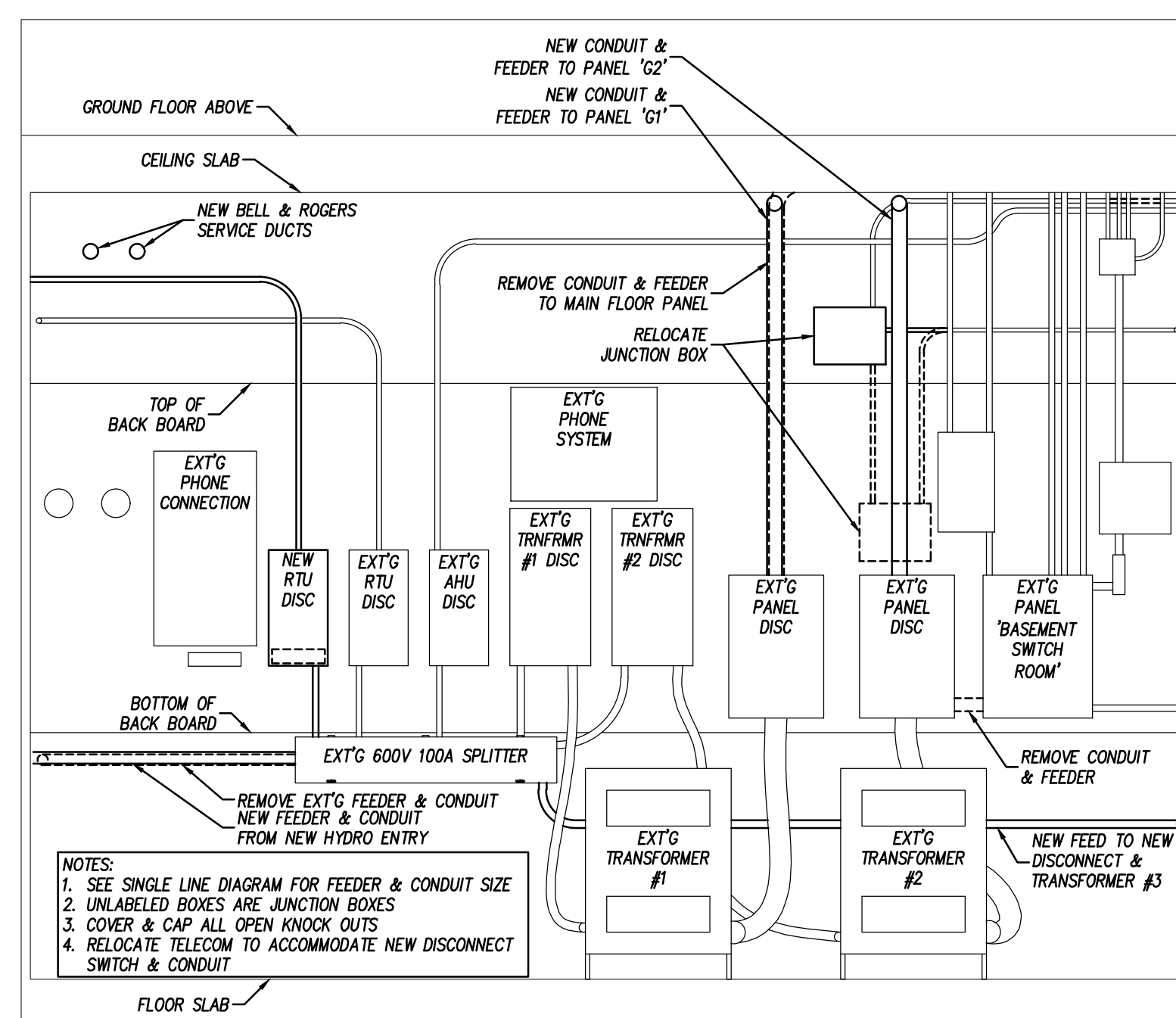
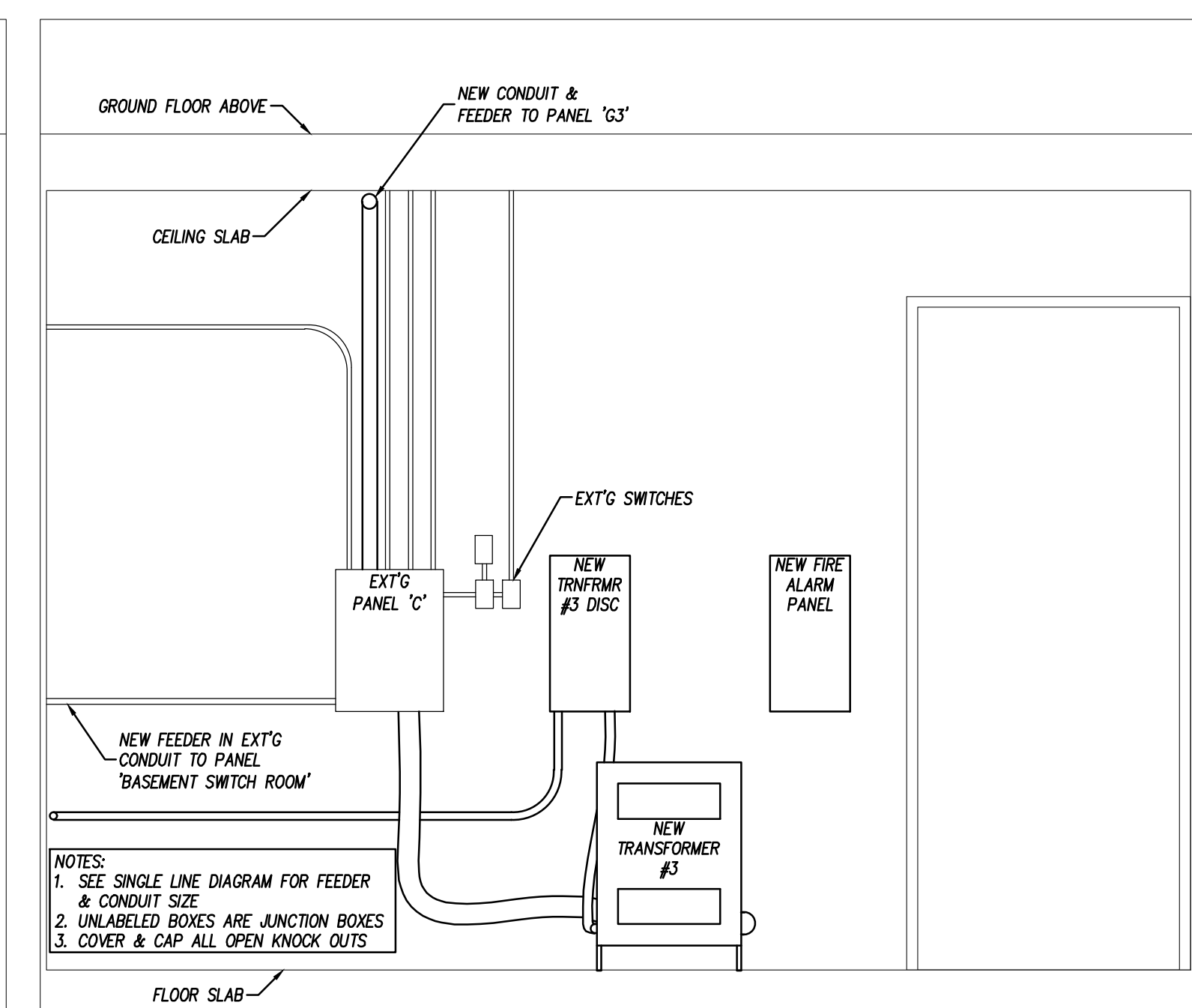


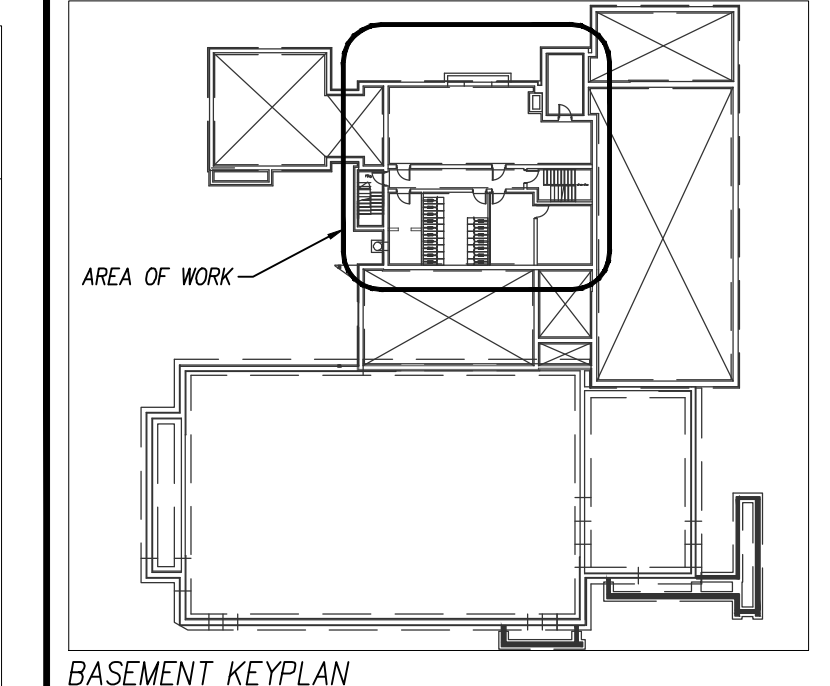
3 PROPOSED BASEMENT LIGHTING PART PLAN
E-2 SCALE: 1:75



4 ELECTRICAL ROOM ELEVATION-1
E-2 SCALE: 1:20

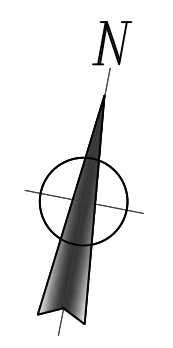


5 ELECTRICAL ROOM ELEVATION-2
E-2 SCALE: 1:20



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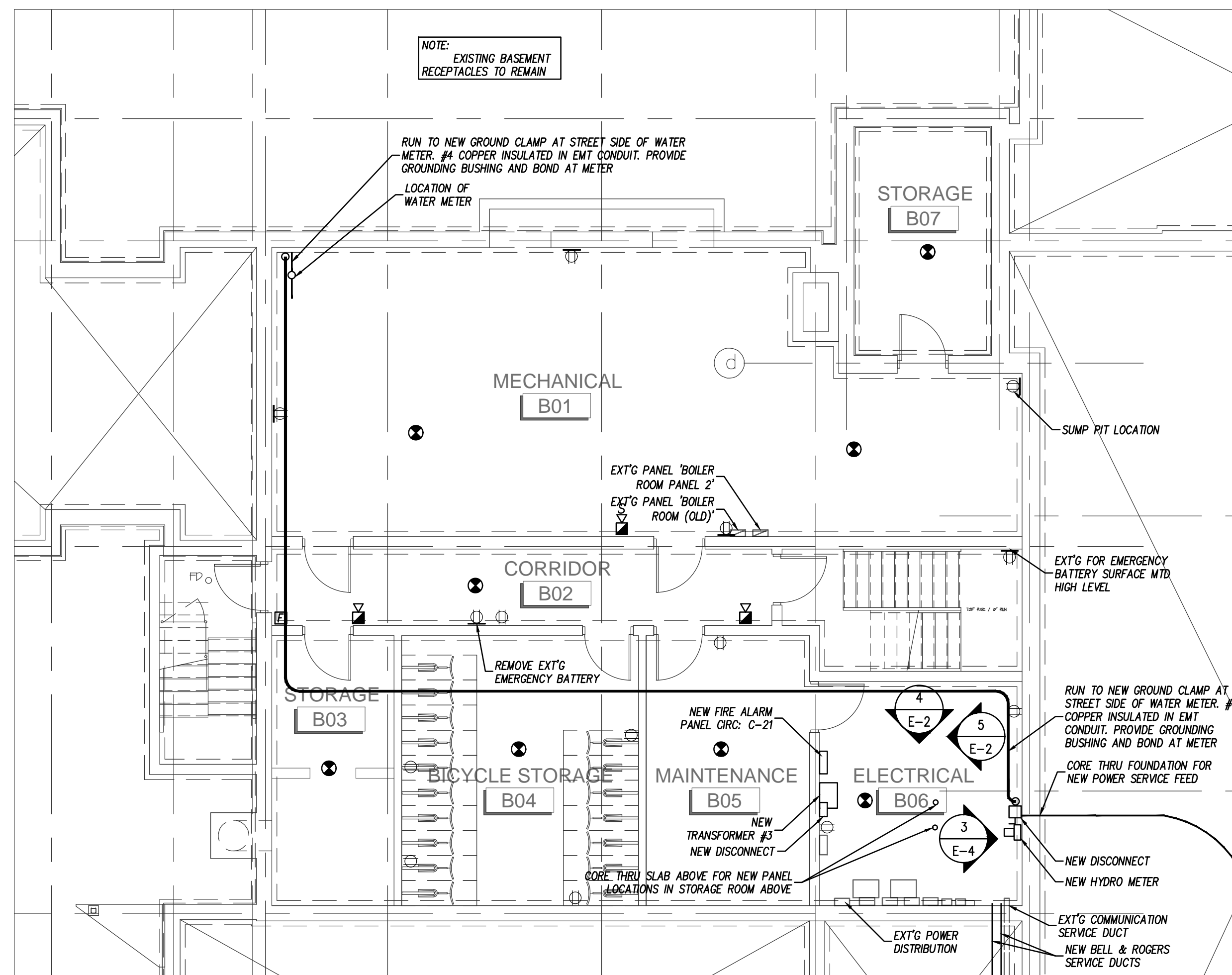
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4.	ISSUED FOR PRICING	2017-12-22
3.	ISSUED FOR BUILDING PERMIT (PHASE 2)	2017-10-26
2.	ISSUED FOR BUILDING PERMIT (PHASE 1)	2017-10-10
1.	ISSUED FOR REVIEW/COORDINATION	2017-10-05

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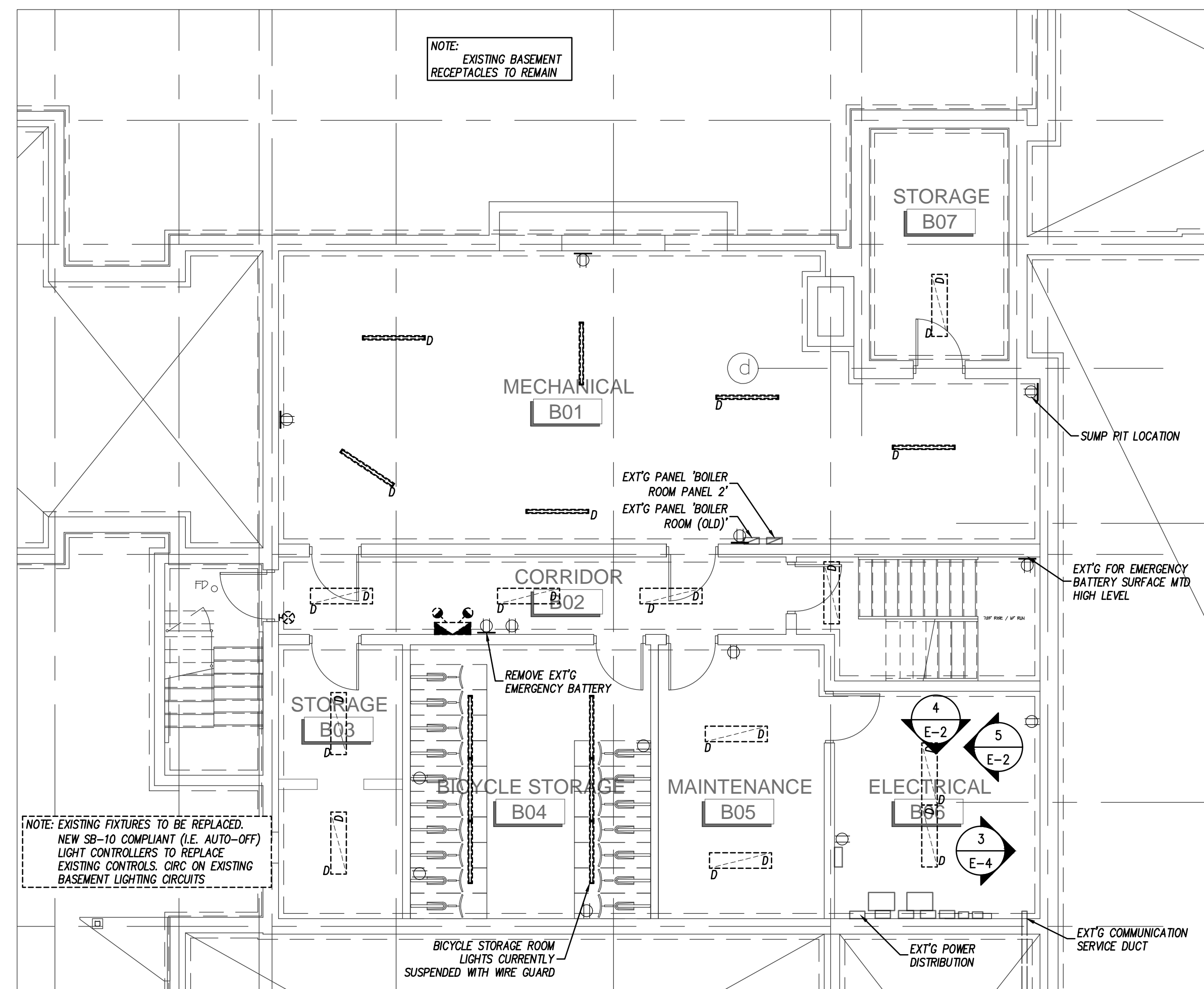
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PROJECT: Boys & Girls Club Renovation
Price of Wales Clubhouse
DRAWING: BASEMENT PART PLANS, DEMOLITION
POWER & LIGHTING

DATE: 21-Dec-17 AS NOTED
DRAWN BY: MAG DESIGNED BY: CLW
JOB NO.: 2017-017 CHECKED BY: CLW
DRAWING NO.:
C. L. WOOD
OCT 26, 2017
PROVINCE OF ONTARIO
E-2 of 8

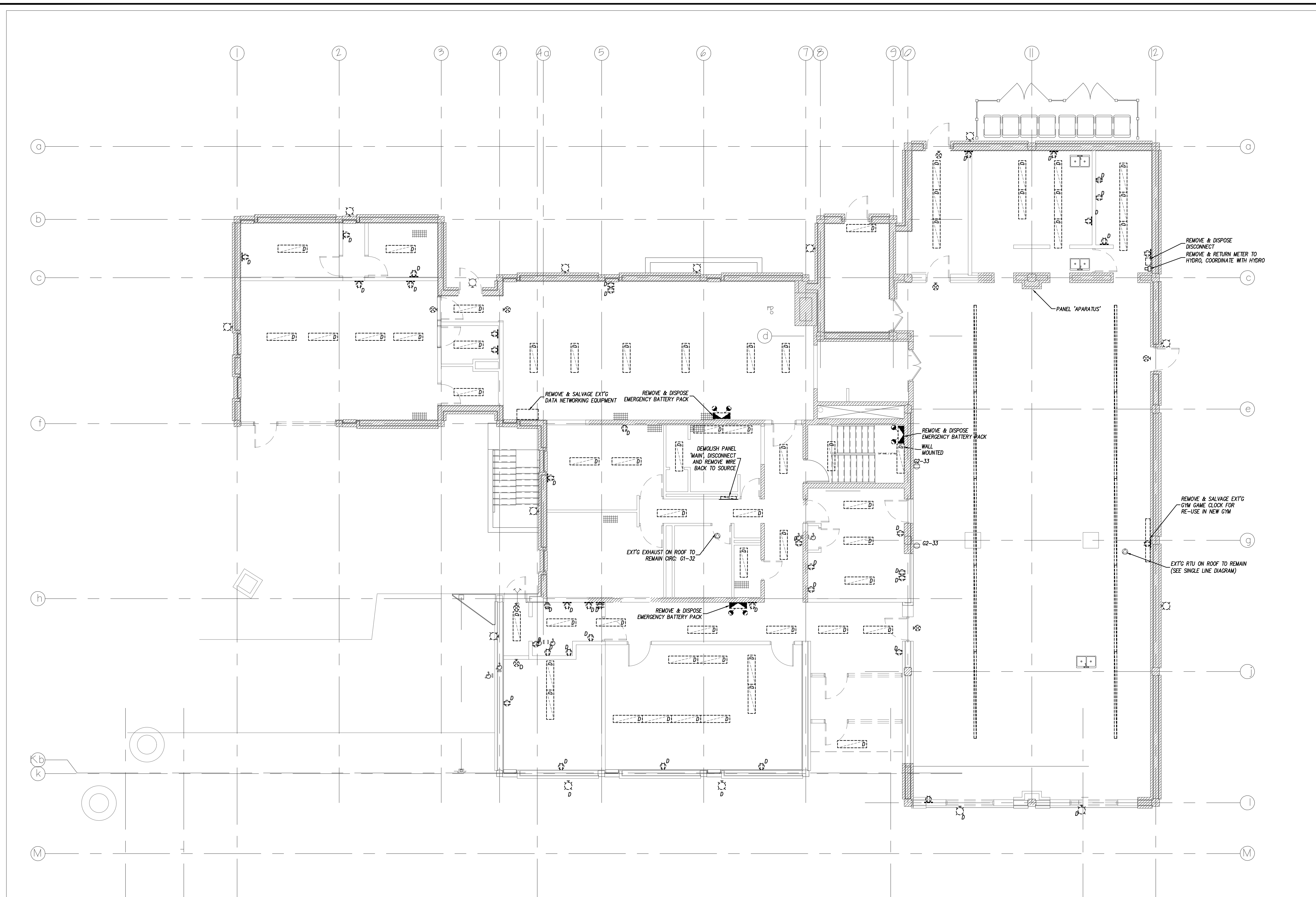


2 PROPOSED BASEMENT POWER & SYSTEMS PART PLAN
E-2 SCALE: 1:75

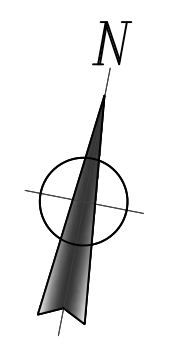


1 BASEMENT POWER & LIGHTING DEMOLITION PART PLAN
E-2 SCALE: 1:75

NOTE: BASEMENT RENOVATION WORK COVERED WITH PHASE 1 (RENOVATION).
PLANS PROVIDED WITH PHASE 2 (ADDITION) TO PROVIDE INFORMATION FOR CONNECTION OF NEW ELECTRICAL DEVICES TO EXISTING



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4.	ISSUED FOR PRICING	2017-12-22
3.	ISSUED FOR BUILDING PERMIT (PHASE 2)	2017-10-26
2.	ISSUED FOR BUILDING PERMIT (PHASE 1)	2017-10-10
1.	ISSUED FOR REVIEW/COORDINATION	2017-10-05

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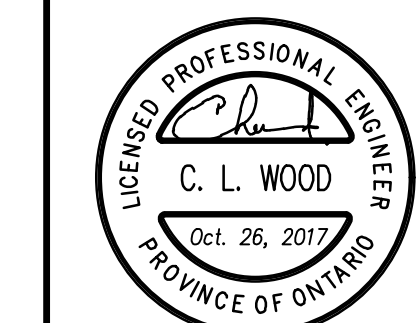
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NOTE: GROUND FLOOR DEMOLITION WORK COVERED WITH PHASE 1 (RENOVATION). PLANS PROVIDED WITH PHASE 2 (ADDITION) TO PROVIDE INFORMATION FOR DEMOLITION OF DEVICES ON SOUTH WALL (WALLS BEING REMOVED)

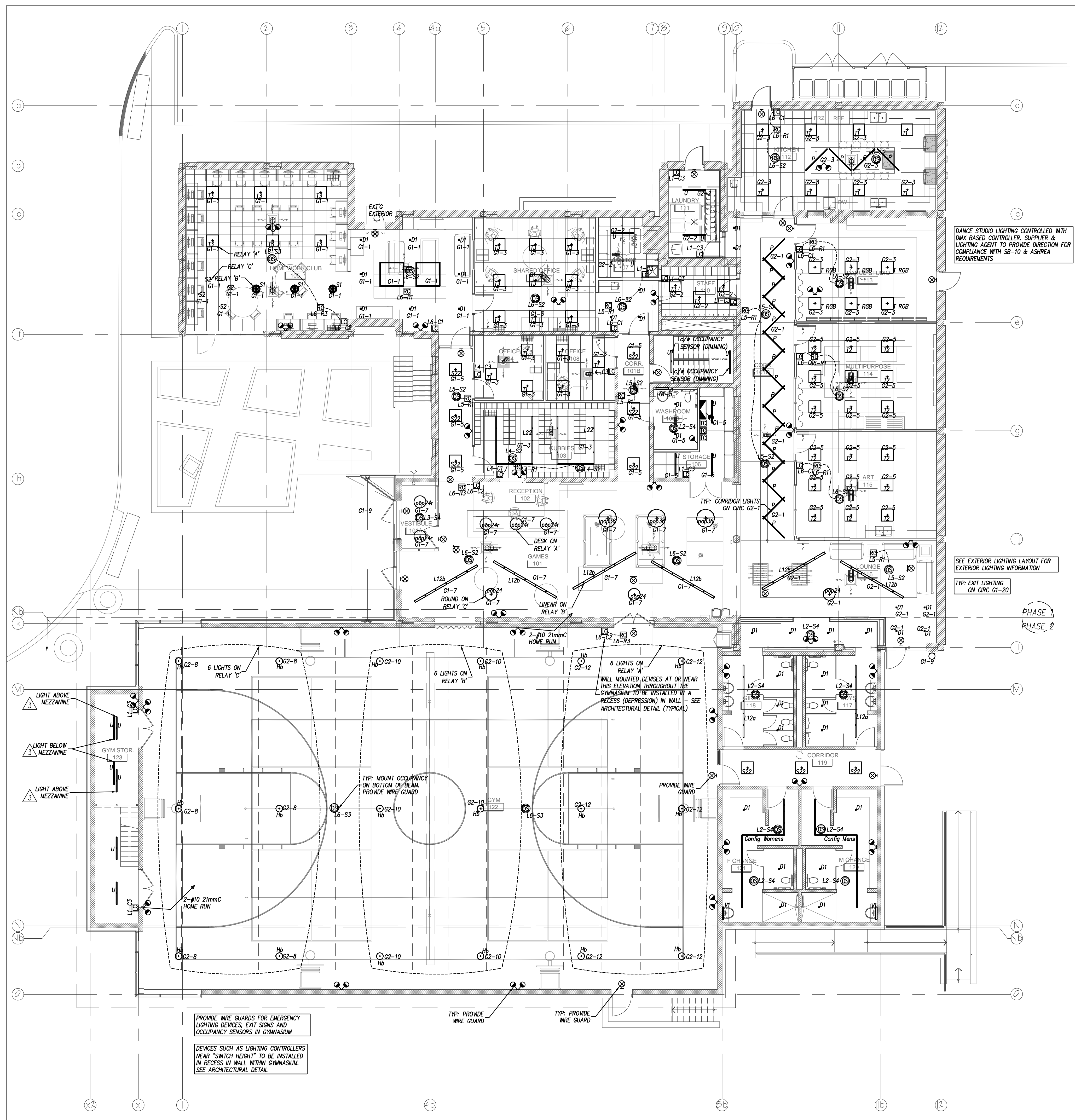
1 GROUND FLOOR POWER & LIGHTING DEMOLITION PLAN
 E-3 1:75

PROJECT: Boys & Girls Club Renovation Prince of Wales Club House
 DRAWING: Ground Floor Power & Lighting Demolition Plan

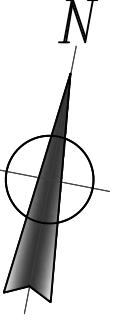
DATE	SCALE
21-Dec-17	AS NOTED
DRAWN BY: MAG	DESIGNED BY: CLW
CHECKED BY: CLW	
JOB NO.: 2017-17	
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EMERGENCY BATTERY CALCULATION
 20 EXIT SIGNS @ 2 WATTS = 40 WATTS
 78 HEADS @ 6 WATTS = 468 WATTS
 TOTAL LOAD = 508 WATTS



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4.	ISSUED FOR PRICING	2017-12-22
3.	ISSUED FOR BILDING PERMIT REVISION	2017-12-20
2.	ISSUED FOR BUILDING PERMIT (PHASE 2)	2017-10-26
1.	ISSUED FOR REVIEW/COORDINATION	2017-10-05

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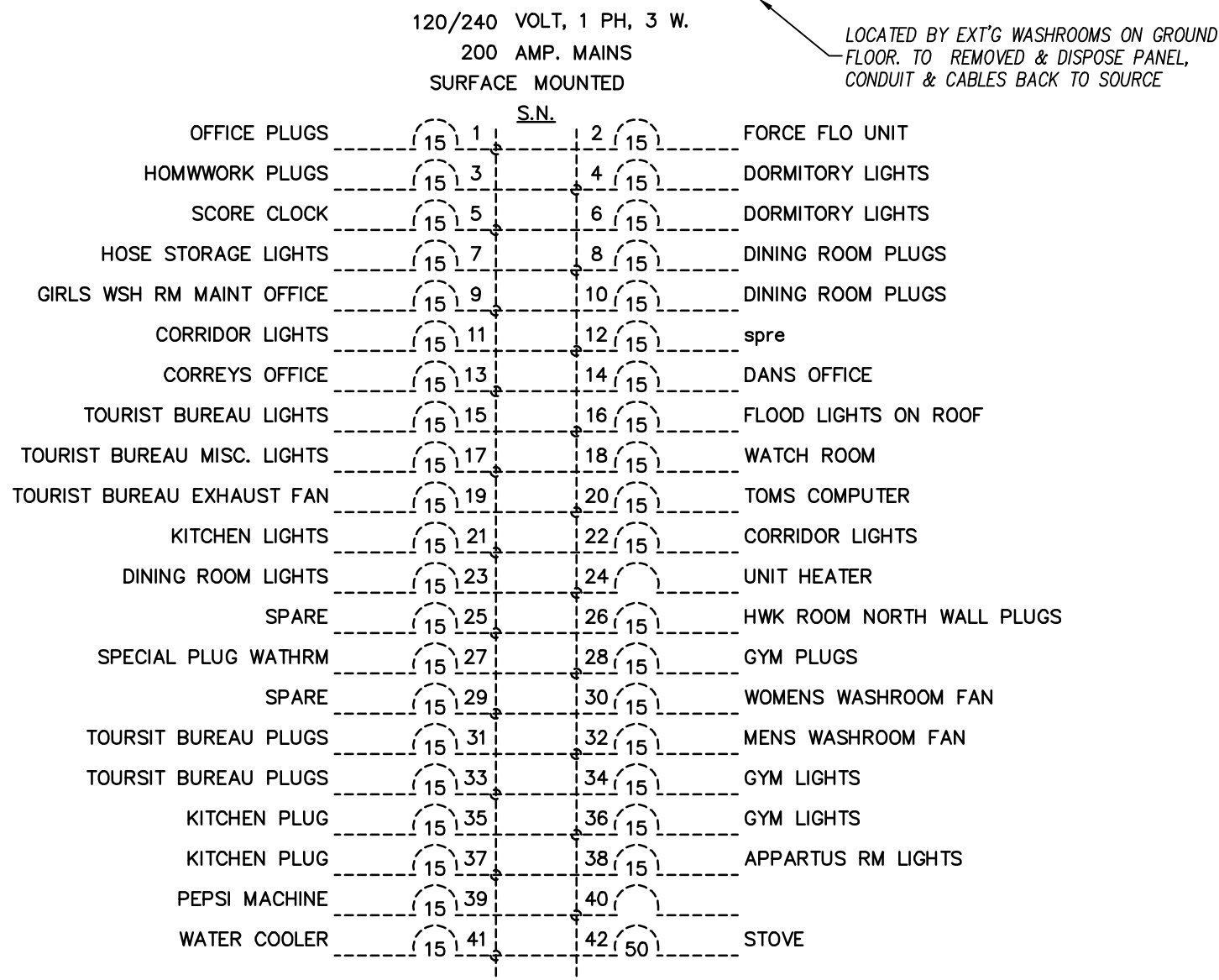
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 email: bekolay@beps.ca

PROJECT: Boys & Girls Club Renovation
 Prince of Wales Clubhouse
 DRAWING: Proposed Ground Floor
 Lighting Plan

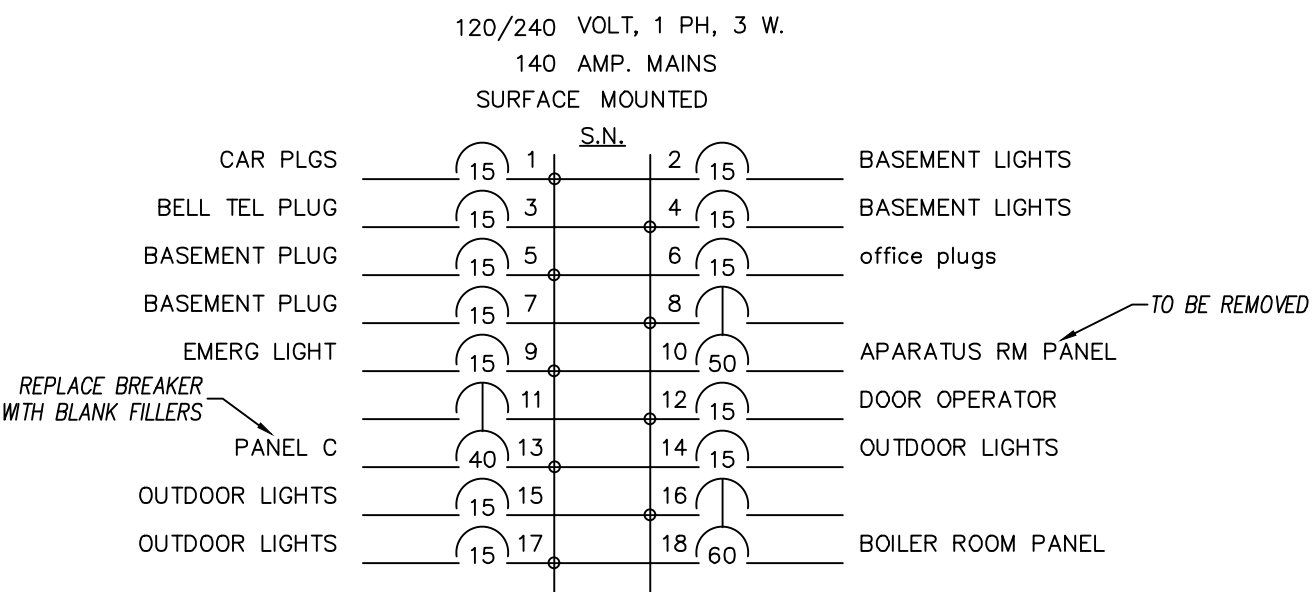
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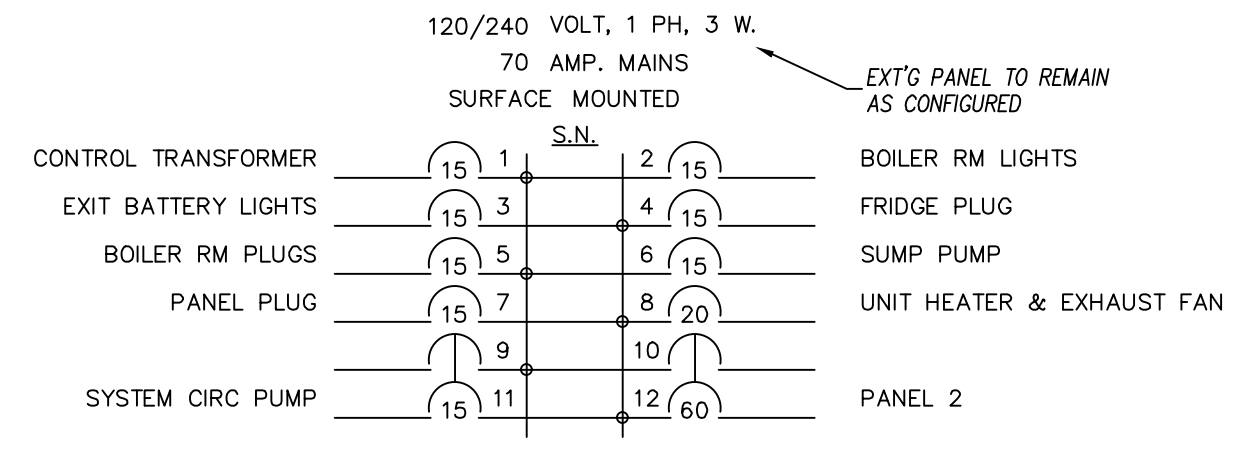
PANEL MAIN FLOOR PANEL



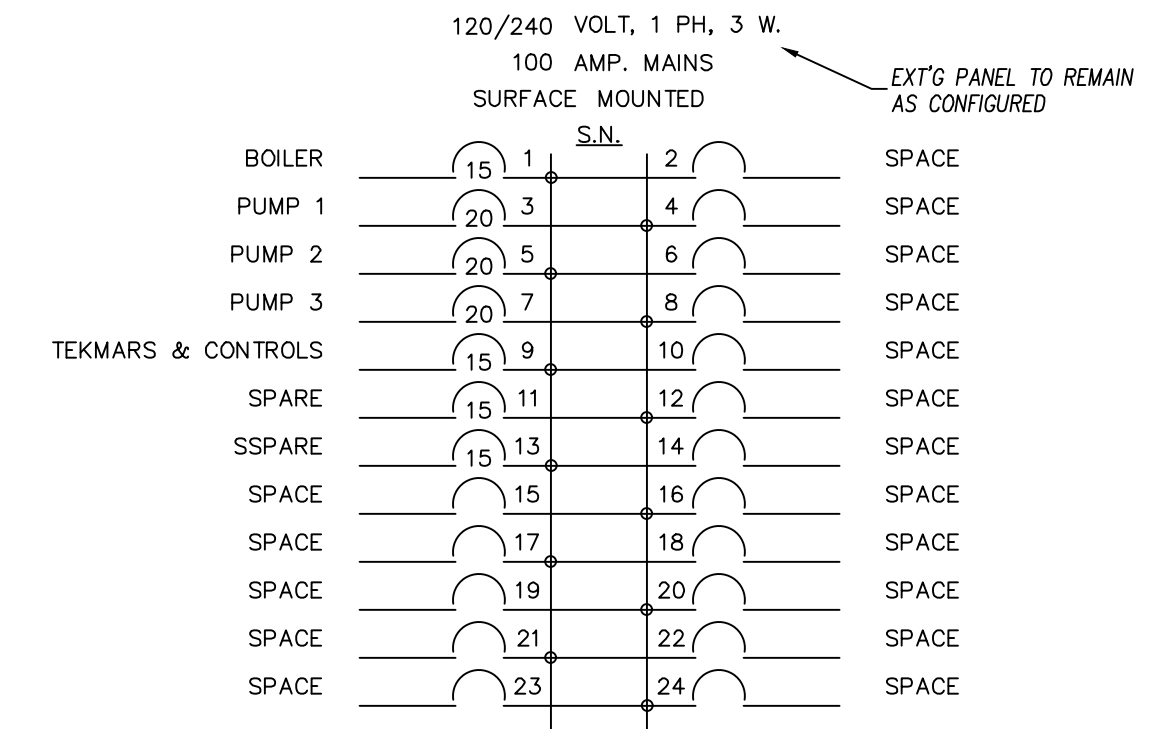
PANEL BASEMENT SWITCH ROOM



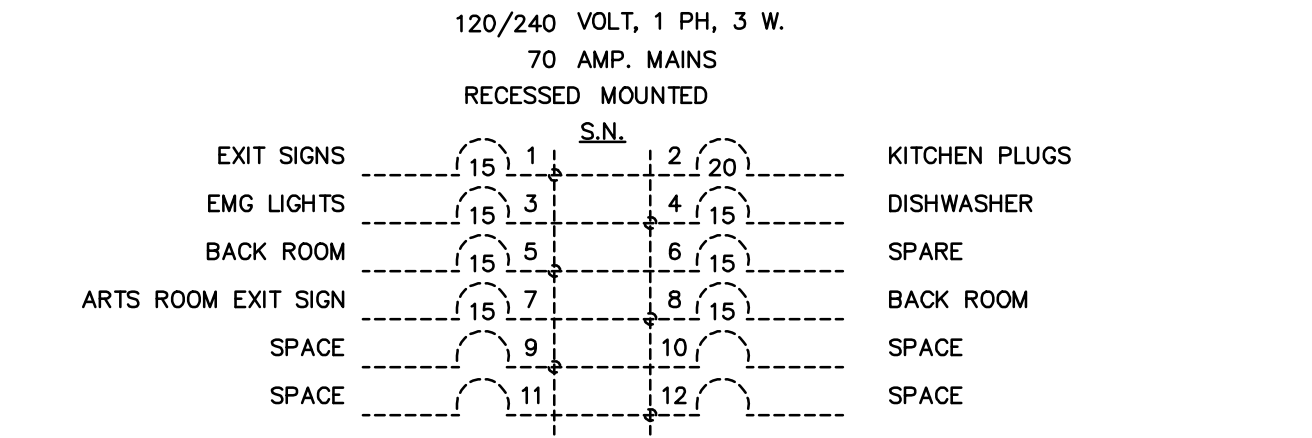
PANEL BOILER ROOM (OLD)



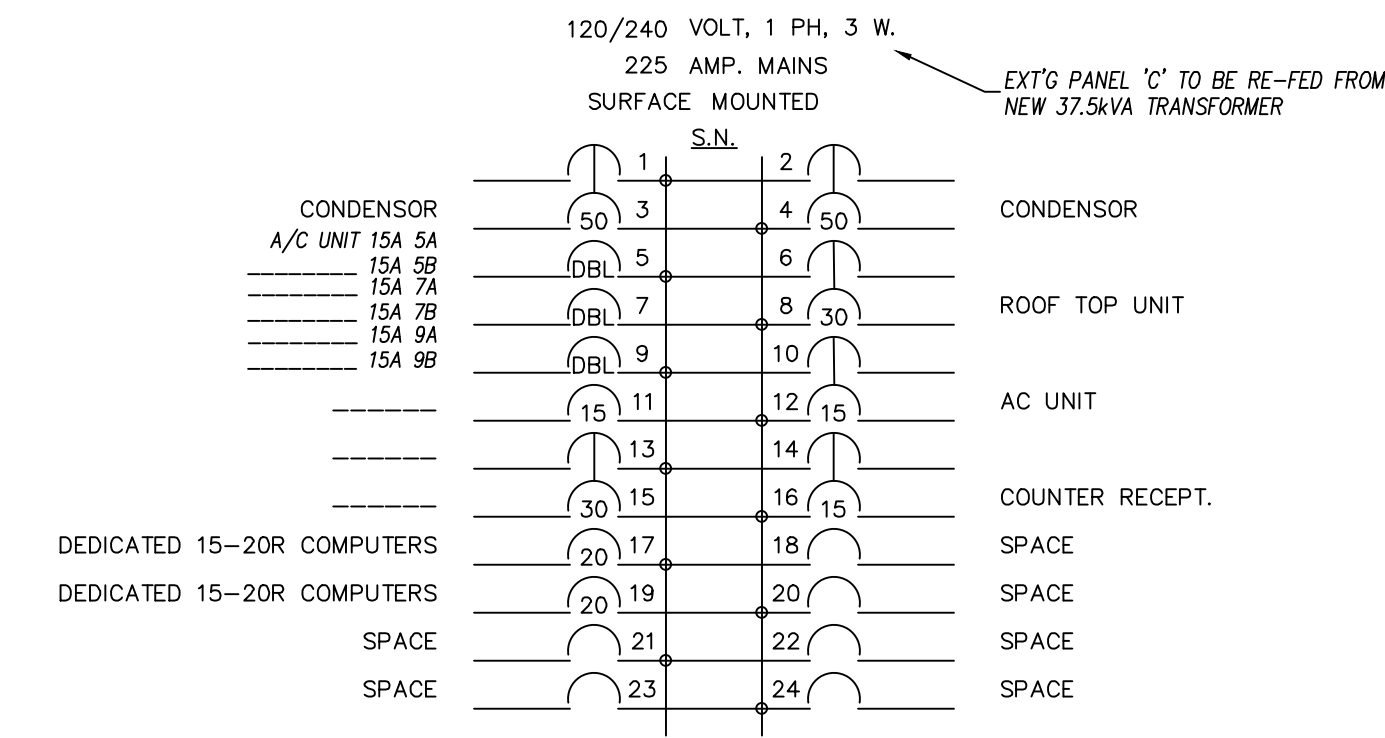
PANEL 2 - BOILER RM



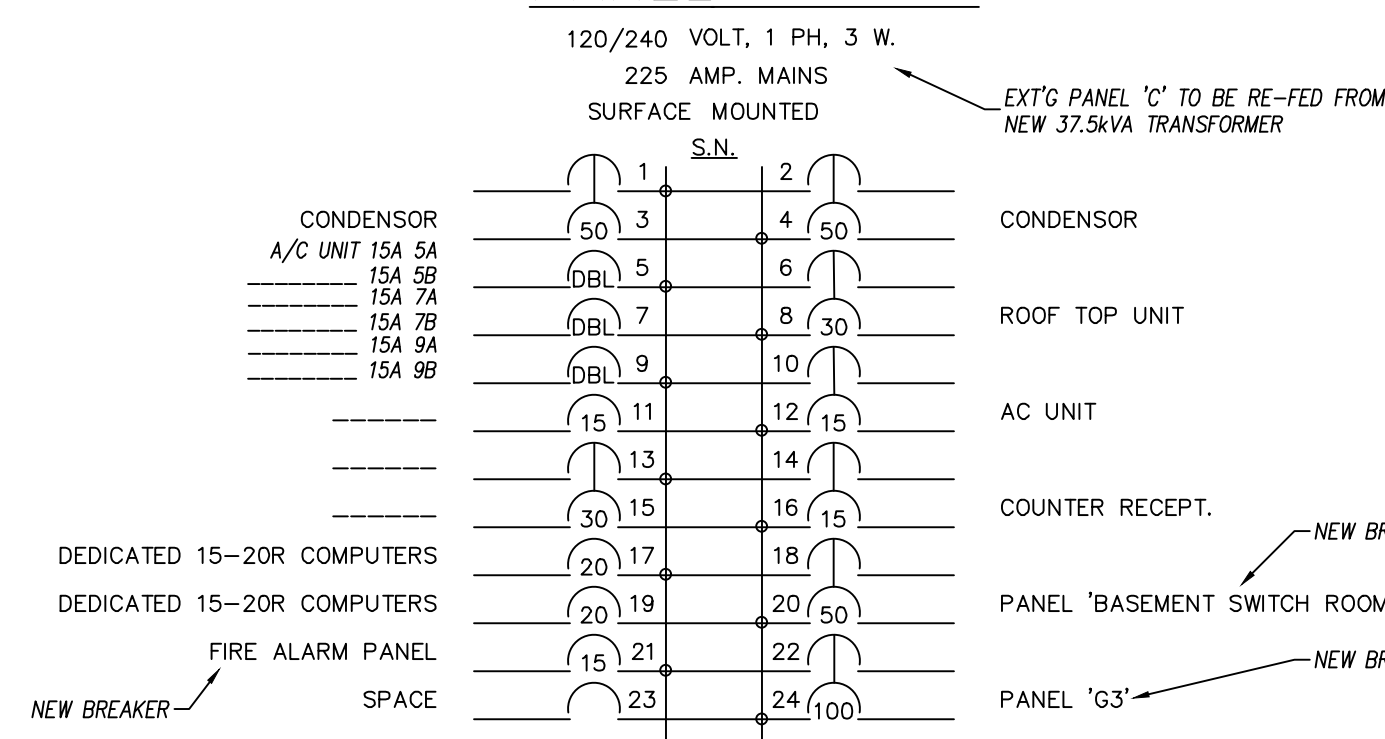
PANEL APARATUS RM



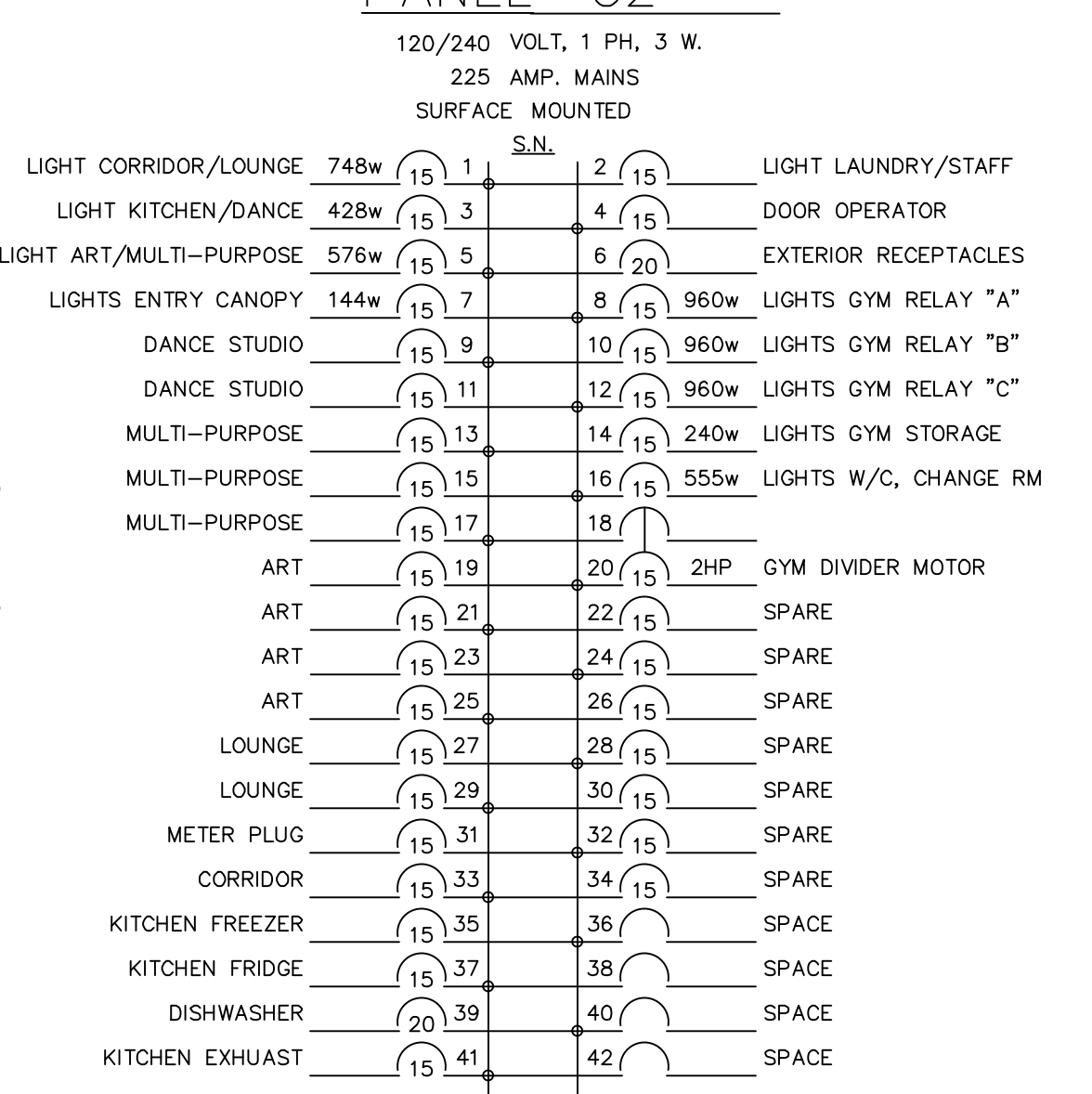
PANEL 'C' EXT'G



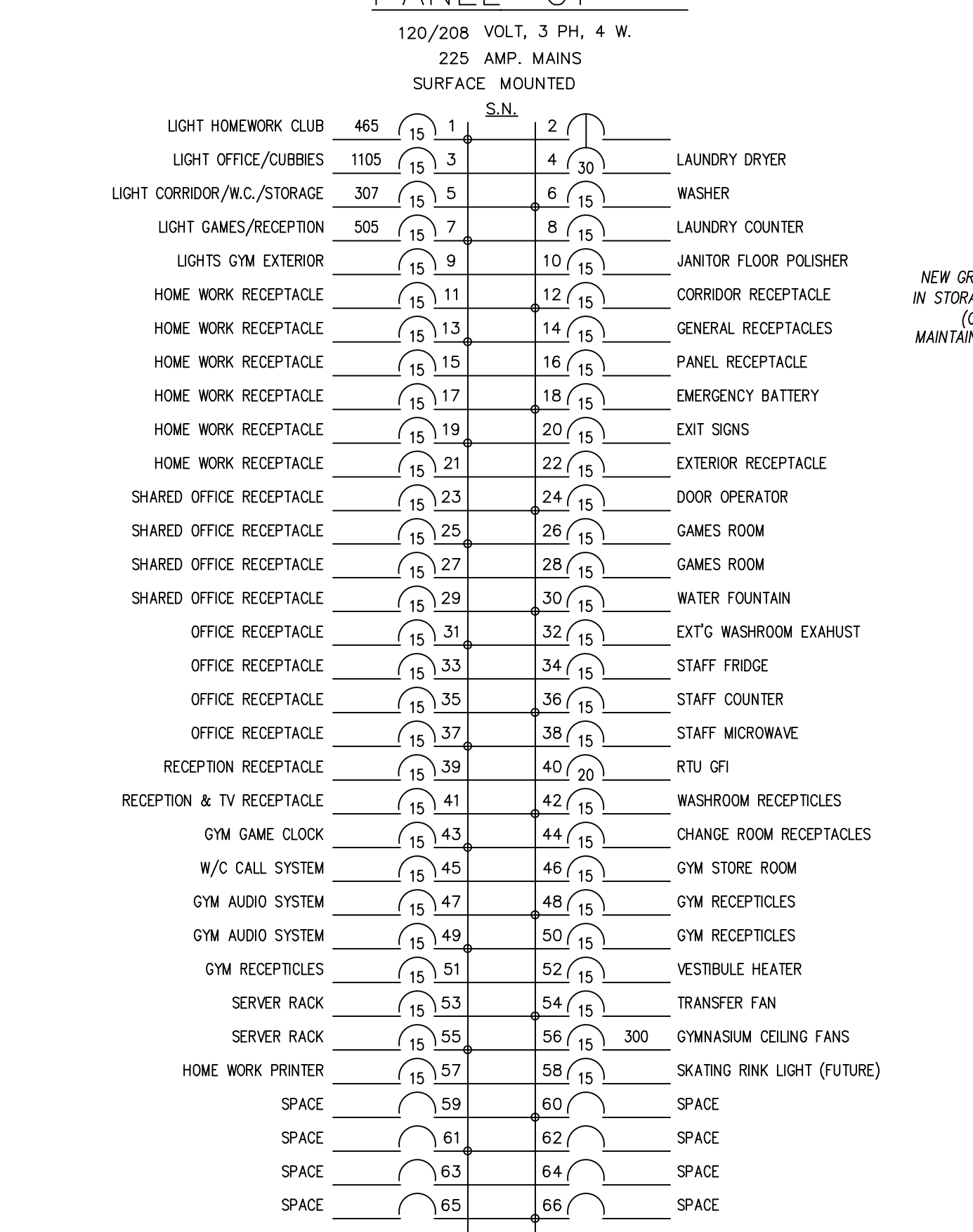
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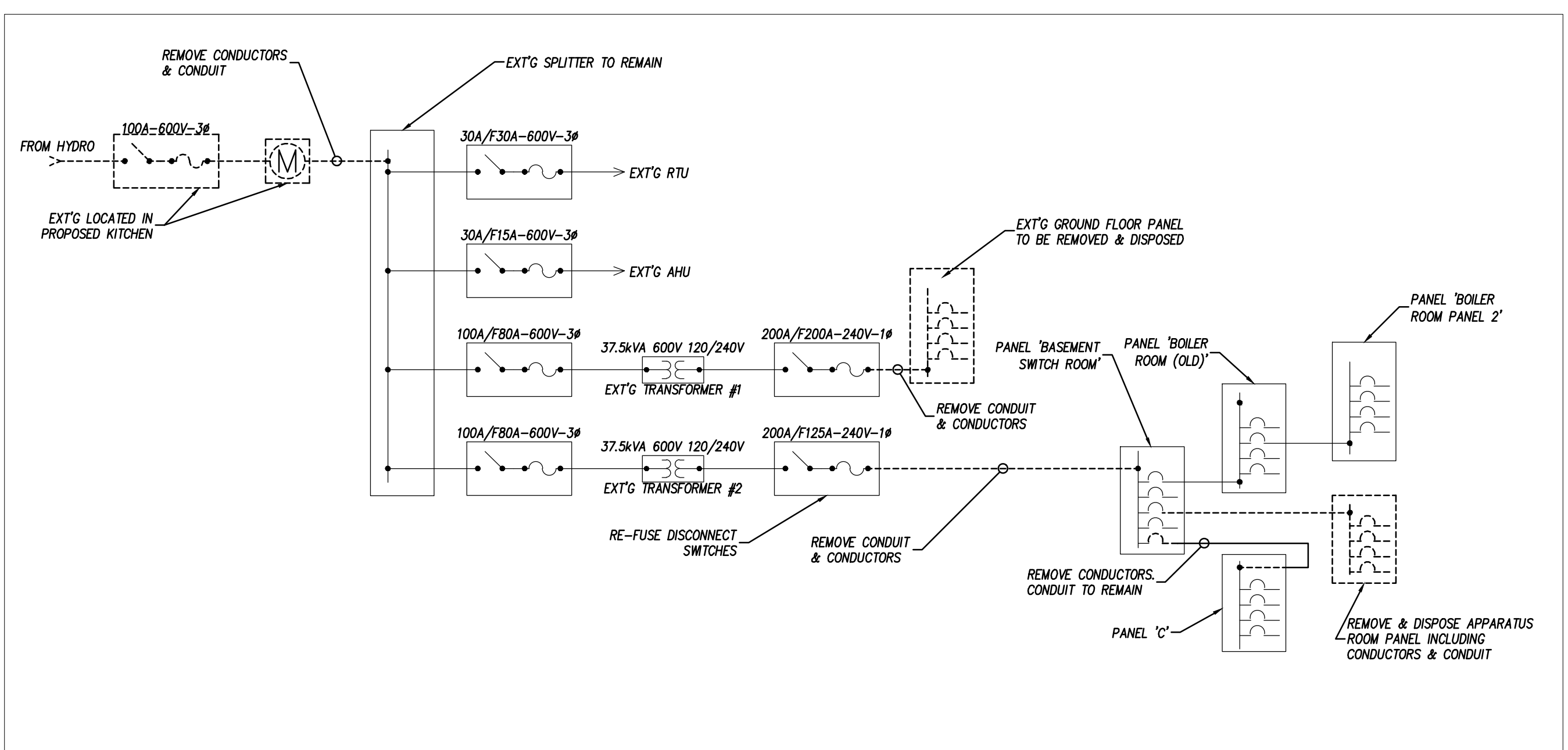
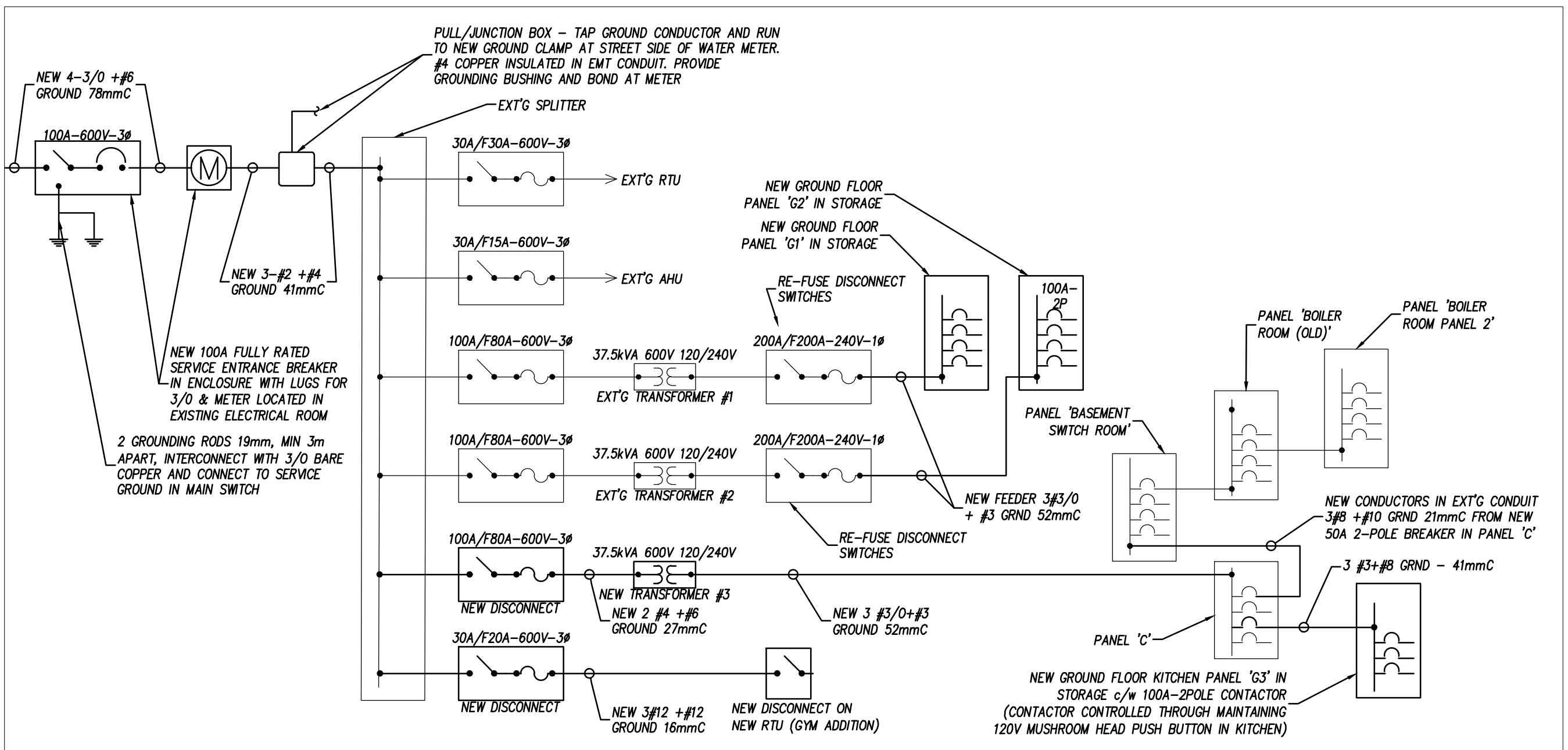
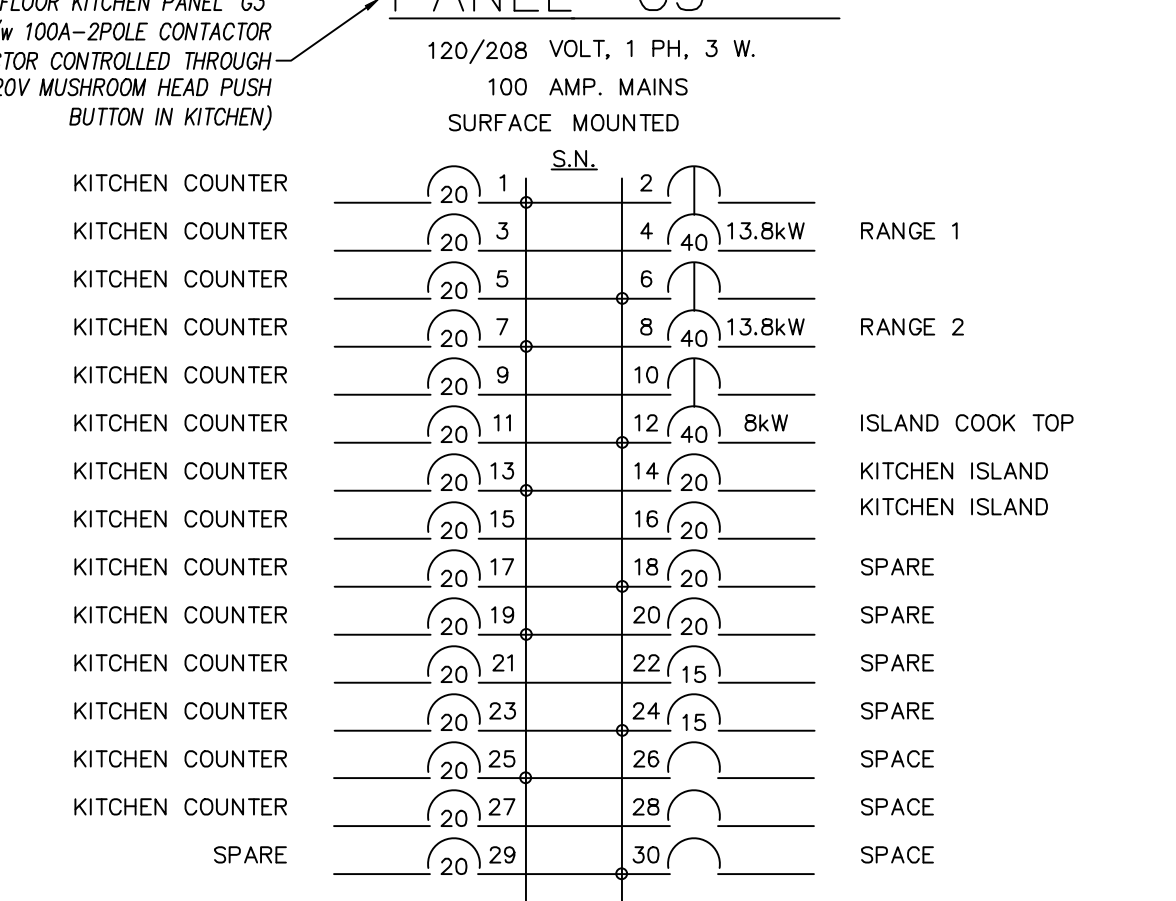
PANEL 'G2'



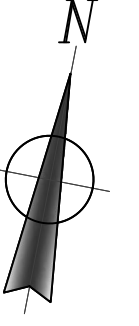
PANEL 'G1'



PANEL 'G3'



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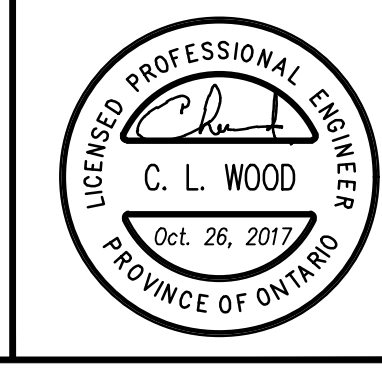
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PROJECT: **Boys & Girls Club Renovation Prince of Wales Clubhouse**

DRAWING: **Panel Schedules Single Line Diagram**

DATE: 21-Dec-17	SCALE: AS NOTED
DRAWN BY: MAG	DESIGNED BY: CLW
JOB NO.: 2017-017	CHECKED BY: CLW
DRAWING NO.: E-6 of 8	



Electrical Specifications Boys & Girls Club
General Instructions:

1. Repair and make good all walls, ceilings, etc. cut under this division.
2. Protect existing work and equipment during construction.
3. Test all system components for proper operation and safety.

General Demolition Notes:

1. Removals include but are not limited to: devices, raceways, outlet boxes, branch wiring and all associated conduit and wire. All associated removals such as wiring, boxes, etc. to be removed back to source.
2. Unless otherwise indicated, all equipment and material removed becomes the property of the contractor and shall be removed from site.
3. Maintain, retain, and make good as required of existing branch wiring, feeders, etc. which pass through the renovation and demolition areas.
4. For abandoned outlets provide suitably size stainless steel blank cover plates.

Specification Notes:

1. Do complete installation in accordance with the following: Ontario Building Code, Ontario electrical code, amendments and applicable local regulations. / In inspection certificates.
2. Prior to tender, confirm site conditions and location of existing services.
3. Review all construction documents and be familiar with general construction methods. Make provisions in the form of rated enclosures to maintain all fire separations.
4. Drawings indicate general location, quantity and type of outlets for electrical services only. Do not scale.
5. Review mechanical shop drawings; confirm voltage, current, and connection requirements prior to wiring installation.
6. Submit all plans required by the inspection authority for approval. Furnish inspection certificate, prior to final payment, to show installed work conforms with specification and regulations. Pay all fees and permit costs.
7. Submit shop drawings to the engineer for approval. Provide shop drawings of all equipment and devices. Include details descriptions and instructions fully describing the equipment or system including how it is installed and operated.
8. Upon completion of work, provide as-built drawings and instructions fully describing the equipment or system including how it is installed and operated.
9. Allow for relocation of outlets up to 300mm prior to installation at no extra cost. / All wiring devices to be specification grade.
11. Install electrical equipment of the following heights unless otherwise indicated or directed otherwise or indicated by design drawings.
 - (a) Local switches and dimmer switches: 1200mm
 - (b) General receptacles: 400mm
 - (c) Receptacles above counter: 175mm above backsplash
 - (d) Panelboards: 1800mm from top of panelboard to floor – or as detailed
 - (e) Telecom and cable TV outlets: 400mm
12. As required by CBC Division B Article 4.1.18, Elements of Structures, Non-Structural Components and Equipment, include seismic restraints for all electrical equipment and components, installed under this Contract, where not directly and rigidly attached to the structure. Provide suitable pre-engineered systems and where necessary and required by the Authority Having Jurisdiction, retain and pay for the services of a Professional Structural Engineer (registered in Ontario), to design, sign, and seal drawings for Seismic Restraints.

13. EQUIVALENTS AND ALTERNATES:

1. Materials and materials listed in these specifications set the standard for the material and where applicable energy efficiency requirements to comply with SB-10. They are not intended to exclude other manufacturers from bidding with equivalent products.
2. Products not meeting all design requirements are considered alternatives and they will be rejected unless the specified item or equivalents meeting the requirements acceptable to the engineer are provided.

2. Wiring Method

1. Unless otherwise indicated on the drawings, or in this specification, wiring methods shall be as follows:
 - (a) Conductors in electric metallic tubing where exposed and for home runs to panels; for concealed branch local wiring, multi-conductor armored cable is acceptable.
 - (b) Final connection to meters or other servicing equipment with minimum 1000mm liquid tight flexible conduit.
 - (c) For surface wiring in finished masonry walls run conduit vertically from ceiling accessible junction or pull box to surface outlet or multi outlet wiring.
 - (d) Conceal all new wiring in new construction.

2. Provide pull strings in all empty conduit.
3. Conductor material:
 - (a) Annealed commercial grade, 90% conductivity, copper.
 - (b) No. 14 to No. 10 awg – solid; No. 8 and larger – stranded.
 - (c) 600V RW90, unless otherwise noted.
 - (d) Smallest conductor size allowed no.12 AWG over 50 Volts.
 - (e) In finished areas run wiring concealed.
 - (f) Branch circuits longer than 22.8m (75') utilize conductors to next AWG rating.
4. Run insulated grounding conductor in all conduits with current carrying conductors.

3. Outlet Boxes and Conduit Boxes

1. For recessed installation Electro-galvanized steel single and multi gang flush device boxes for flush installation minimum 102MM square with extension and plaster rings as required.
2. 102MM square or octagonal outlet boxes for lighting fixture outlets.
3. Flush outlet boxes for data and telecommunications to be 102 mm x 102 mm x 78 mm deep with plaster ring to suit.
4. For masonry electro-galvanized steel masonry single and multi gang boxes for devices flush mounted in exposed block walls.
5. Surface mounted installations – For power, data and telecom on existing walls provide cast metal outlet box finished surface applications.

4. Multi-outlet surface wire ways

1. For surface installation above and below work station counters and desks
2. System to be dual channel with barrier one channel for installation of telephone and data outlets and one channel for 120 volt power outlets.
3. System to be aluminum 400x or equal
4. Install with power and telecom/data outlets where indicated.

5. Grounding

1. Grounding equipment to CSA C22.2 No.41, Copper grounding conductors to CSA C22.1, section 10 (latest edition).
2. Non-corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to: Grounding and bonding bushings; protective type clamps; batted type conductor connectors; thermite welded type conductor connectors; bonding jumpers and straps; pressure wire connectors.
3. Install complete permanent, continuous, system and circuit grounding systems.

6. Identification

1. Identify source, voltage and load on all junction boxes. Use of indelible marker for these where concealed or in unfinished areas is acceptable.
2. All conductors to be colour coded in accordance with CSA 22.1 – section 4, 036
3. Provide typed, updated schedules in all panelboards.
4. Provide laminated identification labels on all equipment.

7. Dry Type Transformers

1. Low voltage, distribution type ANN Single phase with 600V primary and 120/240V – 2 wire secondary
2. Primary and secondary windings – copper
3. Standard taps – 2x2 – 1/2% above and below normal
4. Insulation – 150°C rise
5. 10kV BR
6. Efficiency – The higher of CSA standard C802.2 and ASHRAE 90.1
7. Impedance – Minimum Value 2%
8. Sound level – to CSA standard

8. Panelboards

1. Breaker type panelboard to CSA C22.2 No. 29 with the following features:
 - (a) 250V branch panels: bus and breakers rated for 10,000A RMS symmetrical interrupting capacity.
 - (b) Main breaker, mains, number of circuits, and number and size of branch circuit breakers as indicated.
 - (c) Tin-plated copper bus with full size neutral.
 - (d) Equipment ground bus to match neutral bus. Bonded directly to panelboard enclosure.
 - (e) Mains suitable for bolt-on breakers.
 - (f) Finish: trim and door – baked gray enamel.
 - (g) Installation/mounting: flush or surface trim as indicated.
 - (h) Mount panelboards to 1800mm (6'-6") to top – or as detailed.
 - (i) Connect loads to circuits as indicated.
 - (j) Connect neutral conductors to common neutral bus with respective circuit(s) identified.

2. Standard of acceptance: Eaton, GE, Siemens, Schneider

9. Moulded Case Circuit Breakers

1. Provide moulded case circuit breakers to CSA 22.2 No. 5.1, with the following features:
 - (a) Provide automatic moulded case circuit breakers in panelboards as indicated. Breaker sizes and trips as scheduled, or indicated on the one-line diagram.
 - (b) Use bolt-on moulded case circuit breakers, quick-make, quick-break type for manual and automatic operation with temperature compensation for 40°C (104°F) ambient.
 - (c) Breakers shall be common trips with single handle for multi-pole application.
 - (d) In panelboards, moulded case circuit breakers to operate automatically by means of thermal and magnetic tripping devices to provide inverse time current tripping under overload conditions, and instantaneous magnetic tripping for circuit protection.
 - (e) Magnets instantaneous trip elements to operate only when the value of current reaches 10 to 12 times the breaker trip setting.
 - (f) Breaker minimum interrupting capacity (symmetrical RMS values) shall be not less than the following: 240V – 10KA.
 - (g) Motor control magnetic starters shall be provided with motor circuit interrupter breakers – 250V, 3 pole, 10KA interrupting capacity, magnetic trip only, adjustable (8 settings), with locking pin.
2. Standard of acceptance: CSA approved for panelboard.

10. Wiring Devices

1. Manually operated general purpose switches to CSA C22.2 No. 111 – Decorator style.
2. Snap switches to CSA C22.2 No. 55-M1986 (R2003).
3. Receptacles, plugs and similar devices to CSA C22.2 No. 42-99 (R2004).
4. Coverplates to CSA C22.2 No. 42.1-00 (R2004).
5. Switches:
 - (a) 15A, 120V single pole, three-way, four-way specification grade switches as indicated.
 - (b) Toggle operated, fully rated for tungsten filament and fluorescent lamps, and up to 80% rated capacity of motor loads.
 - (c) Switches of one manufacturer throughout project. Equal to Hubbell 1200 series for 120V
 - (d) Install single throw switches with handle in the 'UP' position when switch is closed.
 - (e) Install switches in gang type outlet box when more than one switch is required in one location.
6. For light switching with automatic control features forming part of a lighting control system refer to the lighting control specification
7. Receptacles:
 - (a) Duplex receptacles throughout – shall be CSA type 5-15R, 125V, 15A, or 20A with U ground.
 - (b) Coverplates:
 - (a) Provide coverplates for all wiring devices.
 - (b) Colour of coverplates to match wiring devices – shall be stainless steel or brushed aluminum – Switchplates to be decorator style to match wall mount occupancy sensors and dimming controls.
9. Wiring devices to be white

11. Lighting Fixtures

1. Fixture types:
 - (a) Refer to fixture schedule.
 - (b) LED lamps shall be 4100K or as indicated; efficacy (Lumens/Watt) as indicated for the fixture. Drivers (power supplies) to match LED type. Rated life (50% failure) for LED and driver systems minimum 50,000 Hours.
 - (c) Ceiling mounted fixtures to be supported from the structure by auxiliary chain hangers.

12. Lighting Control System

1. Lighting controls for all new lighting to be in accordance with Ontario Building Code SB-10 and the relevant mandatory provisions of ASHRAE 90.1 2013 – Part 9 – Section 9.4
2. Refer to lighting control legend for system component types and function.
3. Wall mounted lighting control stations low voltage shall be decorator type. Multiple units shall be ganged together, and installed at the local switch height specified.
4. In offices and similar spaces requiring 2-level A/B and dimming control, the occupancy sensors shall be low voltage, ceiling mounted, passive infrared, with wall mounted 2-pole with manual control push button and relay for the 2nd (B) level.
5. Where indicated as required due to obstructions sensors to be dual technology.
6. Line voltage DC control systems both single and dual channel shall have minimum 800 Watts load capacity per channel at 120 Volt.
7. Where indicated provide low voltage DC control systems consisting of a wall mounted station and remote low voltage ceiling or wall mounted occupancy sensor. Each system shall include the necessary junction box mounted power and control devices consisting of a 120V to low voltage DC power supply and auxiliary line and low voltage output relays to achieve the functions and control systems indicated. Provide dimming control capability.
8. Low voltage control systems shall be single or 2 channel as indicated. Their line voltage control capacity shall be 1600 Watts per channel at 120V.
9. Low voltage DC systems control wiring shall be carried out utilizing Category 5 Enhanced (Cat5e) FTP rated wiring with terminal connections suited for the devices.
10. Install low voltage wiring in EMT conduit drops in walls to ceilings where they are accessible, run open in accessible ceilings, neatly supported and securely fastened. In accessible ceilings install control wiring in complete EMT raceway system between all devices.
11. At least 6 weeks prior to scheduled installation prepare and submit complete and detailed shop drawings for all components. Include drawings showing the method of installation for each device. Include detailed wiring diagrams for each type of system to be installed.
12. Prior to rough in for installation, consult with the manufacturer's qualified technical representative and determine the placement, sensitivity and time out requirements for the devices selected for compliance with these specification in the areas where they are shown.
13. Arrange and pay for field programming by the manufacturer's technician.

14. Following completion of the lighting controls installation, retain and pay for the services of the manufacturer's qualified technical representative who shall test and confirm the correct functional performance for each device. The technical representative shall prepare and submit a report confirming that each device meets the control requirements, include copies in the instruction and maintenance manuals.
15. Devices shall be Lutron or DLM System by WattStapper or equivalent.

13. Exit Signs

1. Exit signs to OBC 3.4.5.(2):
 - (a) consist of a green pictogram and white graphic symbol meeting the visibility specifications referred to in ISO 3864-1, Graphical Symbols – Safety Colours and Safety Signs – Part 1: Design Principles for Safety Signs in Workplaces and Public Areas, and conform to the dimensions indicated in ISO 7010, Graphical Symbols – Safety Colours and Safety Signs – Safety Signs Used in Workplaces and Public Areas for the following symbols:
 - (b) E001 emergency exit left,
 - (c) E002 emergency exit right,
 - (d) E005 90-degree directional arrow, and
 - (e) E006 45-degree directional arrow.
2. Design features:
 - (a) Wall, end-to-wall or ceiling mounting as indicated. Field adaptable, universal mount.
 - (b) Single or double faced as indicated. Faceplate to remain captive for maintenance.
 - (c) Connections–120V normal; provision for emergency 12 volt DC connection.
 - (d) Housing to be extruded aluminum – white in colour. Optical diffuser for even illumination.
 - (e) Solid-state design. Long life, non-protruding, high brightness LEDs. Minimum 25 year life. Maximum of 5 watts per unit (double faced). Acrylic barrier to protect LEDs.
3. Standard of acceptance: Bephelli Micro RM series or equal.

14. Emergency Lighting

1. Provide new battery unit – 24V DC:
 - (a) Rated 720 watts for 30 minutes; voltage to be consistent with existing remote heads.
 - (b) Certified in accordance with CSA-141,
 - (c) Mount on new wall bracket.
 - (d) Remote lamp heads to be same manufacturer as battery unit, with the following features:
 - (a) 24V DC operation, MR16 6W LED each unless otherwise indicated – verify existing voltage before ordering.
 - (b) Plastic/composition body and plate, adjustable mounting, swivel type complete with tungsten composite lamp. Suitable for mounting on surface mounted octagon box.
 - (c) Equal to: AmiLite RMDM

15. Telecom/Data

1. Provide 4" (100mm) square recessed outlet boxes with suitable plaster ring to accommodate owners telecom and data connection devices. Provide conduit in partition to ceiling space. For multiple outlet assemblies – provide 3/4" (21mm) conduit to be EMT set screw connectors at box. Devices, plates and wiring to be by owner's contractor.
2. Surface Mounted Installations
 - (a) For installation of power and data outlets on existing walls provide surface mounted EMT conduit to surface mounted outlet box. Leviton Type 4277 series. Provide matching SS coverplate.

16. Underground Systems

1. Provide underground ducts for power, telecom and communication system non coded, single stage Data Communication Link Type. The complete installation shall comply with ULC S524 Standard for Installation of Fire Alarm Systems, and all related reference standards, The Ontario Building Code, and the Ontario Electrical Code – Installation Section 32.
2. Control Panel
 - (a) The fire alarm control panel shall be microprocessor based – DDLA with minimum, 4 Class B signal circuits, 4 auxiliary output relays with double throw normally open; normally closed contacts rated to 3 Amp minimum.
 - (b) Automatic fire detection smoke type detector zones shall be capable of monitoring self-diagnosing clean air type.
 - (c) Alarm and signal circuits to be class B. Provide end of line resistors adjacent to the control panel.
 - (d) The control panel shall include a central station connection output.
 - (e) The control panel shall connect from a 120V single phase power circuit 15 Amp rated. It shall operate at 24V DC. Backup power to support the system shall be with an approved battery system mounted externally or internal to the panel.

17. Fire Alarm System Specification:

1. The fire alarm system shall be a fully electrically supervised, zoned, non coded, single stage Data Communication Link Type. The complete installation shall comply with ULC S524 Standard for Installation of Fire Alarm Systems, and all related reference standards, The Ontario Building Code, and the Ontario Electrical Code – Installation Section 32.
2. Control Panel
 - (a) The fire alarm control panel shall be microprocessor based – DDLA with minimum, 4 Class B signal circuits, 4 auxiliary output relays with double throw normally open; normally closed contacts rated to 3 Amp minimum.
 - (b) Automatic fire detection smoke type detector zones shall be capable of monitoring self-diagnosing clean air type.
 - (c) Alarm and signal circuits to be class B. Provide end of line resistors adjacent to the control panel.
 - (d) The control panel shall include a central station connection output.
 - (e) The control panel shall connect from a 120V single phase power circuit 15 Amp rated. It shall operate at 24V DC. Backup power to support the system shall be with an approved battery system mounted externally or internal to the panel.
6. Audible signals (outputs) configurable for steady, temporal code, California code, and march time (selectable by user following installation).
7. Synchronization capability for signal circuits.
8. Configurable signal silence, one person walk test.
9. Subsequent alarm supervisory and trouble operation.
10. Audible trouble signal.

11. Control Switches:

- (a) Alarm silence
- (b) Trouble silence
- (c) Reset
- (d) Lamp test
- (e) Drill
- (f) Auxiliary relay by-pass

12. Indicators – Visual

- (a) Power on
- (b) Power trouble
- (c) Ground trouble
- (d) System trouble
- (e) Remote annunciator trouble
- (f) Signals silenced

13. Enclosure: 16 gauge steel, surface mounted, finished in manufacturers
14. Conforms to CAN/ULC S527 Standard Control Units for Fire Alarm Systems
3. Data Fault Isolators

1. Provide fault isolators in the data communication link at each zone to ensure a short fault in one alarm zone will not prevent normal operation of the data communication link in all other zones.
4. Remote Annunciator
 - (a) The remote annunciator will be surface mounted.
 - (b) Enclosure fabricated from 16 gauge steel – finished white
 - (c) Include visual indication of all zones
 - (d) Include common controls – system reset signal silence, fire drill, buzzer, buzzer silence, and lamp test.
 - (e) Synchronized to control panel
13. Remote Auxiliary Relays
 - (a) Provide auxiliary remote relays to interface between auxiliary output control contacts and the fan control circuits in the fan handling systems. Relays shall be dual voltage compartment type 120 Volt coil and 250 Volt contacts – 1 normally open; 1 normally closed. EEMAC # enclosure.

14. Air Handling System Fan Shutdown

1. Air handling system fan shutdown shall operate directly from the duct mounted smoke detector auxiliary contacts, and/or from auxiliary relays in the fire alarm control panel.
6. System Operation
 - (a) Alarm – Upon actuation of any manual or automatic initiating device the following shall occur:
 - (i) Evacuation alarm devices operate continuously
 - (ii) Transmit alarm signal to central station
 - (iii) Alarm device and location to be indicated on the control panel and remote annunciator
 - (iv) Activate programmed auxiliary relays for fan shutdown and door release relays
 - (b) Log the event
 - (c) The signal devices shall continue to operate until silenced
 - (d) Trouble – Upon occurrence of open or fault on wiring or system device the following shall occur:
 - (i) Trouble signal will sound at the control panel and remote annunciator
 - (ii) The trouble light will illuminate on the affected zone at the control panel and remote annunciator
 - (iii) Trouble signal will be transmitted to the central station
 - (iv) Log the event

15. Installation

1. Install control panel surface mounted in the electrical room where shown. Mounting height – 1650mm (5'6") above finished floor to top. Install wiring in EMT; from top of panel.
2. Surface mount the remote annunciator in the vestibule where shown. Install conductors between control panel and annunciator in EMT. For final drop from ceiling provide single vertical raceway to recessed electrical box. Terminate raceway steel right-angle connector. Provide pullbox and access door in ceiling as required.
3. Mount passive graphic panel on wall adjacent to remote annunciator.
4. Mounting height 1650mm (5'-6") above finished floor to top.
5. Install manual station on recessed back box or outlet box in wall. Cut and repair system board wall for conduit where required. Mounting height to be 1350mm above finished floor to center.

3. Alarm Silence – After the minimum permitted time period operating the alarm silence switch at the control panel will cause:

- (a) Alarm signal devices to be silenced
- (b) The trouble signals and lights will operate
- (c) A subsequent alarm will override and cause the evacuation signal to operate
- (d) After the alarm condition has been addressed the reset button can be activated, causing the complete system to reset and the trouble signal will sound until the alarm silence switch is returned to normal.

4. Trouble Silence – Operation of the trouble silence switch will cause:

- (a) The audible trouble alarm signal will be silenced at the control panel and remote annunciator
- (b) The trouble light will continue to indicate
- (c) Upon correction of the trouble the audible signals will again sound until the silencing switch is returned to normal

Manual Alarm Initiating Stations

1. Non coded, single pole normally open addressable device
2. Colour: Red
3. Visible indication of operation
4. Restoration with proprietary tool or key – identical throughout
5. Cast aluminum construction
6. Conform to CAN/ULC S528 Standard – Manual Stations for Fire Alarm Systems Including Accessories
8. Automatic Heat Activated Fire Detection Alarm Devices
 - (a) Combination heat temperature and rate of rise; addressable device
 - (b) Rate of rise 8°C/Minute, self-resetting
 - (c) Fixed temperature upper limit 57°
 - (d) Field testable for rate of rise element by application of heated air appliance
5. Visible indicator – pop down disc in alarm state
6. Mounting base; plug connect twist lock install
7. Conform to CAN/ULC S530 Standard – Heat Activated Fire Detectors for Fire Alarm Systems
8. Automatic Smoke Activated Fire Detection Alarm Device
 - (a) Combination heat temperature and rate of rise; addressable device
 - (b) Rate of rise 8°C/Minute, self-resetting
 - (c) Fixed temperature upper limit 57°
 - (d) Field testable for rate of rise element by application of heated air appliance

5. Visible indicator – pop down disc in alarm state

6. Mounting base; plug connect twist lock install
7. Conform to CAN/ULC S530 Standard – Heat Activated Fire Detectors for Fire Alarm Systems
8. Automatic Smoke Activated Fire Detection Alarm Device
 - (a) Combination heat temperature and rate of rise; addressable device
 - (b) Rate of rise 8°C/Minute, self-resetting
 - (c) Fixed temperature upper limit 57°
 - (d) Field testable for rate of rise element by application of heated air appliance
5. Visible indicator – pop down disc in alarm state
6. Mounting base; plug connect twist lock install
7. Conform to CAN/ULC S530 Standard – Heat Activated Fire Detectors for Fire Alarm Systems
8. Automatic Smoke Activated Fire Detection Alarm Device
 - (a) Combination heat temperature and rate of rise; addressable device
 - (b) Rate of rise 8°C/Minute, self-resetting
 - (c) Fixed temperature upper limit 57°
 - (d) Field testable for rate of rise element by application of heated air appliance

6. Mounting base; plug connect twist lock install

7. Conform to CAN/ULC S530 Standard – Heat Activated Fire Detectors for Fire Alarm Systems
8. Automatic Smoke Activated Fire Detection Alarm Device
 - (a) Combination heat temperature and rate of rise; addressable device
 - (b) Rate of rise 8°C/Minute, self-resetting
 - (c) Fixed temperature upper limit 57°
 - (d) Field testable for rate of rise element by application of heated air appliance
5. Visible indicator – pop down disc in alarm state
6. Mounting base; plug in twist lock install
7. Conform to CAN/ULC S529 Standard – Smoke Detectors for Fire Alarm Systems
10. Duct Mounted Smoke Detector
 - (a) Detectors installed in ducts of photoelectric addressable type and listed by ULC for duct installation
 - (b) Detectors with apertured duct housing, mounted external to duct, with perforated sampling tubes extending across width of duct.
 - (c) Air velocity rating 0.5 m/s to 20.3 m/s
 - (d) Activation of duct detectors to cause shutdown of associated air handling unit, annunciation at control panel, and tripping of transmitter and sounding of building alarm
 - (e) Remote visible indicator lamp that flashes when detector is in normal standby mode and glows continuously when detector is activated
 - (f) Remote indicator lamp in visible locations on ceiling in room below air handling unit
 - (g) Permanently label remote indicator with description of associated air handling unit
 - (h) Detectors with rated contact sets, one for wiring directly into fan
 - (i) Detectors in circuit of the air handling unit
 - (j) Signals silenced
11. Audible Signal Devices
 - (a) Audible signal devices shall be compact mini-horns – piezoelectric type
 - (b) Sound output – 90dBa at 3.0 meters
 - (c) Flush mounting on standard outlet box
 - (d) White finish
 - (e) Wall mounting to outlet box or pre-wired back plate
 - (f) White finish
 - (g) Synchronized to control panel
13. Remote Auxiliary Relays
 - (a) Provide auxiliary remote relays to interface between auxiliary output control contacts and the fan control circuits in the fan handling systems. Relays shall be dual voltage compartment type 120 Volt coil and 250 Volt contacts – 1 normally open; 1 normally closed. EEMAC # enclosure.

12. Verification Testing

1. All verification testing to be performed in accordance with the CAN/ULC-S537 standard by individuals with qualifications recognized by the local authority at the time of testing.
2. All devices to be tested as per the standard and the results recorded on the verification report forms.
3. All panel and annunciator tests to be performed as per the standard and the results recorded.
4. During verification, compliance with the approved project plans shall be confirmed.
5. Following verification arrange for and demonstrate the proper operation and conformance to the ULC/CAN S524 standard to the municipal building official.
6. A verification certificate, along with the report, shall be issued only upon compliance with the CAN/ULC S537 standard and the project plans.
19. Training
 - (a) After submission of the verification certificate and report, review the system operating and maintenance manual with owner's facility management staff. Demonstrate and instruct the staff in procedures for all operating modes.

20. Door hold open Devices

1. 2 piece armature and plate type 24Volt
2. With adjustable hinge and arm length to suit door/wall relationship
3. Wire through 50VA transformer from 120V circuit in panel and auxiliary contacts in fire alarm control panel

21. Ceiling Fan (CF-1)

1. Ceiling fan with 3 aluminum blades with a 56 diameter sweep & protective cover
2. Capable of 34,500CFM of air movement at a velocity of 650 ft/minute
3. Maximum of 350 RPM
4. Plug-in power connection
5. Permanent lubricated sealed TPI ball bearings
6. Top & bottom shall be mounted protective cover
7. Standard of Acceptance: Bantel 160F with F690F top and bottom protective screen

22. Solid state variable speed controller with silver cover plate:

- (a) 120 Volt, 5amp
- (b) Standard of Acceptance: Bantel 105F

6. In basement on masonry walls install single surface conduit from pull box above to device.

1. In finished areas with suspended ceilings install automatic fire detection devices on back box or outlet box flush mounted in ceiling. Select outlet box to suit detector base. In areas without ceilings install detector base on the outlet box fastened directly to the structure or exposed concrete ceiling.
8. Install wall mounted smoke detectors where shown at 100mm below the ceiling measured to the top of the detector
9. Install duct mounted smoke detectors on the duct face in accordance with manufacturer's recommendation and where accessible for maintenance.
10. Install combination visual and audible signal devices in the sanctuary at 2559mm (8'-6") above finished floor to top of the device
11. Install audible signal devices throughout building at 2400mm above finished floor to top or where necessary where restricted by ceiling height install wall mounted signal devices at 150mm below the ceiling measured to the top edge of the device.
12. Install signaling devices on recessed back box or outlet box in wall. Cut and repair wall for cable connection from ceiling space.
13. Install duct mounted smoke detectors at air handling unit where shown in accordance with manufacturer's recommendations. Prior to placing order co-ordinate with the HVAC contractor to establish and agree upon location for the detector. Confirm air handling unit control circuit has terminals for the shutdown connection. Connect auxiliary output contact into air handling unit fan shutdown circuit.

10. Install combination visual and audible signal devices in the sanctuary at 2559mm (8'-6") above finished floor to top of the device

11. Install audible signal devices throughout building at 2400mm above finished floor to top or where necessary where restricted by ceiling height install wall mounted signal devices at 150mm below the ceiling measured to the top edge of the device.
12. Install signaling devices on recessed back box or outlet box in wall. Cut and repair wall for cable connection from ceiling space.
13. Install duct mounted smoke detectors at air handling unit where shown in accordance with manufacturer's recommendations. Prior to placing order co-ordinate with the HVAC contractor to establish and agree upon location for the detector. Confirm air handling unit control circuit has terminals for the shutdown connection. Connect auxiliary output contact into air handling unit fan shutdown circuit.

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12. Install signaling devices on recessed back box or outlet box in wall. Cut and repair wall for cable connection from ceiling space.

13. Install duct mounted smoke detectors at air handling unit where shown in accordance with manufacturer's recommendations. Prior to placing order co-ordinate with the HVAC contractor to establish and agree upon location for the detector. Confirm air handling unit control circuit has terminals for the shutdown connection. Connect auxiliary output contact into air handling unit fan shutdown circuit.

13. Install duct mounted smoke detectors at air handling unit where shown in accordance

30 PARKING

EXISTING PRIVATE APPROACH

1463 Prince of Wales Drive
 'OTTAWA BOYS AND GIRLS CLUB'
 EXISTING 1 STOREY BRICK BUILDING
 FFL: 82.27

NEW GYMNASIUM
 FFL: 82.27

NEW 1 STOREY ADDITION

Symbol	Qty	Label	Manufacturer	Description	Dimming	Watts/Fixture	Total Watts	Lumens/Fixture	LLF
▲	2	B1	LUMINIS	CL843-L3W30-CLP843-120V-BKT	0-10V	90	180	8190	0.900
▲	1	B3	LUMINIS	CL843-L3W30-CLP843-120V-BKT	0-10V	90	90	8190	0.900
○	7	C	LUMINIS	SY600-L1W18V-120-BKT-R60	0-10V	18	126	1686	0.900
○	11	D	CONTRAST	A4RAR-111140M + REA4V2	0-10V	23	253	1923	0.900
□	3	L1	ECOSENSE	L50-E-12-04-40-80-MULT-15x35	ELV	4	12	302	0.900
□	14	L4	ECOSENSE	L50-E-48-04-40-80-MULT-15x35	ELV	16	224	1208	0.900
□	3	L5-3ME	OREE	OS9-L-1M-3ME-9-40K-UL-BK-03/0	0-10V	166	258	11424	0.900
□	2	Wp-2S	OREE	SEC-EDG-2S-1M-02-E-UL-BK-700-DIM	0-10V	50	100	3656	0.900
□	3	Wp-4M	OREE	SEC-EDG-4M-1M-06-E-UL-BK-700-DIM	0-10V	134	402	10842	0.900
						Total Exterior Lighting:	1645		

NOTE: CONFIRM PROPERTY LINE LOCATION. LIGHT POST NOT TO BE INSTALLED ON NEIGHBORING PROPERTY.

PROPOSED SKATING RINK LIGHT ON 5m TALL POST. FIXTURE TO BE DETERMINED.

EXISTING EXTERIOR LIGHTING FED FROM PANEL 'BASEMENT SWITCH ROOM'. RE-USE CIRCUITS FOR LIGHTING LOCATED ON EXISTING STRUCTURE. UPDATE TIME CLOCKS.

PROVIDE 16mm RIGID PVC CONDUIT FOR EXTERIOR LAMPS FOR SKATING RINK. ROUTE TO TIME CLOCK IN GROUND FLOOR STORAGE # 108.

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HOBIN ARCHITECTURE

NO.	REVISIONS	DATE
10.		
9.		
8.		
7.		
6.		
5.		
4.		
3.	ISSUED FOR PRICING	2017-12-22
2.	ISSUED FOR BUILDING PERMIT (PHASE 2)	2017-10-26
1.	ISSUED FOR REVIEW/COORDINATION	2017-10-05

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PROJECT: Prince of Wales Clubhouse
 Boys and Girls Club Renovation

DRAWING: Electrical Site Plan

DATE	SCALE
21-Dec-17	AS NOTED
DRAWN BY: MAG	DESIGNED BY: CLW
CHECKED BY: CLW	
2017-17	

C. L. WOOD
 LICENSED PROFESSIONAL ENGINEER
 OCT. 26, 2017
 PROVINCE OF ONTARIO

1 EXTERIOR LIGHTING PLAN
 E-8 1:100

E-8 of 8