

Generator and Electrical Equipment Replacement

EARLE B. WOOD MIDDLE SCHOOL

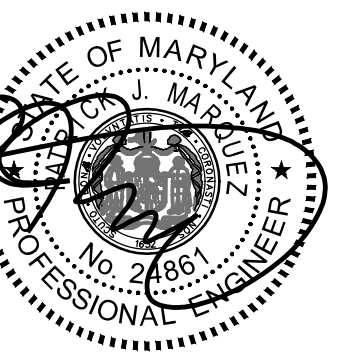
14615 BAUER DRIVE, ROCKVILLE, MD 20853

Montgomery County Public Schools

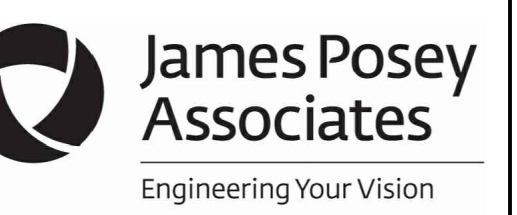
MECHANICAL AND ELECTRICAL ENGINEERS

JAMES POSEY ASSOCIATES, INC.
11155 RED RUN BOULEVARD, SUITE 310
BALTIMORE, MARYLAND 21117
PHONE: 410.265.6100

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
EARLE B. WOOD MIDDLE SCHOOL
14615 BAUER DRIVE
ROCKVILLE, MD 20853
MONTGOMERY COUNTY PUBLIC SCHOOLS



Professional Certification
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 24861. Expiration date: 02-24-2026.



Mechanical & Electrical Consulting Engineers
11155 Red Run Boulevard, Suite 310
Baltimore, Maryland 21117
tel 410-265-6100
jamesposey.com

2018 IBC: INTERNATIONAL BUILDING CODE
2018 IMC: INTERNATIONAL MECHANICAL CODE
2018 IPC: INTERNATIONAL PLUMBING CODE WITH WSSC AMENDMENTS
ASHRAE 90.1: ENERGY STANDARD FOR BUILDINGS EXCEPT LOW RISE RESIDENTIAL BUILDINGS.
NEC 2017: NATIONAL ELECTRICAL CODE
ASHRAE 2017-2020 HANDBOOKS.

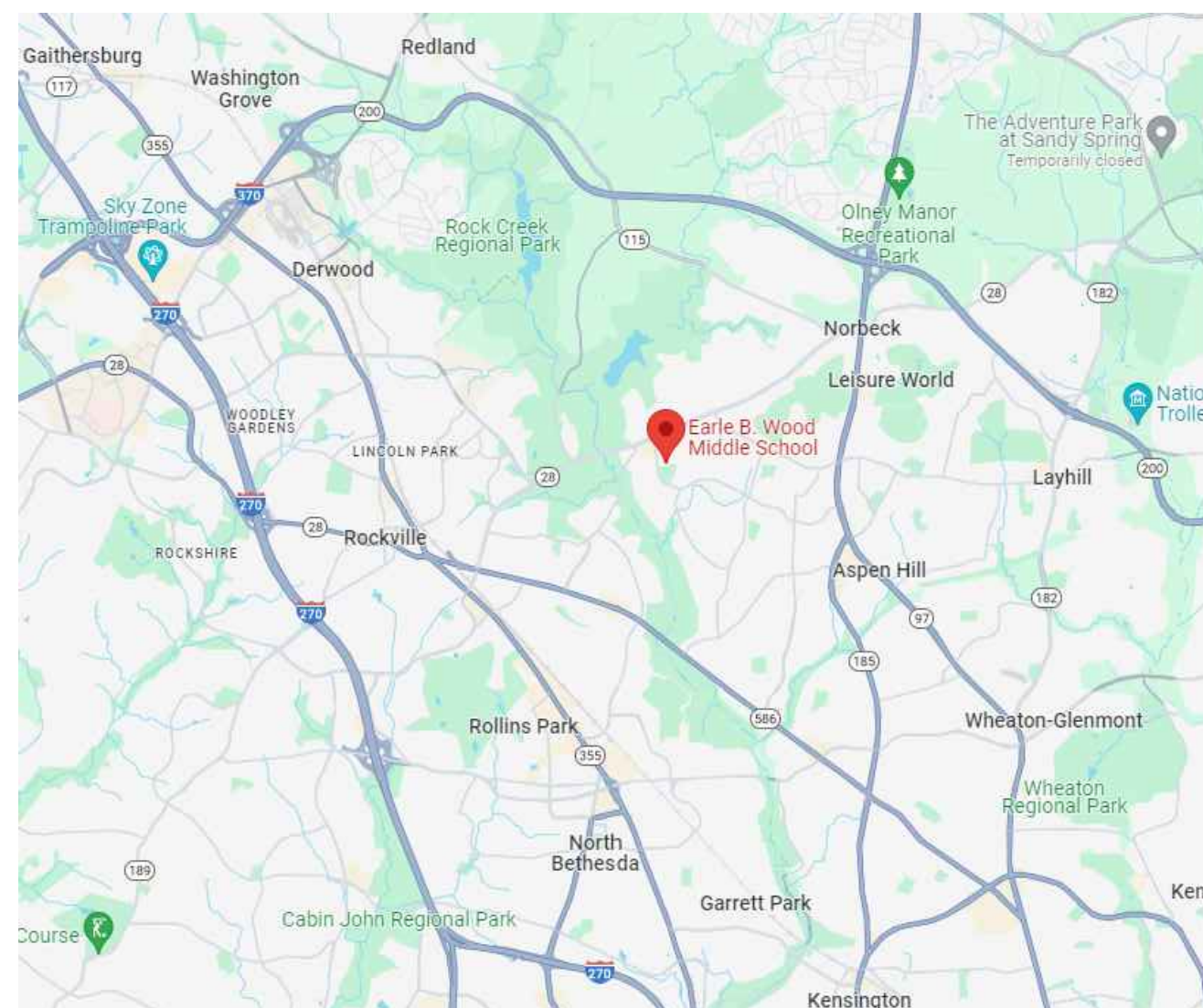
Tag	Description	Date
	BID SET	03/08/24

PSC No: _____
Scale: AS NOTED
Project No: 7904-23
Date: MARCH 8, 2024

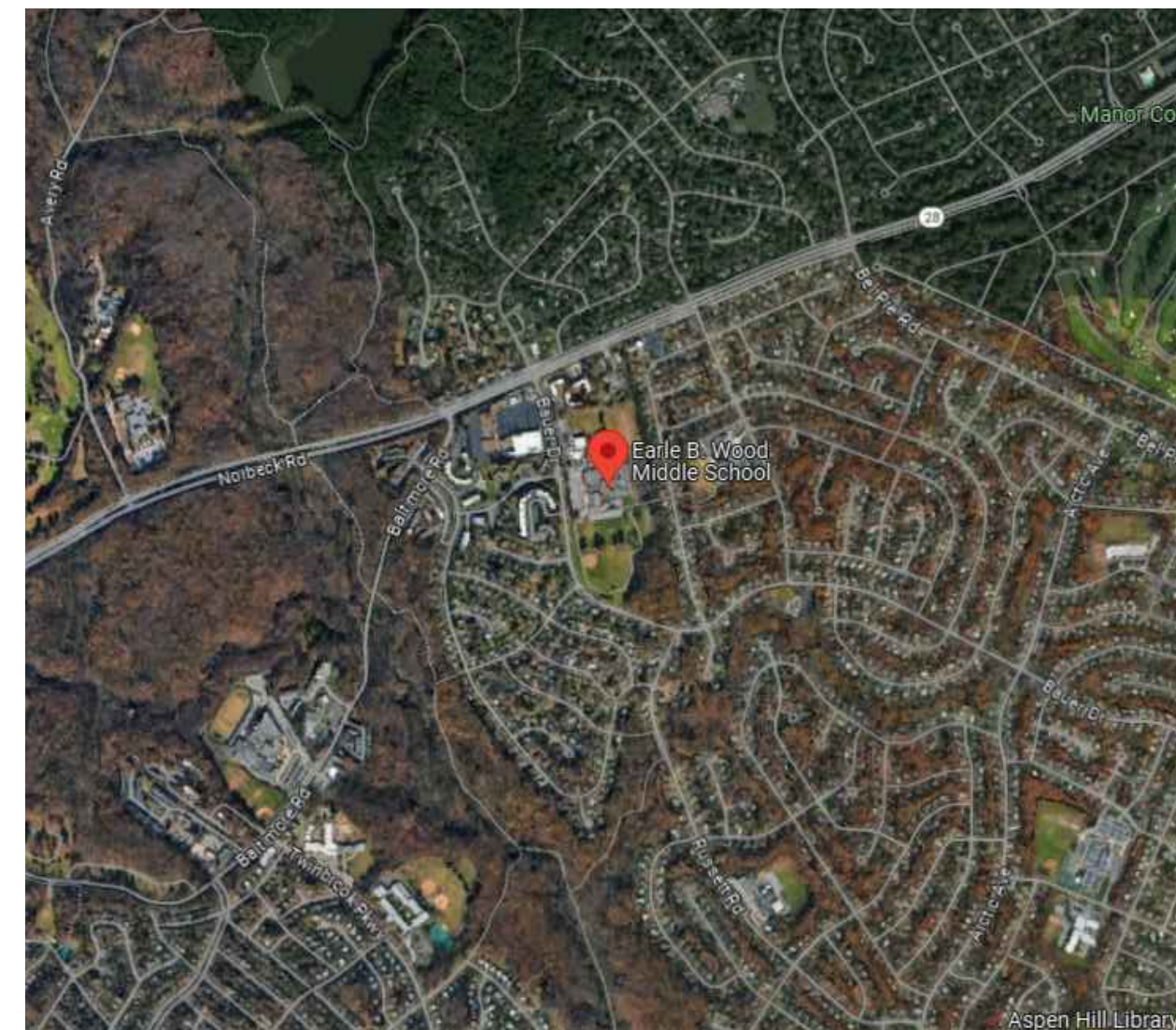
Drawing Title: **TITLE SHEET**

Sheet No: **T-1**

VICINITY PLAN



AERIAL SITE PLAN



DRAWING INDEX

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- ELECTRICAL**
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PROFESSIONAL CERTIFICATION

These contract documents for Earle B. Wood Middle School were prepared under my supervision and to the best of my knowledge, information, and belief, they comply with the relevant building codes of the State of Maryland.

03/08/24 (Date)
Maryland Professional Engineer Registration No. 24861

APPLICABLE CODES & STANDARDS

SCOPE OF WORK

SCOPE OF WORK GENERALLY CONSISTS OF THE FOLLOWING OVER TWO PHASES. PHASE 1 SHALL CONSIST OF THE FOLLOWING:

- PROVIDE CONDUITS AND RACEWAYS FOR NEW GENERATOR.
- PROVIDE CONDUITS AND RACEWAYS FOR NEW DEVICES AND CONNECTIONS TO EXISTING EQUIPMENT. FINAL CONNECTIONS TO NEW DEVICES AND EXISTING EQUIPMENT SHALL BE PERFORMED DURING THE SECOND SUMMER.
- PROVIDE NEW CONCRETE PAD FOR NEW GENERATOR.
- CONNECT LIGHTING FIXTURES IN TOILET ROOMS ON NORMAL CIRCUITS TO EXISTING EMERGENCY LIGHTING CIRCUITS, WHERE INDICATED ON DRAWINGS.

PROJECT SCOPE SHALL INCLUDE THE WORK FOR PHASE 2:

- PROVIDE NEW GENERATOR AND ASSOCIATED EQUIPMENT.
- CONNECT EXISTING BOILERS AND ASSOCIATED PUMPS TO THE NEW STANDBY PANELBOARD.
- CONNECT EXISTING KITCHEN REFRIGERATION EQUIPMENT TO NEW STANDBY PANELBOARD.
- CONNECT EXISTING INTERCOMMUNICATIONS/PUBLIC ADDRESS SYSTEM TO THE NEW STANDBY PANELBOARD.
- CONNECT EXISTING MAIN TELECOM ROOM RECEPTACLES TO THE NEW STANDBY PANELBOARD.
- CONNECT NORMAL LIGHTING FIXTURES IN THE MAIN MECHANICAL ROOM/BOILER ROOM AND MAIN ELECTRICAL ROOM TO THE NEW EMERGENCY PANELBOARD.
- CONNECT LIGHTING FIXTURES IN TOILET ROOMS ON NORMAL CIRCUITS TO THE NEW EMERGENCY PANELBOARD, WHERE INDICATED ON DRAWINGS.

THE SCOPE OF WORK INDICATED ON THIS SHEET IS INTENDED AS A BRIEF SUMMARY FOR GENERAL INFORMATIONAL PURPOSES ONLY, AND DOES NOT NECESSARILY INCLUDE ALL OF THE WORK REQUIRED. THE CONTRACTOR SHALL PROVIDE MATERIALS AND LABOR AS REQUIRED TO COMPLETE THE WORK AS INDICATED IN THE CONTRACT DOCUMENTS.

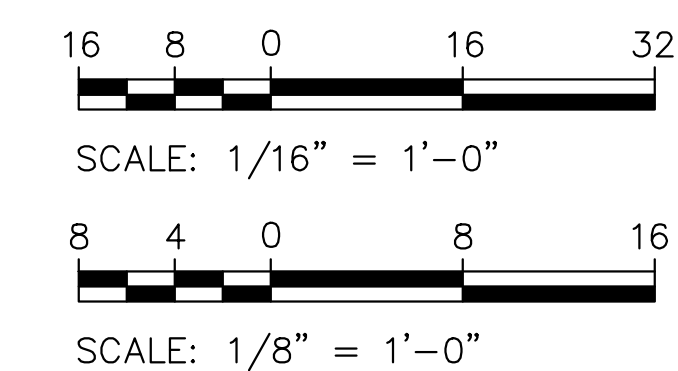
BOARD OF EDUCATION

DR. MONIQUE T. FELDER	INTERIM SUPERINTENDENT
MR. SETH P. ADAMS	ASSOCIATE SUPERINTENDENT, OFFICE OF FACILITIES MANAGEMENT
MS. KARLA SILVESTRE	PRESIDENT / AT-LARGE
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MS. BRENDA WOLFF	DISTRICT 5
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MRS. SHEBRA L. EVANS	DISTRICT 4
MS. JULIE YANG	DISTRICT 3
MRS. REBECCA SMONDROWSKI	DISTRICT 2
MR. SAMI SAEED	STUDENT MEMBER

CODE ANALYSIS

CODE ANALYSIS (FROM INTERNATIONAL BUILDING CODE/2018)		
	EXISTING BLDG	PROPOSED ALTERATION
IBC OCCUPANCY CLASSIFICATION	E	THE SCOPE OF THIS WORK IS TO REPLACE EXISTING GENERATOR AND REVISE NORMAL LIGHTING CIRCUITS IN TOILET ROOMS, BOILER ROOM AND ELEC ROOM TO EMERGENCY LIGHTING. THERE IS NO INCREASE IN FLOOR AREA, NO SITE CHANGES, NO CHANGE IN CLASSIFICATION OR TYPE OF CONSTRUCTION.
TYPE OF CONSTRUCTION	IIB	
NUMBER OF STORIES ABOVE GRADE	1	
HIGH RISE (Y/N)	N	
FIRE ALARM (Y/N)	Y	
FULLY SPRINKLERED (Y/N)	Y	
TOTAL BUILDING FLOOR AREA	152,588 SF	

GRAPHIC SCALES



CAUTION: EXCEPT WHERE DIMENSIONS ARE INDICATED, GRAPHIC SCALE MUST BE USED.

MECHANICAL SYMBOLS AND ABBREVIATIONS			
— G —	LOW PRESSURE GAS PIPE	∅	INDICATES DIAMETER
— G (2 PSI) —	MEDIUM PRESSURE GAS PIPE	A/D	ACCESS DOOR
— E —	PIPE CAP OR PLUG	AAV	AUTOMATIC AIR VENT
— U —	UNION	ABV	ABOVE
— S —	SHUT-OFF VALVE	AFF	ABOVE FINISHED FLOOR
— SV —	SOLENOID VALVE	BLDG	BUILDING
— PRV —	PRESSURE REDUCING / REGULATING VALVE	BLW	BELOW
— M —	METER	BTUH	BRITISH THERMAL UNITS PER HOUR
— GC —	GAUGE COCK / TEST PORT	CFH	CUBIC FEET PER HOUR
— CR —	CONCENTRIC REDUCER	CFM	CUBIC FEET PER MINUTE
— ER —	ECCENTRIC REDUCER	CLG	CEILING
— F —	FLOW DIRECTION ARROW	CONC	CONCRETE
— S —	STRAINER	CW	DOMESTIC COLD WATER PIPE
●	POINT OF CONNECTION, NEW TO EXISTING	DIA	DIAMETER
●	DEMOLITION WORK TERMINATION POINT	EA	EXHAUST AIR
①	SYMBOL FOR SPECIFIC NOTE. NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.	ETR	EXISTING TO REMAIN
③	DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING M1	EX	EXISTING
		EXH	EXHAUST
		FL	FLOOR
		FT	FEET
		G	GAS PIPE
		GALV	GALVANIZED
		IN	INCH, INCHES
		MAX	MAXIMUM
		MBH	THOUSAND BTUS PER HOUR
		MCPS	MONTGOMERY COUNTY PUBLIC SCHOOLS
		MECH	MECHANICAL
		MFR	MANUFACTURER
		MIN	MINIMUM
		NC	NORMALLY CLOSED
		NIC	NOT IN CONTRACT
		NO	NORMALLY OPEN
		OA	OUTDOOR AIR
		PSI	POUNDS PER SQUARE INCH
		RX	REMOVE EXISTING
		TYP	TYPICAL
		UON	UNLESS OTHERWISE NOTED

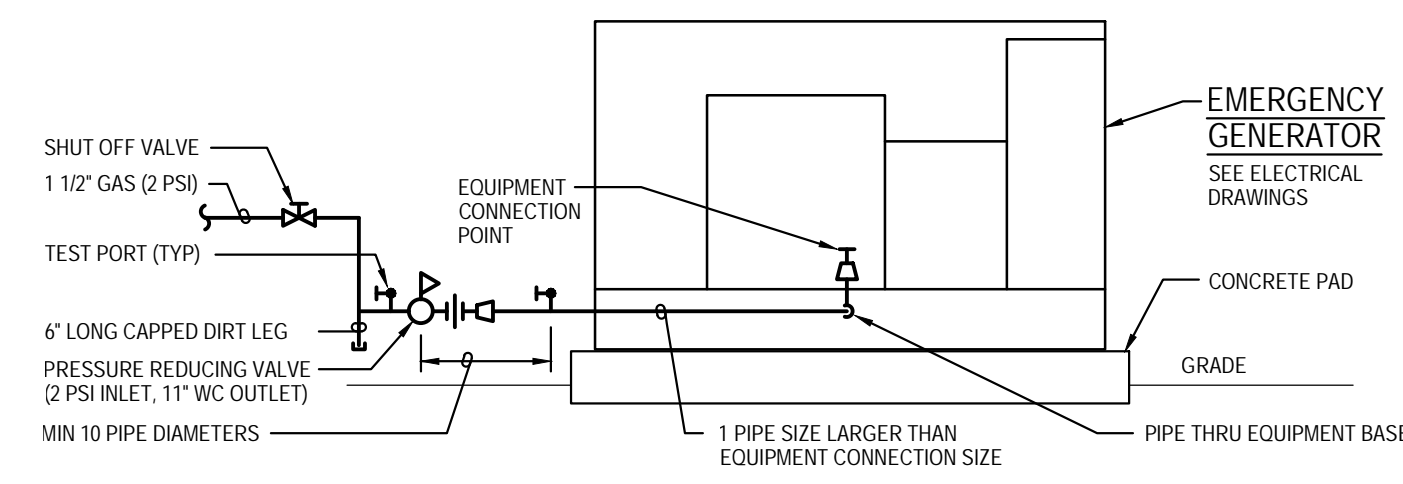
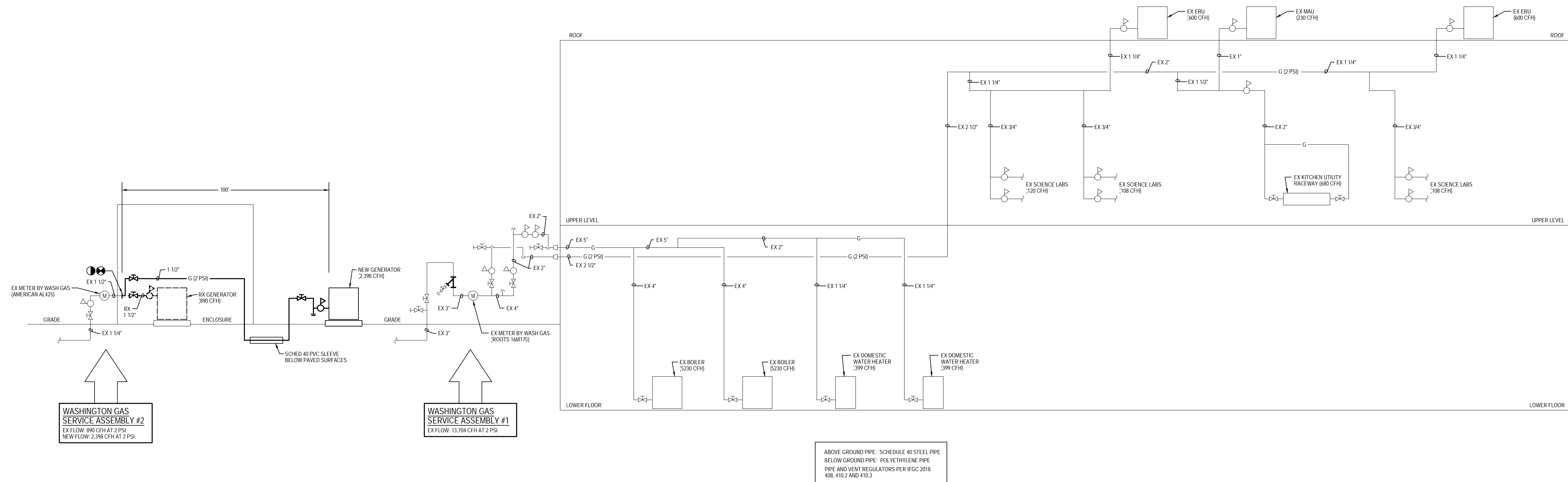


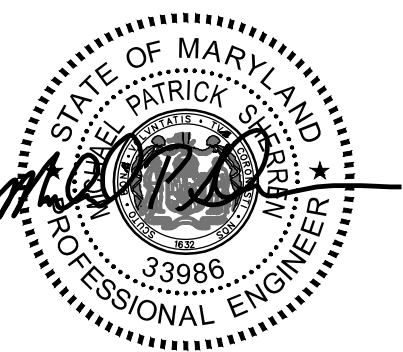
DIAGRAM 1 M-1
EQUIPMENT CONNECTION
NOT TO SCALE



ABOVE GROUND PIPE: SCHEDULE 40 STEEL PIPE
BELOW GROUND PIPE: POLYETHYLENE PIPE
PIPE AND VENT REGULATORS PER IFGC 2018
408.410.2 AND 410.3

DIAGRAM 2 M-1
GAS RISER
NOT TO SCALE

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James Posey Associates
Engineering Your Vision

Mechanical & Electrical
Consulting Engineers
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tel 410-265-6100
jamesposey.com

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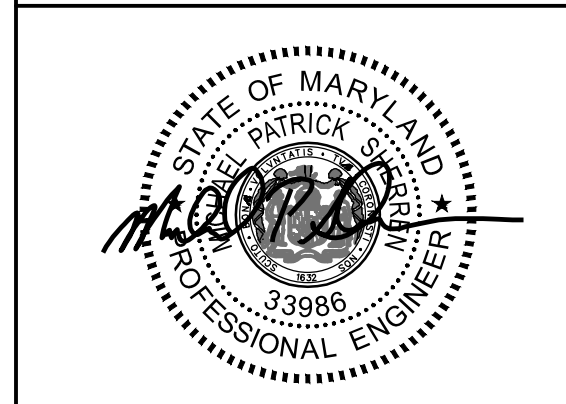
PSC No.	
Scale	AS NOTED
Project No.	7904-23
Date	MARCH 8, 2024

Drawing Title
DIAGRAMS, SYMBOLS AND ABBREVIATIONS

Sheet No:
M-1

- GENERAL NOTES:**
- INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AVOID PROCEEDING WITH THE WORK.
 - DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY MECHANICAL AND RELATED ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - UNLESS OTHERWISE NOTED, MECHANICAL PIPING ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED, ITEMS SHOWN HEAVY SOLID SHALL BE NEW (—) AND ITEMS SHOWN LIGHT (---) SHALL REMAIN.
 - NEW GENERATOR AND GAS PIPING TO BE INSTALLED BEFORE EXISTING IS REMOVED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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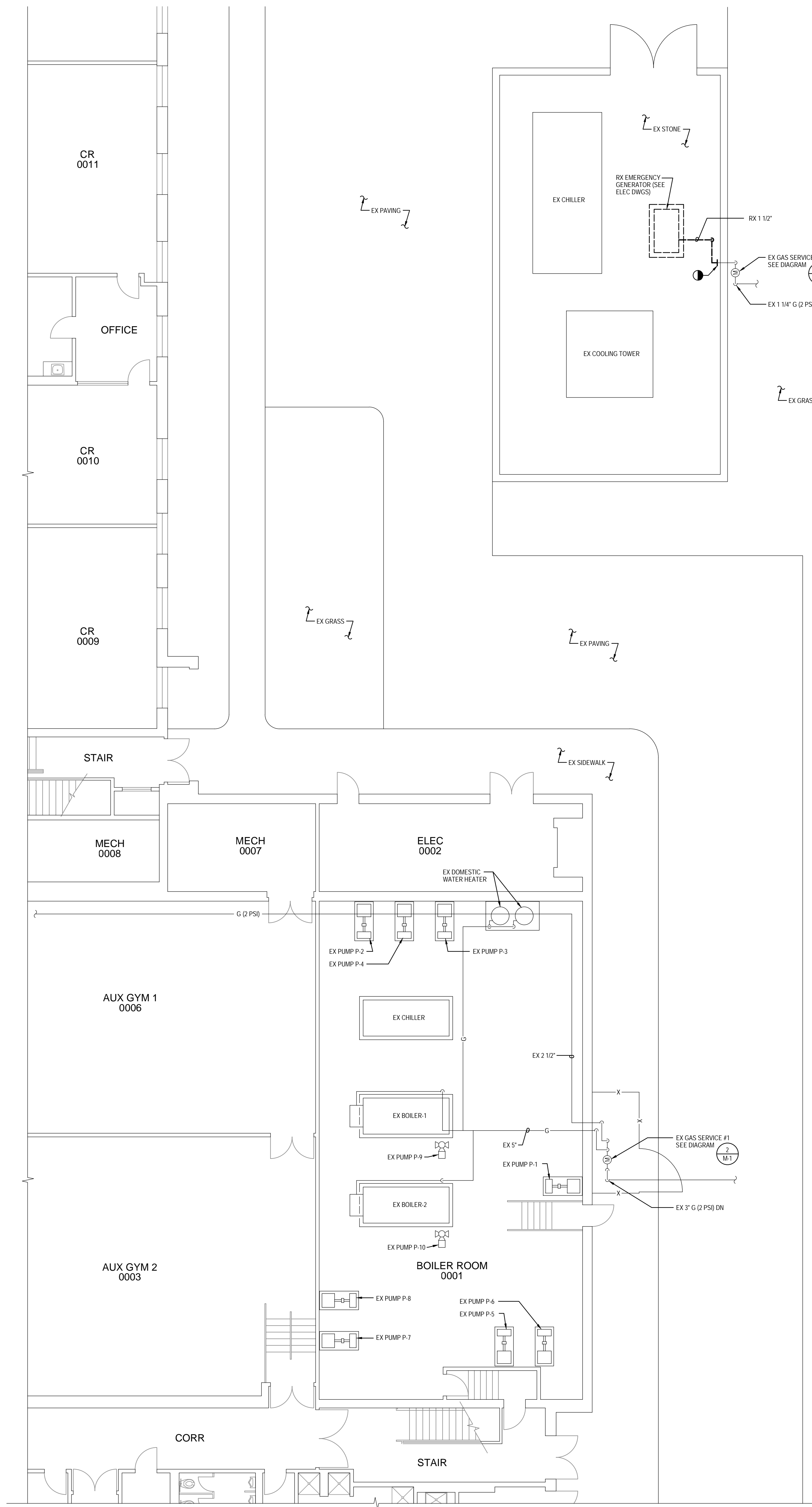
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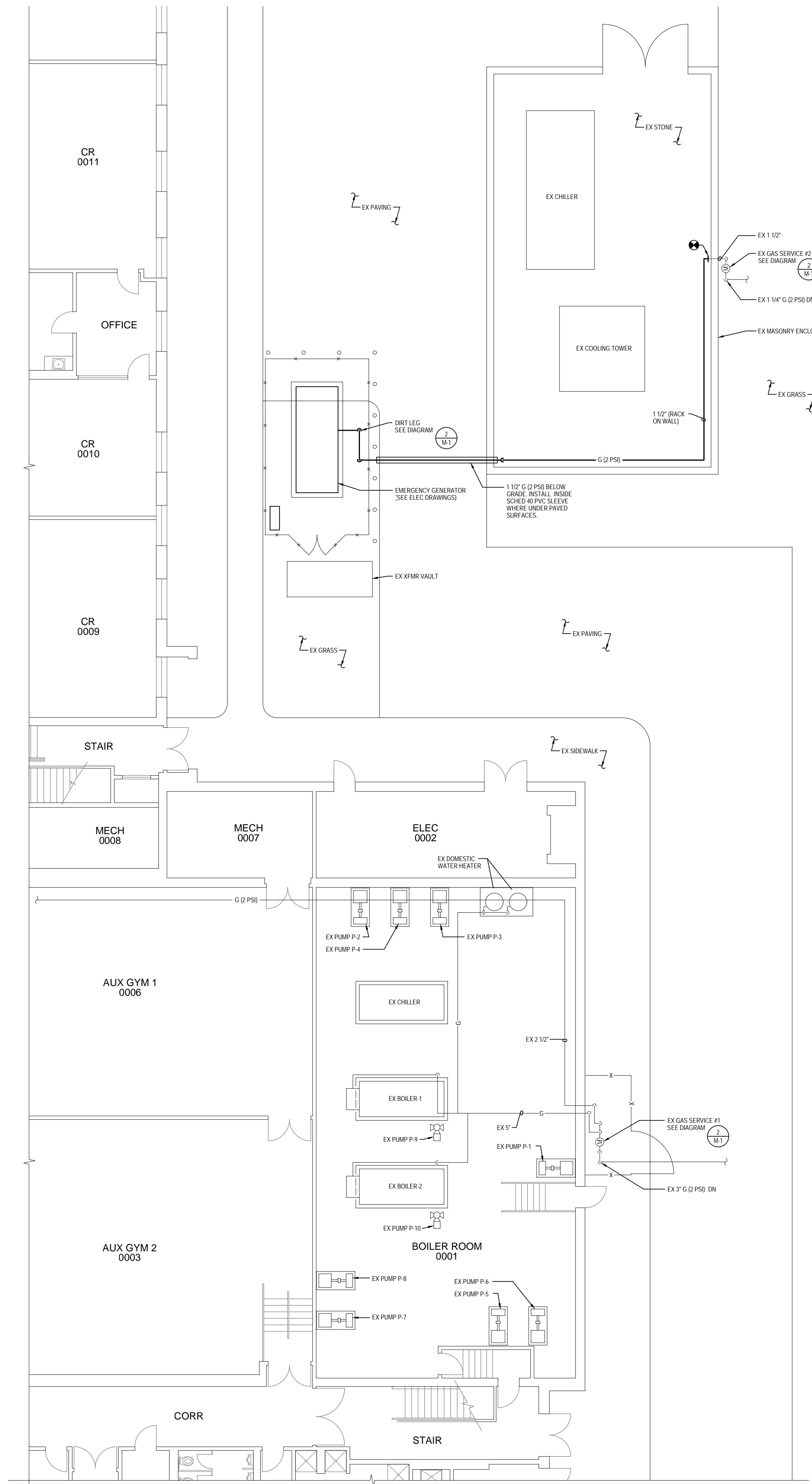
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Scale	AS NOTED
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Drawing Title
LOWER LEVEL PART PLANS - DEMOLITION AND NEW WORK

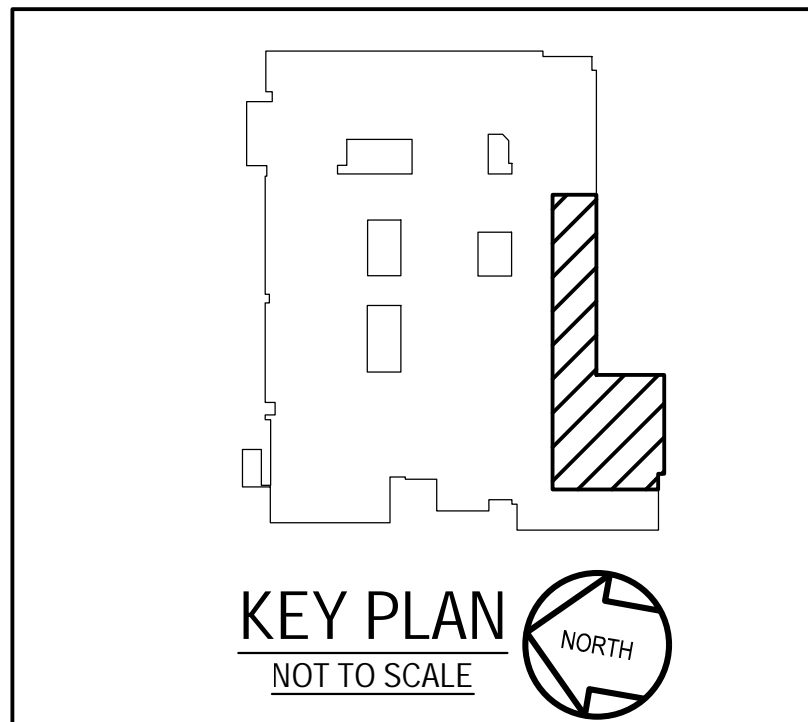
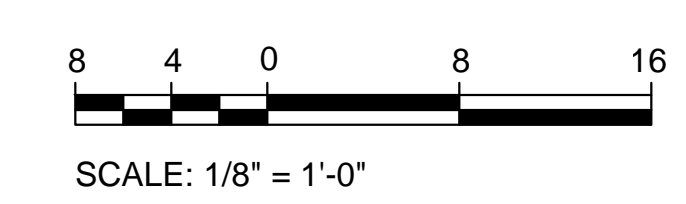
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M-2

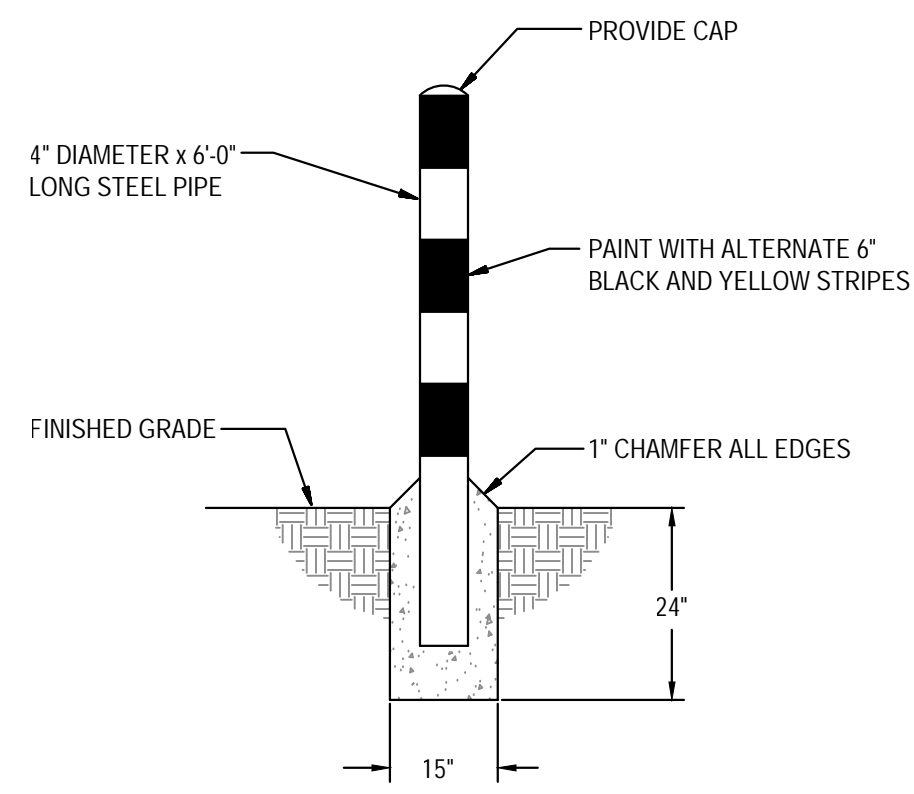


LOWER LEVEL PART PLAN
 DEMOLITION
 SCALE: 1/8" = 1'-0"

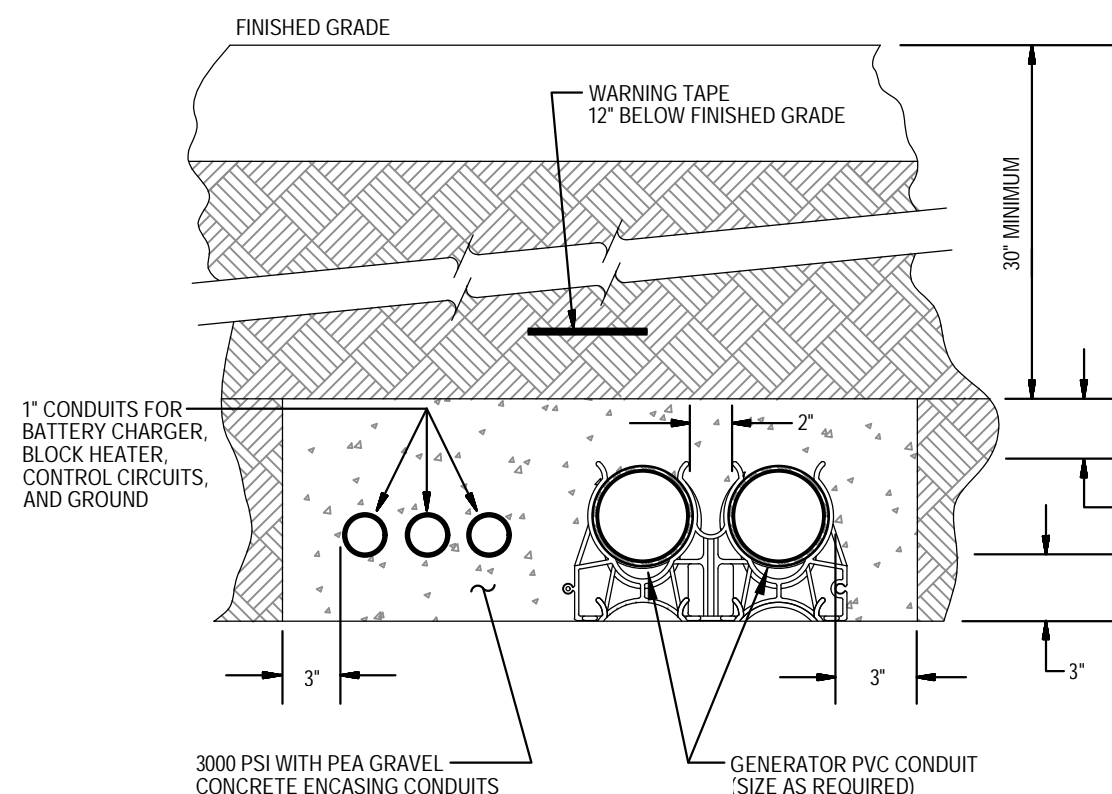


LOWER LEVEL PART PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"

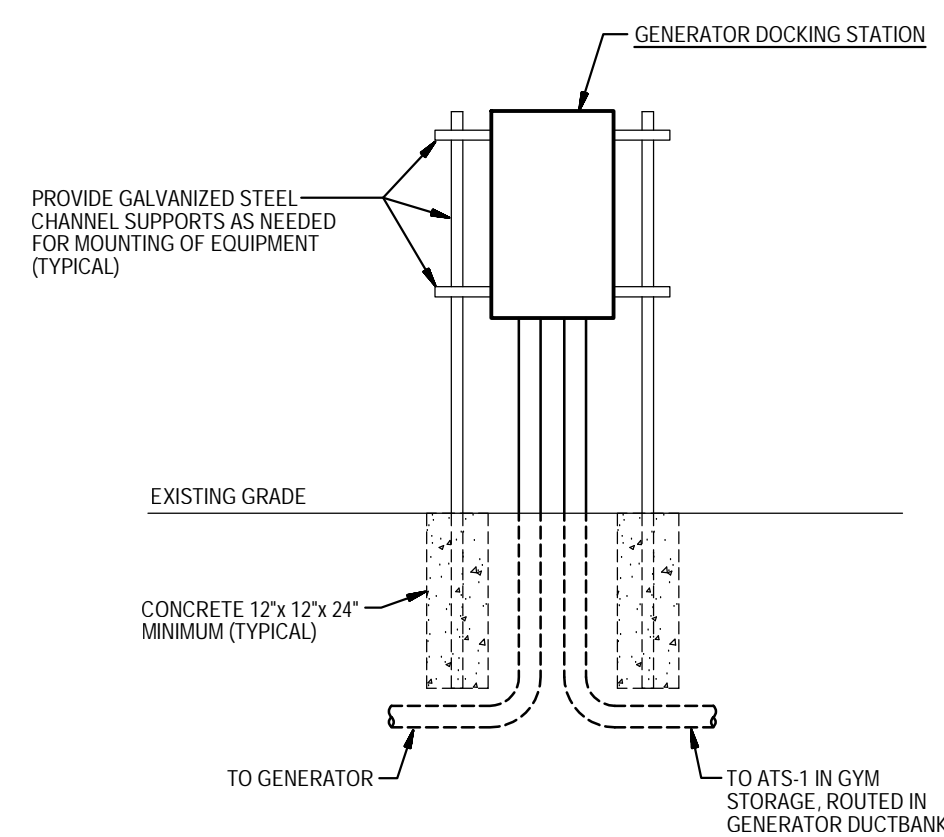




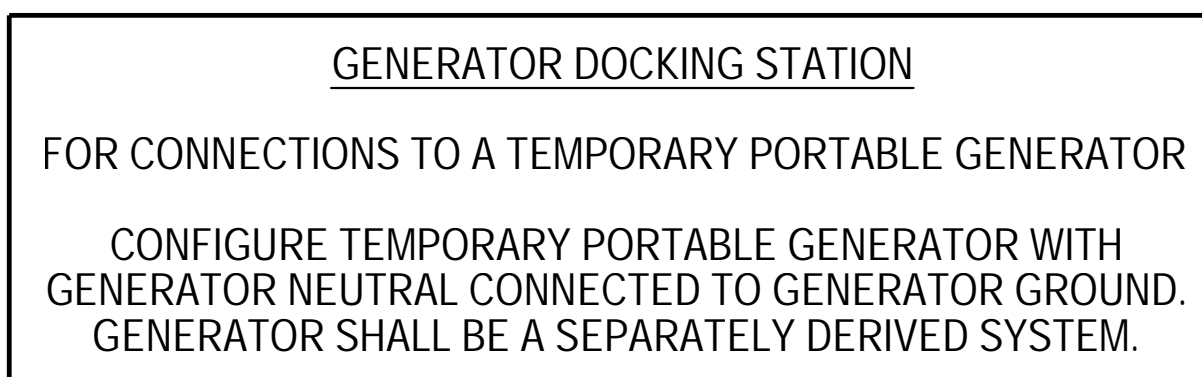
11 E-1
DETAIL
STEEL BOLLARD
NOT TO SCALE



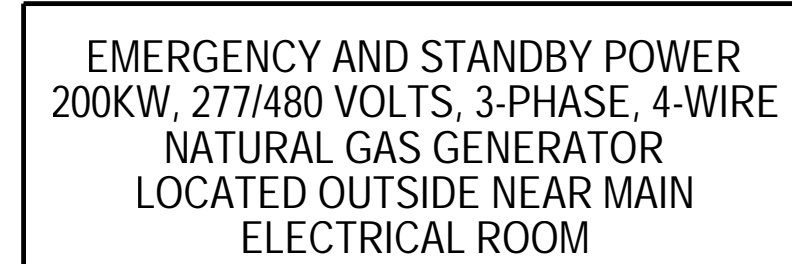
7 E-1
DETAIL
GENERATOR DUCTBANK
NOT TO SCALE



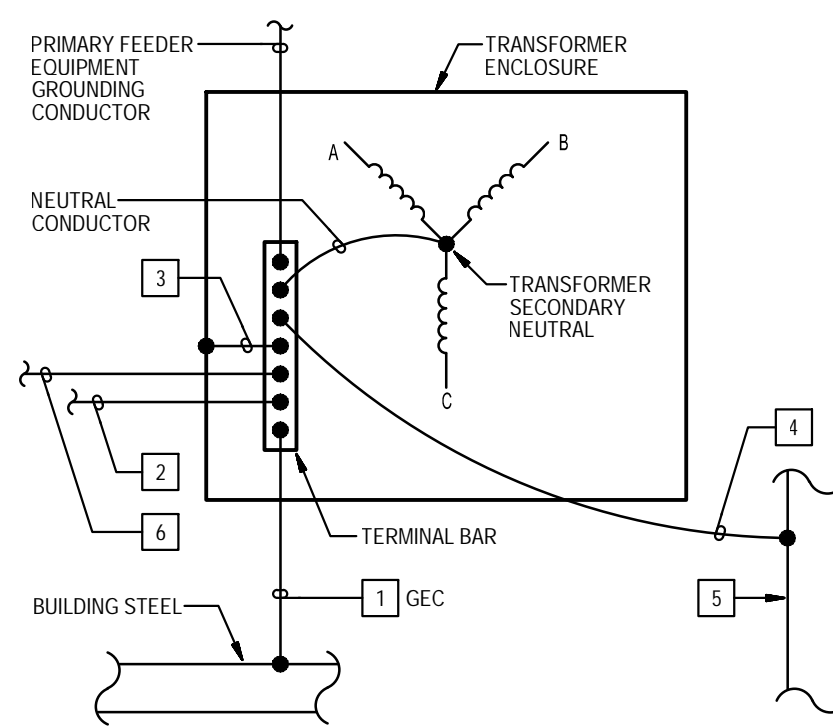
10 E-1
DETAIL
ELECTRICAL EQUIPMENT ELEVATION
NOT TO SCALE



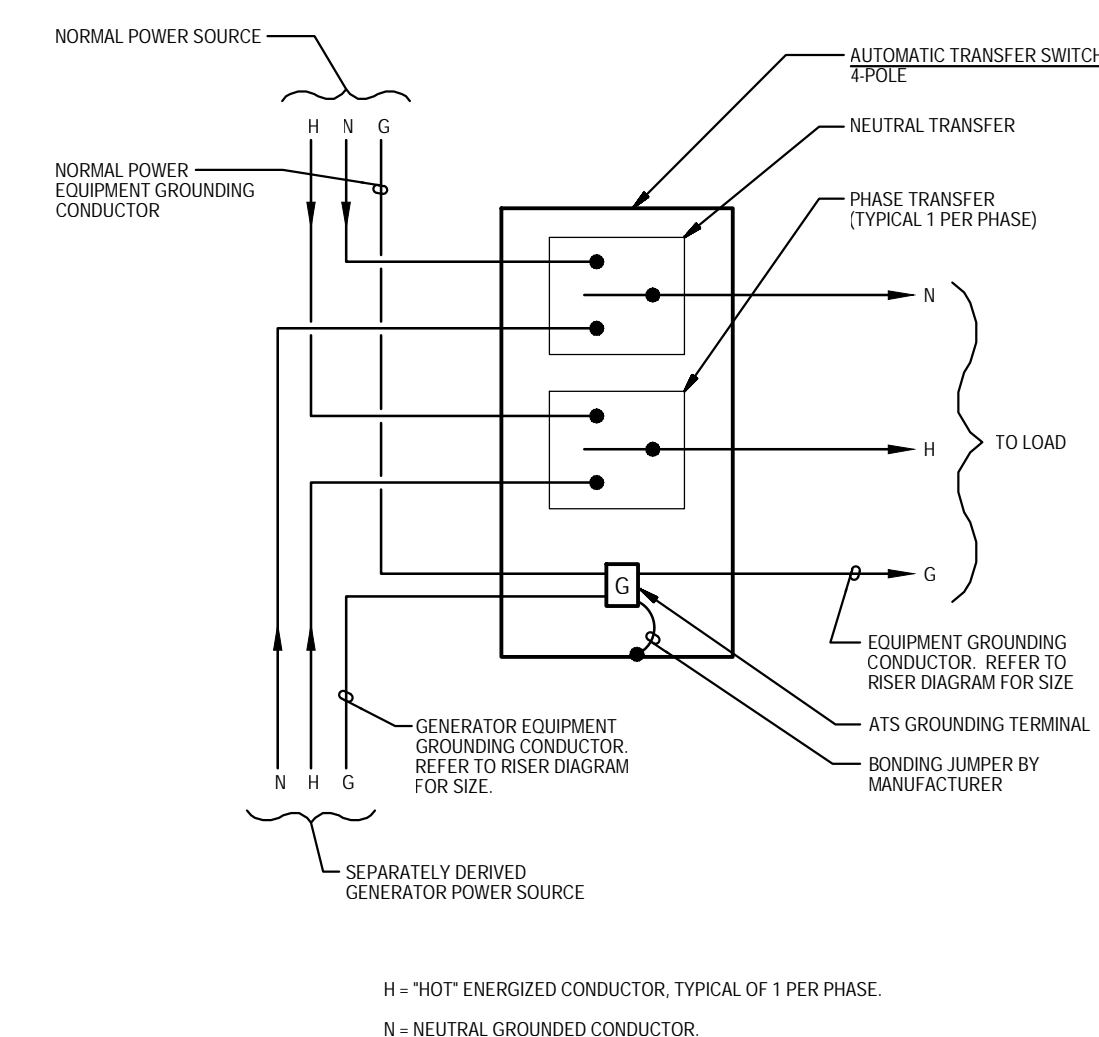
5 E-1
DETAIL
PLACARD AT GENERATOR DOCKING STATION
NOT TO SCALE



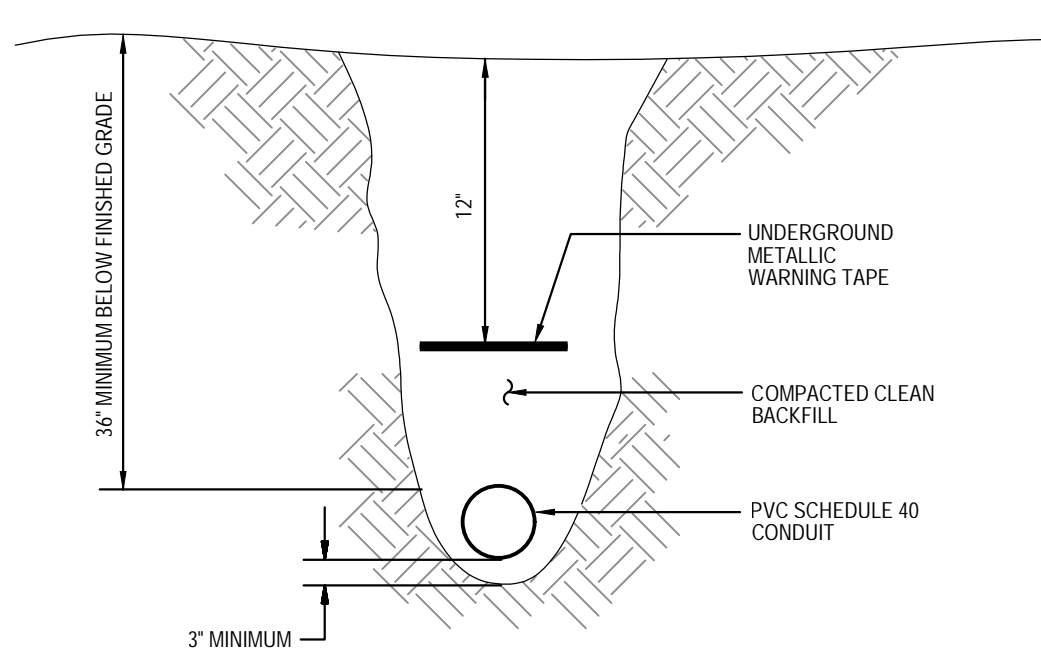
5 E-1
DETAIL
PLACARD AT MAIN SERVICE
NOT TO SCALE



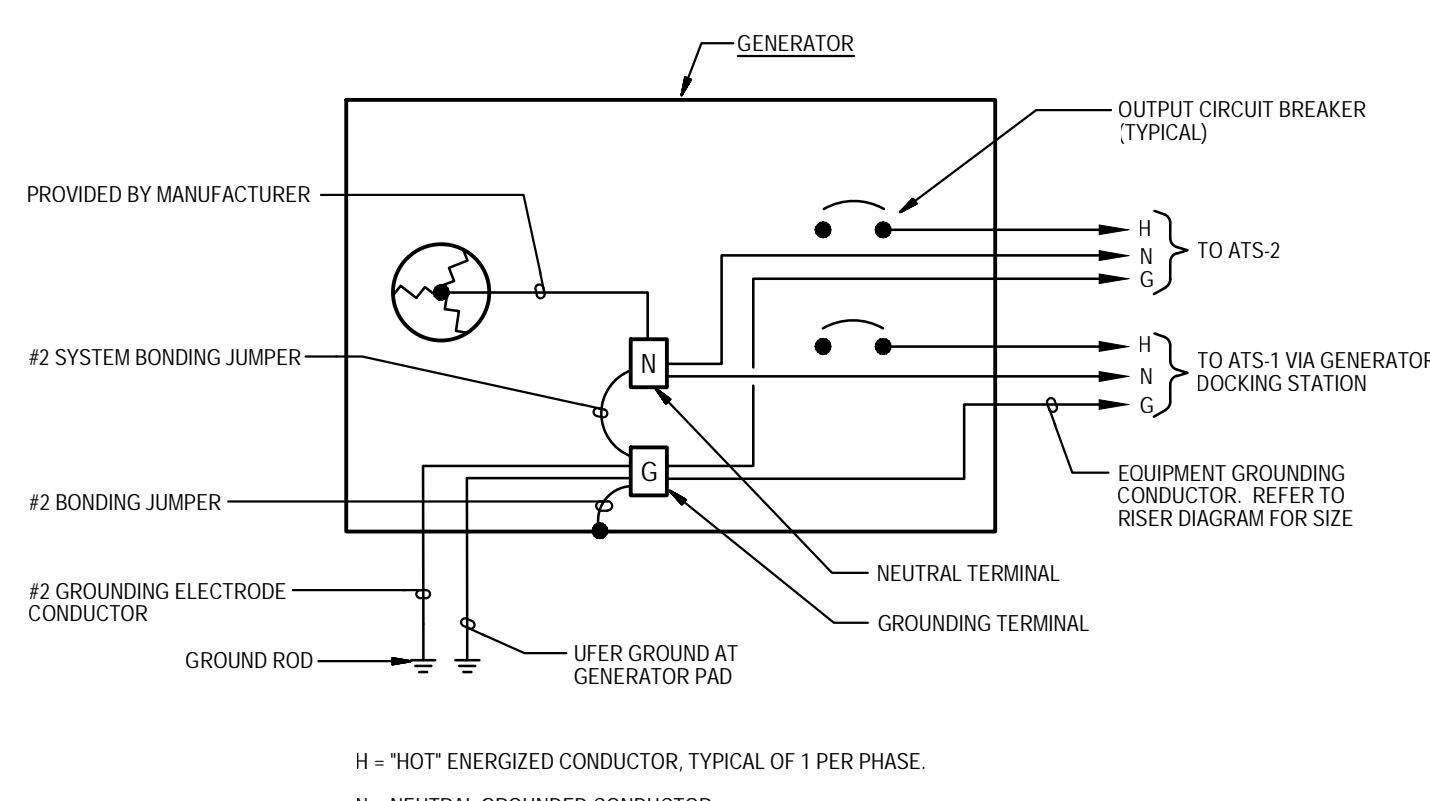
9 E-1
DETAIL
TRANSFORMER GROUNDING & BONDING
NOT TO SCALE



4 E-1
DIAGRAM
AUTOMATIC TRANSFER SWITCH GROUND WIRING
NOT TO SCALE

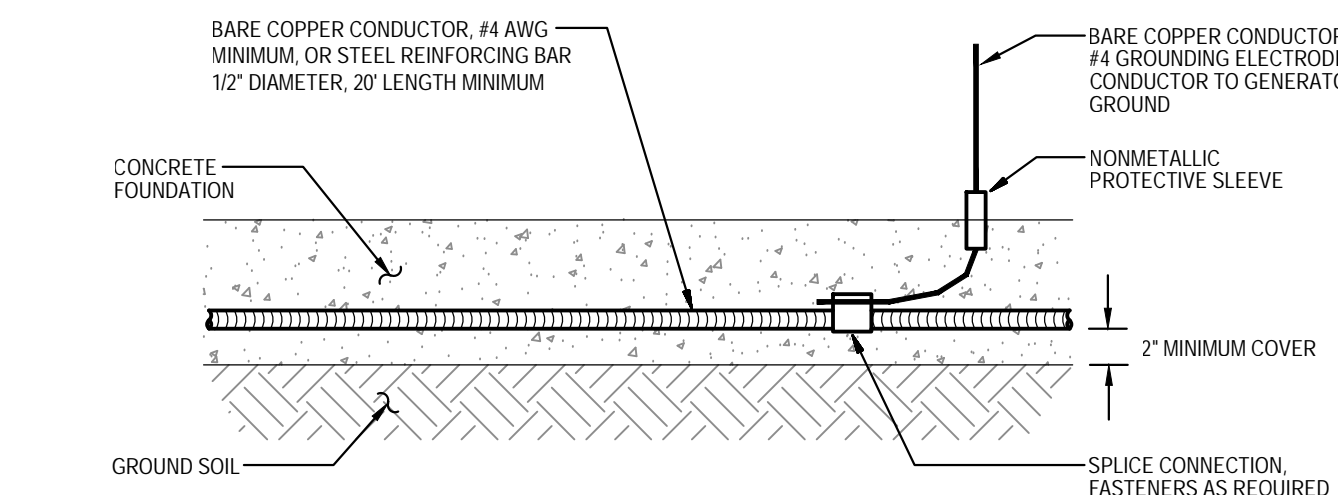


8 E-1
DETAIL
DIRECTLY-BURIED CONDUIT
NOT TO SCALE

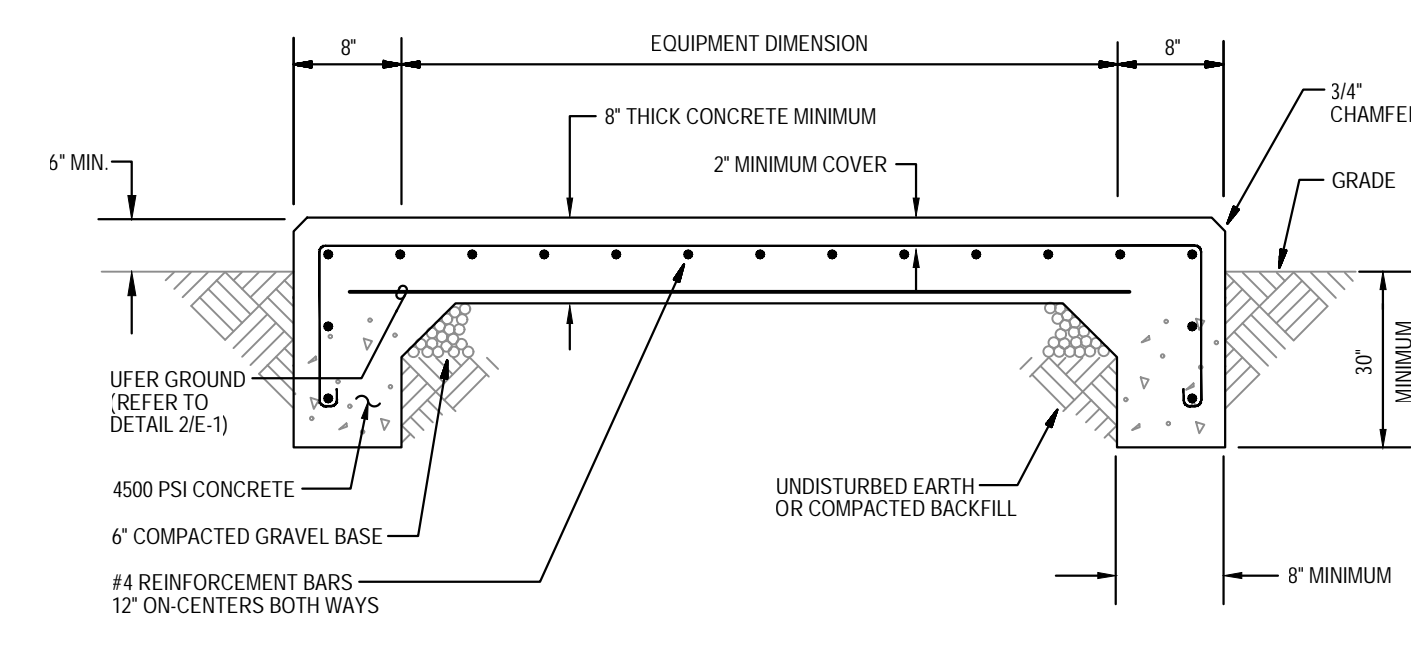


3 E-1
DIAGRAM
GENERATOR GROUNDING WIRING
NOT TO SCALE

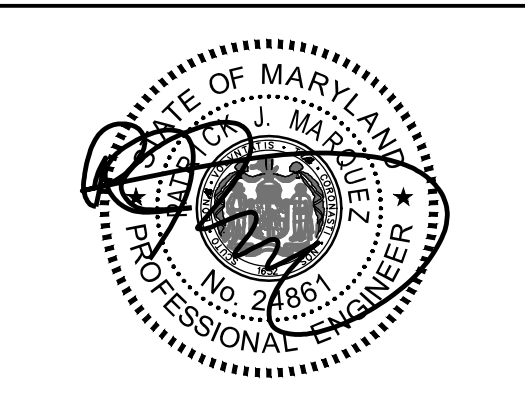
ELECTRICAL SYMBOLS AND ABBREVIATIONS	
GENERAL	POWER
<p>○ DENOTES REFERENCE TO SPECIFIC NOTE ON DRAWING.</p> <p>Ⓢ DETAIL, DIAGRAM OR PLAN NUMBER</p> <p>#/E-# DRAWING NUMBER WHERE DETAIL, DIAGRAM OR PLAN IS LOCATED.</p> <p>#/E-# DETAIL, DIAGRAM OR PLAN REFERENCE: DETAIL, DIAGRAM OR PLAN NUMBER/DRAWING NUMBER</p> <p>NOTES:</p> <p>A. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.</p> <p>B. THE EXISTING FACILITY WILL REMAIN IN OPERATION DURING RENOVATION. INTERRUPTION OF THE EXISTING BUILDING ELECTRIC SERVICE SHALL BE COORDINATED WITH THE USER TO MINIMIZE DISRUPTION. INTERRUPTION OF UTILITIES SHALL NOT OCCUR DURING SCHOOL WORK HOURS.</p>	<p>⊃ HOMERUN TO PANELBOARD. NUMBER OF HASH MARKS INDICATES NUMBER OF WIRES PLUS GROUND WIRE. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.</p> <p>⊃ HOMERUN TO PANELBOARD, RUN BELOW GRADE. NUMBER OF HASH MARKS INDICATES NUMBER OF WIRES PLUS GROUND WIRE. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.</p> <p>EM WIRING IN CONDUIT RUN CONCEALED IN CEILING SPACE ABOVE CEILINGS AND EXPOSED IN OPEN CEILINGS, UNLESS OTHERWISE NOTED. WIRING IN CONDUIT DESIGNATED WITH "EM" DENOTE EMERGENCY GENERATOR CIRCUIT. PROVIDE GROUND WIRES IN CONDUITS.</p> <p>WIRING IN CONDUIT RUN BELOW GRADE OR BELOW ROOF.</p> <p>○ CONDUIT TURNING UP.</p> <p>→ WIRING IN CONDUIT CONTINUED.</p> <p>⊙ JUNCTION BOX WITH BLANK COVER PLATE.</p> <p>⊞ ELECTRIC PANELBOARD (277/480V), SURFACE MOUNTED.</p> <p>⊞ ELECTRIC PANELBOARD (120/208V), SURFACE MOUNTED.</p> <p>⊞ TRANSFORMER.</p> <p>⊞ EQUIPMENT CABINET AS NOTED.</p> <p>⊞ ENCLOSED CIRCUIT BREAKER.</p> <p>⊞ ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH) IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED. MOUNT 5'-6" ABOVE FLOOR TO TOP OF ENCLOSURE, UNLESS OTHERWISE NOTED. RATING AND FUSING AS INDICATED.</p> <p>⊞ HARD-WIRED ELECTRICAL CONNECTION. CONNECT TO EQUIPMENT AS NOTED.</p> <p>SPD SURGE PROTECTIVE DEVICE IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED.</p> <p>WV DUPLEX RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT. WALL MOUNTED 16" ABOVE FLOOR TO BOTTOM OF BOX. RECEPTACLES DESIGNATED WITH A "WP" SHALL BE WEATHER-RESISTANT AND GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLE (NEMA 5-20R) WITH WEATHERPROOF WHILE-IN-USE COVER.</p> <p>H DUPLEX RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT. WALL MOUNTED 48" ABOVE FLOOR TO TOP OF BOX. RECEPTACLES DESIGNATED WITH A "H" SHALL BE HOSPITAL GRADE TYPE.</p> <p>⊞ DOUBLE-DUPLEX (QUADRUPLX) RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT. WALL MOUNTED 48" ABOVE FLOOR TO TOP OF BOX.</p>
DEMOLITION	FIRE DETECTION AND ALARM
<p>⊞ DISCONNECT AND REMOVE EXISTING WIRING IN CONDUIT, UNLESS OTHERWISE NOTED.</p> <p>⊞ DISCONNECT AND REMOVE EXISTING HOMERUN WIRING IN CONDUIT BACK TO SOURCE.</p> <p>⊞ DISCONNECT AND REMOVE EXISTING PANELBOARD OR CABINET AS INDICATED.</p> <p>⊞ DISCONNECT AND REMOVE EXISTING TRANSFORMER, INCLUDING HOUSEKEEPING PAD.</p> <p>⊞ DISCONNECT AND REMOVE EXISTING SAFETY (DISCONNECT) SWITCH.</p> <p>⊞ DISCONNECT EXISTING MOTOR.</p>	<p>⊞ MONITORING MODULES. PROVIDE FIRE ALARM WIRING IN CONDUIT AND CONNECT MONITORING MODULES TO EXISTING FIRE DETECTION AND ALARM SYSTEM FOR "GENERATOR RUN" AND "GENERATOR FAULT". MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. RE-PROGRAM FIRE ALARM CONTROL PANEL AS REQUIRED.</p>
EXISTING	ABBREVIATIONS
<p>⊞ EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE.</p> <p>⊞ EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE.</p> <p>⊞ EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.</p> <p>⊞ EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE ON GENERATOR POWER CIRCUIT, OR PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.</p> <p>⊞ EXISTING EXIT SIGN TO REMAIN.</p> <p>S₁ S₂ EXISTING TO REMAIN WALL MOUNTED SWITCH, SINGLE-POLE OR 3-WAY.</p> <p>⊞ EXISTING TO REMAIN 277/480 PANELBOARD, SURFACE OR FLUSH MOUNTED.</p> <p>⊞ EXISTING TO REMAIN 120/208V PANELBOARD, SURFACE OR FLUSH MOUNTED.</p> <p>⊞ EXISTING TO REMAIN TRANSFORMER.</p> <p>⊞ EXISTING TO REMAIN WIRING IN CONDUIT.</p> <p>⊞ EXISTING TO REMAIN WIRING IN CONDUIT CONTINUED.</p> <p>⊞ EXISTING TO REMAIN WIRING IN CONDUIT TURNING DOWN.</p> <p>⊞ EXISTING TO REMAIN HOMERUN WIRING IN CONDUIT BACK TO SOURCE.</p> <p>⊞ EXISTING TO REMAIN MOTOR CONNECTION.</p> <p>⊞ EXISTING EQUIPMENT CONNECTION TO BE RECONNECTED WHERE INDICATED.</p> <p>⊞ EXISTING TO REMAIN ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH).</p> <p>⊞ EXISTING TO REMAIN COMBINATION MOTOR STARTER / DISCONNECT.</p> <p>⊞ EXISTING TO REMAIN WALL MOUNTED DUPLEX RECEPTACLE.</p>	<p>A, AMP AMPERE(S)</p> <p>AIC AMPERES INTERRUPTING CAPACITY</p> <p>ATS AUTOMATIC TRANSFER SWITCH</p> <p>C CONDUIT</p> <p>CB CIRCUIT BREAKER</p> <p>CIRC CIRCULATING</p> <p>CKT CIRCUIT</p> <p>CT CURRENT TRANSFORMERS</p> <p>DIST DISTRIBUTION</p> <p>ELEV ELEVATOR</p> <p>EM EMERGENCY</p> <p>ETR EXISTING TO REMAIN</p> <p>EX EXISTING</p> <p>FA FIRE ALARM</p> <p>FAAP FIRE ALARM ANNUNCIATOR PANEL</p> <p>FACP FIRE ALARM CONTROL PANEL</p> <p>G GROUND</p> <p>GFCI GROUND FAULT CIRCUIT INTERRUPTER</p> <p>H HOT</p> <p>HP HORSEPOWER</p> <p>KVA KILOVOLT-AMPERES</p> <p>KW KILOWATTS</p> <p>LTG LIGHTING</p> <p>MCPS MONTGOMERY COUNTY PUBLIC SCHOOLS</p> <p>MIN MINIMUM</p> <p>N NEUTRAL</p> <p>NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION</p> <p>P POLE(S) OR PUMP</p> <p>PA PUBLIC ADDRESS</p> <p>PH PHASE</p> <p>PNL PANEL</p> <p>PSI POUNDS PER SQUARE INCH</p> <p>PVC POLYVINYL CHLORIDE</p> <p>REC RECEPTACLE</p> <p>REFRIG REFRIGERATOR</p> <p>RK REMOVE EXISTING</p> <p>SPD SURGE PROTECTIVE DEVICE</p> <p>STOR STORAGE</p> <p>V VOLT(S)</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>W WIRE(S)</p> <p>XFMR TRANSFORMER</p>



2 E-1
DETAIL
TYPICAL UFER GROUND
NOT TO SCALE



1 E-1
DETAIL
GENERATOR CONCRETE PAD
NOT TO SCALE



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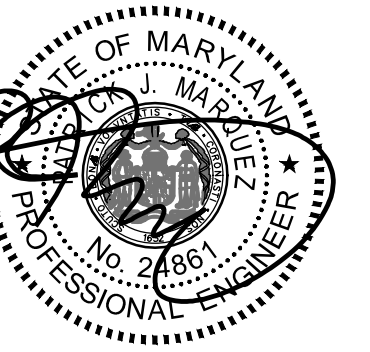
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Date	MARCH 8, 2024	
Drawing Title	SYMBOLS LIST, ABBREVIATIONS, DETAILS AND DIAGRAMS	
Sheet No	E-1	

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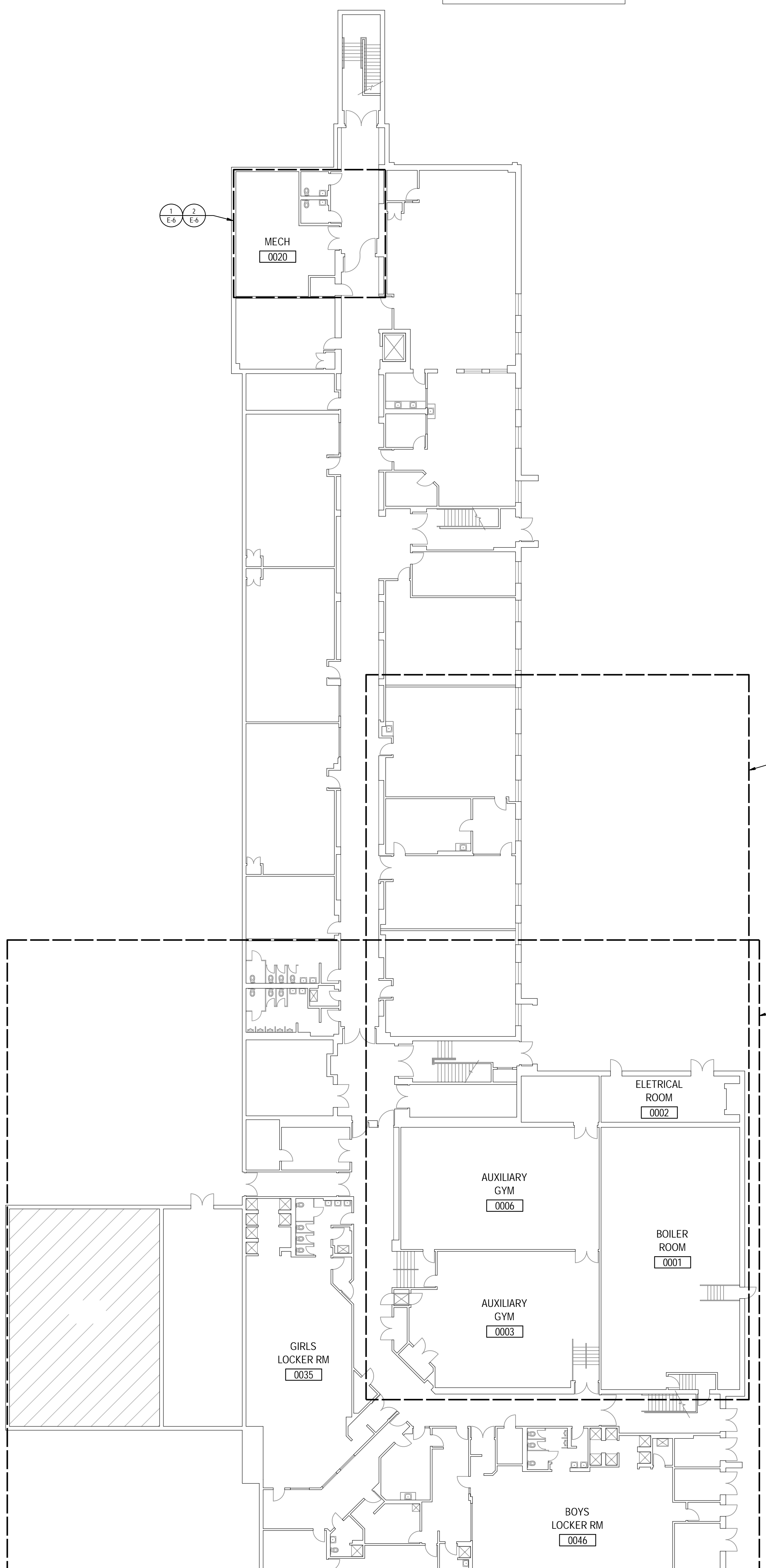
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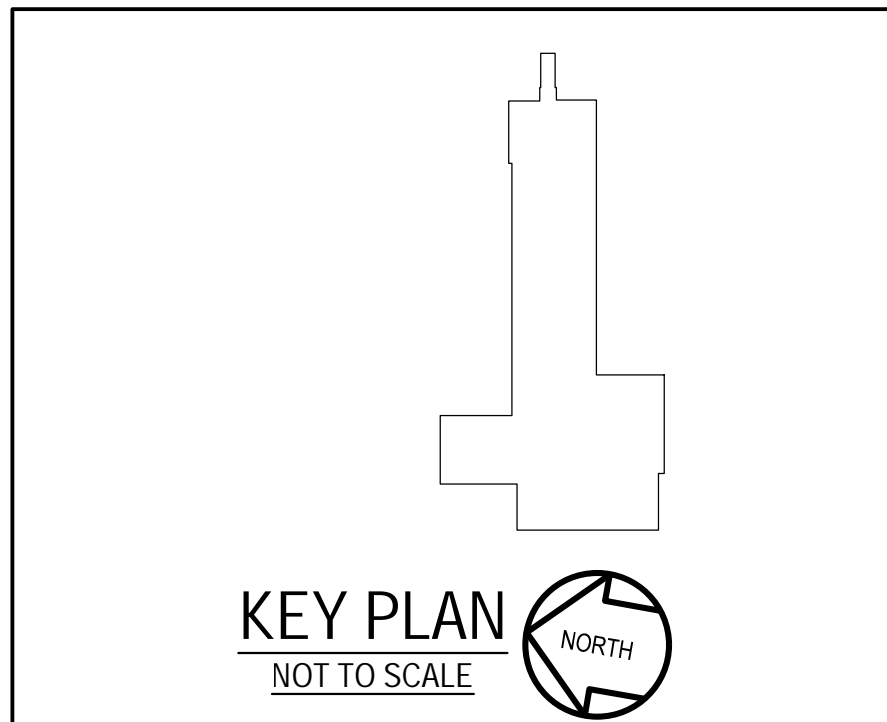
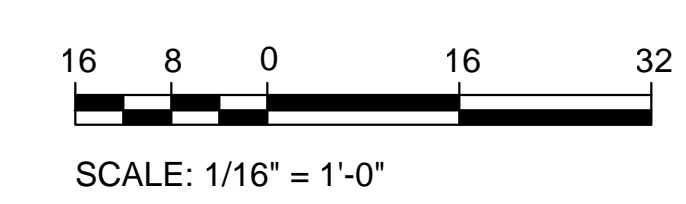
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Drawing Title
**LOWER LEVEL
 REFERENCE PLAN**

Sheet No:
E-2

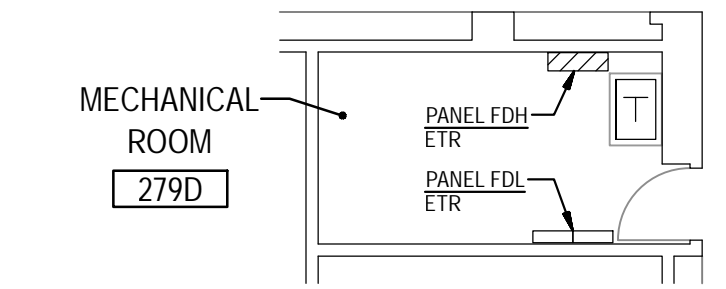
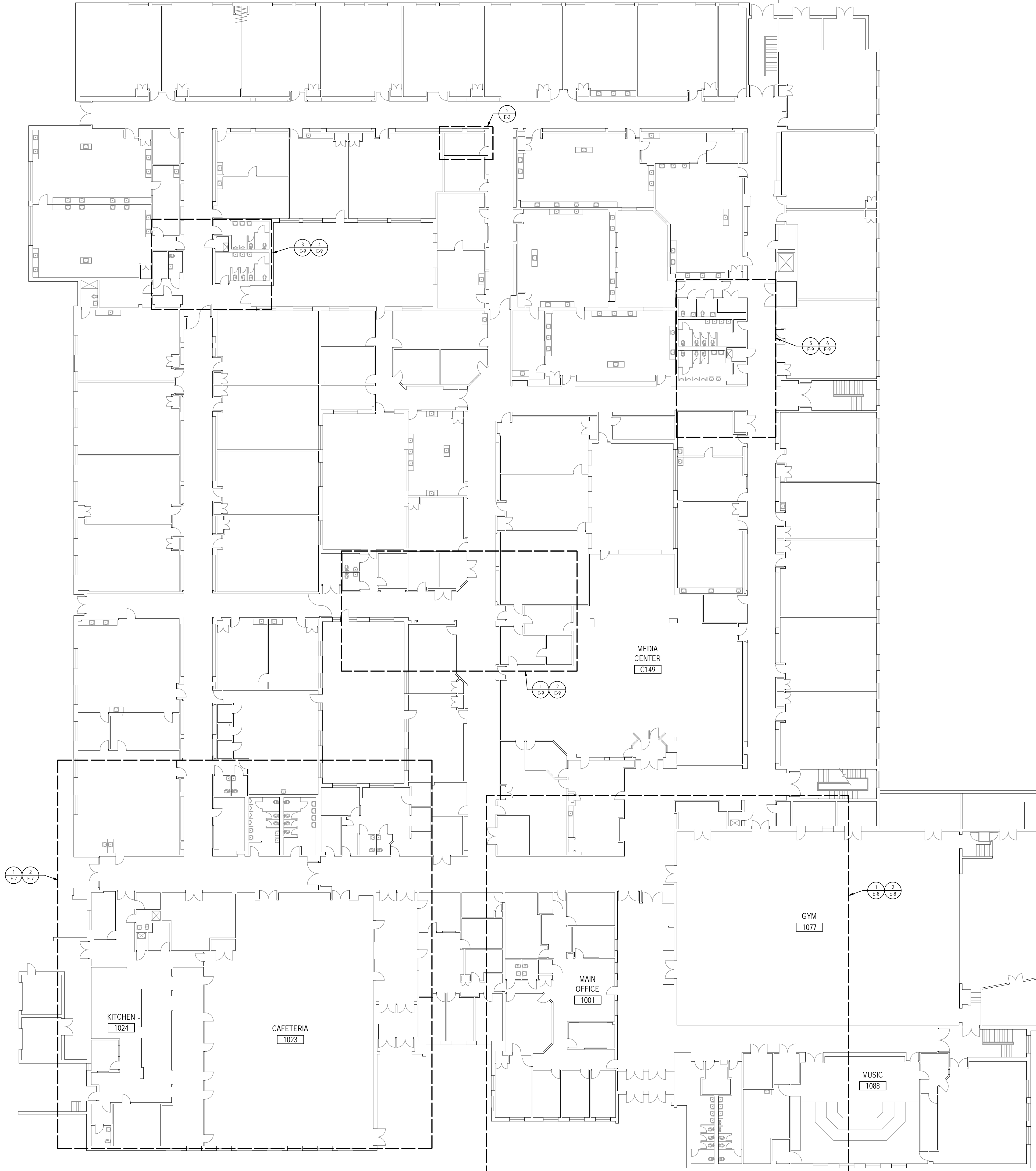


1
 E-2
**LOWER LEVEL
 REFERENCE PLAN**
 SCALE: 1/16" = 1'-0"

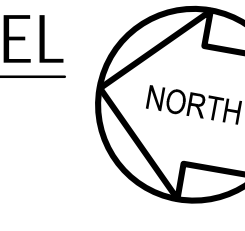


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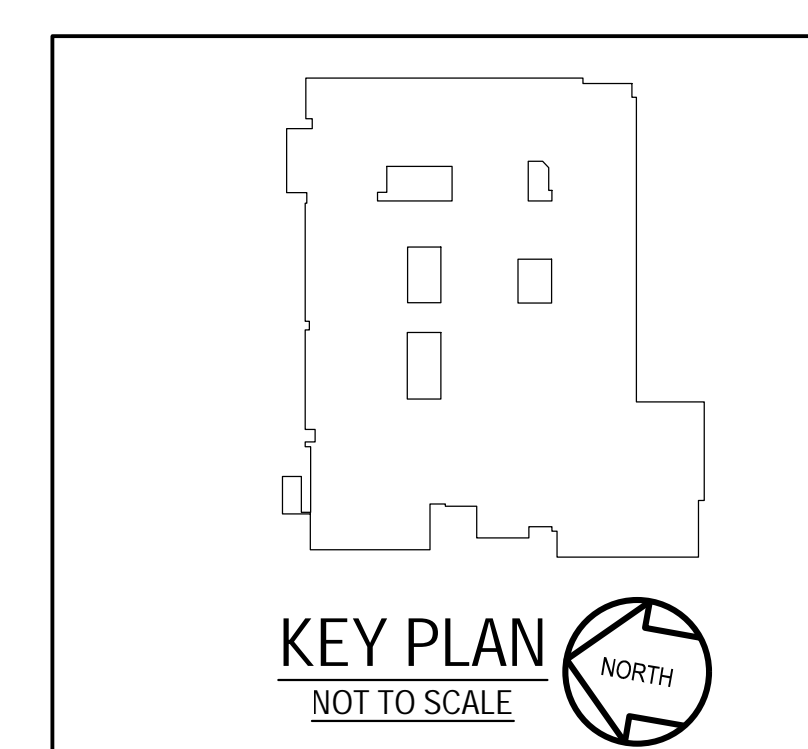
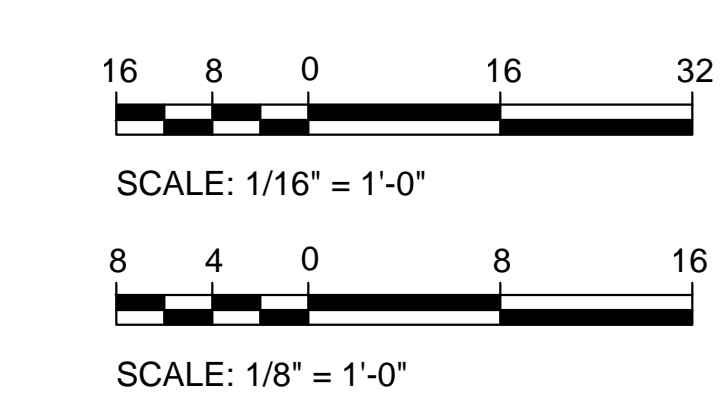
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2
E-3
PART PLAN MAIN LEVEL
EXISTING CONDITIONS
SCALE: 1/8" = 1'-0"

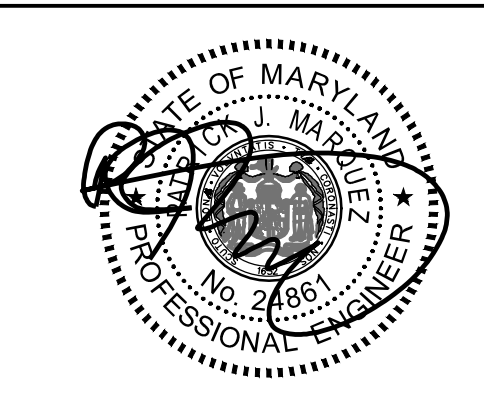


1
E-3
MAIN LEVEL
REFERENCE PLAN
SCALE: 1/16" = 1'-0"



KEY PLAN
NOT TO SCALE

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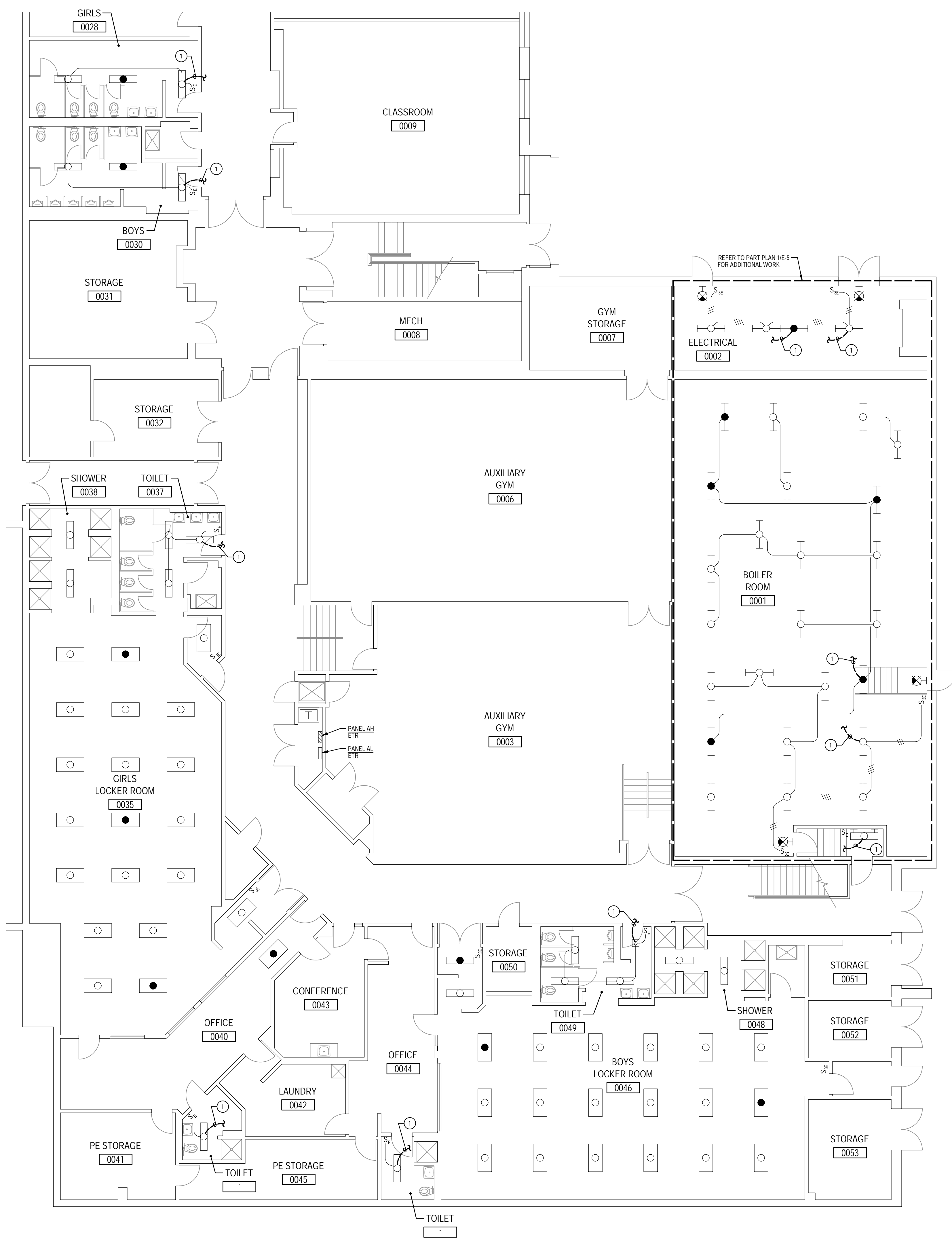
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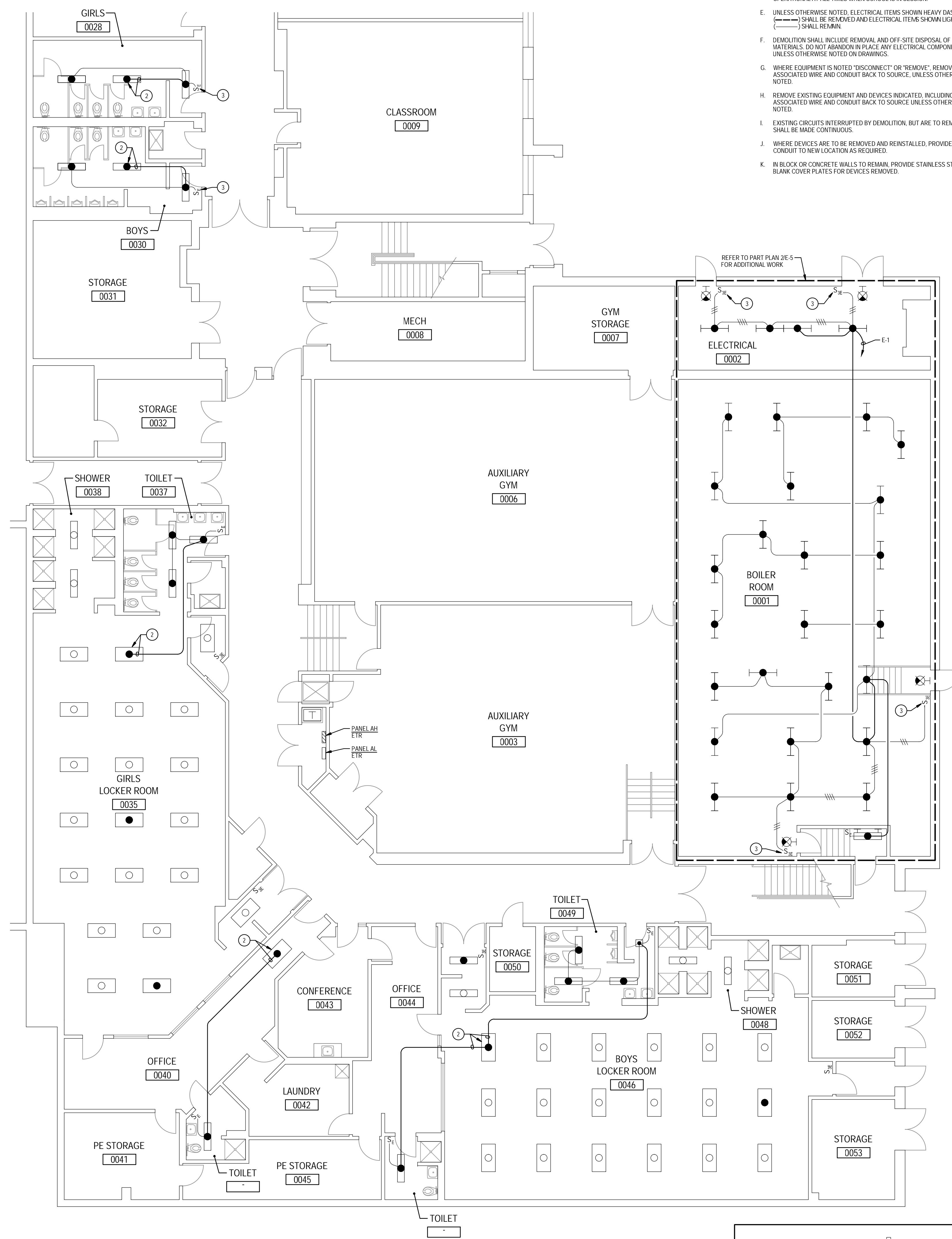
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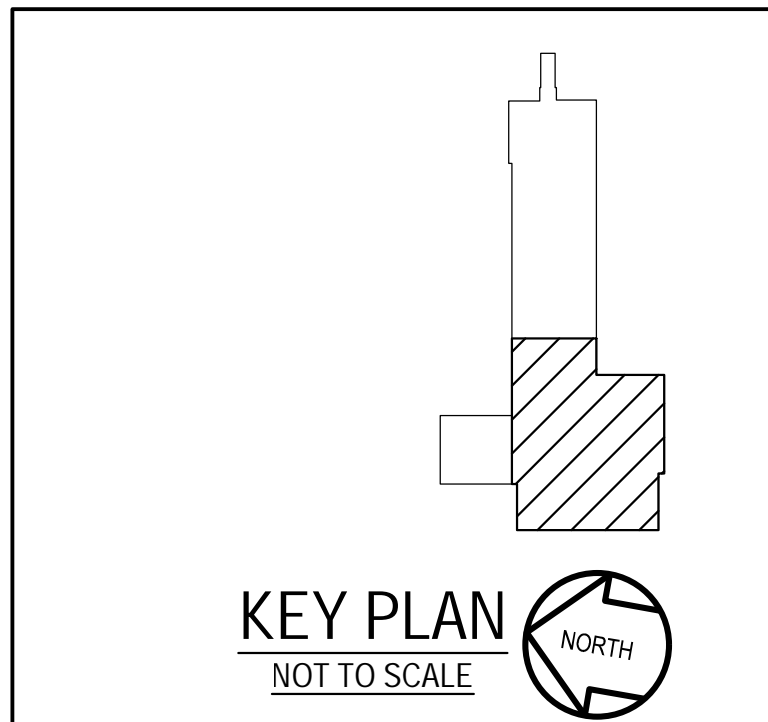
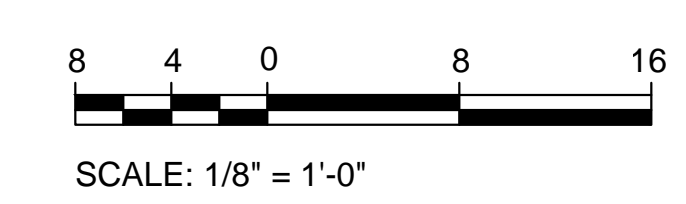
Sheet No:
E-3



1
E-4
PART LOWER LEVEL PLAN
DEMOLITION
SCALE: 1/8" = 1'-0"
NORTH



2
E-4
PART LOWER LEVEL PLAN
NEW WORK
SCALE: 1/8" = 1'-0"
NORTH



- SPECIFIC NOTES:**
- DISCONNECT AND REMOVE EXISTING WIRING IN CONDUIT SERVING EXISTING LIGHTING FIXTURE(S).
 - PROVIDE 2 #12 + #12 GROUND IN 3" CONDUIT AND CONNECT TO NEAREST EXISTING UNSWITCHED EMERGENCY LIGHTING CIRCUIT.
 - REWIRE EXISTING SWITCH SO THAT SWITCH CONTROLS ALL EMERGENCY LIGHTING FIXTURES WITHIN THE ROOM.

- GENERAL NOTES:**
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 - THE EXISTING FACILITY SHALL REMAIN IN OPERATION DURING RENOVATION. INTERRUPTION TO THE EXISTING BUILDING ELECTRIC SERVICE SHALL BE COORDINATED WITH THE OWNER TO MINIMIZE DISRUPTION. INTERRUPTION OF UTILITIES SHALL NOT OCCUR DURING SCHOOL WORKING HOURS.
 - REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
 - CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.
 - UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (—) SHALL REMAIN.
 - DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
 - WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
 - REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
 - EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
 - WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
 - IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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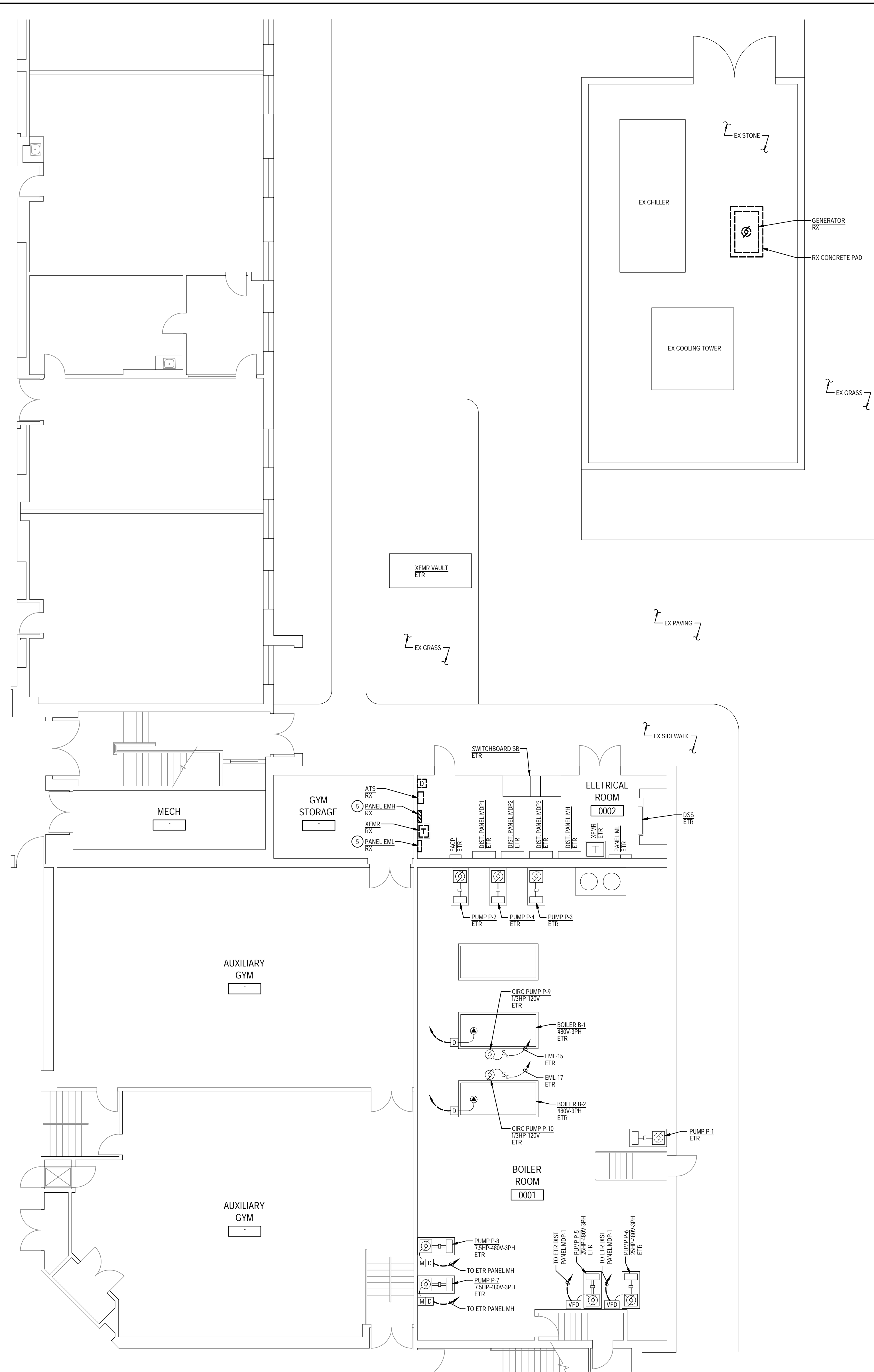
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Drawing Title
LOWER LEVEL PART PLANS

Sheet No:
E-4



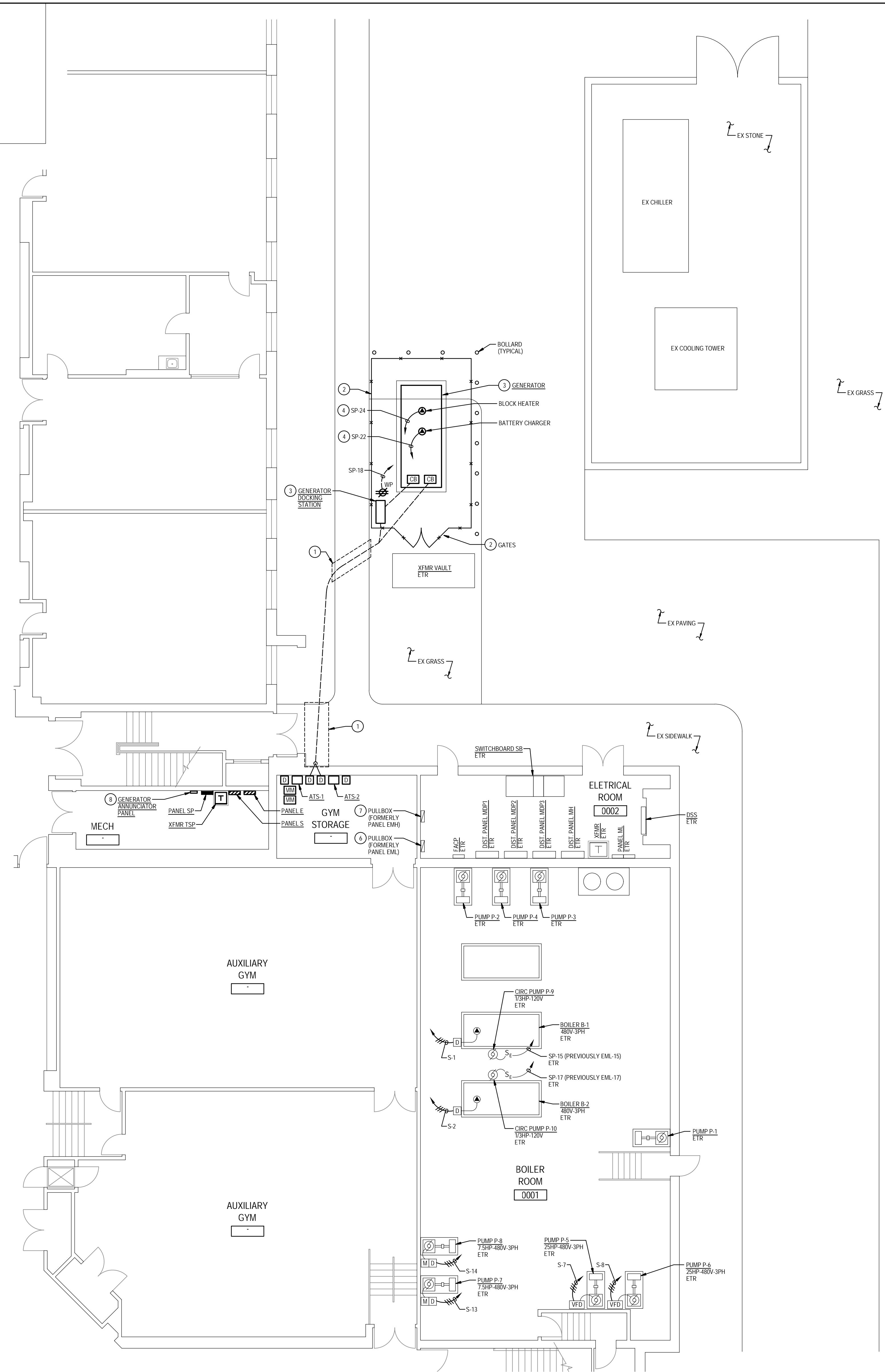
1
E-5
PART LOWER LEVEL PLAN
DEMOLITION
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

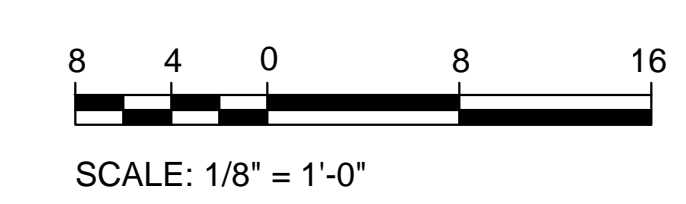
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- REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
- CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR OR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.
- UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (---) SHALL REMAIN.
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- EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
- WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
- IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

SPECIFIC NOTES:

- CUT AND PATCH EXISTING CONCRETE SIDEWALK AS NEEDED FOR INSTALLATION OF GENERATOR DUCTBANK.
- PROVIDE 8' TALL CHAIN LINK FENCE WITH 8'-0" WIDE OPENING AND TWO 4'-0" WIDE GATES.
- REFER TO POWER RISER DIAGRAM 21E-10 FOR CONNECTIONS AND ADDITIONAL INFORMATION ON ELECTRICAL EQUIPMENT AS NOTED. LOCATE GENERATOR SO THAT EXHAUST PIPE IS FURTHEST FROM BUILDING.
- ROUTE CONDUIT(S) IN GENERATOR DUCTBANK. REFER TO DETAIL 7E-1.
- DISCONNECT EXISTING BRANCH CIRCUITS FROM CIRCUIT BREAKERS. EXISTING BRANCH CIRCUITS SHALL REMAIN. REMOVE INTERIOR COMPONENTS (CIRCUIT BREAKERS) OF EXISTING PANEL. PANEL ENCLOSURE SHALL REMAIN AND BECOME A PULLBOX.
- UTILIZE PANELBOARD ENCLOSURE AS A PULLBOX TO INTERCEPT AND SPICE EXISTING BRANCH CIRCUITS EM-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 20, 26, AND 28 AND EXTEND TO PANEL SP. REFER TO SPECIFIC NOTE 5 ON THIS DRAWING AND WIRING SCHEDULE FOR PANEL SP ON DRAWING E-11 FOR ADDITIONAL INFORMATION.
- REMOVE PORTION OF EXISTING BRANCH CIRCUITS EM-4, 3, 4, 5, AND 7 TO ABOVE ACCESSIBLE CEILING SPACE FOR SPlicing TO NEW PANEL. REFER TO SPECIFIC NOTE 5 ON THIS DRAWING AND WIRING SCHEDULE FOR PANEL E ON DRAWING E-11 FOR ADDITIONAL INFORMATION.
- COORDINATE EXACT LOCATION OF GENERATOR ANNUNCIATOR PANEL WITH MCPs.



2
E-5
PART LOWER LEVEL PLAN
NEW WORK
SCALE: 1/8" = 1'-0"



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Sheet No.
E-5

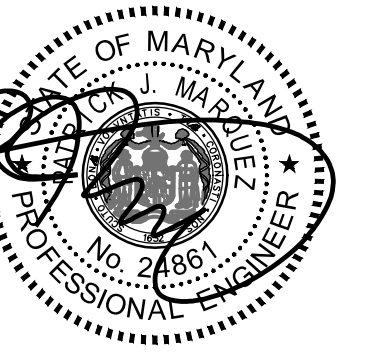
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- E. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (---) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (—) SHALL REMAIN.
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- G. WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE": REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
- H. REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
- I. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTIGUOUS.
- J. WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
- K. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

SPECIFIC NOTES:

- 1 DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRING SERVING EXISTING LIGHTING FIXTURE(S).
- 2 PROVIDE 2 #12 - #12 GROUND IN 3/4" CONDUIT AND CONNECT TO NEAREST EXISTING UNSWITCHED EMERGENCY LIGHTING CIRCUIT AS SHOWN.

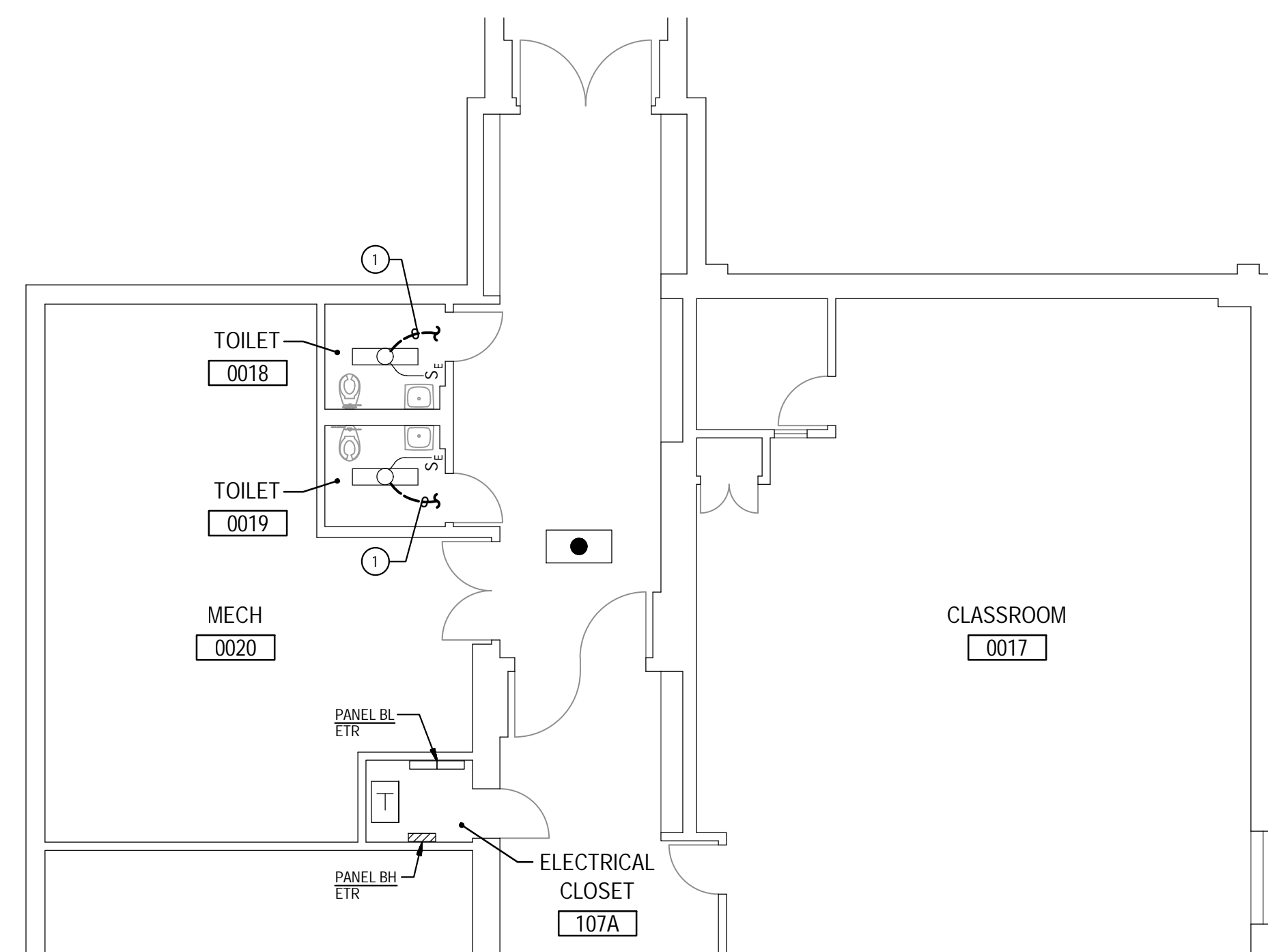
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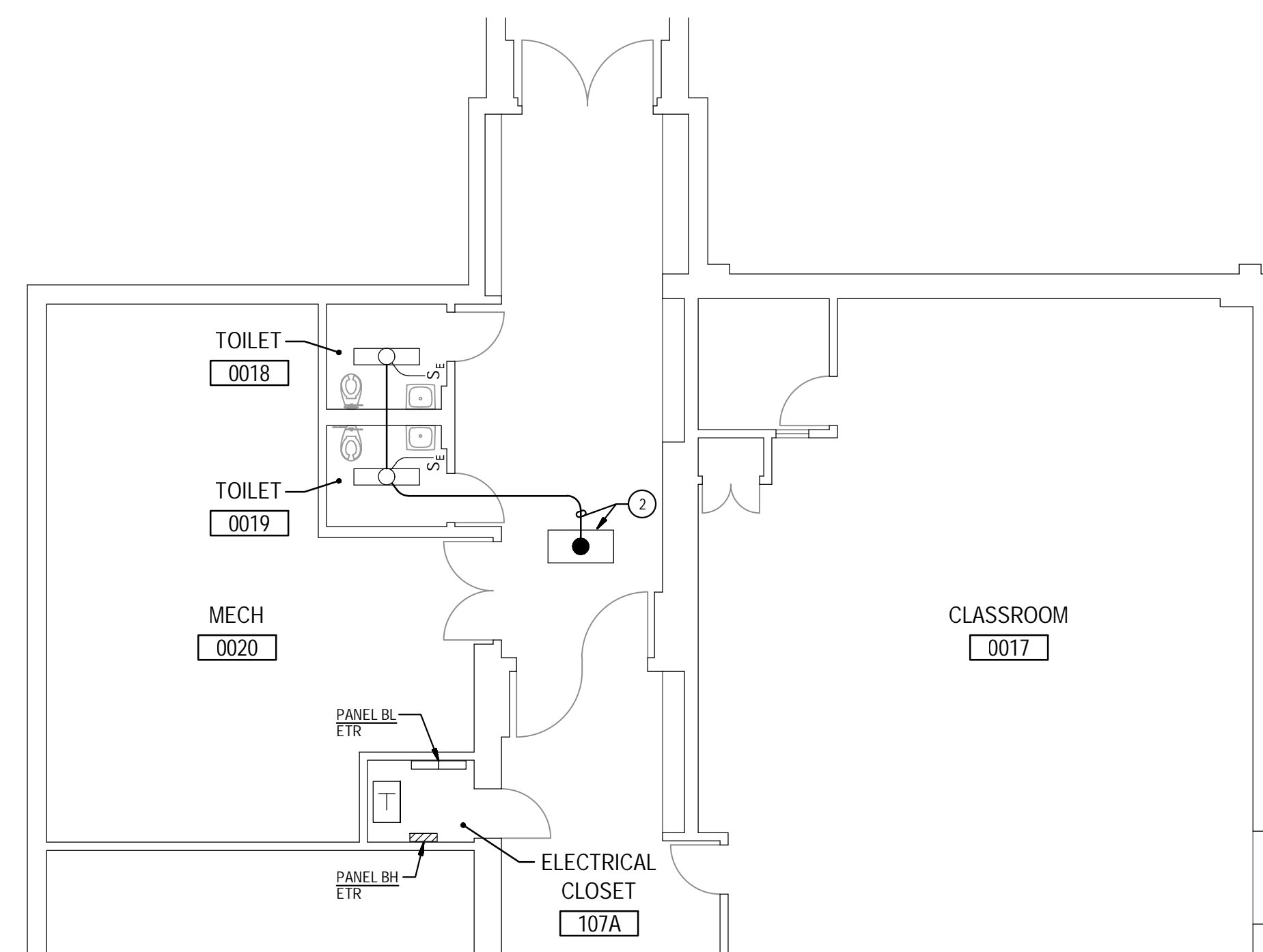
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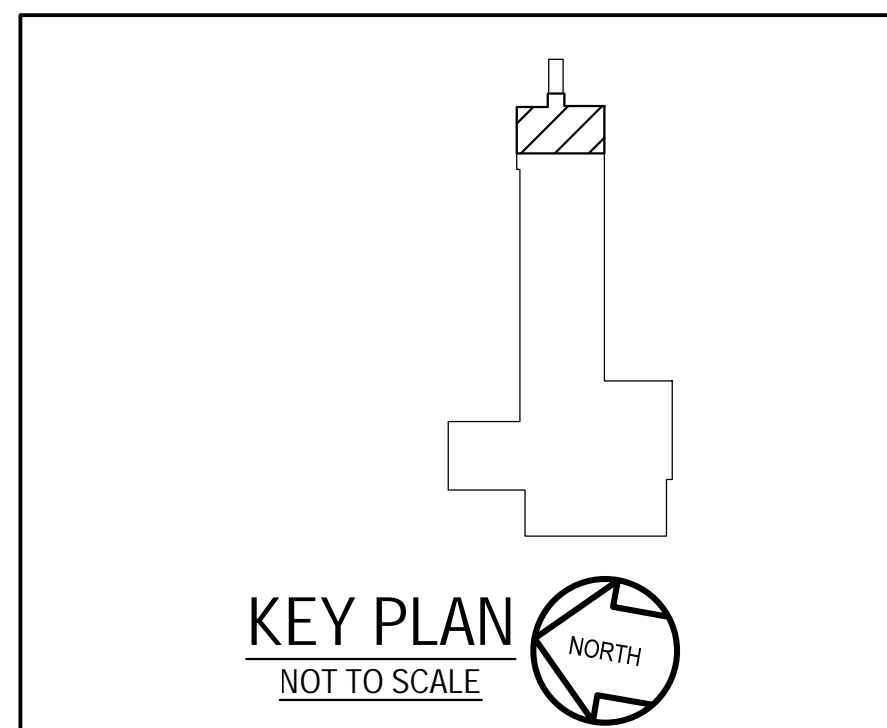
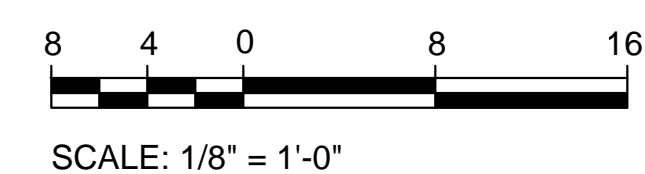
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1 PART LOWER LEVEL PLAN
 E-6 DEMOLITION
 SCALE: 1/8" = 1'-0"
 NORTH



2 PART LOWER LEVEL PLAN
 E-6 NEW WORK
 SCALE: 1/8" = 1'-0"
 NORTH



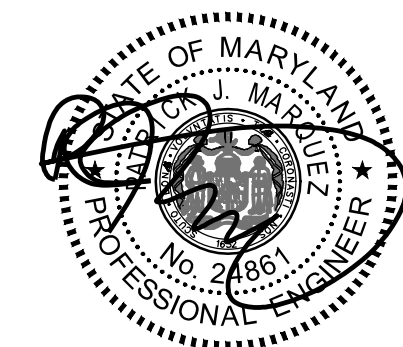
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PSC No	
Scale	AS NOTED
Project No	7904-23
Date	MARCH 8, 2024

Drawing Title
**MAIN LEVEL
 PART PLANS**

Sheet No:
E-7

GENERAL NOTES:

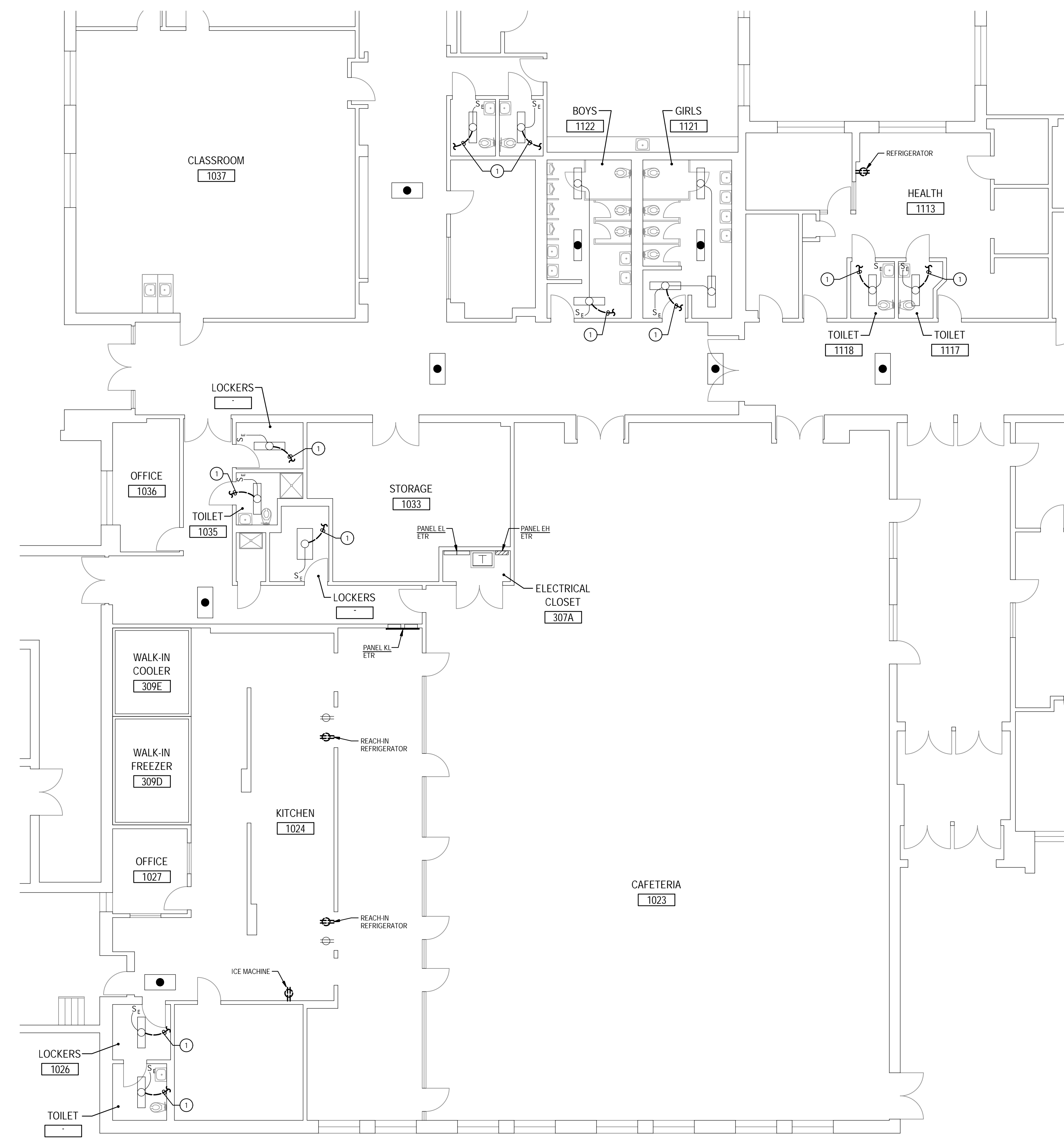
- A. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
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- C. REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.
- D. CONSTRUCTION SHALL BE PERFORMED IN PHASES. AVOID INTERRUPTION TO ANY SERVICES. GENERATOR POWER DISTRIBUTION SYSTEM SHALL BE OPERATIONAL AT ALL TIMES WHEN SCHOOL IS IN SESSION.
- E. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID SHALL REMAIN.

GENERAL NOTES:

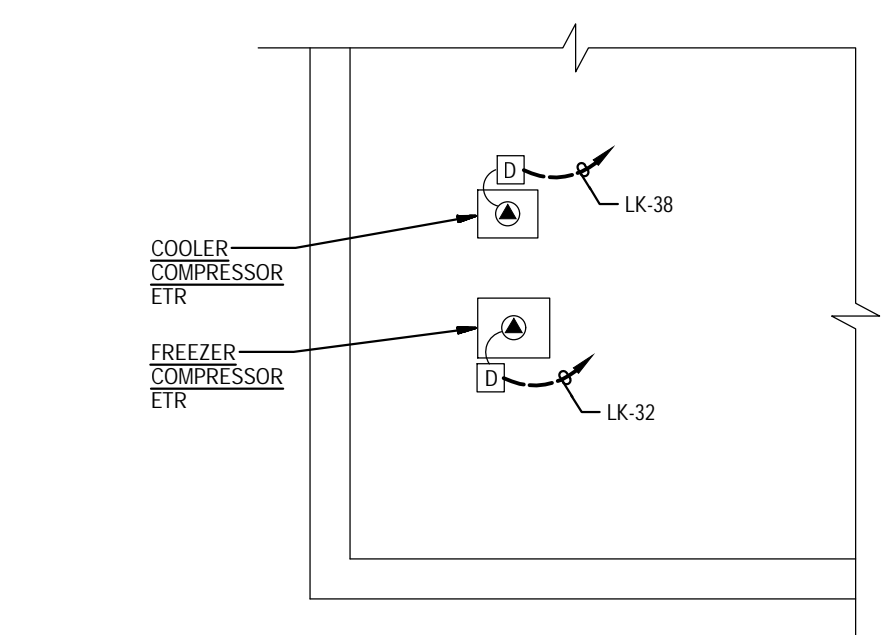
- F. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
- G. WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
- H. REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.
- I. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.
- J. WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.
- K. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

SPECIFIC NOTES:

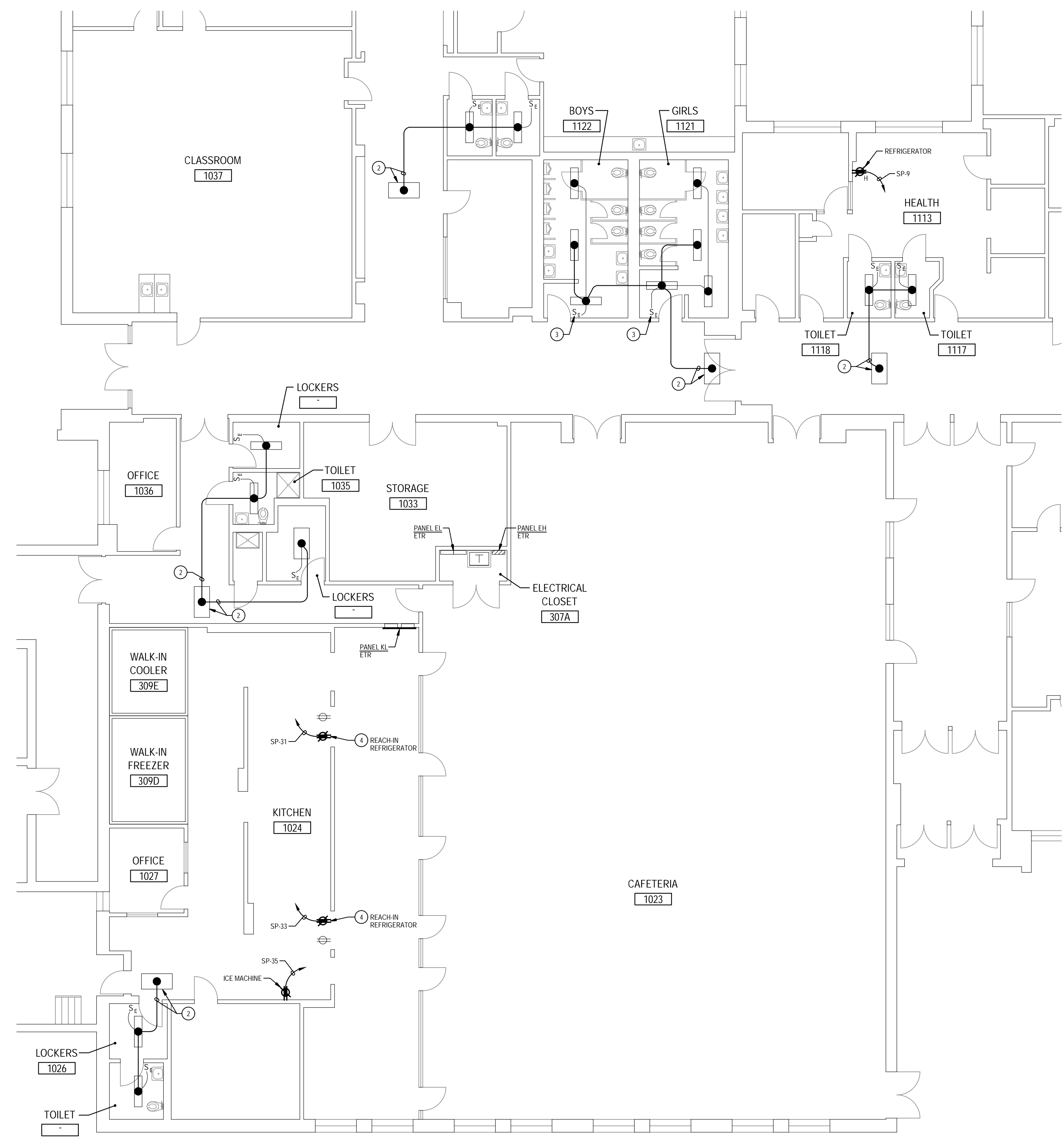
- 1 DISCONNECT AND REMOVE EXISTING CONDUIT AND WIRING SERVING EXISTING LIGHTING FIXTURE(S)
- 2 PROVIDE 2 #12 + #12 GROUND IN 3/4" CONDUIT AND CONNECT TO NEAREST EXISTING UNSWITCHED EMERGENCY LIGHTING CIRCUIT AS SHOWN.
- 3 REWIRE EXISTING SWITCH SO THAT SWITCH CONTROLS ALL EMERGENCY LIGHTING FIXTURES WITHIN THE ROOM.
- 4 MOUNTING HEIGHT SHALL MATCH DEMOLISHED RECEPTACLE.



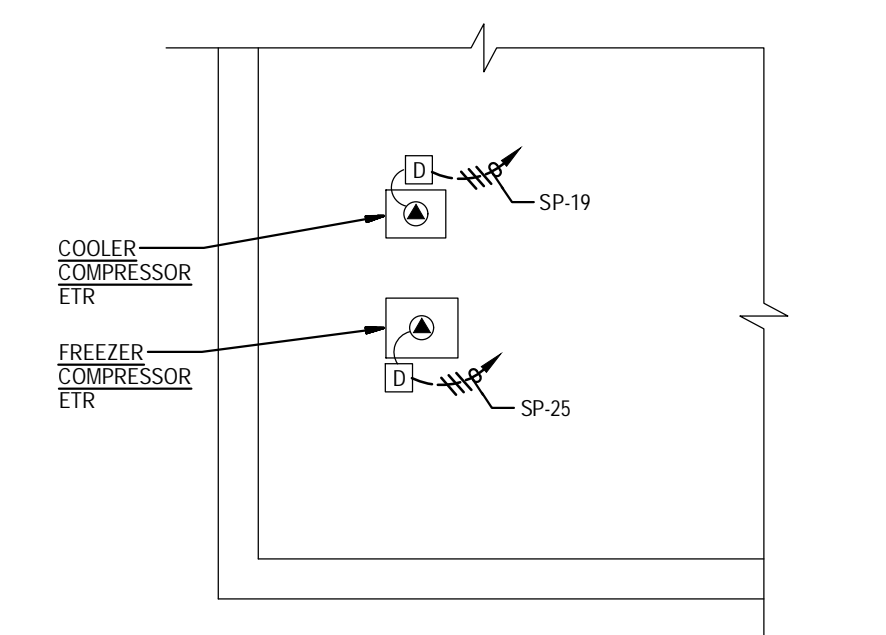
1 PART MAIN LEVEL PLAN
 DEMOLITION
 SCALE: 1/8" = 1'-0"



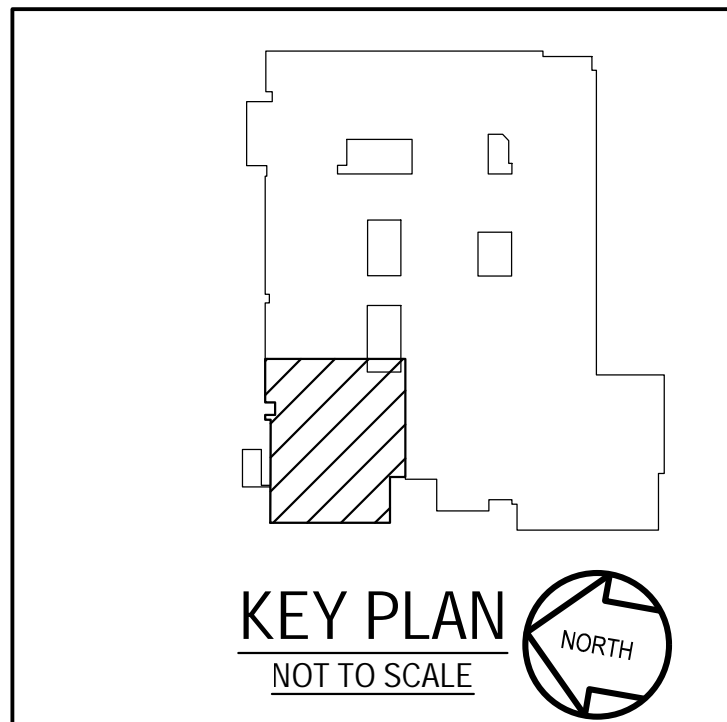
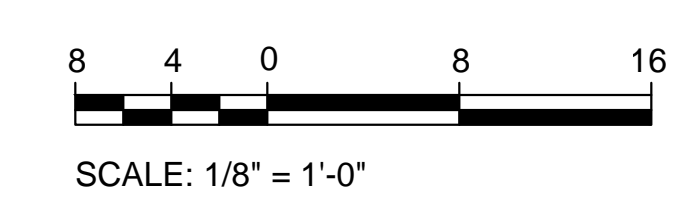
3 PART ROOF PLAN
 DEMOLITION
 SCALE: 1/8" = 1'-0"



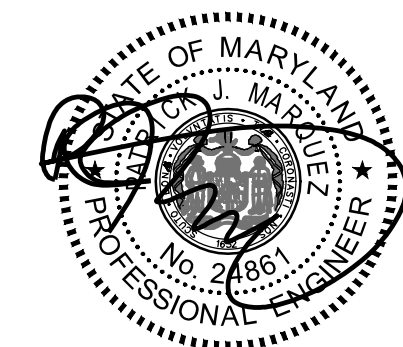
2 PART MAIN LEVEL PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"



4 PART ROOF PLAN
 NEW WORK
 SCALE: 1/8" = 1'-0"



GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
EARLE B. WOOD MIDDLE SCHOOL
 14615 BAUER DRIVE
 ROCKVILLE, MD 20853
 MONTGOMERY COUNTY PUBLIC SCHOOLS



Professional Certification
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 24861, Expiration date: 02-24-2026.

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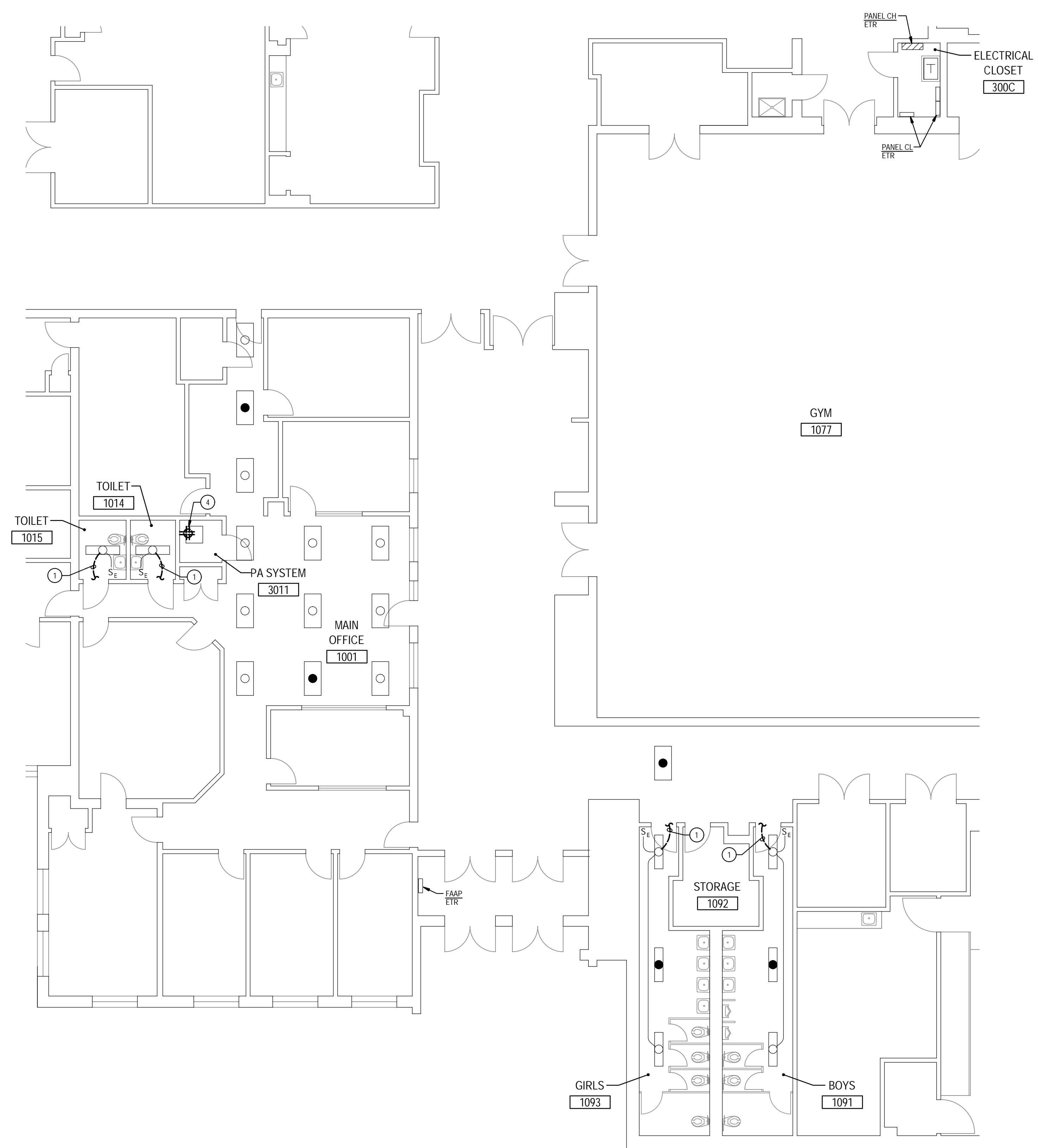
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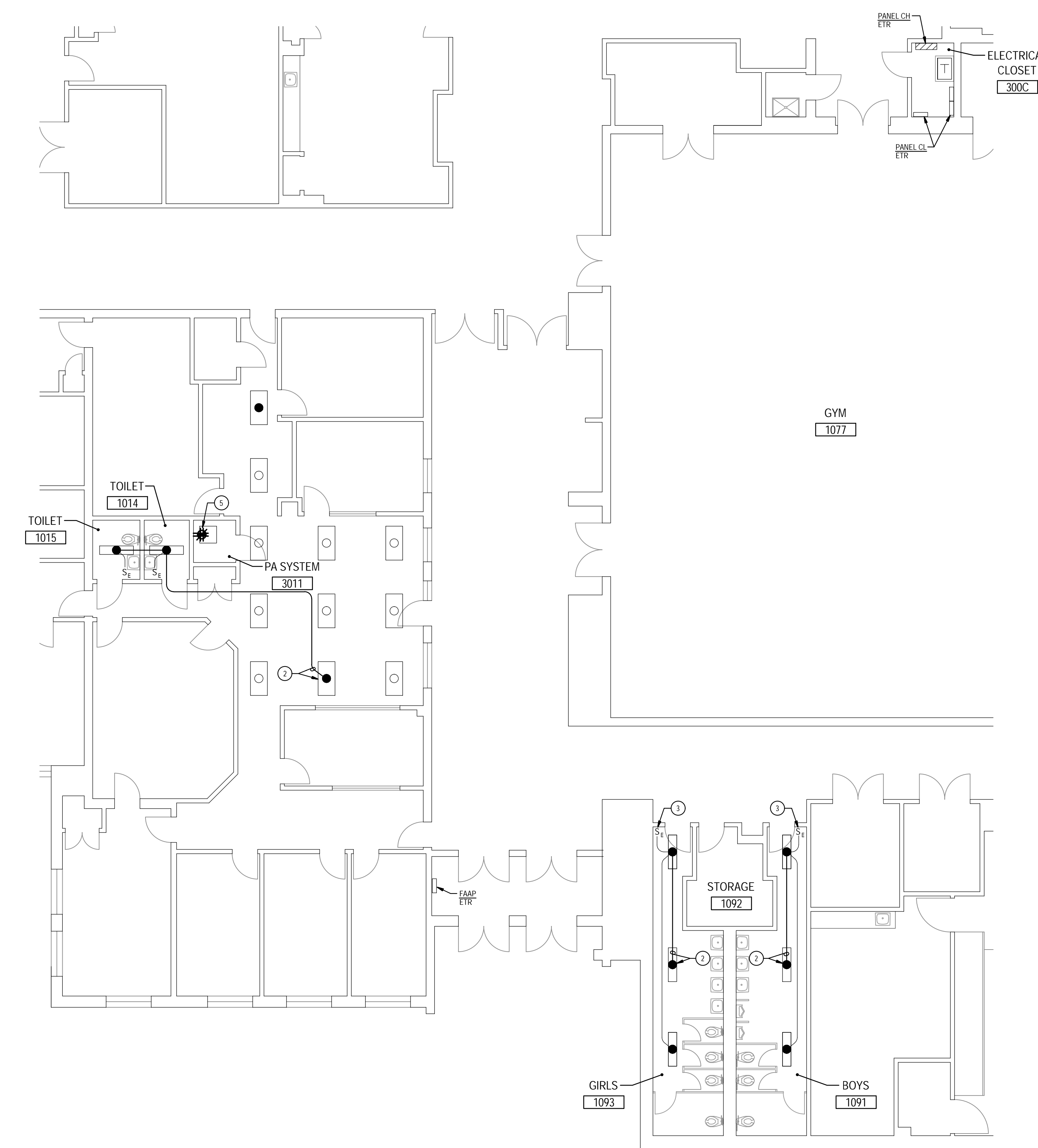
Drawing Title
MAIN LEVEL PART PLANS

Sheet No:
E-8

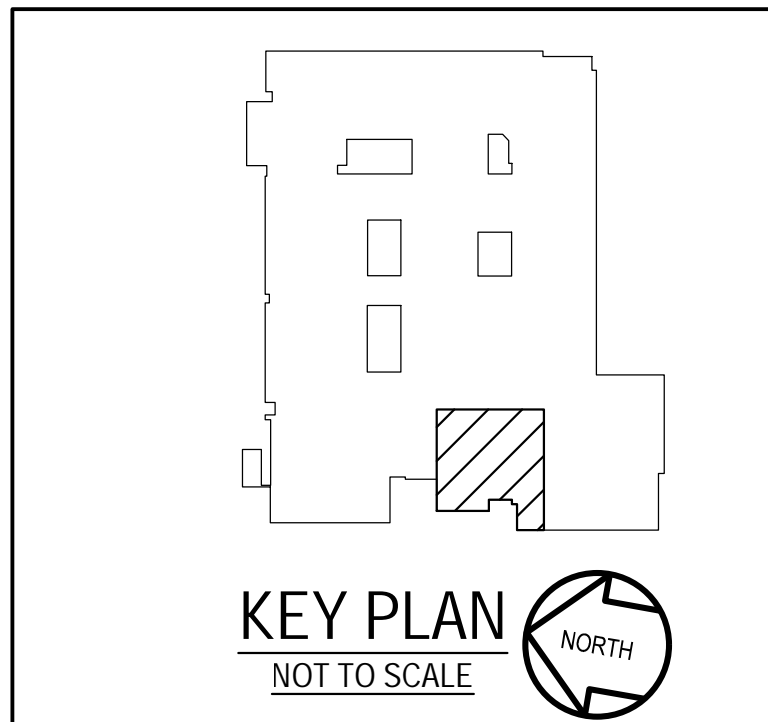
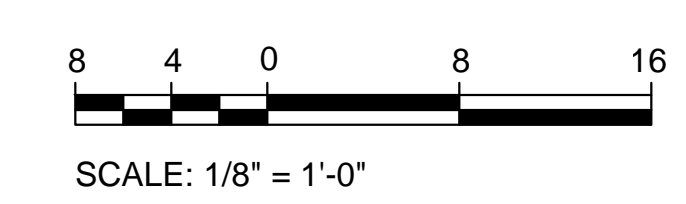
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 - REWIRE EXISTING SWITCH SO THAT SWITCH CONTROLS ALL EMERGENCY LIGHTING FIXTURES WITHIN THE ROOM.
 - DISCONNECT AND REMOVE EXISTING QUADRIPLEX RECEPTACLE AND COVER PLATE. EXISTING CONDUIT, OUTLET BOX, AND WIRING TO REMAIN FOR REUSE.
 - PROVIDE QUADRIPLEX RECEPTACLE IN EXISTING OUTLET BOX AND RECONNECT TO EXISTING WIRING.



1 PART MAIN LEVEL PLAN
E-8 DEMOLITION
 SCALE: 1/8" = 1'-0"
 NORTH



2 PART MAIN LEVEL PLAN
E-8 NEW WORK
 SCALE: 1/8" = 1'-0"
 NORTH



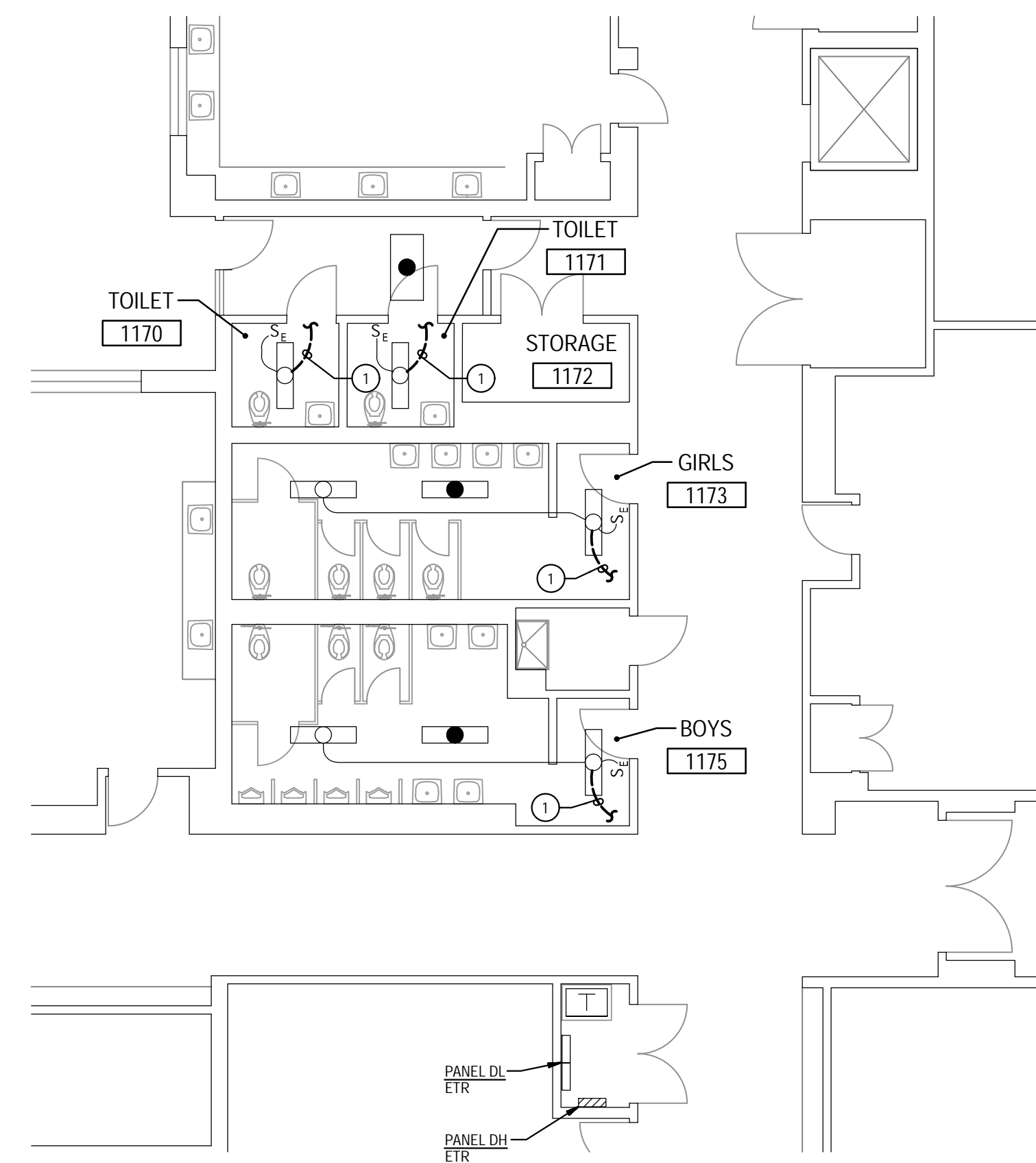
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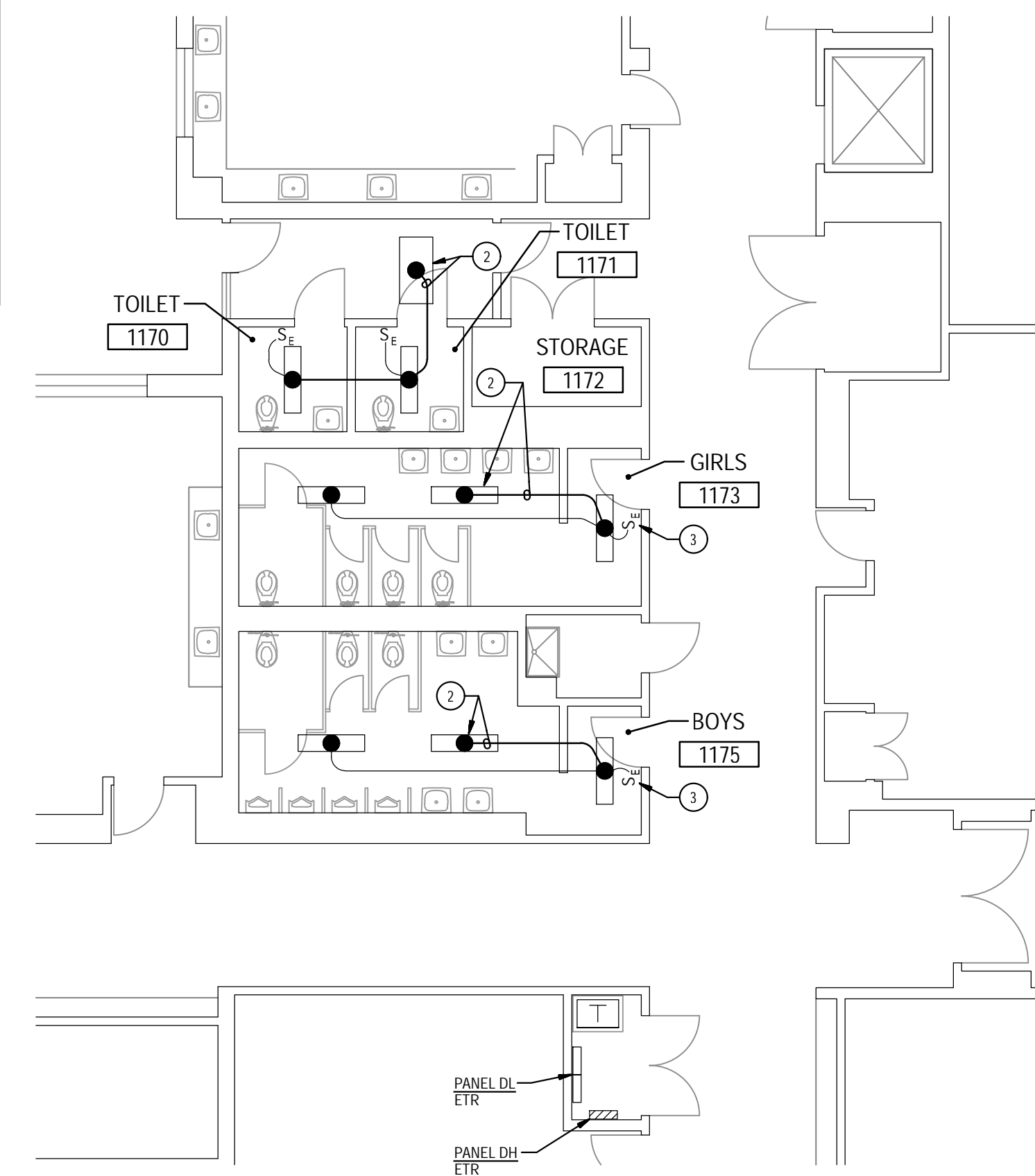
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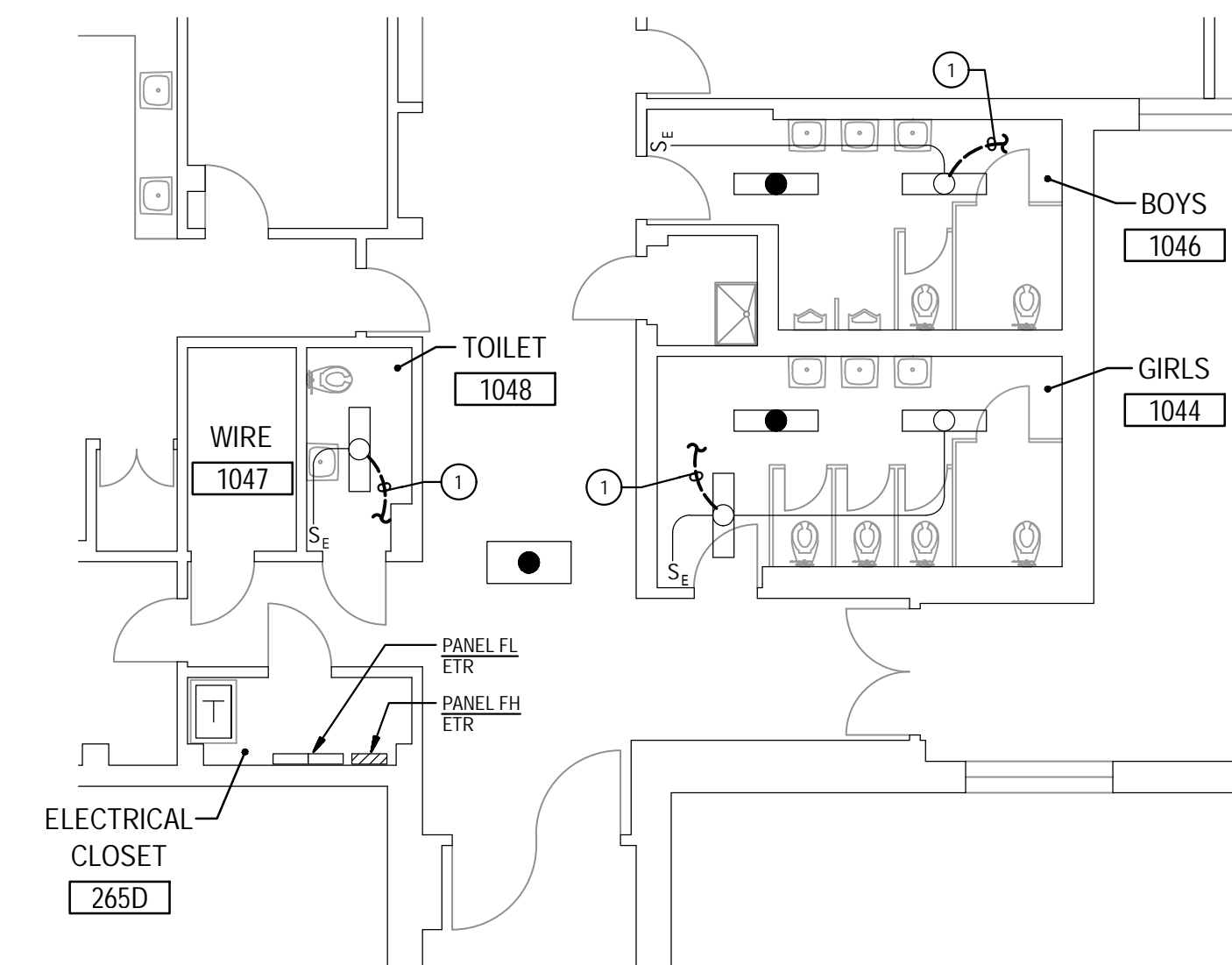
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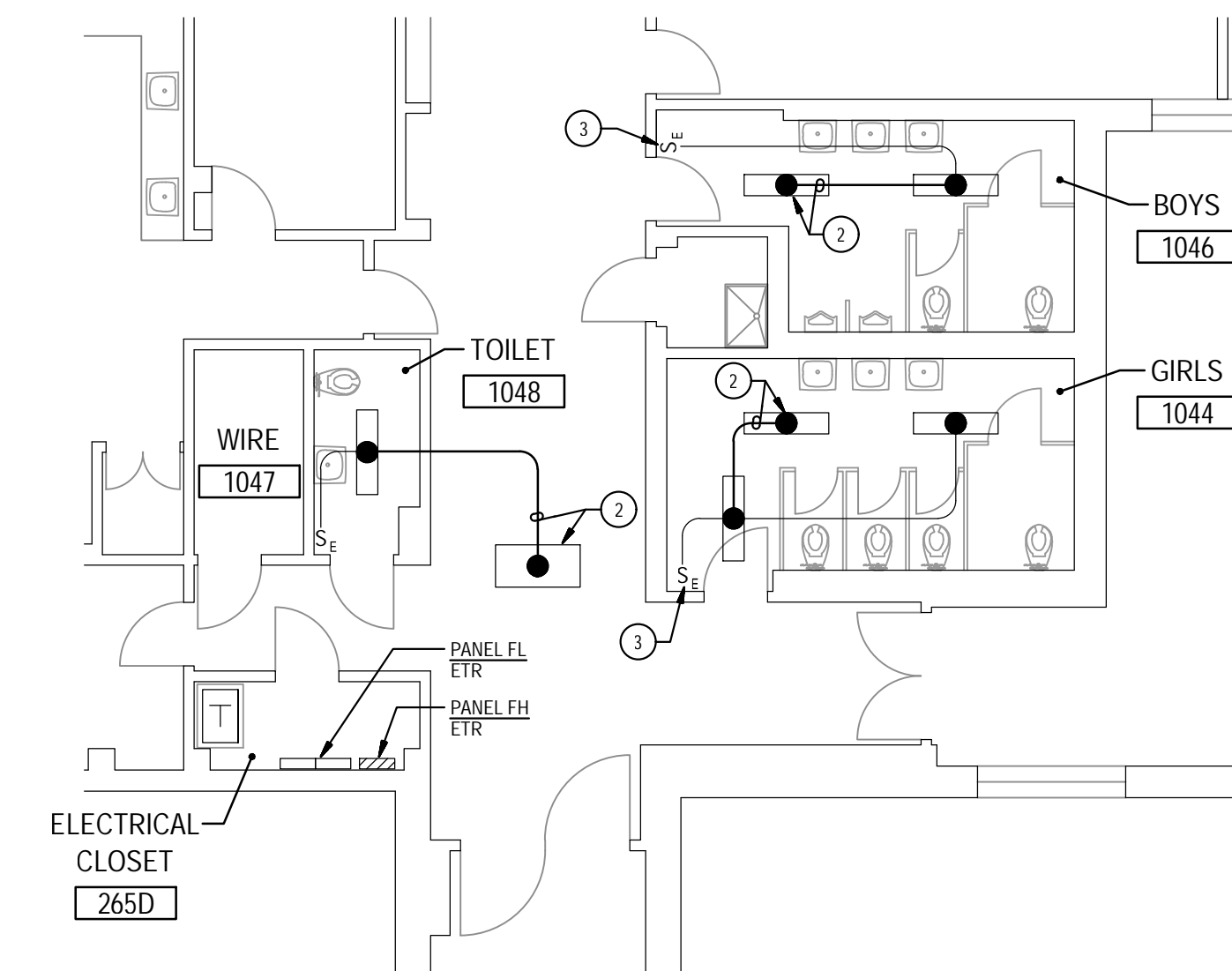
5 PART MAIN LEVEL PLAN
 E-9 DEMOLITION
 SCALE: 1/8" = 1'-0" NORTH



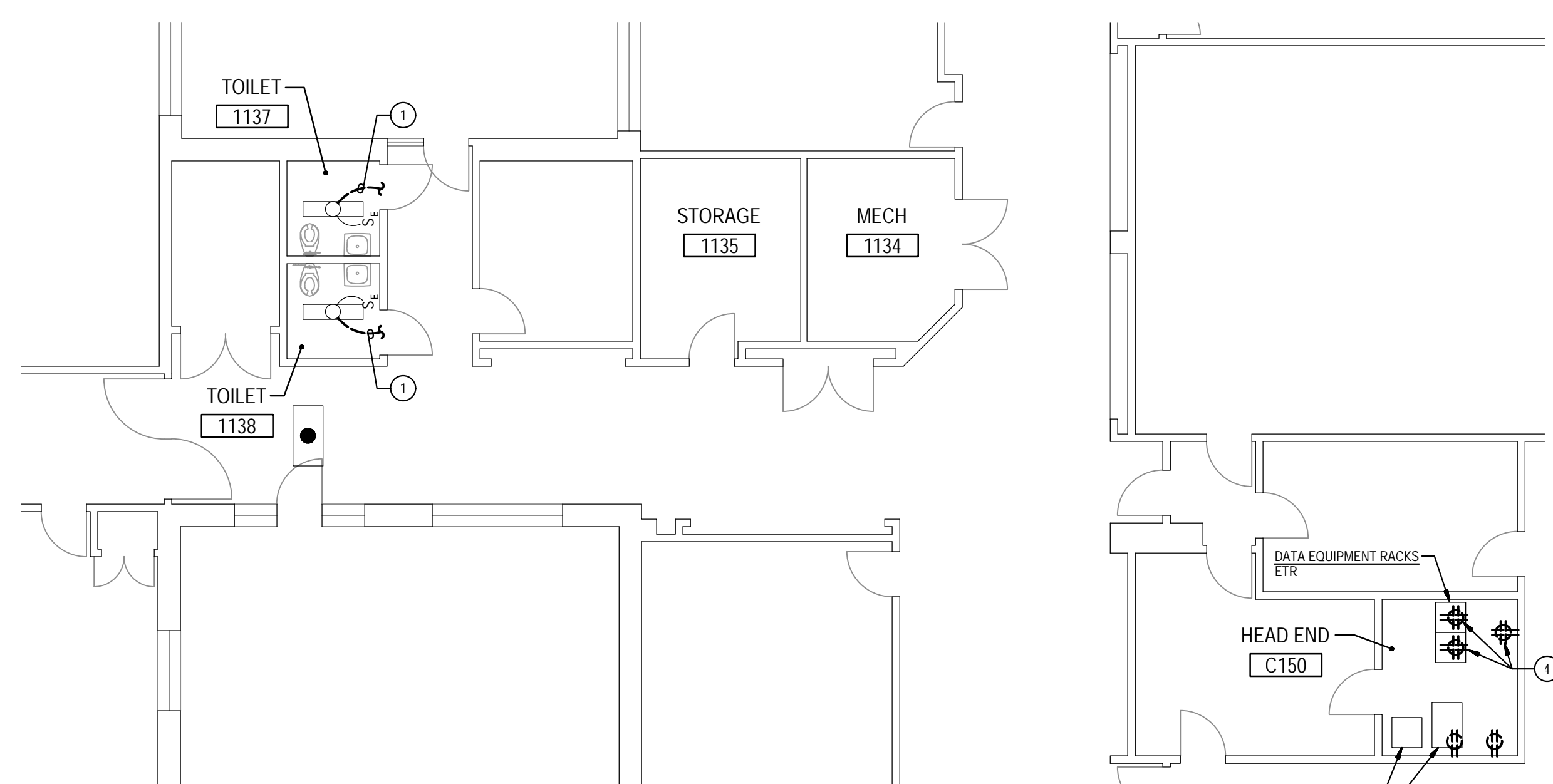
6 PART MAIN LEVEL PLAN
 E-9 NEW WORK
 SCALE: 1/8" = 1'-0" NORTH



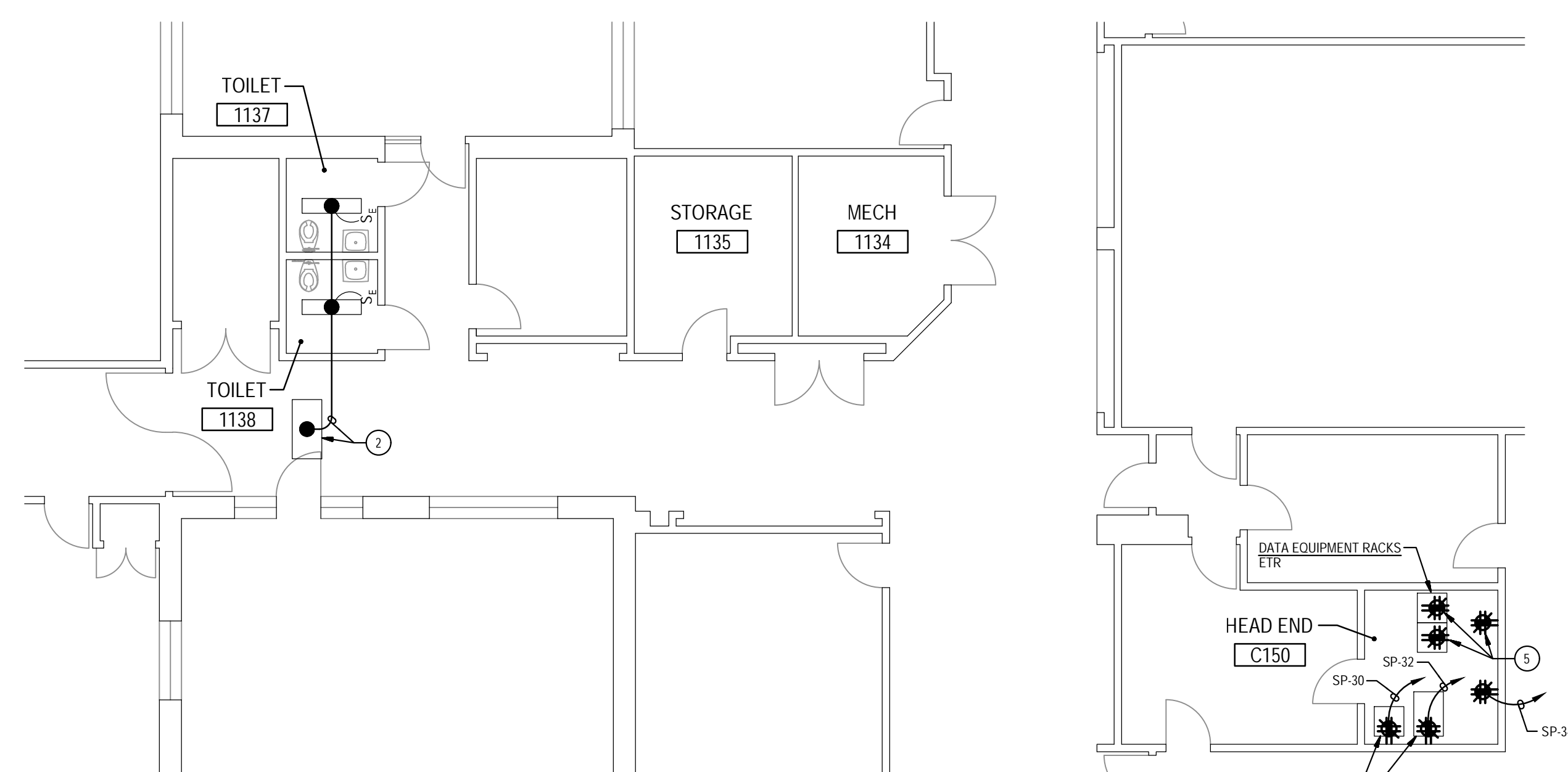
3 PART MAIN LEVEL PLAN
 E-9 DEMOLITION
 SCALE: 1/8" = 1'-0" NORTH



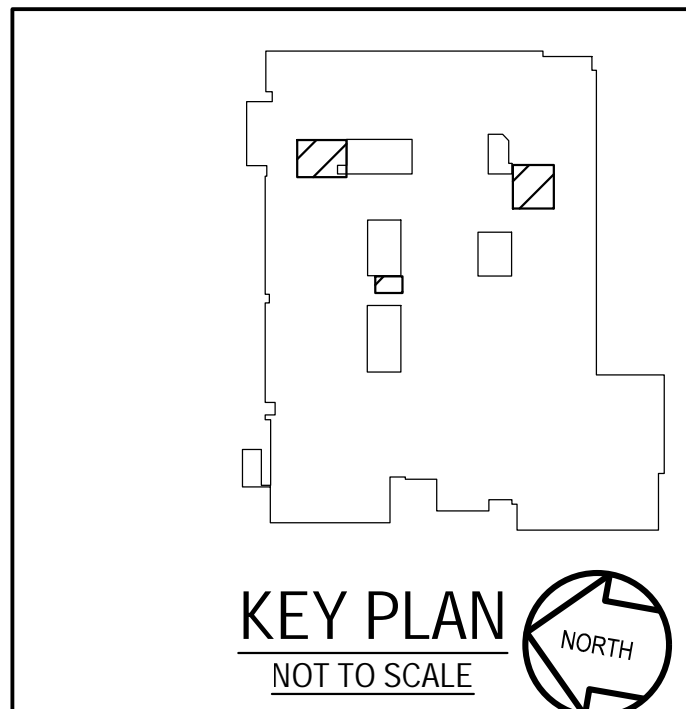
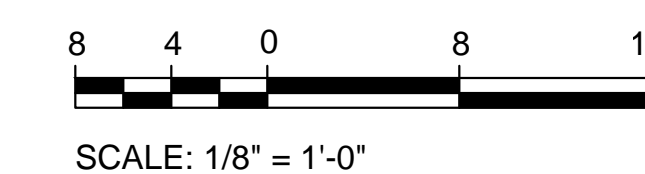
4 PART MAIN LEVEL PLAN
 E-9 NEW WORK
 SCALE: 1/8" = 1'-0" NORTH



1 PART MAIN LEVEL PLAN
 E-9 DEMOLITION
 SCALE: 1/8" = 1'-0" NORTH



2 PART MAIN LEVEL PLAN
 E-9 NEW WORK
 SCALE: 1/8" = 1'-0" NORTH



Professional Certification
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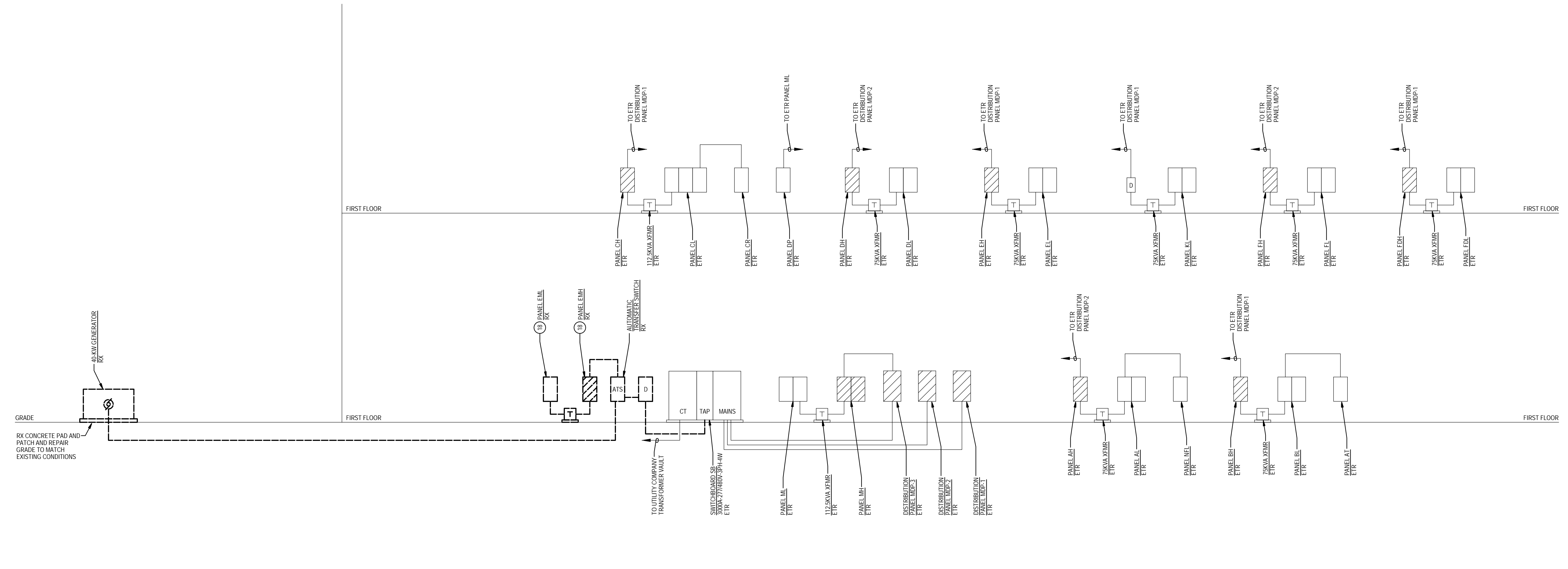
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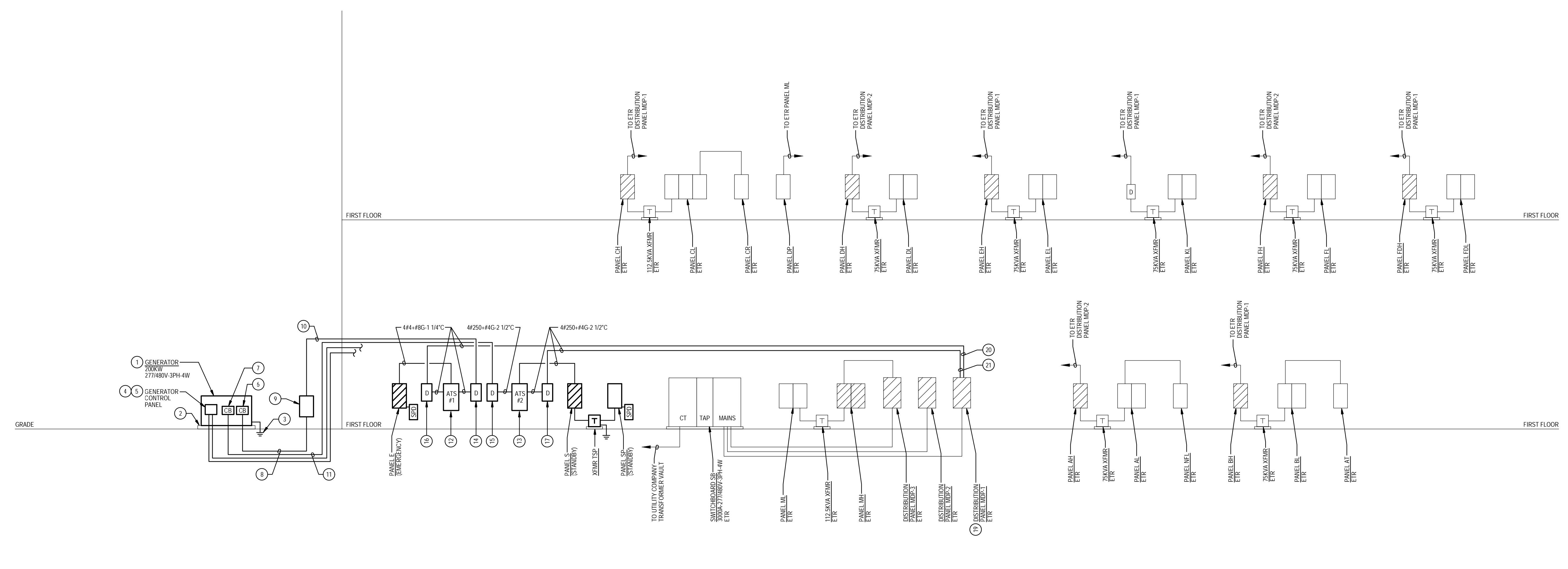
Drawing Title
MAIN LEVEL PART PLANS

Sheet No:
E-9

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- SPECIFIC NOTES:**
- PROVIDE TYPE 10 GENERATOR, PER NFPA 110. THE GENERATOR SHALL BE ABLE TO PROVIDE GENERATOR POWER TO THE SCHOOL WITHIN 10 SECONDS AFTER UTILITY POWER OUTAGE.
 - PROVIDE GENERATOR CONCRETE PAD. REFER TO DETAIL UE-1 FOR ADDITIONAL INFORMATION.
 - REFER TO DIAGRAM 3E-1 FOR GENERATOR GROUNDING.
 - PROVIDE GENERATOR CONTROL WIRING IN CONDUIT BETWEEN GENERATOR CONTROL PANEL AND ASSOCIATED AUTOMATIC TRANSFER SWITCHES. MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. GENERATOR CONTROL WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE WIRING IN CONDUIT FROM GENERATOR CONTROL PANEL TO GENERATOR REMOTE ALARM ANNUNCIATOR PANEL. WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE 3P-400A ELECTRONIC TRIP CIRCUIT BREAKER TO SERVE GENERATOR EMERGENCY LIFE SAFETY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
 - PROVIDE 3P-250A CIRCUIT BREAKER TO SERVE GENERATOR STANDBY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
 - PROVIDE 4 #500 - #10 GROUND IN 4" CONDUIT BETWEEN 3P-400A ELECTRONIC TRIP CIRCUIT BREAKER AT GENERATOR SERVING EMERGENCY (LIFE SAFETY) LOADS AND GENERATOR DOCKING STATION, SIZED FOR LOAD BANK CONNECTION.
 - PROVIDE 400A GENERATOR DOCKING STATION IN NEMA TYPE 3R ENCLOSURE, EQUAL TO THYSTAR DDO-5 WITH 3P-70A CIRCUIT BREAKERS. KIRK KEY INTERLOCKED FOR CONNECTIONS TO ATS-1 AND PORTABLE MOBILE GENERATOR. FEEDER FOR LOAD BANK CONNECTION SHALL BE SIZED FOR 400A. PROVIDE SIGN ON FRONT OF GENERATOR DOCKING STATION TO READ AS FOLLOWS: "SERVING EMERGENCY TRANSFER SWITCH (ATS-1) IN ELECTRICAL ROOM, 277/480V, 3 PHASE, 4 WIRE."
 - PROVIDE 4 #4 - #6 GROUND IN 1 1/2" CONDUIT.
 - PROVIDE 4 #250 - #4 GROUND IN 2 1/2" CONDUIT.
 - PROVIDE 4P-70A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE EMERGENCY (LIFE SAFETY) LOADS. ATS SHALL HAVE A MINIMUM 1000 WITHSTAND AND CLOSING RATING OF 65K AAC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "EMERGENCY ATS".
 - PROVIDE 4P-250A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE STANDBY LOADS. ATS SHALL HAVE A MINIMUM 1000 WITHSTAND AND CLOSING RATING OF 65K AAC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "STANDBY ATS".
 - PROVIDE 3P-100A-400V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR EMERGENCY (LIFE SAFETY) LOADS.
 - PROVIDE 3P-400A-400V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR STANDBY LOADS.
 - PROVIDE 3P-100A-400V FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 70A CURRENT LIMITING FUSES.
 - PROVIDE 3P-400A-400V FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 250A CURRENT LIMITING FUSES.
 - REFER TO SPECIFIC NOTE 5 ON DRAWING E-5 FOR ADDITIONAL INFORMATION.
 - PROVIDE (1) 3P-250A CIRCUIT BREAKER AND (1) 3P-70A CIRCUIT BREAKER IN AVAILABLE SPACES IN EXISTING DISTRIBUTION PANEL MDP-1 MANUFACTURED BY SIEMENS, TYPE SA RATED AT 277/480V 3PH 4W 800K BUS. TYPE AND AAC RATING OF CIRCUIT BREAKERS SHALL MATCH EXISTING.
 - PROVIDE CONNECTION TO 3P-70A CIRCUIT BREAKER.
 - PROVIDE CONNECTION TO 3P-250A CIRCUIT BREAKER.



1
E-10
POWER RISER DIAGRAM
DEMOLITION
NOT TO SCALE



2
E-10
POWER RISER DIAGRAM
NEW WORK
NOT TO SCALE

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POWER RISER DIAGRAMS

Sheet No.
E-10

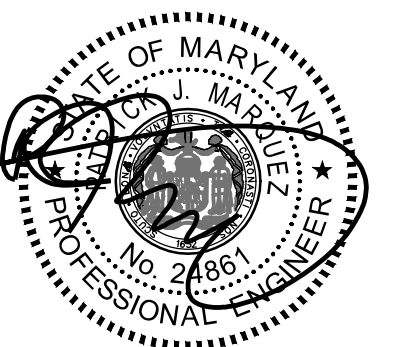
SCHEDULE OF TRANSFORMERS							
TRANSFORMER DESIG.	KVA	LOCATION	PRIMARY FEEDER	SECONDARY TAP WIRING & CONDUIT (NOTE A)	GROUNDING ELECTRODE CONDUCTOR	EQUIPMENT SERVED	NOTES
TSP	30	MECH	5-38	4 #3 • #6G - 1 1/2" C	#8	PANEL SP	1
TRANSFORMER GENERAL NOTES: A. TRANSFORMER SECONDARY TAP CONDUCTORS INDICATED REFLECT PHASE, NEUTRAL (IN WYE CONFIGURATION), AND SUPPLY-SIDE BONDING JUMPER (SBJ), IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC) ARTICLES 450, 240.21, AND 250.30. B. TRANSFORMER SHALL HAVE 480-VOLT, 3-PHASE DELTA PRIMARY AND 120/208-VOLT, 3-PHASE, WYE SECONDARY. TRANSFORMER SPECIFIC NOTES: 1. PROVIDE ON 4" HIGH HOUSEKEEPING PAD.							

WIRING SCHEDULE: PANEL E										
277 / 480 VOLTS		3 PHASE 4 WIRE		125 AMP BUS		SURFACE MOUNTED				
CIR. / POLE	DESCRIPTION	WIRE / CONDUIT	BREAKER / POLE AMP	FUSE A0	FUSE B0	FUSE C0	CR. / POLE	DESCRIPTION	WIRE / CONDUIT	FUSE
1 1	LTG - ELEC RM, BOILER RM	#10-3/4" C	1 20	1.9	2.6	2.5	2 2	LTG, EXIT SIGNS - LEVEL 2	NOTE (2)	1 20
3 3	LTG, EXIT SIGNS - LEVEL 1	NOTE (2)	1 20	-	1.6	1.8	4 4	LTG, EXIT SIGNS - LEVEL 2	NOTE (2)	1 20
5 5	LTG, EXIT SIGNS - LEVEL 2	NOTE (2)	1 20	-	-	-	6 6	SPARE	-	1 20
7 7	LTG, EXIT SIGNS - LEVEL 1	NOTE (2)	1 20	1.8	-	-	8 8	SPARE	-	1 20
9 9	SPARE	-	1 20	-	-	-	10 10	SPARE	-	1 20
11 11	SPARE	-	1 20	-	-	-	12 12	SURGE PROTECTIVE DEVICE	4#8- 3/4" C	3 30
13 13	SPARE	-	1 20	-	-	-	14	SPARE	-	1 20
15 15	SPARE	-	1 20	-	-	-	16	SPARE	-	1 20
CONNECTED LOAD =				12.0	KVA	MAIN FUSE 70 AMPS				
DEMAND LOAD =				12.0	KVA	MIN A/C RATING = 65,000 AMPS SYMMETRICAL				
MIN A/C RATING =				65,000	AMPS SYMMETRICAL	LOCATION MECH				
PANELBOARD NOTES: (1) PROVIDE FUSIBLE TYPE PANELBOARD. (2) INTERCEPT AND SPLICE EXISTING BRANCH CIRCUIT AT PANELBOARD ENCLOSURE, PREVIOUSLY PANEL EMH, TO BE USED AS A PULL BOX. PROVIDE WIRING IN CONDUIT, WITH WIRING TO MATCH EXISTING WIRING, AND MAKE CONNECTIONS.										

WIRING SCHEDULE: PANEL S										
277 / 480 VOLTS		3 PHASE 4 WIRE		250 AMP BUS		SURFACE MOUNTED				
CIR. / POLE	DESCRIPTION	WIRE / CONDUIT	BREAKER / POLE AMP	FUSE A0	FUSE B0	FUSE C0	CR. / POLE	DESCRIPTION	WIRE / CONDUIT	BREAKER
1 1	BOILER B-1	#12G- 3/4" C	3 20	1.0	1.0	-	2 2	BOILER B-2	#12G- 3/4" C	3 20
3 3	SPARE	-	1 20	-	1.0	1.0	4 4	SPARE	-	1 20
5 5	SPARE	-	1 20	-	-	-	6 6	SPARE	-	1 20
7 7	PUMP P-5	#10G- 1" C	3 70	9.0	9.0	9.0	8 8	PUMP P-6	#10G- 1" C	3 70
9 9	SPARE	-	1 20	-	9.0	9.0	10	SPARE	-	1 20
11 11	SPARE	-	1 20	-	-	-	12	SPARE	-	1 20
13 13	PUMP P-7	#10G- 3/4" C	3 25	2.9	2.9	-	14 14	PUMP P-8	#10G- 3/4" C	3 25
15 15	SPARE	-	1 20	-	2.9	2.9	16	SPARE	-	1 20
17 17	SPARE	-	1 20	-	-	-	18	SPARE	-	1 20
19 19	SPACE AND PROVISIONS	-	1 -	-	-	-	20	SPACE AND PROVISIONS	-	1 -
21 21	SPACE AND PROVISIONS	-	1 -	-	-	-	22	SPACE AND PROVISIONS	-	1 -
23 23	SPACE AND PROVISIONS	-	1 -	-	-	-	24	SPACE AND PROVISIONS	-	1 -
25 25	SPACE AND PROVISIONS	-	1 -	-	-	-	26	SPACE AND PROVISIONS	-	1 -
27 27	SPACE AND PROVISIONS	-	1 -	-	-	-	28	SPACE AND PROVISIONS	-	1 -
29 29	SPACE AND PROVISIONS	-	1 -	-	-	-	30	SPACE AND PROVISIONS	-	1 -
31 31	SPACE AND PROVISIONS	-	1 -	-	-	-	32	SPACE AND PROVISIONS	-	1 -
33 33	SPACE AND PROVISIONS	-	1 -	-	-	-	34	SPACE AND PROVISIONS	-	1 -
35 35	SPACE AND PROVISIONS	-	1 -	-	-	-	36	SPACE AND PROVISIONS	-	1 -
37 37	SPACE AND PROVISIONS	-	1 -	-	8.4	-	38	PANEL SP	#10G- 1" C	3 60
39 39	SPACE AND PROVISIONS	-	1 -	-	8.2	-	40	(VA TRANSFORMER TSP)	-	1 -
41 41	SPACE AND PROVISIONS	-	1 -	-	-	-	42	SPACE AND PROVISIONS	-	1 -
CONNECTED LOAD =				103.7	KVA	MAIN BREAKER 250 AMPS				
DEMAND LOAD =				58.8	KVA	MIN A/C RATING = 65,000 AMPS SYMMETRICAL				
MIN A/C RATING =				65,000	AMPS SYMMETRICAL	LOCATION MECH				
PANELBOARD NOTES: (1) PROVIDE GFCI TYPE CIRCUIT BREAKER. (2) INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT AT PANELBOARD ENCLOSURE, PREVIOUSLY PANEL EML, TO BE USED AS A PULL BOX. PROVIDE WIRING IN CONDUIT, WITH WIRING TO MATCH EXISTING WIRING, AND MAKE CONNECTIONS.										

WIRING SCHEDULE: PANEL SP										
120 / 208 VOLTS		3 PHASE 4 WIRE		225 AMP BUS		SURFACE MOUNTED				
CIR. / POLE	DESCRIPTION	WIRE / CONDUIT	BREAKER / POLE AMP	FUSE A0	FUSE B0	FUSE C0	CR. / POLE	DESCRIPTION	WIRE / CONDUIT	BREAKER
1 1	REC - PA SYSTEM	NOTE (2)	1 20	0.4	0.4	-	2 2	REC - HEAD END	NOTE (2)	1 20
3 3	REC - HEAD OFFICE RM C301	NOTE (2)	1 20	-	0.8	0.4	4 4	REC - HEAD END	NOTE (2)	1 20
5 5	REC - HEAD OFFICE RM C301	NOTE (2)	1 20	-	-	0.8	6 6	REC - HEAD END	NOTE (2)	1 20
7 7	ELEV CAB LIGHTS	NOTE (2)	1 20	0.5	0.2	-	8 8	FA EXPANDER PNL - BSMT	NOTE (2)	1 20
9 9	REC - REFRIG - HEALTH	#8-3/4" C	1 20	-	0.5	0.2	10 10	FA EXPANDER PNL - CORR 10	NOTE (2)	1 20
11 11	REC - SECURITY	NOTE (2)	1 20	-	-	0.4	12 12	WIRE CLOSET	NOTE (2)	1 20
13 13	SUMP PUMP	NOTE (2)	1 20	1.5	0.4	-	14 14	SYSTEM 4 PNLs - BOILER RM	NOTE (2)	1 20
15 15	BOILER CIRC PUMP P-9	NOTE (2)	1 15	-	0.9	0.4	16 16	SYSTEM 4 PNLs - BOILER RM	NOTE (2)	1 20
17 17	BOILER CIRC PUMP P-10	NOTE (2)	1 15	-	-	0.9	18 18	REC - AT GENERATOR	#12-3/4" C	1 20
19 19	COOLER COMPRESSOR	#12G- 3/4" C	3 20	0.8	0.5	-	20 20	FACTP	NOTE (2)	1 20
21 21	SPARE	-	1 20	-	0.8	0.2	22 22	GEN - BATTERY CHARGER	#12-1" C	1 20
23 23	SPARE	-	1 20	-	-	0.8	24 24	GEN - BLOCK HEATER	#12-1" C	1 20
25 25	FREEZER COMPRESSOR	#10G- 3/4" C	3 30	2.2	0.2	-	26 26	FA EXPANDER PNL - CORR 5	NOTE (2)	1 20
27 27	SPARE	-	1 20	-	2.2	0.5	28 28	REC - WIRE CLOSET	NOTE (2)	1 20
29 29	SPARE	-	1 20	-	-	2.2	30 30	REC - VIDEO RACK	#8-3/4" C	1 20
31 31	REC - PASS-THRU REFRIG (1)	#8-3/4" C	1 20	0.9	0.4	-	32 32	REC - SERVER RACK	#8-3/4" C	1 20
33 33	REC - PASS-THRU REFRIG (1)	#8-3/4" C	1 20	-	0.9	0.4	34 34	REC - SECURITY	#8-3/4" C	1 20
35 35	REC - ICE MACHINE (1)	#8-3/4" C	1 20	-	-	1.6	36 36	SPARE	-	1 20
37 37	SPARE	-	1 20	-	-	-	38 38	SPARE	-	1 20
39 39	SPARE	-	1 20	-	-	-	40 40	SPARE	-	1 20
41 41	SPARE	-	1 20	-	-	-	42 42	SPARE	-	1 20
43 43	SPARE	-	1 20	-	-	-	44 44	SPARE	-	1 20
45 45	SPARE	-	1 20	-	-	-	46 46	SPARE	-	1 20
47 47	SPARE	-	1 20	-	-	-	48 48	SPARE	-	1 20
49 49	SPARE	-	1 20	-	-	-	50 50	SURGE PROTECTIVE DEVICE	4#8- 3/4" C	3 30
51 51	SPARE	-	1 20	-	-	-	52	SPARE	-	1 20
53 53	SPARE	-	1 20	-	-	-	54	SPARE	-	1 20
CONNECTED LOAD =				26.3	KVA	MAIN BREAKER 100 AMPS				
DEMAND LOAD =				25.5	KVA	MIN A/C RATING = 10,000 AMPS SYMMETRICAL				
MIN A/C RATING =				10,000	AMPS SYMMETRICAL	LOCATION MECH				
PANELBOARD NOTES: (1) PROVIDE GFCI TYPE CIRCUIT BREAKER. (2) INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT AT PANELBOARD ENCLOSURE, PREVIOUSLY PANEL EML, TO BE USED AS A PULL BOX. PROVIDE WIRING IN CONDUIT, WITH WIRING TO MATCH EXISTING WIRING, AND MAKE CONNECTIONS.										

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
EARLE B. WOOD MIDDLE SCHOOL
 14615 BAUER DRIVE
 ROCKVILLE, MD 20853
 MONTGOMERY COUNTY PUBLIC SCHOOLS



Professional Certification
 I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland. License No. 24861.
 Expiration date: 02-24-2026.

James Posey Associates
 Consulting Engineers
 Engineering Your Vision
 11155 Red Run Boulevard, Suite 310
 Baltimore, Maryland 21117
 tel 410-265-6100
 jamesposey.com

Mechanical & Electrical
 Consulting Engineers
 11155 Red Run Boulevard, Suite 310
 Baltimore, Maryland 21117
 tel 410-265-6100
 jamesposey.com

Tag	Description	Date
	BID SET	03/08/24

PSC No.
 Scale AS NOTED
 Project No. 7904-23
 Date MARCH 8, 2024
 Drawing Title SCHEDULES

Sheet No. **E-11**