

ELECTRICAL SPECIFICATIONS

A. GENERAL CONDITIONS

- CONFORM WITH LATEST EDITION OF THE ONTARIO BUILDING CODE (OBC), ONTARIO ELECTRICAL SAFETY CODE (OESC), CANADIAN STANDARDS ASSOCIATION (CSA), UNDERWRITERS LABORATORIES OF CANADA (ULC) AND LOCAL BY-LAWS AND AUTHORITIES HAVING JURISDICTION.
- MATERIALS & EQUIPMENT SHALL CARRY APPROVAL AND CONFORM WITH CSA OR ULC STANDARDS. INSTALLATION SHALL COMPLY WITH ALL RULES AND REGULATIONS REGARDING MATERIALS AND WORKMANSHIP CONFORMING TO CSA, OESC, OBC AND LOCAL AUTHORITIES HAVING JURISDICTION.
- VISIT JOB SITE PRIOR TO SUBMITTING TENDER AND EXAMINE ALL EXISTING CONDITIONS WHICH AFFECT THE WORK. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO DO SO.
- SUPPLY AND INSTALL COMPLETE ELECTRICAL SYSTEMS AS SHOWN AND/OR SPECIFIED HEREIN. DRAWINGS SHALL BE USED FOR ROUTING PURPOSES ONLY, DO NOT SCALE DRAWINGS. PROVIDE ALL NECESSARY MATERIAL AND LABOUR ETC. TO PROVIDE COMPLETE SYSTEMS.
- FURNISH ALL REQUIRED LABOUR AND MATERIALS, MACHINERY, AND TOOLS, WITH ALL PROPER AND REQUIRED FACILITIES FOR MOVING AND TRANSPORTING SAME, SO THAT THE CONTRACT AND ALL WORK TO BE DONE UNDER IT, CAN AND WILL BE CARRIED OUT IN A PROFESSIONAL MANNER, PROPERLY, SATISFACTORILY, CONTINUOUSLY, AND EXPEDITIOUSLY, TO COMPLETION, IN ALL RESPECTS, TO THE SATISFACTION OF THE OWNER.
- MOUNTING HEIGHT OF EQUIPMENT IS FROM FINISHED FLOOR TO CENTER LINE OF EQUIPMENT, UNLESS SPECIFIED OR INDICATED OTHERWISE. IF MOUNTING HEIGHT OF EQUIPMENT IS NOT INDICATED, VERIFY BEFORE PROCEEDING WITH INSTALLATION. THE FOLLOWING IS GENERAL MOUNTING HEIGHTS:
 - GENERAL SWITCHES, DIMMERS: 1100mm (43")
 - WALL RECEPTACLES (GENERAL): 450mm (18")
 - DATA, VOIP, TELEPHONE OUTLETS: 450mm (18")
 - OUTLET ABOVE COUNTER: 150mm (6")
 - POWER DOOR OPERATORS: 1050mm (41")
 - PANEL BOARDS: 1700mm (67") (MAXIMUM FROM TOP BREAKER)
 - FIRE PULL STATION: 1150mm (45")
 - FIRE ALARM VISUAL, AUDIBLE OR COMBINATION OF BOTH DEVICES 150mm (6") BELOW CEILING TO THE TOP OF THE DEVICE WHERE THE CEILING HEIGHT IS LESS THAN 2450mm (96") A.F.F.. WHERE CEILING HEIGHT IS 2450mm (96") OR GREATER, MOUNT DEVICE AT 2300mm (90.5") A.F.F. TO THE TOP OF THE DEVICE.
- CO-ORDINATE ON SITE THE LOCATION OF EQUIPMENT, CONTROL DEVICES, SERVICE DISTRIBUTION SYSTEMS, ETC. COORDINATE WORK AND SCHEDULE WITH OTHER TRADES.
- AT ALL TIMES KEEP THE OWNER'S PROPERTY CLEAN AND IN TIDY CONDITION. CLEAN AFFECTED WORK AREA AND REMOVE ALL DEBRIS FROM EQUIPMENT. FOLLOW MANUFACTURERS' INSTALLATION AND STARTUP INSTRUCTIONS.
- PROVIDE WARNING SIGNS AND BARRIERS AS REQUIRED TO MEET INSPECTION DEPARTMENT'S REQUIREMENTS.
- DRAWINGS SHOW GENERAL INTENT OF WORK AND NOT THE DETAILS OF THE INSTALLATION.
- GUARANTEE IN WRITING ALL MATERIAL AND WORKMANSHIP INCLUDING THE MANUFACTURER'S GUARANTEE FOR THE MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE UNLESS NOTED OTHERWISE IN MAIN FRONT END CONTRACT DOCUMENTS.
- NO EXTRA CHARGES SHALL BE HONOURED EXCEPT WHERE THE CONTRACTOR RECEIVES A WRITTEN ORDER COUNTER-SIGNED OR OTHERWISE APPROVED BY THE OWNER.
- AFTER THE APPROVAL OF DRAWINGS, THE RIGHT IS RESERVED TO MAKE REASONABLE CHANGES IN THE DESIGN OF THE WORK OR TO OMIT ANY SUCH PARTS AS THE OWNER MAY REQUIRE. IN THE CASE WHERE WORK OR MATERIAL IS ADDED TO OR DEDUCTED FOR THE WORK HEREIN SPECIFIED, A FAIR AND REASONABLE VALUATION OF THE SAME SHALL BE ADDED TO OR DEDUCTED FROM THE AMOUNT OF THIS CONTRACT.
- THE CONSULTANT RESERVES THE RIGHT TO SELECT THE FINAL PRODUCT AND OR OPTIONS/ACCESSORIES DURING SHOP DRAWING REVIEW AT NO ADDITIONAL COST TO THE OWNER IN THE CASE OF ANY DISCREPANCIES LISTED BETWEEN CATALOGUE NUMBERS, WRITTEN PRODUCT DESCRIPTIONS AND/OR DETAILS SHOWN ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE CONSULTANT IN WRITING BEFORE TENDER CLOSES OF ANY DISCREPANCIES THAT MAY BE SHOWN ON THE DRAWINGS REGARDING LISTED PRODUCT SPECIFICATIONS AND CATALOGUE NUMBERS THAT MAY AFFECT PRICING AND GET CLARIFICATION ON THESE ITEMS BEFORE SUBMITTING FINAL TENDER PRICE. FAILURE OF THE ELECTRICAL CONTRACTOR TO REQUEST CLARIFICATIONS ON SUCH ITEMS DURING TENDER MAKES NULL AND VOID ANY FUTURE CLAIMS RELATING TO FINAL PRODUCT SELECTION BY THE CONSULTANT.
- ALL ELECTRICAL EQUIPMENT TO BE SPRINKLER PROOF.

B. SUBMITTALS

- BEFORE FABRICATION OF ANY MATERIALS OR EQUIPMENT, SUBMIT ONE (1) COPY OF DETAILED MANUFACTURER'S SHOP DRAWINGS OF EQUIPMENT AND APPARATUS FOR REVIEW. DO NOT ORDER MATERIALS UNTIL CONSULTANT HAS REVIEWED THE SHOP DRAWINGS. IF CORRECTIONS ARE REQUIRED, COPIES WILL BE RETURNED WITH CORRECTIONS NOTED. CORRECTED COPIES SHALL BE RESUBMITTED FOR REVIEW AND DISTRIBUTION. SUBMISSIONS SHALL BE MADE IN AMPLE TIME TO AVOID DELAYS IN THE WORK. THE REVIEW OF THE SHOP DRAWINGS SHALL BE AND IS MUTUALLY UNDERSTOOD TO BE, IN REFERENCE TO GENERAL DESIGN ONLY. IF ERRORS IN THE DETAILED DIMENSIONS OR INTERFERENCE WITH THE WORKS ARE NOTICED, THE ATTENTION OF THE CONTRACTOR WILL BE CALLED TO SUCH ERRORS OR INTERFERENCE, BUT REVIEW OF THE DRAWINGS SHALL NOT IN ANY WAY RELIEVE THIS CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR INTERFERENCE, OR FROM THE NECESSITY OF FURNISHING SUCH WORKS AND MATERIALS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK AT ANY TIME UNTIL FORMAL ACCEPTANCE.
- THE ELECTRICAL CONTRACTOR IS TO REVIEW, DATE AND SIGN ALL ELECTRICAL SHOP DRAWINGS PRIOR TO SUBMITTING TO THE CONSULTANT FOR REVIEW.
- THE ELECTRICAL CONTRACTOR TO PREPARE RECORD DRAWINGS (IN AUTOCAD AND PDF FORMATS) INCLUDING ALL CHANGES AND DEVIATIONS FROM CONSTRUCTION SET AND SUBMIT THEM TO THE CONSULTANT AND THE OWNER UPON THE COMPLETION OF THE PROJECT. AUTOCAD FILES CAN BE SUPPLIED BY THE CONSULTANT UPON REQUEST. THE CONSULTANT CAN PREPARE AS BUILT AUTOCAD DRAWINGS FOR THE ELECTRICAL CONTRACTOR FOR A NOMINAL FEE.
- THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE CONSULTANT AND THE OWNER AT THE END OF THE PROJECT IN A HARD COVER, THREE-RING BINDER WITH TABS INDICATING EACH SECTION:
 - FINAL INSPECTION/VERIFICATION REPORTS FROM THE INSPECTION AUTHORITIES AND TESTING AGENCIES
 - MANUFACTURER'S SPECIFICATION SHEETS AND PHOTOMETRIC DATA FOR LIGHT FIXTURES
 - A COPY OF ALL FINAL REVIEWED SHOP DRAWINGS
 - AUTOCAD AND PDF RECORD DRAWINGS
 - OPERATING INSTRUCTIONS FOR EACH SYSTEM INCLUDING CONTROL AND WIRING DIAGRAMS
 - MANUFACTURER RECOMMENDED MAINTENANCE PROCEDURES AND SCHEDULES
 - ALL PANELBOARD TYPEWRITTEN DIRECTORIES
 - USB DRIVE WITH ELECTRONIC COPY OF ITEMS 4.1 TO 4.7

C. PERMITS, TEST, REGULATIONS, ETC.

- CARRY OUT ALL CHANGES AND ALTERATIONS REQUIRED BY THE AUTHORIZED INSPECTOR OF ANY AUTHORITY HAVING JURISDICTION WITHOUT DELAY TO THE PROGRESS OF THE WORK AND WITHOUT EXTRA COST.
- PROVIDE WARNING SIGNS AND ARC FLASH LABELS AS SPECIFIED OR TO MEET REQUIREMENTS OF O.E.S.C, INSPECTION DEPARTMENT AND THE CONSULTANT.
- UPON COMPLETION OF THE CONTRACT, ISSUE TO THE OWNER A FORMAL CERTIFICATION OF COMPLETION OF WORK BEFORE FINAL PAYMENT FOR WORK MAY BE CONSIDERED DUE.
- PAYMENTS FOR ALL PERMITS, DEPOSITS, INSPECTION, SERVICES, AND OTHER FEES NECESSARY FOR THE WORK SHALL BE INCLUDED IN THE TENDER.

D. GROUNDING

- GROUND THE SERVICE AND ALL NON-CURRENT CARRYING METAL PARTS IN ACCORDANCE WITH OESC.
- PROVIDE COMPLETE GROUNDING AND BONDING SYSTEM AS REQUIRED BY OESC.
- PROVIDE GROUND CONNECTION TO TELEPHONE PANEL, WATER MAIN AND ALL METALLIC PIPING.

E. MATERIALS

- ALL MATERIALS AND EQUIPMENT (PRODUCTS) TO BE NEW AND FREE OF DEFECTS, CSA, ULC OR CANADIAN RECOGNIZED CERTIFICATION.
- THIS IS A BASE BID SPECIFICATION. ITEMS ON THE DRAWINGS AND SUBSEQUENT DIVISIONS OF THESE SPECIFICATIONS ARE LISTED WITH THE NAMES OF A SPECIFIC MANUFACTURER, THE FIRST OF WHICH IS BASE BID AND HAS BEEN USED IN THE DESIGN AND IS THE EQUIPMENT SHOWN ON THE DRAWINGS. THE PRICE SUBMITTED FOR THIS CONTRACT SHALL BE BASED ON THE USE OF MATERIALS AND EQUIPMENT SPECIFIED AS THE BASE BID.
- WHERE MORE THAN ONE MANUFACTURER IS LISTED FOR A PARTICULAR ITEM OR GROUPS OF ITEMS, THE CONTRACTOR SHALL STATE IN HIS TENDER FORM COST SAVINGS (IF ANY) FOR THE USE OF ALTERNATE PRODUCTS, AND SHALL NAME THE ALTERNATE MANUFACTURERS. HOWEVER, THESE PROPOSED MATERIALS MUST NOT BE USED IN CALCULATING THE BASE TENDER PRICE. THE CONSULTANT AND/OR OWNER SHALL HAVE THE FINAL OPTION OF ACCEPTING OR REJECTING ALTERNATE EQUIPMENT.
- WHERE OTHER THAN A FIRST-NAMED PRODUCT IS PROPOSED, THE BIDDER WILL BE DEEMED TO REPRESENT THAT NAMED PRODUCT CONFORMS TO THE PERFORMANCE, QUALITY, SPACE AND WEIGHT CHARACTERISTICS OF THE BASE BID PRODUCT. THIS CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL DESIGN OR CONSTRUCTION COSTS GENERATED BY THE USE OF THE NON-FIRST NAMED BID MATERIAL. ACCEPTANCE OF NON-BASE MANUFACTURERS WITH RESPECT TO THEIR EQUIVALENCY SHALL BE SUBJECT TO THE CONSULTANT'S REVIEW OF SHOP DRAWINGS.

F. WIRES AND CABLES

- ALL WIRING SHALL BE MINIMUM COPPER NO. 12 AWG WITH 600V INSULATION FOR 120/208V WIRING AND 1000V FOR 600V WIRING OF CHEMICALLY CROSS-LINKED THERMOSETTING POLYETHYLENE (XLPE) MATERIAL SUITABLE FOR 90° OPERATION. CONDUCTORS NO. 10 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SIZES SHALL BE IN ACCORDANCE WITH THE OESC AND AS INDICATED ON THE DRAWINGS. ALUMINUM WIRING IS NOT ACCEPTABLE UNLESS NOTED OTHERWISE.
- ALL LOW VOLTAGE 6-24VDC EMERGENCY LIGHTING WIRING SHALL BE MINIMUM COPPER NO.10 AWG.
- AC90 CABLE MAY ONLY BE USED FOR SHORT RUNS WITH MAXIMUM DISTANCE OF 3660mm (12ft) TO LIGHT FIXTURES AND RECEPTACLES IN CONCEALED AREAS ONLY UNLESS NOTED OTHERWISE ON DRAWINGS. AC90 CABLE (INCLUDING FIRE ALARM) NOT TO BE USED IN OPEN CEILING AREAS, ELEVATOR SHAFT AND STAIRWELL.
- WHERE CONDUCTOR SIZES ARE NOT INDICATED THEY SHALL BE SIZED TO ENSURE THE VOLTAGE DROP DOES NOT EXCEED 2% FOR BRANCH CIRCUIT AND 3% FOR MAIN FEEDER AND THE REQUIREMENTS OF THE OESC.
- ALL RACEWAYS SHALL BE EQUIPPED WITH A GREEN INSULATED GROUND CONDUCTOR AND SHALL MEET THE REQUIREMENTS OF THE OESC.

G. CONDUIT

- EMT AND RIGID GALVANIZED STEEL (RGS) CONDUIT TO BE CONCEALED IN FINISHED AREAS OF THE BUILDING.
- RIGID PVC CONDUIT TO BE USED ONLY FOR DIRECT BURIED AND CONCRETE ENCASED INSTALLATIONS.
- FLEXIBLE METALLIC CONDUIT MAY BE USED FOR SHORT CONNECTIONS TO VIBRATING MECHANICAL EQUIPMENT.
- MINIMUM CONDUIT SIZE SHALL BE 21mm (3/4") UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- WHERE SLEEVES OR OPENINGS ARE INSTALLED IN WALLS, FLOORS, ROOF OR PARTITIONS TO ACCOMMODATE RACEWAYS OR CABLES, PROVIDE ALL NECESSARY SEALS, FITTINGS, BARRIERS AND FIRE-RESISTANT MATERIALS TO RESTORE THE INSTALLATION TO ITS ORIGINAL FIRE RATING TO THE SATISFACTION OF THE GOVERNING AUTHORITIES.
- WHERE CONDUIT MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE METALLIC WIREMOLD PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.

H. OUTLETS AND JUNCTION BOXES

- PROVIDE STICK ON LABELS (BLACK LETTERING ON WHITE BACKGROUND) INDICATING THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES AND CONTROL DEVICES.
- THE OWNER/CONSULTANT RESERVES THE RIGHT TO CHANGE LOCATIONS OF OUTLETS TO WITHIN 3660mm (12ft) OF LOCATION INDICATED ON THE DRAWINGS WITHOUT EXTRA CHARGE, PROVIDING CONTRACTOR IS ADVISED PRIOR TO INSTALLATION.
- ALL PULL/JUNCTION BOXES MUST BE ACCESSIBLE AFTER THE BUILDING IS COMPLETE. INSTALL PULL ROPE IN ALL EMPTY CONDUITS.
- ALL JUNCTION BOXES AND CONDUIT SUPPORT SYSTEM SHALL BE SECURED TIGHT TO THE UNDERSIDE OF THE BUILDING STRUCTURE. SUSPENDED JUNCTION BOXES AND CONDUITS WILL NOT BE ACCEPTED.
- ALL DEVICE BOXES TO BE RECESSED WHEREVER POSSIBLE. ALL JUNCTION BOXES SHALL BE SIZED TO ACCOMMODATE THE NUMBER OF RACEWAYS AND CONDUCTORS AND BE EASILY ACCESSIBLE AFTER INSTALLATION.
- WHERE BOXES MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE SURFACE MOUNTED WIREMOLD BOXES PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.

I. WIRING DEVICES

- SWITCHES, RECEPTACLES AND OUTLETS TO BE DECORA STYLE, WHITE COLOR WITH STAINLESS STEEL COVER PLATES IN ALL OTHER LOCATIONS.
 - DUPLEX RECEPTACLES
 - 15 OR 20 AMP, 120 VOLT SPECIFICATION GRADE COMPLETE WITH BACK BOX
 - EXTERIOR RECEPTACLES TO HAVE WET LOCATION WHILE-IN-USE COVER AND MARKED "EXTRA DUTY"
 - RECEPTACLES TO BE TAMPER RESISTANT AND MARKED AS SUCH IN ELEMENTARY EDUCATION FACILITIES
 - TOGGLE SWITCHES TO BE 15 OR 20 AMP, 120 OR 347 VOLT AS REQUIRED COMPLETE WITH BACK BOX.
 - LOW VOLTAGE SWITCHES OR VACANCY SENSORS TO BE AS SPECIFIED COMPLETE WITH BACK BOX.

J. FIRE STOPPING

- SEALS FOR CABLES AND CONDUIT:
 - PROVIDE FIRE RATED SEALS FOR CONDUITS AND WIRING AT ALL FIRE RATED WALL/FLOOR PENETRATIONS.
 - APPLY FIRE SEALANT 3M CP 25WB+ , 4 HR FIRE BARRIER, L RATED, STC 54 TO SEAL ALL PENETRATIONS THROUGH ANY FIRE RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS FOR ALL FIRE RATED ASSEMBLIES.

K. NETWORK AND SYSTEMS

- THE ELECTRICAL CONTRACTOR TO HIRE MILLISIDE OR NETWORK TELECOM AS THE NETWORK AND IT CONTRACTOR. THE NETWORK CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL COMMUNICATION WIRING, MAKING ALL NECESSARY TERMINATIONS AT SWITCHES AND OUTLETS, LABELING AND TESTING.
- SUPPLY AND INSTALL COMPLETE RACEWAY (CONDUIT) SYSTEM c/w PULL STRING AND NETWORK/DATA OUTLET BOXES. COORDINATE ALL WORK WITH NETWORK AND IT CONTRACTOR AS REQUIRED TO COMPLETE THE INSTALLATION OF NETWORK EQUIPMENT.
- ALL VOICE AND DATA CABLEING TO BE INSTALLED IN 3/4" EMT CONDUIT CONCEALED IN WALL FROM EACH VOICE/DATA OUTLET TO ACCESSIBLE CEILING SPACE. IF SURFACE MOUNT IS REQUIRED BELOW THE CEILING THAN WIREMOLD AND WIREMOLD BOXES ARE TO BE USED. ALL DATA CABLEING IN EXPOSED CEILING SPACES TO BE INSTALLED IN WIREMOLD AND PULL BOXES AND SIZED ACCORDING TO NUMBER OF DATA CABLES LOCATED IN THAT SPACE. WHERE VOICE AND DATA CABLEING IS INSTALLED ABOVE DROPPED ACCESSIBLE CEILING SPACES THE ELECTRICAL CONTRACTOR IS TO PROVIDE 'J HOOKS' AS REQUIRED TO SUPPORT ALL VOICE AND DATA CABLEING. UNDER NO CIRCUMSTANCES SHOULD VOICE OR DATA CABLEING BE INSTALLED LOOSE OR ON TOP OF T-BAR CEILINGS.
- VOICE AND DATA CABLEING WILL BE A 'CATEGORY 6' COMPLIANT UTP CABLEING SYSTEM COMPRISING OF: FT6 RATED CAT6 UTP CABLES, RJ45 (WHITE) DVO SURFACE MOUNT BLOCKS C/W COLORED RJ45 JACKS, 10' PATCH CABLES FOR CONNECTION FROM NETWORK PATCH PANEL TO OWNER SUPPLIED NETWORK EQUIPMENT.

K. NETWORK AND SYSTEMS

- VOICE CABLES (BOTH ANALOG AND VOIP) TO BE WHITE COLOR. DATA CABLES TO BE BLUE COLOR.
- MAXIMUM CABLE LENGTH (JACK TO PATCH PANEL) IS 90 METERS.
- EACH RJ45 OUTLET SHALL BE LABELED. PROVIDE BLACK LETTER ON WHITE BACKGROUND P-TOUCH TYPE LABELS.
- ALL CABLE RUNS TO BE UNIQUELY NUMBERED AT BOTH ENDS AS WELL AS THE COVER OF EACH BLOCK AND OUTLET WITH P-TOUCH LABELS.
- ALL DATA CABLEING WITHIN CONCEALED CEILING TO BE SECURED TO STRUCTURE WITH 'J' HOOKS AND BUNDLED WITH ZIP TIES AS REQUIRED.
- ALL BUILDING INFRASTRUCTURE CABLEING IS TO BE TESTED FOR CONTINUITY AND ADHERENCE TO THE TIA STANDARD. CABLE TEST RESULTS TO BE LEFT IN THE STORAGE ROOM WITH CABLE TERMINATIONS AND FLOOR PLAN. AN ADDITIONAL COPY OF THE TEST RESULTS AND A COPY OF THE INSTALLERS CERTIFICATION IS TO BE SENT TO THE OWNER IMMEDIATELY FOLLOWING PROJECT COMPLETION.

L. LIGHTING

- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LIGHT FIXTURES AS SPECIFIED ON PLANS. ALTERNATE LIGHT FIXTURES SHALL NOT BE USED IN CALCULATING BASE TENDER PRICE. THE ELECTRICAL CONTRACTOR MAY SUBMIT AN ALTERNATE LIGHTING PACKAGE WITH TENDER PRICE IF THERE IS A COST SAVING OVER THE BASE SPECIFIED LIGHT FIXTURES. THE CONTRACTOR SHALL STATE THE COST SAVING FOR THE ALTERNATE FIXTURES WITH TENDER AND THE OWNER RESERVES THE RIGHT TO ACCEPT OR REJECT THE ALTERNATE FIXTURES PACKAGE COST SAVING.
- PROVIDE ALL MOUNTING HARDWARE AND ACCESSORIES TO SUIT THE CEILING AND INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND PROVIDE REQUIRED MOUNTING ACCESSORIES AS REQUIRED. ALL FIXTURES TO BE CSA OR ULC LISTED.
- ALL LIGHT FIXTURES THAT ARE NOT SUPPORTED DIRECTLY BY AN OUTLET BOX AS PER OESC 300-302, ARE TO BE SECURED TO BUILDING STRUCTURE INDEPENDENTLY BY JACK CHAINS OR AIRCRAFT CABLES.
- EMERGENCY LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3.2.7.3 OF THE LATEST EDITION OF ONTARIO BUILDING CODE. EMERGENCY LIGHTING SHALL BE PROVIDED TO AN AVERAGE LEVEL OF ILLUMINATION NOT LESS THAN 10 LUX AT FLOOR OR TREAD LEVEL AS REQUIRED BY OBC.
- LOCATE EACH EMERGENCY LIGHT ON SITE TO SUIT EXIT ROUTING AND LINE OF SIGHT. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR TESTING OF EMERGENCY LIGHTS AND SUBMIT SEALED CERTIFICATE ALONG WITH TEST REPORT TO THE CONSULTANT BEFORE FINAL PAYMENT.
- EACH EMERGENCY POWER BATTERY UNIT SHALL PROVIDE SUFFICIENT WATTAGE TO LIGHT ALL REMOTE EMERGENCY EXIT LIGHT HEADS WIRED TO IT FOR A MINIMUM PERIOD DESCRIBED IN SECTION 3.2.7.4 OF OBC.
- ALL LOW VOLTAGE LIGHTING CONTROL DEVICES TO BE CSA OR ULC LISTED.

M. FIELD QUALITY CONTROL

- TEST ALL WORK. REMEDY AND MAKE GOOD ANY DEFECTS DISCLOSED BY SUCH TESTS AND TEST THE WORK AGAIN. TEST IN ACCORDANCE WITH APPROVED PROCEDURE.
- TEST EACH POWER AND CONTROL CONDUCTOR FOR CONTINUITY AND GROUNDS. IMMEDIATELY FOLLOWING THIS TEST, CONNECT CONDUCTOR TO ITS PERMANENT TERMINAL.
- INSPECT ALL CONNECTIONS, PROTECTIVE AND SAFETY DEVICES PRIOR TO ENERGIZING ANY EQUIPMENT AND MAKE NECESSARY ADJUSTMENTS, WHERE REQUIRED, TO ASSURE A PROPER AND SAFE OPERATION.
- ALL EQUIPMENT SHALL BE WIPED CLEAN AND VACUUMED.

N. FIRE ALARM SYSTEM RENOVATIONS

- THE ELECTRICAL CONTRACTOR SHALL HIRE A FIRE ALARM SYSTEM COMPANY TO TEST AND VERIFY ANY NEW OR RELOCATED FIRE ALARM DEVICES AND PROVIDE WRITTEN VERIFICATION REPORT INDICATING THE DEVICES HAVE BEEN TESTED AND VERIFIED TO THE LATEST APPLICABLE CODES AND STANDARDS.
- THE ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH TESTING AND VERIFICATION AS REQUIRED BY THE FIRE ALARM WORK INDICATED ON THE ELECTRICAL DRAWINGS.
- THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH THE LATEST EDITION OF CAN/ULC-S524, "INSTALLATION OF FIRE ALARM SYSTEMS".
- THE FIRE ALARM SYSTEM SHALL BE VERIFIED IN CONFORMANCE WITH THE LATEST EDITION OF CAN/ULC-S537, "VERIFICATION OF FIRE ALARM SYSTEM" TO ENSURE SATISFACTORY PERFORMANCE.
- ALL STROBE CANDELAS TO BE 15cd UNLESS OTHERWISE NOTED.

ELECTRICAL DRAWING LIST	
E1.01	PHASE 1 SPECIFICATIONS SHEET 1 OF 2 AND DRAWING LIST
E1.02	PHASE 1 SPECIFICATIONS SHEET 2 OF 2 AND LEGENDS
E1.03	PHASE 1 GENERAL SCHEDULES
E1.04	PHASE 1 DETAILS SHEET 1 OF 3
E1.05	PHASE 1 DETAILS SHEET 2 OF 3
E1.06	PHASE 1 DETAILS SHEET 3 OF 3
E1.07	PHASE 1 SINGLE LINE DIAGRAMS
E1.08	PHASE 1 PANEL SCHEDULES
E2.01	PHASE 1 KEYPLAN
E3.01	PHASE 1 PARTIAL POWER AND SYSTEMS DEMOLITION
E3.02	PHASE 1 PARTIAL POWER AND SYSTEMS NEW
E4.01	PHASE 1 PARTIAL LIGHTING AND FIRE ALARM DEMOLITION
E4.02	PHASE 1 PARTIAL LIGHTING AND FIRE ALARM NEW

DO NOT SCALE DRAWING. DIMENSIONS ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR ON SITE

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No.	REVISION	DATE (MM/DD/YYYY)
3	ISSUED FOR PERMIT/TENDER	01.28.2026
2	ISSUED FOR CLIENT REVIEW	06.03.2025
1	ISSUED FOR 90% COORDINATION	05.01.2025

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512 MAIN STREET,
GEORGETOWN, ON

CLIENT: HALTON DISTRICT SCHOOL BOARD
DWG. TITLE: PHASE 1 SPECIFICATION
SHEET 1 OF 2 AND
DRAWING LIST

DESIGN: A.O	SCALE: N.T.S
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E1.01

ELECTRICAL SPECIFICATIONS

O. LIGHTING CONTROLS

- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LIGHTING CONTROL DEVICES AS SPECIFIED ON PLANS. ALTERNATE LIGHTING CONTROL DEVICES SHALL NOT BE USED IN CALCULATING BASE TENDER PRICE. THE ELECTRICAL CONTRACTOR MAY SUBMIT AN ALTERNATE LIGHTING CONTROL PACKAGE WITH TENDER PRICE IF THERE IS A COST SAVING OVER THE BASE SPECIFIED LIGHTING CONTROL PACKAGE. THE CONTRACTOR SHALL STATE THE COST SAVING FOR THE ALTERNATE LIGHTING CONTROL DEVICES WITH TENDER AND THE OWNER RESERVE THE RIGHTS TO ACCEPT OR REJECT THE ALTERNATE LIGHTING CONTROL PACKAGE COST SAVING.
- ELECTRICAL CONTRACTOR TO PROVIDE ALL LOW VOLTAGE LIGHTING CONTROL DEVICES INCLUDING WIRING, ACCESSORIES, COVER PLATES, ETC. ALL LOW VOLTAGE WIRING DETAILS TO BE CONFIRMED BY LIGHTING CONTROL MANUFACTURER. ALL LIGHTING CONTROL WIRING TO BE INSTALLED IN CONDUIT/BOXES.
- ALL LOW VOLTAGE LIGHTING CONTROL WIRING TO BE INSTALLED IN CONDUIT WHERE INSTALLED IN EXPOSED AREAS. LOW VOLTAGE WIRING INSTALLED ABOVE ACCESSIBLE CEILING SPACES TO BE PROPERLY SUPPORTED AND SECURED TO STRUCTURE.
- ELECTRICAL CONTRACTOR TO SUBMIT DETAILED OCCUPANCY SENSOR, LOW VOLTAGE SWITCHING AND POWER PACK WIRING DIAGRAMS SPECIFIC TO THIS PROJECT DURING SHOP DRAWING SUBMISSION STAGE FOR REVIEW BY THE CONSULTANT.
- ELECTRICAL CONTRACTOR TO FIELD ADJUST AIMING, SENSITIVITY AND TIME DELAY AS REQUIRED.
- LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH DRAWINGS AND MANUFACTURERS INSTALLATION INSTRUCTIONS. WHERE OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, OR PHOTOSENSORS ARE INSTALLED, AT A MINIMUM, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
 - CERTIFY THAT OCCUPANT SENSORS HAVE BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - OCCUPANCY SENSORS AND EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY.
 - STATUS INDICATOR OPERATES PROPERLY
 - CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN REQUIRED TIME
 - FOR AUTO-ON OCCUPANT SENSORS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WITH THE TIME REQUIRED
 - FOR MANUAL-ON SENSORS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED
 - THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN NEARBY AREAS OR BY HVAC OPERATION
- AUTOMATIC TIME SWITCHES
 - CONFIRM THAT THE AUTOMATIC TIME-SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES
 - DOCUMENT FOR OWNER AUTOMATIC TIME-SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES AS WELL AS ALL SETUP AND PREFERENCE PROGRAM SETTINGS.
 - VERIFY CORRECT TIME AND DATE ARE PROPERLY SET IN THE TIME SWITCH
 - VERIFY BATTERY BACKUP IS INSTALLED AND ENERGIZED
 - VERIFY THAT OVERRIDE TIME LIMIT SET TO NO MORE THAN TWO (2) HOURS
 - SIMULATE OCCUPIED CONDITION. VERIFY THE FOLLOWING
 - ALL LIGHTS TURN ON AND OFF BY THEIR RESPECTIVE CONTROL SWITCH
 - THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
- THE INDIVIDUALS RESPONSIBLE FOR THE FUNCTIONAL TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT AND SHALL PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.

P. PUBLIC ADDRESS (PA) AND TIME CLOCK

- ELECTRICAL CONTRACTOR TO HIRE HAMILTON VIDEO AND SOUND TO SUPPLY AND INSTALL COMPLETE PA SYSTEM COMPONENTS INCLUDING PROGRAMMING CHANGES, SUPPLY AND INSTALL OF NEW PA SPEAKERS, PA CALL PRIVACY SWITCHED AND MAKING ALL NECESSARY TERMINATIONS.
- SUPPLY AND INSTALL COMPLETE RACEWAY (CONDUIT) SYSTEM c/w PULL STRING AND FIELD DEVICE BACK BOXES FOR PUBLIC ADDRESS/OCTV SYSTEM. COORDINATE ALL WORK WITH HAMILTON VIDEO AND SOUND AS REQUIRED TO COMPLETE THE INSTALLATION OF THE SYSTEM.
- ALL PUBLIC ADDRESS CABLING TO BE INSTALLED IN 3/4" EMT CONDUIT FROM EACH SPEAKER TO ACCESSIBLE CEILING SPACE. IF SURFACE MOUNT IS REQUIRED BELOW THE CEILING THAN WIREMOLD AND WIREMOLD BOXES ARE TO BE USED. ALL PUBLIC ADDRESS CABLING IN EXPOSED CEILING SPACES TO BE INSTALLED IN EMT CONDUIT AND PULL BOXES AND SIZED ACCORDING TO NUMBER OF DATA CABLES LOCATED IN THAT SPACE. WHERE PUBLIC ADDRESS CABLING IS INSTALLED ABOVE DROPPED ACCESSIBLE CEILING SPACES THE ELECTRICAL CONTRACTOR IS TO PROVIDE 'J HOOKS' AS REQUIRED TO SUPPORT ALL PUBLIC ADDRESS CABLING. UNDER NO CIRCUMSTANCES SHOULD PUBLIC ADDRESS CABLING BE INSTALLED LOOSE OR ON TOP OF T-BAR CEILINGS.

Q. CLASSROOM CONTROL PANEL (MCP)

- CONTROL PANELS SHALL BE CONSTRUCTED OF A VANDAL-RESISTANT, STRUCTURALLY SOUND 6063 T5 ALLOY SATIN ANODIZED ALUMINUM FRAME, .08MM THICK WITH HIGH PRESSURE PLASTIC PLAM PANELS OF LIGHTWEIGHT PARTICLE CORE AND A 0.5MM PLAM BACKING SHEET. PLASTIC LAMINATE COLOURS ARE TO BE TAFISA MOJAVE. IF NOT AVAILABLE, PROVIDE SAMPLES OF SIMILAR COLOUR FROM: ARBORITE, FORMICA, PIONITE, AND WILSONART FOR OWNER REVIEW AND SELECTION.
- ALL PANELS AND FASCIA SHALL BE VANDAL RESISTANT AND REMOVABLE FOR EASY SERVICE ACCESS
- UNITS TO BE COMPLETE WITH 1104 ELECTRICAL BACKBOXES FABRICATED FROM HEAVY DUTY GALVANIZED STEEL WITH SUITABLE BARRIERS AND CONTINUOUS KNOCKOUTS. CLEAR, SMOOTH FACIAS (FACEPLATES) SHALL BE PRE-PUNCHED TO ACCEPT DETAILED COMPONENTS. ALL UNITS WILL BE FABRICATED IN ACCORDANCE WITH REVIEWED SHOP DRAWINGS
- PANELS TO HAVE ALL OPENINGS, MOUNTING HARDWARE FOR SERVICE AND WIRING ACCESS FOR INSTALLATION OF ELECTRICAL, COMMUNICATION, SECURITY SERVICES BY DIVISION 15 AND 16.

R. EXECUTION

RACEWAYS:

- INSTALL CONDUIT AS A COMPLETE SYSTEM WITHOUT WIRES. CONTINUE CONDUIT FROM FITTING TO FITTING AND FASTEN SECURELY TO PLACE. CLEAN AND SEAL CONDUIT SYSTEM UNTIL WIRING IS INSTALLED.
- INSTALL CONDUIT PARALLEL OR AT RIGHT ANGLES TO PROPERTY LINES, CURBS, ETC., WHERE PRACTICAL.
- CUT ALL CONDUITS SQUARE AND REAM TO REMOVE SHARP EDGES AND BURRS. FIT CONDUITS CLOSELY AND TIGHTLY IN COUPLINGS.
- INSTALL A PULL WIRE IN EACH EMPTY CONDUIT PROVIDED FOR FUTURE USE BY OTHERS.
- CAP ALL CONDUITS WITH METAL, CARDBOARD OR PLASTIC, DURING CONSTRUCTION.

WIRES AND CABLES:

- DO NOT PULL THE WIRES BEFORE THE ENTIRE CONDUIT SYSTEM IS COMPLETED AND CLEANED.
- ENSURE THAT WIRES INSTALLED IN THE INTERIOR OF EQUIPMENT ARE NEATLY LACED WITH PLASTIC TIES AND GRASPED AND SECURED IN PLACE.
- RUN POWER CONDUCTORS FULL LENGTH WITHOUT SPLICES OR TAPS FROM ORIGIN TO DESTINATION, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS. NO CABLE SPLICING ALLOWED IN UNDERGROUND INSTALLATION.
- IDENTIFY EACH CABLE AND WIRE AT BOTH ENDS WITH PROPER CABLE AND WIRE NUMBER AS SHOWN ON THE DRAWINGS AND CABLE SCHEDULES IN ALL CONTROL PANELS, CONTROL DEVICES, DISTRIBUTION PANELS, PULL AND JUNCTION BOXES, ETC., USING APPROVED CABLE AND WIRE MARKERS.
- FOLLOW NORMAL RECOMMENDED PRACTICES WHEN INSTALLING CABLES IN CABLE TRAYS TO AVOID DAMAGE TO CABLE SHEATHS, CONDUCTORS OR INSULATION. ENSURE THAT CABLES ARE NOT DAMAGED BY EXCESSIVE TENSION WHEN PULLING. REPLACE ANY DAMAGED AND REJECTED CABLE WITHOUT COST TO THE OWNER.
- USE SUITABLE NON-HARDENING CABLE LUBRICANTS, WHERE REQUIRED, WHICH DO NOT CONTAIN ANY MATERIALS SUCH AS OIL, GREASE OR OTHER COMPOUNDS HARMFUL TO RUBBER, PVC OR POLYETHYLENE.
- MAKE SPLICES AND TAPS FOR CONTROL CONDUCTORS AT APPROVED TERMINAL BLOCKS IN JUNCTION BOXES.

CONTROL DEVICE	
SYMBOL	DESCRIPTION
\$X	120V OR 347V SINGLE GANG, SINGLE POLE SWITCH, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE
X\$X	120V OR 347V DOUBLE GANG, TWO SINGLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE
X\$X X	120V OR 347V THREE GANG, THREE SINGLE POLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE
X\$X XX	120V OR 347V FOUR GANG, FOUR SINGLE POLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE
⊗	CEILING MOUNTED VACANCY/OCCUPANCY SENSOR. 'X' DENOTES CONTROL DEVICE TYPE
⊗	WALL MOUNTED VACANCY/OCCUPANCY SENSOR. 'X' DENOTES CONTROL DEVICE TYPE
PPX	POWER PACK. 'X' DENOTES CONTROL DEVICE TYPE
RCX	ROOM CONTROLLER. 'X' DENOTES CONTROL DEVICE TYPE

GENERAL NOTE: 1. REFER TO CONTROL DEVICE SCHEDULE FOR DETAILED SPECIFICATION.

POWER AND SYSTEMS	
SYMBOL	DESCRIPTION
⊕	120VAC, 15 AMP DUPLEX RECEPTACLE
⊕	120VAC, 15 AMP DUPLEX GROUND FAULT CIRCUIT INTERRUPT RECEPTACLE
⊕	120VAC, 15 AMP QUAD RECEPTACLE
●	120VAC, CLOCK RECEPTACLE
⊗	HARD WIRED POWER CONNECTION RATED PER EQUIPMENT SPECIFICATION
■	SURFACE MOUNTED ELECTRICAL PANEL BOARD
■	RECESSED ELECTRICAL PANEL BOARD
⊙	FAN OR MOTOR
⊏	FUSED DISCONNECT SWITCH
H	ELECTRIC WALL MOUNTED HEATER.
⊕	WALL MOUNTED PROGRAM BELL
BX ⊕	WALL MOUNTED ANALOG CLOCK. 'B' DENOTES BATTERY POWERED. 'X' DENOTES TYPE.
⊕	THREE BLADE CEILING FAN.
⊕	JUNCTION BOX
P	PROJECTOR
∪	AUDIO AND VIDEO OUTLET
∪	DATA OUTLET. 'X' DENOTES NUMBER OF DATA OUTLET(S)
WA	WIRELESS ACCESS POINT
⊗	CEILING MOUNTED PUBLIC ADDRESS SPEAKER. 'X' DENOTES TYPE, REFER TO PUBLIC ADDRESS SCHEDULE
⊗	WALL MOUNTED PUBLIC ADDRESS SPEAKER. 'X' DENOTES TYPE, , REFER TO PUBLIC ADDRESS SCHEDULE
⊗	WALL MOUNTED PUBLIC ADDRESS HORN
⊗	WALL MOUNTED TELEPHONE
⊗	DOOR HOLD OPEN DEVICE
WMX	WIREMOLD. EXACT LENGTH TO BE VERIFIED AND FIELD CUT ON SITE AS REQUIRED. 'X' DENOTES TYPE

LINE TYPES	
LINE TYPE	DESCRIPTION
----	DENOTES LINE VOLTAGE WIRE
----	DENOTES 0-10V DIMMING WIRE
----	DENOTES LOW VOLTAGE WIRE
----	DENOTES CAT-5e CABLE
----	DENOTES DEVICE TO BE DEMOLISHED OR RELOCATED
----	DENOTES NEW OR RELOCATED DEVICE
----	DENOTES EXISTING DEVICE TO REMAIN

EMERGENCY LIGHTING	
SYMBOL	DESCRIPTION
CUX ⊕	EMERGENCY BATTERY UNIT AND RUNNING MAN OR EXIT SIGN COMBO WITH TWO DC HEADS. 'X' DENOTES TYPE
BUX	EMERGENCY BATTERY UNIT WITH TWO DC HEADS. 'X' DENOTES TYPE
RX YUX.C	WALL MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE DC HEADS. 'X' DENOTES TYPE
RX YUX.C	CEILING MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE DC HEADS. 'X' DENOTES TYPE
EMX ⊕ YUX.C	EMERGENCY CEILING MOUNTED RUNNING MAN OR EXIT SIGN. ARROW DENOTES DIRECTION OF EXIT. HATCHED AREA DENOTES ILLUMINATED FACE(ES). 'X' DENOTES TYPE
EMX ⊕ YUX.C	EMERGENCY WALL MOUNTED RUNNING MAN OR EXIT SIGN. ARROW DENOTES DIRECTION OF EXIT. HATCHED AREA DENOTES ILLUMINATED FACE(ES). 'X' DENOTES TYPE
YUX.C	'Y' INDICATES BATTERY OR COMBO UNIT. 'X' INDICATES TYPE OF BATTERY OR COMBO UNIT. 'C' INDICATES DEDICATED BRANCH WIRING CIRCUIT FROM BATTERY OR COMBO UNIT. WIRE TO BE SIZED TO ENSURE NO MORE THAN 5% VOLTAGE DROP PER BRANCH

GENERAL NOTE: 1. REFER TO EMERGENCY LIGHTING SCHEDULE FOR DETAILED SPECIFICATION.

GENERAL LIGHTING	
SYMBOL	DESCRIPTION
LX	2'X4' (610mmX1220mm) LIGHT FIXTURE. 'X' DENOTES TYPE
LX	1'X4' (305mmX1220mm) LIGHT FIXTURE. 'X' DENOTES TYPE
LX	CEILING MOUNTED LINEAR LIGHT FIXTURE. 'X' DENOTES TYPE
LX	CEILING MOUNTED STRIP LIGHT FIXTURE. 'X' DENOTES TYPE
⊗	ROUND DOWN LIGHT FIXTURE. 'X' DENOTES TYPE

GENERAL NOTE: 1. REFER TO GENERAL LIGHTING SCHEDULE FOR DETAILED SPECIFICATIONS.

SECURITY SYSTEMS	
SYMBOL	DESCRIPTION
⊕	CEILING MOUNTED CAMERA.
⊕	WALL MOUNTED CAMERA.
DC	DOOR CONTACT
⊕	WALL MOUNTED DOOR ALARM HORN. '*' DENOTES c/w WEATHERPROOF COVER.
\$DA	KEYED SWITCH FOR DOOR ALARM LOCK RELEASE
⊕	WALL MOUNTED SECURITY MOTION SENSOR

FIRE ALARM SYSTEMS	
SYMBOL	DESCRIPTION
⊕	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR.
V I H R	FIRE ALARM FIXED HEAT DETECTOR. 57°C (135°F). 'R' DENOTES RATE OF RISE HEAT DETECTOR. 'H' DENOTES HIGH TEMPERATURE HEAT DETECTOR. 88°C (190°F). 'I' DENOTES INTELLIGENT RELAY BASE WITH DRY CONTACTS. 'V' DENOTES CONVENTIONAL HEAT DETECTOR WIRED VIA ADDRESSABLE MODULE
⊕	FIRE ALARM PULL STATION. '*' DENOTES c/w WEATHERPROOF COVER. 'LG' DENOTES c/w WITH LEXAN GUARD COVER. 'C' DENOTES PLASTIC FLIP UP PROTECTION COVER.
⊕	WALL MOUNTED FIRE ALARM HORN. '*' DENOTES c/w WEATHERPROOF COVER.
EOL	END OF LINE RESISTOR
MON	ADDRESSABLE MONITORING DEVICE
FACP	SURFACE MOUNTED FIRE ALARM CONTROL PANEL
FAA	SURFACE MOUNTED FIRE ALARM ANNUNCIATOR

GENERAL NOTE: 1. REFER TO OR "FIRE ALARM SYSTEM RENOVATIONS" IN ELECTRICAL SPECIFICATION FOR MORE DETAILS.

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PROJECT: GLEN WILLIAMS PS HDSB
512 MAIN STREET, GEORGETOWN, ON

CLIENT: HALTON DISTRICT SCHOOL BOARD

DWG. TITLE: PHASE 1 SPECIFICATION SHEET 2 OF 2 AND LEGENDS

DESIGN: A.O	SCALE: N.T.S
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E1.02

GENERAL LIGHTING SCHEDULE												
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	WATTS (W)	LUMENS	0-10V DIMMING	LISTING REQUIRED	COLOUR TEMP(K)	CRI	MOUNTING	COMMENTS
LA			EXISTING 2'x4' LED LIGHT	120							RECESSED	
LB			EXISTING 2'x4' LED LIGHT	120							RECESSED	
LC			EXISTING 1'x4' CEILING LIGHT	120							CEILING	
LD			EXISTING 4' CEILING LIGHT	120							CEILING	
L1	LITHONIA LIGHTING	2GTL 4 40L GZ10 LP840	2'x4' LED TROFFER FIXTURE	120	30	4079	YES		4000K	80	RECESSED	
L2	LITHONIA LIGHTING	2GTL 4 60L GZ10 LP840	2'x4' LED TROFFER FIXTURE	120	49	6467	YES		4000K	80	RECESSED	
L3	LITHONIA LIGHTING	2GTL 4 72L GZ10 LP840	2'x4' LED TROFFER FIXTURE	120	53	7645	YES		4000K	80	RECESSED	

CONTROL DEVICE SCHEDULE									
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE AC (V)	VOLTAGE DC (VDC)	NO. OF RELAYS	MOUNTING	EQUIVALENT ACCEPTED	COMMENTS
3			3-WAY SWITCH						
OA			EXISTING CEILING MOUNTED OCCUPANCY SENSOR						
OB			EXISTING WALL MOUNTED OCCUPANCY SENSOR						
O1	nLIGHT	nCM PDT 10 RJB	DUAL TECHNOLOGY CEILING MOUNTED LOW VOLTAGE OCCUPANCY SENSOR		15-24		CEILING	YES	LIGHTING CONTROL TO BE MANUAL ON/AUTO OFF UNLESS OTHERWISE NOTED OR CONNECTED TO A ROOM CONTROLLER.
RC1	nLIGHT	nPP16 D EFP	LOW VOLTAGE ROOM CONTROLLER WITH 0-10V DIMMING	120	15	1	CEILING	YES	LIGHTING CONTROL TO BE MANUAL ON/AUTO OFF.
LD	nLIGHT	nPODMA DX WH	LOW VOLTAGE SWITCH WITH 0-10V DIMMER		15-24		WALL	YES	WIRE ALL RC1 UNITS CONNECTED TO THIS SWITCH WITH CAT-5e CABLE.

ABBREVIATIONS	
AFCI	DENOTES ARC FAULT CIRCUIT INTERRUPTER
AFF	DENOTES ABOVE FINISHED FLOOR
AFG	DENOTES ABOVE FINISHED GRADE
CH	DENOTES COUNTER HEIGHT
c/w	DENOTES COMPLETE WITH
DS	DENOTES DISCONNECT SWITCH
ED	DENOTES EXISTING DEVICE TO BE DEMOLISHED INCLUDING WIRING/CONDUIT(S) STRIPPED BACK TO SOURCE
ER	DENOTES EXISTING DEVICE TO BE RELOCATED
EX	DENOTES EXISTING DEVICE TO REMAIN
GFCI	DENOTES GROUND FAULT CIRCUIT INTERRUPTER
HL	DENOTES DEVICES MOUNTED AT HIGH LEVEL NEAR CEILING
LG	DENOTES LEXAN GUARD
MF	DENOTES DEVICE MOUNTED IN MILLWORK FACE
NTS	DENOTES NOT TO SCALE
REL	DENOTES EXISTING DEVICE AT RELOCATED LOCATION
TR	DENOTES TAMPER RESISTANT
TX	DENOTES TRANSFORMER
TYP	DENOTES TYPICAL
WG	DENOTES WIRE GUARD SUITABLE FOR DEVICE SHOWN
WP	DENOTES WEATHERPROOF
SPD	SURGE PROTECTION DEVICE

EMERGENCY LIGHTING SCHEDULE										
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE AC (VAC)	VOLTAGE DC (VDC)	LAMP BASE	LAMP TYPE	LAMP WATTS	EQUIVALENT ACCEPTED	COMMENTS
BU1			BATTERY UNIT c/w TWO DC HEADS	120	12	MR16	LED	2x7		EXISTING BATTERY UNIT
BU2			BATTERY UNIT	120	12					EXISTING BATTERY UNIT
CU1			COMBO UNIT c/w TWO DC HEADS AND RUNNING MAN SIGN	120	12	MR16	LED	2x7		EXISTING COMBO UNIT
R1			REMOTE DOUBLE LED DC HEAD		12	MR16	LED	2x7		EXISTING REMOTE DC HEADS
R2			REMOTE SINGLE LED DC HEAD		12	MR16	LED	7		EXISTING REMOTE DC HEAD
EM1			REMOTE SINGLE FACE ILLUMINATED RUNNING MAN SIGN		12					EXISTING RUNNING MAN SIGN
EM2			REMOTE DUAL FACE ILLUMINATED RUNNING MAN SIGN		12					EXISTING RUNNING MAN SIGN

POWER AND SYSTEMS SCHEDULE									
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	AMPS (A)	WATTS (W)	PHASE	COMMENTS	
B1	CAREHAWK	24ZBP12R-PS-12VDC-05A-S	12" ANALOG SECONDARY CLOCK c/w DC POWER ADAPTER						
MC1	CAREHAWK	24ZBMC100	MASTER CLOCK						
P			EXISTING PUBLIC ADDRESS SPEAKER						
P1	McBride	BLS822-19	PUBLIC ADDRESS SPEAKER IN MCP PANEL c/w MCT7025 DUAL VOLTAGE TRANSFORMER					SEE DETAILS ON DRAWING E1.06 FOR MCP PANEL ELEVATIONS AND PUBLIC ADDRESS SYSTEM WIRING DIAGRAM	
WM1	LEGRAND	ALS200 ALUMINUM SERIES RACEWAY AND FITTINGS	TWO COMPARTMENT RACEWAY FOR NETWORK SYSTEMS AND POWER					COMPLETE WITH ALL REQUIRED ACCESSORIES, END CONNECTIONS, AND DEVICE COVER PLATES FOR INSTALLATION, WHITE FINISH.	
MCP	INTERSPEC SYSTEMS ClassMate	CCP-16-04-KK	CLASSROOM CONTROL PANEL					REFER TO SPECIFICATIONS AND E1.05 FOR DETAILS.	

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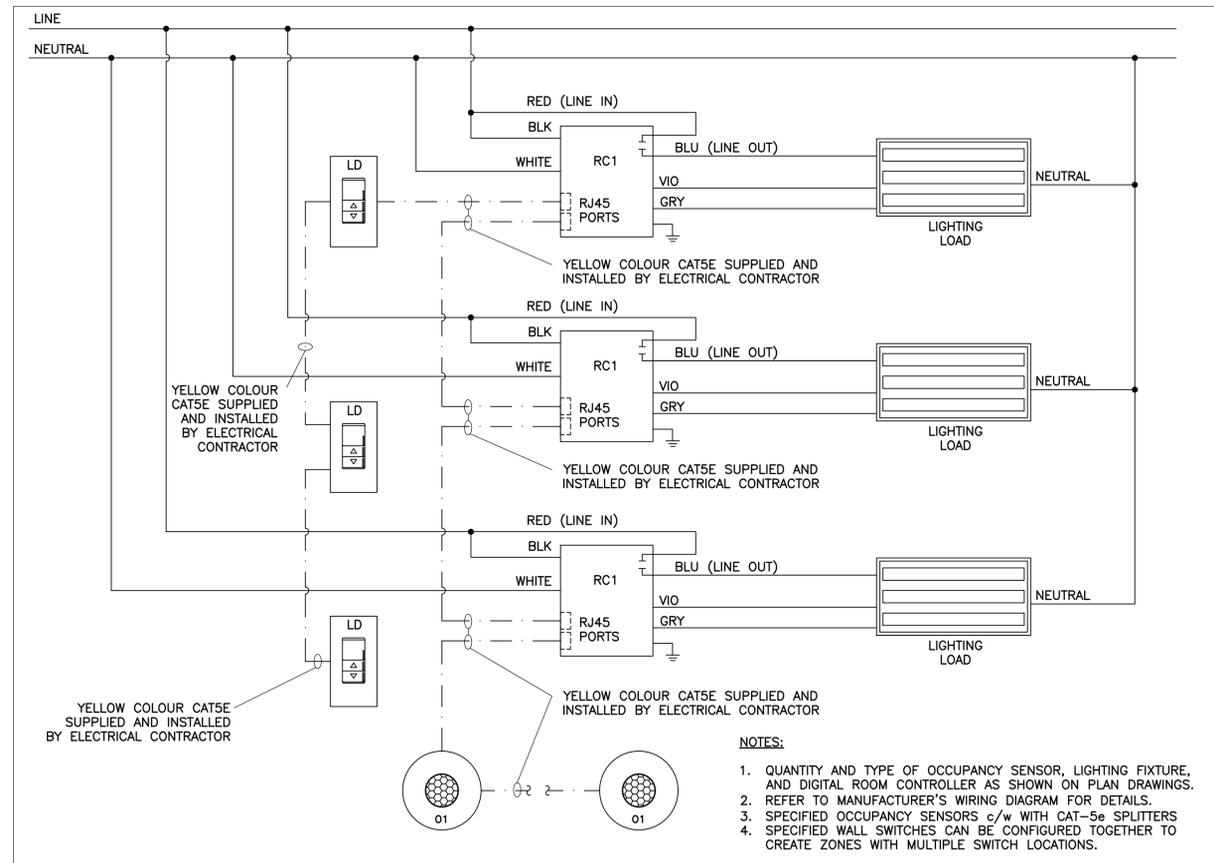
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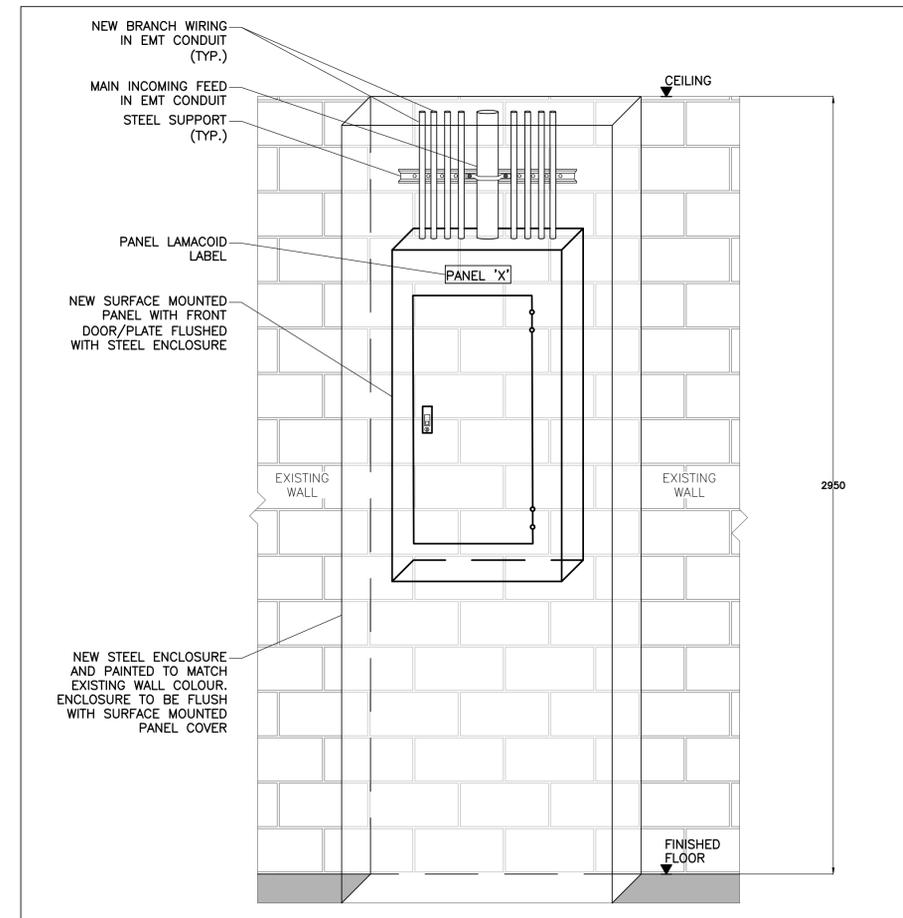
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DWG. TITLE:
**PHASE 1 GENERAL
 SCHEDULES**

DESIGN: A.O	SCALE: N.T.S
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E1.03



WIRING DIAGRAM FOR MULTIPLE ROOM CONTROLLERS WITH MULTIPLE OCCUPANCY SENSORS AND SWITCHES INSIDE ROOMS



TYPICAL ELECTRICAL PANEL ENCLOSURE
NTS

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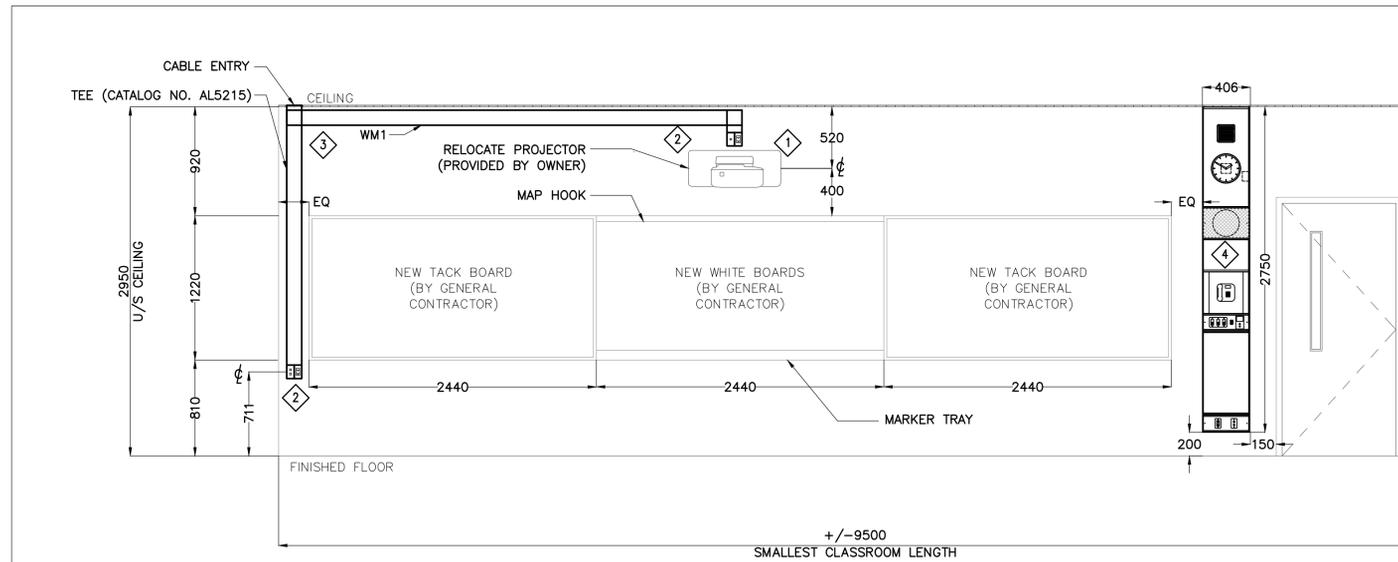
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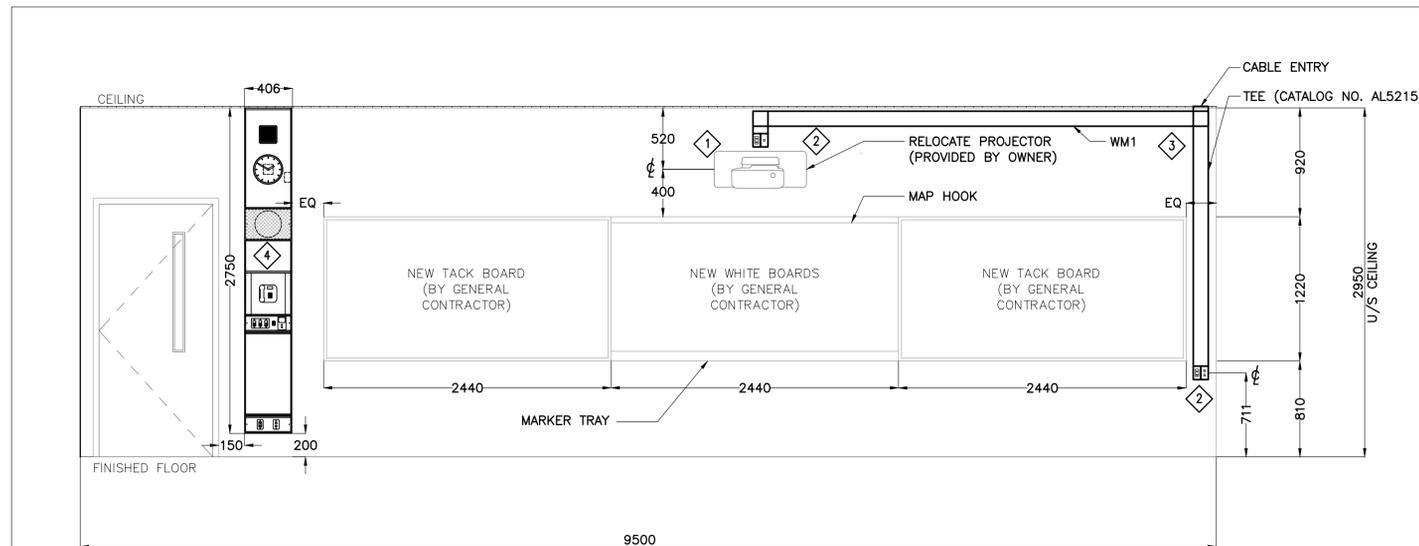
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PHASE 1 DETAILS SHEET 1
OF 3

DESIGN:	A.O	SCALE:	N.T.S
DRAWN:	A.O	JOB No:	25015
CHECKED:	J.S	DWG. No:	E1.04
DATE:	04.04.2025		



TYPICAL TEACHING WALL DETAIL FOR LASSROOMS 5 AND 7
NTS

- KEYNOTES:**
- 1 REFER TO ARCHITECTURAL ELEVATIONS FOR PROJECTOR MOUNTING AND CEILING HEIGHTS INSIDE EACH ROOM.
 - 2 SUPPLY AND INSTALL NEW DUPLEX AND 6A MINI ADAPTER COVER PLATE (CATALOG NUMBER: AL5256-DACT) FOR CONNECTION OF DATA AND HDMI OUTLET. BOTH RECEPTACLES SHALL BE ON SAME CIRCUIT.
 - 3 ALL SURFACE MOUNTED RACEWAYS TO BE METALLIC WIREMOLD.
 - 4 NEW MCP PANEL REFER TO E1.06 FOR DETAILS.



TYPICAL TEACHING WALL DETAIL FOR LASSROOMS 1 AND 3
NTS

- KEYNOTES:**
- 1 REFER TO ARCHITECTURAL ELEVATIONS FOR PROJECTOR MOUNTING AND CEILING HEIGHTS INSIDE EACH ROOM.
 - 2 SUPPLY AND INSTALL NEW DUPLEX AND 6A MINI ADAPTER COVER PLATE (CATALOG NUMBER: AL5256-DACT) FOR CONNECTION OF DATA AND HDMI OUTLET. BOTH RECEPTACLES SHALL BE ON SAME CIRCUIT.
 - 3 ALL SURFACE MOUNTED RACEWAYS TO BE METALLIC WIREMOLD.
 - 4 NEW MCP PANEL REFER TO E1.06 FOR DETAILS.

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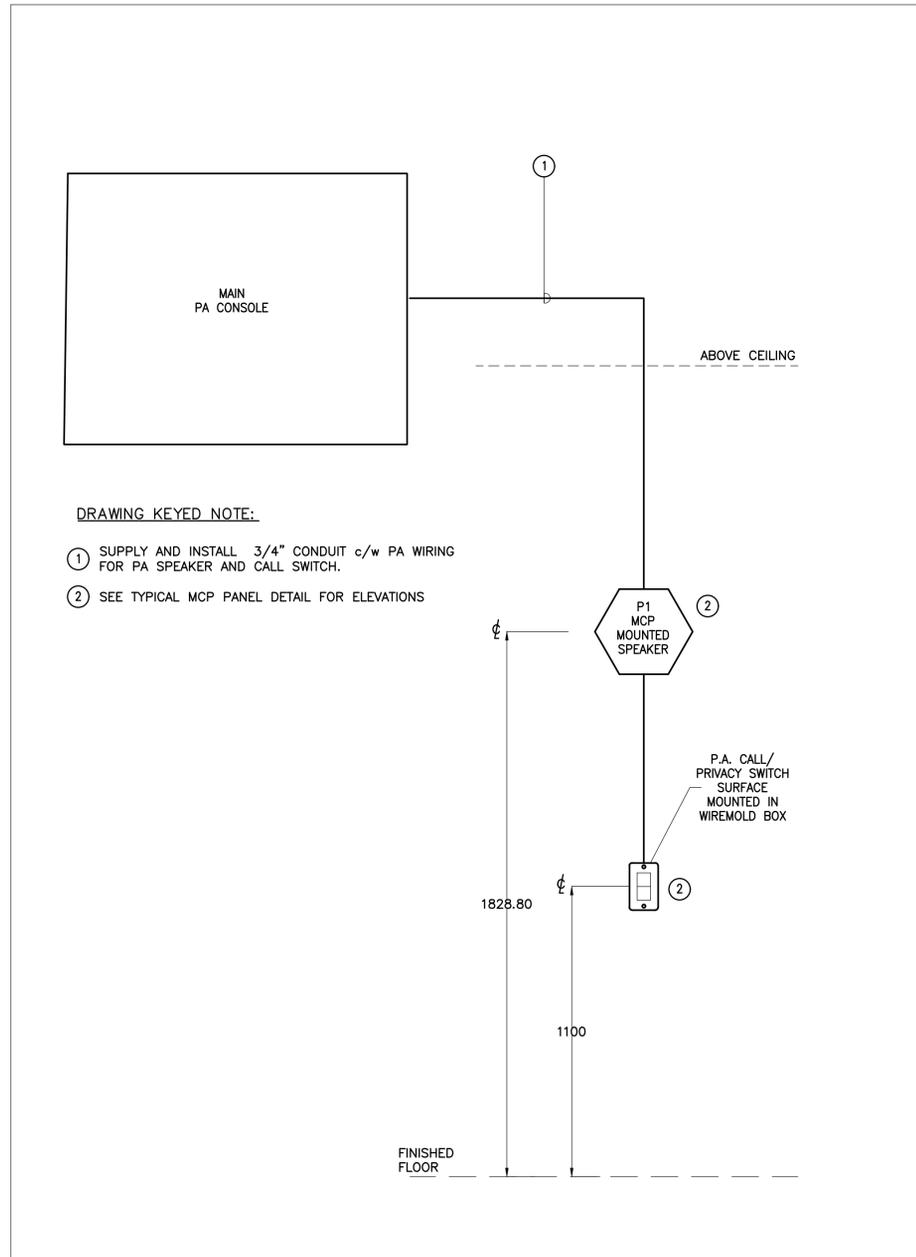
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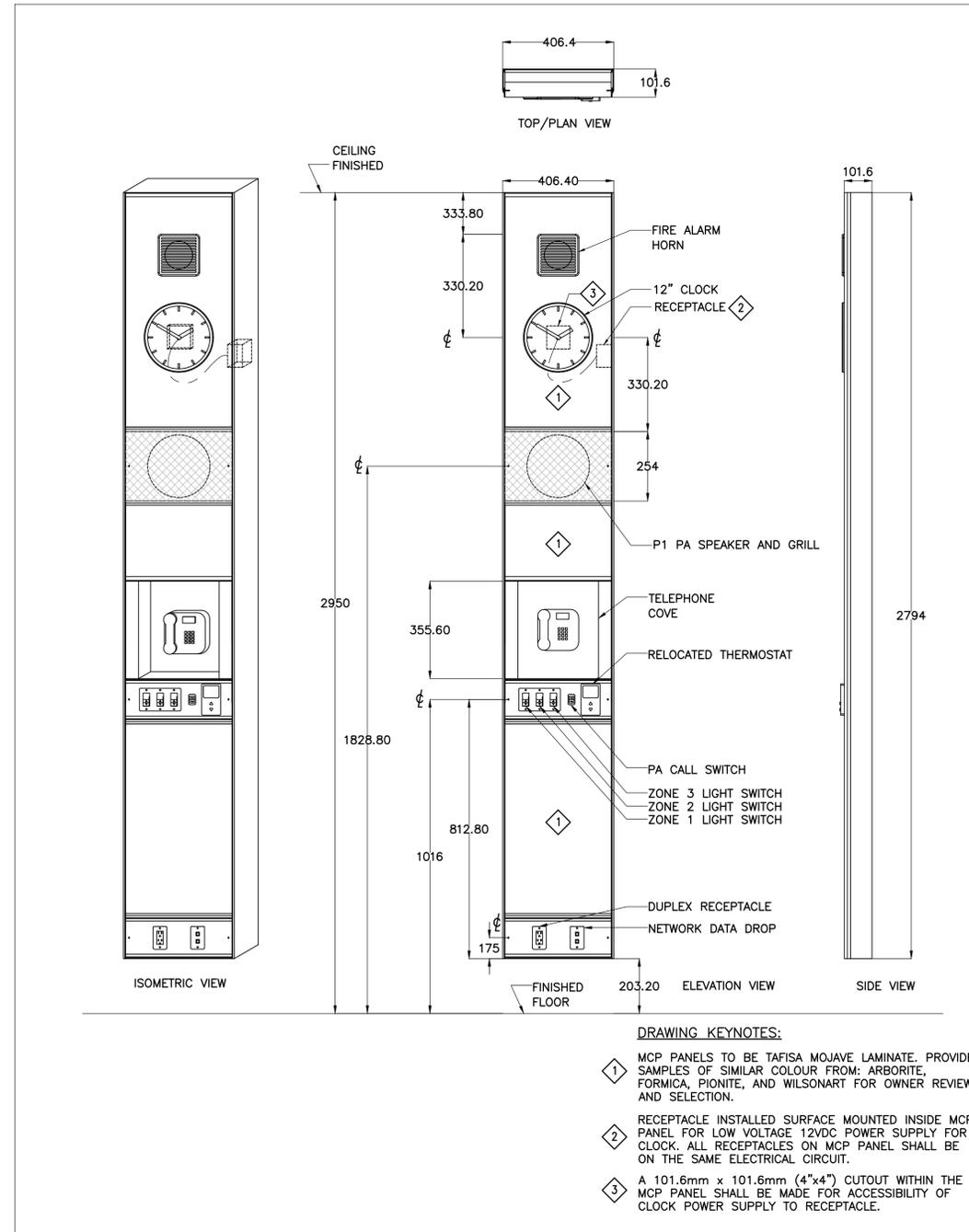
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DWG. TITLE:
**PHASE 1 DETAILS SHEET 2
OF 3**

DESIGN:	A.O	SCALE:	N.T.S
DRAWN:	A.O	JOB No:	25015
CHECKED:	J.S	DATE:	04.04.2025
		DWG. No:	E1.05



TYPICAL PUBLIC ADDRESS SPEAKER WIRING DIAGRAM



TYPICAL SURFACE MOUNT MCP PANEL LAYOUT

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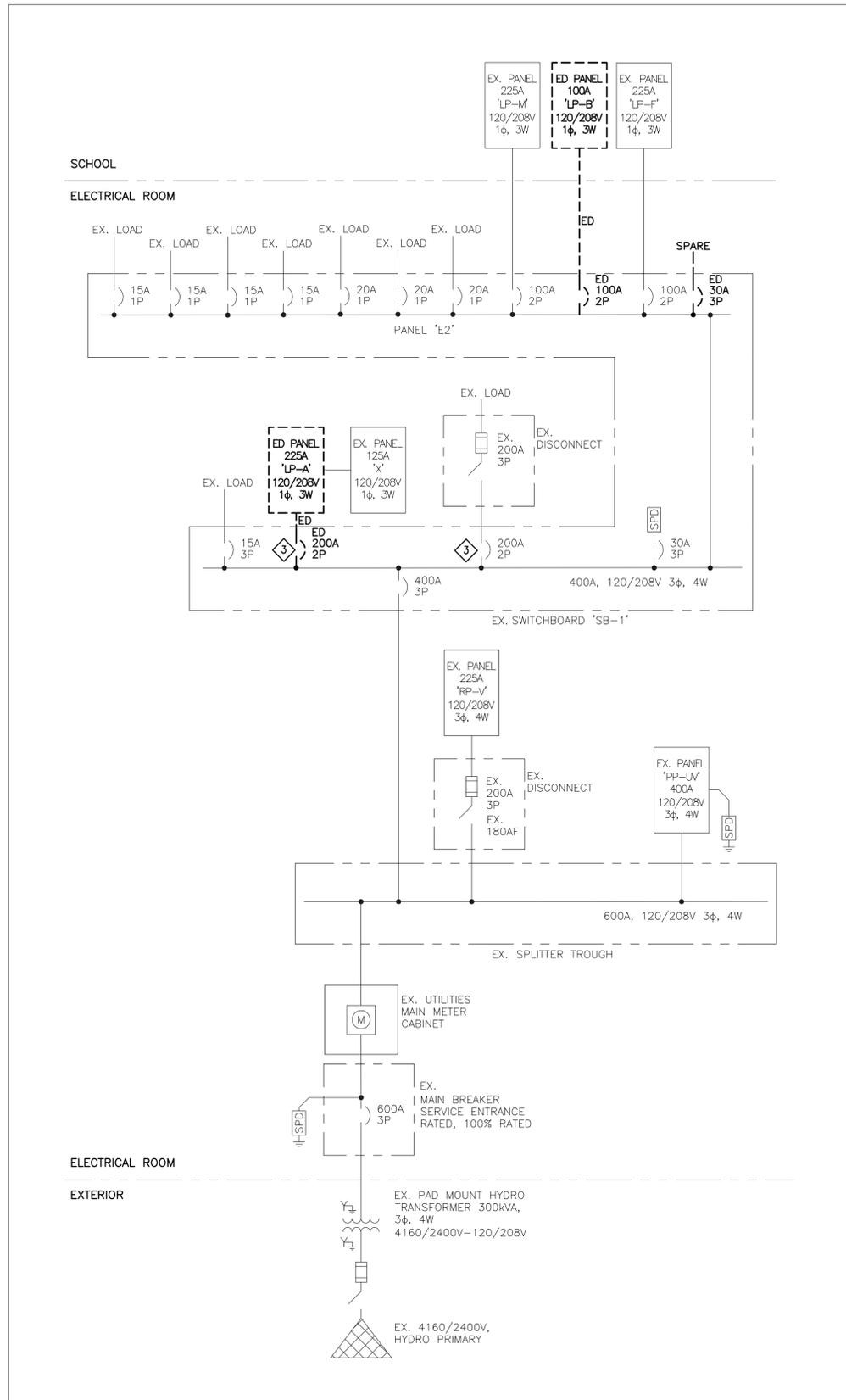
CK ENGINEERING INC
MECHANICAL | ELECTRICAL
2400 INDUSTRIAL STREET
BURLINGTON, ON. L7P 1A5
www.ckengs.com | info@ckengs.net | 905.631.1115

PROJECT:
**GLEN WILLIAMS PS
HDSB**
512 MAIN STREET,
GEORGETOWN, ON

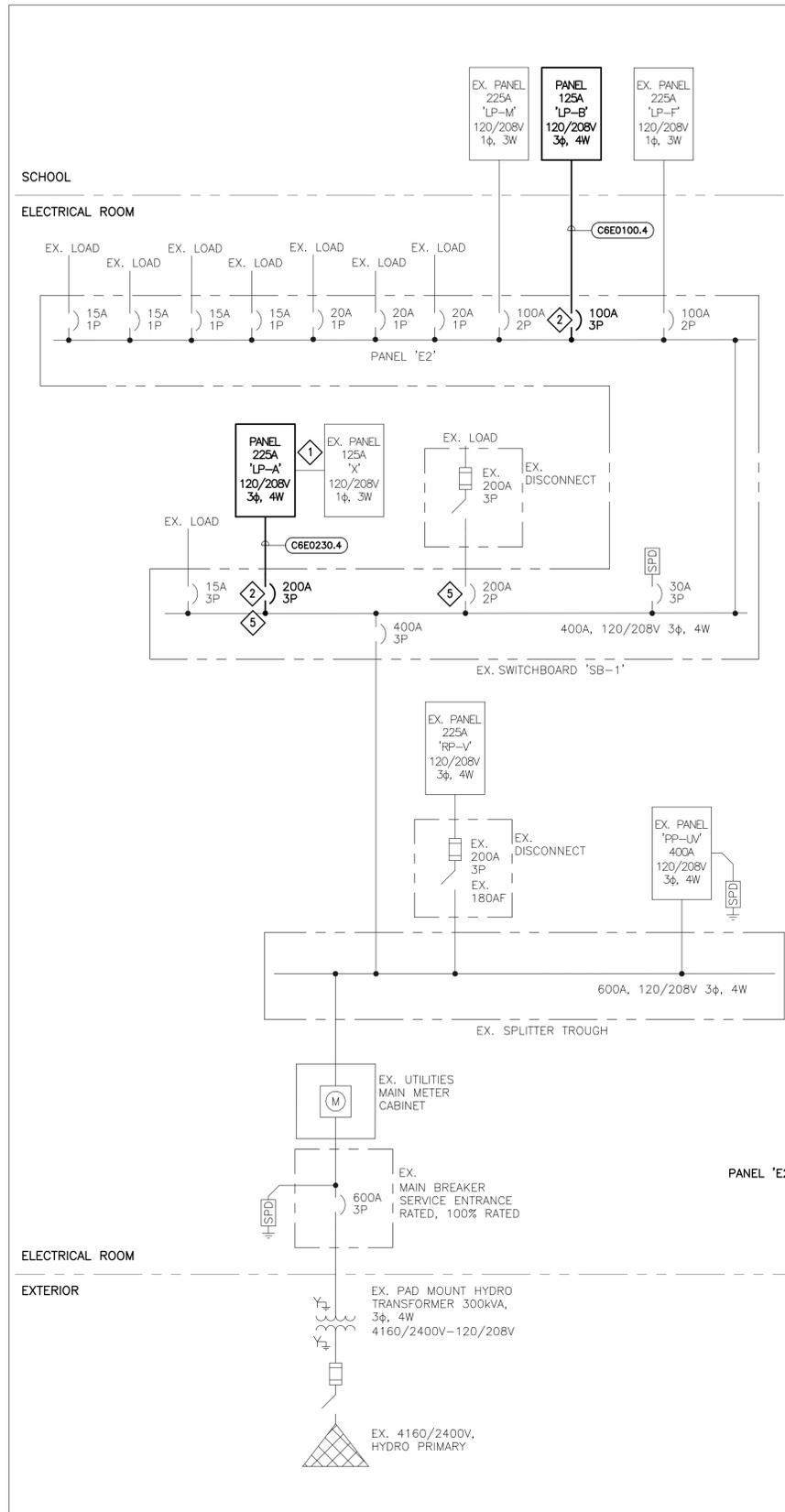
CLIENT:
HALTON DISTRICT SCHOOL BOARD

DWG. TITLE:
**PHASE 1 DETAILS SHEET 3
OF 3**

DESIGN:	A.O	SCALE:	N.T.S
DRAWN:	A.O	JOB No:	25015
CHECKED:	J.S	DWG. No:	E1.06
DATE:	04.04.2025		



DEMO SINGLE LINE DIAGRAM



NEW SINGLE LINE DIAGRAM

CABLE TAG LEGEND:

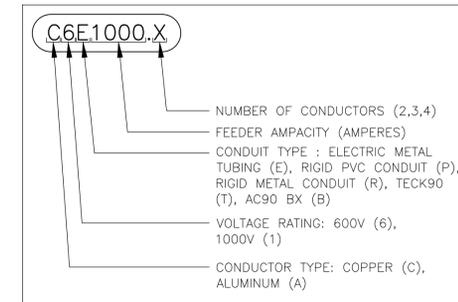


TABLE 'C6' 600V COPPER RW90XLPE UNJACKETED WIRE & CONDUIT SIZE (PER OESC 2024 TABLES 2, 6A, 9E, 9G AMPACITY BASED ON 75°C COLUMN)

FEEDER NO.	CONDUCTOR + BOND SIZE (AWG OR KCMIL) PER RUN	MAXIMUM FEEDER AMPACITY	NO. OF RUNS	MINIMUM CONDUIT SIZE PER RUN mm (inch.)		
				2 WIRE + BOND	3 WIRE + BOND	4 WIRE + BOND
C6E0100.X	#3AWG + #6AWG	100	1	27 (1)	35 (1½)	35 (1½)
C6E0230.X	#4/0 + #4AWG	230	1	53 (2)	53 (2)	63 (2½)

DRAWING KEYNOTES:

- 1 RECONNECT EXISTING 100A FEEDER CABLE FOR PANEL X TO NEW BREAKER
- 2 PROVIDE NEW BREAKER IN EXISTING PANEL
- 3 ELECTRICAL CONTRACTOR TO VERIFY WIRING OF EXISTING CIRCUIT BREAKER PRIOR TO REMOVAL.
- 4 ELECTRICAL CONTRACTOR TO HIRE EATON FIELD SERVICE GROUP FOR REMOVAL, INSTALLATION, SWITCHBOARD MODIFICATIONS, AND COMMISSIONING OF NEW CIRCUIT BREAKERS IN EXISTING EATON SWITCHBOARD TYPE PRL4 JOB/REF NO. CSBIO88852-0021-17.
- 5 ELECTRICAL CONTRACTOR TO VERIFY THAT THE TOP CIRCUIT BREAKER IS USED FOR EXISTING 200A FUSED DISCONNECT THE EXISTING DISCONNECT SWITCH AND THE BOTTOM CIRCUIT BREAKER IS USED FOR NEW PANEL "LP-A".



PHOTO OF SB-1

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No.	REVISION	DATE (MM/DD/YYYY)
3	ISSUED FOR PERMIT/TENDER	01.28.2026
2	ISSUED FOR CLIENT REVIEW	06.03.2025
1	ISSUED FOR 90% COORDINATION	05.01.2025

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PROJECT:
GLEN WILLIAMS PS HDSB
512 MAIN STREET,
GEORGETOWN, ON

CLIENT:
HALTON DISTRICT SCHOOL BOARD

DWG. TITLE:
PHASE 1 SINGLE LINE DIAGRAM

DESIGN: A.O	SCALE: N.T.S
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E1.07

EXISTING PANEL TO BE DEMOLISHED

PANEL ID: LP-B		MOUNTING: RECESSED		FEED THROUGH LUGS: NO		PANEL MAINS: XXX A							
VOLTAGE: 120/240		LOCATION: CORRIDOR 25		MAIN BREAKER: XXX A		KAIC RATING: 10 KAIC							
PHASE/WIRE: 1PH/3W		FED FROM: PANEL 'E2'											
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION	
EX. LOAD	15A-1P				1	A	2				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				3	B	4				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				5	A	6				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				7	B	8				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				9	A	10				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				11	B	12				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				13	A	14				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				15	B	16				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				17	A	18				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				19	B	20				15A-1P	EX. LOAD	
BRK TYPE: * GFCI BREAKER		** COMBINATION AFCI		LOAD PHASE A (W): #####		TOTAL LOAD (W): #####		*** LOCK ON BREAKER		LOAD PHASE B (W): ###		TOTAL AMPS (A): ####	

NEW PANEL

PANEL ID: LP-B		MOUNTING: SURFACE		FEED THROUGH LUGS: NO		PANEL MAINS: 125 A							
VOLTAGE: 120/208V		LOCATION: CORRIDOR 25		MAIN BREAKER: X A		KAIC RATING: 10 KAIC							
PHASE/WIRE: 3PH/4W		FED FROM: PANEL 'E2'											
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION	
EX. LOAD	15A-1P		2#12		1	A	2		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		3	B	4		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		5	C	6		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		7	A	8		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		9	B	10		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		11	C	12		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		13	A	14		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		15	B	16		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		17	C	18		2#12		15A-1P	EX. LOAD	
SPACE					19	A	20					SPACE	
CLASSROOM 1 RECEPTACLES	15A-1P		2#12	600	21	B	22	600	2#12		15A-1P	CLASSROOM 5 RECEPTACLES	
CLASSROOM 1 MCP PANEL RECEPTACLE	15A-1P		2#12	600	23	C	24	600	2#12		15A-1P	CLASSROOM 5 MCP PANEL RECEPTACLE	
CLASSROOM 1 COUNTER RECEPTACLE	15A-1P		2#12	600	25	A	26	600	2#12		15A-1P	CLASSROOM 5 COUNTER RECEPTACLE	
CLASSROOM 1 PROJECTOR RECEPTACLE	15A-1P		2#12	600	27	B	28	600	2#12		15A-1P	CLASSROOM 5 PROJECTOR RECEPTACLE	
CLASSROOM 3 RECEPTACLE	15A-1P		2#12	600	29	C	30	600	2#12		15A-1P	MASTER CLOCK RECEPTACLE	
CLASSROOM 3 MCP PANEL RECEPTACLE	15A-1P		2#12	600	31	A	32				15A-1P	SPARE	
CLASSROOM 3 COUNTER RECEPTACLE	15A-1P		2#12	600	33	B	34				15A-1P	SPARE	
CLASSROOM 3 PROJECTOR RECEPTACLE	15A-1P		2#12	600	35	C	36				15A-1P	SPARE	
SPARE	15A-1P				37	A	38				15A-1P	SPARE	
SPARE	15A-1P				39	B	40				15A-1P	SPARE	
SPARE	15A-1P				41	C	42				15A-1P	SPARE	
SPARE	15A-1P				43	A	44				15A-1P	SPARE	
SPARE	15A-1P				45	B	46				15A-1P	SPARE	
SPARE	20A-1P				47	C	48				15A-1P	SPARE	
SPARE	15A-1P				49	A	50				15A-1P	SPARE	
SPARE	15A-1P				51	B	52				15A-1P	SPARE	
SPARE	15A-1P				53	C	54				15A-1P	SPARE	
SPARE	20A-2P				55	A	56				20A-1P	SPARE	
SPARE	20A-1P				57	B	58				20A-1P	SPARE	
SPARE	20A-1P				59	C	60				20A-1P	SPARE	
BRK TYPE: * GFCI BREAKER		** COMBINATION AFCI		LOAD PHASE A (W): 1800		TOTAL LOAD (W): 7800		*** LOCK ON BREAKER		LOAD PHASE B (W): 3000		TOTAL AMPS (A): 21.7	

EXISTING PANEL TO BE DEMOLISHED

PANEL ID: U		MOUNTING: RECESSED		FEED THROUGH LUGS: NO		PANEL MAINS: 60 A							
VOLTAGE: 120/240		LOCATION: CORRIDOR 26		MAIN BREAKER: XXX A		KAIC RATING: 10 KAIC							
PHASE/WIRE: 1PH/3W		FED FROM:											
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION	
EX. LOAD	15A-1P				1	A	2				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				3	B	4				15A-1P	EX. LOAD	
EX. LOAD	40A-2P				5	A	6				15A-1P	EX. LOAD	
EX. LOAD					7	B	8				15A-1P	EX. LOAD	
BRK TYPE: * GFCI BREAKER		** COMBINATION AFCI		LOAD PHASE A (W): #####		TOTAL LOAD (W): #####		*** LOCK ON BREAKER		LOAD PHASE B (W): ###		TOTAL AMPS (A): #	

EXISTING PANEL TO BE DEMOLISHED

PANEL ID: LP-A		MOUNTING: RECESSED		FEED THROUGH LUGS: NO		PANEL MAINS: XXX A							
VOLTAGE: 120/240		LOCATION: CORRIDOR 26		MAIN BREAKER: XXX A		KAIC RATING: 10 KAIC							
PHASE/WIRE: 1PH/3W		FED FROM: SWITCHBOARD 'SB-1'											
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION	
EX. LOAD	15A-1P				1	A	2				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				3	B	4				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				5	A	6				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				7	B	8				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				9	A	10				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				11	B	12				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				13	A	14				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				15	B	16				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				17	A	18				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				19	B	20				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				21	A	22				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				23	B	24				15A-1P	EX. LOAD	
EX. LOAD	15A-1P				25	A	26				15A-1P	EX. LOAD	
EX. LOAD	20A-2P				27	B	28				100A-2P	PANEL 'X'	
EX. LOAD					29	A	30						
BRK TYPE: * GFCI BREAKER		** COMBINATION AFCI		LOAD PHASE A (W): #####		TOTAL LOAD (W): #####		*** LOCK ON BREAKER		LOAD PHASE B (W): ###		TOTAL AMPS (A): #	

NEW PANEL

PANEL ID: LP-A		MOUNTING: SURFACE		FEED THROUGH LUGS: NO		PANEL MAINS: 225 A							
VOLTAGE: 120/208V		LOCATION: CORRIDOR 26		MAIN BREAKER: XXX A		KAIC RATING: 10 KAIC							
PHASE/WIRE: 3PH/4W		FED FROM: SWITCHBOARD 'SB-1'											
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION	
EX. LOAD	15A-1P		2#12		1	A	2		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		3	B	4		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		5	C	6		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		7	A	8		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		9	B	10		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		11	C	12		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		13	A	14		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		15	B	16		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		17	C	18		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		19	A	20		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		21	B	22		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		23	C	24		2#12		15A-1P	EX. LOAD	
EX. LOAD	15A-1P		2#12		25	A	26		2#12		15A-1P	EX. LOAD	
EX. LOAD	20A-2P		2#12		27	B	28		REFER TO S/D		100A-2P	PANEL 'X'	
EX. LOAD					29	C	30						
CLASSROOM 7 RECEPTACLE	15A-1P		2#12	600	31	A	32		2#12		15A-1P	EX. LOAD	
CLASSROOM 7 MCP PANEL RECEPTACLE	15A-1P		2#12	600	33	B	34		2#12		15A-1P	EX. LOAD	
CLASSROOM 7 COUNTER RECEPTACLE	15A-1P		2#12	600	35	C	36		2#12		15A-1P	EX. LOAD	
CLASSROOM 7 PROJECTOR RECEPTACLE	15A-1P		2#12	600	37	A	38		2#12		15A-1P	EX. LOAD	
SPARE	15A-1P				39	B	40		2#12		15A-1P	EX. LOAD	
SPARE	15A-1P				41	C	42		2#12		15A-1P	EX. LOAD	
SPARE	15A-1P				43	A	44		3#8		40A-2P	EX. LOAD	
SPARE	15A-1P				45	B	46						
SPARE	15A-1P				47	C	48				15A-1P	SPARE	
SPARE	15A-1P				49	A	50				15A-1P	SPARE	
SPARE	15A-1P				51	B	52				15A-1P	SPARE	
SPARE	15A-1P				53	C	54				15A-1P	SPARE	
SPARE	15A-1P				55	A	56				15A-1P	SPARE	
SPARE	15A-1P				57	B	58				15A-1P	SPARE	
SPARE	15A-1P				59	C	60				15A-1P	SPARE	
SPARE	15A-1P				61	A	62				15A-1P	SPARE	
SPARE	15A-1P				63	B	64				15A-1P	SPARE	
SPARE	15A-1P				65	C	66				15A-1P	SPARE	
SPARE	15A-1P				67	A	68				15A-1P	SPARE	
SPARE	15A-1P				69	B	70				20A-1P	SPARE	
SPARE	15A-1P				71	C	72				20A-1P	SPARE	
BRK TYPE: * GFCI BREAKER		** COMBINATION AFCI		LOAD PHASE A (W): 1200		TOTAL LOAD (W): 2400		*** LOCK ON BREAKER		LOAD PHASE B (W): 600		TOTAL AMPS (A): 6.7	

DRAWING KEYNOTES:

- 1 RE-FEED ALL LOADS FROM DEMOLISHED PANEL 'LP-A'
- 2 RE-FEED ALL LOADS FROM EXISTING PANEL 'U'
- 2 RE-FEED ALL LOADS FROM DEMOLISHED PANEL 'LP-B'

DEMOLITION KEYNOTES:

- A DEMOLISH EXISTING PANEL AND RE-FEED ALL EXISTING BRANCH CIRCUITS FROM NEW PANEL 'LP-A'
- B DEMOLISH EXISTING PANEL AND RE-FEED ALL EXISTING BRANCH CIRCUITS FROM NEW PANEL 'LP-B'

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3	ISSUED FOR PERMIT/TENDER	01.28.2026
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PROJECT: GLEN WILLIAMS PS HDSB
 512 MAIN STREET, GEORGETOWN, ON

CLIENT: HALTON DISTRICT SCHOOL BOARD

DWG. TITLE: PHASE 1 PANEL SCHEDULES

DESIGN: A.O	SCALE: N.T.S
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E1.08

PHASE 1 SCOPE OF WORK
REFER TO E3 & E4 SERIES DRAWINGS
FOR AREA OF WORK



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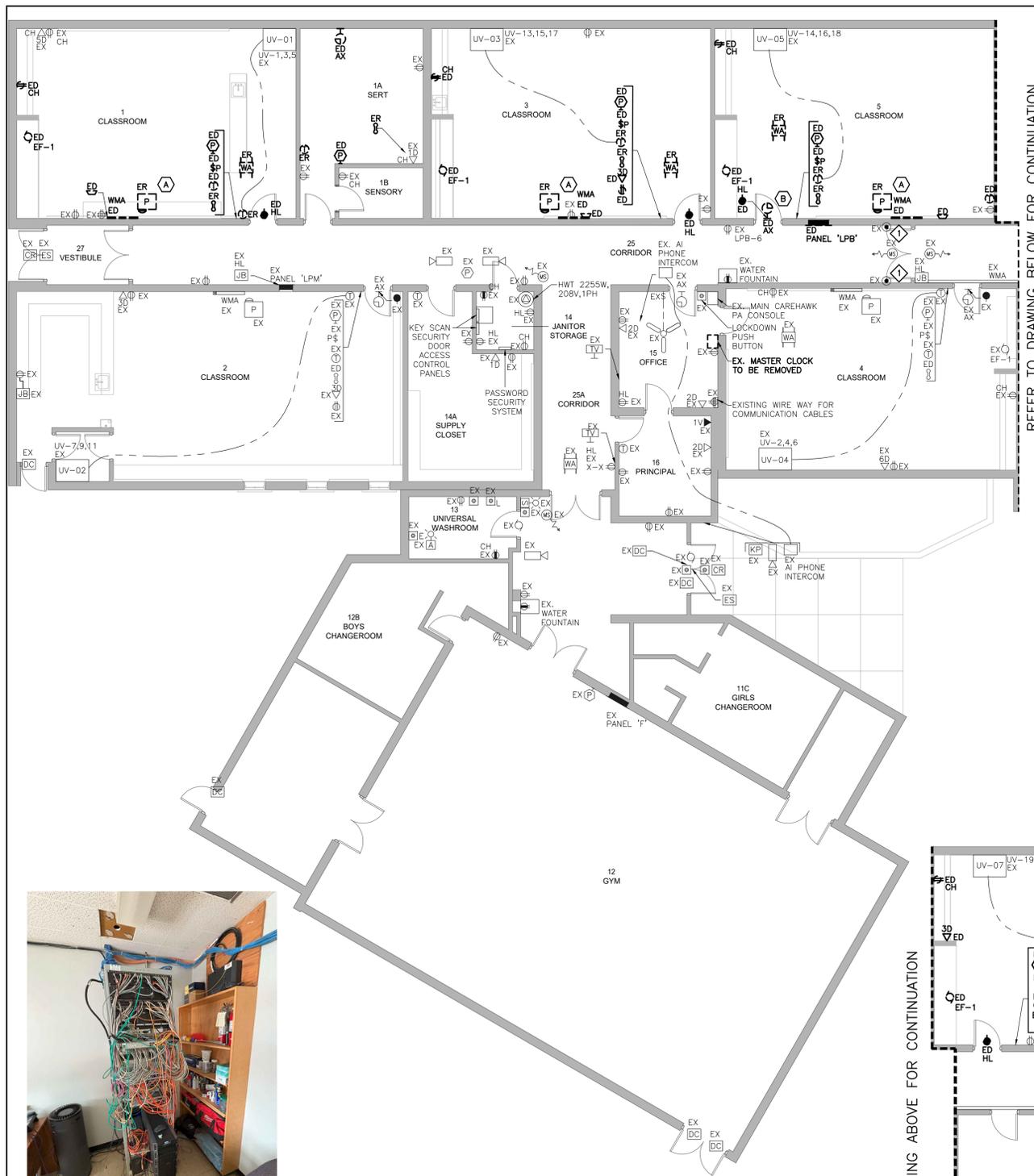
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PROJECT:
**GLEN WILLIAMS PS
HDSB**
512 MAIN STREET,
GEORGETOWN, ON

CLIENT:
HALTON DISTRICT SCHOOL BOARD

DWG. TITLE:
**PHASE 1
KEY PLAN**

DESIGN:	A.O	SCALE:	1:150
DRAWN:	A.O	JOB No:	25015
CHECKED:	J.S		
DATE:	04.04.2025	DWG. No:	E2.01



REFER TO DRAWING BELOW FOR CONTINUATION

GENERAL DEMOLITION NOTES:

1. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING ALL ELECTRICAL ITEMS ON SITE PRIOR TO COMMENCING WORK. IF THERE ARE ERRORS OR OMISSIONS ON THE DRAWINGS, THE CONTRACTOR WILL MODIFY THE DRAWINGS AND NOTIFY THE CONSULTANT OF ANY MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITIONS.
2. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR REMOVING/RELOCATING ALL ELECTRICAL DEVICES/CABLES/CONDUITS ETC. IN AREAS BEING DEMOLISHED AS SHOWN ON ARCHITECTURAL AND ELECTRICAL DRAWINGS. NO ATTEMPT HAS BEEN MADE TO IDENTIFY EVERY SINGLE EXISTING ELECTRICAL DEVICE ON EXISTING DRAWINGS. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING TENDER PRICE TO REVIEW WHAT IS REQUIRED WITH RESPECT TO DEMOLITION. NO EXTRAS WILL BE ALLOWED FOR NOT THOROUGHLY REVIEWING THE EXISTING SITE.
3. ELECTRICAL CONTRACTOR TO RE-ARRANGE AND RE-SUPPORT ALL EXISTING BOXES, CONDUITS AND WIRING ABOVE EXISTING CEILING TILES. USE NEW BOX, CONDUITS AND WIRING AS REQUIRED TO MAKE SAFE AND CLEAN INSTALLATION TO MEET CURRENT CODE AND ESA REQUIREMENTS.
4. UNUSED CONDUITS AND WIRING IN EXISTING CEILING SPACE TO BE REMOVED. PROVIDE THE REQUIRED TESTS TO ENSURE SAFE REMOVAL AS REQUIRED.
5. FOR EXISTING PULL BOXES AND JUNCTION BOXES WITH NO COVER PLATES ABOVE EXISTING CEILINGS, THE ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW COVERS TO MAKE SAFE AS REQUIRED.
6. FOR INDICATED DEVICES SHOWN TO BE DEMOLISHED, THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUITS BACK TO SOURCE AND REWORK OR PROVIDE NEW WIRING/CONDUIT TO DEVICES THAT MAY BE FED ON THE SAME CIRCUIT AS THE DEVICE TO BE DEMOLISHED.
7. FOR INDICATED DEVICES SHOWN TO BE RELOCATED, ELECTRICAL CONTRACTOR TO REWORK OR PROVIDE NEW WIRING/CONDUIT TO REINSTALL EXISTING DEVICES AS SHOWN IN NEW PLAN.
8. ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY WITH THE OWNER ALL DEVICES TO BE SALVAGED, MOVED & STORED PRIOR TO DEMOLITION.

DEMOLITION KEYNOTES:

- (A) CONTRACTOR TO REMOVE/RELOCATE PROJECTOR AND COORDINATE WITH HDSB. ELECTRICAL CONTRACTOR TO REMOVE WIREMOLD, POWER, AND DATA WIRING AS SHOWN.
 - (B) EXISTING CLOCKS TO BE REMOVED AND HANDED OVER TO HDSB.
- DRAWING KEYNOTES:**
- (1) DOOR HOLD OPEN DEVICE INTERCONNECTED TO FIRE ALARM CONTROL PANEL.

REFER TO DRAWING ABOVE FOR CONTINUATION

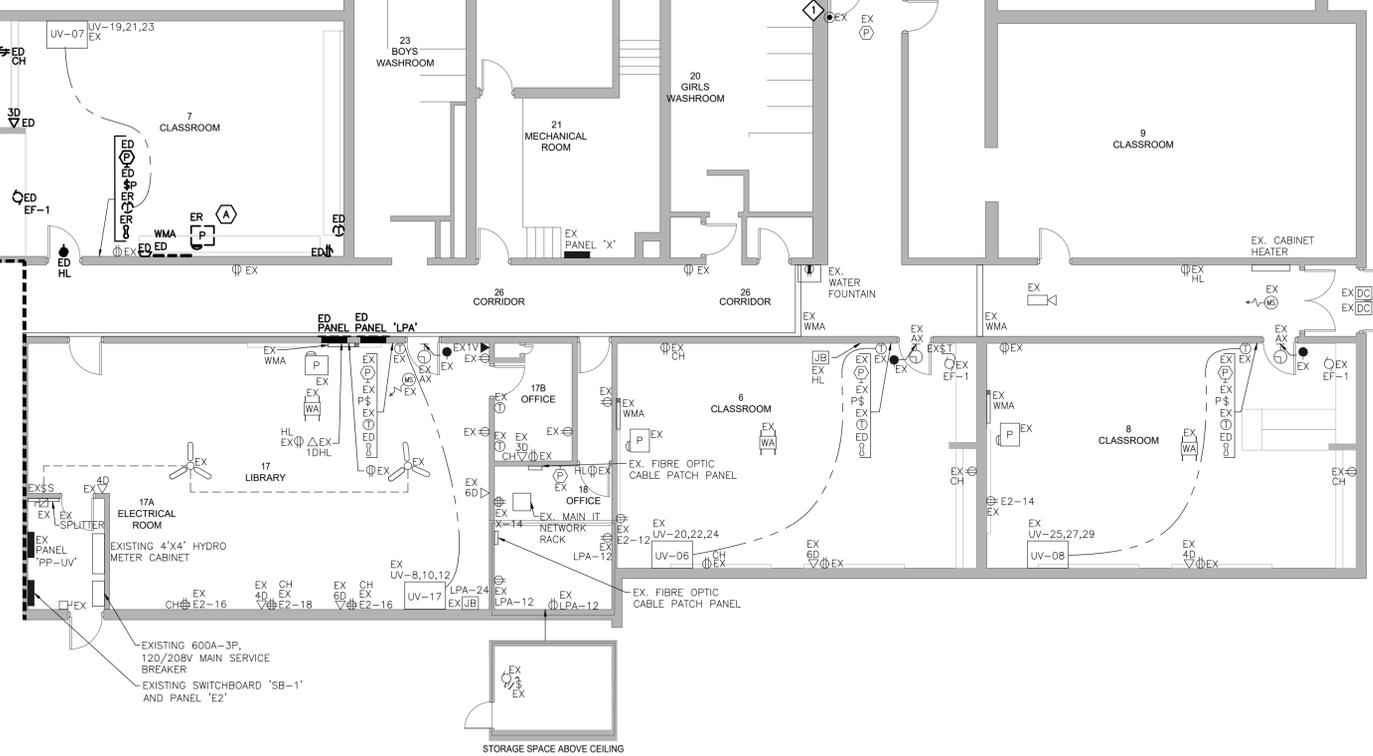


PHOTO OF EXISTING IT NETWORK RACK



PHOTO OF CLASSROOM 3 TEACHING WALL

PHASE 1 — POWER AND SYSTEMS DEMOLITION
SCALE: 1:100

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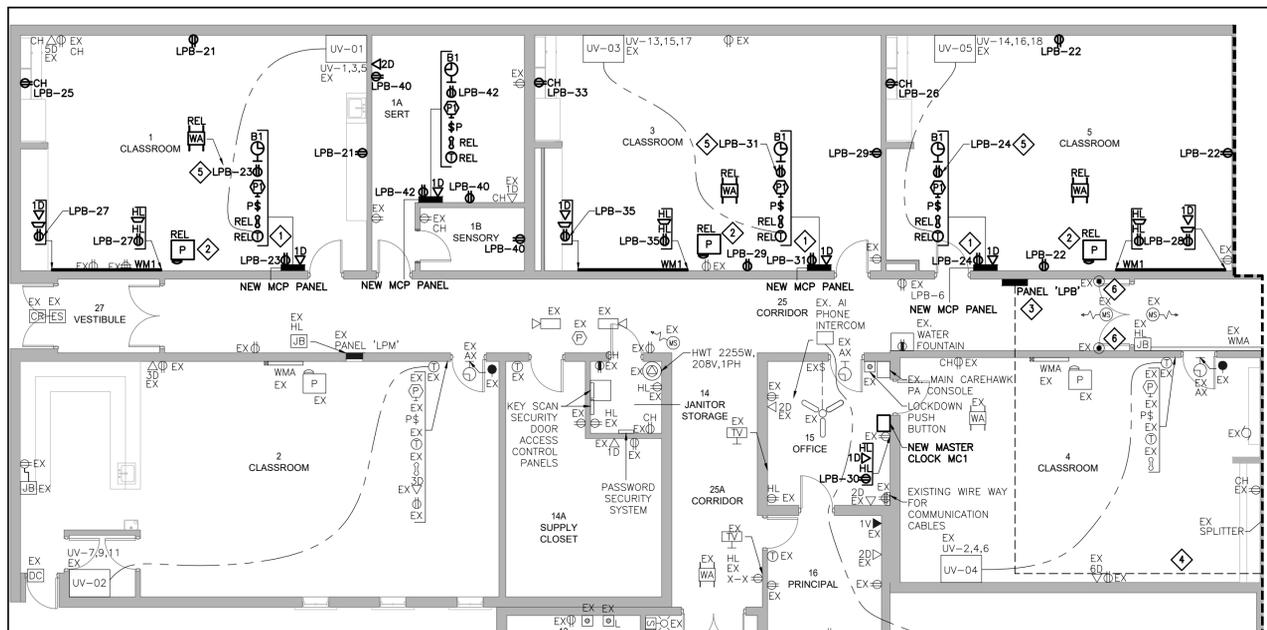
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PROJECT: GLEN WILLIAMS PS HDSB
512 MAIN STREET, GEORGTOWN, ON

CLIENT: HALTON DISTRICT SCHOOL BOARD

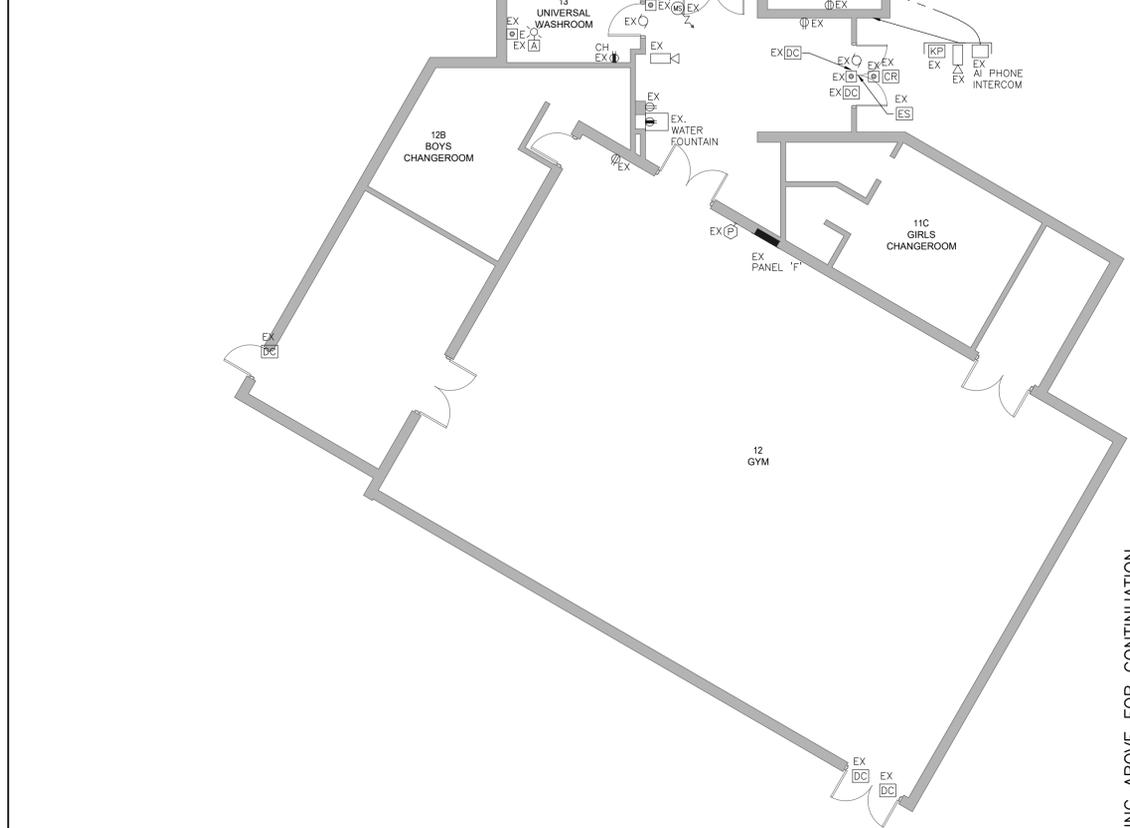
DWG. TITLE: PHASE 1 PARTIAL GROUND FLOOR POWER AND SYSTEMS DEMOLITION

DESIGN: A.O	SCALE: 1:100
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	
DATE: 04.04.2025	DWG. No: E3.01

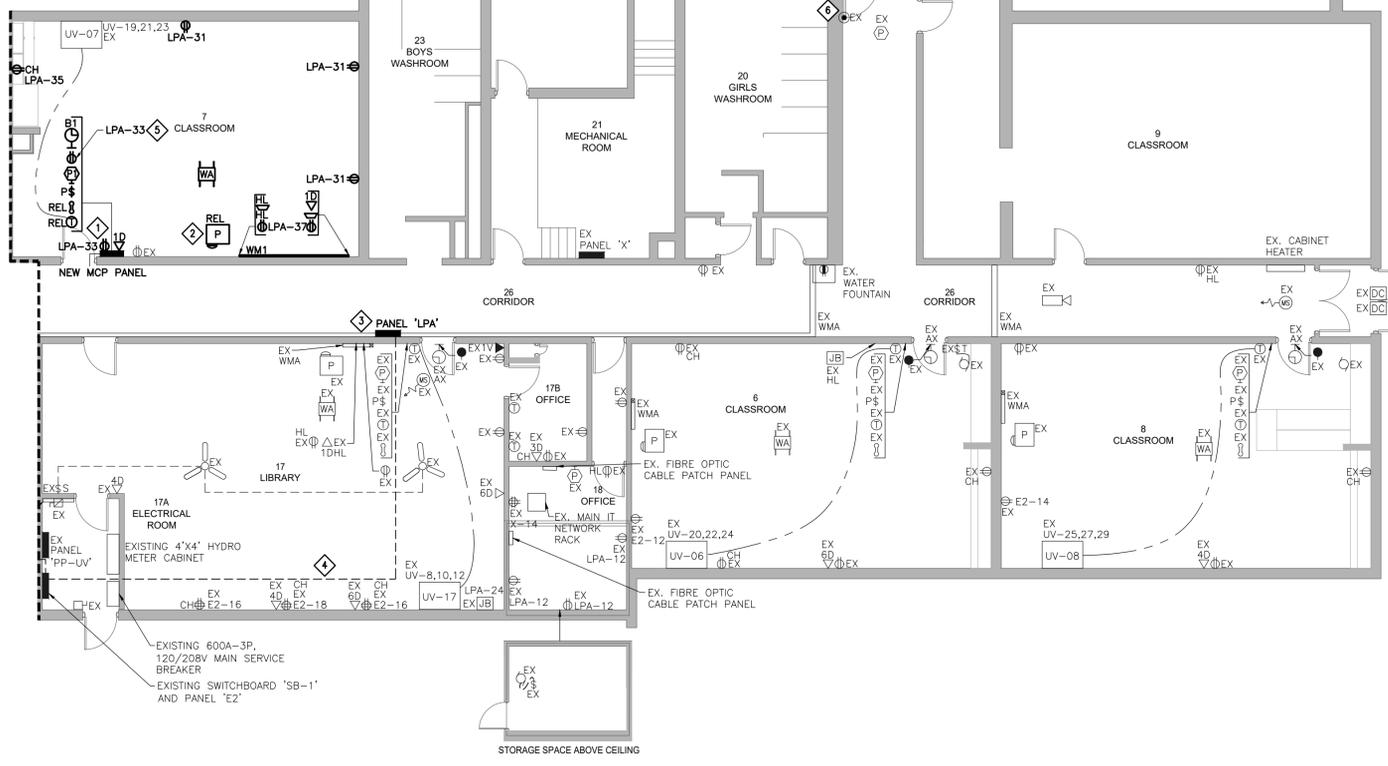


REFER TO DRAWING BELOW FOR CONTINUATION

- DRAWING KEYNOTES:**
- 1 PROVIDE NEW MCP PANEL c/w ALL DEVICES AS SHOWN ON DRAWING E1.06.
 - 2 CONTRACTOR TO REINSTALL EXISTING SHORT THROW PROJECTOR. ELECTRICAL CONTRACTOR TO INSTALL WIREMOLDS, POWER, AND DATA WIRING AS PER TYPICAL TEACHING WALL DETAIL ON DRAWING E1.05.
 - 3 ELECTRICAL PANEL TO BE REPLACED WITH NEW AS PER SINGLE LINE DIAGRAM, PANEL SCHEDULE AND INSTALLATION DETAIL ON DRAWING E1.04. EXISTING PANEL OPENINGS TO BE USED AS A JUNCTION BOX TO EXTEND/TERMINATE EXISTING BRANCH CIRCUITS TO NEW PANEL BREAKERS.
 - 4 RUN NEW MAIN ELECTRICAL PANEL FEEDERS ABOVE T-BAR CEILING.
 - 5 SUPPLY AND INSTALL SURFACE MOUNT RECEPTACLE INSIDE MCP PANEL FOR LOW VOLTAGE 12VDC POWER SUPPLY FOR CLOCK 'B1'. REFER TO DRAWING E1.06 FOR DETAILS.
 - 6 DOOR HOLD OPEN DEVICE INTERCONNECTED TO FIRE ALARM CONTROL PANEL.



REFER TO DRAWING ABOVE FOR CONTINUATION



PHASE 1 - POWER AND SYSTEMS NEW
SCALE: 1:100

DO NOT SCALE DRAWING. DIMENSIONS ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR ON SITE

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No.	REVISION	DATE (MM/DD/YYYY)
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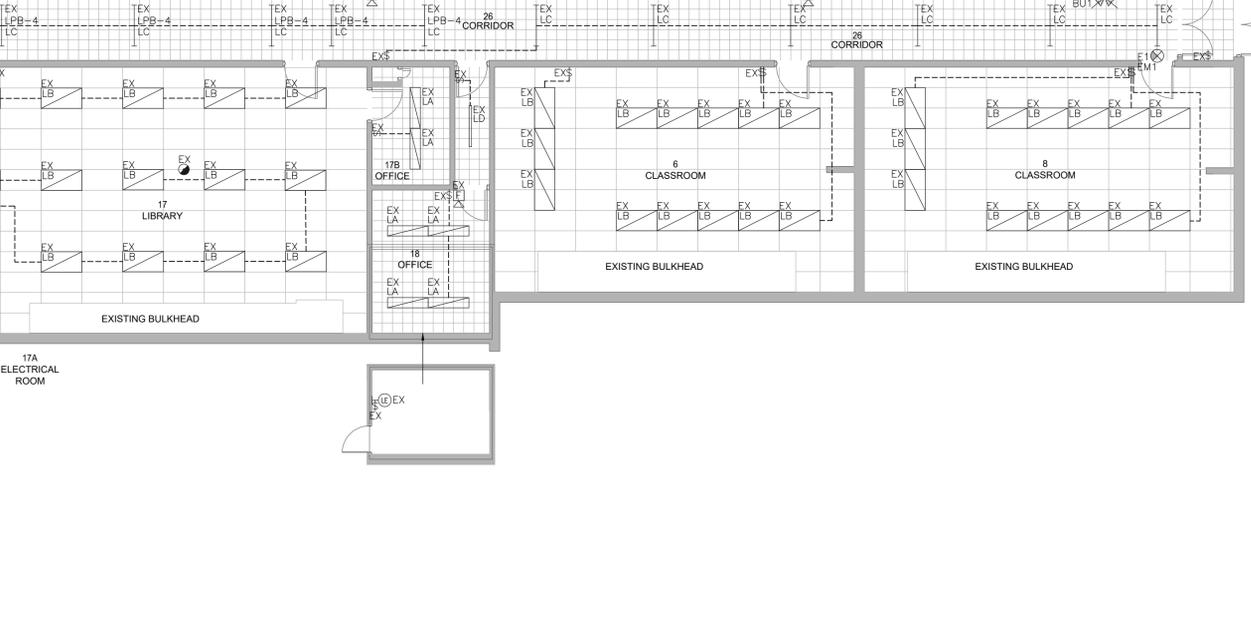
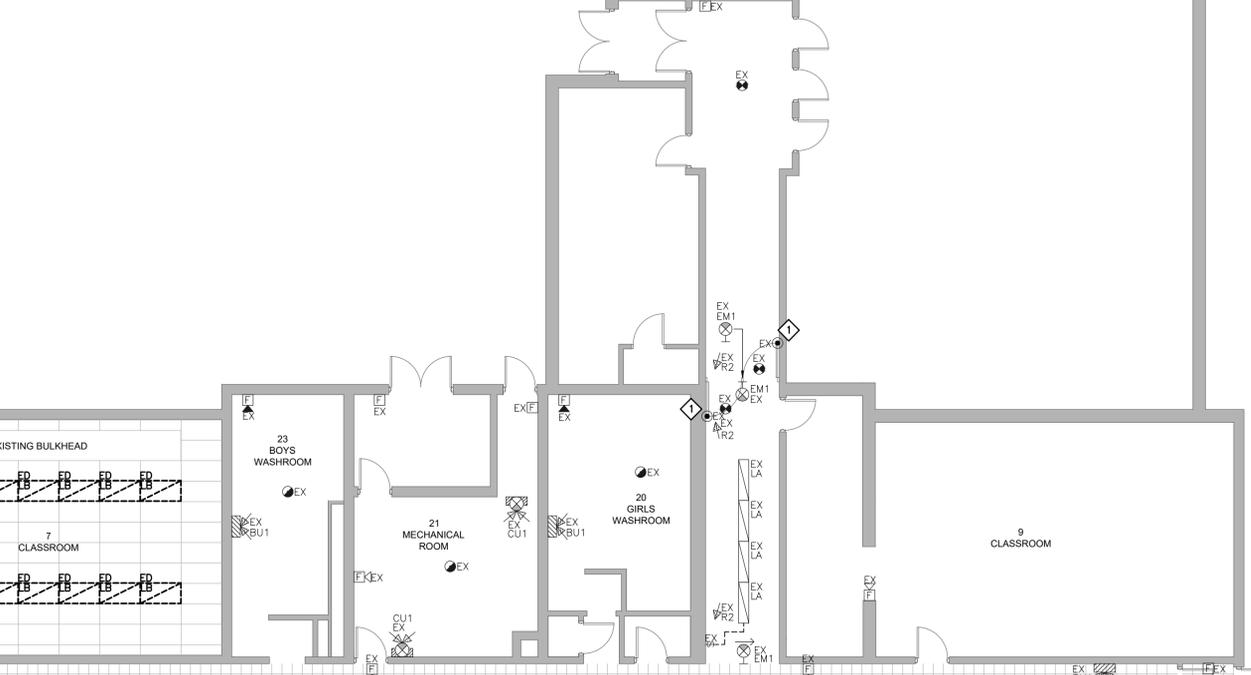
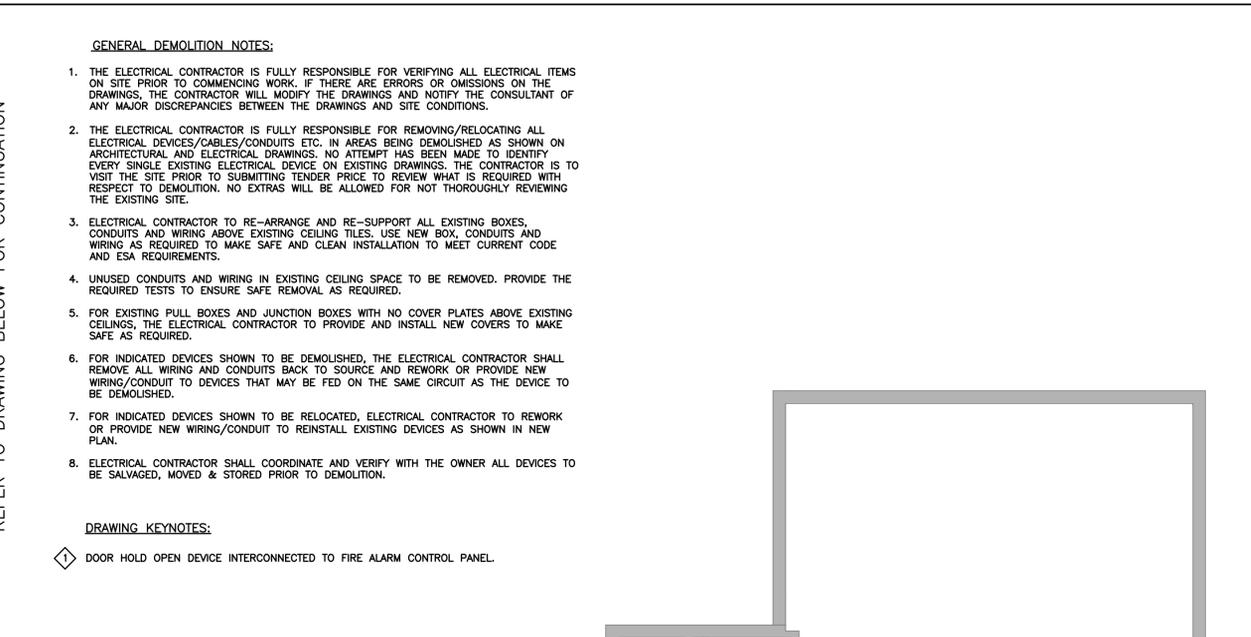
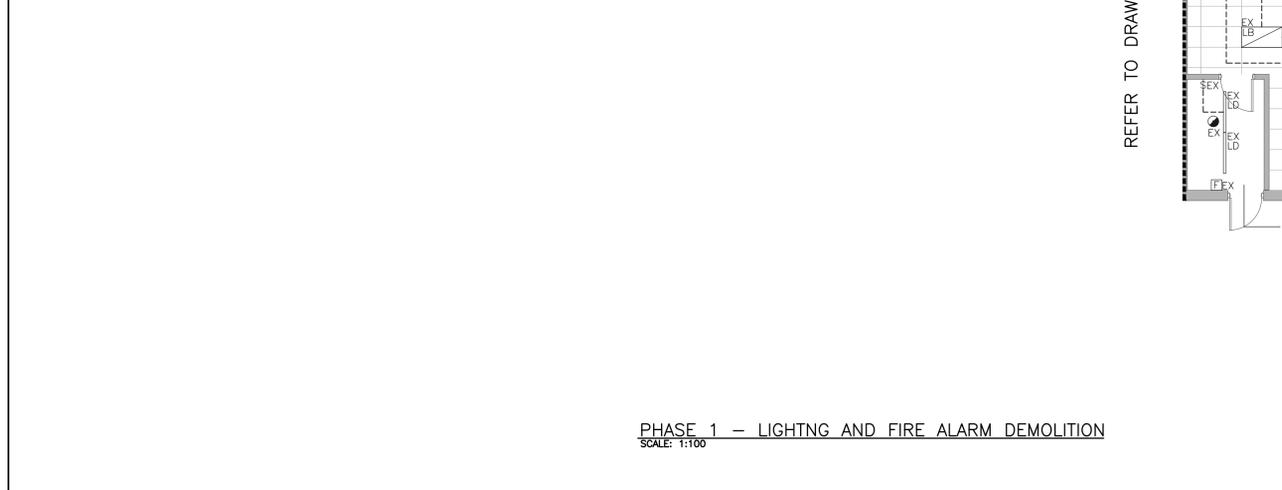
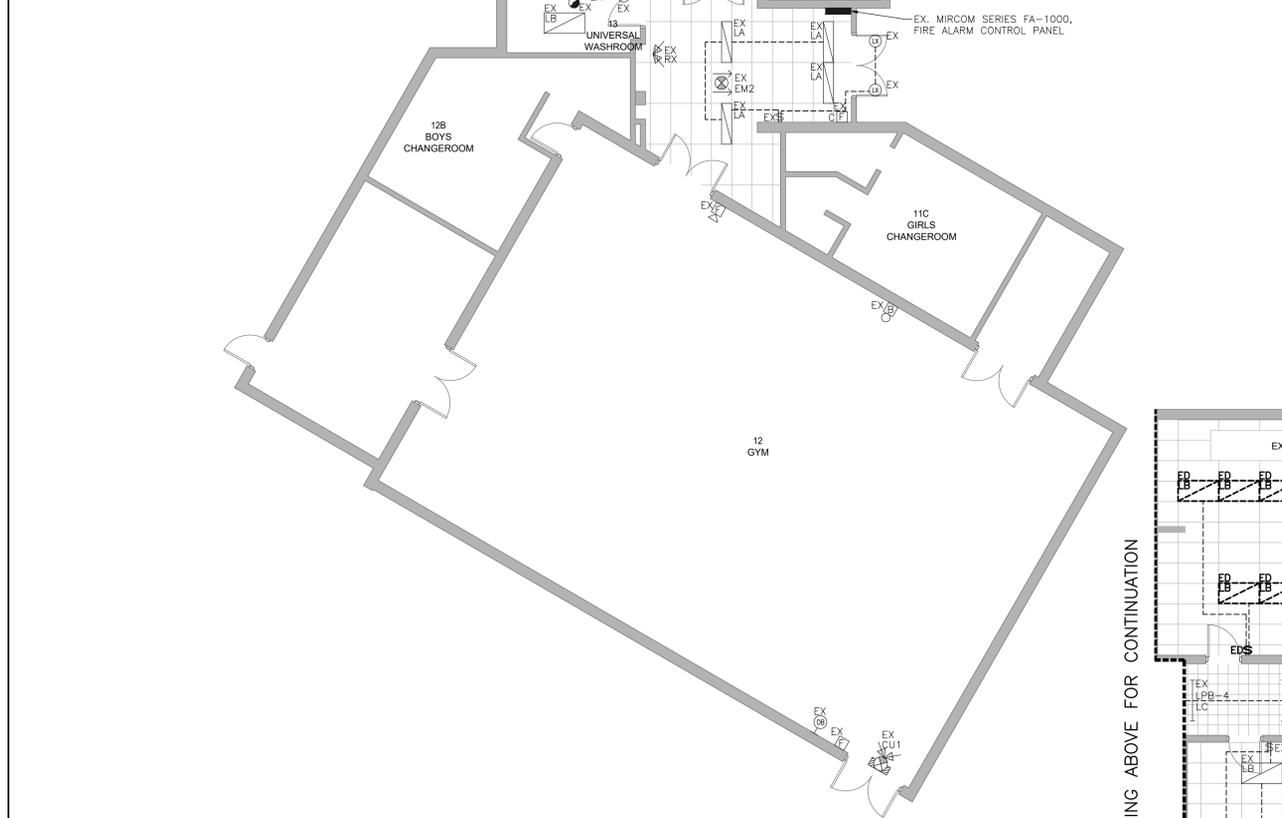
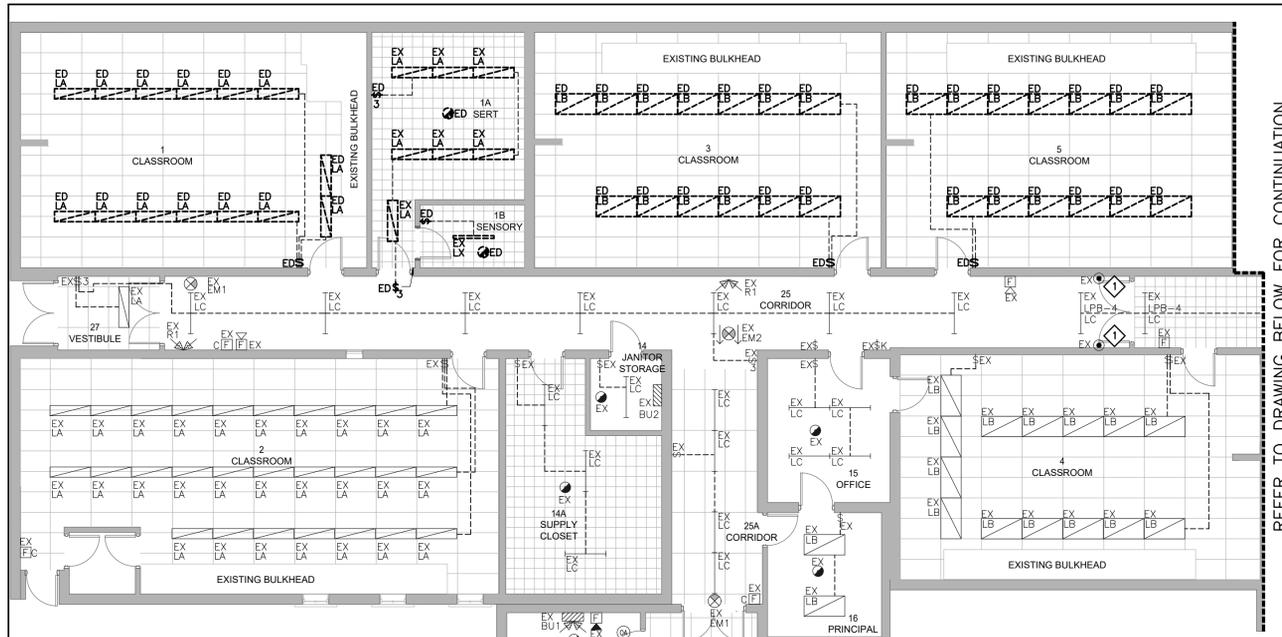
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PROJECT: GLEN WILLIAMS PS HDSB
512 MAIN STREET, GEORGETOWN, ON

CLIENT: HALTON DISTRICT SCHOOL BOARD

DWG. TITLE: PHASE 1 PARTIAL GROUND FLOOR POWER AND SYSTEMS NEW

DESIGN: A.O	SCALE: 1:100
DRAWN: A.O	JOB No: 25015
CHECKED: J.S	DATE: 04.04.2025
DATE: 04.04.2025	DWG. No: E3.02



- GENERAL DEMOLITION NOTES:**
1. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING ALL ELECTRICAL ITEMS ON SITE PRIOR TO COMMENCING WORK. IF THERE ARE ERRORS OR OMISSIONS ON THE DRAWINGS, THE CONTRACTOR WILL MODIFY THE DRAWINGS AND NOTIFY THE CONSULTANT OF ANY MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITIONS.
 2. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR REMOVING/RELOCATING ALL ELECTRICAL DEVICES/CABLES/CONDUITS ETC. IN AREAS BEING DEMOLISHED AS SHOWN ON ARCHITECTURAL AND ELECTRICAL DRAWINGS. NO ATTEMPT HAS BEEN MADE TO IDENTIFY EVERY SINGLE EXISTING ELECTRICAL DEVICE ON EXISTING DRAWINGS. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING TENDER PRICE TO REVIEW WHAT IS REQUIRED WITH RESPECT TO DEMOLITION. NO EXTRAS WILL BE ALLOWED FOR NOT THOROUGHLY REVIEWING THE EXISTING SITE.
 3. ELECTRICAL CONTRACTOR TO RE-ARRANGE AND RE-SUPPORT ALL EXISTING BOXES, CONDUITS AND WIRING ABOVE EXISTING CEILING TILES. USE NEW BOX, CONDUITS AND WIRING AS REQUIRED TO MAKE SAFE AND CLEAN INSTALLATION TO MEET CURRENT CODE AND ESA REQUIREMENTS.
 4. UNUSED CONDUITS AND WIRING IN EXISTING CEILING SPACE TO BE REMOVED. PROVIDE THE REQUIRED TESTS TO ENSURE SAFE REMOVAL AS REQUIRED.
 5. FOR EXISTING PULL BOXES AND JUNCTION BOXES WITH NO COVER PLATES ABOVE EXISTING CEILINGS, THE ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL NEW COVERS TO MAKE SAFE AS REQUIRED.
 6. FOR INDICATED DEVICES SHOWN TO BE DEMOLISHED, THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL WIRING AND CONDUITS BACK TO SOURCE AND REWORK OR PROVIDE NEW WIRING/CONDUIT TO DEVICES THAT MAY BE FED ON THE SAME CIRCUIT AS THE DEVICE TO BE DEMOLISHED.
 7. FOR INDICATED DEVICES SHOWN TO BE RELOCATED, ELECTRICAL CONTRACTOR TO REWORK OR PROVIDE NEW WIRING/CONDUIT TO REINSTALL EXISTING DEVICES AS SHOWN IN NEW PLAN.
 8. ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY WITH THE OWNER ALL DEVICES TO BE SALVAGED, MOVED & STORED PRIOR TO DEMOLITION.

DRAWING KEYNOTES:

◇ DOOR HOLD OPEN DEVICE INTERCONNECTED TO FIRE ALARM CONTROL PANEL.

REFER TO DRAWING BELOW FOR CONTINUATION

REFER TO DRAWING ABOVE FOR CONTINUATION

PHASE 1 — LIGHTING AND FIRE ALARM DEMOLITION
SCALE: 1:100

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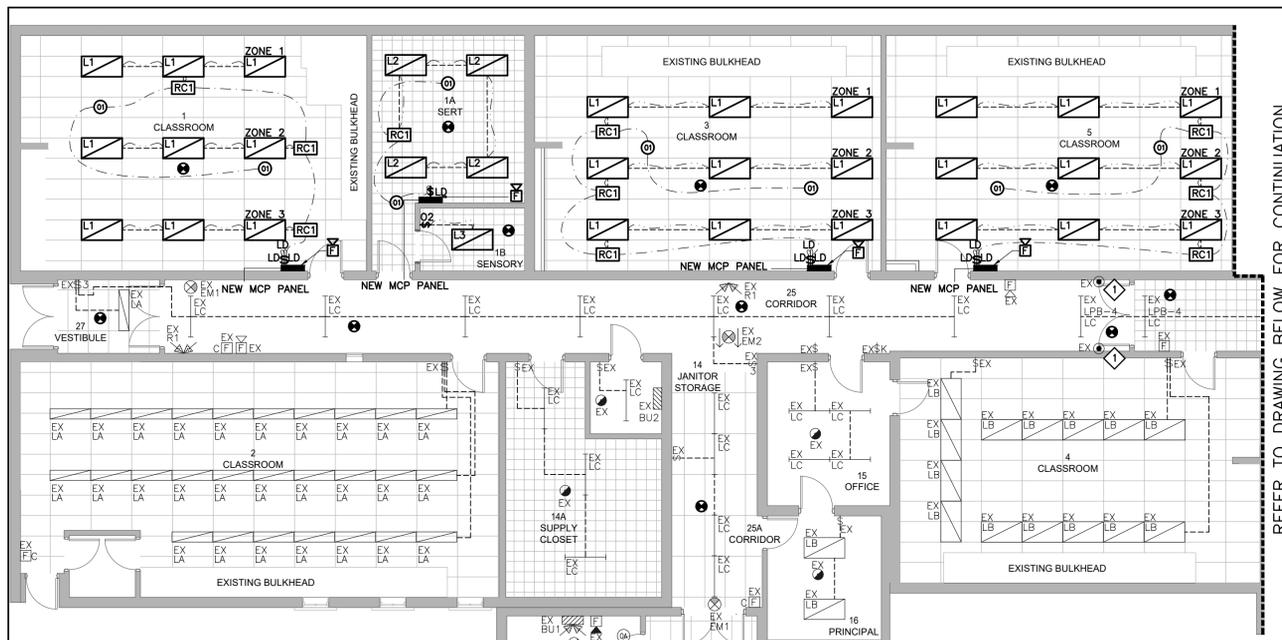
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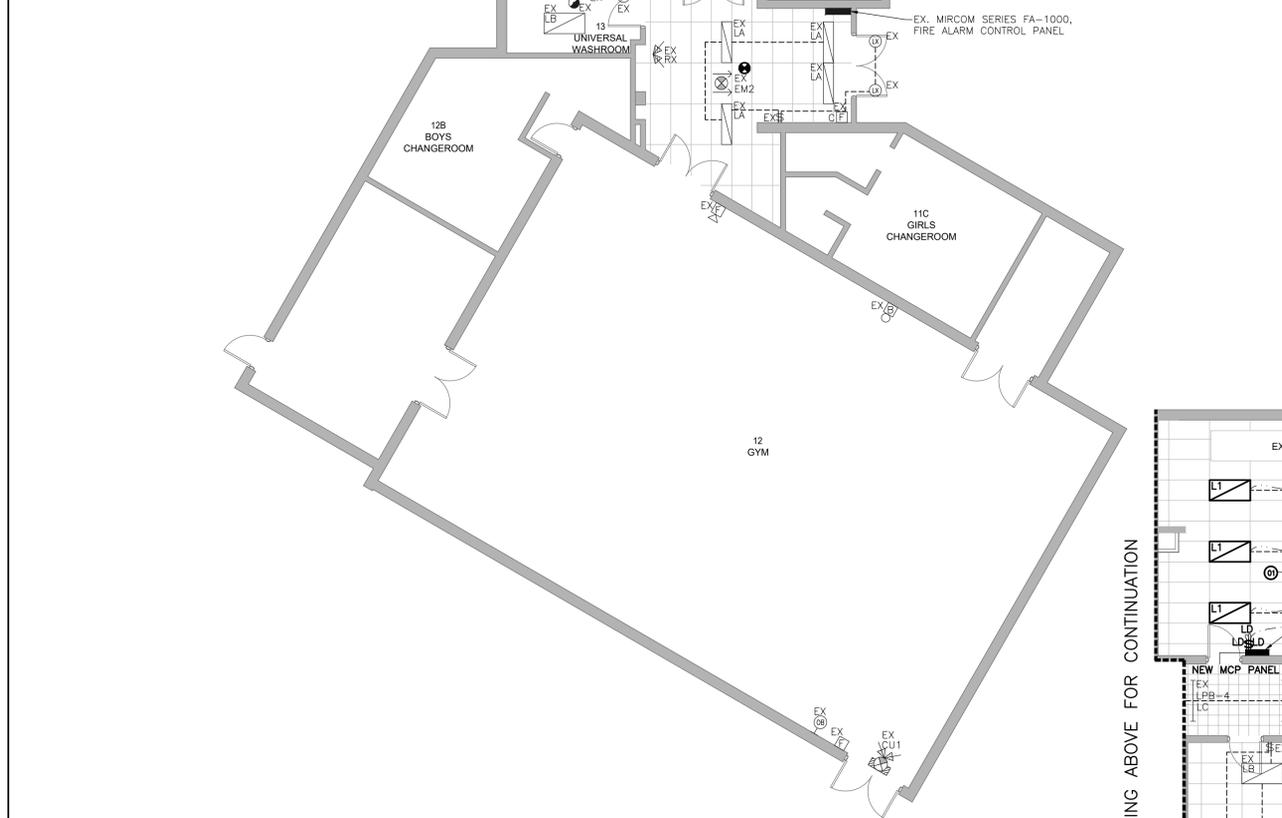
DWG. TITLE:
PHASE 1 PARTIAL GROUND FLOOR LIGHTING AND FIRE ALARM DEMOLITION

DESIGN:	A.O	SCALE:	1:100
DRAWN:	A.O	JOB No:	25015
CHECKED:	J.S	DATE:	04.04.2025
DATE:	04.04.2025	DWG. No:	E4.01

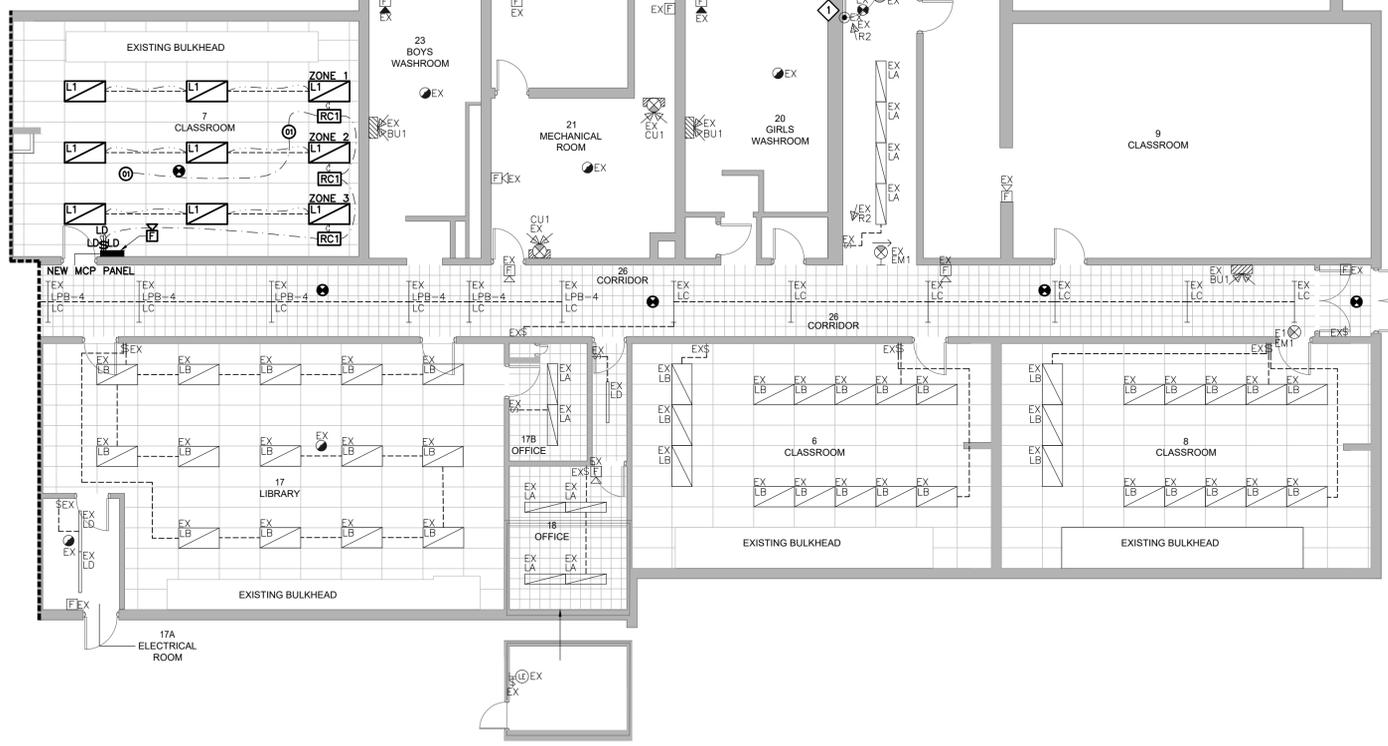


REFER TO DRAWING BELOW FOR CONTINUATION

- GENERAL DRAWING NOTES:**
1. RE-USE EXISTING LIGHTING BRANCH CIRCUITS.
 2. AFTER ALL WORK IS COMPLETE, UPDATE PANEL SCHEDULES.
 3. PROVIDE NEW SMOKE DETECTORS THROUGHOUT THE SCHOOL AS SHOWN ON DRAWINGS. CAREFULLY REVIEW THE ELECTRICAL DEMOLITION AND NEW PLANS FOR ALL LOCATIONS OF EXISTING AND NEW DEVICES.
- DRAWING KEYNOTES:**
- ◇ DOOR HOLD OPEN DEVICE INTERCONNECTED TO FIRE ALARM CONTROL PANEL.



REFER TO DRAWING ABOVE FOR CONTINUATION



PHASE 1 – LIGHTING AND FIRE ALARM NEW
SCALE: 1:100

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CLIENT:
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DWG. TITLE:
**PHASE 1 PARTIAL GROUND
FLOOR LIGHTING AND FIRE
ALARM NEW**

DESIGN:	A.O	SCALE:	1:100
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