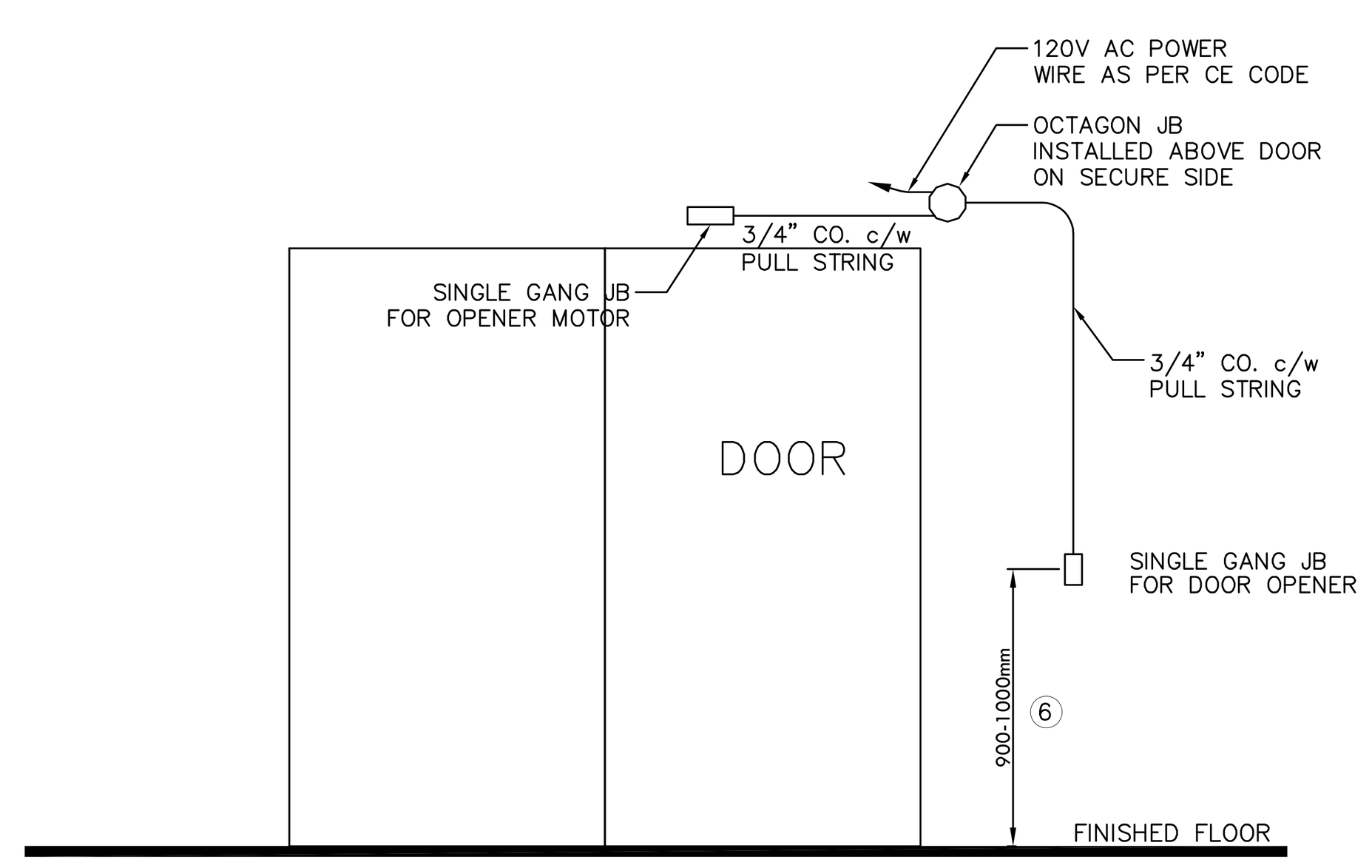


DIAGRAM SHOWN AS GUIDE ONLY. EXACT DETAILS TO BE CONFIRMED WITH THE EQUIPMENT SUPPLIER.

TYP. AUTO DOOR ROUGH-IN DETAIL

SCALE: N.T.S

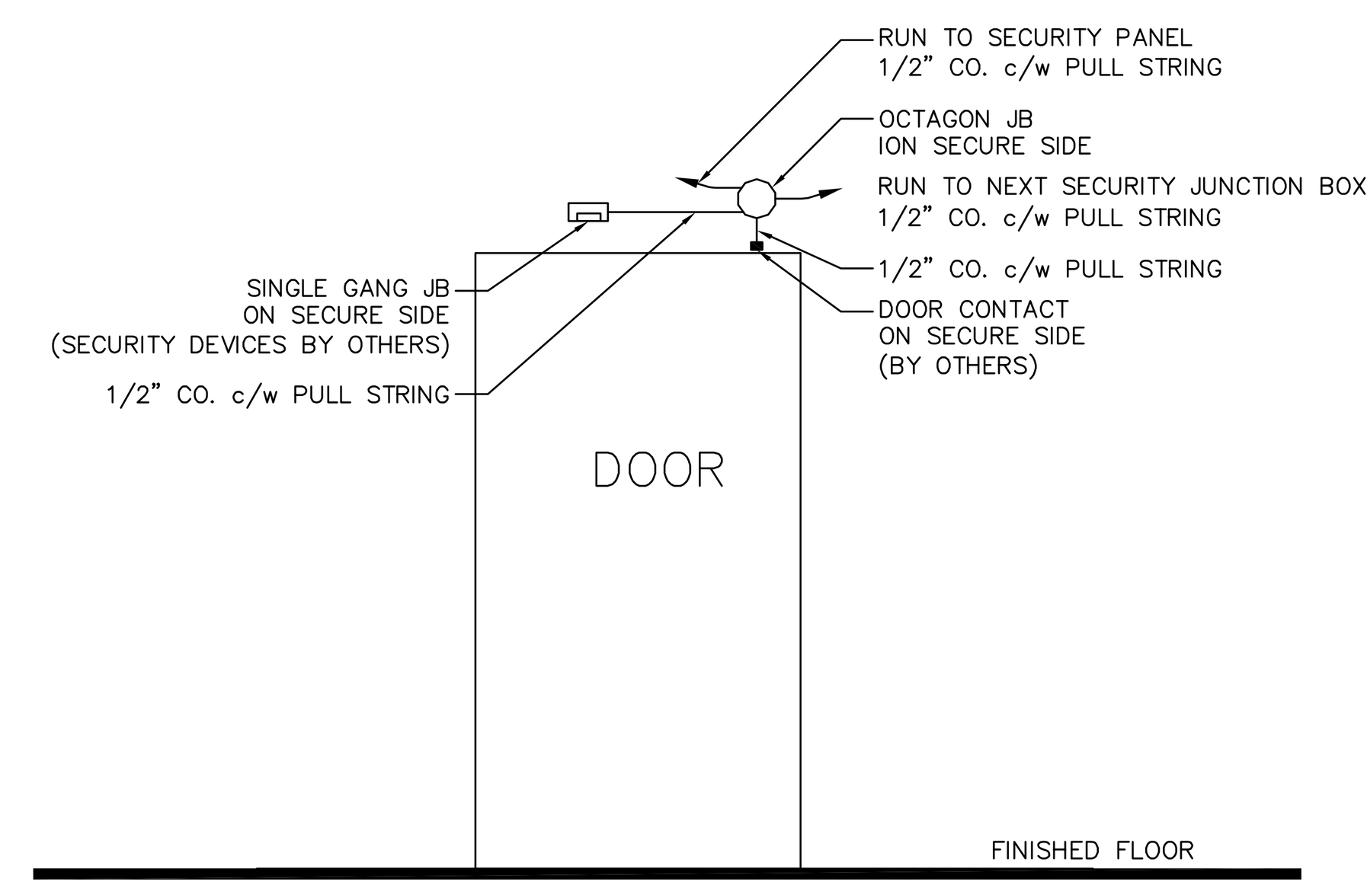
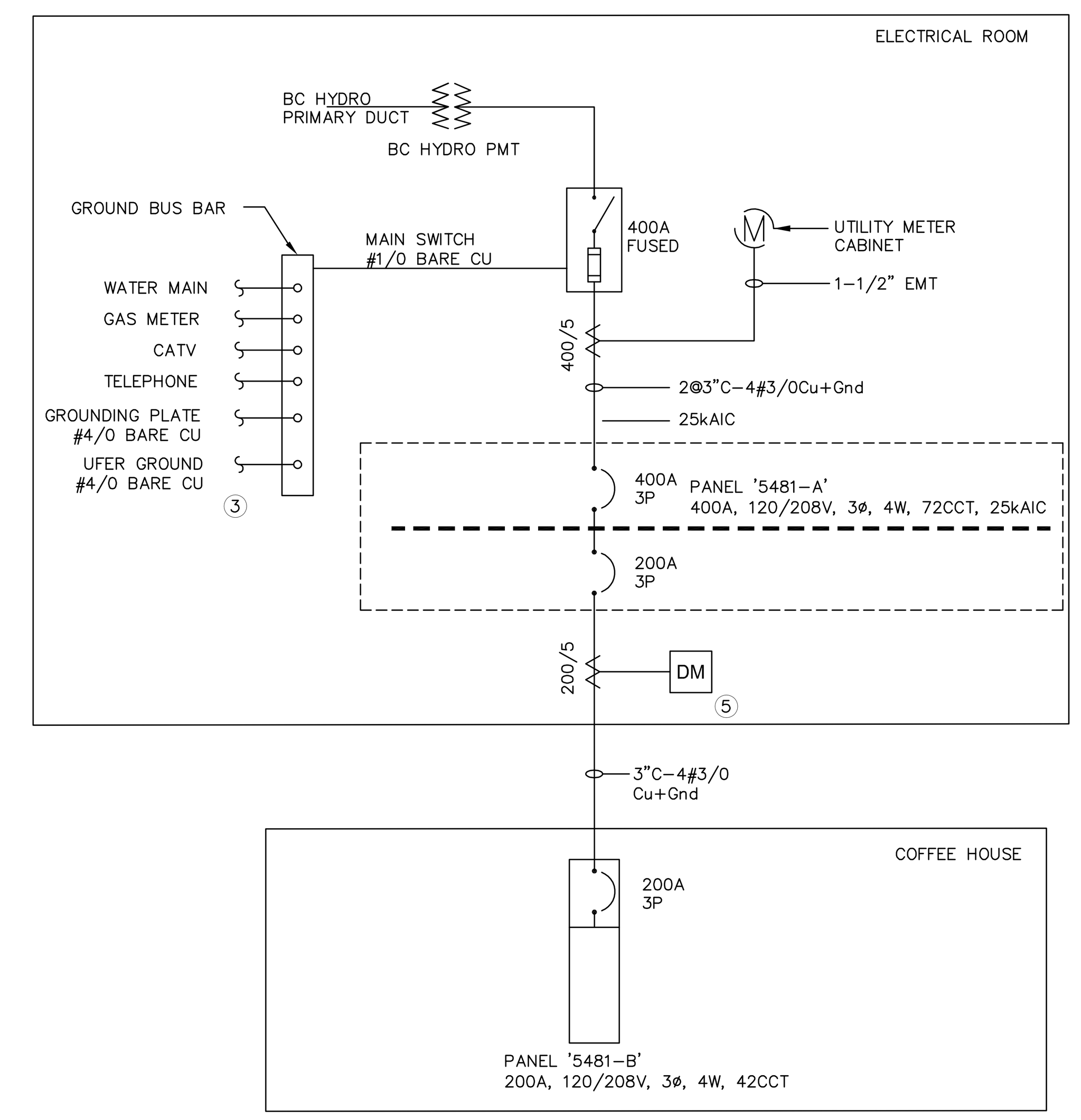


DIAGRAM SHOWN AS GUIDE ONLY. EXACT DETAILS TO BE CONFIRMED WITH THE SECURITY SYSTEM SUPPLIER.

TYP. SECURITY DOOR ROUGH-IN DETAIL

SCALE: N.T.S



ONE LINE DIAGRAM

KEY NOTE:

1. — INSTALL THE STRIP LIGHT AND SMOKE DETECTOR AT 9' IN HEIGHT.
2. — PROVIDE AN INSULATED STAND OFF FOR THE GROUND BUS BAR.
3. — INSTALL GROUND ROD AND UFER GROUND AS PER CEC.
4. — INSTALL BC HYDRO APPROVED CT ENCLOSURE AND 13 JAW METER SOCKET, MICRO-ELECTRIC CT113-L OR HYDEL CTS130PW-BC.
5. — PROVIDE A QLC QUADLOGIC METERING SYSTEM OR EQUIVALENT FOR THE COFFEE HOUSE.
6. — CONFIRM THE DOOR OPENER HEIGHT ON SITE. REFER TO ARCHITECTURAL DRAWING.

Note:
1. Confirm final location and position of all mechanical equipment prior to rought-in.
2. Confirm the exsiting equipment rating and balance the load on the panel.
2. All motors shall be fitted with a disconnect switch by division 16.
3. All conductors shall be #12 RW90 and larger as required by MCA.
4. Contractor to coordinate breaker sizes with manufacture's overcurrent protection specifications and must confirm with local Authorities and mechanical shop drawings prior to installation.

ABBREVIATIONS:
P PLUMBING DIV 22
M MECHNICAL DIV 23
E ELECTRICAL DIV 26

MECHANICAL EQUIPMENTSCHEDULE

UNIT NO	EQUIPMENT DESCRIPTION	VOLTAGE	PHASE	AMPACITY (A)	HP	LOAD (WATT)	BREAKER	PANEL	STARTER SUPPLY	STARTER INSTALL	STARTER WIRE	DISCONNECT SUPPLY	DISCONNECT INSTALL	DISCONNECT WIRE	NOTE
HP-1	HEAT PUMP UNIT-OUTDOOR UNIT	208	1	13.5		2808	20	5481-A	M	M	E	E	E	E	NEW UNIT
FC-1	HEAT PUMP UNIT-INDOOR UNIT	208	1	4.3	1/2	894	15	5481-A	M	M	E	E	E	E	NEW UNIT
HP-3	HEAT PUMP UNIT-OUTDOOR UNIT	208	1	31.4		6531	50	5481-A	M	M	E	E	E	E	NEW UNIT
FC-3	HEAT PUMP UNIT-INDOOR UNIT	208	1	4.3	1/2	894	15	5481-A	M	M	E	E	E	E	NEW UNIT
	SUPPLEMENTARY ELEC HEAT	208	3	13.8		5000	20	5481-A	M	M	E	E	E	E	NEW UNIT
HP-4	HEAT PUMP UNIT-OUTDOOR UNIT	208	1	31.4		6531	50	5481-A	M	M	E	E	E	E	NEW UNIT
FC-4	HEAT PUMP UNIT-INDOOR UNIT	208	1	4.3	1/2	894	15	5481-A	M	M	E	E	E	E	NEW UNIT
	SUPPLEMENTARY ELEC HEAT	208	3	13.8		5000	20	5481-A	M	M	E	E	E	E	NEW UNIT
EF-1	EXHAUST FAN	120	1	1		120	15	5481-A	M	M	E	E	E	E	NEW UNIT
EF-2	EXHAUST FAN	120	1	1		120	15	5481-A	M	M	E	E	E	E	NEW UNIT
EF-3	EXHAUST FAN	120	1	1		120	15	5481-A	M	M	E	E	E	E	NEW UNIT
EF-4	EXHAUST FAN	120	1	1		120	15	5481-A	M	M	E	E	E	E	NEW UNIT
HWT-1	HOT WATER TANK	120	1	12.5		1500	20	5481-A	P	P	E	E	E	E	NEW UNIT
HWT-2	HOT WATER TANK	120	1	12.5		1500	20	5481-A	P	P	E	E	E	E	NEW UNIT
LOAD SUMMARY						32033	WATT								

MECHANICAL SCHEDULE DISCOVERY CENTER

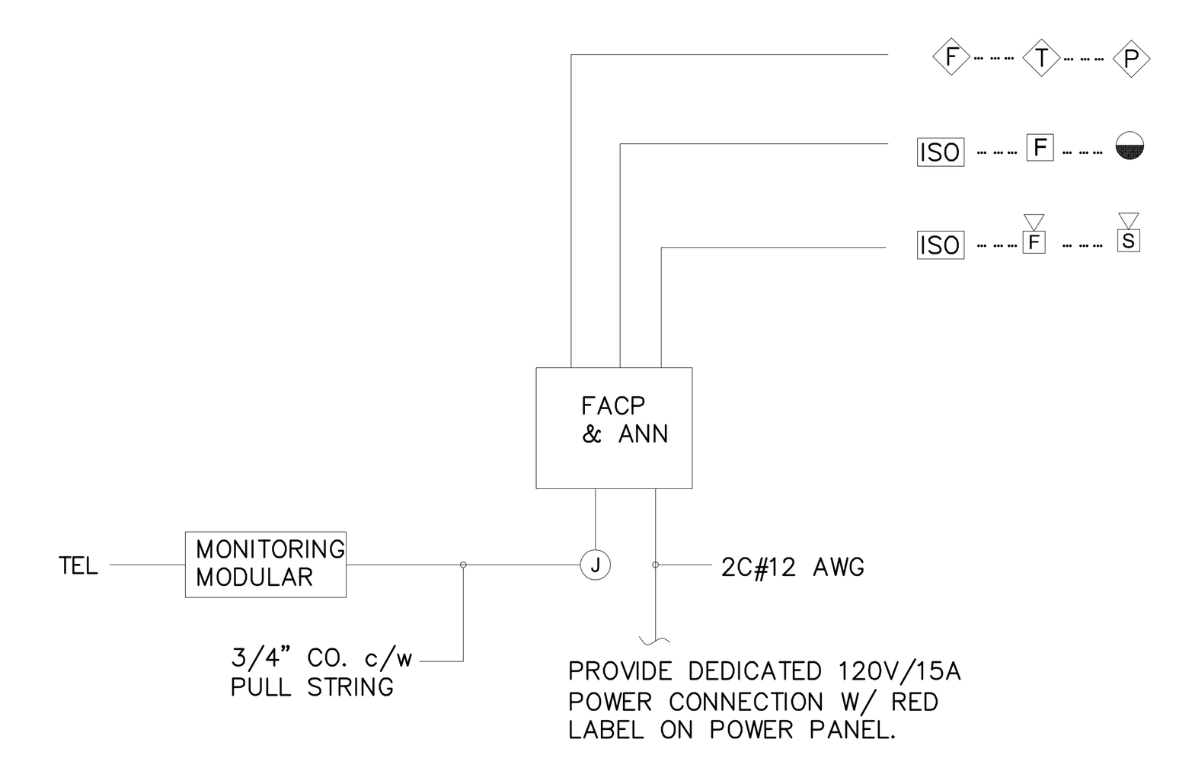
Note:
1. Confirm final location and position of all mechanical equipment prior to rought-in.
2. Confirm the exsiting equipment rating and balance the load on the panel.
2. All motors shall be fitted with a disconnect switch by division 16.
3. All conductors shall be #12 RW90 and larger as required by MCA.
4. Contractor to coordinate breaker sizes with manufacture's overcurrent protection specifications and must confirm with local Authorities and mechanical shop drawings prior to installation.

ABBREVIATIONS:
P PLUMBING DIV 22
M MECHNICAL DIV 23
E ELECTRICAL DIV 26

MECHANICAL EQUIPMENTSCHEDULE

UNIT NO	EQUIPMENT DESCRIPTION	VOLTAGE	PHASE	AMPACITY (A)	HP	LOAD (WATT)	BREAKER	PANEL	STARTER SUPPLY	STARTER INSTALL	STARTER WIRE	DISCONNECT SUPPLY	DISCONNECT INSTALL	DISCONNECT WIRE	NOTE
HP-2	HEAT PUMP UNIT-OUTDOOR UNIT	208	1	24.4		5075	40	5481-B	M	M	E	E	E	E	NEW UNIT
FC-2	HEAT PUMP UNIT-INDOOR UNIT	208	1	4.3	1/2	894	15	5481-B	M	M	E	E	E	E	NEW UNIT
	SUPPLEMENTARY ELEC HEAT	208	3	13.8		5000	20	5481-B	M	M	E	E	E	E	NEW UNIT
HP-5	HEAT PUMP UNIT-OUTDOOR UNIT	208	1	40.8		8486	60	5481-B	M	M	E	E	E	E	NEW UNIT
FC-5	HEAT PUMP UNIT-INDOOR UNIT	208	1	6.8	3/4	1414	15	5481-B	M	M	E	E	E	E	NEW UNIT
	SUPPLEMENTARY ELEC HEAT	208	3	13.8		5000	20	5481-B	M	M	E	E	E	E	NEW UNIT
LOAD SUMMARY						25870	WATT								

MECHANICAL SCHEDULE COFFEE HOUSE



SCHEMATIC ONLY, REFERENCE PLANS FOR DEVICE QUANTITY AND LOCATION WIRING MAY DIFFERENT DEPENDS ON THE SYSTEM.

ADDRESSABLE FIRE ALARM DIAGRAM

NOTES

NOTES

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2020.04.17	ISSUED FOR 75% REVIEW
2020.05.25	ISSUED FOR LIGHTING CALCULATION ONLY
2020.06.30	ISSUED FOR 95% REVIEW
2020.07.15	ISSUED FOR BP
2020.08.26	ISSUED FOR RFP
2020.09.14	ISSUED FOR RFP ADDENDUM #2
2020.09.18	RE-ISSUED FOR BP
2020.10.02	ISSUED FOR COFFEE HOUSE RFP

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PROJECT
BURKE MOUNTAIN DISCOVERY CENTRE + COFFEE HOUSE
3537 PRINCETON AVENUE
COQUITLAM, BC

TITLE
SCHEDULES AND DETAILS

SCALE: AS NOTED

DRAWING NUMBER: E-6

PROJECT NUMBER: 29367

DRAWN BY: ZZF/WGW