PROJECT NOTES <u>GENERAL</u> THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH INTERIOR DESIGNER'S DRAWINGS FOR DIMENSIONS, MOUNTING HEIGHTS, CONSTRUCTION DETAILS, FINISHES AND COLOURS. <u>LIGHTING</u> MODIFY EXISTING LIGHTING MODIFY LIGHTING LAYOUT AS SHOWN AND NOTED ON DRAWINGS, REMOVE, RELOCATE AND PROVIDE NEW AS NECESSARY. BASE BUILDING LUMINAIRES PROVIDE ALL ADDITIONAL BASE BUILDING LUMINAIRES AND NECESSARY WIRING HARNESSES AS BASE BUILDING LIGHTING CONTROL ALL LUMINAIRES INCLUDING DOWN-LIGHTS, PENDANTS, WALL SCONCES, TRACK LIGHTING, EMERGENCY LUMINAIRES SHALL BE CONTROLLED BY THE BASE BUILDING LIGHTING CONTROL SYSTEM. PROVIDE ALL NECESSARY RELAYS, CONTACTORS, POWER PACKS, MODULES, AND OTHER AUXILIARY COMPONENTS AND INTERFACE TO THE SYSTEM. IN MULTI-TENANT FLOORS, LIGHTING CIRCUITS INCLUDING BASE BUILDING CIRCUITS SHALL NOT BE SHARED BETWEEN TENANTS. EACH TENANT SHALL BE ZONED SEPARATELY FOR THE BASE BUILDING LIGHTING CONTROL. REWIRE LUMINAIRES AND PROVIDE NEW CIRCUITS AS REQUIRED TO SUIT. COORDINATE WITH BUILDING OWNER THE LIGHTING CONTROL ZONES AND TIE-IN PRIOR TO INSTALLATION. COORDINATE WITH MECHANICAL CONTRACTOR THE INTEGRATION OF THE VAV UNITS ONTO THE LIGHTING CONTROL SYSTEM FOR OCCUPANCY PURPOSES. EMERGENCY LIGHTING EMERGENCY LUMINAIRES INDICATED ON THE NEW LAYOUT ARE TO BE VERIFIED BY THE ELECTRICAL CONTRACTOR AND CONNECTED TO EXISTING BASE BUILDING EMERGENCY LIGHTING CIRCUITS IN CEILING SPACE. RE-WIRE LUMINAIRES AS REQUIRED TO SUIT. PROVIDE NEW CIRCUITS AS NECESSARY. PROVIDE ADDITIONAL EXIT SIGNS TO SUIT THE NEW LAYOUT. EXIT SIGNS TO MATCH BASE BUILDING UNLESS OTHERWISE NOTED. CONNECT EXIT SIGNS TO NEAREST AVAILABLE EXIT SIGN CIRCUIT. CONTRACTOR SHALL INCLUDE IN THE TENDER PRICE FOR THE SUPPLY AND INSTALLATION OF 3 EXIT SIGN LIGHTS IF REQUIRED BY THE FIRE MARSHALL OR CLIENTS ON FINAL INSPECTION. <u>METERING</u> PROVIDE NEW METERS AS SHOWN. INTEGRATE METERS TO EXISTING BASE BUILDING CENTRAL METERING SYSTEM BY QMC. THIS CONTRACTOR SHALL CARRY QMC TECHNICIAN FOR THIS SCOPE. <u>COPIER OUTLETS</u> VERIFY EXACT POWER REQUIREMENTS OF ALL COPIER OUTLETS WITH TENANT PRIOR TO ROUGH IN. IF UNABLE TO CONFIRM, PROVIDE 3 #10 AWG FROM PANEL TO OUTLET LOCATION. PROVIDE APPROPRIATE RECEPTACLE AND BREAKER WHEN COPIER IS DELIVERED ON SITE. ALLOW THIS COST IN THE BASE BID. ISOLATED GROUND RECEPTACLES PROVIDE A SEPARATE NEUTRAL AND A DEDICATED GROUND WIRE FOR EACH ISOLATED GROUND CIRCUIT. DEDICATED RECEPTACLES PROVIDE A SEPARATE NEUTRAL WIRE FOR EACH DEDICATED CIRCUIT. CIRCUIT NUMBERS SHOWN ARE FOR GROUPING PURPOSES ONLY. RE-ARRANGE EXISTING CIRCUITS AND PROVIDE NEW BREAKERS AS REQUIRED IN EXISTING PANELS. CONTRACTOR TO PROVIDE LABEL WITH CIRCUIT DESIGNATION AT ALL RECEPTACLE AND POWER DEVICE FIRE ALARM SYSTEMS THE ELECTRICAL CONTRACTOR SHALL RETAIN THE SERVICES OF THE EXISTING FIRE ALARM SYSTEM MANUFACTURER, SIEMENS, TO CARRY OUT INSPECTION WORK OF THE EXISTING BASE BUILDING FIRE ALARM SYSTEM TO BE ALTERED OR RELOCATED IN THE RENOVATED AREA. PROVIDE ALL NECESSARY MATERIALS AND EQUIPMENT REQUIRED BY THE SYSTEM MANUFACTURER TO CARRY OUT THE INSPECTION. REPAIR, REPLACE OR ADJUST ALL OF THE COMPONENTS AS REQUIRED BY THE SYSTEM MANUFACTURER TO ENSURE A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM. ALL MATERIALS SHALL BE PRODUCT OF ONE MANUFACTURER, WHERE THIS IS NOT POSSIBLE, PRODUCTS SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM. A CERTIFICATE SHALL BE PROVIDED BY THE SYSTEM MANUFACTURER UPON COMPLETION OF THE INSPECTION, OR AFTER NECESSARY REVISIONS ARE COMPLETED, VERIFYING THAT THE SYSTEM IS INSTALLED, SUPERVISED AND OPERATES ACCORDING TO ALL CODES AND AUTHORITIES HAVING FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH CAN/ULC-S524-14. ALL NEW FIRE ALARM PULL STATIONS TO BE MOUNTED AT 1200MM (47") A.F.F. AND MAXIMUM 600MM(23") FROM THE DOOR LATCH. (CENTERED TO THE DEVICE). PROVIDE FIRE ALARM SYSTEM VERIFICATION FOR THE ENTIRE RENOVATED SPACE. VERIFICATION SHALL CONFORM TO CAN/ULC-S537-13. SUBMIT VERIFICATION REPORT FOR CONSULTANT'S REVIEW PROVIDE COMPLETE AUDIBILITY TEST TO SHOW THAT O.B.C. ARTICLE 3.2.4.20 HAS BEEN MET. WHERE AUDIBILITY IS NOT MET, ADJUST TAP SETTINGS TO ADDRESS DEFICIENCIES WHERE POSSIBLE. TEST SHALL BE CARRIED OUT WITH ALL MECHANICAL AND OTHER SERVICE EQUIPMENT RUNNING. SUBMIT TEST RESULTS FOR CONSULTANT'S REVIEW. UPDATE FIRE ALARM CONTROL PANEL, DATA GATHERING PANELS, AND ANNUNCIATOR TO SUIT ALTERATIONS TO THE FIRE ALARM SYSTEM. PROVIDE ADDITIONAL BATTERIES, AMPLIFIERS, MODULES, INTERFACE CARDS, ENCLOSURES, AND OTHER ANCILLARIES FOR A COMPLETE SYSTEM. PROVIDE ALL PROGRAMMING AND MANUFACTURERS'S TECHNICIAN SUPPORT. UPDATE EXISTING ACTIVE COMPUTER GRAPHIC TO SUIT ALTERATIONS TO THE FIRE ALARM SYSTEM. VOICE/DATA SYSTEM THIS CONTRACTOR SHALL SUPPLY AND INSTALL ALL VOICE/DATA CABLING, DEVICES AND EQUIPMENT. PROVIDE EMPTY CONDUIT, CABLE TRAYS, SLEEVES, JUNCTION BOXES, 120V POWER AND ALL NECESSARY ACCESSORIES FOR THE COMPLETE VOICE/DATA SYSTEM. ADHERE TO ALL OWNER'S STANDARDS REGARDING STRUCTURED CABLING SECURITY SYSTEM AND PROVIDE NEW AS REQUIRED. AUDIO/VISUAL SYSTEM

TELEPHONE/DATA CONDUIT FOR FLOOR MONUMENTS ALL TELEPHONE/DATA CONDUIT FOR FLOOR MONUMENTS SHALL BE TERMINATED IN NEAREST BASE BUILDING TELEPHONE RISER ROOM UNLESS OTHERWISE NOTED. THE SUPPLY AND INSTALLATION OF THE SECURITY CABLING (WITH THE EXCEPTION OF CAT6 CABLE), DEVICES AND EQUIPMENT SHALL BE BY THE SECURITY CONTRACTOR COORDINATE WITH THE TENANT AND THE SECURITY SYSTEM CONTRACTOR PRIOR TO ROUGH IN. PROVIDE EMPTY CONDUITS, DEVICE BACK BOXES, CABLE TRAYS, SLEEVES, JUNCTION BOXES, 120V POWER AND ALL NECESSARY ACCESSORIES FOR THE COMPLETE SECURITY SYSTEM.

PROVIDE FIRE ALARM PULL STATIONS AS REQUIRED BY AUTHORITY WHERE MAGNETIC LOCKS ARE INSTALLED. PULLSTATIONS SHALL BE COMPLETE WITH DOUBLE CONTACTS, CONNECT ONE DIRECTLY TO THE MAGNETIC LOCK AND ONE TO THE BUILDING FIRE ALARM SYSTEM. REPLACE EXISTING PULLSTATION

THE SUPPLY AND INSTALLATION OF THE A/V SYSTEM SHALL BE BY THE A/V CONTRACTOR. COORDINATE WITH THE TENANT AND A/V CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE EMPTY CONDUITS, CABLE TRAYS, SLEEVES, JUNCTION BOXES, 120V POWER AND ALL NECESSARY ACCESSORIES FOR THE COMPLETE A/V SYSTEM. <u>DEMOLITION</u>

VISIT THE SITE. EXAMINE THE EXISTING CONDITIONS AND BECOME FAMILIAR WITH THE EXTENT OF THE NECESSARY REMOVAL, RELOCATION, RECONNECTING, AND REROUTING OF ELECTRICAL EQUIPMENT AND WIRING AS NECESSARY FOR THE COMPLETION OF THE PROJECT. REVIEW AND CONFIRM WITH THE ARCHITECT/DESIGNER'S DRAWINGS FOR THE COMPLETE EXTENT OF DEMOLITION AND ALL SYSTEM ALTERATION.

REROUTE AND REWORK AS REQUIRED TO MAINTAIN CONTINUITY FOR ALL SYSTEMS TO REMAIN WHICH ARE AFFECTED BY THE ALTERATION OR DEMOLITION.

INCLUDE IN DEMOLITION WORK FOR REMOVAL OF ALL COMMUNICATION DEVICES, OUTLETS, CABLES, ETC. WHICH ARE NOT TO BE REUSED. REMOVE ALL UNNECESSARY CABLES AND EQUIPMENT IN HUB ROOMS AND / OR TELEPHONE RISER ROOMS WITH EXTREME CARE TO AVOID ANY ACCIDENTAL SHUTDOWN TO EXISTING SERVICES SERVING OTHER PARTS OF THE BUILDING.

PROVIDE BLANK COVERPLATE WHERE OUTLETS ARE REMOVED FROM EXISTING WALLS TO REMAIN.

WORK IN AREAS WITHOUT CEILINGS/EXPOSED CEILING STRUCTURAL DO NOT USE BX(AC-90) CABLES IN CEILING SPACE. ALL CONDUITS AND RACEWAYS MUST BE

INSTALLED NEATLY IN APPEARANCE, RUNNING PARALLEL TO BUILDING LINES, AND AS HIGH AS POSSIBLE. PROVIDE PROPER BENDS AND/OR FITTINGS WHERE EQUIPMENT CROSSES BEAMS, DUCTWORKS, PIPES, ETC. MOUNTING HEIGHT OF SUSPENDED LUMINAIRES TO BE COORDINATED WITH ARCHITECT/DESIGN CONSULTANT, SITE CONDITIONS, AND ALL TRADES PRIOR TO ORDERING LUMINAIRES AND WORK. MOUNTING HEIGHT OF EXIT SIGNS SHALL BE AS HIGH AS POSSIBLE AND TO MEET CODE. PROVIDE CONDUIT STEM MOUNT AS REQUIRED. EXIT SIGNS ARE TO BE VISIBLE FROM THE EXIT APPROACH AND

NOT OBSTRUCTED BY ANY ELEMENTS, INCLUDING LUMINAIRES, SIGNAGES, BULKHEADS, DUCTWORK, ETC. MOUNTING HEIGHT OF EMERGENCY HEADS SHALL BE MAXIMUM 9'-0" A.F.F. PROVIDE CONDUIT STEM MOUNT AS REQUIRED. ENSURE HEADS ARE FREE FROM OBSTRUCTION AND ILLUMINATION INTERFERENCE. ENSURE THAT ALL EXISTING AND NEW CEILING MOUNTED EQUIPMENT, INCLUDING JUNCTION BOXES, RECEPTACLES, SPEAKERS, FIRE ALARM DEVICES, ETC. ARE PROPERLY SUPPORTED AND SECURED TO THE STRUCTURE. PROVIDE NEW BLANK COVERPLATE TO EXISTING JUNCTION BOXES AS REQUIRED.

SPECIFICATIONS

<u>PART A – GENERAL</u> 1 CODES & REGULATIONS 1.1 ALL WORK SHALL COMPLY WITH THE LATEST EDITIONS OF THE BUILDING CODE, ELECTRICAL CODE. C.S.A. STANDARDS, UNDERWRITERS' LABORATORIES, ALL APPLICABLE LOCAL CODES. AND ALL OTHER AUTHORITIES HAVING JURISDICTION. THESE CODES AND REGULATIONS CONSTITUTE AN INTEGRAL

2 BUILDING STANDARDS 2.1 COMPLETE ALL ELECTRICAL WORK IN ACCORDANCE WITH THE RELEVANT SECTIONS OF THE BASE BUILDING SPECIFICATIONS, DRAWINGS, AND STANDARDS TO THE SATISFACTION OF THE CONSULTANT AND/OR THE FOR REVIEW BY THE BUILDING OWNER IF SO REQUIRED.

PART OF THE SPECIFICATIONS.

BUILDING OWNER. THE BASE BUILDING DOCUMENTS WILL BE MADE AVAILABLE 3 SITE VISIT 3.1 THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE ALL DRAWINGS CAREFULLY TO DETERMINE THE EXTENT OF WORK AFFECTING THE EXISTING

BUILDING. DETERMINE AND INCLUDE IN THE TOTAL PRICE, THE TOTAL COST OF LABOUR AND MATERIAL TO DISCONNECT, REMOVE, RELOCATE, BLANK OFF REROUTE OR MAKE SAFE ALL EXISTING SERVICES, CONDUITS, WIRE, BOXES, LUMINAIRES AND EQUIPMENT AS REQUIRED. 3.2 NO CLAIM FOR EXTRA COST FOR ADDITIONAL WORK WILL BE ENTERTAINED

FOR OBVIOUS CONSIDERATIONS THAT MAY HAVE BEEN OVERLOOKED. 4 PERMITS & INSPECTIONS 4.1 THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY

FOR ALL NECESSARY PERMITS AND INSPECTIONS AS REQUIRED OR 4.2 ONCE THE ELECTRICAL WORK HAS BEEN COMPLETED AND ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH CERTIFICATES VERIFYING THAT THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH ALL CODES, BUILDING STANDARDS AND ALL AUTHORITIES HAVING JURISDICTION.

5.1 PROVIDE INSURANCE FOR THE DURATION OF THE PROJECT TO PROTECT THE BUILDING OWNER, TENANT, AND TRADES FROM ALL CLAIMS. SUBMIT, AT THE TIME OF THE BID, PROOF OF AN AMOUNT ACCEPTABLE TO BUILDING OWNER

6.1 THE DRAWINGS FOR THE WORK OF THIS DIVISION ARE IN PART DIAGRAMMATIC INTENDED TO CONVEY THE SCOPE OF WORK, GENERAL ARRANGEMENT, APPROXIMATE SIZES AND LOCATIONS OF THE EQUIPMENT AND OUTLETS 6.2 REPORT ANY DISCREPANCIES BETWEEN THE ARCHITECTURAL, INTERIOR

ENGINEER PRIOR TO INSTALLATION. 6.3 WHENEVER DIFFERENCES OCCUR BETWEEN PLANS AND DIAGRAMS, SCHEMATICS, AND BETWEEN SPECIFICATIONS AND DRAWINGS, THE MAXIMUM CONDITION SHALL GOVERN AND THE TENDER SHALL BE BASED ON WHICHEVER

LANDSCAPE DRAWINGS, ETC, AND THE ENGINEER'S DRAWING TO THE

DESIGNER, MECHANICAL, STRUCTURAL, SECURITY, AUDIO VISUAL, KITCHEN,

7 SHOP DRAWINGS

7.1 SUBMIT SHOP DRAWINGS OF LUMINAIRES, PANELBOARDS AND OTHER MAJOR ELECTRICAL EQUIPMENT, AS REQUESTED BY ENGINEER, UNLESS OTHERWISE NOTED. EACH SHOP DRAWING SHALL BE CHECKED AND STAMPED AS BEING CORRECT BY THE GENERAL CONTRACTOR AND THE APPROPRIATE TRADE BEFORE SUBMISSION TO THE ENGINEER FOR APPROVAL.

8 RECORD DRAWINGS 8.1 KEEP A RECORD SET OF DRAWINGS ON THE SITE ON WHICH SHALL BE CLEARLY INDICATED, THE EXACT LOCATION OF ALL OUTLETS, FIXTURES, FEEDER RUNS, PANELS, CONDUITS, JUNCTION BOXES, PULL BOXES, ETC. INFORMATION ON

COMPLETION OF THE PROJECT. 9 EXTRA WORK 9.1 IN CASES WHERE EXTRA WORK OF ANY KIND IS REQUIRED, OBTAIN WRITTEN INSTRUCTIONS FROM THE ARCHITECT/DESIGN CONSULTANT BEFORE

THESE DRAWINGS SHALL BE INCORPORATED IN THE AS-BUILT DRAWINGS UPON

PROCEEDING. PAYMENTS WILL BE MADE FOR AUTHORIZED CHANGES ONLY. 9.2 QUOTATION WITH BREAKDOWN OF MATERIAL, LABOUR, OVERHEAD, PROFIT IC. SHALL BE SUBMITTED FOR EACH CHANGE. LABOUR UNITS SHALL E BASED ON THE LATEST NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA) LABOUR UNITS COLUMN ONE FOR THE COMPLETE DURATION OF THE PROJECT. MATERIAL PRICES SHALL BE BASED ON THE CURRENT NATIONAL PRICE SYSTEM WITH TRADE DISCOUNTS. HOURLY LABOUR RATE SHALL INCLUDE ALL RELATED CHARGES FOR SUPERVISION, HYDRO INSPECTION, HAND TOOLS, PARKING, CLEAN-UP, AS-BUILT DRAWINGS AND ADDITIONAL

10.1 THE CONTRACTOR SHALL PROVIDE THE TENANT WITH A WRITTEN ONE-YEAR WARRANTY, COMMENCING ON THE DATE OF ACCEPTANCE. THE WARRANTY SHALL COVER THE COMPLETE FLECTRICAL INSTALLATION. THE FLECTRICAL CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTS IN MATERIALS OR WORKMANSHIP THAT OCCUR DURING THE WARRANTY PERIOD AT A TIME CONVENIENT TO THE TENANT/BUILDING OWNER. AND AT NO EXTRA COST.

11.1 PROVIDE AS-BUILT DRAWINGS OF THE ACTUAL INSTALLATION AS ELECTRONIC FILES IN BOTH AUTOCAD COMPATIBLE FORMAT AND PDF FORMAT. CONTRACTOR MAY OBTAIN CONSULTANT'S AUTOCAD FILES UPON REQUEST. 11.2 AS-BUILT DRAWINGS SHALL INCORPORATE ALL CHANGES AND DEVIATIONS FROM TENDER DRAWINGS, INCLUDING ALL MAIN CONDUIT RUNS, CABLE TRAYS,

JUNCTION BOXES, AND INFORMATION RECORDED ON RECORD DRAWINGS 11.3 ENGINEER'S STAMP AND COMPANY LOGO SHALL BE REMOVED FROM DRAWINGS. DRAWINGS SHALL BE MARKED "AS-BUILT" ALONG WITH ELECTRICAL CONTRACTOR'S NAME.

12 CLOSE-OUT DOCUMENTS 12.1 AFTER COMPLETION OF THE PROJECT. PROVIDE THE FOLLOWING DOCUMENTS TO THE BUILDING OWNER, THE TENANT, AND THE ENGINEER. PROVIDE THREE (3) PHYSICAL COPIES AND ELECTRIONIC COPIES (FLASH DRIVE).

- ELECTRICAL SAFETY AUTHORITY (ESA) INSPECTION REPORT. FIRE ALARM VERIFICATION REPORT AND CERTIFICATE.

- OPERATION AND MAINTENANCE MANUALS.

PART B - EXECUTION WORKMANSHIF

1.1 ALL WORK SHALL BE CARRIED OUT AND PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT/DESIGN CONSULTANT. ANY UNSATISFACTORY WORK BY THIS DIVISION SHALL BE REPLACED WITHOUT

EXTRA COST TO THE OWNER. 1.2 THE CONSTRUCTION SITE SHALL BE KEPT CLEAN AND ANY DEBRIS AND CONSTRUCTION MATERIAL SHALL BE REMOVED FROM THE SITE THROUGHOUT THE CONSTRUCTION PERIOD AND ON COMPLETION OF THE WORK.

2.1 ALL WORK SHALL BE SCHEDULED AND COORDINATED TO AVOID ANY CONFLICTS WITH OTHER TRADES, BUILDING OWNER AND TENANT(S) DURING OR AFTER

ALLOW FOR ALL NECESSARY PREMIUM TIME, ALL ALLOWANCE FOR THIS SHALL BE INCLUDED IN THE TENDER PRICE. DELIVERY OF EQUIPMENT 3.1 DELIVERY SCHEDULE OF ALL MAJOR ITEMS OF EQUIPMENT SUPPLIED UNDER

THIS CONTRACT SHALL BE SUBMITTED IN WRITING TO THE GENERAL CONTRACTOR AT THE START OF THE PROJECT. FAILURE TO IDENTIFY DELIVERY PROBLEMS MAY RESULT IN DELAY CLAIMS. 4 TEMPORARY POWER

4.1 PROVIDE TEMPORARY ELECTRICAL POWER FOR THE WORK OF THIS TRADE AND OTHER TRADES AS REQUIRED BY THE GENERAL CONTRACTOR OR THE TENANT. 5 LOCATION OF OUTLETS

5.1 THE ARCHITECT/DESIGN CONSULTANT SHALL HAVE THE RIGHT, AT ANY TIM TO CHANGE THE LOCATION OF ANY OUTLET UP TO TEN FEET WITHOUT EXTRA COST TO THE TENANT, PROVIDED THAT NOTIFICATION OF SUCH CHANGES ARE ISSUED PRIOR TO THE INSTALLATION OF THE OUTLET. 6 ROUTING OF EQUIPMENT

6.1 NEW CONDUITS AND OTHER NEW SERVICES SHALL BE CAREFULLY ROUTED SO THAT THEY DO NOT INTERFERE WITH ANY EXISTING INSTALLATIONS. ROLLTING OF EQUIPMENT IN BUILDING COMMON AREAS AND RISER ROOMS SHALL BE REVIEWED AND APPROVED BY BUILDING OWNER PRIOR TO INSTALLATION. ANY EXISTING CONDUITS, CABLE TRAYS, BUS DUCTS OR OTHER SERVICES THAT INTERFERE WITH THE NEW INSTALLATION SHALL BE RELOCATED UNDER THIS

FLOOR PENETRATION 7.1 X-RAY AND OBTAIN WRITTEN APPROVAL FROM BUILDING OWNER PRIOR TO PENETRATING ANY STRUCTURAL SURFACES OR FLOOR SLABS AND CARRY OUT THE WORK IN ACCORDANCE WITH THE BUILDING STANDARDS. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY ITEMS WHICH ARE DAMAGED DUE TO THIS WORK AT NO EXTRA COST TO THE BUILDING OWNER. 7.2 ALL NEW SERVICES THAT PENETRATE THE FLOOR SLAB OR FIRE RATED WALLS

OR CEILINGS SHALL BE IN CONDUIT AND SHALL BE SEALED WITH AN APPROVED, NON-SHRINK, WATERPROOF AND FIREPROOF SEALANT. 8 CUTTING AND PATCHING 8.1 ALL CUTTING AND PATCHING REQUIRED TO THE BUILDING STRUCTURE FOR THE

WORK SHALL BE INCLUDED AS PART OF THIS CONTRACT, UNLESS OTHERWISE ADVISED BY THE GENERAL CONTRACTOR. 9 ACCESS PANEL

9.1 ACCESS PANELS SHALL BE PROVIDED IN CEILINGS WHERE JUNCTION BOXES AND OTHER ELECTRICAL EQUIPMENT CAN NOT BE LOCATED IN ACCESSIBLE LOCATIONS PROVIDED THAT APPROVAL HAS BEEN OBTAINED FROM THE ARCHITECT/DESIGN CONSULTANT. 10 NOISE & VIBRATION

10.1 ALL ELECTRICAL EQUIPMENT SHALL OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION TO THE OWNER'S SATISFACTION. 11 MECHANICAL WIRING

11.1 CONTROL WIRING FOR ALL MECHANICAL EQUIPMENT TO BE SUPPLIED AND INSTALLED BY DIV.15. ALL STARTERS, INCLUDING FAN SWITCHES TO BE SUPPLIED BY DIV.15 AND INSTALLED BY DIV.16 UNLESS OTHERWISE NOTED. DIV.16 TO PROVIDE ALL POWER WIRING AND REQUIRED DISCONNECT 12 GROUNDING

12.1 ALL GROUNDING SHALL CONFORM TO THE ELECTRICAL SAFETY CODE AND LOCAL AUTHORITY REQUIREMENTS. 12.2 PROVIDE SEPARATE GREEN INSULATED GROUND CONDUCTOR IN EVERY

13 DIRECTORY 13.1 PROVIDE TYPEWRITTEN DIRECTORIES FOR NEW AND EXISTING PANELBOARDS WITHIN THE AREA OF WORK, TO REFLECT THE LATEST REVISIONS. LABELING TO BE BASED ON ROOM NUMBERS AND/OR LOCATION AND LOAD TYPES. 14 DISRUPTION OF EXISTING SERVICES

POWER CONDUIT TO ALL DEVICES, LUMINAIRES, EQUIPMENT, AND WITH ALL

14.1 THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DISRUPTION TO THE EXISTING SERVICES. THE EXISTING BUILDING MUST BE KEPT IN OPERATION AT ALL TIMES. ARRANGE WORK IN SUCH A MANNER THAT INTERRUPTIONS IN SERVICES OCCUR ONLY AT SCHEDULED TIMES. INTERRUPTIONS SHALL BE SCHEDULED WITH THE ARCHITECT/DESIGN CONSULTANT AT LEAST 48 HOURS IN ADVANCE. OVERTIME WORK THAT MAY BE REQUIRED TO TIE-IN SERVICES AT NIGHT OR ON WEEKENDS SHALL BE INCLUDED IN THE TENDER AMOUNT.

15 DEFECT OR INTERFERENCE 15.1 EXAMINE THE WORK OF THE OTHER TRADES, AS THEY AFFECT THIS DIVISION. REPORT AT ONCE TO THE ARCHITECT/DESIGN CONSULTANT ANY DEFECT OR INTERFERENCE THAT MAY AFFECT THE WORK OF THIS DIVISION OR THE GUARANTEE OF THIS WORK.

16 REMOVAL AND/OR RELOCATION OF EXISTING EQUIPMENT 16.1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AND REMOVING ALL ELECTRICAL EQUIPMENT FROM AREAS BEING ALTERED OR DEMOLISHED.

WIRING, CONDUIT AND EQUIPMENT WHICH IS REQUIRED TO MAINTAIN SERVICE IN OTHER PARTS OF THE BUILDING SHALL BE TEMPORARILY SUPPORTED, REROUTED, SERVICED OR RELOCATED AS REQUIRED. 16.2 EQUIPMENT TO BE RELOCATED SHALL BE VERIFIED FOR WORKING CONDITION. PROVIDE NEW IF NECESSARY AND FEASIBLE. EXTEND WIRING/CONDUIT AND RECONNECT TO SUIT 16.3 OBSOLETE CONDUITS AND CABLES SHALL BE DISCONNECTED FROM THEIR

SOURCE OF SUPPLY, CUT BACK AS FAR AS POSSIBLE, AND SHALL BE REMOVED. ALL EXISTING WIRING NOT REMOVED SHALL BE DISCONNECTED, BLANKED-OFF AND MADE SAFE. 16.4 UNLESS OTHERWISE ADVISED, ALL BASE BUILDING LUMINAIRES, TRANSFORMERS. PANELBOARDS AND DISCONNECT SWITCHES WHICH ARE

REMOVED SHALL BE HANDED OVER TO THE BUILDING OWNER.

16.5 ALL REMOVED EQUIPMENT AND MATERIALS WHICH ARE NO LONGER REQUIRED, UNLESS OTHERWISE NOTED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UPON COMPLETION OF THE WORK. <u>PART C - MATERIAL</u>

1 GENERAL

4 PULL BOXES

1.1 ALL ELECTRICAL EQUIPMENT SHALL BE C.S.A. APPROVED AND BEAR THE C.S.A. STAMP. ALL EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED. 2 WIRE AND CABLE

2.1 ALL WIRE AND CABLE SHALL BE COPPER WITH TYPE R-90. X-LINK INSULATION. AND MINIMUM NO.12 AWG WIRE SIZE. NO.10 AND 12 TO BE SOLID, AND NO.8 AND LARGER TO BE STRANDED. 2.2 SIZE ALL WIRE FOR MAXIMUM 3% VOLTAGE DROP AT 80% LOAD AND 90%

3 CONDUIT 3.1 ALL WIRING IN CEILINGS AND PARTITIONS SHALL BE IN EMT CONDUIT WITH STEEL SETSCREW COUPLING AND CONNECTORS. 3.2 ALL WIRING IN SLABS SHALL BE IN RIGID PVC CONDUIT.

3.3 AC-90 CABLE MAY BE PERMITTED FOR DOWN-DROPS FROM JUNCTION BOXES

TO LUMINAIRES AND IN PARTITIONS UNLESS PROHIBITED BY CODE OR

BUILDING STANDARDS. AC-90 CABLE SHALL NOT BE USED IN ANY EXPOSED AREAS UNLESS OTHERWISE NOTED. AC-90 CABLE RUNS IN CEILING SPACE SHALL NOT EXCEED 3048MM (10') IN LENGTH. DO NOT TERMINATE AC-90 CABLE DIRECTLY TO PANEL BOARDS. 3.4 PROVIDE FLEXIBLE METAL CONDUIT FOR CONNECTION TO TRANSFORMERS AND MOTORS, MINIMUM 1M (3') LENGTH.

3.5 ALL CONDUITS FOR COMMUNICATION WIRING SHALL BE INSTALLED WITH BUSHINGS AT EACH END. CONDUITS SHALL BE TERMINATED ON EQUIPMENT RACK, BACKBOARD OR CABLE TRAY WITHIN THE ROOM. 3.6 ALL EMPTY CONDUITS SHALL BE COMPLETE WITH NYLON PULL STRING. DO NOT CADDIE CLIP CONDUITS TO CEILING HANGERS.

4.1 A MINIMUM OF ONE PULL BOX SHALL BE INSTALLED FOR EVERY 30M (100') OF CONDUIT (EACH 90 DEGREE BEND SHALL EQUATE TO A 9M (30') LENGTH OF CONDUIT). NO MORE THAN TWO 90 DEGREE BENDS SHALL BE INSTALLED BETWEEN TWO PULL BOXES. LIGHTING CONTROL

5.1 LOCAL SWITCHES SHALL BE WIRED. AND LOW VOLTAGE, AS INDICATED. VERIFY EXACT LOCATION, MOUNTING HEIGHT, AND COLOUR WITH ARCHITECT/DESIGN CONSULTANT PRIOR TO INSTALLATION.

5.2 PROVIDE COMBINATION CEILING MOUNTED PASSIVE INFRARED (PIR) OCCUPANCY SENSORS AND PHOTOCELLS. DEFAULT RANGE SHALL BE 1500 SQUARE FEET. SENSORS SHALL BE LOW VOLTAGE, WIRED. 5.3 MANUFACTURER: ENCELIUM EXTEND. NO ALTERNATES SHALL BE ACCEPTED. 6 RECEPTACLES

6.1 DUPLEX RECEPTACLES SHALL BE 120 VOLT, 15 AMP AND SPECIFICATION GRADE UNLESS OTHERWISE NOTED. VERIFY EXACT LOCATION, MOUNTING HEIGHT AND COLOUR WITH ARCHITECT/DESIGN CONSULTANT PRIOR TO INSTALLATION. 6.2 EVERY RECEPTACLE SHALL BE LABELLED ON FRONT OF COVERPLATE WITH THE TAG OF THE CIRCUIT IT BELONGS TO.

7.1 EXPOSED COVERPLATES SHALL BE MADE OF UNBREAKABLE NYLON AND INSTALLED AFTER FINAL PAINTING, FLUSH WITH THE WALL. COLOUR TO MATCH DEVICES UNLESS OTHERWISE NOTED. 7.2 MANUFACTURER: - P&S TP 26 SERIES (UNLESS OTHERWISE NOTED)

6.3 MANUFACTURER: - P&S 26252 SERIES (UNLESS OTHERWISE NOTED)

8 STRUCTURED CABLING 8.1 THIS CONTRACTOR SHALL SUPPLY, INSTALL, AND TERMINATE DATA AND TELECOMMUNICATIONS DEVICES AND CABLING. 8.2 ALL NETWORK CABLE SHALL BE CAT 6 UTP 4-PAIR COPPER CABLE UNLESS

- BLUE FOR DATA, AUDIO-VISUAL AND/OR VOICE - RED FOR IP SECURITY CAMERAS/SYSTEMS – YELLOW FOR AUDIO—VISUAL CAT 6 SHIELDED CABLE. 8.3 NETWORK JACK COLOUR SHALL BE AS FOLLOWS: - BLUE FOR AUDIO-VISUAL RFD FOR DATA

- YELLOW FOR SECURITY (CAMERAS, PANELS) - GREEN FOR WIRELESS ACCESS POINTS (WAP), IP CLOCKS 8.4 ADHERE TO TIA/EIA 568 SPECIFICATIONS AND ALL MANUFACTUER'S RECOMMENDATIONS. 8.5 PROVIDE LABELLING FOR ALL CABLES, JACKS, AND OTHER DEVICES AS PER

TIA/EIA-606B AND TO MEET OWNER'S STANDARDS. 8.6 PROVIDE SLACK OF MINIMUM 3' AT EACH PATCH PANEL/WIRING CLOSET AND MINIMUM 10' AT EACH DROP LOCATION TO ALLOW RELOCATION IN FUTURE.

8.7 PROVIDE NETWORKING CAT 6 PATCH CORDS, STANDARD LENGTH 6', SNAGLESS CONNECTORS, GREY COLOUR. 8.8 MANUFACTURERS: BELDEN, HUBBELL

8.9 ALL WIRELESS ACCESS POINTS SHALL HAVE TWO DATA CONNECTIONS. 9 SERVICE EQUIPMENT 9.1 ALL NEW PANELBOARDS, DISCONNECT SWITCHES, SPLITTERS, ETC. TO BE OF THE SAME MANUFACTURER. RATING AND TYPE TO COMPLY WITH BASE BUILDING EQUIPMENT WHERE POSSIBLE. MOULDED CIRCUIT BREAKERS SHAL BE BOLT-ON TYPE. ALL PANELBOARDS SHALL HAVE LOADS BALANCED ON EACH PHASE (OPERATING AT NORMAL BUSINESS HOURS), ADJUST BRANCH CIRCUITS AS REQUIRED. DISCONNECT SWITCHES SHALL BE OF QUICK-MAKE/QUICK-BREAK TYPE.

9.2 PROVIDE BREAKER TYPE AS NOTED IN SCHEDULE. TANDEM BREAKERS SHALL NOT BE PERMIITED. 9.3 MANUFACTURER: — SIEMENS, SCHNEIDER, EATON

10 FUSES

MANUFACTURER.

11 TRANSFORMERS 11.1 ALL DRY TYPE TRANSFORMERS SHALL BE MINIMUM K13 RATED AND WITH ELECTROSTATICALLY SHIELDED WINDINGS. TRANSFORMER TO HAVE DOUBLE LUGS TO ACCOMMODATE DOUBLE NEUTRALS. MANUFACTURER: (TO MATCH

10.1 FUSES SHALL BE BUSSMAN 'FUSETRON' DUAL ELEMENT SLOW BLOW TYPE,

BASE BUILDING WHERE POSSIBLE) - HAMMOND, POLYGON, REX. 11.2 WHERE INDICATED ON THE DRAWINGS USE HARMONIC MITIGATION TRANSFORMERS. MANUFACTURER: (TO MATCH BASE BUILDING WHERE POSSIBLE) - HARMONY SERIES FROM MIRUS INT'L, POWERSMITHS.

MOUNTED WITH SUSPENSION RODS UNLESS OTHERWISE NOTED. 12.1 ALL NEW LUMINAIRES SHALL BE AS SPECIFIED ON DRAWINGS. ALTERNATES ARE NOT ACCEPTABLE WITHOUT APPROVAL BY ENGINEER AND CLIENT.

11.3 ALL TRANSFORMERS UP TO AND INCLUDING 75 KVA ARE TO BE CEILING

12.2 ALL LUMINAIRES INSTALLED IN OR ON BASE BUILDING CEILINGS SHALL BE INDEPENDENTLY SUPPORTED FROM BUILDING STRUCTURE WITH CHAIN UNLESS OTHERWISE NOTED. 12.3 NEW AND RELOCATED EXISTING BASE BUILDING LUMINAIRES SHALL BE INSTALLED WITH CHAIN SUPPORTS UNLESS BASE BUILDING CEILING SYSTEM IS DESIGNED AND CONSTRUCTED TO SUPPORT THE ADDITIONAL WEIGHT OF THE BASE BUILDING LUMINAIRES. PROVIDE WRITTEN CONFIRMATION FROM CEILING

13.1 ALL LUMINAIRES SHALL BE COMPLETE WITH SUITABLE LAMPS AS RECOMMENDED BY MANUFACTURER. COLOUR TEMPERATURE, BEAM ANGLE, CRI. FROSTED/CLEAR, ETC. SHALL BE CONFIRMED WITH ENGINEER AND ARCHITECT/DESIGN CONSULTANT PRIOR TO ORDERING LAMPS. 13.2 COMPACT FLUORESCENT, FLUORESCENT, AND H.I.D. LAMPS SHALL BE

GUARANTEED FOR A PERIOD OF TWELVE MONTHS FROM THE DATE OF 13.3 LOW VOLTAGE, HALOGEN, AND INCANDESCENT LAMPS SHALL BE GUARANTEED FOR A PERIOD OF SIX MONTHS FROM THE DATE OF ACCEPTANCE.

13.4 MANUFACTURER - PHILIPS, G.E.CANADA, OSRAM/SYLVANIA 14 PLYWOOD BACKBOARDS 14.1 PLYWOOD BACKBOARDS SHALL BE FIRE RETARDANT VENEER CORE FIR, 19MM(3/4") THICK AND SIZED AS INDICATED ON DRAWINGS. BACKBOARDS SHALL BE PRIMED AND PAINTED WITH APPROVED FIRE RETARDANT PAINT. COLOUR AS SPECIFIED BY ARCHITECT/DESIGN CONSULTANT.

15.1 PROVIDE ENGRAVED LAMICOID NAMEPLATE ON ALL MAJOR ELECTRICAL EQUIPMENT IDENTIFYING NAME, VOLTAGE, PHASE, CURRENT RATING, "FED FROM___" AND USE.

15.2 NAMEPLATE COLOUR, LETTERING HEIGHT, TEXT FORMAT SHALL MATCH OWNER'S REQUIREMENTS. 15.3 CONFIRM ALL SERVICE EQUIPMENT NAMES WITH OWNER ON SITE. 16 METERING

16.1 SINGLE-POINT METERS SHALL BE LOCATED IN STAND ALONE

REAL kWh, REACTIVE kVARh, AND APPARENT kVAh.

16.2 MULTI-POINT METERS SHALL BE CAPABLE OF METERING UP TO EIGHT (8) 3-PHASE LOADS. METER SHALL BE LOCATED IN STANDALONE ENCLOSURÉ. 16.3 PROVIDE ALL NECESSARY POTENTIAL TRANSFORMERS (PT) AND CURRENT TRANSFORMERS (CT) FOR THE METERING POINTS IDENTIFIED. 16.4 METERS SHALL PROVIDE THE FOLLOWING READINGS AT MINIMUM:

REAL, REACTIVE, AND APPARENT POWER (PER PHASE, 3PH TOTAL);

16.5 METERS SHALL SUPPORT THE FOLLOWING COMMUNICATIONS: BACnet/IP, ETHERNET OVER COPPER MEDIA, SERIAL RS-485. 16.6 METER SHALL BE FIELD PROGRAMMABLE FOR VOLTAGE SCALE, VOLTAGE MODE, CURRENT SCALE, AND AUX INPUT/OUTPUT SCALES USING BOTH FRONT PANEL AND COMMUNICATIONS PORT.

16.7 NEW METERS SHALL COMMUNICATE TO HUMBER NETWORK USING BACNET IP. WHERE NOT AVAILABLE, INTEGRATE METER USING DATA ACQUISITION DEVICE. APPROVED MANUFACTURERS: OBVIOUS ACQUISUITE, SIEMENS PXC. 16.8 NEW METER AND METERING POINTS SHALL BE CONNECTED TO EXISTING QMC BASE BUILDING CENTRAL METERING SYSTEM. TERMINATION TO CENTRAL METERING SYSTEM AND COMMISSIONING OF NEW METERS

16.9 METER SHALL DERIVE POWER FOR ON BOARD ELECTRONICS FROM THE

16.10 PROVIDE TESTING, SEALING, AND S-E-04 INSPECTION. 16.11 MULTI POINT METER MANUFACTURER: TRIACTA POWERHAWK 4000 SERIES, SCHNEIDER ELECTRIC POWERLOGIC EM 4000 SERIES, ACCUENERGY ACUREV 2000 SERIES 16.12 SINGLE POINT METER MANUFACTURER: SCHNEIDER ELECTRIC PM5560, ACUVIM IIR.

E-202B

E-301A

E-302

E-501

E-502

E-503

LIGHTING LAYOUT PHOTOMETRICS - PHASE B

LIGHTING DIAGRAM, LIGHTING SCHEDULE, & GENERAL DETAILS

POWER & SYSTEMS LAYOUT - PHASE A

POWER & SYSTEMS LAYOUT - PHASE B

BASEMENT POWER & SYSTEMS LAYOUT

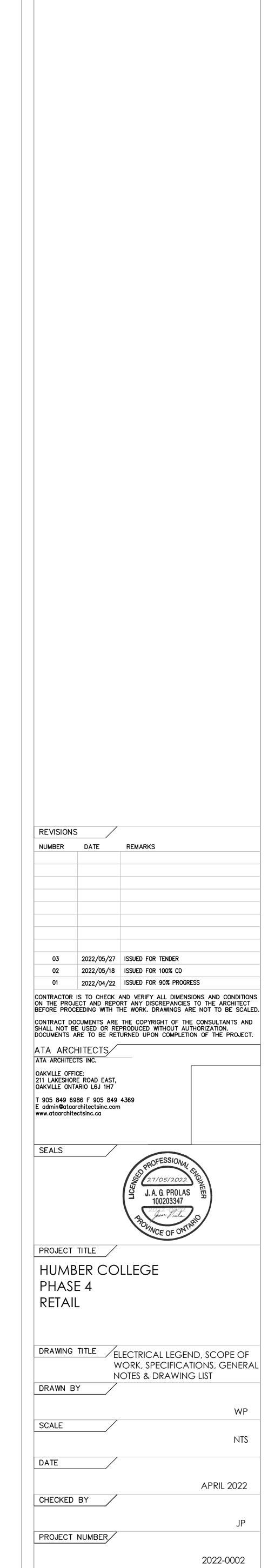
ELECTRICAL SINGLE LINE DIAGRAM

LECTRICAL PANEL SCHEDULES

MISCELLANEOUS LEGEND DENOTES ARC FAULT INTERRUPTER DENOTES ABOVE FINISHED FLOOR DENOTES AUDIO/VISUAL DEVICE DENOTES DEVICES MOUNTED 12" ABOVE FINISHED COUNTER HEIGHT UNLESS SPECIFICALLY NOTED OTHERWISE DENOTES CHILD PROOF DENOTES EXISTING DEVICE TO REMAIN DENOTES EXPLOSION PROOF DENOTES GROUND FAULT INTERRUPTER DENOTES HOUSE KEEPING DENOTES HOSPITAL GRADE DENOTES ISOLATED GROUND DENOTES KEY OPERATED DENOTES MICROWAVE DENOTES NIGHT LIGHT DENOTES EXISTING TO BE REMOVED AND HANDED OVER TO OWNER DENOTES EXISTING TO BE RELOCATED DENOTES EXISTING SHOWN IN RELOCATED POSITION DENOTES REFRIGERATOR R/A DENOTES RETURN AIR DENOTES SUPPLY AIR DENOTES TWIST LOCK DENOTES TAMPER RESISTANT DENOTES UNDERGROUND DENOTES UNDERSIDE DENOTES WIRE GUARD DENOTES WEATHER PROOF DENOTES WATER TIGHT DENOTES 'REFER TO DRAWING NOTE' NUMBER HIDDEN LINE DENOTES EXISTING DEVICE(S) TO REMAIN, UNLESS SPECIFICALLY NOTED OTHERWISE SOLID LINE DENOTES NEW DEVICE(S) TO BE PROVIDED UNDER THIS CONTRACT DENOTES EXISTING DEVICE(S) TO BE 'REMOVED' DENOTES MATCHLINE DWG. E-XXX DENOTES CROSS SECTION DETAIL CALL OUT DENOTES DETAIL CALL OUT DENOTES MECHANICAL EQUIPMENT TAG
DENOTES PANEL FEED ELECTRICAL LEGEND 120V, SINGLE PHASE DIRECT CONNECTION 208V, SINGLE PHASE DIRECT CONNECTION 208V, THREE PHASE DIRECT CONNECTION 600V, SINGLE PHASE DIRECT CONNECTION 500V, THREE PHASE DIRECT CONNECTION ISCONNECT SWITCH - NON-FUSED DISCONNECT SWITCH - FUSED DISTRIBUTION BOX. 'JB' DENOTES JUNCTION BOX OR PULL BOX, LB' DENOTES LIGHTING JUNCTION BOX, 'PB' DENOTES POWER DISTRIBUTION BOX. LECTRICAL PANELBOARD - SURFACE MOUNTED ECTRICAL PANELBOARD - RECESSED TILITY PANELBOARD (ie: FIRE, COMMS etc.) - SURFACE MOUNTED JTILITY PANELBOARD (ie: FIRE, COMMS etc.) — RECESSED COMBINATION MOTOR STARTER OOSE MOTOR STARTER TRANSFORMER - FLOOR MOUNTED. SIZE AND TYPE AS INDICATED RANSFORMER — SUSPENDED. SIZE AND TYPE AS INDICATED. DUPLEX RECEPTACLE - 5-15R DUPLEX RECEPTACLE - CEILING MOUNTED. 5-15R UNLESS NOTED OTHERWISE. DUPLEX RECEPTACLE - FLOOR MOUNTED. 5-15R UNLESS NOTED OTHERWISE. DUPLEX RECEPTACLE - 5-20R SPLIT RECEPTACLE - 5-15R SPLIT RECEPTACLE - 5-20R GROUND FAULT INTERRUPTER (GFI) RECEPTACLE 5-20R, 5mA UNLESS DUPLEX RECEPTACLE - 5-15R. ONE HALF CONTROLLED BY WALL SPECIAL RECEPTACLE - # INDICATES TYPE SINGLE SPECIALTY TWISTLOCK RECEPTACLE - # INDICATES TYPE STOVE RECEPTACLE - 14-50R, 125/250V, 50A 6-30R RECEPTACLE 208V, 30A QUAD RECEPTACLE QUAD RECEPTACLE - FLOOR MOUNTED DUPLEX RECEPTACLE WITH USB-C INPUT SURFACE RACEWAY SERVICE POLE FEED FOR POWER TO SYSTEM FURNITURE - WALL TEED FOR POWER TO SYSTEM FURNITURE - FLOOR ELECTRIC BASEBOARD HEATER, SIZE AS SHOWN (208V/1PH) ALL BASEBOARDS COMPLETE WITH BUILT-IN THERMOSTAT ELECTRIC PIPE TRACE HEATING CABLE - SIZE AS NOTED REFER TO PIPE TRACE SCHEDULE DRYER CURRENT SENSOR LIGHTNING PROTECTION/GROUNDING DEVICES: CONNECTION POINT DOWNLEAD LIGHTNING TERMINAL GROUNDING ROD ELECTRICAL DRAWINGS LIST: ISSUED DRAWING TITLE DWG. No. ECTRICAL LEGEND, SCOPE OF WORK, SPECIFICATIONS, E-001 SENERAL NOTES & DRAWING LIST ED-201A LIGHTING DEMOLITION LAYOUT - PHASE A ED-201B LIGHTING DEMOLITION LAYOUT - PHASE B ED-301A POWER & SYSTEMS DEMOLITION LAYOUT - PHASE A ED-301B POWER & SYSTEMS DEMOLITION LAYOUT - PHASE B E-201A LIGHTING LAYOUT - PHASE A LIGHTING LAYOUT - PHASE B E-201B LIGHTING LAYOUT PHOTOMETRICS - PHASE A

SYSTEM	1S LEGEND		BUTION LEGEND
DATA OUTLET	···	<u> </u>	TRANSFORMER. VOLTAGE A
∇#	WALL MOUNTED COMPLETE WITH BACKBOX, PULL CORD AND 27mm CONDUIT BACK TO THE NEAREST COMMUNICATIONS ROOM, CLOSET, OR LOCAL CABLE TRAY, UNLESS		ISOLATION TRANSFORMER
□ #	FLOOR MOUNTED SPECIFICALLY NOTED OTHERWISE "#" DENOTES NUMBER OF OUTLETS	*	CURRENT TRANSFORMER (
-\$ }	CEILING MOUNTED "H" DENOTES HUMBER SERVER TERMINATION "F" DENOTES FOLLET SERVER TERMINATION	- ₩	POTENTIAL TRANSFORMER
•	HONE) OUTLETS:		MOLDED CASE CIRCUIT BR
V #	WALL MOUNTED COMPLETE WITH BACKBOX, PULL CORD AND 27mm CONDUIT BACK TO THE NEAREST COMMUNICATIONS FLOOR MOUNTED ROOM, CLOSET, OR LOCAL CABLE TRAY, UNLESS		AIR CIRCUIT BREAKER (FIX
₩ #	SPECIFICALLY NOTED OTHERWISE CEILING MOUNTED "#" DENOTES NUMBER OF OUTLETS	< <u>~″</u> ">>	AIR CIRCUIT BREAKER (DR
	DATA/VOICE OUTLETS:	***	HIGH VOLTAGE CIRCUIT BR
▼#	WALL MOUNTED COMPLETE WITH BACKBOX, PULL CORD AND 27mm		FUSE
	CONDUIT BACK TO THE NEAREST COMMUNICATIONS ROOM, FLOOR MOUNTED CLOSET, OR LOCAL CABLE TRAY, UNLESS SPECIFICALLY		DISCONNECT SWITCH (FUSI
-\$\frac{1}{4}	CEILING MOUNTED "#" DENOTES NUMBER OF OUTLETS		DISCONNECT SWITCH (UNFI
TV OUTLETS:	•		LOAD BREAKER SWITCH
₩	WALL MOUNTED COMPLETE WITH BACKBOX, PULL CORD AND 27mm CONDUIT BACK TO THE NEAREST COMMUNICATIONS		TRANSFER SWITCH
ф	CEILING MOUNTED ROOM, CLOSET, OR LOCAL CABLE TRAY, UNLESS SPECIFICALLY NOTED OTHERWISE		FEEDER
AUDIO/VISUA	LOCATION:		BUS
AV .	WALL MOUNTED AUDIO/VISUAL		BUS DUCT RISER
₩	CEILING MOUNTED '		GENERATOR
	CESS POINT (WAP) LOCATION:		KIRK KEY INTERLOCK
₩ ———	WALL MOUNTED WIRELESS ACCESS POINT (WIFI). ALL WIRELESS ACCESS POINTS SHALL HAVE TWO DATA CONNECTIONS BACK TO HUMER IT NETWORK	M	UTILITY METER
	CEILING MOUNTED TOMEN TO NETWORK ESS SYSTEM LOCATION:		UTILITY METER SOCKET
P	WALL MOUNTED	M	UTILITY METER CABINET
P	DENOTES LOCATION OF PUBLIC ADDRESS SYSTEM SPEAKER.	M	METERING POINT
	D ACCESS DEVICES:	DMS	DIGITAL METERING SYSTEM
<u>CTV</u> ✓	WALL OR CEILING CLOSED CIRCUIT TELEVISION (SECURITY CAMERA)	SPD	SURGE PROTECTIVE DEVICE
MD	WALL MOUNTED	NGR	NEUTRAL GROUND
-ф) -	CEILING MOUNTED MOTION DETECTOR — SECURITY	GFP ◆¬	GROUND FAULT PROTECTION
GB	WALL MOUNTED GLASS BREAK SENSING DEVICE	<u></u> + +	GROUNDING CONNECTION LIGHTNING ARRESTER
- ф-	CEILING MOUNTED	ÿ -¤-	LIGHT INDICATOR (ie: VOL
		•	STRESS CONE
CR	CARD READER	R	RELAY
DC	DOOR CONTACT	(A)	AMMETER
	ELECTRIC STRIKE		VOLTMETER
ML)	ELECTRIC LATCH ELECTRO-MAGNETIC LOCKING DEVICE. (MAG LOCK)	9	SINGLE PHASE MOTOR
REX	REQUEST TO EXIT DEVICE	Á	THREE PHASE MOTOR
KP	SECURITY KEY PAD		PANEL BOARD (SINGLE TU
EL	DOOR BELL		PANEL BOARD (DOUBLE TO
 BZ	DOOR BUZZER		IG LEGEND
ČH	DOOR CHIME		<u> </u>
BARRIER-FRE	E WASHROOM DEVICES:		2' x 2' LED/FL 1' x 4' SURFAG
DO	DOOR OPERATOR		1' x 4' SURFA((NEW c
BF	BARRIER-FREE DOOR OPERATOR ACTUATOR BUTTON		EXISTING BASE BUILDING F
DB	DURESS ALARM BUTTON		EXISTING BASE BUILDING F
	INTERCOM DEVICE		LED/FLUORESCENT LUMINA
	SYSTEM PUSH BUTTON LOCATION EMERGENCY ASSISTANCE - AUDIBLE & VISUAL SIGNAL	0	LUMINAIRES - RECESSED
PTL	PUSH-TO-LOCK DOOR DEVICE	0	SINGLE HEAD
<u> </u>		00	DOUBLE HEAD MULTI-
MISCELLANEO	US DEVICES:	000	TRIPLE HEAD
M W	MUSIC SPEAKER — CEILING, WALL MOUNTED	Q	LUMINAIRES — WALL MOUN
SM	SOUND MASKING SPEAKER	Ô	LUMINAIRE — WALL WASHE
		<u> </u>	LUMINAIRE – STEP LIGHT
		0	LUMINAIRE — SUSPENDED POLE MOUNTED LUMINAIRE
		D D	ILLUMINATED BOLLARD
			LINEAR TRACK c/w TRACK
		EM EM	QUANTITY OF TRACK HEAD DENOTES LUMINAIRE ON E
FIRE A	LARM LEGEND	NL NL	LUMINAIRE USED AS NIGHT
	FIRE ALARM SYSTEM MANUAL PULL STATION		COVE, UNDERCABINET, ANI
	FIRE FIGHTER'S HANDSET	BATTERY PO	LENGTH TO BE FIELD MEA
§	FIRE ALARM EVAC SPEAKER — CEILING, WALL MOUNTED	T 4.	WALL MOUNTED SAFE
T P T	FIRE ALARM STROBE LIGHT — CEILING, WALL MOUNTED FIRE ALARM SPEAKER/STROBE COMBINATION DEVICE — CEILING WALL MOUNTED	7 4	CEILING MOUNTED EMERI
<u>।</u> अ. स्ट्र	FIRE ALARM SPEAKER/STROBE COMBINATION DEVICE — CEILING, WALL MOUNTED FIRE ALARM BELL — WALL MOUNTED		EMERGENCY LIGHTING BATTE
	FIRE ALARM HORN SPEAKER — CEILING, WALL MOUNTED	BU-# BU-#	TAG '#' INDICATES CIRCUIT
含	FIRE ALARM HORN SPEAKER/STROBE — CEILING, WALL MOUNTED	EXIT SIGNS:	
	IONIZATION SMOKE DETECTOR — CEILING, WALL MOUNTED SB—DENOTES C/W SOUNDER BASE, RB—DENOTES C/W RELAY BASE	⊗ 1⊗h ⊗h	CEILING MOUNTED
Θ	DUCT TYPE SMOKE DETECTOR W/REMOTE INDICATION		END MOUNTED EXIT :
•	PHOTOELECTRIC BEAM TYPE SMOKE DETECTOR	⊗ ⊗	WALL MOUNTED
	HEAT DETECTOR - 130° FIXED TEMPERATURE TYPE - CEILING, WALL MOUNTED	⊗#	TAG '#' DENOTES EXIT SIC REFER TO LUMINAIRE SCH
	HEAT DETECTOR - 190° FIXED TEMPERATURE TYPE - CEILING, WALL MOUNTED	SWITCHES AND	
∑	HEAT DETECTOR - RATE OF RISE - CEILING, WALL MOUNTED SMOKE ALARM C/W INTEGRAL STROBE LIGHT (RESIDENTIAL) -		DENOTES SWITCH. TAG '#'
	CEILING, WALL MOUNTED	\$ #	'3' – 3-WAY SWITCH '4' – 4-WAY SWITCH 'K' – KEY SWITCH
	COMBINATION SMOKE ALARM/CARBON MONOXIDE (CO) DETECTOR		'LV' - LOW VOLTAGE SWIT 'M' - MASTER SWITCH
③	CARBON MONOXIDE DETECTOR (CO) — CEILING, WALL MOUNTED REMOTE PILOT LIGHT FOR SMOKE DETECTOR — CEILING, WALL MOUNTED		DENOTES DIMMER SWITCH.
FS	FIRE ALARM CONNECTION TO FLOW SWITCH	Φ#	'3' – 3–WAY DIMMER SWI '4' – 4–WAY DIMMER SWI
SV	FIRE ALARM CONNECTION TO SUPERVISED VALVE	##	'LV' – LOW VOLTAGE DIMM
PS WAT	FIRE ALARM CONNECTION TO PRESSURE SWITCH	\$\$\$ 	DENOTES SWITCHES GANGE
WA DA	FIRE ALARM CONNECTION TO WET ALARM VALVE FIRE ALARM CONNECTION TO DRY ALARM VALVE		VARIABLE SPEED SWITCH CEILING or WALL MOUNTED
FAC	FIRE ALARM CONNECTION TO ITEMS AS INDICATED	% % % % #	'#' DENOTES OCCUPANCY
FDNE	'FIRE DO NOT ENTER' SIGN	(75)# (%)	PHOTOCELL
DH ₱	DOOR HOLD OPEN DEVICE, RELEASE UPON FIRE ALARM	<u> </u>	TIME SWITCH
<u>₩</u>	FIRE ALARM - ADDRESSABLE INPUT MODULE FIRE ALARM - ADDRESSABLE OUTPUT MODULE	WM	ENCELIUM WIRELESS MANA
	FIRE ALARM LINE ISOLATION MODULE		
EOL	FIRE ALARM END OF LINE RESISTOR		
□ ##	FIRE ALARM CONNECTION TO SMOKE DAMPER		

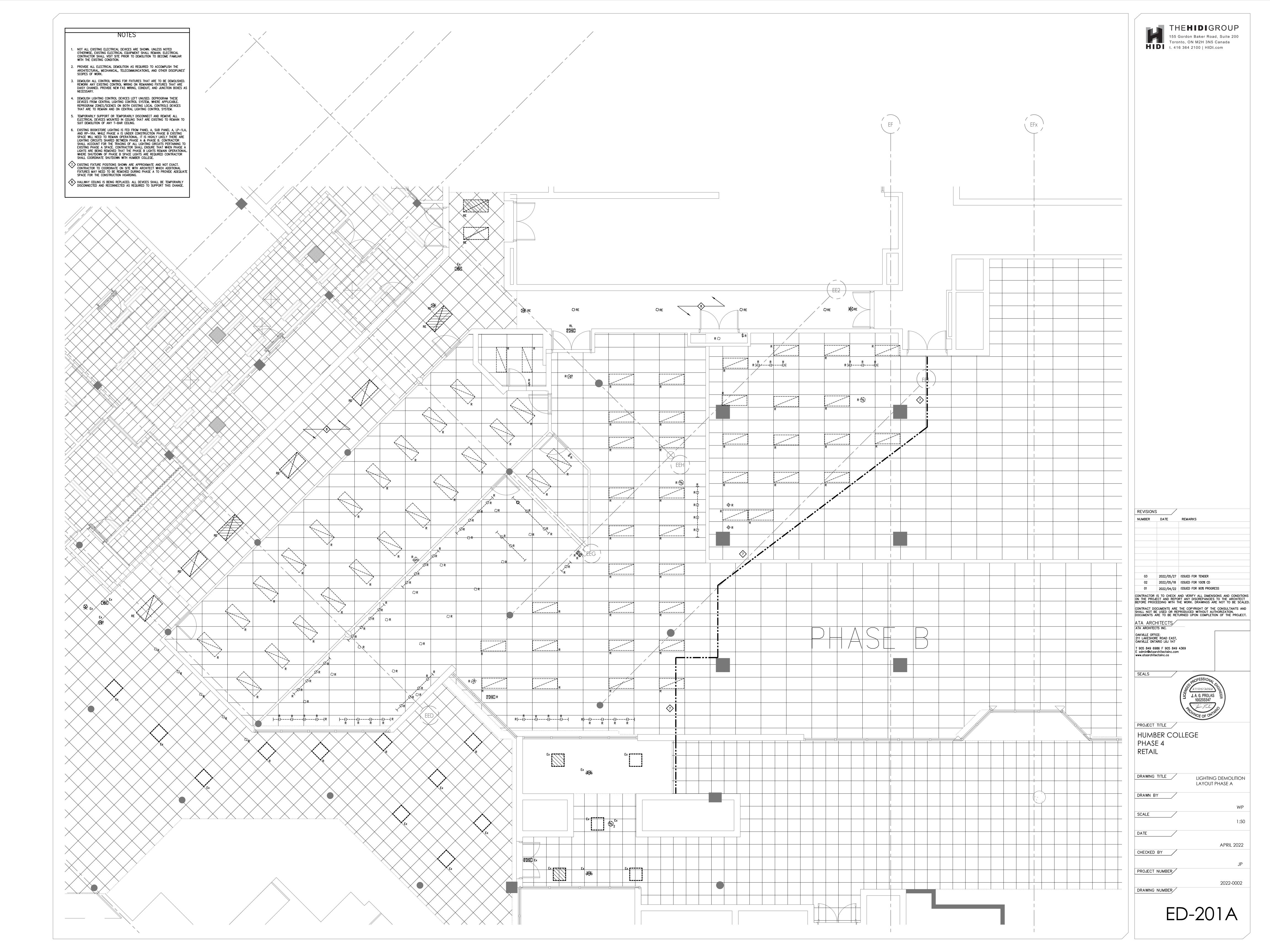
<u> </u>	TRANSFORMER. VOLTAGE AND RATING AS INDICATED.					
316	ISOLATION TRANSFORMER C/W ELECTROSTATIC SHIELD					
₩	CURRENT TRANSFORMER (CT)					
-{}-	POTENTIAL TRANSFORMER (PT)					
	MOLDED CASE CIRCUIT BREAKER (FIXED)					
	AIR CIRCUIT BREAKER (FIXED)					
	AIR CIRCUIT BREAKER (DRAW OUT)					
(← →/	HIGH VOLTAGE CIRCUIT BREAKER					
	CONTACTOR - NORMALLY OPEN, - NORMALLY CLOSED					
	FUSE					
- \	DISCONNECT SWITCH (FUSED)					
	DISCONNECT SWITCH (UNFUSED)					
*	LOAD BREAKER SWITCH					
	TRANSFER SWITCH					
	FEEDER					
	BUS					
<u> </u>	BUS DUCT RISER					
22	GENERATOR					
(K)	KIRK KEY INTERLOCK					
M	UTILITY METER					
	UTILITY METER SOCKET					
M	UTILITY METER CABINET					
M	METERING POINT					
DMS	DIGITAL METERING SYSTEM					
SPD	SURGE PROTECTIVE DEVICE					
						
NGR	NEUTRAL GROUND					
GFP	GROUND FAULT PROTECTION DEVICE					
<u></u>	GROUNDING CONNECTION					
• • •	LIGHTNING ARRESTER					
<u>р</u> -р-	LIGHT INDICATOR (ie: VOLTAGE)					
•	STRESS CONE					
<u>~</u>	RELAY					
R						
<u>(A)</u>	AMMETER					
Ø ,	VOLTMETER					
9	SINGLE PHASE MOTOR					
<u></u>	THREE PHASE MOTOR					
	PANEL BOARD (SINGLE TUB)					
Ш	PANEL BOARD (DOUBLE TUB)					
LIGHTIN	IG LEGEND					
	LED/FLUORESCENT LUMINAIRE - RECESSED, CEILING,					
	1' x 4' SURFACE, OR SUSPENDED (NEW or EXISTING IN RELOCATED POSITION)					
	2' x 4'					
	EXISTING BASE BUILDING FLUORESCENT LUMINAIRE TO REMAIN					
	EXISTING BASE BUILDING FLUORESCENT LUMINAIRE TO BE REMOVED					
4	LED/FLUORESCENT LUMINAIRE - WALL MOUNTED					
0	LUMINAIRES - RECESSED FOR CEILING MOUNTED DOWNLIGHT					
o	SINGLE HEAD					
	DOUBLE HEAD MULTI-HEAD LUMINAIRES - RECESSED OR CEILING MOUNTE					
000	TRIPLE HEAD					
Q	LUMINAIRES — WALL MOUNTED					
Ô	LUMINAIRE - WALL WASHER/ ADJUSTABLE LUMINAIRE					
~	LUMINAIRE — STEP LIGHT					
\Phi	LUMINAIRE - SUSPENDED / PENDANTS					
Ŷ	POLE MOUNTED LUMINAIRE					
¤	ILLUMINATED BOLLARD					
10-0-1	LINEAR TRACK c/w TRACK HEADS.					
CONTACT EW	QUANTITY OF TRACK HEADS AS PER LUMINAIRE SCHEDULE.					
	DENOTES LUMINAIRE ON EMERGENCY POWER					
	LUMINAIRE USED AS NIGHT LIGHT					
	COVE, UNDERCABINET, AND/OR INTEGRATED LINEAR LIGHTING STRIP. LENGTH TO BE FIELD MEASURED.					
BATTERY POW	/ER EMERGENCY LIGHTING:					
7 4A	WALL MOUNTED EMERGENCY REMOTE LICHTING HEAD					
7 4	CEILING MOUNTED EMERGENCY REMOTE LIGHTING HEAD. QUANTITY OF HEADS AS INDICATED.					
_	EMERGENCY LIGHTING BATTERY UNIT c/w REMOTE LIGHTING HEADS AS INDICATI					
BU-# BU-#	TAG '#' INDICATES CIRCUITING FOR REMOTE HEADS.					
EXIT SIGNS:						
⊗ 1⊗1 ⊗1						
1 ∮ 1∳ 1∳	END MOUNTED EXIT SIGN. MOUNTING AS INDICATED. DIRECTION AS INDICATED.					
<u> </u>	WALL MOUNTED					
⊗#	TAG '#' DENOTES EXIT SIGN TYPE WHERE MULTIPLE TYPES ARE USED.					
	REFER TO LUMINAIRE SCHEDULE.					
SWITCHES AND						
	DENOTES SWITCH. TAG '#' INDICATES SWITCH TYPE/ACCESSORIES.					
\$ #	'3' - 3-WAY SWITCH '4' - 4-WAY SWITCH					
"	'K' - KEY SWITCH 'LV' - LOW VOLTAGE SWITCH					
	'M' - MASTER SWITCH					
	DENOTES DIMMER SWITCH. TAG '#' INDICATES SWITCH TYPE/ACCESSORIES.					
Φ#	'3' - 3-WAY DIMMER SWITCH '4' - 4-WAY DIMMER SWITCH					
11. 44. 1	'LV' - LOW VOLTAGE DIMMER SWITCH					
\$\$\$	DENOTES SWITCHES GANGED UNDER COMMON COVERPLATE (2, 3 & 4 SHOW					
V	VARIABLE SPEED SWITCH					
% %	CEILING or WALL MOUNTED OCCUPANCY SENSOR.					
<u> </u>	'#' DENOTES OCCUPANCY SENSOR TYPE.					
	<u>"</u>					
®	PHOTOCELL					
	TIME SWITCH					
√s	ENCELIUM WIRELESS MANAGER					
√s wm						

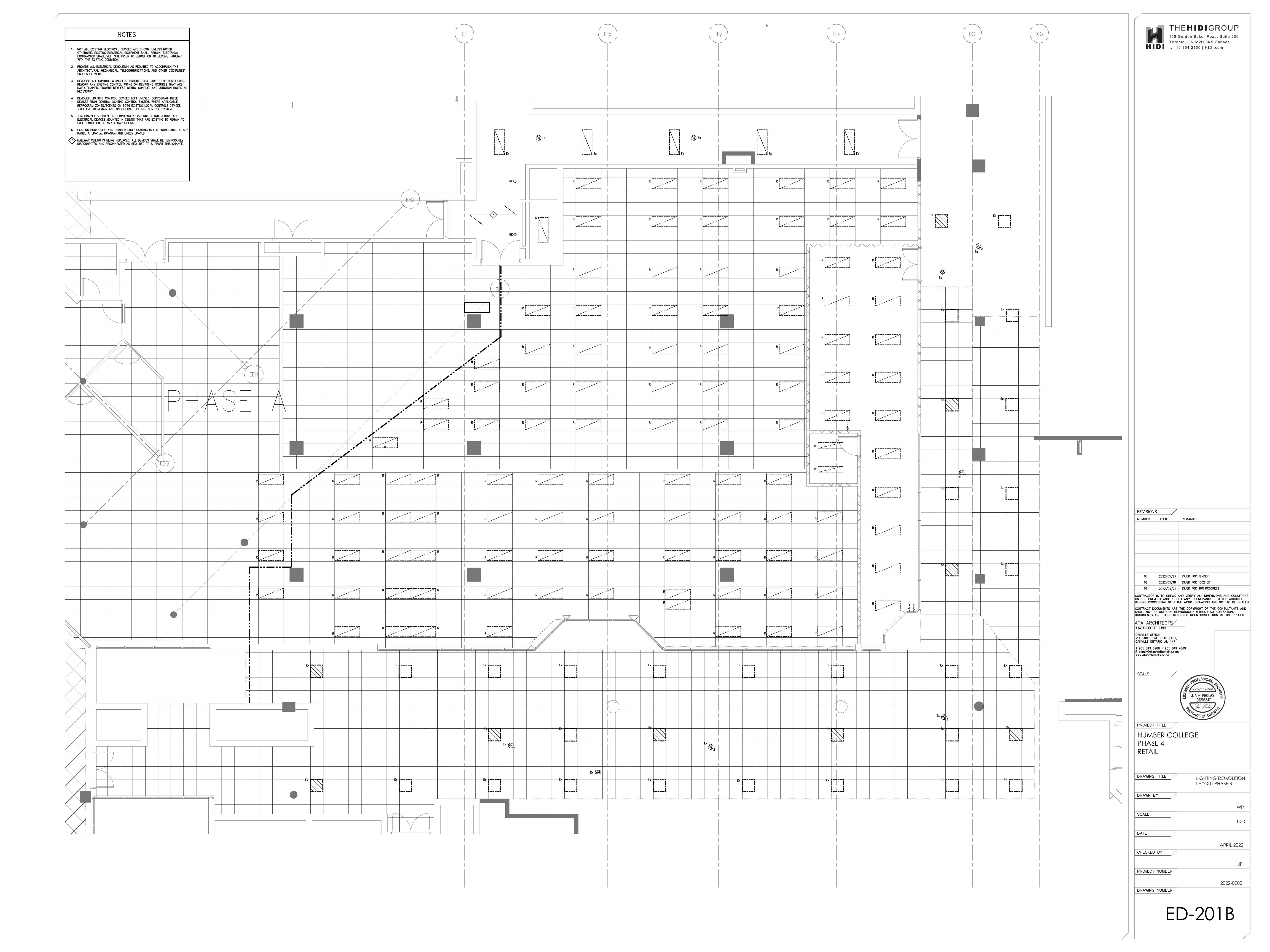


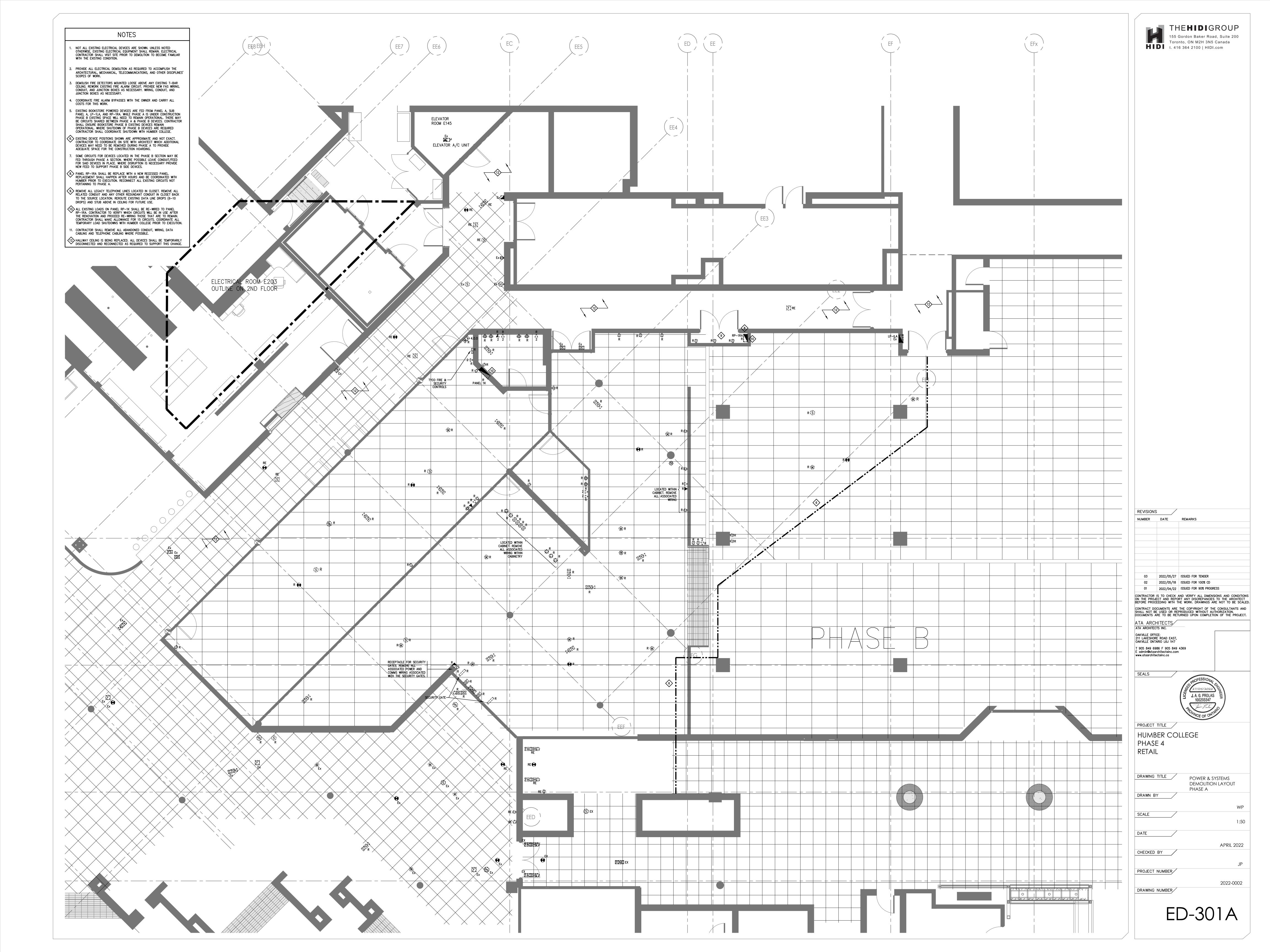
DRAWING NUMBER/

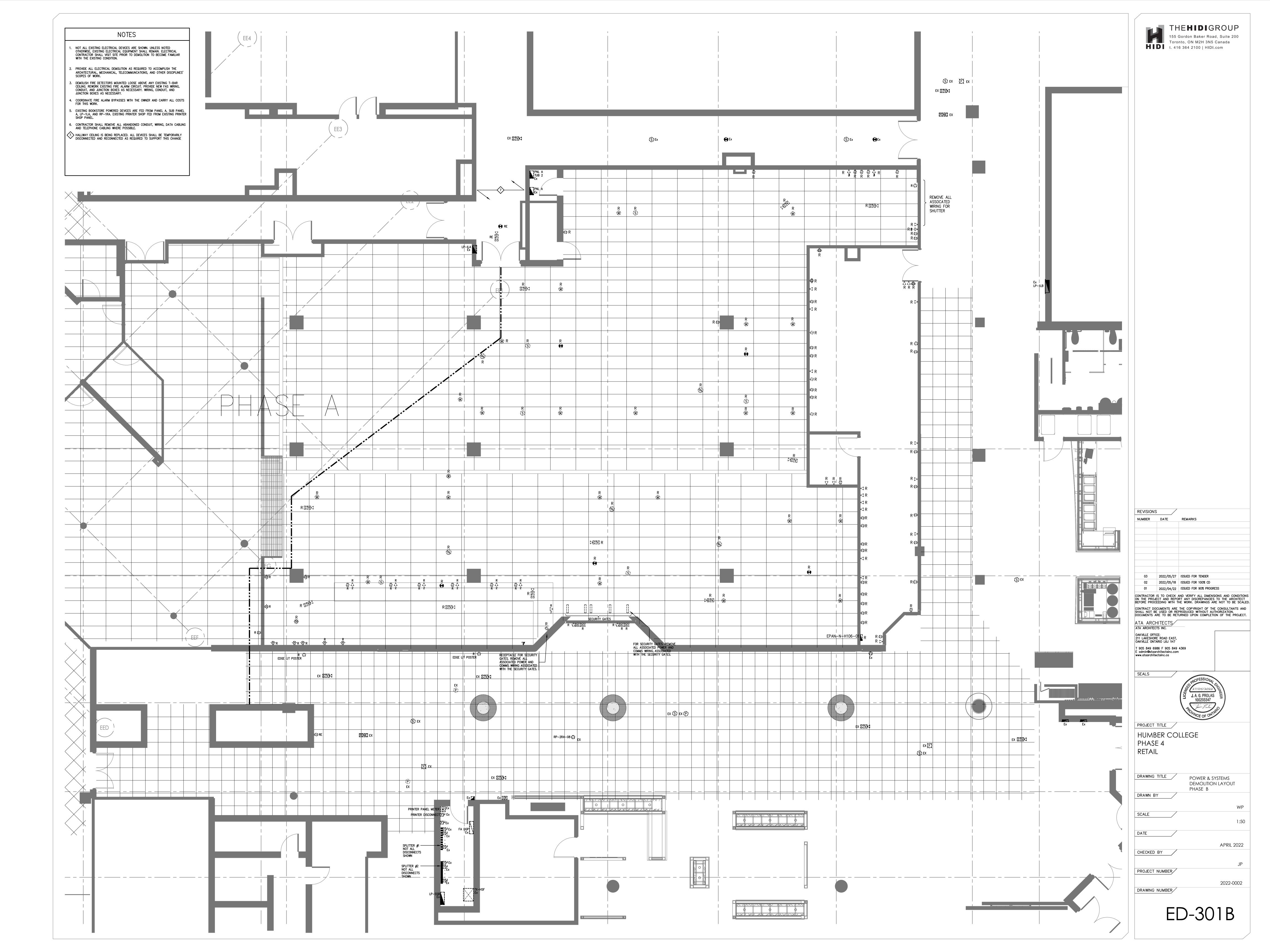
155 Gordon Baker Road, Suite 200 Toronto, ON M2H 3N5 Canada

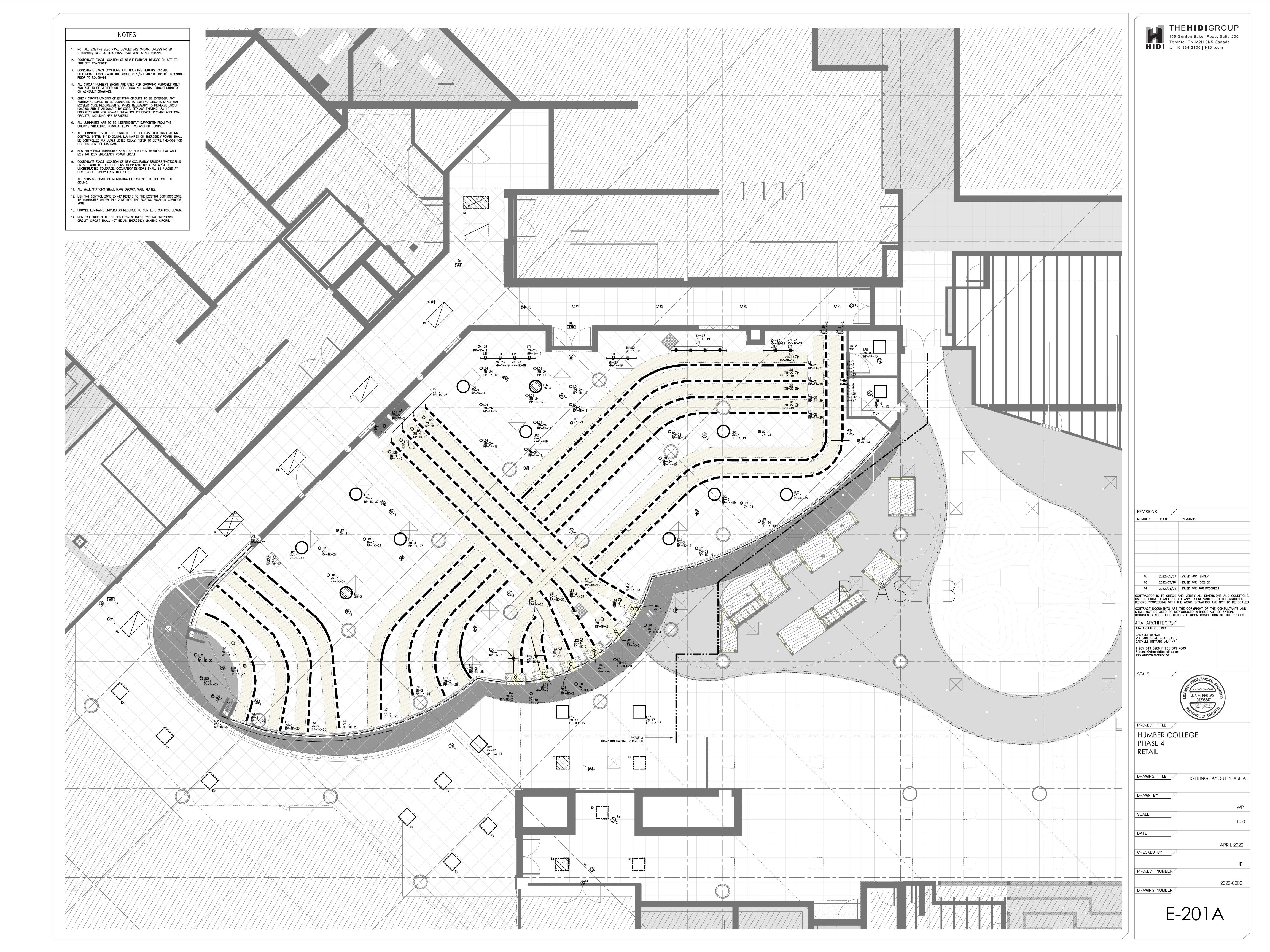
H D t. 416 364 2100 | HIDI.com

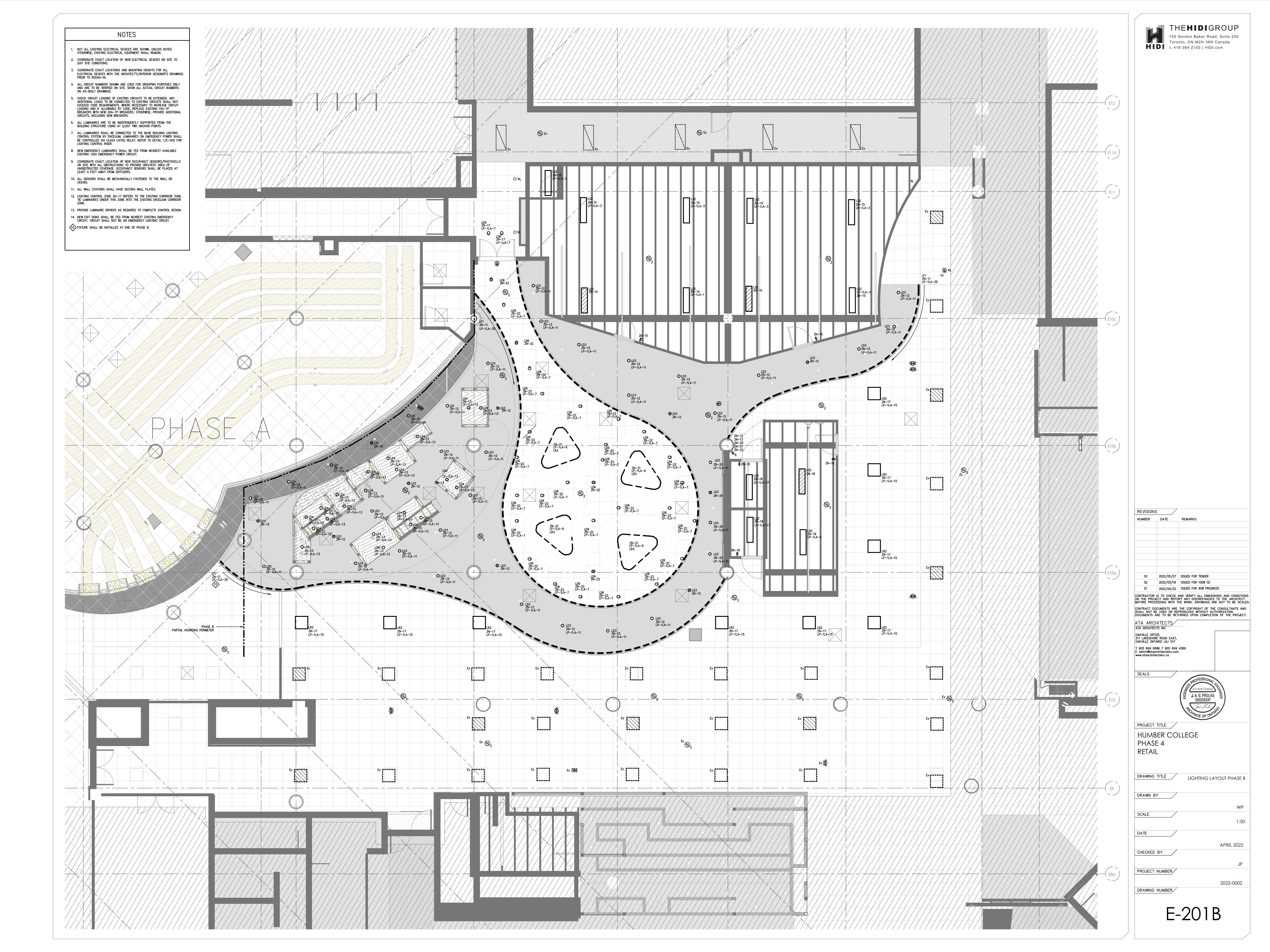


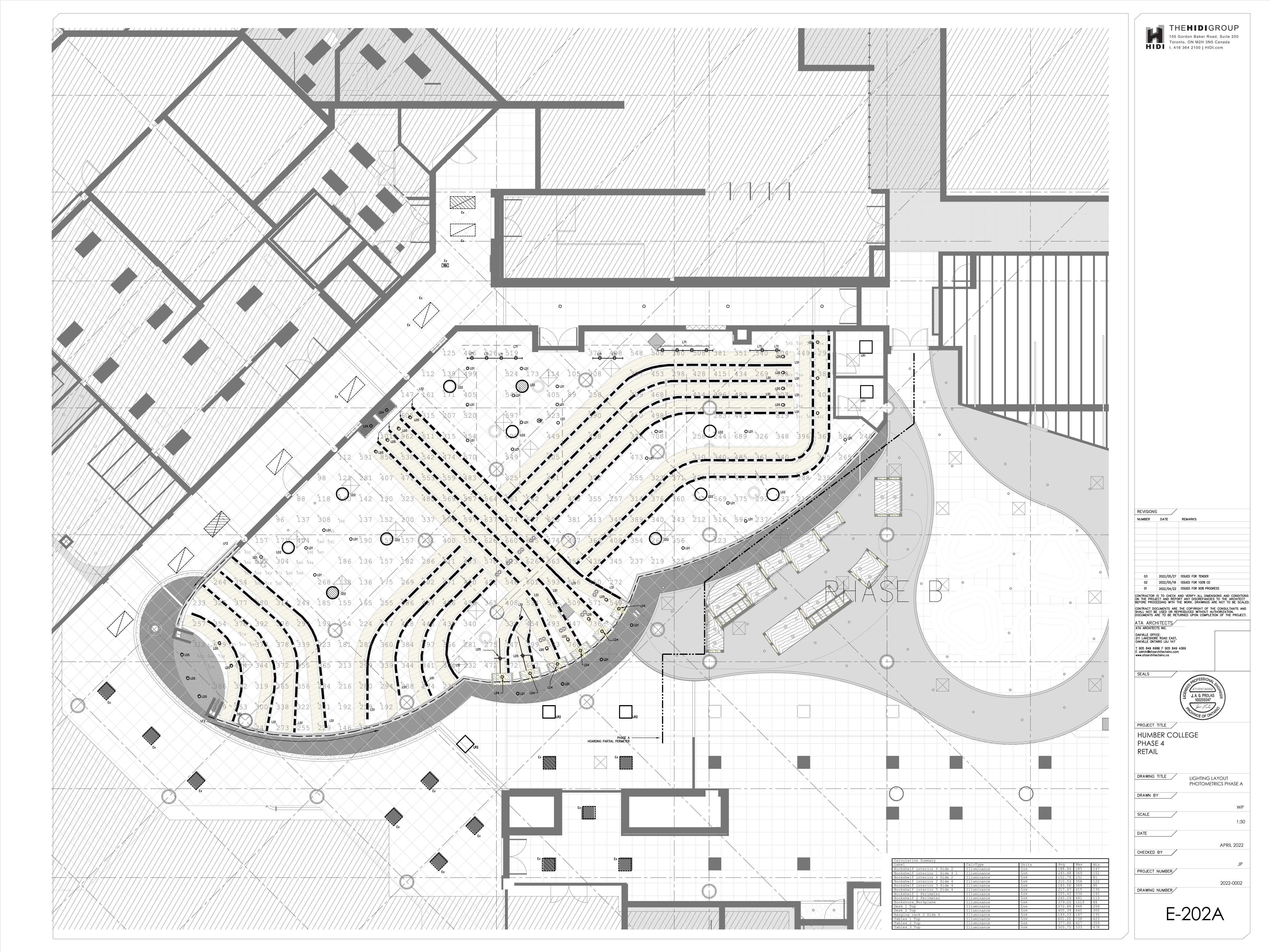


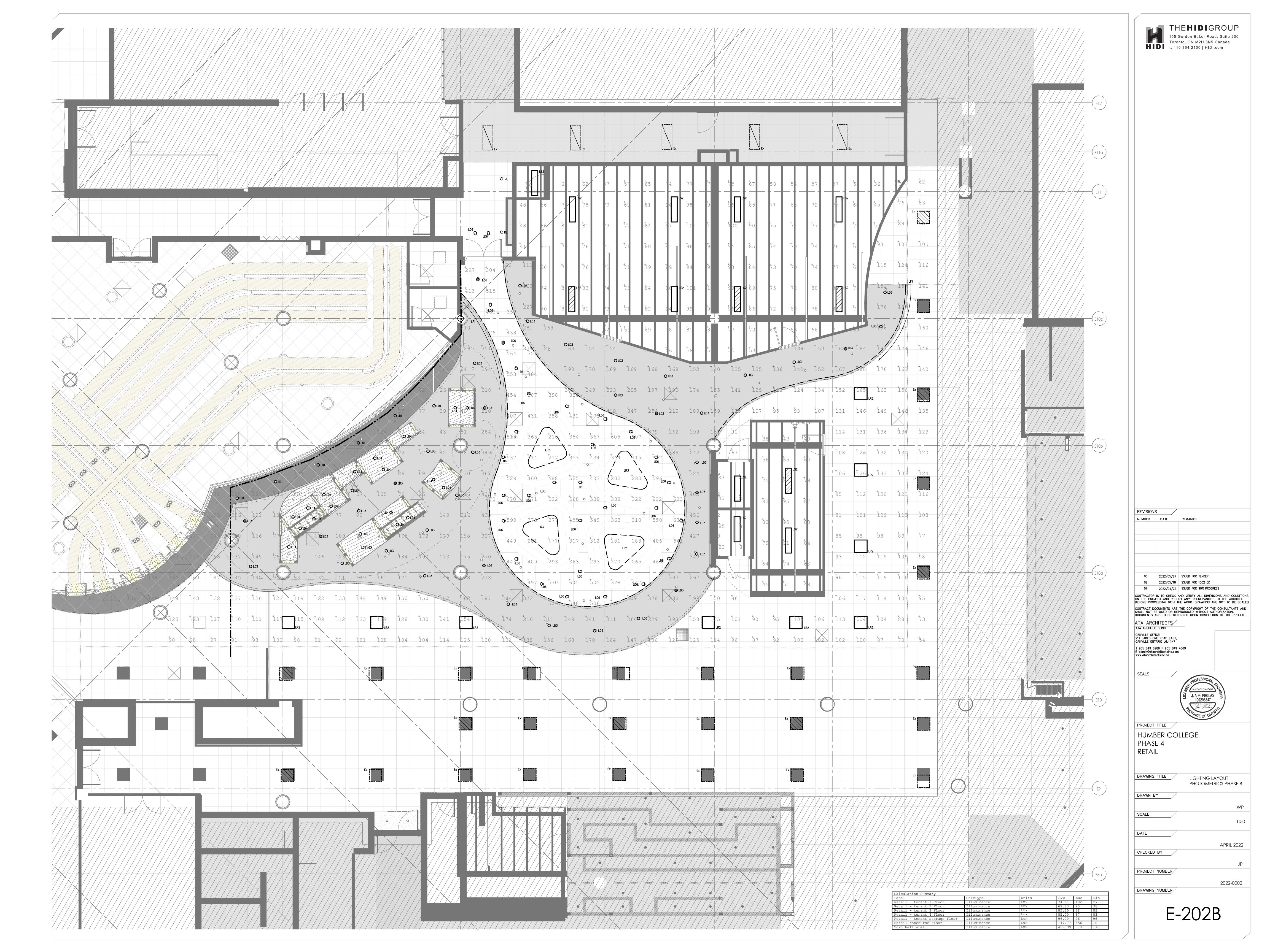


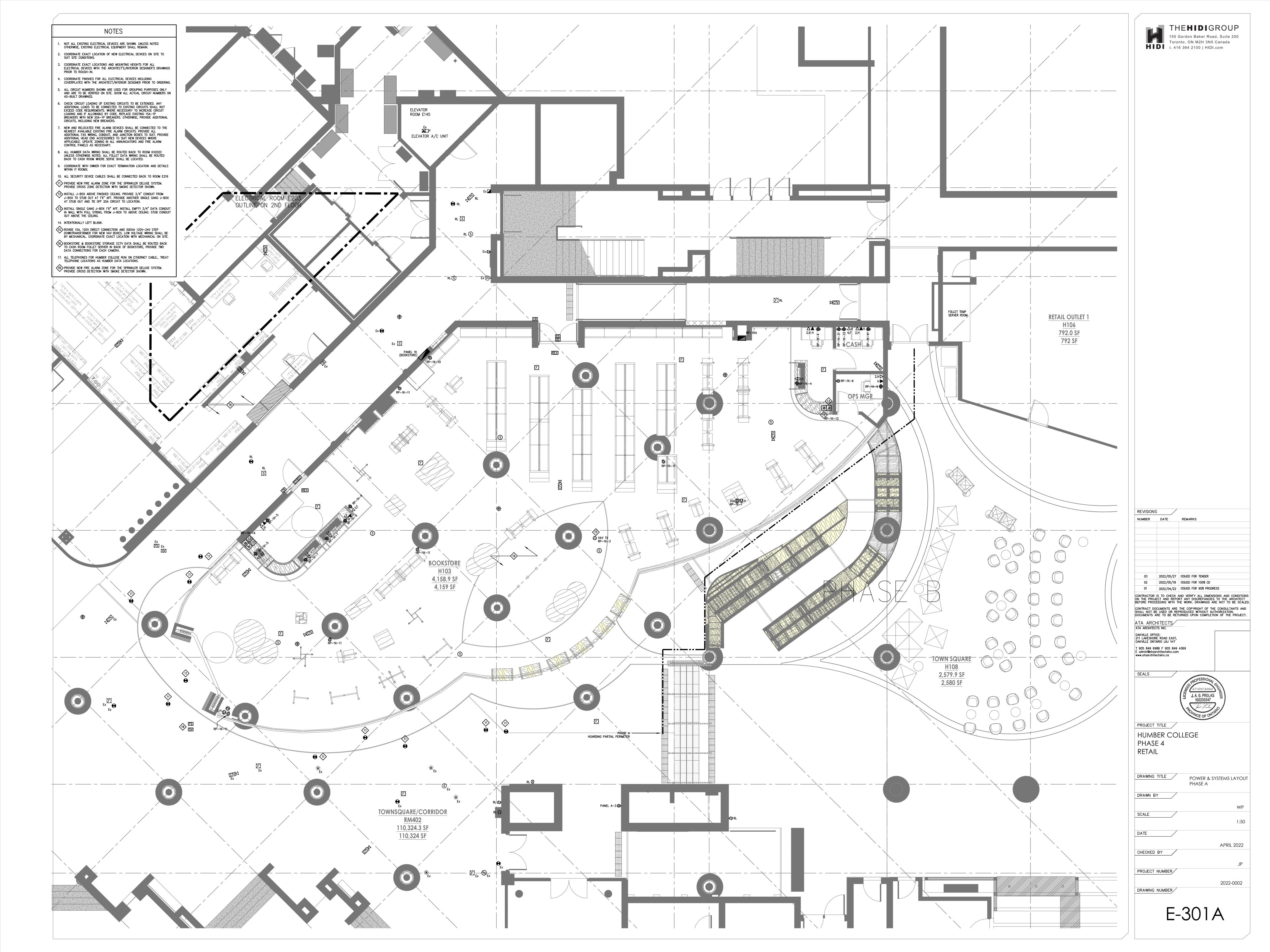


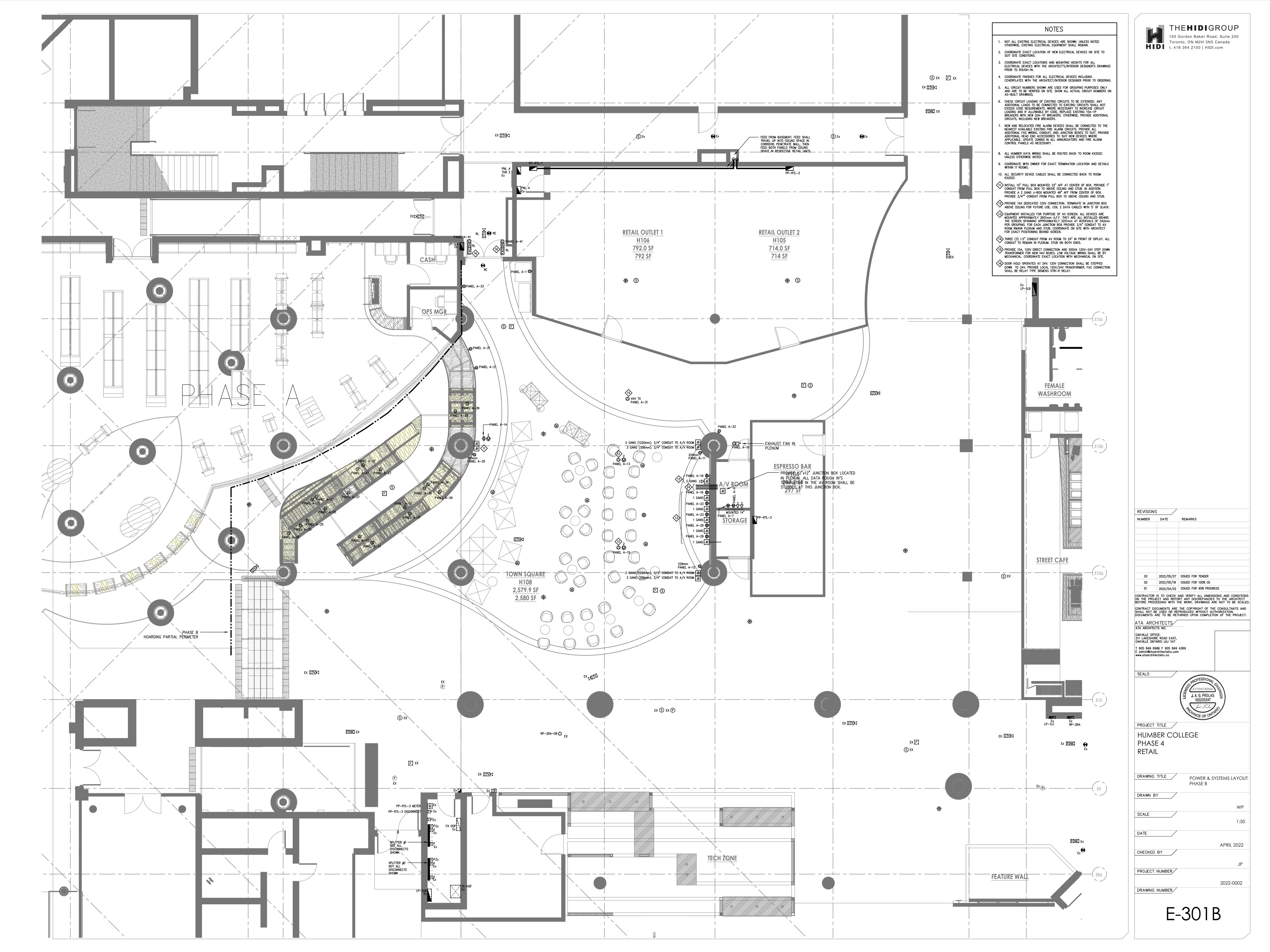


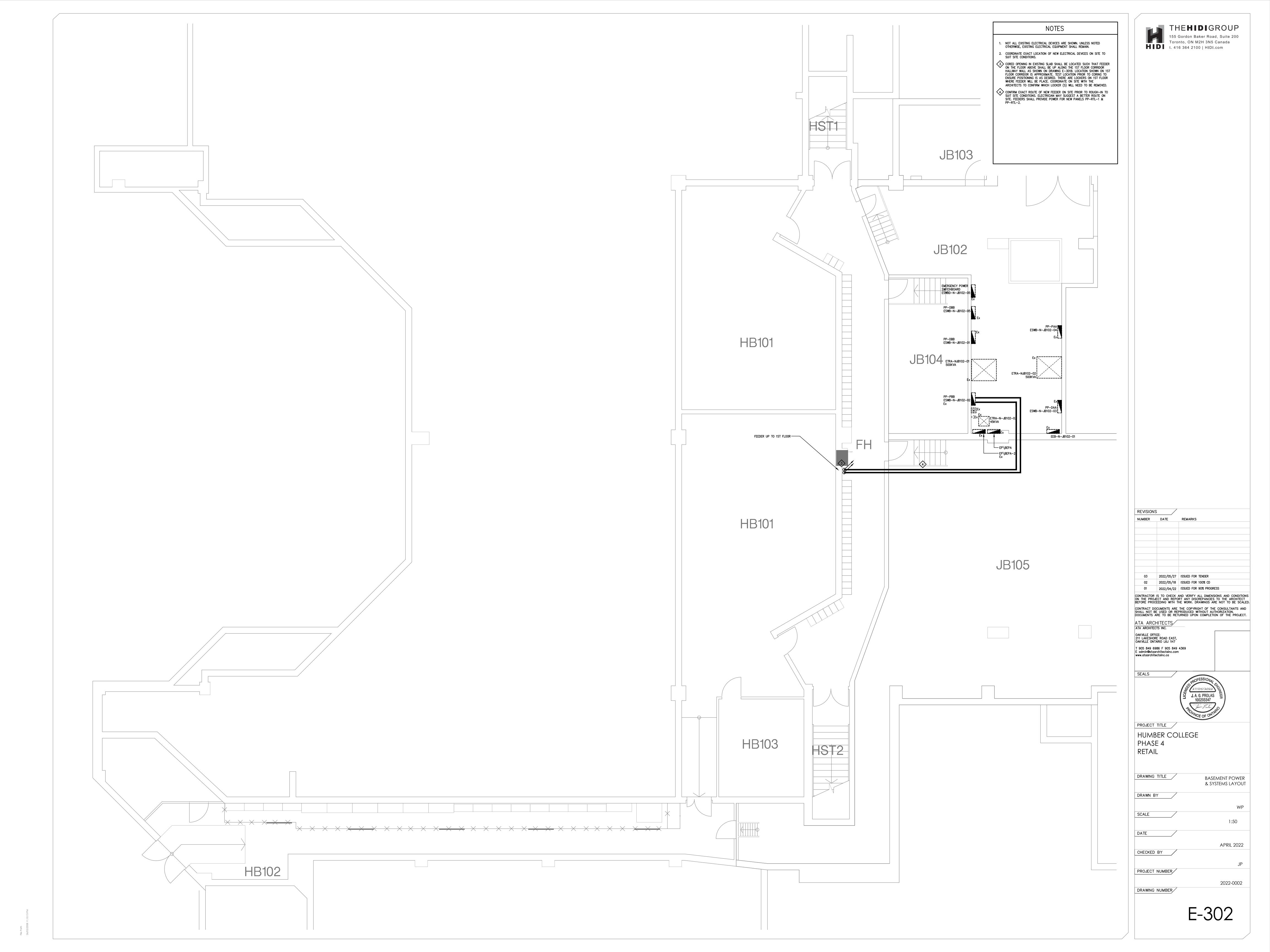


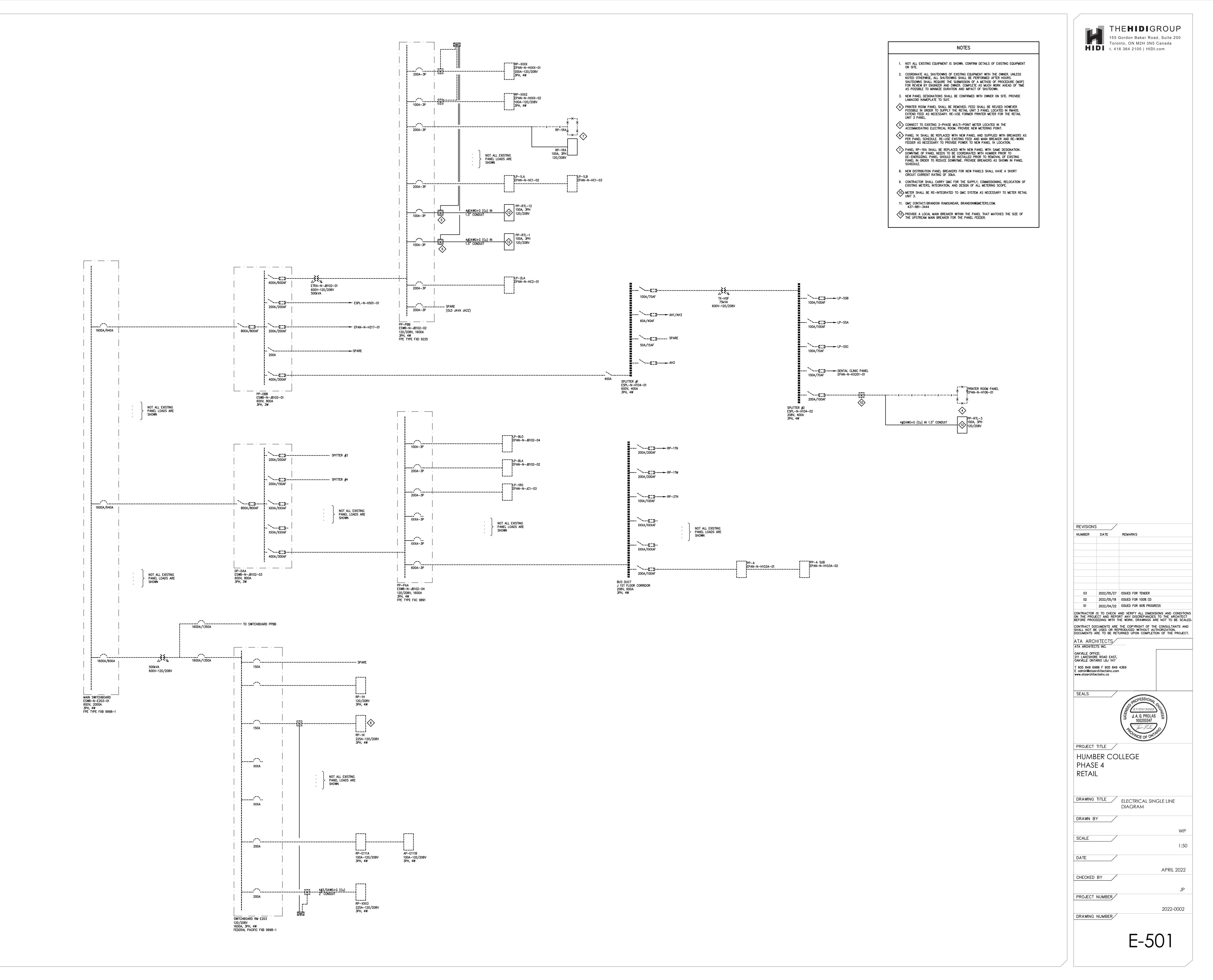


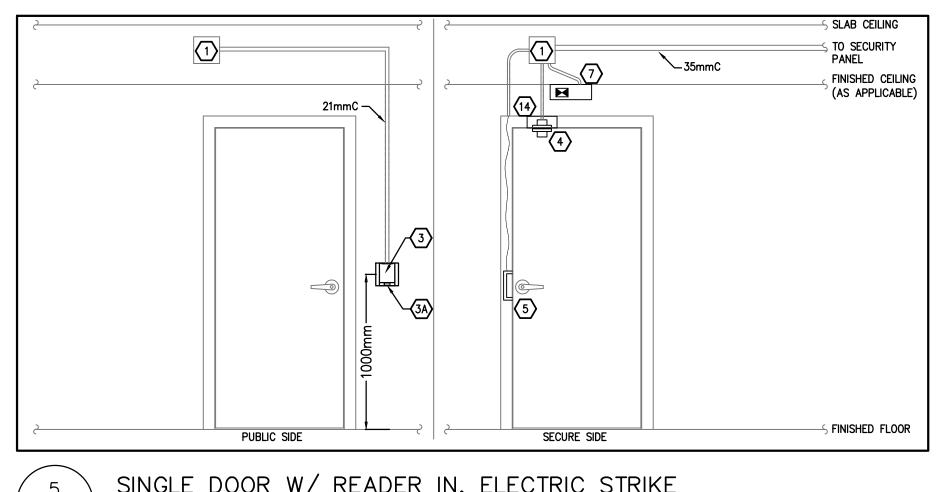






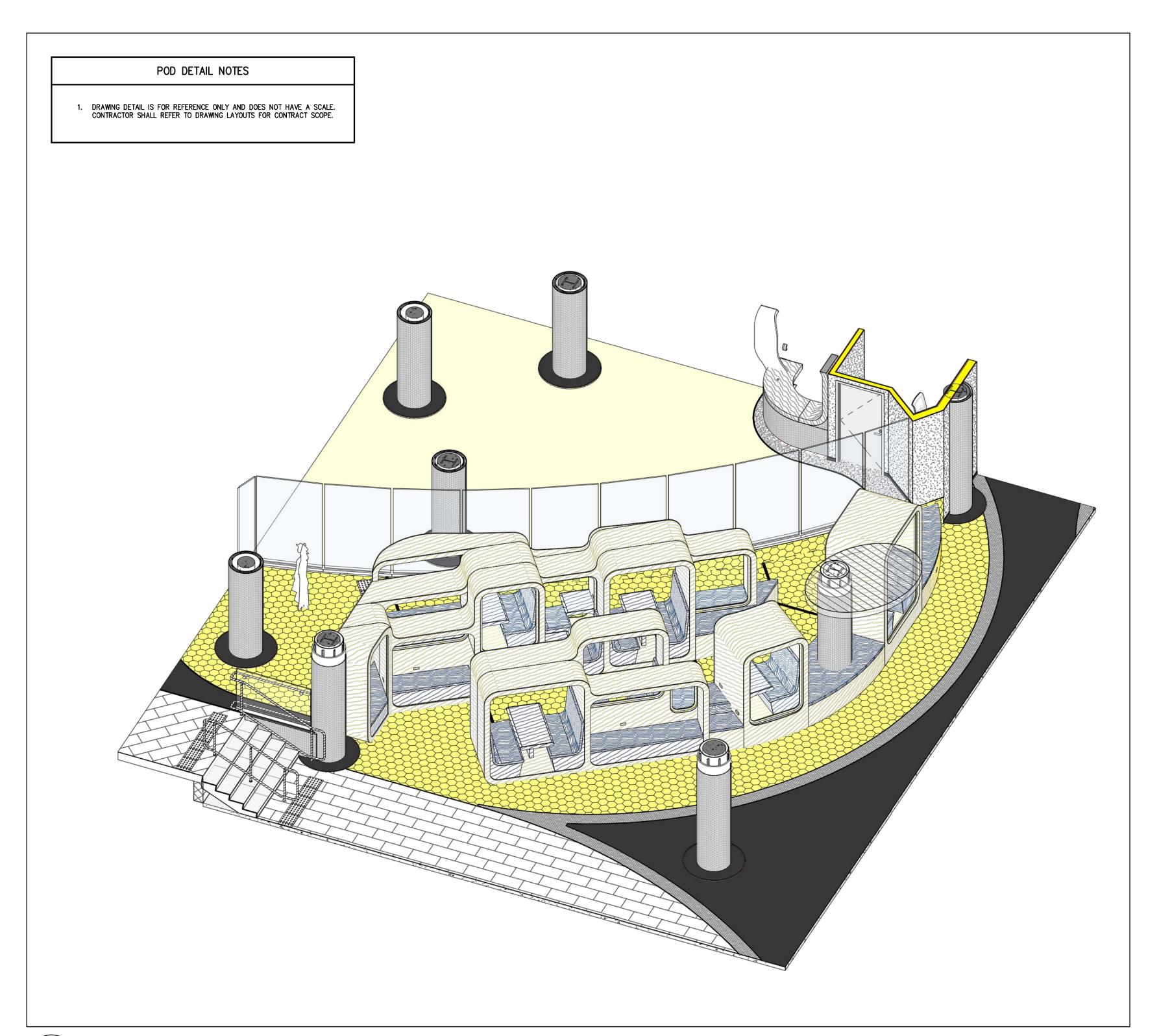






SINGLE DOOR W/ READER IN, ELECTRIC STRIKE E-502 N.T.S.

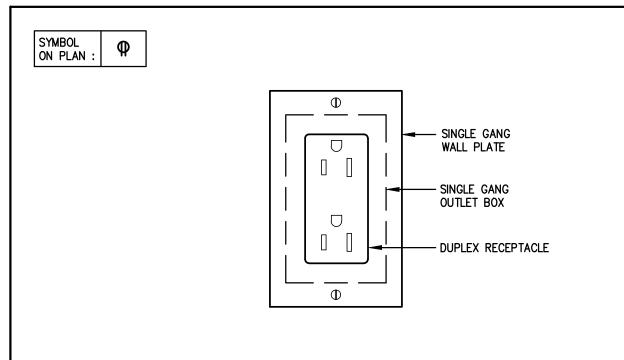
DOOR LEGEND & MATERIALS SECURITY JUNCTION BOX ON SECURE SIDE OF DOOR (BY ELECTRICAL) OVER HEAD DOOR POSITION SENSOR WITH FLEXIBLE ARMOR LINE TYPES LEGEND 2 MAGNETIC LOCK CABLE INSIDE DOOR (BY DOOR HARDWARE) FRAMES/DOORS 3 PROXIMITY CARD READER CONDUIT INSTALLED GUESTROOM WIRELESS LOCKSET W/ INTEGRATED CARD READER AND DOOR POSITION SWITCH (BY ELECTRICAL) DOUBLE GANG BACK BOX W/ SINGLE GANG TRIM PLATE (BY ELECTRICAL) IN WALL SPACE CONDUIT INSTALLED IN CEILING SPACE 4 RECESSED DOOR POSITION SWITCH (18) WRELESS LOCK GATEWAY (19) PANIC BAR 5 ELECTRIC STRIKE 6 POWER TRANSFER HINGE (20) RETRACTABLE LATCH 21) FOH REMOTE CARD READER BEHIND DECORATIVE PLATE 7 request to exit motion detector 8 REQUEST TO EXIT PUSH BUTTON 22 ELECTRIC MORTISE LOCK W/ INTEGRATED REQUEST TO EXIT AUTO DOOR OPERATOR EQUIPMENT (BY DOOR HARDWARE) WRELESS LOCK SET WITH INTEGRATED CARD READER, DOOR SWITCH, AND REQUEST TO EXIT (10) CONCEALED LATCHING DURESS BUTTON 24 INTERCOM 25 ELECTRIFIED PANIC W/ INTEGRATED REQUEST TO EXIT 11) SINGLE GANG LATCHING DURESS 12 MANUAL FIRE ALARM PULL STATION C/W AUXILIARY CONTACTS (BY FIRE ALARM CONTRACTOR) (26) WIRED LOCK GATEWAY GUESTROOM MANAGEMENT SYSTEM CONTROLLER BY GUESTROOM MANAGEMENT



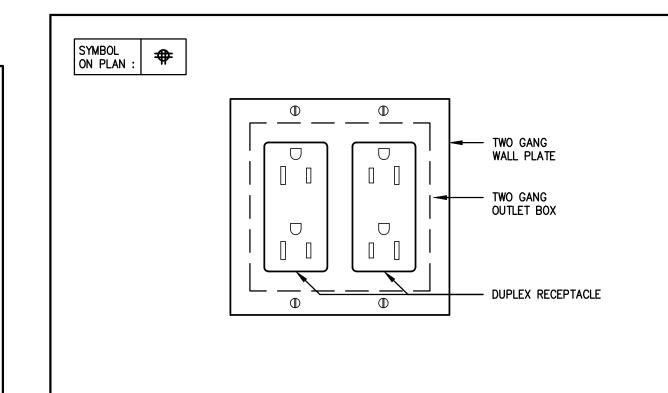
(13) MECHANICAL FLUSH BOLT

DUST BOX / MORTAR SHIELD IN FRAME AS REQUIRED (BY DOOR HARDWARE)

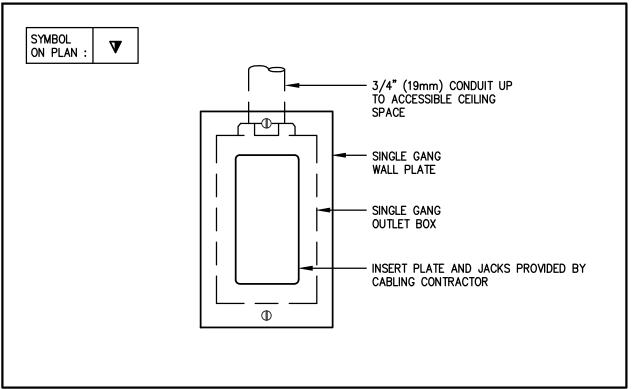
SEATING POD DETAIL



SINGLE WALL RECEPTACLE E-502 N.T.S.



TWO GANG WALL RECEPTACLES E-502 N.T.S.



SINGLE COMMUNICATION WALL OUTLET E-502 N.T.S.

	LIGHTING CONTROL LEGEND				
SYMBOL MANUFACTURER # DESCRIPTION					
	OSRAM EN-WM-ZB-P3D	ENCELIUM EXTEND WIRELESS MANAGER. COLLECTS, PROCESSES AND DISTRIBUTES LIGHTING CONTROL INFORMATION TO ALL OTHER DEVICES.			
WALC	OSRAM EN-ALC-ZB-BK	WIRELESS AREA LIGHTING CONTROL MODULE. CONTROLS THE DIMMING AND ON/OFF OF A GROUP OF UP TO 30 LUMINAIRES.			
PoE		POWER OVER ETHERNET INJECTOR.			
SIM	OSRAM EN-SIM-AI/ SPS-GB2-BK	SENSOR INTERFACE MODULE. ENABLES THE CONNECTION OF WIRED LOW VOLTAGE SENSORS TO THE ENCELIUM NETWORK.			
® ₁	OSRAM SCM-1000	1000 ft2 WIRED DUAL TECHNOLOGY PIR/ULTRASONIC OCCUPANCY SENSOR.			
® 2	OSRAM SCM-2000	2000 ft2 WRED DUAL TECHNOLOGY PIR/ULTRASONIC OCCUPANCY SENSOR.			
B ² , ¢	OSRAM EN-WS-4B-GB2-WH	4 BUTTON, SINGLE ZONE SWITCH.			
B ⁶ , \$ ⁶	OSRAM EN-WS-ZC6-GB2-WH	6 BUTTON, 6-ZONE SWTCH.			
WCM	OSRAM EN-WCM2-ZB	WRELESS CONTROL MODULE. CONTROLS THE DIMMING AND ON/OFF OF A GROUP OF UP TO 10 LUMINAIRES.			

LIGHTING CONTROL NOTES

- ALL LIGHTING CONTROLS DEVICES SHALL BE SOLE SPECIFIED TO OSRAM ENCELIUM AS AN EXTENSION TO THE EXISTING ENCELIUM LIGHTING CONTROL SYSTEM, UNLESS NOTED OTHERWISE. NO ALTERNATES WILL BE ACCEPTED.
- 2. OCCUPANCY SENSORS SHALL INTEGRATE WITH LOCAL SWITCHES TO ACHIEVE THE NOTED AUTOMATIC OPERATION. TIMEOUT SETTING FOR OCCUPANCY SENSORS SHALL BE 8 MINUTES.
- 3. PROVIDE ALL NECESSARY HARDWARE AND ACCESSORIES FOR A COMPLETE AND FUNCTIONAL SWITCHING SYSTEM. 4. PROVIDE DAYLIGHTING CONTROL FOR ALL THE NEW CORRIDOR POTLIGHTS IN WINDOW GLAZING FASCINITY. IF DAYLIGHT CONTROL ALREADY EXIST WITHIN THE CORRIDOR SPACE THEN MATCH NEW POTLIGHTS TO SAID CONTROLS. IF

DAYLIGHT CONTROL DOES NOT EXIST THEN CONFIGURE EXISTING ENCELIUM

- CONTROLLED CORRIDOR LIGHTING ALONG WITH NEW POTLIGHTS TO HAVE DAILIGHTING CONTROL. ALL PARAMETERS TO SUIT HUMBER STANDARDS. 5. GANG TOGETHER SWITCHES WHERE POSSIBLE. PROVIDE OUTLET BOX BARRIERS WHERE NEEDED.
- 6. COORDINATE SWITCHES AND COVERPLATES COLOR WITH ARCHITECT PRIOR TO
- 7. CONFIGURE LOAD SHEDDING FOR ALL ROOMS. CONTROL GROUPS FOR PEAK SHEDDING ARE DEFINED BELOW. TRIMMING BEGINS FROM GROUP 1 WHEN 7.1. GROUP 1: CORRIDOR, LOBBY/ 65%
- GROUP 3: OFFICES, OPEN OFFICES, MEETING, MEDIA ROOM/ 80% 7.4. GROUP 4: CLASSROOMS, LABS, OPEN LEARNING AREAS, TRAINING ROOM, SPECIALTY AREAS/ 80%

GROUP 2: WASHROOMS, CUSTODIAL ROOMS, STORAGE ROOMS/ 65%

8.1. LIGHTING SHALL BE MANUAL ON TO 80%. CONTROL PROVIDED BY FULL RANGE LOW VOLTAGE DIMMER SWITCHES (0-100%),

8. LIGHTING CONTROL: PRIVATE OFFICES, MEETING ROOM, CUSTODIAL ROOMS

- 8.2. OCCUPANCY SENSOR SHALL TURN LIGHTS 100% OFF AFTER 8 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
- 9. LIGHTING CONTROL: CORRIDOR, LOBBY, PRESENTATION SPACE 9.1. LIGHTING SHALL BE AUTO ON TO 80%. AUTO CONTROL PROVIDED BY
- ENCELIUM SYSTEM (0-100%), (PRESENTATION SPACE IS ALSO CONTROLLABLE VIA DIMMING SWITCHES LOCATED IN THE AV ROOM).
- 9.2. OCCUPANCY SENSORS SHALL DIM THE LIGHTING TO 20% AFTER 8 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE. 10. LIGHTING CONTROL: WASHROOMS, STORAGE ROOM
- 10.1. LIGHTING SHALL BE AUTO ON TO 80%. AUTO CONTROL PROVIDED BY ENCELIUM SYSTEM (0-100%).
- 10.2. OCCUPANCY SENSOR SHALL TURN LIGHTS 100% OFF AFTER 8 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
- 11. LIGHTING CONTROL: BOOKSTORE 11.1. LIGHTING SHALL BE AUTO ON TO 80%. AUTO CONTROL PROVIDED BY
- ENCELIUM SYSTEM (0-100%) 11.2. OCCUPANCY SENSORS SHALL DIM THE LIGHTING TO 20% AFTER 8 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE.
- CERTIFIED TECHNICIAN 12.1 PRE-INSTALLATION VISIT - SENSOR/SWITCH PLACEMENT REVIEW AND

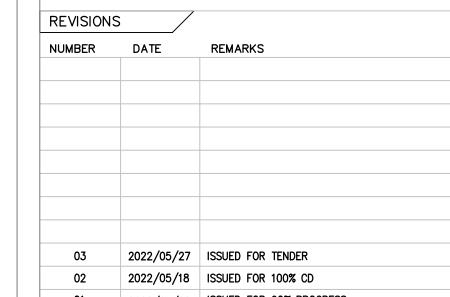
12. INCLUDE FOR THE COST OF THE FOLLOWING BY MANUFACTURER'S (OSRAM)

- GENERAL SITE REVIEW 12.2. SUBSTANTIAL COMPLETION VISIT — SYSTEM SETUP, SEQUENCE OF OPERATIONS, END USER TRAINING.
- 12.3. POST OCCUPANCY VISIT ADDRESS DEFICIENCIES, TWEAK SYSTEM SETTINGS
- 13. ALL LOCAL DEVICE AND SYSTEM LEVEL PARAMETERS TO SUIT HUMBER
- 14. INTEGRATE LIGHTING CONTROL SYSTEM WITH BUILDING AUTOMATION SYSTEM.
 PROVIDE OCCUPANCY CONTROL OF VAV BOXES IN THIS AREA. ADHERE TO
 ALL HOMBER STANDARDS. PROVIDE NATIONAL DEVICES AND SYSTEM PROGRAMMING FOR COMPLETE AND FUNCTIONAL SYSTEM. COORDINATE WITH BAS
- 15. STANDARD LUMINAIRE CONNECTIONS. GROUP LIGHTS TOGETHER USING WCMs OR WALCS WHERE POSSIBLE. CONTRACTOR SHALL GROUP LIGHTS ONLY WITH OTHER FIXTURES WITHIN THE SAME ZONE. CONNECT TO RESPECTIVE ELECTRICAL CIRCUIT AS LABELLED ON LIGHTING LEVOLA OR WALCH DO NOT PEOULOGICAL WALCH CONTRACTOR WANTER WALCH CONTRACTOR WANTER WALCH CONTRACTOR WANTER WANTER WALCH CONTRACTOR WANTER W WITH INTERGRATED OSRAM CLMs DO NOT REQUIRE WCM OR WALC CONNECTIONS. FOR LD4 AND LT1 PROVIDE WCM/WALC FOR ON/OFF PURPOSE ONLY. NO DIMMING REQUIRED. GROUP AS NEEDED BUT GROUP LUMINAIRES ONLY WITH OTHER LUMINAIRES OF THE SAME ZONE THAT ALSO REQUIRE

LIGHTING CONTROL SCHEME

SCRIPTION				
D WRELESS MANAGER. COLLECTS, DISTRIBUTES LIGHTING CONTROL ALL OTHER DEVICES.				
LIGHTING CONTROL MODULE. DIMMING AND ON/OFF OF A O 30 LUMINAIRES.				
HERNET INJECTOR.]			
CE MODULE. ENABLES THE WRED LOW VOLTAGE SENSORS M NETWORK.	•		_	greenbus II
DUAL TECHNOLOGY OCCUPANCY SENSOR.		RESPECTIVE UIGHTING CIRCUIT	WCM	
DUAL TECHNOLOGY OCCUPANCY SENSOR.				
LE ZONE SWITCH.	1	01.00507		GREENBUS II
ONE SWITCH.	-	CLOSEST LIGHTING CIRCUIT	WCM	
	d	RESPECTIVE	/	2#12AWG (Cu.)
OL MODULE. CONTROLS THE I/OFF OF A GROUP OF UP TO 10	1	LIGHTING CIRCUIT	WCM	
	J		_	2#12AWG (Cu.)
	^	RESPECTIVE	/	\

(TYPICAL WIRING FOR ALL SWITCHES) LUMINAIRE LIGHTING WALC LUMINAIRE LIGHTING
CIRCUIT WCM
XXXX-24



THE**HIDI**GROUP

Toronto, ON M2H 3N5 Canada

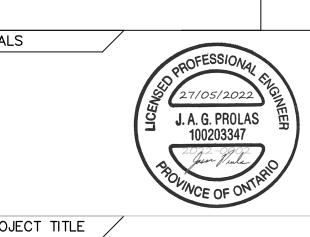
HIDI t. 416 364 2100 | HIDI.com

155 Gordon Baker Road, Suite 200

01 2022/04/22 ISSUED FOR 90% PROGRESS CONTRACTOR IS TO CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. DRAWINGS ARE NOT TO BE SCALED. CONTRACT DOCUMENTS ARE THE COPYRIGHT OF THE CONSULTANTS AND SHALL NOT BE USED OR REPRODUCED WITHOUT AUTHORIZATION. DOCUMENTS ARE TO BE RETURNED UPON COMPLETION OF THE PROJECT. ATA ARCHITECTS

ATA ARCHITECTS INC. OAKVILLE OFFICE: 211 LAKESHORE ROAD EAST, OAKVILLE ONTARIO L6J 1H7 T 905 849 6986 F 905 849 4369 E admin@ataarchitectsinc.com

www.ataarchitectsinc.ca



PROJECT TITLE HUMBER COLLEGE PHASE 4 RETAIL

DRAWING TITLE LIGHTING DIAGRAM, LIGHTING SCHEDULE, & GENERAL DETAILS DRAWN BY

APRIL 2022 CHECKED BY PROJECT NUMBER

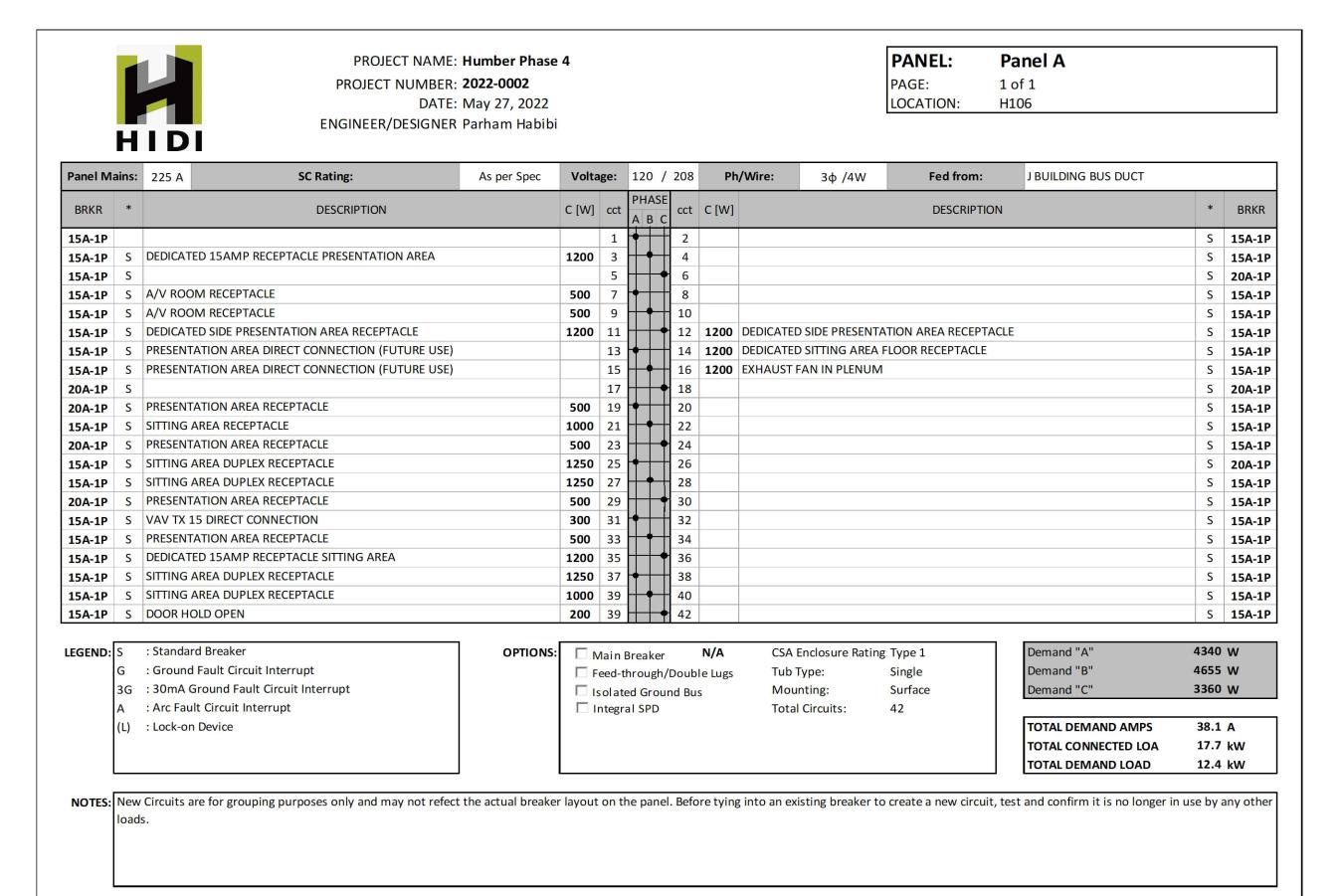
track system. Used with a PCDM

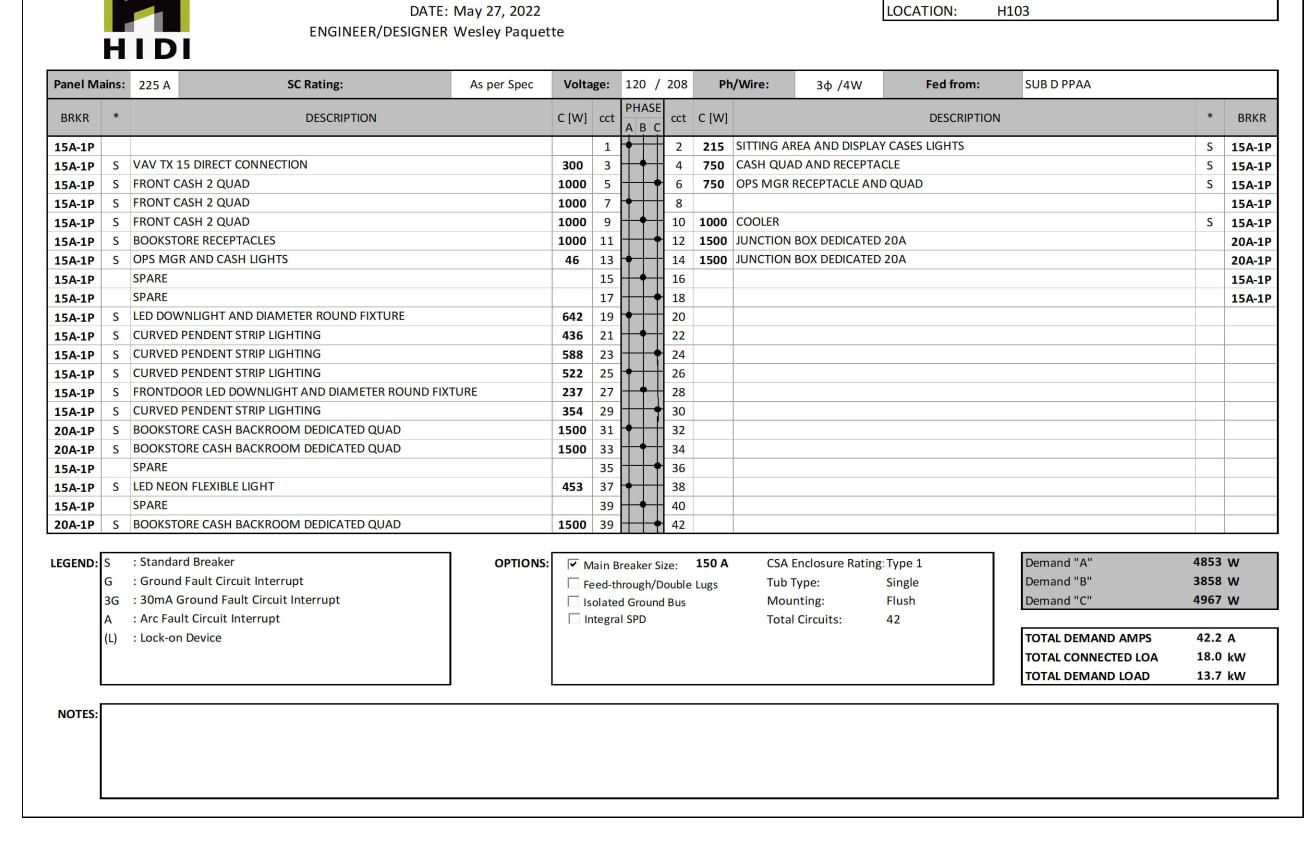
2022-0002

Туре	Luminaire Description	Lamp & Wattage	Control Protocol	Input voltage	Finish	Mounting	Location	Manufacturer & Catalogue #	Notes
LD1	3.5" adjustable LED downlight	3500K, 12W, 1100lms	0-10V	120V	Architect to select from standard options	Recessed (Embedded)	Various	Liteline: S209	Installed in ACT
LD2	flush mount oversized metallic frame decorative black and gold trimmed 18" diameter round fixture.	3500K, 15W 90CRI 1174lms	0-10V	120V	Architect to select from standard options	Surface Mount	Bookstore	WAC: FM-49118-18"- 3500K-90-BK/GO	
LD3	6" LED downlight	4000K 90CRI 1200lms	0-10V	120V	Architect to select from standard options	Recessed (Embedded)	Various	HALO: RL56	
וחו	6" Wafer thin circular LED recessed circular downlight	4000K, 12W, 1200lms	N/A	120	Architect to select from standard options	Recessed (Embedded)	Study pods	WAC:	used with Encelium PCDM for 0-10V compatibility
LD5	3.5" adjustable LED downlight	3500K, 12W, 1100lms	0-10V	120V	Architect to select from standard options	Recessed (Embedded)	Bookstore	Liteline: S209	Installed in wood
LD6	3.5" adjustable LED downlight	4000K, 21W, 1840lms	0-10V	120V	Architect to select from standard options	Recessed (Embedded)	Oculus	Liteline: S209	
LF1	LED neon flexible light 160Deg ilumination.	5.47W/ft,4000K , 362Ims/ft	0-10V	120V	White	Snap in	Presentatio n Space	OV-FIN-R-A-CST	Light shall be in installed in track. Include in pricing
LF2	High End Flexible tape light	3500K, 90CRI, 188lm/ft/ 1.8w/ft	0-10V	120V	N/A	Surface Mount	Bookstore Glazing	Beulux Florence LED Tapelight	Contractor to order appropriate lengths
LR1	Commercial 2'x2' T-bar troffer fixture	23W,4000K, 90CRI 2000ms	0-10V	120V	Architect to select from standard options	Recessed (Embedded)	Bookstore office	Viscor: LRTH-2x2-LED-9-40K- 032L-UNV-V99(S01)	Order with Integrated OSRAM CLM
LR2	Commercial-grade, recessed, lay-in coffered T-Bar troffer. 2x2.	14w, 4000K, 85CRI, 2000lms	0-10V Dims to 10%	120V	Architect to select from standard options	Recessed	Hallway	Visioneering: LRTH2x2- LED840K020LUNV	
LR3	Custom lighitng panel	4000K	0-10V	120V		Recessed	Presentatio n space	LumiCloud Bespoke Astra	Custom tailor to triangular shape shown on drawings
LS1	Custom curved pendent strip lighitng	3500K, 90CRI, 400lms/ft	0-10V	120V	Architect to select from standard options	Pendant	Bookstore	Axis Sketch SurroundLite Pendant	Contractor to order appropriate lengths. C/W CLM module if possible
LS2	4' LED strip luminaire. High Impact acryllic lens.	15W, 4000K, 86CRI, 1766lms	0-10V	120V	Architect to select from standard options	Surface Mounted	Various Back of house	Delviro: ZIP-4-15-4K-U- CL-WH-SM-BFC-N-N	Order with

Cylindrical LED track fixture to be nominally

2.5"dia x 4.5"long.





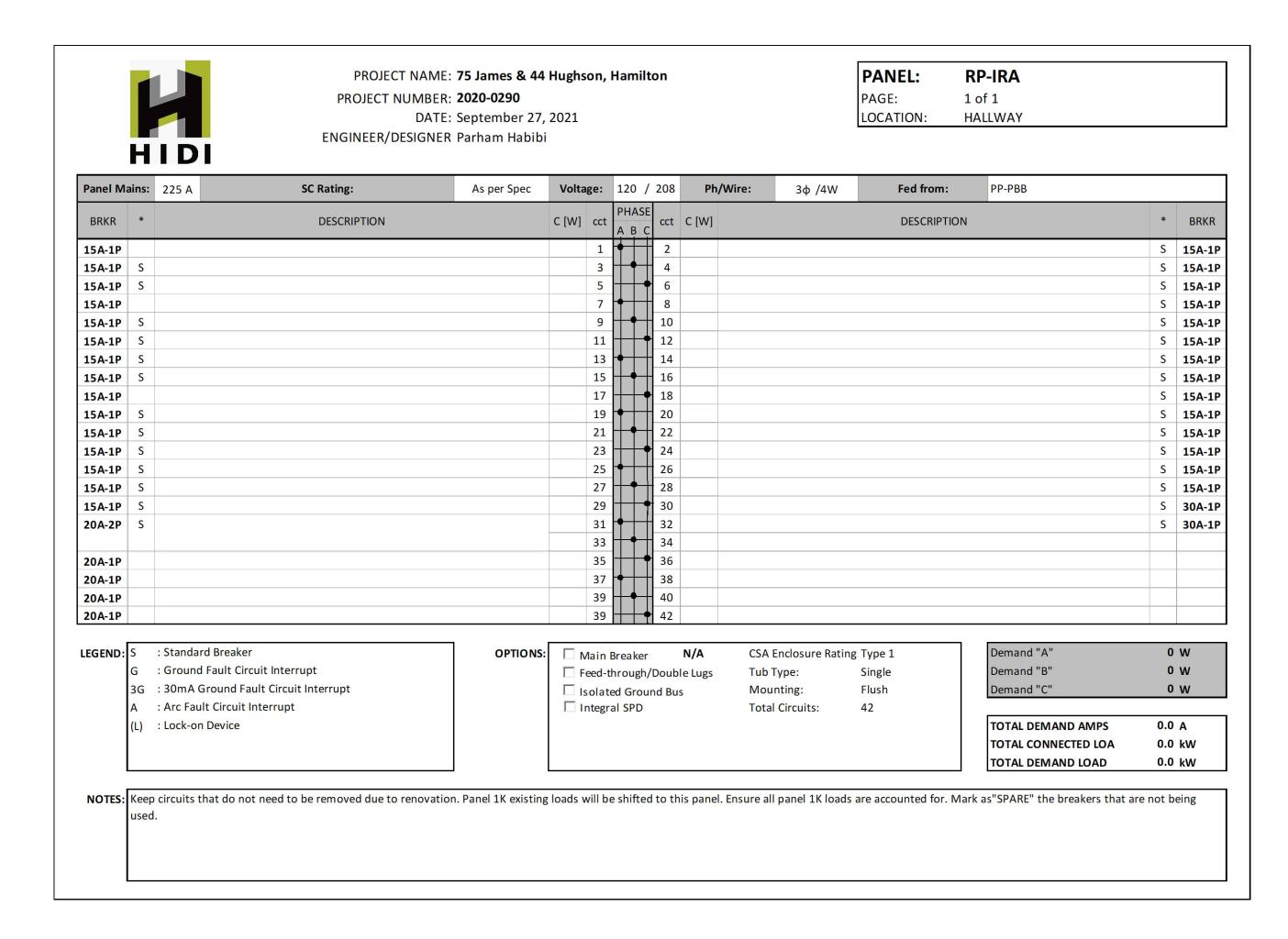
PANEL:

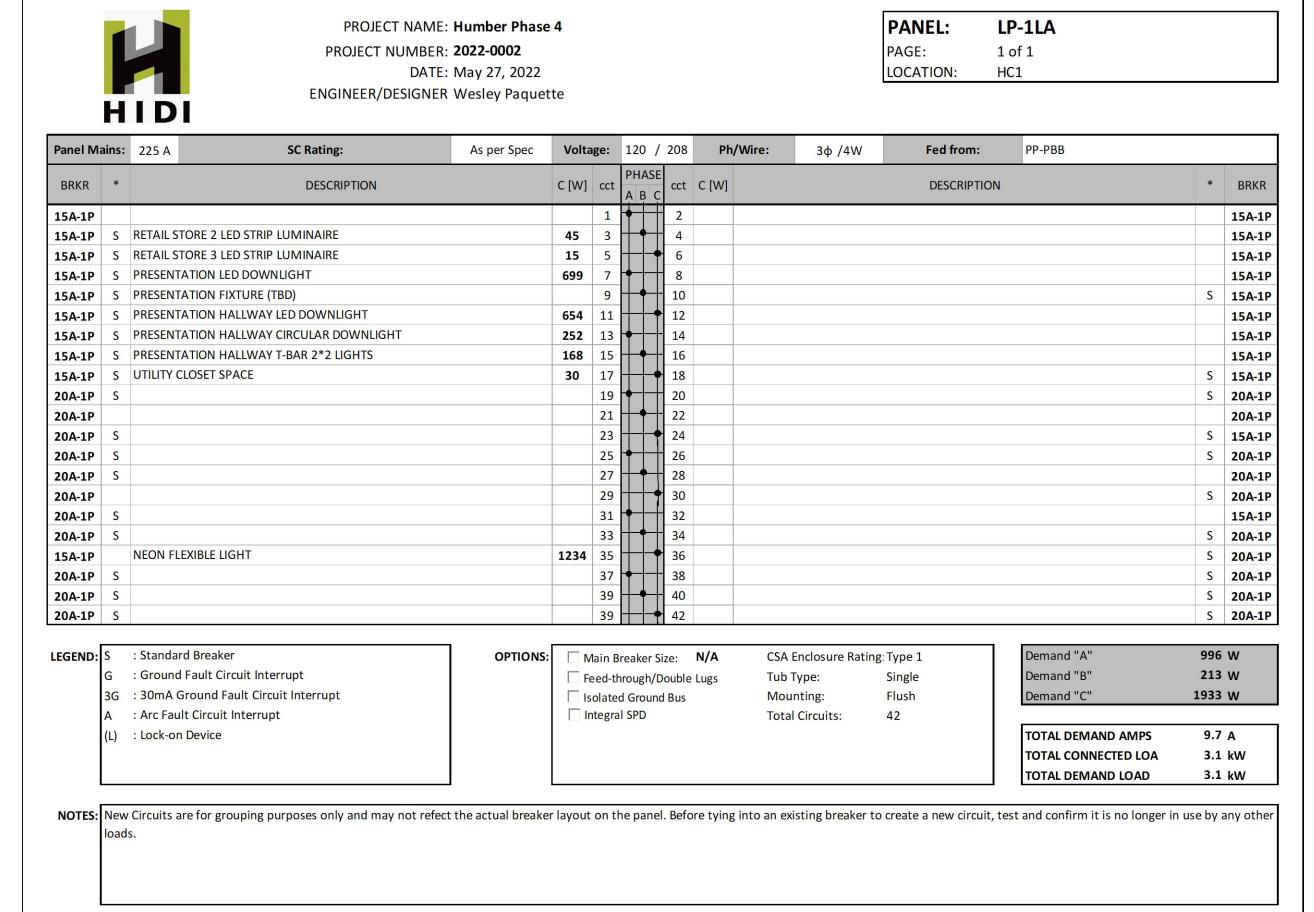
RP-1K

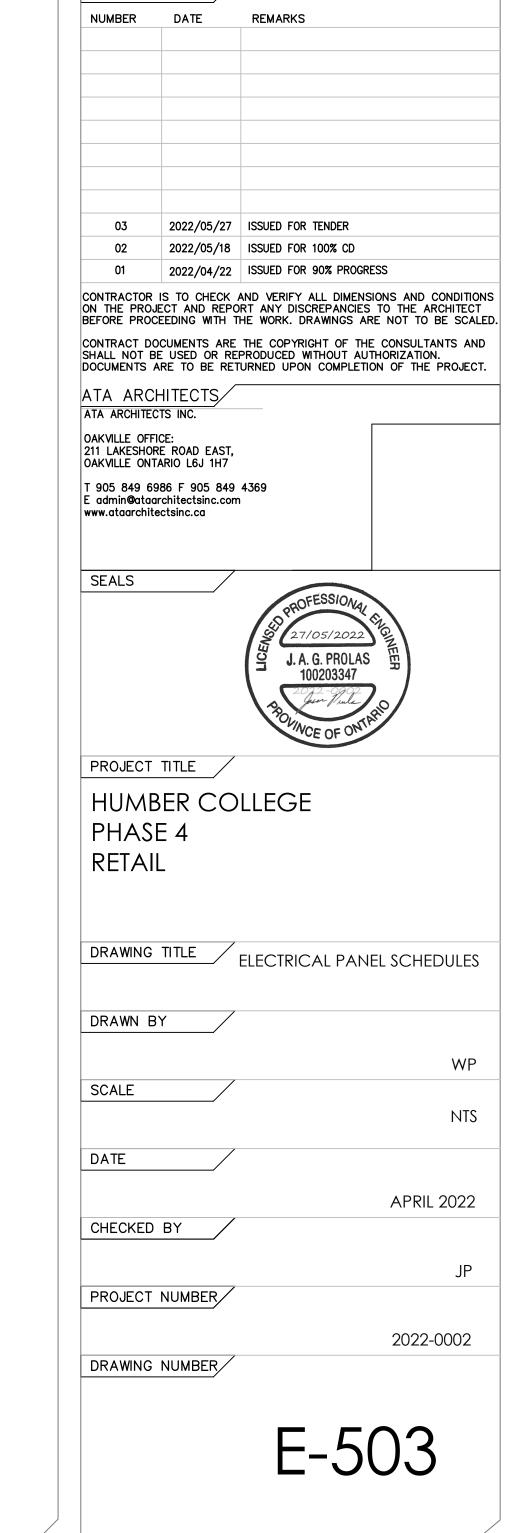
1 of 1

PROJECT NAME: Humber Phase 4

PROJECT NUMBER: 2022-0002







REVISIONS

THE**HIDI**GROUP

Toronto, ON M2H 3N5 Canada

HIDI t. 416 364 2100 | HIDI.com

155 Gordon Baker Road, Suite 200