

ELECTRICAL LEGEND

DRAWING LIST

POWER & DISTRIBUTION SYSTEMS

	PANELBOARD (SURFACE MOUNT).
	PANELBOARD (RECESSED MOUNT).
RECEPTACLE/DIRECT CONNECTIONS	
	120V, 2P, 3W, 15A DUPLEX RECEPTACLE (CSA #5 SERIES).
	120V, 2P, 3W, 15A SPLIT TYPE DUPLEX RECEPTACLE.
	120V, 2P, 3W, 20A T-SLOT TYPE DUPLEX RECEPTACLE. CSA#5 SERIES FOR OFFICE AND GENERAL AREAS.
	120V, 2P, 3W, 15A FOUR PLEX RECEPTACLE 2. DUPLEXES UNDER COMMON PLATE.
	1 PHASE, 3W DIRECT CONNECTION (L, N, G) OR (L1, L2, G).
	3 PHASE, 4W DIRECT CONNECTION (L1, L2, L3, G).
	ELECTRIC HAND DRYER: XLERATOR XL-BW-1.1N-120 UNIT 12.2 AMPS, 120V, 1 PHASE, 1450 WATTS. MOUNT 3'-1" (0.94M) AFF. TO BOTTOM OF UNIT, UNLESS OTHERWISE NOTED. PANELBOARD BREAKERS (20A-1P, GFCI) TO BE GROUND FAULT TYPE.
	THERMOSTAT.
NOTES	<ol style="list-style-type: none"> DIRECT CONNECTION VOLTAGE INFORMATION INDICATION BY CIRCUIT No. UNLESS NOTED OTHERWISE MOUNTING HEIGHT OF ALL OUTLETS IS 455mm (18") A.F.F. UNLESS NOTED OTHERWISE (IE: 30A, 20A) ALL RECEPTACLES/DIRECT CONNECTIONS RATED FOR 15A.

MECHANICAL WIRING SYSTEMS

	MECHANICAL EQUIPMENT/MOTOR.
	DISCONNECT SWITCH (UNFUSED). SUBSCRIPT INDICATES SIZE. SUBSCRIPT 'N' INDICATES COMPLETE WITH SOLID NEUTRAL.
	DISCONNECT SWITCH (FUSED). SUBSCRIPT INDICATES FUSE RATING. SUBSCRIPT 'N' INDICATES COMPLETE WITH SOLID NEUTRAL.
	MANUAL STARTER COMPLETE WITH PILOT LIGHT.
	MAGNETIC STARTER.
	COMBINATION MAGNETIC STARTER.
	TIME SWITCH.
	VARIABLE FREQUENCY DRIVE (VFD)
	EPO SWITCH/ KILL SWITCH

FIRE ALARM SYSTEM

	MANUAL PULL STATION G/W PROTECTIVE 9VDC BATTERY OPERATED LEXAN COVER.
	HEAT DETECTOR. COMBINATION, FIXED 57C AND RATE OF RISE. SUBSCRIPT 'X' INDICATES 88C FIXED TEMPERATURE.
	HEAT DETECTOR. FIXED ONLY (57C) SUBSCRIPT 'X' INDICATES 88C RATING.
	SMOKE DETECTOR. IONIZATION TYPE. SUBSCRIPT 'R' INDICATES RELAY BASE.
	120V LOCAL SMOKE ALARM CEILING MOUNTED. IONIZATION TYPE.
	120V LOCAL SMOKE ALARM WITH STROBE.
	CARBON MONOXIDE.
	COMBINATION SMOKE/CARBON MONOXIDE/STROBE.
	AIR DUCT TYPE SMOKE DETECTOR.
	REMOTE INDICATING LIGHT. SUBSCRIPT INDICATES FAN SYSTEM.
	FIRE ALARM HORN.
	FIRE ALARM BELL.
	FIRE ALARM STROBE
	COMBINATION FIRE HORN/STROBE LIGHT.

SECURITY SYSTEM

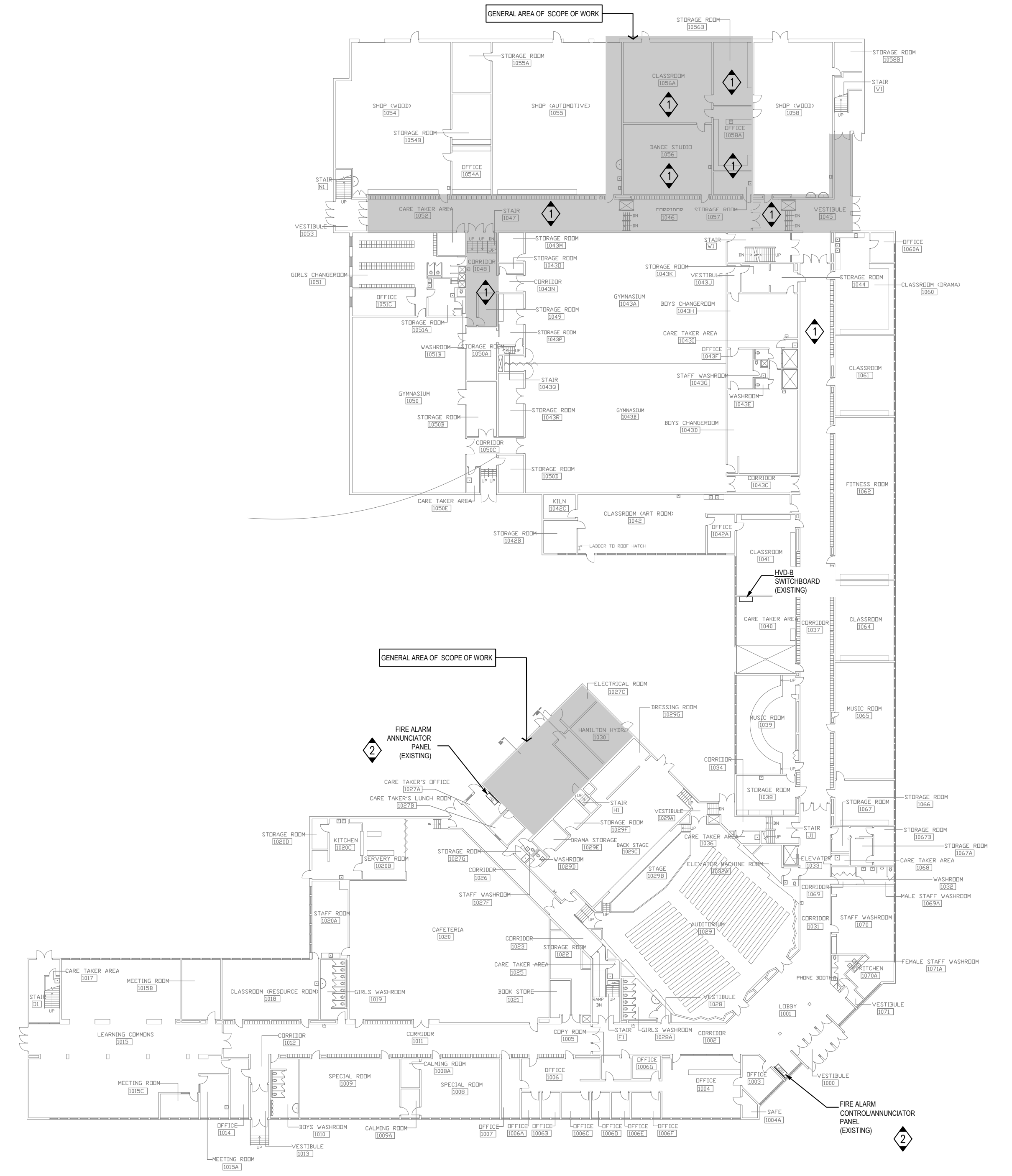
	AUDIBLE ALARM (BUZZER)
	GLASS BREAK DETECTOR
	SECURITY SYSTEM MONITORING STATION
	PANIC ALARM
	MOTION DETECTOR.

MISCELLANEOUS ABBREVIATIONS/SUBSCRIPTS/SYMBOLS

A	- MOUNTING HEIGHT FOR DEVICES ABOVE COUNTER/SINK MILLWORK TO BE 1020mm FROM TOP OF DEVICE TO A.F.F. (UNLESS NOTED OTHERWISE).
1-3	- TYPICAL NORMAL POWER CIRCUIT NUMBER EG. PANELBOARD LP-1 CIRCUIT NUMBER 3.
E1-3	- TYPICAL ESSENTIAL POWER CIRCUIT NUMBER EG. PANELBOARD LPE-1 CIRCUIT NUMBER 3.
1A-3	- TYPICAL CONTROL PANEL CIRCUIT NUMBER EG. PANELBOARD LP-1A CIRCUIT NUMBER 3.
3P+N	- 3 POLE & UNSWITCHED NEUTRAL.
AFF	- ABOVE FINISHED FLOOR.
B	- BENCH MOUNTED.
C	- CEILING SPACE MOUNTED.
D/1	- WITH DISCONNECT AND VISIBLE ISOLATION.
EXP/EP	- EXPLOSION PROOF.
E	- EXISTING TO REMAIN
ER	- EXISTING TO BE RELOCATED
F	- FLOOR MOUNTED.
GF	- GROUND FAULT CIRCUIT INTERRUPTER.
IG	- ISOLATED GROUND TYPE.
MH	- MOUNTING HEIGHT.
N	- EXISTING TO BE REPLACED WITH NEW
NL	- NIGHT LIGHT
R	- EXISTING TO BE REMOVED
RE	- EXISTING RELOCATED AT THE NEW LOCATION
S	- SURGE SUPPRESSION TYPE DEVICE.
T	- LOCKING TYPE (TWISTLOCK).
V	- MOUNT IN VERTICAL FACE.
WG	- WIREGUARD.
WP	- WEATHERPROOF TYPE.
Z	- MOUNT 42" (1065mm) A.F.F.
PTZ	- PAN, TILT, ZOOM

ACB	- AIR CIRCUIT BREAKER.
ARMS	- ARCLASH REDUCTION MAINTENANCE MODE
ATS	- AUTOMATIC TRANSFER SWITCH.
AV	- AUDIO VISUAL.
CO	- CARBON MONOXIDE
CM	- COFFEE MAKER.
CR	- CASH REGISTER.
CS	- COMMUNICATION STATION.
DP	- DISTRIBUTION PANEL.
EV	- ELECTRONIC VOLTAGE REGULATOR.
FACP	- FIRE ALARM CONTROL PANEL
FAAP	- FIRE ALARM ANNUNCIATOR PANEL
FR	- FRIDGE.
GEN	- ELECTRICAL GENERATOR.
HP	- HYDRO POLE
HWD	- HOT WATER DISPENSER
IM	- ICE MACHINE
LS	- LIFE SAFETY.
MCB	- MINIATURE CIRCUIT BREAKER.
MCCB	- MOULDED CASE CIRCUIT BREAKER.
MSB	- MAIN SWITCH BOARD (SERVICE ENTRANCE RATED).
NLS	- NON LIFE SAFETY.
PC	- PHOTOCOPIER.
PF	- POWER FACTOR CORRECTION CAPACITOR BANKS.
PR	- PRINTER.
SB	- SMARTBOARD.
SP	- SPLITTER.
SPD	- SURGE PROTECTIVE DEVICE.
TR	- LOW VOLTAGE TRANSFORMER.
TV	- TELEVISION.
TVSS	- TRANSIENT VOLTAGE SURGE SUPPRESSOR.
UPS	- UNINTERRUPTIBLE POWER SUPPLY.
VM	- VENDING MACHINE.
XFMR	- UTILITY TRANSFORMER.

DWG No.	DRAWING TITLE
E0.0	ELECTRICAL LEGEND AND DRAWING LIST
E0.1	OVERALL PLANS
E1.0	GROUND FLOOR - POWER & SYSTEMS DEMOLITION PLANS
E1.1	SECOND FLOOR - POWER & SYSTEMS DEMOLITION PLANS
E1.2	ROOF - POWER & SYSTEMS DEMOLITION PLANS
E1.3	GROUND & SECOND FLOOR - ELECTRICAL DEMOLITION PLANS
E2.0	GROUND FLOOR - POWER & SYSTEMS NEW PLANS
E2.1	GROUND FLOOR - POWER & SYSTEMS NEW PLANS
E2.2	ROOF - POWER & SYSTEMS NEW PLANS
E2.3	GROUND & SECOND FLOOR - ELECTRICAL NEW PLANS
E3.0	ELECTRICAL SPECIFICATIONS AND PANEL SCHEDULES
ME1.0	MECHANICAL AND ELECTRICAL SCHEDULES
ME1.1	MECHANICAL AND ELECTRICAL SCHEDULES



1 GROUND FLOOR - OVERALL PLAN
E0.0 SCALE: 1/32" = 1'-0"

DRAWING NOTES

- ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURES OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN CEILING SPACE AFTER INSTALLATION. RE-INSTATE ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES. COORDINATE WITH MECHANICAL DIVISION.
- ALL NEW FIRE ALARM DEVICES SHALL BE WIRED TO THE EXISTING PANEL. MODIFY ANNUNCIATOR PANEL TO REFLECT CHANGES. BIDDER SHALL WALKTHROUGH TO DETERMINE LOCATION OF THE FIRE ALARM AND ANNUNCIATOR PANELS AND INCLUDE FOR WIRING TO NEW DEVICES. VERIFY NEWLY ADDED DEVICES AND PROVIDE A VERIFICATION REPORT.

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THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MUST CORRECT & CORRELATE ALL DETAILS WITHIN THE FULL DRAWING PACKAGE BEING RESPONSIBLE FOR SAME THROUGHOUT CONSTRUCTION, REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK.

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- ISSUED FOR REVIEW 22.09.23
- ISSUED FOR REVIEW 10.10.23
- ISSUED FOR PERMIT 14.11.23
- ISSUED FOR TENDER 14.02.24

PROJECT:
HVAC Renovations

Glendale
Secondary
School

145 Rainbow Dr,
Hamilton, ON
For the HWDSB

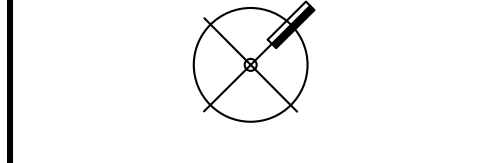
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1266 South Service Road,
Suite C-14, Stoney Creek,
ON, L8E 5R9
Canada



- BUILDINGS • EARTH & ENVIRONMENT • ENERGY
- INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

TRUE NORTH:



DRAWING TITLE:
ELECTRICAL
LEGEND AND
DRAWING LIST

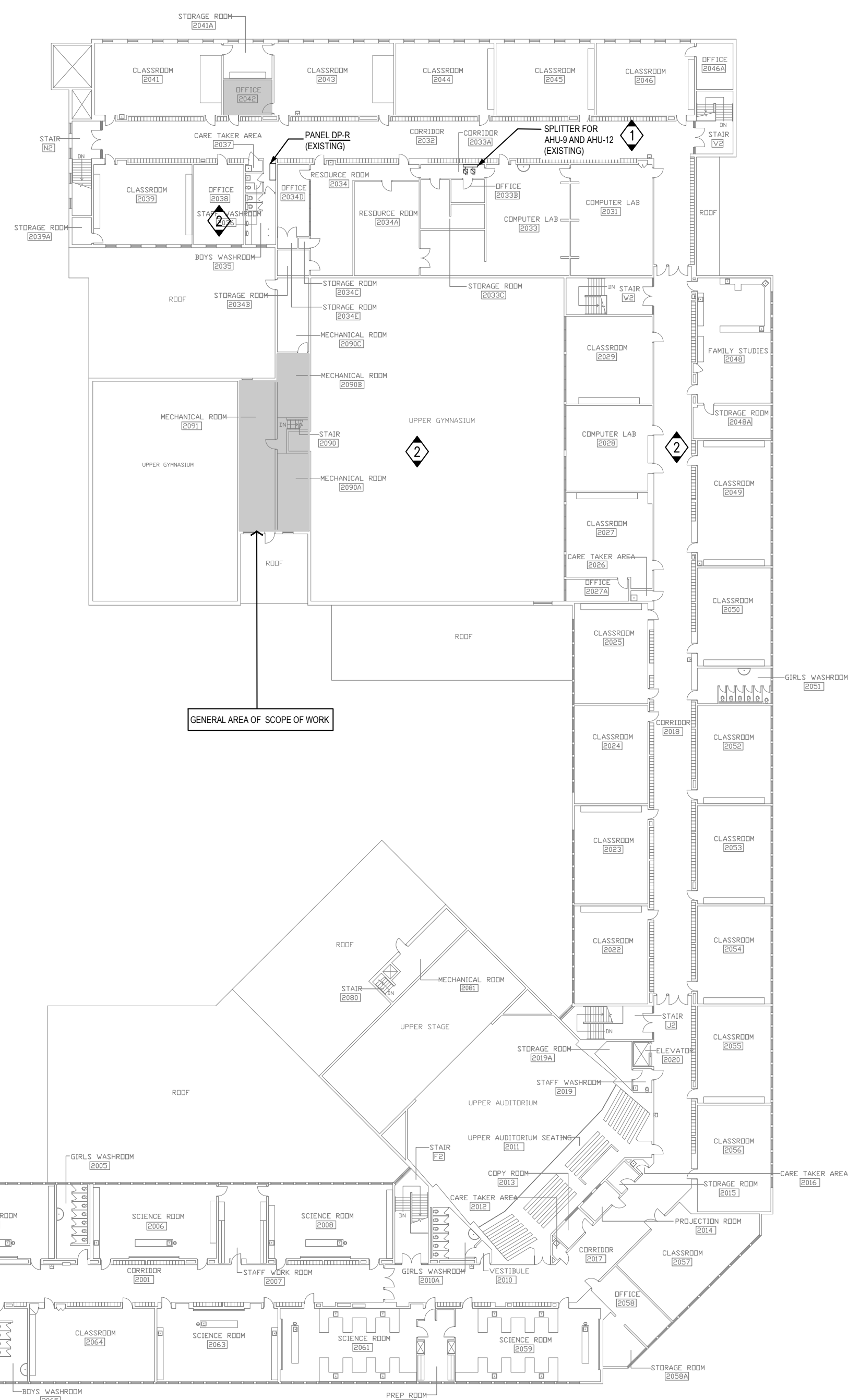
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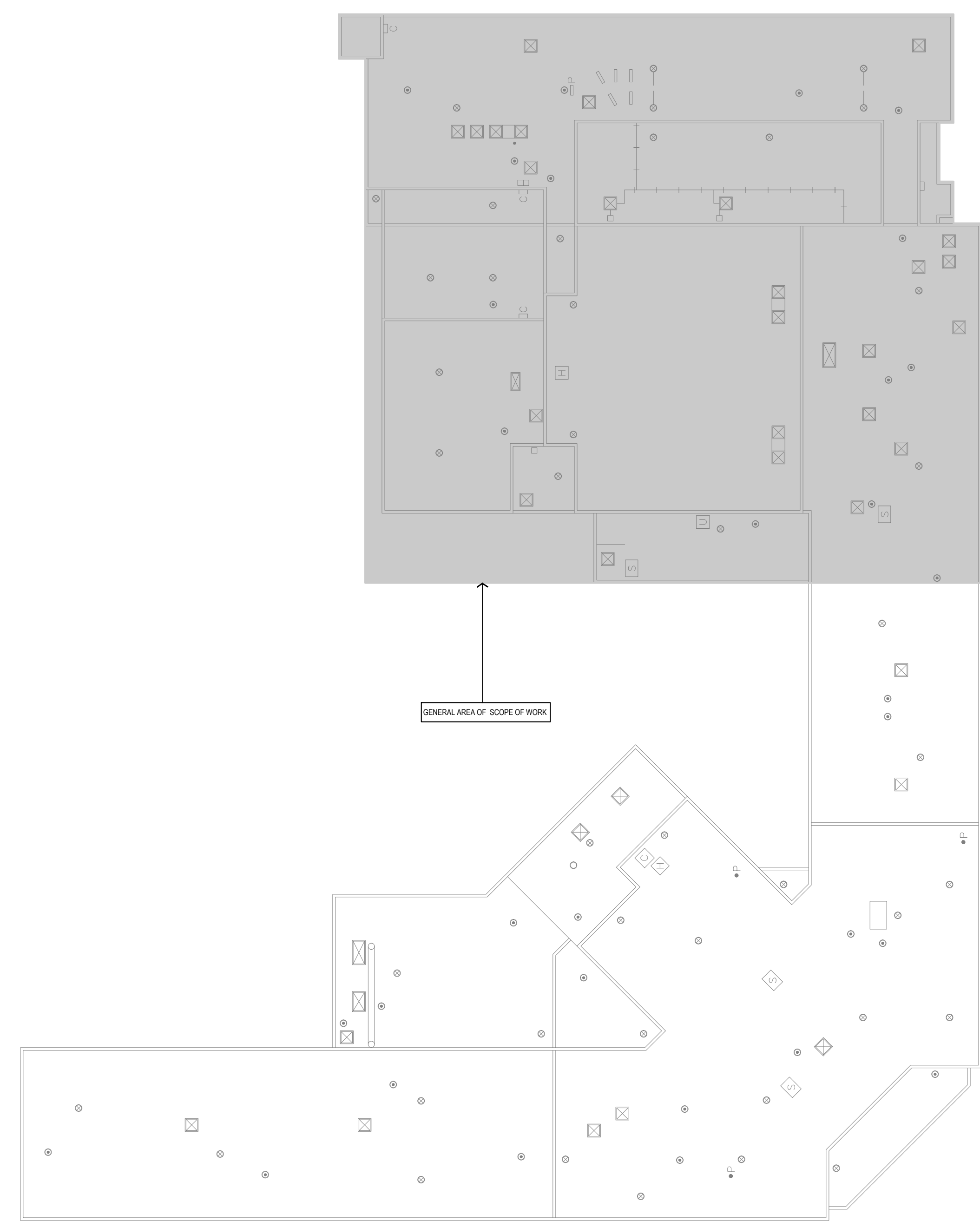
DATE:
SEPTEMBER 2023

PROJECT #:
ALL-23010629-A0

DRAWING #:
E0.0



1 SECOND FLOOR - OVERALL PLAN
 E0.1 SCALE: 1/32" = 1'-0"



2 ROOF - OVERALL PLAN
 E0.1 SCALE: 1/32" = 1'-0"

DRAWING NOTES

- 1 EXISTING SPLITTER AND DISCONNECT SWITCHES FOR AHU-9 AND AHU-12. VERIFY LOCATION ON SITE. EXISTING SPLITTER FED FROM SWITCHBOARD HVDB-8 CARE TAKER AREA 1040.
- 2 ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURES OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN CEILING SPACE. AFTER INSTALLATION, RE-INSTATE ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES. COORDINATE WITH MECHANICAL DIVISION.

ELECTRICAL GENERAL DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR SHALL, AS PART OF HIS WORK, PERFORM ALL RELATED DEMOLITION, MODIFICATIONS, RELOCATION OF ELECTRICAL DISTRIBUTION AND OTHER EQUIPMENT AND RELATED WORK, INCLUDING NEW WORK NECESSARY TO COMPLETE THE PROJECT.
2. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BIDS. REFER TO EXISTING DRAWINGS AND VISIT THE SITE TO DETERMINE THE EXTENT OF THE DEMOLITION AND NEW WORK REQUIRED.
3. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL TECHNICAL DETAILS OF EQUIPMENT TO BE REMOVED. WHERE THERE IS A DISCREPANCY WITH THE TENDER DOCUMENTS, CONTRACTOR SHALL ENGAGE CONSULTANTS FOR DIRECTIONS. ELECTRICAL CONTRACTOR SHALL MAKE A LIST OF ALL EQUIPMENT TO BE REMOVED. THIS LIST SHALL BE WITH ALL FOLLOWING INFORMATION:
 MAKE/MODEL#
 ** MANUFACTURER
 ** TECHNICAL DETAILS
 ** LOCATION THIS LIST SHALL BE SUBMITTED TO THE OWNER FOR RECORD PURPOSES.
4. THE ELECTRICAL CONTRACTOR SHALL NOT DISCONNECT EQUIPMENT AND ELECTRICAL CIRCUITS IN THE RENOVATION AREA OR ANY PART OF THE BUILDING WITHOUT PRIOR NOTIFICATION AND PERMISSION FROM THE OWNER. EXTREME CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO THE SURROUNDING AREA.
5. ITEMS REMOVED AND NOT SCHEDULED TO BE RELOCATED SHALL BE OFFERED TO THE OWNER FOR THEIR USE AND IF NOT ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF THE MATERIAL FROM THE SITE IN ACCORDANCE WITH LOCAL REGULATIONS. THE ELECTRICAL CONTRACTOR SHALL DELIVER ITEMS ACCEPTED BY THE OWNER TO THE DESIGNATED LOCATIONS AS DIRECTED BY THE OWNER.
6. IN ALL CASES WHERE WORK IS REMOVED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO SUSTAIN OPERATION OF ALL PARTS OF THE SYSTEMS CONNECTING TO OR FROM THE PART REMOVED, COMPLETING ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES.
7. ALL WIRING, CABLES AND FEEDERS INCLUDING BOTH CONNECTED TO DEVICES AND EQUIPMENT TO BE DEMOLISHED AND EXISTING THAT WERE ABANDONED IN PLACE SHALL BE REMOVED BACK TO THEIR SOURCES. UNLESS NOTED OTHERWISE, CONDUITS AND/OR WIRING SHALL, WHERE NECESSARY, BE RE-CIRCUIT AROUND THE REMOVED PART, KEEPING OCCUPIED PARTS OF THE BUILDING SYSTEM IN FULL SERVICE.
8. ALL EXISTING CONDUITS WHICH HAVE BEEN ABANDONED OR ARE UNUSED SHALL BE REMOVED.
9. PROVIDE BLANK METAL COVER PLATES FOR ALL JUNCTION DEVICE BOXES NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLAB OR MASONRY WALLS. PROVIDE PLUGS FOR ALL PANELS WHERE CONDUIT HAS BEEN REMOVED. COVER PLATES SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.
10. WHERE REQUIRED COORDINATE WITH THE CONSULTANTS/OWNER FOR EXISTING PARTITIONS TO BE REMOVED TO FACILITATE WORK. DISCONNECT EXISTING BRANCH CIRCUITS SERVING DEVICES IN PARTITIONS TO BE REMOVED. MAINTAIN CONTINUITY OF CIRCUITS SERVING EXISTING DEVICES IN OTHER AREAS TO REMAIN.
11. FIRE ALARM SYSTEM: COORDINATE AND CONSULT WITH CURRENT FIA SYSTEM SERVICE CONTRACTOR (HAMILTON FIRE CONTROL) OR THEIR QUALIFIED REPRESENTATIVE FOR ALL FIRE ALARM DEMOLITION AND MODIFICATIONS. OPERATION SHALL BE MAINTAINED OF EXISTING FIRE ALARM SYSTEM SPECIFICALLY AS IT RELATES TO ADJACENT AREAS WHICH ARE NOT INCLUDED IN THE SCOPE OF THIS PROJECT.
12. ELECTRICAL CONTRACTOR SHALL PROVIDE UPDATED TYPE WRITTEN PANEL DIRECTORIES FOR ALL PANELS AFFECTED BY THE DEMOLITION AND/OR NEW WORK. CIRCUIT BREAKERS NOT USED FOR NEW WORK SHALL BE LABELED AS SPARE.
13. FOR EXISTING DEVICES/CIRCUITRY THAT ARE INDICATED TO BE REMOVED BACK TO POINT OF ORIGIN- THESE ITEMS ARE TO BE REMOVED BACK TO POINT OF ORIGIN UNLESS THERE WILL BE EXISTING DEVICES ON THE SAME CIRCUIT THAT ARE LOCATED OUTSIDE AREA OF WORK THAT ARE TO REMAIN. IN THAT CASE, REMOVE THE EXISTING DEVICES/CIRCUITRY IN AREA OF WORK BACK TO THESE EXISTING DEVICES TO REMAIN. ALL DEVICES/CIRCUITRY IN SURROUNDING AREAS THAT ARE TO REMAIN ARE TO BE KEPT ENERGIZED. FOR REMOVAL OF CONDUIT AND WIRING OUTSIDE OF AREA OF WORK COORDINATE AND SCHEDULE WITH OWNER PRIOR TO PERFORMING WORK.

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- 3. ISSUED FOR PERMIT 14.11.23
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PROJECT:
 HVAC Renovations
 Glendale Secondary School
 145 Rainbow Dr,
 Hamilton, ON
 For the HWDSB

SEAL:

GENERAL NOTES

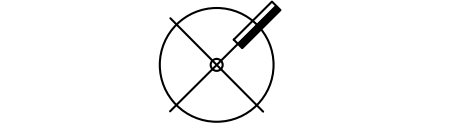
- A. PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.
- B. ALL CONDUIT ROUTES SHOWN ON DRAWINGS ARE APPROXIMATE AND NOT FINAL. CONTRACTOR SHALL VERIFY ROUTES AND DO A WALKTHROUGH BEFORE BID. CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO EXISTING CEILING AND LIGHT FIXTURES. ALL MAIN CONDUIT RUNS SHALL BE IN CORRIDOR CEILING SPACE.
- C. EXTEND/PROVIDE NEW WIRING/CONDUIT FOR ALL DEVICES THAT ARE RELOCATED.
- D. ALL NEW RECEPTACLES IN THE SCHOOL SHALL BE TAMPER RESISTANT TYPE.
- E. REMOVE AND RE-INSTATE ALL REQUIRED T-BAR OR DRY TYPE CEILING TO FACILITATE ELECTRICAL INSTALLATIONS. ANY DAMAGES TO T-BAR SHALL BE RE-INSTATED.
- F. UNLESS OTHERWISE NOTED WITH A CIRCUIT NUMBER, RE-USE EXISTING CIRCUIT BREAKERS THAT HAD BECOME SPARE FROM THE DEMOLITION TO FEED NEW RECEPTACLES. MAXIMUM 6 DUPLEX RECEPTACLES PER CIRCUIT UNLESS OTHERWISE NOTED.
- G. UNLESS NOTED OTHERWISE, EVERY CONDUIT CONTAINING 120V OR GREATER WIRING SHALL CONTAIN A SEPARATE INSULATED GROUND WIRE RATED FOR 600V.
- H. FOR EACH PANEL BOARD, PROVIDE AN UPDATED, TYPE WRITTEN DIRECTORY INDICATING ROOM AND ROOM NUMBER, EQUIPMENT IDENTIFICATIONS, SPARE OR SPACE AS APPLICABLE. DIRECTORY SHALL BE MOUNTED INSIDE PANEL BOARD.
- I. ALL EMPTY CONDUITS SHALL CONTAIN PULL WIRES.
- J. EQUIPMENT OR DEVICES THAT ARE LOCATED ABOVE OPENINGS SUCH AS DOORS, LOUVERS, ETC. SHALL BE CENTERED ABOVE OPENING. THIS NOTE REFERS TO, BUT IS NOT LIMITED TO EXIT LIGHTS, EXTERIOR LIGHT FIXTURES, ETC.
- K. CONCEAL ALL CONDUIT IN FINISHED SPACES, IN UNFINISHED SPACES, ALL OUTLET BOXES SHALL BE RECESSED, AND ALL CONDUIT SHALL BE CONCEALED TO THE HIGHEST EXTENT POSSIBLE.
- L. PROVIDE CONDUIT BUSHINGS FOR ALL CONDUIT NIPPLES, SLEEVES, AND STUBS FROM WALL BOXES TO ABOVE CEILING.
- M. FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR ALL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT, TRANSFORMERS AND LIGHT FIXTURES. THE MAXIMUM ALLOWABLE LENGTH IS 3' FOR MOTORS (TRANSFORMERS AND 4' FOR LIGHT FIXTURES). PVC JACKETED FLEX SHALL BE USED IN OUTDOOR AND POTENTIALLY WET LOCATION AREAS. THE USE OF FLEXIBLE CONDUIT OTHER THAN AS SPECIFIED IS PROHIBITED.
- N. MINIMUM CONDUCTOR SIZE SHALL BE INCREASED AS REQUIRED FOR LONG RUNS, HIGH AMBIENT TEMPERATURES AND MULTIPLE CONDUCTORS IN A RACEWAY. FOR VOLTAGE DROP, INCREASE THE MINIMUM CONDUCTOR SIZES AS FOLLOWS FOR ENTIRE CIRCUIT FROM CIRCUIT BREAKER TO LAST DEVICES OR LIGHT FIXTURE IN CIRCUIT:
 USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120-VOLT, BRANCH CIRCUITS LONGER THAN 75 FEET.
 USE #8 AWG CONDUCTORS FOR 20 AMPERE, 120-VOLT, BRANCH CIRCUITS LONGER THAN 120 FEET.
 USE #10 AWG CONDUCTORS FOR 20 AMPERE, 277-VOLT, BRANCH CIRCUITS LONGER THAN 130 FEET.
- O. THE USE OF FLEXIBLE NONMETALLIC CONDUIT IS PROHIBITED UNLESS PRIOR APPROVAL IS OBTAINED.
- P. CONDUIT INSTALLATION SHALL BE PARALLEL TO BUILDING LINES. NO BRANCH CIRCUIT CONDUIT WILL BE INSTALLED UNDER OR GRADUALLY ABS. JUNCTION BOXES IN INACCESSIBLE SPACES WILL BE PROHIBITED, UNLESS SPECIFICALLY INDICATED OTHERWISE.

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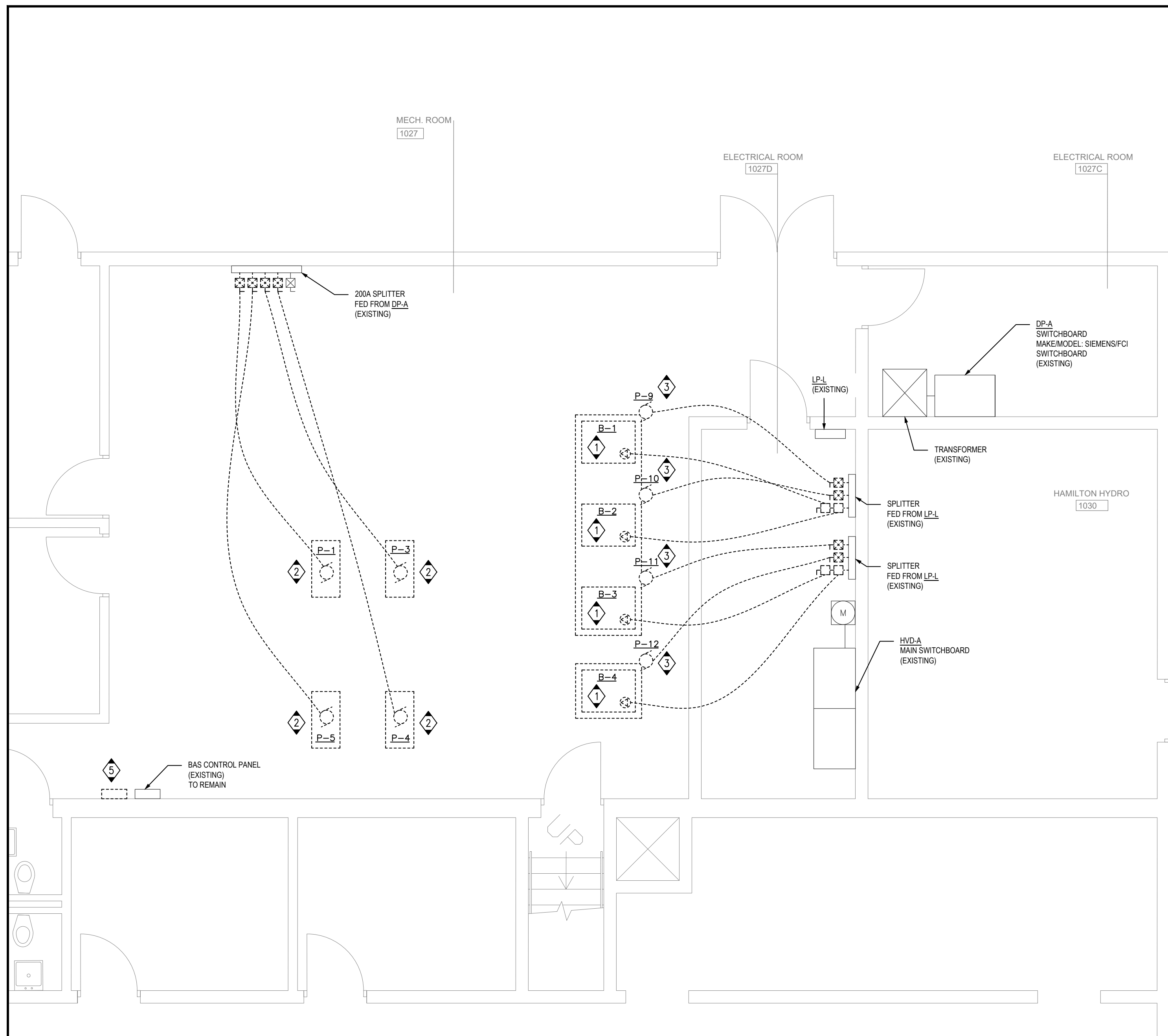
- BUILDINGS • EARTH & ENVIRONMENT • ENERGY
- INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

TRUE NORTH:



DRAWING TITLE:
OVERALL PLANS

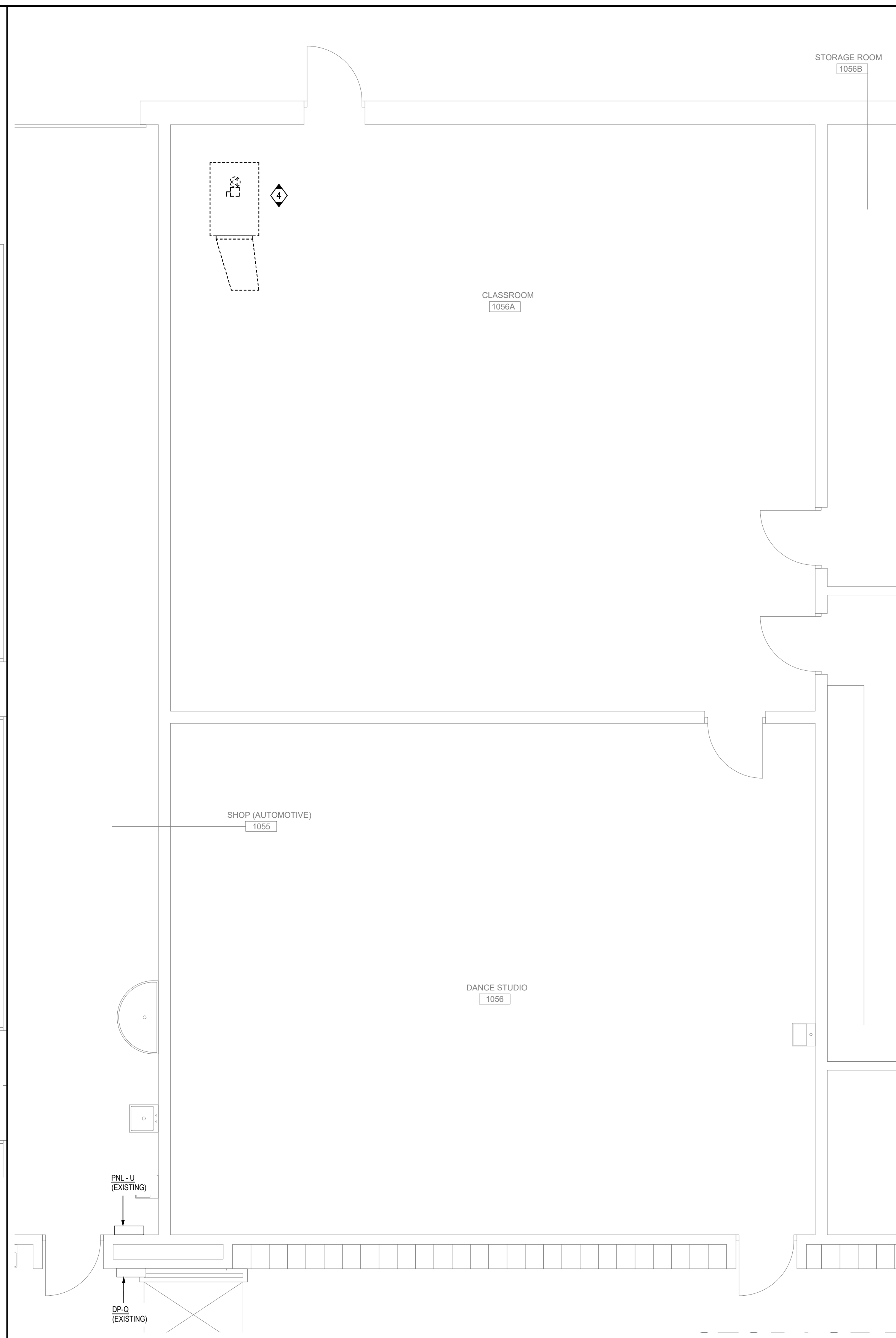
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 DATE:
 SEPTEMBER 2023
 PROJECT #:
 ALL-23010629-A0
 DRAWING #:
 E0.1



**GROUND FLOOR - POWER & SYSTEMS
DEMOLITION PLANS**

1
E1.0

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



**GROUND FLOOR - POWER & SYSTEMS
DEMOLITION PLANS**

2
E1.0

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

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DEMOLITION NOTES**

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7. ALL WIRING, CABLES AND FEEDERS INCLUDING BOTH CONNECTED TO DEVICES AND EQUIPMENT TO BE DEMOLISHED AND EXISTING THAT WERE ABANDONED IN PLACE SHALL BE REMOVED BACK TO THEIR SOURCES, UNLESS NOTED OTHERWISE. CONDUITS AND/OR WIRING SHALL, WHERE NECESSARY, BE RE-CIRCUIT AROUND THE REMOVED PART, KEEPING OCCUPIED PARTS OF THE BUILDING SYSTEM IN FULL SERVICE.
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11. FIRE ALARM SYSTEM: COORDINATE AND CONSULT WITH CURRENT FIA SYSTEM SERVICE CONTRACTOR (HAMILTON FIRE CONTROL) OR THEIR QUALIFIED REPRESENTATIVE FOR ALL FIRE ALARM DEMOLITION AND MODIFICATIONS. OPERATION SHALL BE MAINTAINED OF EXISTING FIRE ALARM SYSTEM SPECIFICALLY AS IT RELATES TO ADJACENT AREAS WHICH ARE NOT INCLUDED IN THE SCOPE OF THIS PROJECT.
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13. FOR EXISTING DEVICES/CIRCUITRY THAT ARE INDICATED TO BE REMOVED BACK TO POINT OF ORIGIN- THESE ITEMS ARE TO BE REMOVED BACK TO POINT OF ORIGIN UNLESS THERE WILL BE EXISTING DEVICES ON THE SAME CIRCUIT THAT ARE LOCATED OUTSIDE AREA OF WORK THAT ARE TO REMAIN. IN THAT CASE, REMOVE THE EXISTING DEVICES/CIRCUITRY IN AREA OF WORK BACK TO THESE EXISTING DEVICES TO REMAIN. ALL DEVICES/CIRCUITRY IN SURROUNDING AREAS THAT ARE TO REMAIN ARE TO BE KEPT ENERGIZED. FOR REMOVAL OF CONDUIT AND WIRING OUTSIDE OF AREA OF WORK COORDINATE AND SCHEDULE WITH OWNER PRIOR TO PERFORMING WORK.

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THE CONTRACTOR MUST VERIFY ALL DIMENSIONS AND MUST CONFIRM & CORRELATE ALL DETAILS WITHIN THE FULL DRAWING PACKAGE BEING RESPONSIBLE FOR SAME THROUGHOUT CONSTRUCTION, REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK.
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1. ISSUED FOR REVIEW 22.09.23
2. ISSUED FOR REVIEW 10.10.23
3. ISSUED FOR PERMIT 14.11.23
4. ISSUED FOR TENDER 14.02.24

PROJECT:
HVAC Renovations

Glendale
Secondary
School

145 Rainbow Dr,
Hamilton, ON
For the HWDSB

SCALE:

DRAWING NOTES

GENERAL:

PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.

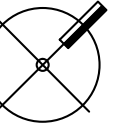
1. EXISTING BOILERS (B-1, B-2, B-3, B-4) FED FROM EXISTING DISCONNECT SWITCHES IN ELECTRICAL ROOM 1027D. DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCHES. REMOVE ALL FEEDER CABLES FEEDING UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO. 1 ON NEW PLANS.
2. EXISTING PUMPS (P-1, P-3, P-4, P-5) FED FROM EXISTING 200A SPLITTER AND DISCONNECT SWITCHES IN MECHANICAL ROOM 1027. DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCHES. REMOVE ALL FEEDER CABLES FEEDING UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO. 2 ON NEW PLANS.
3. EXISTING BOILER PUMPS (P-8, P-9, P-10, P-11, P-12) FED FROM DISCONNECT SWITCHES IN MECHANICAL ROOM 1027D. DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCHES. REMOVE ALL FEEDER CABLES FEEDING UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO. 3 ON NEW PLANS.
4. EXISTING CEILING HUNG COOLING UNIT FED FROM PANEL (PNL-U) IN SHOP (AUTOMOTIVE) ROOM 1055. DISCONNECT POWER SUPPLY FROM UNITS. REMOVE AND DISPOSE FEEDERS, CONDUITS AND ALL ASSOCIATED SUPPORTS UP TO THE PANEL. REMOVE STARTER/DISCONNECT SWITCH AND DISPOSE FROM SITE. REMOVAL OF UNITS BY MECHANICAL DIVISION.
5. EXISTING BOILER CONTROL PANEL. DISCONNECT POWER SUPPLY FROM PANEL. EXISTING FEEDERS TO BE RE-USED TO FEED NEW PANEL. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE ON NEW PLANS.

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TRUE NORTH:



DRAWING TITLE:
**GROUND FLOOR
- POWER &
SYSTEMS
DEMOLITION
PLANS**

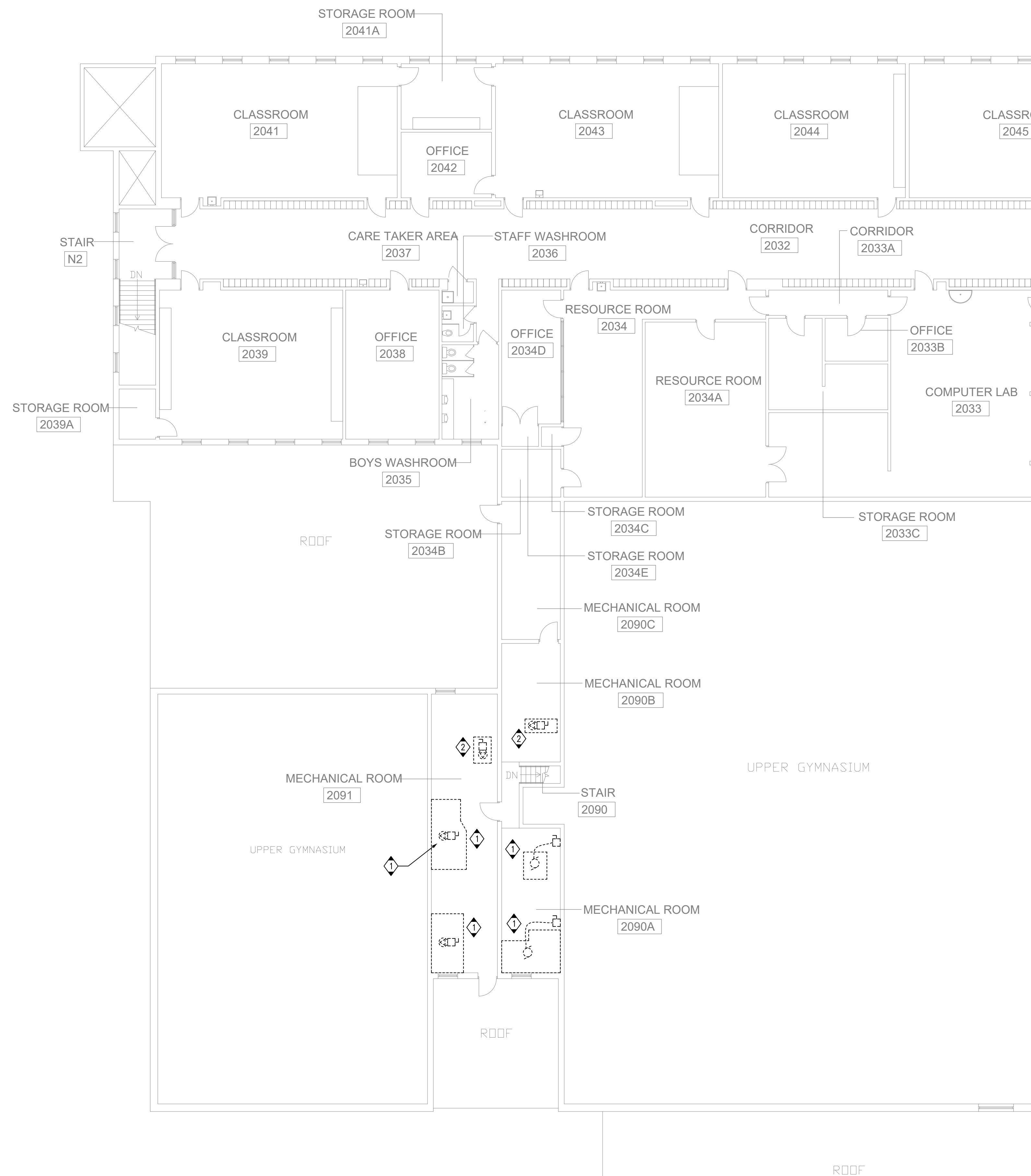
SCALE:
AS NOTED

DRAWN:
ABS

DATE:
SEPTEMBER 2023

PROJECT #:
ALL-23010629-A0

DRAWING #:
E1.0



1
E1.1
SCALE: 3/32" = 1'-0"

**ELECTRICAL GENERAL
DEMOLITION NOTES**

1. THE ELECTRICAL CONTRACTOR SHALL, AS PART OF HIS WORK, PERFORM ALL RELATED DEMOLITION, MODIFICATIONS, RELOCATION OF ELECTRICAL DISTRIBUTION AND OTHER EQUIPMENT AND RELATED WORK, INCLUDING NEW WORK NECESSARY TO COMPLETE THE PROJECT.
2. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BIDS. REFER TO EXISTING DRAWINGS AND VISIT THE SITE TO DETERMINE THE EXTENT OF THE DEMOLITION AND NEW WORK REQUIRED.
3. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL TECHNICAL DETAILS OF EQUIPMENT TO BE REMOVED. WHERE THERE IS A DISCREPANCY WITH THE TENDER DOCUMENTS, CONTRACTOR SHALL ENGAGE CONSULTANTS FOR DIRECTIONS. ELECTRICAL CONTRACTOR SHALL MAKE A LIST OF ALL EQUIPMENT TO BE REMOVED. THIS LIST SHALL BE WITH ALL FOLLOWING INFORMATION:
 ** MAKE/MODEL#
 ** MANUFACTURER
 ** TECHNICAL DETAILS
 ** LOCATION THIS LIST SHALL BE SUBMITTED TO THE OWNER FOR RECORD PURPOSES.
4. THE ELECTRICAL CONTRACTOR SHALL NOT DISCONNECT EQUIPMENT AND ELECTRICAL CIRCUITS IN THE RENOVATION AREA OR ANY PART OF THE BUILDING WITHOUT PRIOR NOTIFICATION AND PERMISSION FROM THE OWNER. EXTREME CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO THE SURROUNDING AREA.
5. ITEMS REMOVED AND NOT SCHEDULED TO BE RELOCATED SHALL BE OFFERED TO THE OWNER FOR THEIR USE AND IF NOT ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF THE MATERIAL FROM THE SITE IN ACCORDANCE WITH LOCAL REGULATIONS. THE ELECTRICAL CONTRACTOR SHALL DELIVER ITEMS ACCEPTED BY THE OWNER TO THE DESIGNATED LOCATIONS AS DIRECTED BY THE OWNER.
6. IN ALL CASES WHERE WORK IS REMOVED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO SUSTAIN OPERATION OF ALL PARTS OF THE SYSTEMS CONNECTING TO OR FROM THE PART REMOVED, COMPLETING ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES.
7. ALL WIRING, CABLES AND FEEDERS INCLUDING BOTH CONNECTED TO DEVICES AND EQUIPMENT TO BE DEMOLISHED AND EXISTING THAT WERE ABANDONED IN PLACE SHALL BE REMOVED BACK TO THEIR SOURCES, UNLESS NOTED OTHERWISE. CONDUITS AND/OR WIRING SHALL, WHERE NECESSARY, BE RE-CIRCUIT AROUND THE REMOVED PART, KEEPING OCCUPIED PARTS OF THE BUILDING SYSTEM IN FULL SERVICE.
8. ALL EXISTING CONDUITS WHICH HAVE BEEN ABANDONED OR ARE UNUSED SHALL BE REMOVED.
9. PROVIDE BLANK METAL COVER PLATES FOR ALL JUNCTION DEVICE BOXES NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLAB OR MASONRY WALLS. PROVIDE PLUGS FOR ALL PANELS WHERE CONDUIT HAS BEEN REMOVED. COVER PLATES SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.
10. WHERE REQUIRED COORDINATE WITH THE CONSULTANTS/OWNER FOR EXISTING PARTITIONS TO BE REMOVED TO FACILITATE WORK. DISCONNECT EXISTING BRANCH CIRCUITS SERVICING DEVICES IN PARTITIONS TO BE REMOVED. MAINTAIN CONTINUITY OF CIRCUITS SERVICING EXISTING DEVICES IN OTHER AREAS TO REMAIN.
11. FIRE ALARM SYSTEM: COORDINATE AND CONSULT WITH CURRENT FIA SYSTEM SERVICE CONTRACTOR (HAMILTON FIRE CONTROL) OR THEIR QUALIFIED REPRESENTATIVE FOR ALL FIRE ALARM DEMOLITION AND MODIFICATIONS. OPERATION SHALL BE MAINTAINED OF EXISTING FIRE ALARM SYSTEM SPECIFICALLY AS IT RELATES TO ADJACENT AREAS WHICH ARE NOT INCLUDED IN THE SCOPE OF THIS PROJECT.
12. ELECTRICAL CONTRACTOR SHALL PROVIDE UPDATED TYPE WRITTEN PANEL DIRECTORIES FOR ALL PANELS AFFECTED BY THE DEMOLITION AND/OR NEW WORK. CIRCUIT BREAKERS NOT USED FOR NEW WORK SHALL BE LABELED AS SPARE.
13. FOR EXISTING DEVICES/CIRCUITRY THAT ARE INDICATED TO BE REMOVED BACK TO POINT OF ORIGIN- THESE ITEMS ARE TO BE REMOVED BACK TO POINT OF ORIGIN UNLESS THERE WILL BE EXISTING DEVICES ON THE SAME CIRCUIT THAT ARE LOCATED OUTSIDE AREA OF WORK THAT ARE TO REMAIN. IN THAT CASE, REMOVE THE EXISTING DEVICES/CIRCUITRY IN AREA OF WORK BACK TO THESE EXISTING DEVICES TO REMAIN. ALL DEVICES/CIRCUITRY IN SURROUNDING AREAS THAT ARE TO REMAIN ARE TO BE KEPT ENERGIZED. FOR REMOVAL OF CONDUIT AND WIRING OUTSIDE OF AREA OF WORK COORDINATE AND SCHEDULE WITH OWNER PRIOR TO PERFORMING WORK.

DRAWING NOTES

1. EXISTING AIR HANDLING UNITS FED FROM EXISTING DISCONNECT SWITCHES IN MECHANICAL ROOM. DISCONNECT POWER SUPPLY FROM UNITS. REMOVE AND DISPOSE FEEDERS, CONDUITS AND ALL ASSOCIATED SUPPORTS UP TO THE PANEL. REMOVE STARTER/DISCONNECT SWITCHES AND DISPOSE FROM SITE. REMOVAL OF UNITS BY MECHANICAL DIVISION.
2. EXISTING RETURN UNITS FED FROM EXISTING DISCONNECT SWITCHES IN MECHANICAL ROOM. DISCONNECT POWER SUPPLY FROM UNITS. REMOVE AND DISPOSE FEEDERS, CONDUITS AND ALL ASSOCIATED SUPPORTS UP TO THE PANEL. REMOVE STARTER/DISCONNECT SWITCHES AND DISPOSE FROM SITE. REMOVAL OF UNITS BY MECHANICAL DIVISION.

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THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MUST CORRELATE & CORRELATE ALL DETAILS WITHIN THE FULL DRAWING PACKAGE BEING RESPONSIBLE FOR SAME THROUGHOUT CONSTRUCTION, REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK.
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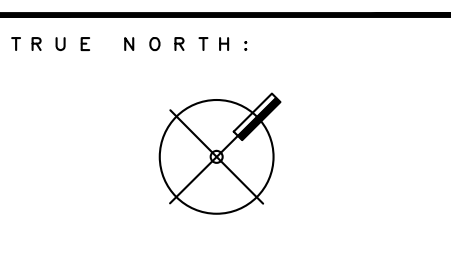
PROJECT:
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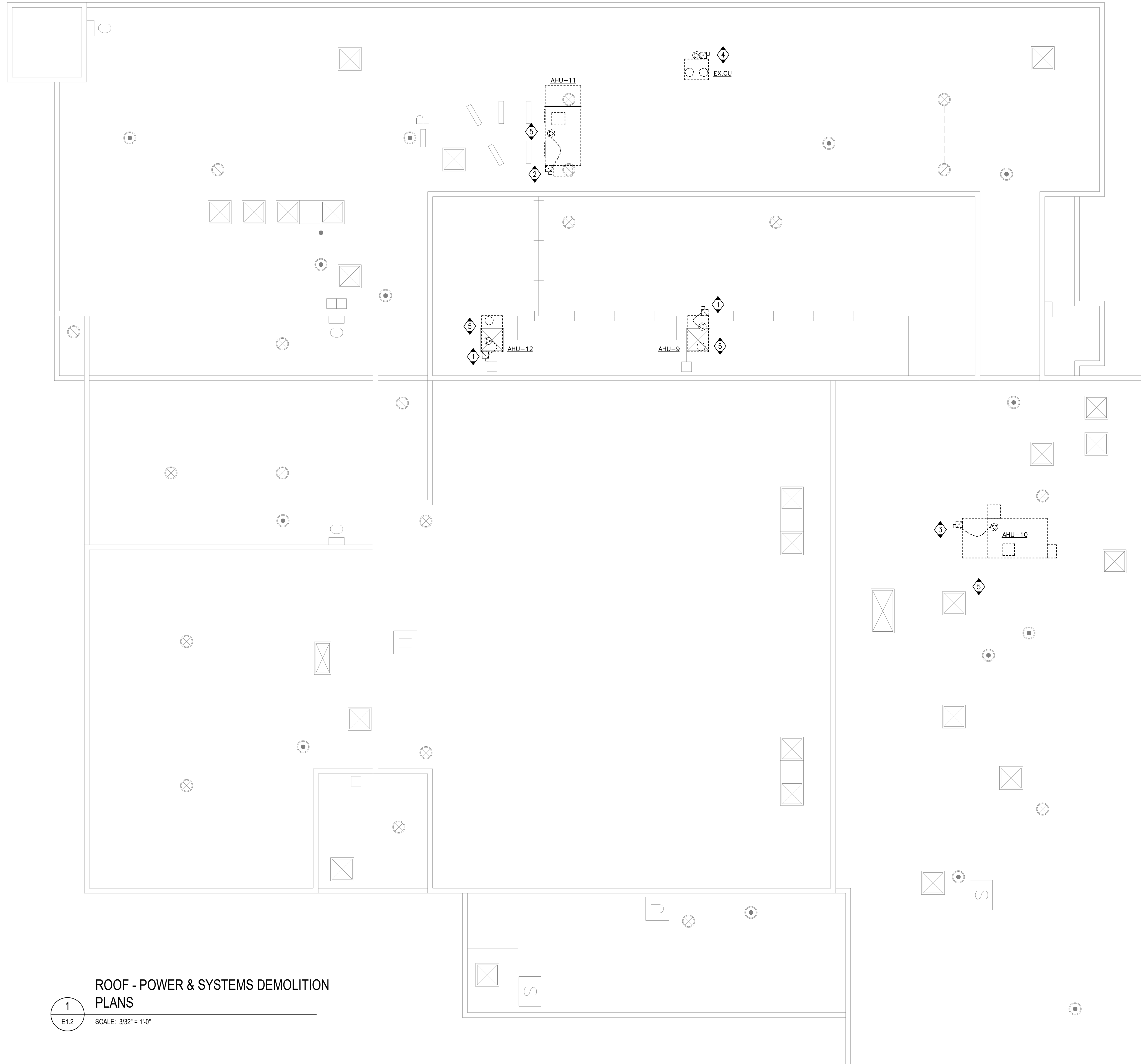


DRAWING TITLE:
**SECOND FLOOR
 - POWER &
 SYSTEMS
 DEMOLITION
 PLANS**

SCALE:
 AS NOTED
 DRAWN:
 ABS
 DATE:
 SEPTEMBER 2023

PROJECT #:
 ALL-23010629-A0

DRAWING #:
E1.1



1
E1.2
SCALE: 3/32" = 1'-0"

**ELECTRICAL GENERAL
DEMOLITION NOTES**

- THE ELECTRICAL CONTRACTOR SHALL, AS PART OF HIS WORK, PERFORM ALL RELATED DEMOLITION, MODIFICATIONS, RELOCATION OF ELECTRICAL DISTRIBUTION AND OTHER EQUIPMENT AND RELATED WORK, INCLUDING NEW WORK NECESSARY TO COMPLETE THE PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BIDS. REFER TO EXISTING DRAWINGS AND VISIT THE SITE TO DETERMINE THE EXTENT OF THE DEMOLITION AND NEW WORK REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL TECHNICAL DETAILS OF EQUIPMENT TO BE REMOVED. WHERE THERE IS A DISCREPANCY WITH THE TENDER DOCUMENTS, CONTRACTOR SHALL ENGAGE CONSULTANTS FOR DIRECTIONS. ELECTRICAL CONTRACTOR SHALL MAKE A LIST OF ALL EQUIPMENT TO BE REMOVED. THIS LIST SHALL BE WITH ALL FOLLOWING INFORMATION:
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** TECHNICAL DETAILS
** LOCATION THIS LIST SHALL BE SUBMITTED TO THE OWNER FOR RECORD PURPOSES.
- THE ELECTRICAL CONTRACTOR SHALL NOT DISCONNECT EQUIPMENT AND ELECTRICAL CIRCUITS IN THE RENOVATION AREA OR ANY PART OF THE BUILDING WITHOUT PRIOR NOTIFICATION AND PERMISSION FROM THE OWNER. EXTREME CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO THE SURROUNDING AREA.
- ITEMS REMOVED AND NOT SCHEDULED TO BE RELOCATED SHALL BE OFFERED TO THE OWNER FOR THEIR USE AND IF NOT ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF THE MATERIAL FROM THE SITE IN ACCORDANCE WITH LOCAL REGULATIONS. THE ELECTRICAL CONTRACTOR SHALL DELIVER ITEMS ACCEPTED BY THE OWNER TO THE DESIGNATED LOCATIONS AS DIRECTED BY THE OWNER.
- IN ALL CASES WHERE WORK IS REMOVED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO SUSTAIN OPERATION OF ALL PARTS OF THE SYSTEMS CONNECTING TO OR FROM THE PART REMOVED, COMPLETING ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES.
- ALL WIRING, CABLES AND FEEDERS INCLUDING BOTH CONNECTED TO DEVICES AND EQUIPMENT TO BE DEMOLISHED AND EXISTING THAT WERE ABANDONED IN PLACE SHALL BE REMOVED BACK TO THEIR SOURCES. UNLESS NOTED OTHERWISE, CONDUITS AND/OR WIRING SHALL, WHERE NECESSARY, BE RE-CIRCUIT AROUND THE REMOVED PART, KEEPING OCCUPIED PARTS OF THE BUILDING SYSTEM IN FULL SERVICE.
- ALL EXISTING CONDUITS WHICH HAVE BEEN ABANDONED OR ARE UNUSED SHALL BE REMOVED.
- PROVIDE BLANK METAL COVER PLATES FOR ALL JUNCTION/DEVICE BOXES NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLAB OR MASONRY WALLS. PROVIDE PLUGS FOR ALL PANELS WHERE CONDUIT HAS BEEN REMOVED. COVER PLATES SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.
- WHERE REQUIRED COORDINATE WITH THE CONSULTANTS/OWNER FOR EXISTING PARTITIONS TO BE REMOVED TO FACILITATE WORK. DISCONNECT EXISTING BRANCH CIRCUITS SERVING DEVICES IN PARTITIONS TO BE REMOVED. MAINTAIN CONTINUITY OF CIRCUITS SERVING EXISTING DEVICES IN OTHER AREAS TO REMAIN.
- FIRE ALARM SYSTEM: COORDINATE AND CONSULT WITH CURRENT FIA SYSTEM SERVICE CONTRACTOR (HAMILTON FIRE CONTROL) OR THEIR QUALIFIED REPRESENTATIVE FOR ALL FIRE ALARM DEMOLITION AND MODIFICATIONS. OPERATION SHALL BE MAINTAINED OF EXISTING FIRE ALARM SYSTEM SPECIFICALLY AS IT RELATES TO ADJACENT AREAS WHICH ARE NOT INCLUDED IN THE SCOPE OF THIS PROJECT.
- ELECTRICAL CONTRACTOR SHALL PROVIDE UPDATED TYPE WRITTEN PANEL DIRECTORIES FOR ALL PANELS AFFECTED BY THE DEMOLITION AND/OR NEW WORK. CIRCUIT BREAKERS NOT USED FOR NEW WORK SHALL BE LABELED AS SPARE.
- FOR EXISTING DEVICES/CIRCUITRY THAT ARE INDICATED TO BE REMOVED BACK TO POINT OF ORIGIN- THESE ITEMS ARE TO BE REMOVED BACK TO POINT OF ORIGIN UNLESS THERE WILL BE EXISTING DEVICES ON THE SAME CIRCUIT THAT ARE LOCATED OUTSIDE AREA OF WORK THAT ARE TO REMAIN. IN THAT CASE, REMOVE THE EXISTING DEVICES/CIRCUITRY IN AREA OF WORK BACK TO THESE EXISTING DEVICES TO REMAIN. ALL DEVICES/CIRCUITRY IN SURROUNDING AREAS THAT ARE TO REMAIN ARE TO BE KEPT ENERGIZED. FOR REMOVAL OF CONDUIT AND WIRING OUTSIDE OF AREA OF WORK COORDINATE AND SCHEDULE WITH OWNER PRIOR TO PERFORMING WORK.

DRAWING NOTES

- EXISTING AIR HANDLING UNITS (AHU-9, AHU-12) FED FROM EXISTING SPLITTER AND DISCONNECT SWITCHES IN CORRIDOR 2033A (REFER TO DRAWING E0.1). DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCHES. EXISTING FEEDERS TO BE RE-USED TO FEED NEW UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO.1 ON NEW PLANS.
- EXISTING AIR HANDLING UNITS (AHU-11) FED FROM SWITCHBOARD HVD-B IN CARE TAKER AREA 1040 (REFER TO DRAWING E0.0). DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCHES. EXISTING FEEDERS TO BE RE-USED TO FEED NEW UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO.2 ON NEW PLANS.
- EXISTING AIR HANDLING UNIT (AHU-10) FED FROM SWITCHBOARD HVD-B IN CARE TAKER AREA 1040 (REFER TO DRAWING E0.0). DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCH. EXISTING FEEDERS TO BE RE-USED TO FEED NEW UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION. REFER TO DRAWING NOTE NO.3 ON NEW PLANS.
- EXISTING CONDENSER UNIT (CU). DISCONNECT POWER SUPPLY FROM UNITS. DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCH. EXISTING FEEDERS TO BE RE-USED TO FEED NEW UNITS. REMOVAL OF UNITS BY MECHANICAL DIVISION.
- EXISTING DUCT TYPE SMOKE DETECTOR TO BE REPLACED AND FIRE ALARM SHUT DOWN CONTROL TO BE REUSED FOR THIS UNIT.

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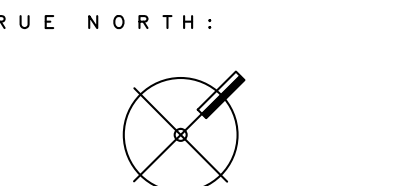
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DRAWING TITLE:
ROOF - POWER & SYSTEMS
DEMOLITION
PLANS

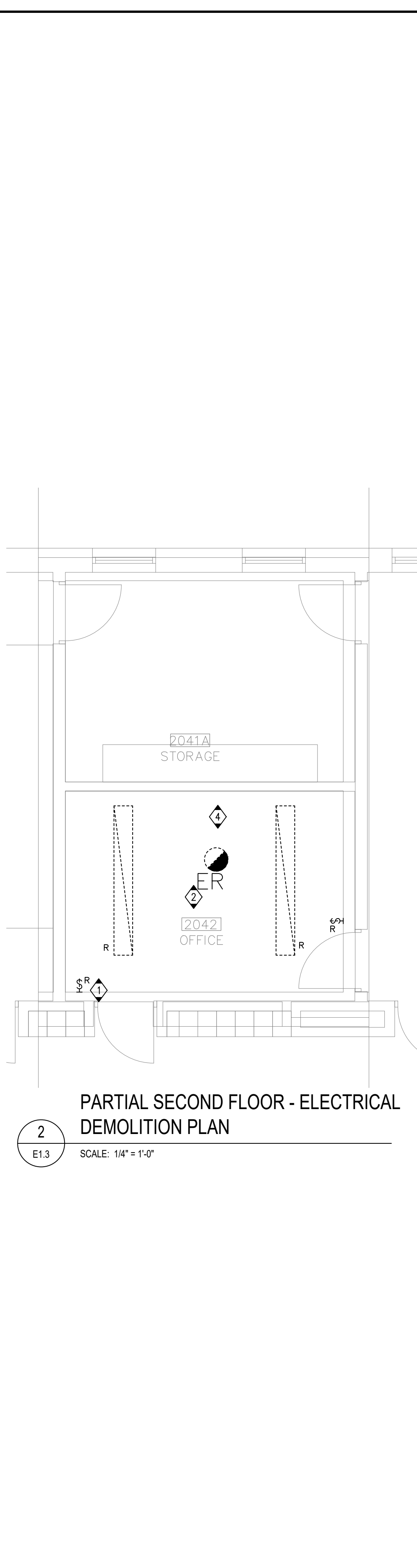
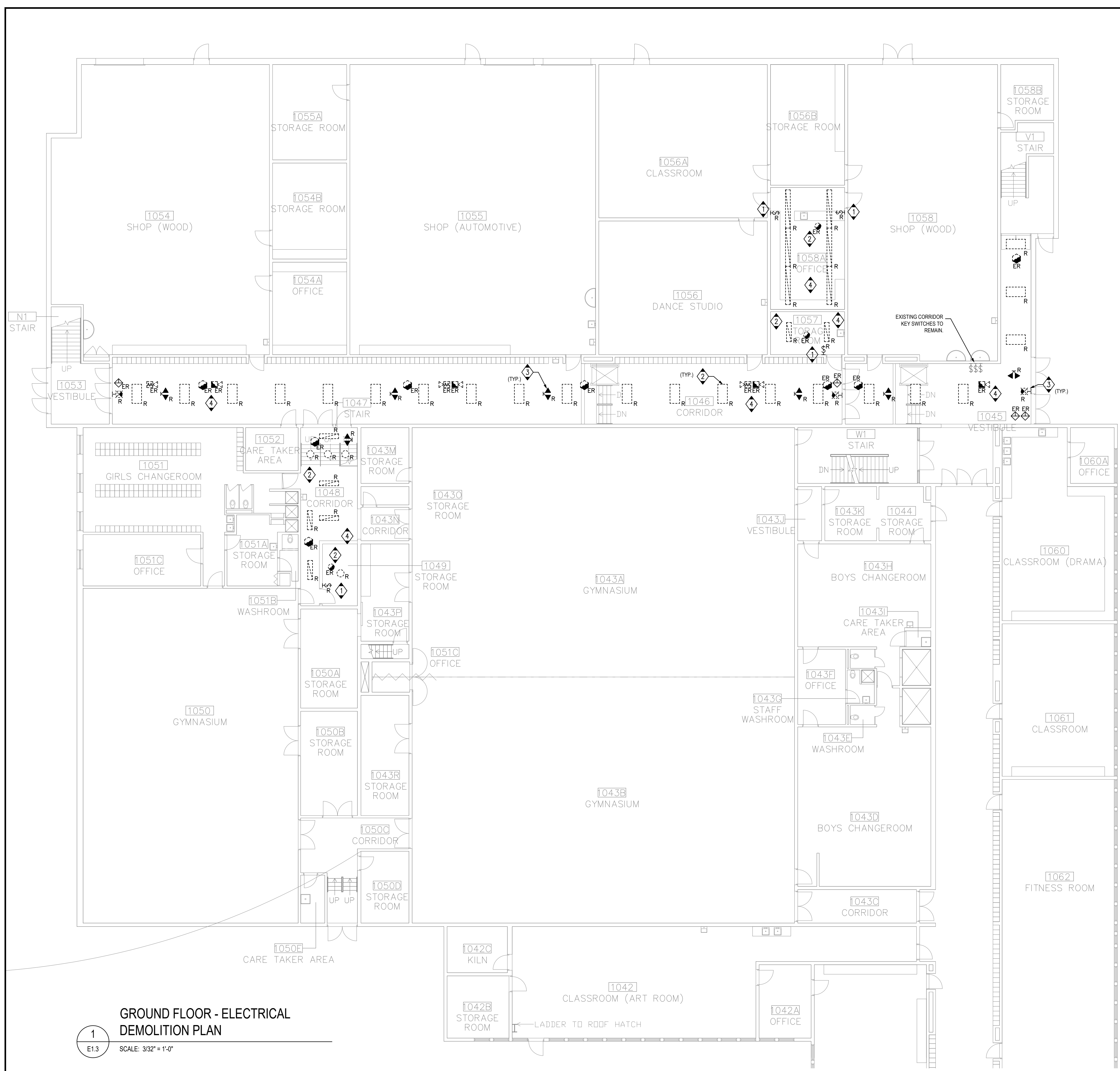
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DATE:
SEPTEMBER 2023

PROJECT #:
ALL-23010629-A0

DRAWING #:
E1.2



ELECTRICAL GENERAL DEMOLITION NOTES

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- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING BIDS. REFER TO EXISTING DRAWINGS AND VISIT THE SITE TO DETERMINE THE EXTENT OF THE DEMOLITION AND NEW WORK REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL TECHNICAL DETAILS OF EQUIPMENT TO BE REMOVED. WHERE THERE IS A DISCREPANCY WITH THE TENDER DOCUMENTS, CONTRACTOR SHALL ENGAGE CONSULTANTS FOR DIRECTIONS. ELECTRICAL CONTRACTOR SHALL MAKE A LIST OF ALL EQUIPMENT TO BE REMOVED. THIS LIST SHALL BE WITH ALL FOLLOWING INFORMATION:
 MAKE/MODEL#
 ** MANUFACTURER
 ** TECHNICAL DETAILS
 ** LOCATION THIS LIST SHALL BE SUBMITTED TO THE OWNER FOR RECORD PURPOSES.
- THE ELECTRICAL CONTRACTOR SHALL NOT DISCONNECT EQUIPMENT AND ELECTRICAL CIRCUITS IN THE RENOVATION AREA OR ANY PART OF THE BUILDING WITHOUT PRIOR NOTIFICATION AND PERMISSION FROM THE OWNER. EXTREME CARE SHALL BE TAKEN TO MINIMIZE DISTURBANCE TO THE SURROUNDING AREA.
- ITEMS REMOVED AND NOT SCHEDULED TO BE RELOCATED SHALL BE OFFERED TO THE OWNER FOR THEIR USE AND IF NOT ACCEPTED BY THE OWNER, THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF THE MATERIAL FROM THE SITE IN ACCORDANCE WITH LOCAL REGULATIONS. THE ELECTRICAL CONTRACTOR SHALL DELIVER ITEMS ACCEPTED BY THE OWNER TO THE DESIGNATED LOCATIONS AS DIRECTED BY THE OWNER.
- IN ALL CASES WHERE WORK IS REMOVED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT AND LABOR TO SUSTAIN OPERATION OF ALL PARTS OF THE SYSTEMS CONNECTING TO OR FROM THE PART REMOVED, COMPLETING ALL WORK IN STRICT ACCORDANCE WITH APPLICABLE CODES.
- ALL WIRING, CABLES AND FEEDERS INCLUDING BOTH CONNECTED TO DEVICES AND EQUIPMENT TO BE DEMOLISHED AND EXISTING THAT WERE ABANDONED IN PLACE SHALL BE REMOVED BACK TO THEIR SOURCES. UNLESS NOTED OTHERWISE, CONDUITS AND/OR WIRING SHALL, WHERE NECESSARY, BE RE-CIRCUIT AROUND THE REMOVED PART, KEEPING OCCUPIED PARTS OF THE BUILDING SYSTEM IN FULL SERVICE.
- ALL EXISTING CONDUITS WHICH HAVE BEEN ABANDONED OR ARE UNUSED SHALL BE REMOVED.
- PROVIDE BLANK METAL COVER PLATES FOR ALL JUNCTION DEVICE BOXES NO LONGER IN USE THAT ARE EMBEDDED IN FLOOR SLAB OR MASONRY WALLS. PROVIDE PLUGS FOR ALL PANELS WHERE CONDUIT HAS BEEN REMOVED. COVER PLATES SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.
- WHERE REQUIRED COORDINATE WITH THE CONSULTANTS/OWNER FOR EXISTING PARTITIONS TO BE REMOVED TO FACILITATE WORK. DISCONNECT EXISTING BRANCH CIRCUITS SERVING DEVICES IN PARTITIONS TO BE REMOVED. MAINTAIN CONTINUITY OF CIRCUITS SERVING EXISTING DEVICES IN OTHER AREAS TO REMAIN.
- FIRE ALARM SYSTEM: COORDINATE AND CONSULT WITH CURRENT FIA SYSTEM SERVICE CONTRACTOR (HAMILTON FIRE CONTROL) OR THEIR QUALIFIED REPRESENTATIVE FOR ALL FIRE ALARM DEMOLITION AND MODIFICATIONS. OPERATION SHALL BE MAINTAINED OF EXISTING FIRE ALARM SYSTEM SPECIFICALLY AS IT RELATES TO ADJACENT AREAS WHICH ARE NOT INCLUDED IN THE SCOPE OF THIS PROJECT.
- ELECTRICAL CONTRACTOR SHALL PROVIDE UPDATED TYPE WRITTEN PANEL DIRECTORIES FOR ALL PANELS AFFECTED BY THE DEMOLITION AND/OR NEW WORK. CIRCUIT BREAKERS NOT USED FOR NEW WORK SHALL BE LABELED AS SPARE.
- FOR EXISTING DEVICES/CIRCUITRY THAT ARE INDICATED TO BE REMOVED BACK TO POINT OF ORIGIN- THESE ITEMS ARE TO BE REMOVED BACK TO POINT OF ORIGIN UNLESS THERE WILL BE EXISTING DEVICES ON THE SAME CIRCUIT THAT ARE LOCATED OUTSIDE AREA OF WORK THAT ARE TO REMAIN. IN THAT CASE, REMOVE THE EXISTING DEVICES/CIRCUITRY IN AREA OF WORK BACK TO THESE EXISTING DEVICES TO REMAIN. ALL DEVICES/CIRCUITRY IN SURROUNDING AREAS THAT ARE TO REMAIN ARE TO BE KEPT ENERGIZED. FOR REMOVAL OF CONDUIT AND WIRING OUTSIDE OF AREA OF WORK COORDINATE AND SCHEDULE WITH OWNER PRIOR TO PERFORMING WORK.

DRAWING NOTES

- DISCONNECT AND REMOVE EXISTING LIGHT SWITCHES AND CONTROLS. RE-USE EXISTING WIRING TO FEED NEW SWITCHES/CONTROLS. REFER TO DRAWING E2.3.
- DISCONNECT AND REMOVE EXISTING FIXTURES. PROTECT EXISTING CIRCUIT FOR REUSE. REFER TO DRAWING E2.3 FOR NEW FIXTURE LOCATION.
- DISCONNECT AND REMOVE EXISTING EXIT SIGNS AND CEILING MOUNTED REMOTE HEADS. PROTECT EXISTING CIRCUIT FOR REUSE. REFER TO DRAWING E2.3 FOR NEW LOCATION.
- ALLOW FOR TEMPORARILY REMOVING ANY CEILING MOUNTED DEVICES AND STORE SAFELY ON SITE. TO INSTALL THE NEW CEILING. AFTER CEILING INSTALLATION, RE-INSTATE ALL CEILING MOUNTED DEVICES.

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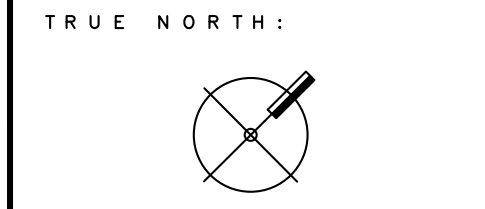
PROJECT:
 HVAC Renovations
 Glendale Secondary School
 145 Rainbow Dr,
 Hamilton, ON
 For the HWDSB

SCALE:

EXP Services Inc.
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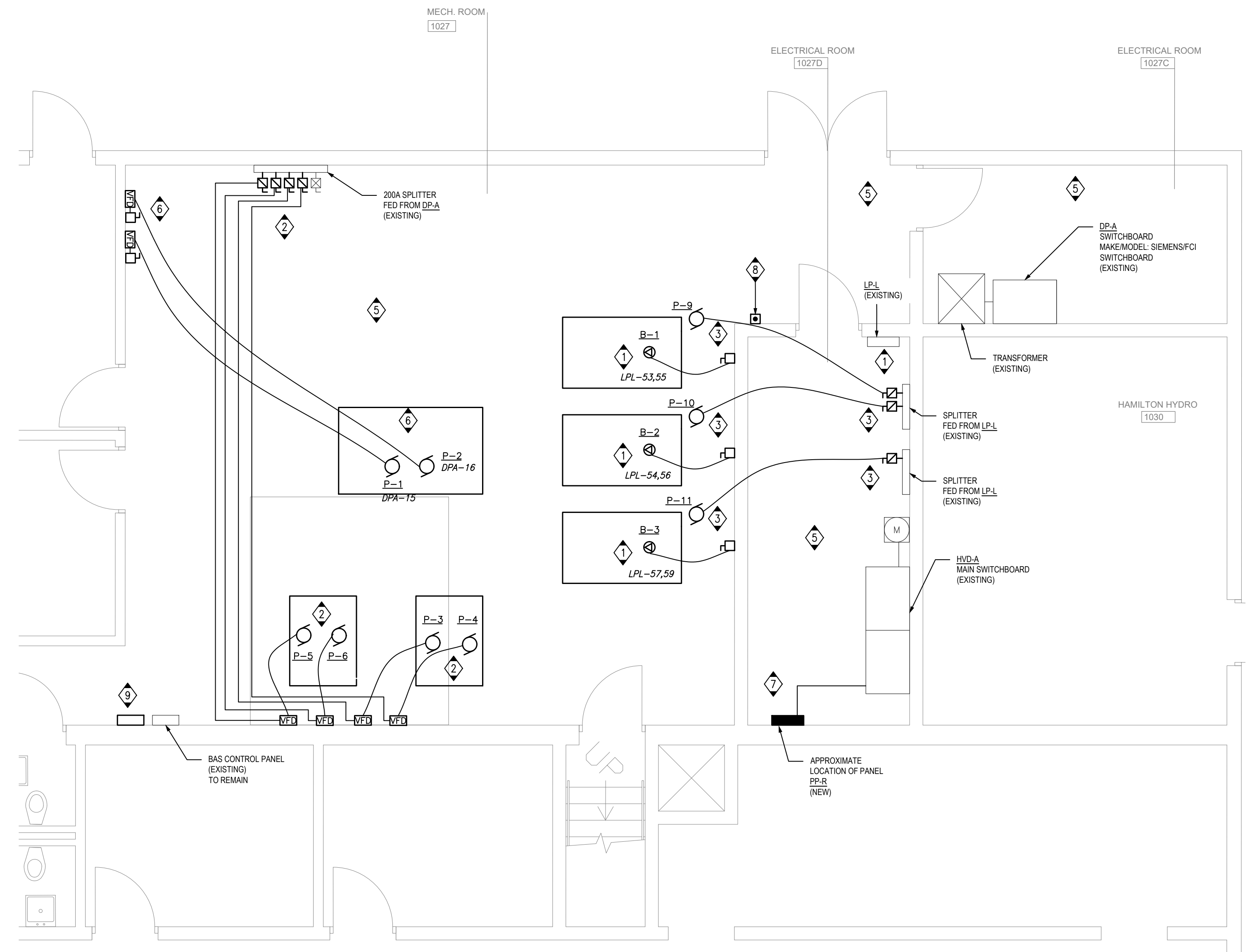
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DRAWING TITLE:
 GROUND & SECOND FLOOR - ELECTRICAL DEMOLITION PLANS

SCALE:
 AS NOTED
 DRAWN:
 ABS
 DATE:
 SEPTEMBER 2023
 PROJECT #:
 ALL-23010629-A0
 DRAWING #:

E1.3



**GROUND FLOOR - POWER & SYSTEMS
NEW PLANS**

1
E2.0

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

ELECTRICAL GENERAL NOTES

- A. PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.
- B. ALL CONDUIT ROUTES SHOWN ON DRAWINGS ARE APPROXIMATE AND NOT FINAL. CONTRACTOR SHALL VERIFY ROUTES AND DO A WALKTHROUGH BEFORE BID. CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO EXISTING CEILING AND LIGHT FIXTURES. ALL MAIN CONDUIT RUNS SHALL BE IN CORRIDOR CEILING SPACE.
- C. EXTEND/PROVIDE NEW WIRING/CONDUIT FOR ALL DEVICES THAT ARE RELOCATED.
- D. ALL NEW RECEPTACLES IN THE SCHOOL SHALL BE TAMPER RESISTANT TYPE.
- E. REMOVE AND RE-INSTALL ALL REQUIRED T-BAR OR DRY TYPE CEILINGS TO FACILITATE ELECTRICAL INSTALLATIONS. ANY DAMAGES TO T-BAR SHALL BE RE-INSTATED.
- F. UNLESS OTHERWISE NOTED WITH A CIRCUIT NUMBER, RE-USE EXISTING CIRCUIT BREAKERS THAT HAD BECOME SPARE FROM THE DEMOLITION TO FEED NEW RECEPTACLES. MAXIMUM 6 DUPLEX RECEPTACLES PER CIRCUIT UNLESS OTHERWISE NOTED.
- G. CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO CEILING TILES FOR CONDUIT RUNS FROM PANELS TO NEW ELECTRICAL DEVICES.
- H. CIRCUIT NUMBERS SHOWN ON THIS PLAN ARE FOR CIRCUITING PURPOSE ONLY. REUSE EXISTING SPARE BREAKERS OR EXISTING BREAKERS MADE SPARE FROM DEMOLITION AND/OR REPLACE OBSOLETE BREAKERS WITH NEW AND/OR ADD NEW BREAKERS IN AVAILABLE SPACES IN EXISTING ELECTRICAL PANELS AS REQUIRED OR REPLACE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK.

THESE DRAWINGS ARE NOT TO BE SCALED
ALL DRAWINGS, THE DESIGN, AND THE DETAILS THEREON REMAIN THE PROPERTY OF THE CONSULTANT AND ARE NOT TO BE ALTERED, RE-USED OR REPRODUCED WITHOUT THE CONSULTANT'S EXPRESS WRITTEN CONSENT.
THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MUST CONFIRM & CORRELATE ALL DETAILS WITHIN THE FULL DRAWING PACKAGE BEING RESPONSIBLE FOR SAME THROUGHOUT CONSTRUCTION, REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK.

1. ISSUED FOR REVIEW 22.09.23
2. ISSUED FOR REVIEW 10.10.23
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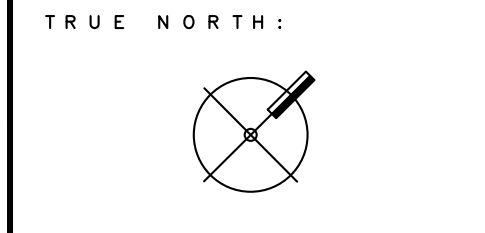
DRAWING NOTES

- GENERAL:
- PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.
- 1 NEW BOILERS (B-1, B-2, B-3). PROVIDE THREE (3) 15A-2P BREAKERS IN PANEL EXISTING (LPL-53,55) TO FEED NEW BOILERS. SUPPLY AND INSTALL NEW THREE (3) 30A/15AF DISCONNECT SWITCH (FUUSED) AND NEW POWER WIRING (Ø12 AWG CU-G IN 21mmC) & WIRE BOILERS COMPLETELY. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
 - 2 NEW PUMPS (P-3, P-4, P-5, P-6). SUPPLY AND INSTALL FOUR (4) NEW 60A/35AF DISCONNECT SWITCH (FUUSED) FOR PUMPS (P-3, P-4) AND NEW POWER WIRING (3Ø8 AWG CU-G IN 27mmC) & WIRE PUMPS COMPLETELY. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
 - 3 NEW PUMPS (P-9, P-10, P-11). SUPPLY AND INSTALL NEW THREE (3) 30A/15AF DISCONNECT SWITCH (FUUSED) AND NEW POWER WIRING (Ø12 AWG CU-G IN 21mmC) & WIRE PUMPS COMPLETELY. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
 - 4 NOT USED.
 - 5 ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURES OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN CEILING SPACE. AFTER INSTALLATION, RE-INSTALL ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES.
 - 6 NEW PUMPS (P-1, P-2). PROVIDE A TWO (2) 110A-3P BREAKERS IN PANEL (DP-A) TO FEED NEW PUMPS SUPPLIED BY MECHANICAL DIVISION. SUPPLY AND INSTALL NEW POWER WIRING (3Ø2 AWG CU-G IN 41mmC) & WIRE COMPLETELY. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
 - 7 SUPPLY AND INSTALL NEW PANELBOARD (PP-R). PROVIDE 200A-3P BREAKER IN EXISTING SWITCHBOARD HYD-A TO FEED NEW PP-R PANEL. FINAL LOCATION OF NEW PANEL TO BE DETERMINED ON SITE. REFER TO NEW PANEL SCHEDULES.
 - 8 PROVIDE EPO EMERGENCY KILL SWITCH FOR HEATING BOILERS. PROVIDE SEE THROUGH TAMPER PROOF TYPE ENCLOSURE WITH LAMACOID IDENTIFICATION NAMEPLATE. CONFIRM EXACT LOCATION ON SITE.
 - 9 NEW BOILER CONTROL PANEL BY MECHANICAL DIVISION. RECONNECT EXISTING POWER FEEDERS TO PANEL. EXTEND CABLES/CONDUITS AS REQUIRED.

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DRAWING TITLE:
**GROUND FLOOR
— POWER &
SYSTEMS NEW
PLANS**

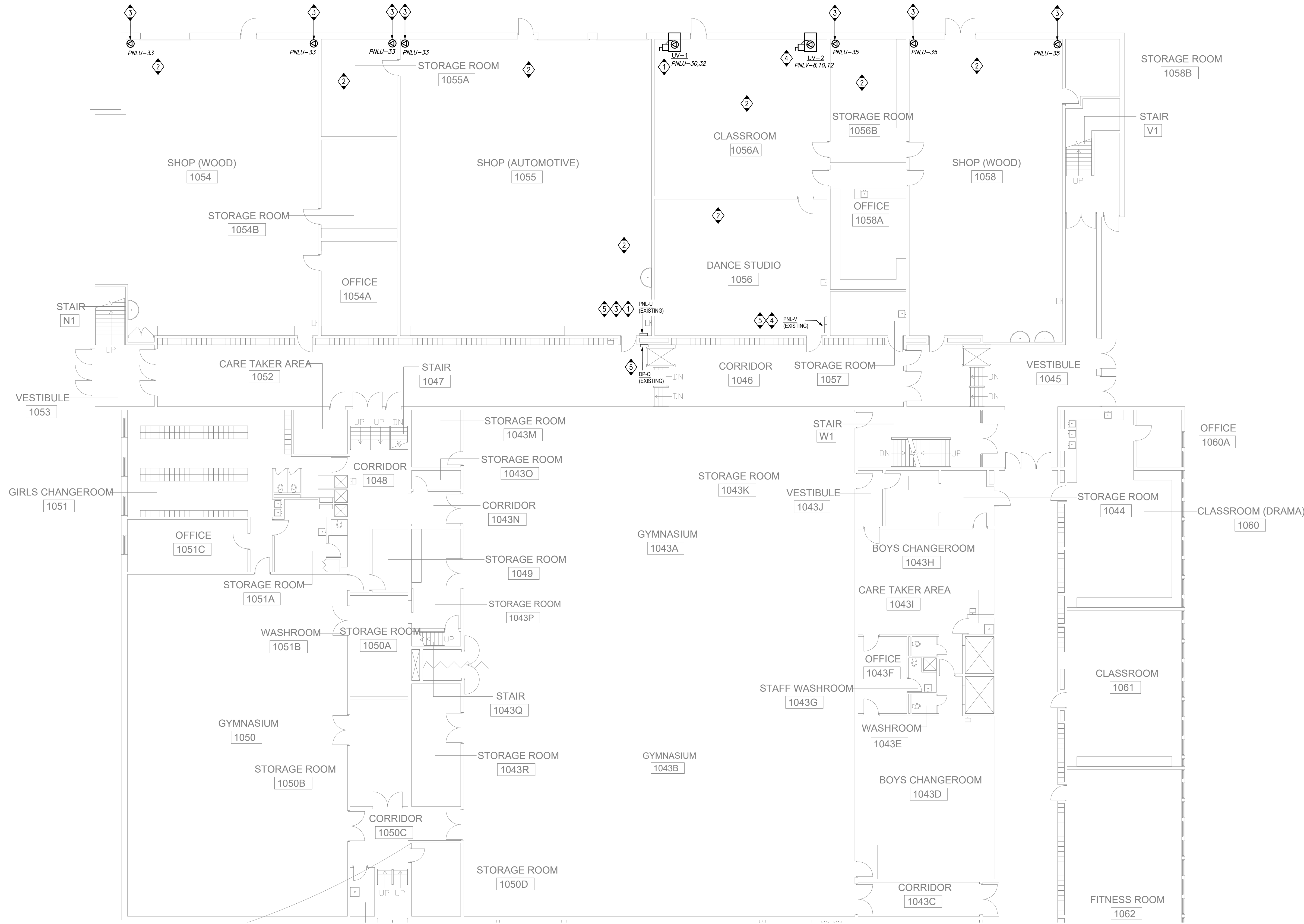
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ABS

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ALL-23010629-A0

DRAWING #:
E2.0



**GROUND FLOOR - POWER & SYSTEMS
NEW PLANS**

2
E2.0

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

ELECTRICAL GENERAL NOTES

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- C. EXTEND/PROVIDE NEW WIRING/CONDUIT FOR ALL DEVICES THAT ARE RELOCATED.
- D. ALL NEW RECEPTACLES IN THE SCHOOL SHALL BE TAMPER RESISTANT TYPE.
- E. REMOVE AND RE-INSTALL ALL REQUIRED T-BAR OR DRY TYPE CEILING TO FACILITATE ELECTRICAL INSTALLATIONS. ANY DAMAGES TO T-BAR SHALL BE RE-INSTATED.
- F. UNLESS OTHERWISE NOTED WITH A CIRCUIT NUMBER, RE-USE EXISTING CIRCUIT BREAKERS THAT HAD BECOME SPARE FROM THE DEMOLITION TO FEED NEW RECEPTACLES. MAXIMUM 6 DUPLEX RECEPTACLES PER CIRCUIT UNLESS OTHERWISE NOTED.
- G. CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO CEILING TILES FOR CONDUIT RUNS FROM PANELS TO NEW ELECTRICAL DEVICES.
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SEAL:

DRAWING NOTES

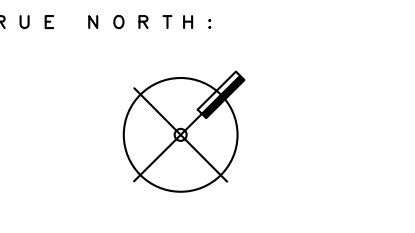
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1. NEW UNIT VENTILATORS (UV-1) SUPPLIED BY MECH DIVISION. PROVIDE TWO (2) NEW 15A-3P BREAKERS IN EXISTING PANEL (PNLU-U) TO FEED UNITS. SUPPLY AND INSTALL NEW POWER WIRING (Ø12 AWG CU-G IN 27mmC) & WIRE COMPLETELY. CONFIRM AND COORDINATE BREAKER COMPLIANCE SPACE WITH PANEL SUPPLIER (DOMINION ELECTRIC MFG) PRIOR TO INSTALLATION. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
2. ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURES OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN CEILING SPACE. AFTER INSTALLATION, RE-INSTALL ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES.
3. NEW SOLENOID CONTROL VALVE SUPPLIED BY MECH DIVISION. PROVIDE TWO (2) NEW 15A-1P BREAKERS IN EXISTING PANEL (PNLU-U) TO FEED NEW VALVES AND WIRE COMPLETELY. COORDINATE EXACT LOCATION WITH MECH DIVISION. REFER TO ME1.0 DRAWING.
4. NEW UNIT VENTILATORS (UV-3) SUPPLIED BY MECH DIVISION. PROVIDE TWO (2) NEW 30A-3P BREAKERS IN EXISTING PANEL (PNLU-V) TO FEED UNITS. SUPPLY AND INSTALL NEW POWER WIRING (Ø10 AWG CU-G IN 27mmC) & WIRE COMPLETELY. CONFIRM AND COORDINATE BREAKER COMPLIANCE SPACE WITH PANEL SUPPLIER (DOMINION ELECTRIC MFG) PRIOR TO INSTALLATION. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
5. ELECTRICAL CONTRACTOR TO PERFORM A LOAD CHECK ON EXISTING PANELBOARD INSTALLATION (PNLU-U, PNLU-V, DP-Q) AND REPORT FINDINGS BACK TO CONSULTANTS. CONTRACTOR TO AVOID DIRECTION FROM CONSULTANTS PRIOR TO MODIFYING AND/OR ADDING ANY NEW LOADS TO THIS PANELBOARD. PROVIDE SEPARATE PRICE FOR PANELS (PNLU-U, PNLU-V, DP-Q) UPGRADES DURING TENDER.

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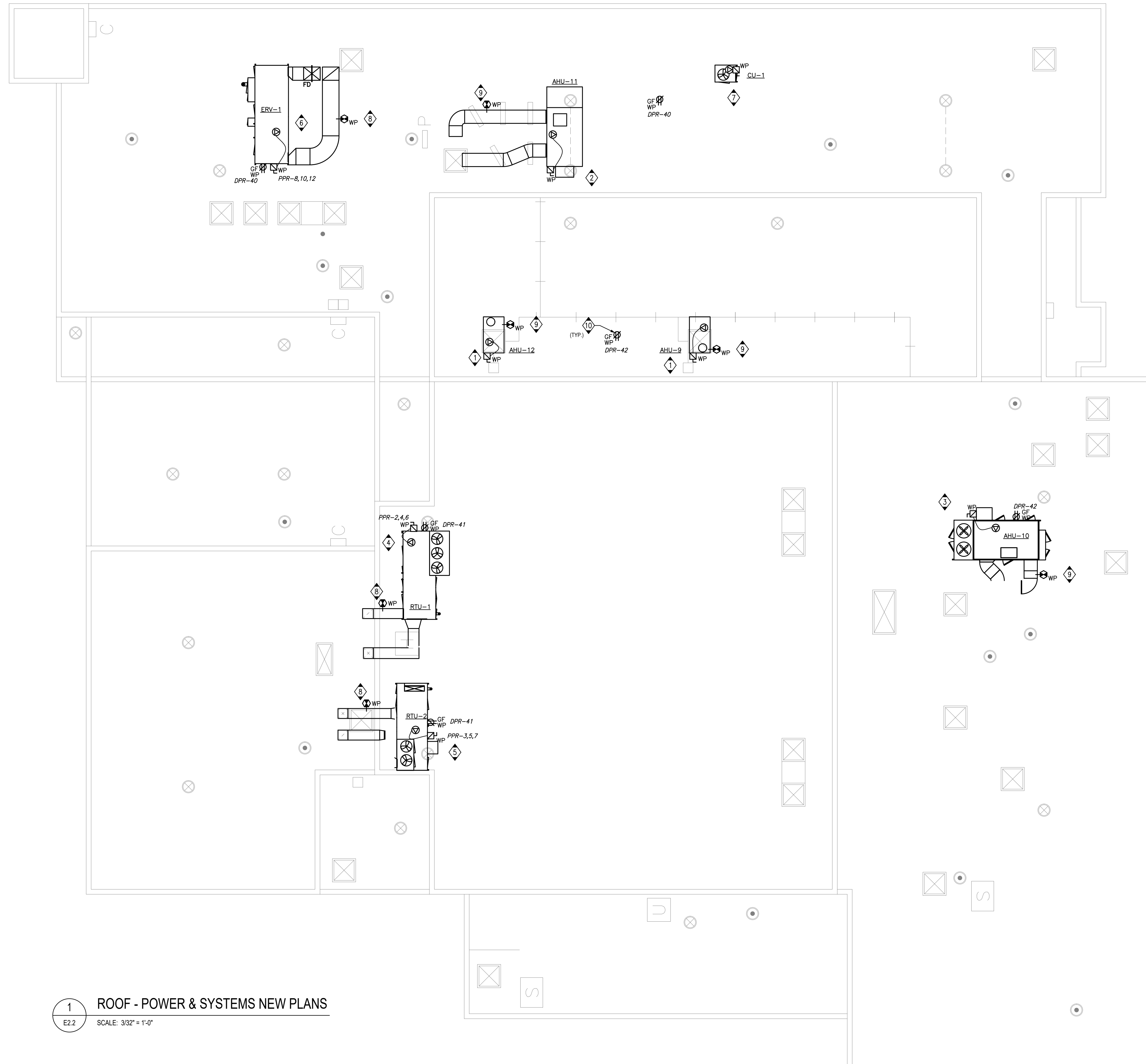
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DRAWING TITLE:
**GROUND FLOOR
- POWER &
SYSTEMS NEW
PLANS**

SCALE:
AS NOTED
DRAWN:
ABS
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PROJECT #:
ALL-23010629-A0
DRAWING #:

E2.1



1 ROOF - POWER & SYSTEMS NEW PLANS
 E2.2 SCALE: 3/32" = 1'-0"

ELECTRICAL GENERAL NOTES

- A. PRIOR TO BIDDING, ELECTRICAL CONTRACTOR SHALL VISIT SITE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO EQUIPMENT LOCATIONS AND OTHER POSSIBLE INSTALLATION DIFFICULTIES. PAY AND OBTAIN ANY PERMITS REQUIRED INCLUDING ESA.
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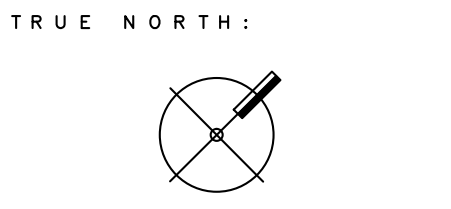
DRAWING NOTES

- 1 NEW AIR HANDLING UNITS (AHU-9, AHU-12). REPLACE EXISTING FUSED DISCONNECTS WITH 30A/25AF DISCONNECT IN CORRIDOR 2033A (REFER TO DRAWING ED.1). PROVIDE NEW 30A-3P WEATHERPROOF TYPE DISCONNECT SWITCH AND RECONNECT EXISTING POWER FEEDERS AND FIRE ALARM WIRING TO UNITS. EXTEND CABLES/CONDUITS AS REQUIRED.
- 2 NEW AIR HANDLING UNITS (AHU-11). REPLACE EXISTING 70A-3P BREAKER IN SWITCHBOARD HVD-8 (CARE TAKER AREA 1040, REFER TO DRAWING ED.0) WITH 60A-3P BREAKER WITH INTERRUPT CAPACITY. PROVIDE NEW 60A-3P WEATHERPROOF TYPE DISCONNECT SWITCH AND RECONNECT EXISTING POWER FEEDERS AND FIRE ALARM CONTROL WIRING TO UNITS. EXTEND CABLES/CONDUITS AS REQUIRED.
- 3 NEW AIR HANDLING UNITS (AHU-10). REPLACE EXISTING 100A-3P BREAKER IN SWITCHBOARD HVD-8 (CARE TAKER AREA 1040, REFER TO DRAWING ED.0) WITH 70A-3P BREAKER WITH INTERRUPT CAPACITY. PROVIDE NEW 100A/70AF-3P WEATHERPROOF TYPE DISCONNECT SWITCH (FUSED) AND RECONNECT EXISTING POWER FEEDERS AND FIRE ALARM CONTROL WIRING TO UNITS. EXTEND CABLES/CONDUITS AS REQUIRED.
- 4 NEW ROOF TOP UNIT (RTU-1) BY MECHANICAL DIVISION. PROVIDE NEW 60A/50AF-3P WEATHERPROOF TYPE DISCONNECT SWITCH (FUSED). SUPPLY AND INSTALL NEW POWER WIRING (3/8 AWG CU-G IN 35mmC) & WIRE COMPLETELY THROUGH DISCONNECT. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
- 5 NEW ROOF TOP UNIT (RTU-2) BY MECHANICAL DIVISION. PROVIDE NEW 60A/50AF-3P WEATHERPROOF TYPE DISCONNECT SWITCH (FUSED). SUPPLY AND INSTALL NEW POWER WIRING (3/8 AWG CU-G IN 35mmC) & WIRE COMPLETELY THROUGH DISCONNECT. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
- 6 NEW ENERGY RECOVERY VENTILATOR (ERV-1) BY MECHANICAL DIVISION. PROVIDE NEW 30A/25AF-3P WEATHERPROOF TYPE DISCONNECT SWITCH (FUSED). SUPPLY AND INSTALL NEW POWER WIRING (3/8 AWG CU-G IN 27mmC) & WIRE COMPLETELY THROUGH DISCONNECT. ALL CONDUITS AND WIRING SHALL BE SUPPORTED TO UNDERSIDE OF CEILING IN ROOM. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
- 7 NEW CONDENSING UNITS (CU-1) BY MECHANICAL DIVISION. PROVIDE NEW FUSED DISCONNECTS 30A/25AF-3P AND RECONNECT EXISTING POWER FEEDERS TO UNIT. EXTEND CABLES/CONDUITS AS REQUIRED. PROVIDE UNISTRUT AS REQUIRED. REFER TO ME1.0 DRAWING.
- 8 PROVIDE DUCT TYPE SMOKE DETECTOR COMPLETE WITH WEATHERPROOF ENCLOSURE.
- 9 PROVIDE DUCT TYPE SMOKE DETECTOR COMPLETE WITH WEATHERPROOF ENCLOSURE AND CONNECT TO EXISTING UNIT FIRE ALARM ZONE AND SHUT DOWN CONTROL WIRING.
- 10 NEW ROOFTOP RECEPTACLES. PROVIDE POWER FROM THE CLOSEST AVAILABLE PANEL ON THE SECOND FLOOR.
- 11 FOR ALL NEW AND EXISTING FIRE ALARM DEVICES INSTALLED. TEST AND VERIFY SYSTEM UPON COMPLETION AND SUBMIT REPORT TO CONSULTANT.

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DRAWING TITLE:
 ROOF - POWER
 & SYSTEMS
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PROJECT #:
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DRAWING #:
 E2.2



LIGHTING FIXTURE SCHEDULE

INDOOR LIGHTING		
TYPE	DESCRIPTION	ACCEPTABLE PRODUCTS
R10	1X4 BACKLIT PANEL - RECESSED 1X4, 29W, 3735 LUMENS, 120V, 80CRI, 4000K LED - WITH DRY WALL FRAME KIT (DF-14W-U) - INTEGRAL 0-10V DRIVER	1. METALUX CGTS NUV LED
R20	2X4 BACKLIT PANEL - RECESSED 2X4, 34W, 4352 LUMENS, 120V, 80CRI, 4000K LED - INTEGRAL 0-10V DRIVER	1. METALUX CGTS NUV LED
R21	2X4 BACKLIT PANEL - RECESSED 2X4, 34W, 4352 LUMENS, 120V, 80CRI, 4000K LED - WITH DRY WALL FRAME KIT (DF-24W-U) - INTEGRAL 0-10V DRIVER	1. METALUX CGTS NUV LED
X10	EXIT SIGN LED - RUNNING MAN EXIT SIGN - WHITE HOUSING, UNIVERSAL MOUNTING BRACKET - 120VAC, 30 MINUTE INTEGRAL BATTERY - 120V, 3W, AC/DC STANDARD - SINGLE FACE, DIRECTIONAL AND DOUBLE FACE TYPES	1. LUMACELL LA SERIES
Y11	EMERGENCY REMOTE HEAD LIGHTING - 24V, 6W - MR16 LED - WALL/CEILING MOUNT, SURFACE MOUNT - Y10 SINGLE HEAD, Y11 DOUBLE HEAD	1. LUMACELL Q-BIC RSQSD SERIES

FIXTURE SCHEDULE NOTES

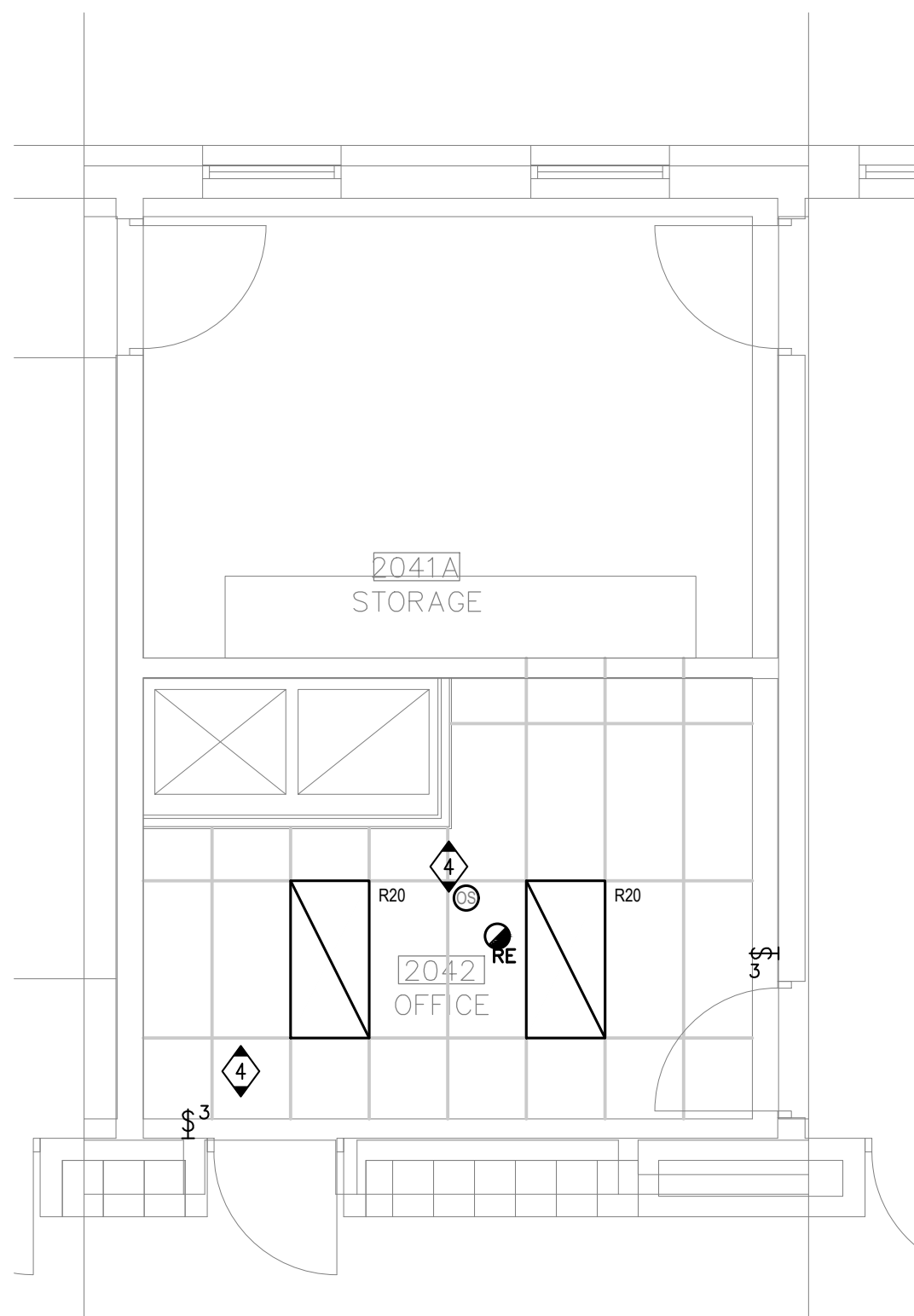
- GENERAL
- REFER TO SPECIFICATION SECTION 16965 FOR BATTERY UNITS AND REMOTE EMERGENCY LIGHTING.
 - APPROVED EQUAL PRODUCTS MUST BE CAPABLE OF PROVIDING THE SAME LEVEL OF PERFORMANCE, INCLUDING CONTROL CAPABILITY, AS THE NAMED DESIGN PRODUCT. PRODUCTS OTHER THAN THOSE LISTED WILL BE CONSIDERED. SUBMIT PRODUCT DATA IN ACCORDANCE WITH THE 'LIGHTING' SECTION OF THE ELECTRICAL SPECIFICATION DOCUMENTS.
 - COLOR QUALITY: INTERIOR LIGHTING SHALL HAVE AN R9 VALUE OF 50 OR BETTER.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE PRODUCTS SUPPLIED AND INSTALLED ARE COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM AND/OR DEVICES. THE CONTRACTOR SHALL PROVIDE THE CONTROLS SYSTEM MANUFACTURER A COPY OF ALL DRAWINGS AND SCHEDULES.
 - PACKAGES FROM THE FOLLOWING AGENCIES WILL BE CONSIDERED:
 - ALL ABOUT LIGHTING (519) 588-3996
 - GS LIGHTING GROUP (519) 267-6262
 - MEDICAL CH (905) 312-1213
 - RUTENBERG SALES (905) 848-2256
 - SALEX (416) 293-2290
 - WSC LIGHTING SYSTEMS (519) 652-9060
- PRODUCTS
- FINISH COLOR SHALL BE SELECTED BY ARCHITECT DURING SHOP DRAWING REVIEW.
 - PROVIDE TOTAL RUN LENGTHS AS SHOWN ON DRAWINGS IN LINEAR FEET (LF).
 - INTEGRAL BATTERY SHALL COMPLY WITH ALL APPLICABLE UL, CSA AND NATIONAL CODES AND THE RATED LIFE SHALL MATCH OR EXCEED THE RATED LIFE OF THE LED DRIVER. FIXTURE SHALL BE SUPPLIED AND INSTALLED COMPLETE WITH A CHARGE INDICATOR LIGHT AND TEST SWITCH. TEST SWITCH MAY BE EITHER INTEGRAL BUTTON TYPE OR REMOTE CONTROL. IF REMOTE CONTROL, ONE CONTROLLER SHALL BE PERMANENTLY MOUNTED IN EACH SPACE WHERE THE FIXTURE IS INSTALLED.
 - REMOTE POWER SUPPLIES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE CORRESPONDING FIXTURE MANUFACTURER'S RECOMMENDATIONS.

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- EXTEND/PROVIDE NEW WIRING/CONDUIT FOR ALL DEVICES THAT ARE RELOCATED.
- ALL NEW RECEPTACLES IN THE SCHOOL SHALL BE TAMPER RESISTANT TYPE.
- REMOVE AND RE-INSTALL ALL REQUIRED T-BAR OR DRY TYPE CEILINGS TO FACILITATE ELECTRICAL INSTALLATIONS. ANY DAMAGES TO T-BAR SHALL BE RE-INSTATED.
- UNLESS OTHERWISE NOTED WITH A CIRCUIT NUMBER, RE-USE EXISTING CIRCUIT BREAKERS THAT HAD BECOME SPARE FROM THE DEMOLITION TO FEED NEW RECEPTACLES. MAXIMUM DUPLEX RECEPTACLES PER CIRCUIT UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL ACCOUNT FOR POSSIBLE DAMAGE AND REPAIR TO CEILING TILES FOR CONDUIT RUNS FROM PANELS TO NEW ELECTRICAL DEVICES.
- CIRCUIT NUMBERS SHOWN ON THIS PLAN ARE FOR CIRCUITING PURPOSE ONLY. REUSE EXISTING SPARE BREAKERS OR EXISTING BREAKERS MADE SPARE FROM DEMOLITION AND/OR REPLACE OBSOLETE BREAKERS WITH NEW ADDED ADD NEW BREAKERS IN AVAILABLE SPACES IN EXISTING ELECTRICAL PANELS AS REQUIRED OR REPLACE EXISTING PANELS WITH NEW AS INDICATED. CONFIRM EXISTING CONDITIONS ON SITE.

GENERAL LIGHTING NOTES

- DRAWINGS ILLUSTRATE INTENT AND DO NOT NECESSARILY REPRESENT ALL REQUIRED CONTROL COMPONENTS, FINAL WIRING METHODS OR FIXTURE MOUNTING LOCATIONS. DETERMINE THE FINAL SYSTEM INSTALLATION BASED ON THE PRODUCT MANUFACTURER'S SHOP DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR PRECISE MOUNTING LOCATION OF LUMINAIRES.
- EXIT SIGNS ARE TO BE MOUNTED SO THEY ARE VISIBLE UPON APPROACH - NO HIGHER THAN 3000 AFF AND NO LOWER THAN 2100 AFF.
- WALL MOUNTED OCCUPANCY SENSORS ARE TO BE MOUNTED 3000 AFF OR AS HIGH AS POSSIBLE WHEN CEILINGS ARE LESS THAN 3000 HIGH.
- CEILING MOUNTED DUAL TECHNOLOGY (DT) SENSORS ARE TO BE MOUNTED NO HIGHER THAN 900 AFF.
- CEILING MOUNTED MULTI-FUNCTION (MFI) OR PHOTO INFRARED (PIR) OCCUPANCY SENSORS ARE TO BE MOUNTED NO HIGHER THAN 3000 AFF.
- STRIP LIGHTS ARE TO BE CHAIN HUNG OR SURFACE MOUNTED NO HIGHER THAN 3000 AFF. MOUNTING HEIGHT SHALL BE CONSISTENT WITH ANY GIVEN SPACE.
- CONTROL DEVICES SHALL BE MOUNTED IN ACCESSIBLE LOCATIONS ABOVE THE CEILING WHERE FIXTURES ARE INSTALLED IN HARD CEILINGS. CONTROL DEVICES SHALL BE MOUNTED WITHIN THE FIXTURE DRIVER CHAMBER OR REMOTE MOUNTED IN THE NEAREST ACCESSIBLE CEILING. CONTROL DEVICES SHALL BE LABELED WITH THE CORRESPONDING CONTROL ZONE AND POWER CIRCUIT.
- CONTROL DEVICES SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SO THEY ARE CAPABLE OF OPERATING PROPERLY WITHOUT FALSE 'ON' OR 'PREMATURE' OFF OPERATIONS. DUAL TECHNOLOGY OCCUPANCY SENSORS SHALL NOT BE MOUNTED WITHIN 610 mm OF ANY HVAC DIFFUSER.
- CIRCUITS USED ARE FOR CIRCUITING PURPOSE ONLY. CONNECT NEW FIXTURES AND EXIT SIGNS TO EXISTING LOCAL NORMAL AND EMERGENCY POWER LIGHTING CIRCUITS AS INDICATED. LIGHTING IN SPACES IDENTIFIED AS NOT IN CONTRACT (IE, SHADED GREY) SHALL BE RE-CONNECTED TO THE SAME POWER PANEL(S) AS WERE PRIOR TO START OF DEMOLITION WORK.
- ALLOW IN PRICE FOR TEMPORARILY REMOVING CEILING TILES, LIGHT FIXTURES OR ANY OTHER IMPEDIMENTS TO INSTALL THE FEEDER CONDUIT IN CEILING SPACE. AFTER INSTALLATION, RE-INSTALL ALL LIGHT FIXTURES AND CEILING MOUNTED DEVICES.



PARTIAL SECOND FLOOR - ELECTRICAL NEW PLAN

2
E2.3 SCALE: 1/4" = 1'-0"

GROUND FLOOR - ELECTRICAL NEW PLAN

1
E2.3 SCALE: 3/32" = 1'-0"

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THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND MUST CONFIRM & CORRELATE ALL DETAILS WITHIN THE FULL DRAWING PACKAGE BEING RESPONSIBLE FOR SAME THROUGHOUT CONSTRUCTION, REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING THE RELEVANT WORK

ALL DRAWINGS, DETAILS & SPECIFICATIONS TO BE USED FOR CONSTRUCTION ONLY WHEN ISSUED BY THE ARCHITECT AND NOTED ACCORDINGLY IN THE "ISSUE/REVISIONS" BOX HEREON.

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- ISSUED FOR TENDER 14.02.24

PROJECT:
HVAC Renovations

Glendale
Secondary
School

145 Rainbow Dr,
Hamilton, ON
For the HWDSB

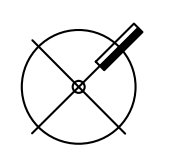
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DRAWING TITLE:
**GROUND &
SECOND FLOOR
- ELECTRICAL
NEW PLANS**

SCALE:
AS NOTED

DRAWN:
ABS

DATE:
SEPTEMBER 2023

PROJECT #:
ALL-23010629-A0

DRAWING #:
E2.3

ELECTRICAL SPECIFICATIONS

1. RELATED INSTRUCTIONS

- 1.1. THIS SPECIFICATION SHALL APPLY TO AND GOVERN ALL WORK BY DIVISION 16. THIS PROJECT WILL BE CARRIED OUT PER CCDC CONTRACT PROCEDURES. SEE ARCHITECTURAL AND FRONT END SPECIFICATIONS FOR DETAILS.
- 1.2. FURNISH ALL LABOUR, MATERIAL, TOOLS, EQUIPMENT, ETC., REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION.
- 1.3. DEVICE/EQUIPMENT LOCATIONS ARE APPROXIMATE. CHANGE LOCATION OF ANY DEVICE/EQUIPMENT WITHIN 3M OF INDICATED LOCATION AT NO ADDITIONAL COST TO OWNER PROVIDED INSTRUCTIONS ARE RECEIVED PRIOR TO COMMENCING ROUGH-IN WORK. PRIOR TO COMMENCING ANY ROUGH-IN OR INSTALLATION WORK VISIT SITE, MEET WITH THE OWNERS REPRESENTATIVE AND CONFIRM EXACT LOCATION OF ALL DEVICES.

2. LIABILITY INSURANCE

- 2.1. OBTAIN AND CARRY PROPER INSURANCE TO FULLY PROTECT BOTH THE OWNER AND HIMSELF FROM ANY AND ALL CLAIMS DUE TO ACCIDENTS, MISFORTUNES, ACTS OF GOD, ETC.

3. CODES, PERMITS AND INSPECTION

- 3.1. BUILDING PERMIT SHALL BE OBTAINED BY OWNER.
ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR, AND OBTAIN ALL OTHER PERMITS, INSPECTIONS, VERIFICATIONS, ETC., AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND PAY FOR ALL FEES RELATED TO SAME.
- 3.2. DELIVER ALL PERMITS TO THE OWNER AS SOON AS THEY BECOME AVAILABLE.
- 3.3. AT THE CONCLUSION OF THE PROJECT, SUBMIT TO THE OWNER, THE ELECTRICAL SAFETY AUTHORITY FINAL ACCEPTANCE CERTIFICATE.

4. RECORD DRAWINGS AND EQUIPMENT MANUALS

- 4.1. AS THE PROJECT PROGRESSES, RECORD, ON A SET OF WHITE PRINTS, ALL ADDENDA, CHANGES TO AND DEVIATIONS FROM THE PLANS MADE DURING THE CONSTRUCTION PERIOD. ALSO, RECORD THE LOCATION OF ALL LIGHT FIXTURES AND OTHER ELECTRICAL EQUIPMENT AND WIRING FOR SAME.
- 4.2. MAKE THESE PROGRESS RECORD DRAWING WHITE PRINTS AVAILABLE TO THE CONSULTANTS FOR THEIR REVIEW AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
- 4.3. AT THE CONCLUSION OF THE PROJECT, TRANSFER ALL RECORD DRAWING INFORMATION TO A USB.
- 4.4. BEFORE SUBSTANTIAL PERFORMANCE OF THE CONTRACT, COMPLY WITH THE FOLLOWING:
 - 4.4.1. PROVIDE USB CONTAINING ALL UPDATED RECORD DRAWING INFORMATION AS SPECIFIED HEREIN.
 - 4.4.2. PROVIDE TWO (2) SETS OF EQUIPMENT DATA SHEETS AND/OR MANUFACTURER'S MAINTENANCE MANUALS COVERING EACH SYSTEM AND ITS COMPONENTS IN ACCORDANCE WITH REQUIREMENTS OF EACH APPROPRIATE SECTION. THESE SETS ARE TO BE IN GOOD QUALITY BINDERS EQUAL TO VYN-L-LINE #VL-3096-B 2", (51mm) RINGS. THE BINDER IS TO BE DIVIDED INTO SECTIONS WITH TABS CLEARLY MARKED INDICATING THE SYSTEMS, ETC.

5. EQUIPMENT AND MATERIAL

- 5.1. ALL EQUIPMENT AND MATERIAL, UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL MATERIAL AND EQUIPMENT SHALL BEAR UL/C OR CSA LABELS.

6. ACCESSIBILITY

- 6.1. INSTALL ALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION MAINTENANCE AND REPAIRS.

7. RESPONSIBILITY

- 7.1. BE RESPONSIBLE FOR WORK UNTIL COMPLETION AND FINAL ACCEPTANCE, FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.

8. CONDUIT, AND WIRING

- 8.1. USE EMT CONDUIT FOR ALL WIRING UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND SECURELY FASTENED.
- 8.2. UNLESS NOTED OTHERWISE, CONDUITS SHALL BE CONCEALED EMT COMPLETE WITH STEEL SET SCREW TYPE CONNECTORS AND COUPLINGS.
- 8.3. DO NOT RUN CONDUITS IN FIRE RATED CEILING SPACES.
- 8.4. SURFACE RACEWAY SYSTEM WITH WIRING LAID IN SHALL BE ACCEPTABLE BUT KEPT TO A MINIMUM IN AREAS WHERE EMT CONDUIT CAN NOT BE CONCEALED. TWO PIECE STEEL ASSEMBLY MANUFACTURED AS LAY-IN TYPE RACEWAY C/W TEES, ELBOWS AND HANGER FITTING AND SUPPORTS REQUIRED FOR A COMPLETE SYSTEM - WIREMOLD OR APPROVED EQUAL.
- 8.5. ALL CONDUCTORS SHALL BE COPPER, RW90 XLPE #12 AWG MINIMUM UNLESS NOTED OTHERWISE. WHERE THE DISTANCE FROM THE PANELBOARD TO THE LAST OUTLET EXCEEDS 50', #10 AWG CONDUCTOR MUST BE USED FOR THE FULL LENGTH OF THE CIRCUIT.

9. WIRING DEVICES

- 9.1. SWITCHES: RATED 125VAC, 20 AMPERES AND LOW VOLTAGE IVORY TOGGLE TYPE COMPATIBLE WITH EXISTING.
 - 9.1.1. INSTALL SINGLE THROW SWITCHES WITH HANDLE IN "UP" POSITION WHEN SWITCH CLOSED (ON).
 - 9.1.2. INSTALL SWITCHES IN GANG-TYPE OUTLET BOX WHEN MORE THAN ONE SWITCH IS REQUIRED IN ONE LOCATION AND AT 1200mm(48") ABOVE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
 - 9.1.3. 125V SWITCHES AS SHOWN SHALL BE LOW VOLTAGE COMPLETE WITH TRANSFORMERS AND CONTROL RELAYS LOCATED CONCEALED IN CEILING SPACES.
- 9.2. RECEPTACLES: 3-WIRE, U-GROUND TYPE GENERAL PURPOSE, HEAVY DUTY, NEMA 5-15R.
 - 9.2.1. INSTALL RECEPTACLES IN GANG-TYPE OUTLET BOX WHEN MORE THAN ONE SWITCH IS REQUIRED IN ONE LOCATION AND AT 450mm(18") ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
 - 9.2.2. NEW RECEPTACLES SHALL MATCH EXISTING IN COLOUR.

9.3. COVERPLATES:

- 9.3.1. PROVIDE No.301 STAINLESS STEEL BRUSHED COVERPLATES C/W PROTECTIVE PLASTIC FILM UNTIL PAINTING AND OTHER WORK IS FINISHED FOR ALL WIRING DEVICES MOUNTED IN A FLUSH MOUNTED OUTLET BOX. PROVIDE COMMON COVERPLATE WHEN WIRING DEVICES ARE GROUPED TOGETHER.
- 9.3.2. PROVIDE FITTING SHEET METAL (CAST) COVERPLATES FOR WIRING DEVICES MOUNTED IN SURFACE FS OR FD TYPE CONDUIT BOXES.
- 9.3.3. DO NOT USE COVERPLATES MEANT FOR FLUSH OUTLET BOXES ON SURFACE MOUNTED BOXES.
- 9.4. ACCEPTABLE MANUFACTURERS ARE:
 - 9.4.1. BRYANT
 - 9.4.2. CROUSE-HINDS
 - 9.4.3. HUBBELL
 - 9.4.4. LEVITON
 - 9.4.5. PASS & SEYMOUR
 - 9.4.6. OR OTHER APPROVED EQUALS

10. WIRING FOR MECHANICAL EQUIPMENT

- 10.1. SUPPLY AND INSTALL ALL STARTERS, DISCONNECTS, RELAYS, WIRING, ETC., TO ACCOMMODATE THE COMPLETE MECHANICAL SYSTEM, UNLESS NOTED OTHERWISE.
- 10.2. OTHER DIVISIONS SUPPLYING MOTOR-DRIVEN EQUIPMENT SHALL SUPPLY AND INSTALL ALL NECESSARY MOTORS WITH SUCH EQUIPMENT. ALL INTERNAL CONTROL WIRING IN SUCH EQUIPMENT SHALL BE FACTORY INSTALLED, OR SHALL BE SUPPLIED AND INSTALLED BY THOSE SUPPLYING THE EQUIPMENT.
- 10.3. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS DURING TENDERING AND CONSTRUCTION TO ENSURE ENTIRE MECHANICAL EQUIPMENT WIRING SCOPE OF WORK IS UNDERSTOOD.
- 10.4. THIS DIVISION IS RESPONSIBLE FOR THE FOLLOWING:
 - 10.4.1. SUPPLY AND INSTALLATION OF ALL STARTERS, DISCONNECT SWITCHES, PUSHBUTTON STATIONS, SPLITTER TROUGHES, JUNCTION BOXES AND TIME SWITCHES, ETC., AS NOTED ON DRAWING.
 - 10.4.2. INSTALLATION AND WIRING OF ALL SEPARATELY MOUNTED THERMOSTATS, MOTOR CONTROLLERS AND CONTROL UNITS WHICH ARE SUPPLIED BY MECHANICAL.
 - 10.4.3. SUPPLY AND INSTALLATION OF ALL POWER WIRING AND CONDUITS FROM THE DISTRIBUTION PANEL THROUGH THE STARTER AND DISCONNECT SWITCH ONTO THE MOTOR (OR EQUIPMENT).
 - 10.4.4. SUPPLY AND INSTALLATION OF ALL CONTROL WIRING FROM REMOTE SWITCHES OR PUSHBUTTON STATIONS TO CONTROL STARTERS.
 - 10.4.5. SUPPLY AND INSTALLATION OF ALL WIRING TO PROVIDE INTERLOCKING BETWEEN STARTERS COMPLETE WITH NECESSARY DOUBLE VOLTAGE RELAYS.
 - 10.4.6. SUPPLY AND INSTALLATION OF TRANSIENT (SURGE) SUPPRESSERS ON HOLDING COILS OF MAGNETIC STARTERS, RELAYS, ETC., WHERE INDICATED FOR PROTECTION TO SOLID STATE EQUIPMENT THAT IS SENSITIVE TO SURGES, SPIKES, ETC.

11. MOTOR STARTERS

- 11.1. MANUAL STARTER SHALL HAVE QUICK-MAKE, QUICK-BREAK, SWITCHING MECHANICAL COMPLETE WITH OVERLOAD HEATERS, MANUAL RESET, TRIP INDICATING HANDLE, AND LOCKING TAB TO PERMIT PADLOCKING IN "ON" OR "OFF" POSITION.
- 11.2. MAGNETIC AND COMBINATION MOTOR STARTERS TO BE MINIMUM SIZE 1 TYPE, AND RATING TO SUIT MOTOR LOAD. C/W CONTROLTRANSFORMER, CONTACTOR SOLENOID OPERATED, MOTOR OVERLOAD PROTECTIVE DEVICE IN EACH PHASE, MANUALLY RESET, POWER AND CONTROL TERMINALS, PUSHBUTTONS AND SELECTOR SWITCHES, TWO N/O AND TWO N/C AUXILIARY CONTACTS, PROVISION FOR PREVENTING SWITCHING TO "ON" POSITION WHILE ENCLOSURE DOOR IS OPEN.

12. LIGHTING

N/A

13. PANELBOARDS

- 13.1. PANELBOARDS: TO CSA C22.2, NO. 29.
- 13.2. PANELBOARDS ARE TO BE THE PRODUCT OF ONE (1) MANUFACTURER.
- 13.3. PANELBOARDS: BUS AND BREAKERS RATED FOR MINIMUM 14,000A (SYMMETRICAL) INTERRUPTING CAPACITY AT SYSTEM VOLTAGE OR AS INDICATED ON THE DRAWINGS.
- 13.4. SEQUENCE PHASE BUSSING WITH ODD NUMBERED BREAKERS ON LEFT AND EVEN ON RIGHT, WITH EACH BREAKER IDENTIFIED BY PERMANENT NUMBER IDENTIFICATION AS TO CIRCUIT NUMBER.
- 13.5. PANELBOARDS: COPPER MAINS, NUMBER OF CIRCUITS, AND NUMBER AND SIZE OF BRANCH CIRCUIT BREAKERS AS INDICATED.
- 13.6. TWO (2) KEYS FOR EACH PANELBOARD AND KEY PANELBOARDS ALIKE.
- 13.7. COPPER BUS WITH FULL SIZE NEUTRAL.
- 13.8. MAINS FOR BOLT-ON BREAKERS.
- 13.9. FINISH TRIM AND DOOR BAKED GREY ENAMEL. PAINT TUB SAME AS DOOR.
- 13.10. COMPLETE CIRCUIT DIRECTORY WITH TYPEWRITTEN LEGEND SHOWING LOCATION AND LOAD OF EACH CIRCUIT UNDER PLASTIC COVER.
- 13.11. WHERE BREAKERS ARE ADDED OR CIRCUITING CHANGED IN EXISTING PANELBOARDS, PROVIDE NEW TYPED INDEX CARD TO SHOW WHAT IS FED ON ALL NEW AND EXISTING CIRCUITS.
- 13.12. MANUFACTURERS: EATON, SCHNEIDER, SIEMENS.

PANEL NAME: PP-R (NEW)

MOUNTING: SURFACE

PANEL LOCATION: ELEC ROOM 1027D

MAINS: 200A 347/600V 3ø 4W

BUSSING: COPPER

OTHER:

42 CIRCUIT PANELBOARD

ENCLOSURE: TYPE-1 (SPRINKLER PROOF)

SCCR=14KA

LOAD DESCRIPTION	VA	BRKR 20A	BRKR 50A	VA	LOAD DESCRIPTION
SPACE	1	50A		2	
	3			4	RTU-1
RTU-2	5			6	
	7		30A	8	
	9	20A		10	ERV-1
SPACE	11			12	
	13		20A	14	SPACE
SPARE	15	20A	15A	16	SPACE
SPARE	17	20A	20A	18	SPACE
SPARE	19	15A	15A	20	SPACE
SPARE	21	15A	15A	22	SPACE
	23			24	SPACE
SPD	25			26	SPACE
	27			28	
SPACE	29			30	SPACE
SPACE	31			32	
	33			34	SPACE
SPACE	35			36	
	37			38	SPACE
SPACE	39			40	
SPACE	41			42	SPACE
CONNECTED LOAD (L.H.)				CONNECTED LOAD (R.H.)	

SPD- SURGE PROTECTIVE DEVICE
ELECTRICAL CONTRACTOR TO DETERMINE EXACT BREAKER SIZE

* PROVIDE GFCI BREAKER

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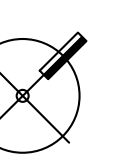
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DRAWING TITLE:
ELECTRICAL
SPECIFICATIONS
AND PANEL
SCHEDULES

SCALE:

AS NOTED

DRAWN:

ABS

DATE:

SEPTEMBER 2023

PROJECT #:

ALL-23010629-A0

DRAWING #:

E3.0

MECHANICAL SCHEDULE - BOILERS													WIRING FOR MECHANICAL EQUIPMENT SCHEDULE				ELECTRICAL WIRING INSTRUCTIONS			
DWG. DESIGNATION	SYSTEM and ROOM	MODEL	Type	WEIGHT (LBS)	OUTPUT (MBH)	INPUT (MBH)	EFFICIENCY (%)	WATER CONDITIONS	MECHANICAL REMARKS				MOTOR W or HP	MCA	MCOP	VAC/ø		ROOM STARTER TYPE	REMOTE CONTROL DEVICE	DISC. TYPE
B-1	BOILER ROOM	PATTERSON KELLY P-K SOLIS SL-2000	CONDENSING	3000	1920	2000	96%	192	5.2	180	160	CONDENSING FIRETUBE BOILER, 10.1 TURNDOWN, NURO INTEGRAL BOILER CONTROLS.	-	15	-	208V1ø	BIC	BAS	TYPE 1	DIV. 26 TO PROVIDE RED PAINTED DISCONNECT AND WIRE COMPLETELY. DIV. 28 TO PROVIDE EPO SWITCH WITH COVER TO REMOTELY SHUT DOWN BOILER. ALL CONTROL WIRING BY MECHANICAL DIVISION.
B-2	BOILER ROOM	PATTERSON KELLY P-K SOLIS SL-2000	CONDENSING	3000	1920	2000	96%	192	5.2	180	160	CONDENSING FIRETUBE BOILER, 10.1 TURNDOWN, NURO INTEGRAL BOILER CONTROLS.	-	15	-	208V1ø	BIC	BAS	TYPE 1	DIV. 26 TO PROVIDE RED PAINTED DISCONNECT AND WIRE COMPLETELY. DIV. 28 TO PROVIDE EPO SWITCH WITH COVER TO REMOTELY SHUT DOWN BOILER. ALL CONTROL WIRING BY MECHANICAL DIVISION.
B-3	BOILER ROOM	PATTERSON KELLY P-K SOLIS SL-2000	CONDENSING	3000	1920	2000	96%	192	5.2	180	160	CONDENSING FIRETUBE BOILER, 10.1 TURNDOWN, NURO INTEGRAL BOILER CONTROLS.	-	15	-	208V1ø	BIC	BAS	TYPE 1	DIV. 26 TO PROVIDE RED PAINTED DISCONNECT AND WIRE COMPLETELY. DIV. 28 TO PROVIDE EPO SWITCH WITH COVER TO REMOTELY SHUT DOWN BOILER. ALL CONTROL WIRING BY MECHANICAL DIVISION.

MECHANICAL SCHEDULE - PUMPS											WIRING FOR MECHANICAL EQUIPMENT SCHEDULE				ELECTRICAL WIRING INSTRUCTIONS			
DWG. DESIGNATION	SYSTEM and ROOM	MODEL	SPEC TYPE	FLOW (GPM)	HEAD (FT)	EFF. (%)	VFD	MECHANICAL REMARKS			MOTOR W or HP	MCA FLA	MCOP	VAC/ø		ROOM STARTER TYPE	REMOTE CONTROL DEVICE	DISC. TYPE
P-1	RADIATOR LOOP	GRUNDFOS HYDRO NP (ABB) 2CR 125-1	VP	600	105.2	78.10%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			25 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-2	RADIATOR LOOP	GRUNDFOS HYDRO NP (ABB) 2CR 125-1	VP	600	105.2	78.10%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			25 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-3	FAN COIL LOOP	GRUNDFOS HYDRO NP (ABB) 2CR 45-1	VP	250	85.2	73.40%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			10 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-4	FAN COIL LOOP	GRUNDFOS HYDRO NP (ABB) 2CR 45-1	VP	250	85.2	73.40%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			10 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-5	TECH WING LOOP	GRUNDFOS HYDRO NP (ABB)(CUE) 2CR 45-1	VP	200	85.2	74.90%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			10 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-6	TECH WING LOOP	GRUNDFOS HYDRO NP (ABB)(CUE) 2CR 45-1	VP	200	85.2	74.90%	YES	PACKAGED PUMP SKID WITH VFD SHIPPED LOOSE PRESSURE TRANSDUCER FACTORY INSTALLED.			10 HP			208/3ø	VFD (DV.23)	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY THROUGH VFD SUPPLIED BY MECHANICAL DIVISION. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-9	BOILER PUMP	GRUNDFOS 40959 VL	CP	192	30	88.70%	NO	BOILER CIRCULATOR PUMP			3 HP	7.64		208/3ø	BC	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-10	BOILER PUMP	GRUNDFOS 40959 VL	CP	192	30	88.70%	NO	BOILER CIRCULATOR PUMP			3 HP	7.64		208/3ø	BC	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY. ALL CONTROL WIRING BY MECHANICAL DIVISION.
P-11	BOILER PUMP	GRUNDFOS 40959 VL	CP	192	30	88.70%	NO	BOILER CIRCULATOR PUMP			3 HP	7.64		208/3ø	BC	BAS	TYPE 1	DIV. 26 TO PROVIDE DISCONNECT AND WIRE COMPLETELY. ALL CONTROL WIRING BY MECHANICAL DIVISION.

NOTES -- ELECTRICAL WIRING INSTRUCTIONS:

- DEEMED LIFE SAFETY EQUIPMENT IE SMOKE CONTROL, AREA PRESSURIZATION ETC.
- USE FIRE RATED CABLES FOR POWER FEEDER TO EQUIPMENT
- USING ONE FACR, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT FAN STARTS/RUNS BY MANUALLY SELECTING "RUN" POSITION ON THE ASSOCIATED SELECTOR SWITCH AT THE CACF.
- USING ONE FACR, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT FAN STARTS/RUNS EITHER AUTOMATICALLY ON FIRE ALARM SYSTEM ALERT OR EVAC SIGNAL, OR BY MANUALLY SELECTING "RUN" POSITION ON THE ASSOCIATED SELECTOR SWITCH AT THE CACF.
- USING SECOND FACR, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT THE FAN STOPS BY MANUALLY SELECTING THE "OFF" POSITION ON THE ASSOCIATED SELECTOR SWITCH AT THE CACF.
- USING FAIM INTERLOCK WITH FIRE ALARM SYSTEM TO INDICATE FAN'S RUN/OFF STATUS AT THE CACF.
- INTERLOCK DIRECTLY WITH DUCT DETECTOR SO THAT FAN SHUTS DOWN WHEN DETECTOR ACTUATES.
- USING FACR, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT FAN SHUTS DOWN ON FIRE ALARM SYSTEM ALERT OR EVAC SIGNAL.
- PROVIDE 120 VOLT CIRCUIT AND LOCAL TOGGLE DISCONNECT SWITCH FOR BUILT-IN PREWIRED SERVICE RECEPTACLES AND/OR LIGHTS.
- PROVIDE 2 FAIMS PER DAMPER, CONNECT ONE TO DAMPER "CLOSED" POSITION END SWITCH(ES) AND ONE TO DAMPER "OPEN" POSITION END SWITCH(ES) TO PROVIDE DAMPER POSITION STATUS SIGNAL TO FA SYSTEM. WHERE THERE ARE MULTIPLE END SWITCHES, WIRE IN SERIES TO FA INPUT MODULE. DAMPER END SWITCHES ARE SUPPLIED AND INSTALLED BY MECHANICAL DIVISION.
- USING FACR, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT NORMALLY CLOSED DAMPER CLOSURES ON FIRE ALARM SYSTEM ALERT OR EVAC SIGNAL OR MANUALLY BY SELECTING THE "OPEN" POSITION ON THE ASSOCIATED SELECTOR SWITCH AT THE CACF.
- INTERLOCK DIRECTLY WITH DUCT DETECTOR SO THAT FAN SHUTS DOWN WHEN DETECTOR ACTUATES.
- INTERLOCK DISCONNECT SWITCH AUXILIARY CONTACT TO VFD FOR SHUT DOWN WHEN SWITCH IS OPEN.
- USE NEXANS "DRIVERX (CSA)" CABLES OR APPROVED EQUAL FOR POWER WIRING FROM VFD THROUGH DISCONNECT SWITCH AND ONTO MOTOR. ALL ASSOCIATED CABLE CONNECTORS SHALL BE RATED FOR CLASS II, GROUPS E, F AND G HAZARDOUS LOCATIONS.
- PROVIDE 120VAC "JAV" JUNCTION BOXES AS INDICATED FOR USE BY MECHANICAL DIVISION TO CONNECT VAV BOX LOW VOLTAGE TRANSFORMER PRIMARY WIRING.
- ALL SUMP PUMP MOTORS CAN OPERATE AT THE SAME TIME. CONNECT FLOAT SWITCHES (FOUR(4) PER PUMP PACKAGE) AND PUMP CABLES TO CONTROL PANEL. INSTALL HORN/LIGHT ALARM SUPPLIED BY MECHANICAL DIVISION AND WIRE TO CONTROL PANEL. CONFIRM EXACT LOCATION WITH OWNER (ALLOW 100 M RUN). PROVIDE SIX (6) FAIMS AND CONNECT EACH FAIM TO ONE OF THE FOLLOWING SWITCHES/CONTACTS WITHIN CONTROLLER:
 - "LOSS OF EXCESS WATER PRESSURE"
 - "LOSS OF POWER"
 - "PUMP MOTOR RUNNING"
 - "PHASE LOSS"
 - "PHASE REVERSAL"
 - "CONTROLLER CONNECTED TO ESSENTIAL POWER"
- ALL FIRE ALARM CONNECTIONS ARE SUPERVISORY ZONE CONNECTIONS AS INDICATED ON PLANS.
- WIRE PRESSURE SWITCH (PS) (LOCATED WITHIN 6 METERS) SO THAT PUMP STARTS WHEN PS IS ACTIVATED.
- PROVIDE FAIM AND CONNECT TO CONTROLLER FOR "LOSS OF POWER" SIGNAL.
- RUNS Nos 4, 5 AND 6 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- RUNS Nos 8, 9, 10 AND 11 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- RUNS Nos 13 AND 14 SHARE A COMMON BREAKER AND A COMMON CONTROLLER AND FAIM.
- RUNS Nos 16 AND 17 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- RUNS Nos 18 AND 19 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- RUNS Nos 22 AND 23 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- RUNS Nos 24 AND 25 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.
- PROVIDE ONE(1) CAT. 6 CABLE IN CONDUIT AND CONNECT TO NEAREST ROP LAN PATCH PANEL.
- USING TWO (2) FACR'S, INTERLOCK WITH FIRE ALARM SYSTEM SO THAT DAMPER OPENS BY MANUALLY SELECTING THE "OPEN" POSITION ON THE SELECTOR SWITCH AT THE CACF AND THE DAMPER CLOSURES BY MANUALLY SELECTING THE "CLOSE" POSITION ON THE ASSOCIATED SELECTOR SWITCH AT THE CACF.
- KITCHEN HOOD "MARVEL" CONTROL PANEL BY KITCHEN CONTRACTOR. INSTALL VFDS SUPPLIED BY KITCHEN CONTRACTOR AND PROVIDE POWER WIRING TO EXHAUST FAN MOTOR THROUGH VFD. INTERLOCK WITH CONTROL PANEL AS INDICATED ON DWG E3.61.
- PROVIDE A FAIM FOR EACH DEVICE AND WIRE TO SAME AND CONNECT FAIM TO FIRE ALARM SYSTEM AS INDICATED. CONFIRM EXACT DEVICE LOCATION WITH SPRINKLER SYSTEM CONTRACTOR PRIOR TO ROUGH-IN. ALLOW FOR CHANGE OF LOCATION WITHIN SIX (6) METERS OF WHAT IS INDICATED.
- PROVIDE TWO (2) FACR'S AND CONNECT TO PANEL. PROGRAM FACR'S TO PROVIDE SEPARATE FIRST STAGE AND SECOND STAGE FIRE ALARM SIGNALS TO THE BAS SYSTEM.
- RUNS Nos 30, 31 AND 32 SHARE A COMMON BREAKER AND A COMMON CONTROL THERMOSTAT.

MECHANICAL SCHEDULE - GRILLES AND REGISTERS											MECHANICAL REMARKS
DWG. DESIGNATION	MODEL			SIZE		CFM		SP (IN W.G.)			
	CORE	BORDER	FRAME	Length	Width	MIN	MAX	MIN	MAX		
G-01	A	F	630DL	36	12	1000	1,700	0.044	0.1	EH PRICE, ALUMINUM CONSTRUCTION, RETURN GRILLE	
G-02	A	F	630DS	38	22	1000	1,700	0.011	0.025	EH PRICE, ALUMINUM CONSTRUCTION, RETURN GRILLE	
G-03	A	F	630DL	24	8	400	750	0.025	0.1	EH PRICE, ALUMINUM CONSTRUCTION, RETURN GRILLE	
G-04	A	F	630DL	10	4	50	180	0.011	0.177	EH PRICE, ALUMINUM CONSTRUCTION, RETURN GRILLE	
G-05	A	F	99DL	48	14	1500	3,000	0.038	0.11	EH PRICE, ALUMINUM CONSTRUCTION, RETURN GRILLE	
G-06	A	F	620DL	36	12	900	1,800	0.006	0.03	EH PRICE, ALUMINUM CONSTRUCTION, SUPPLY GRILLE	
G-07	A	F	620DL	18	8	400	750	0.01	0.04	EH PRICE, ALUMINUM CONSTRUCTION, SUPPLY GRILLE	
G-08	A	F	620DL	8	4	50	180	0.006	0.09	EH PRICE, ALUMINUM CONSTRUCTION, SUPPLY GRILLE	
G-09	-	-	SDGE	16	6	200	400	0.006	0.09	EH PRICE, ALUMINUM CONSTRUCTION, SPIRAL DUCT SUPPLY GRILLE C/W AIRSCOOP OBD, DOUBLE DEFLECTION PARALLEL, TO SHORT DIMENSION.	

OBD = OPPOSED BLADE DAMPER
 ALL GRILLES AND DIFFUSERS TO BE COLOUR B15 (ALUMINUM POWDER COAT)
 ALL GRILLES TO HAVE 'A' FASTENING

WIRING FOR MECHANICAL EQUIPMENT SCHEDULE LEGEND

- AM - ACTUATOR MOTOR
- APS - AIR PROVING SWITCH
- AST - AQUASTAT
- BAS - CONTROL BY BUILDING AUTOMATION SYSTEM CONTRACTOR
- BIC - BUILT IN CONTROLLER
- C1 - EEMAC-1 TYPE DISC. SWITCH
- C2 - EEMAC-2 TYPE DISC. SWITCH
- C3R - EEMAC-3R TYPE DISC. SWITCH
- C4 - EEMAC-4 TYPE DISC. SWITCH
- C12 - EEMAC-12 TYPE DISC. SWITCH
- COMB - COMBINATION MAGNETIC STARTER
- CP - CONTROL PANEL
- CSR - CURRENT SENSING RELAY
- CT - CONTROL TRANSFORMER
- CWSV - COLD WATER SOLENOID VALVE
- (D23) - ITEM ADJACENT IS SUPPLIED, INSTALLED AND WIRED BY MECHANICAL DIVISION.
- (D23A) - ITEM ADJACENT IS SUPPLIED AND INSTALLED BY MECHANICAL DIVISION. ELECTRICAL DIVISION WIRE'S ITEM.
- (D26) - ITEM ADJACENT IS SUPPLIED BY MECHANICAL DIVISION. ELECTRICAL DIVISION INSTALLS AND WIRE'S ITEM.
- (D26A) - ITEM ADJACENT IS SUPPLIED, INSTALLED AND WIRED BY ELECTRICAL
- DISC - DISCONNECT
- DM - DAMPER MOTOR
- DMSW - DAMPER MOTOR SWITCH
- DVR - DOUBLE VOLTAGE RELAY
- FA - FIRE ALARM SYSTEM CONNECTION
- FAIM - ADDRESSABLE FIRE ALARM INPUT MODULE
- FACR - ADDRESSABLE FIRE ALARM CONTROL RELAY MODULE
- FL - FLOAT SWITCH
- FLA - FULL LOAD RUNNING AMPERES
- FPU - FIELD PROCESSOR UNIT BY DIV. 15900*
- FPU/SS - START/STOP CONTROL OUTPUT FROM FPU*
- FPU/ST - MOTOR RUNNING STATUS INPUT TO FPU*
- FRAC - FRACTIONAL HORSEPOWER
- FS - FLOW SWITCH
- GSV - GAS SOLENOID VALVE
- HOA - HAND/OFF/AUTO SWITCH IN STARTER COVER
- HUM - HUMIDISTAT
- HWSV - HOT WATER SOLENOID VALVE
- IRS - INFRARED SENSOR
- KMSW - KEY OPERATED MOMENTARY CONTACT SWITCH
- KSW/PL - KEY SWITCH(15A, 120V, SPST, LOCK TYPE C/W PILOT LIGHT)

WIRING FOR MECHANICAL EQUIPMENT SCHEDULE LEGEND

- LS - LEVEL SWITCH
- LWCO - LOW WATER CUT OFF
- MAG - MAGNETIC STARTER
- MAN - MANUAL STARTER
- MCA - MINIMUM CIRCUIT AMPS
- MCC - MOTOR CONTROL CENTRE
- MFA - MAXIMUM FUSE AMPACITY
- MOPP - MAXIMUM OVER CURRENT PROTECTION
- MVS - MONITORED VALVE SWITCH
- ODT - OFF DELAY TIMER
- PB - PUSHBUTTON ON/OFF SWITCH IN STARTER COVER
- PL - PILOT LIGHT IN STARTER COVER
- PLG - 120V RECEPTACLE BY ELECTRICAL DIVISION
- PS - PRESSURE SWITCH
- RPB - REMOTE STOP/START PUSHBUTTON
- RPL - REMOTE PILOT LIGHT
- SD - SMOKE DETECTOR (DUCT TYPE)
- SS - SPEED SWITCH
- SLS & PL - SELECTOR SWITCH AND PILOT LIGHT
- SV - SOLENOID VALVE
- SW - HP RATED TOGGLE SWITCH
- TC - TEMPERATURE CONTROLLER
- TI - TIMER (INTERVAL)
- T7 - TIMER (7-DAY)
- TRS - THERMOSTAT REVERSING SWITCH
- TS - THERMOSTAT
- T - THERMOSTAT OR TEMPERATURE SENSING UNIT
- VM - VALVE MOTOR
- VFD - VARIABLE FREQUENCY (OR SPEED) DRIVE (VSD)
- TOA - TEST/OFF/AUTO SWITCH IN STARTER COVER.

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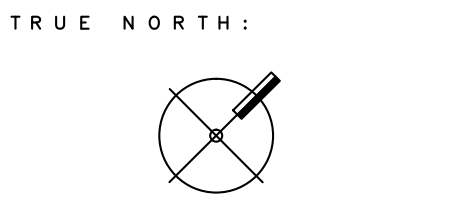
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