Generator and Electrical Equipment Replacement

THURGOOD MARSHALL ELEMENTARY SCHOOL

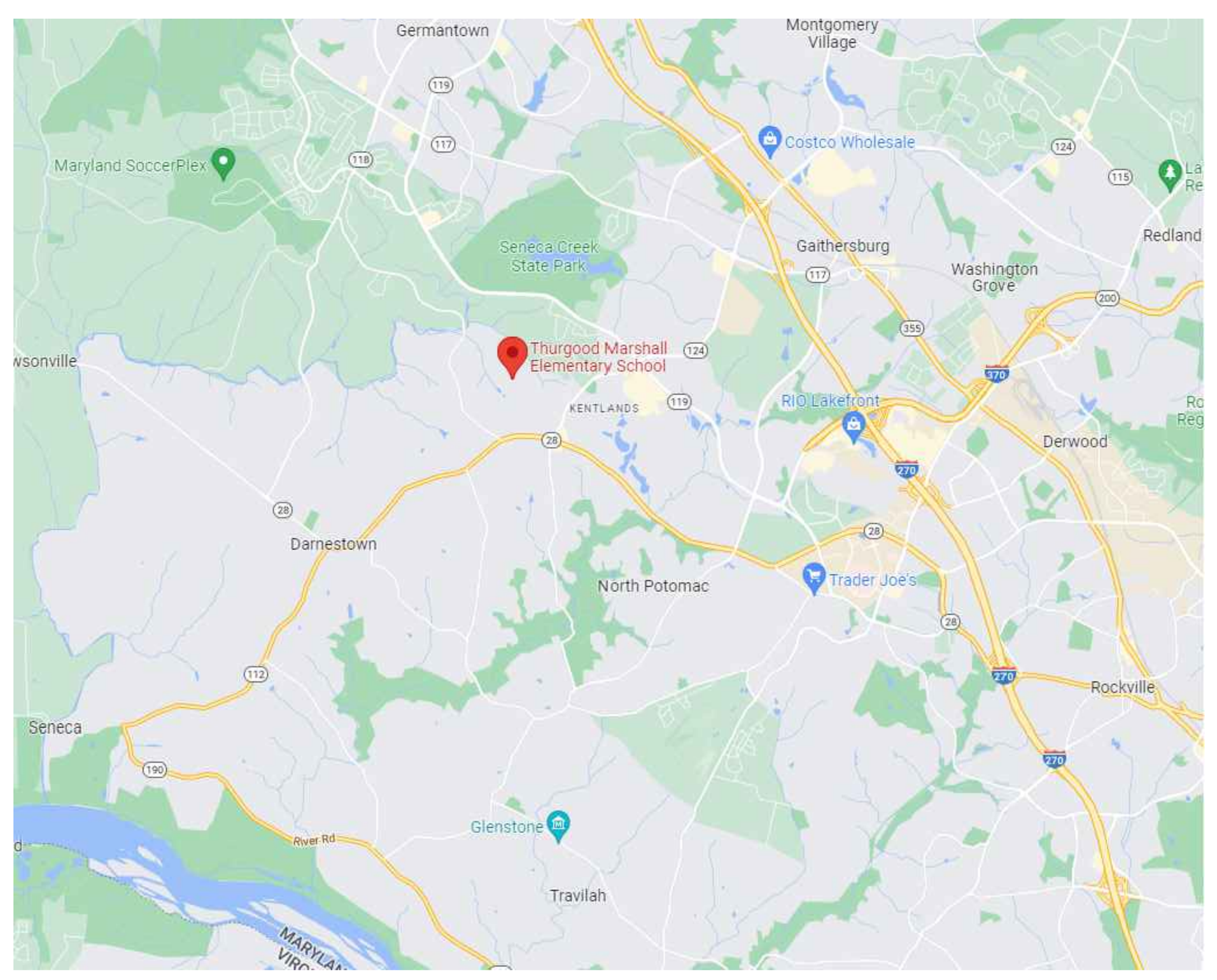
12260 MCDONALD CHAPEL DRIVE, GAITHERSBURG, MD 20878

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

VICINITY PLAN



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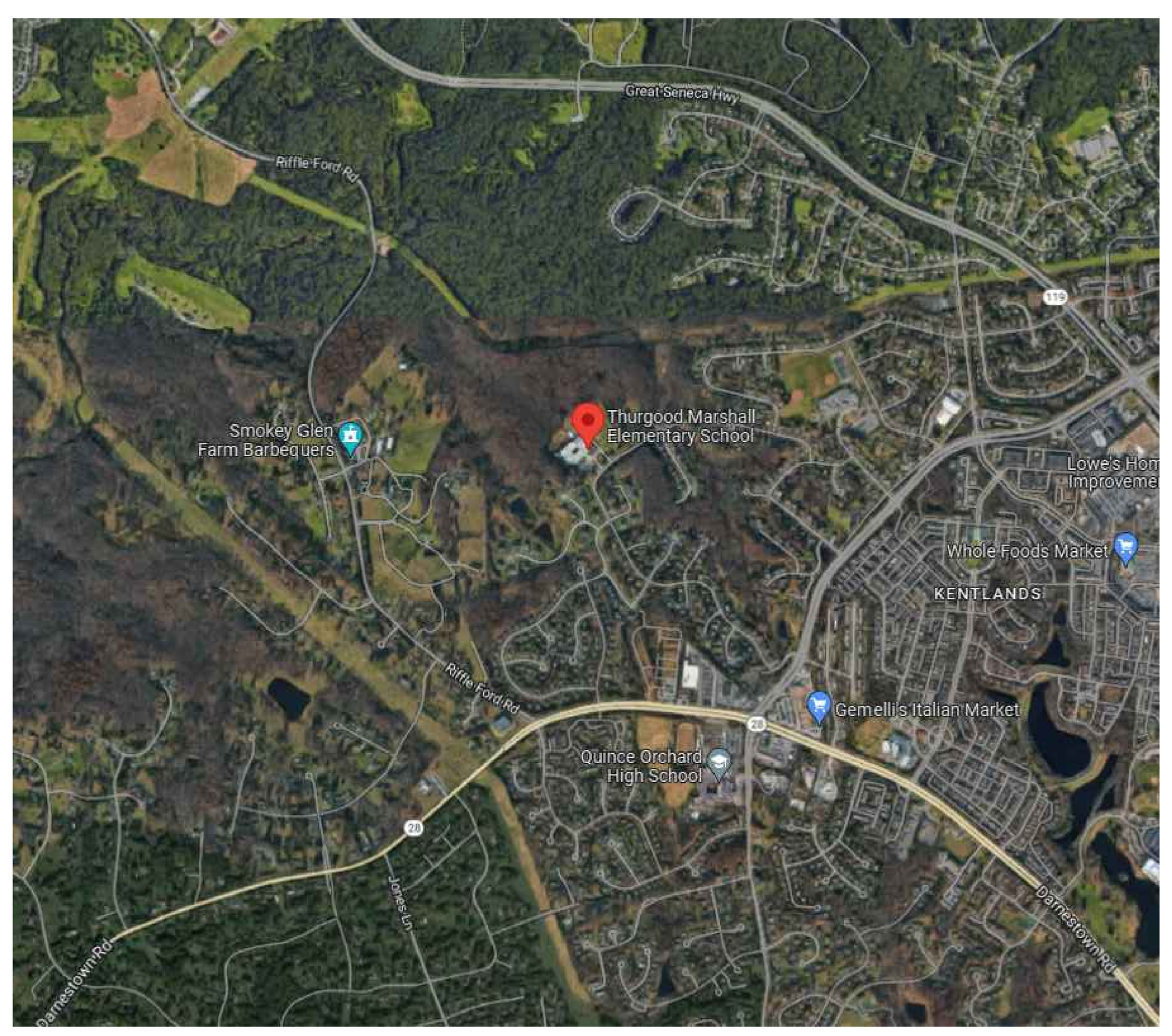
AERIAL SITE PLAN



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DRAWING INDEX

PROFESSIONAL CERTIFICATION

These contract documents for Thurgood Marshall Elementary 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.

02/06/23 (Date)

Maryland Professional Engineer Registration No. 24861

APPLICABLE CODES & STANDARDS

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.	

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

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	77,798 SF	

GRAPHIC SCALES

16 8 0 16 32
SCALE: 1/16" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"

4 2 0 4 8
SCALE: 1/4" = 1'-0"

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

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878
MONTGOMERY COUNTY PUBLIC SCHOOLS

STATE OF MARYLAND
PATRICK J. MARQUEZ
No. 24861
PROFESSIONAL ENGINEER

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 02-24-2024.

James Posey Associates
Engineering Your Vision

Mechanical & Electrical Consulting Engineers

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Baltimore, Maryland 21117

tel 410-265-6100
jamesposey.com

Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
TITLE SHEET

Sheet No:
T-1

MECHANICAL SYMBOLS AND ABBREVIATIONS

Symbol	Description
G	LOW PRESSURE GAS PIPE
G (2 PSI)	MEDIUM PRESSURE GAS PIPE
	PIPE CAP OR PLUG
	UNION
	SHUT-OFF VALVE
	SOLENOID VALVE
	PRESSURE REDUCING / REGULATING VALVE
M	METER
	GAUGE COCK / TEST PORT
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	FLOW DIRECTION ARROW
	STRAINER
	POINT OF CONNECTION, NEW TO EXISTING
	DEMOLITION WORK TERMINATION POINT
1	SYMBOL FOR SPECIFIC NOTE. NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.
3 / M1	DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING M1

Abbreviation	Meaning
ø	INDICATES DIAMETER
A/D	ACCESS DOOR
AAV	AUTOMATIC AIR VENT
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BLW	BELOW
BTUH	BRITISH THERMAL UNITS PER HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CONC	CONCRETE
CW	DOMESTIC COLD WATER PIPE
DIA	DIAMETER
EA	EXHAUST AIR
ETR	EXISTING TO REMAIN
EX	EXISTING
EXH	EXHAUST
FL	FLOOR
FT	FEET
G	GAS PIPE
GALV	GALVANIZED
IN	INCH, INCHES
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MCPS	MONTGOMERY COUNTY PUBLICK 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

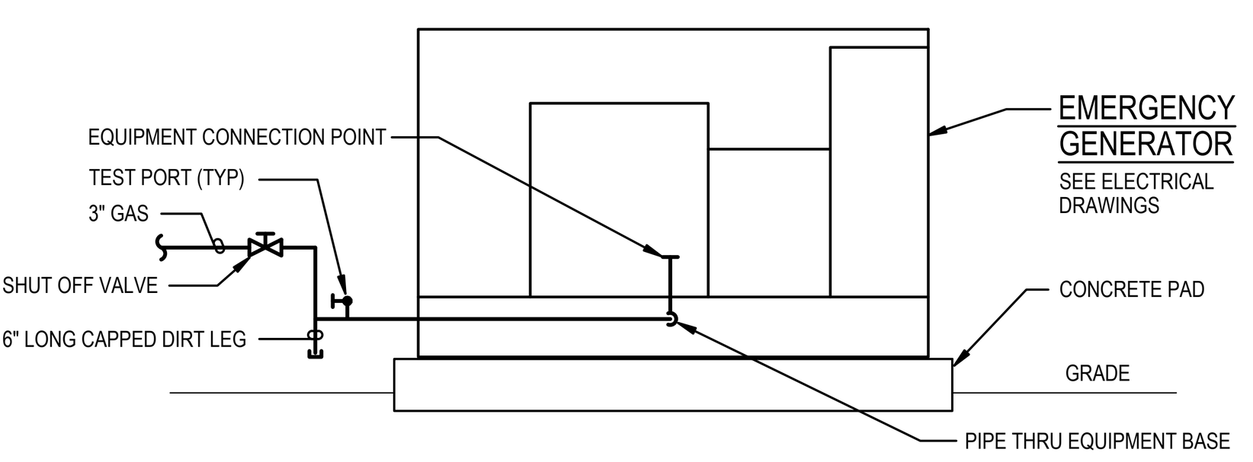
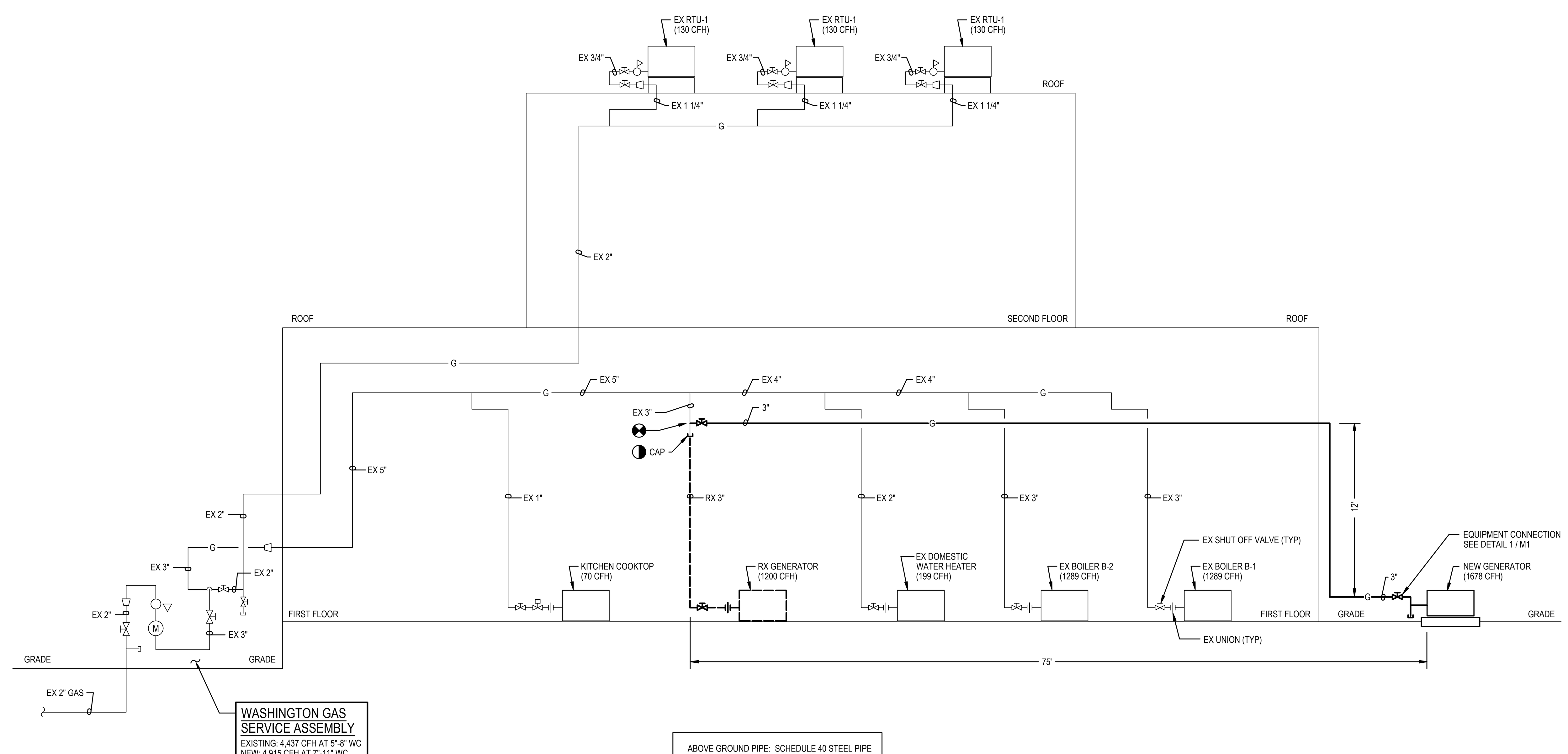


DIAGRAM 1 / M-1
EQUIPMENT CONNECTION
NOT TO SCALE



ABOVE GROUND PIPE: SCHEDULE 40 STEEL PIPE

PIPE AND VENT REGULATORS PER IFGC 2018 408, 410.2 AND 410.3

DIAGRAM 2 / M-1
GAS RISER
NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878

MONTGOMERY COUNTY PUBLIC SCHOOLS

STATE OF MARYLAND · MICHAEL PATRICK SHERREN · 33986 · PROFESSIONAL ENGINEER

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Drawing Title
DIAGRAMS, SYMBOLS AND ABBREVIATIONS

Sheet No:
M-1

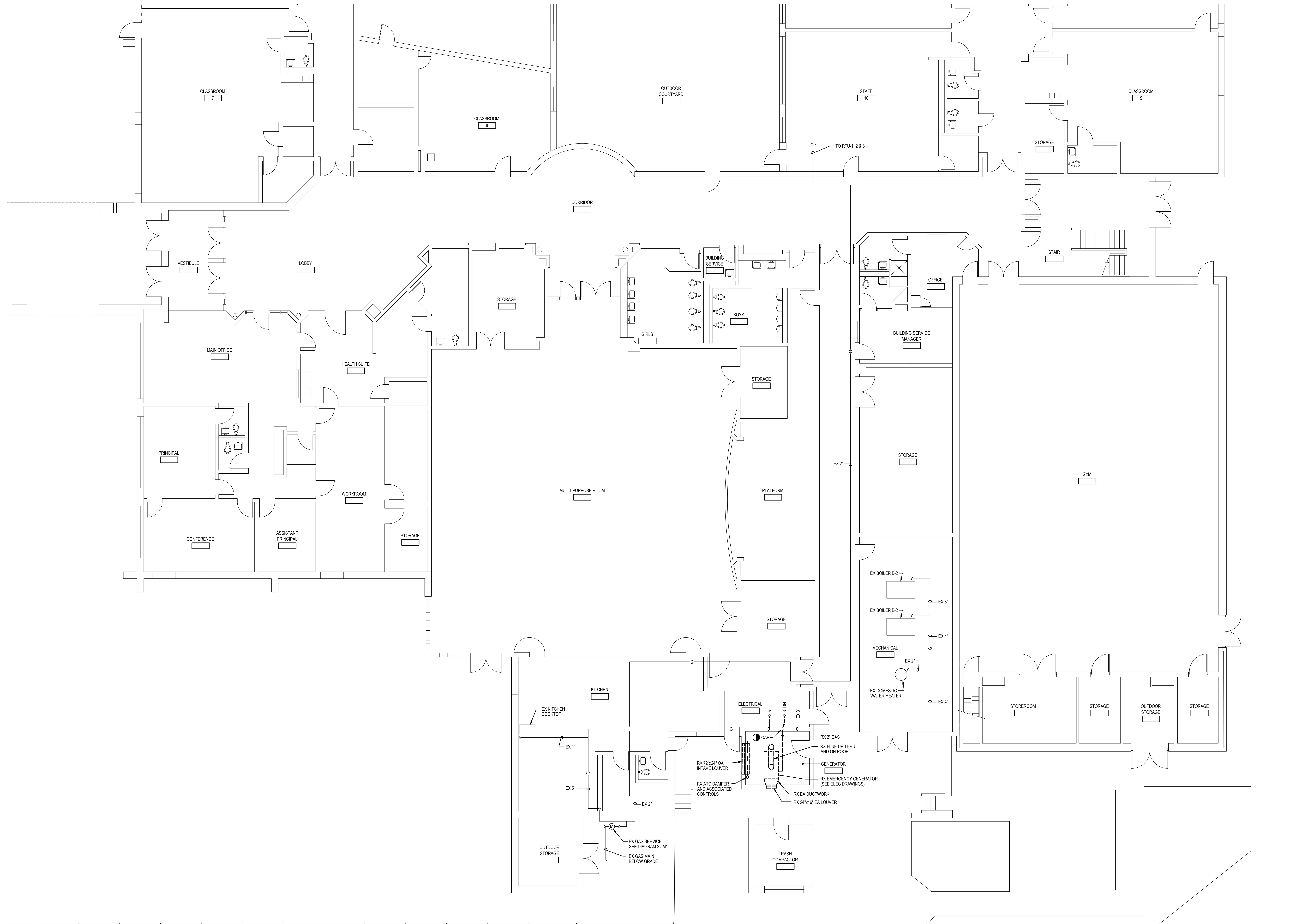
GENERAL NOTES:

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.

B. 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.

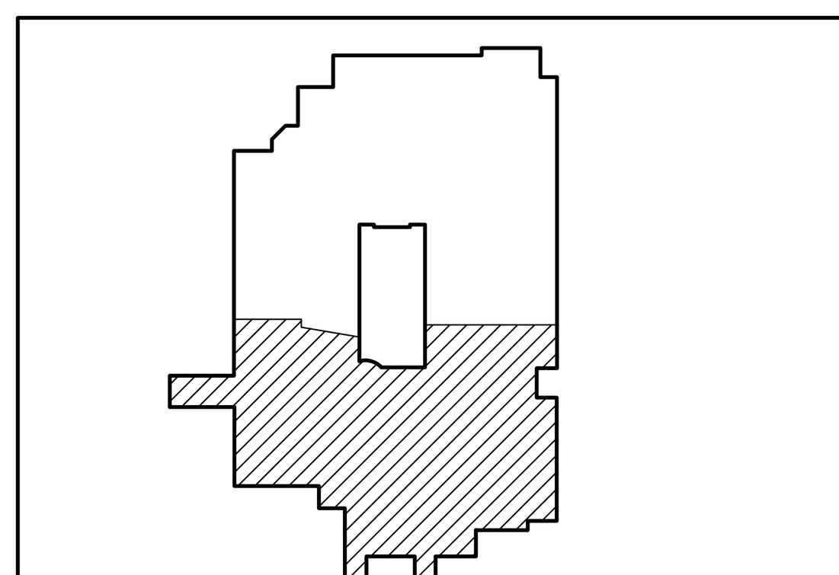
C. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY DASHED (— — —) SHALL BE REMOVED AND MECHANICAL/ PLUMBING ITEMS SHOWN LIGHT SOLID (———) SHALL REMAIN.

D. NEW GENERATOR AND GAS PIPING TO BE INSTALLED BEFORE EXISTING IS REMOVED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.



1 / M-2 PART FIRST FLOOR PLAN
DEMOLITION
SCALE: 1/8" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"



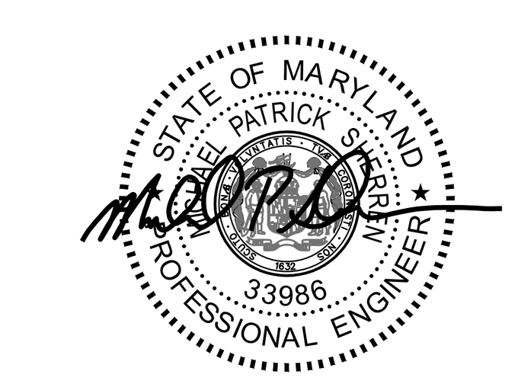
KEY PLAN
NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878

MONTGOMERY COUNTY PUBLIC SCHOOLS



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Drawing Title

PART FIRST FLOOR PLAN - DEMOLITION

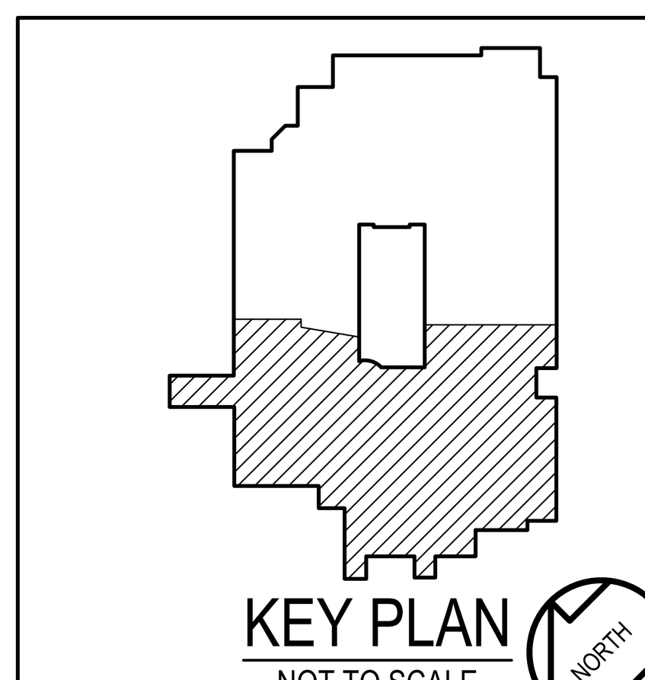
Sheet No:

M-2

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878
MONTGOMERY COUNTY PUBLIC SCHOOLS

1 / M-3 **PART FIRST FLOOR PLAN**
NEW WORK
SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"



KEY PLAN
NOT TO SCALE

GENERAL NOTES:

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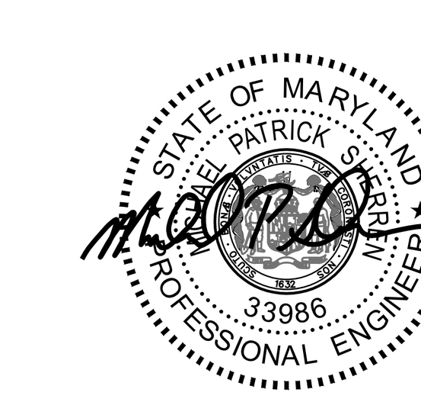
B. DO NOT LOCATE PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.

C. UNLESS OTHERWISE NOTED, MECHANICAL/PLUMBING ITEMS SHOWN HEAVY (———) SHALL BE NEW AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT (———) ARE EXISTING TO REMAIN.

D. NEW GENERATOR AND GAS PIPING TO BE INSTALLED BEFORE EXISTING IS REMOVED. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL PHASING INFORMATION.



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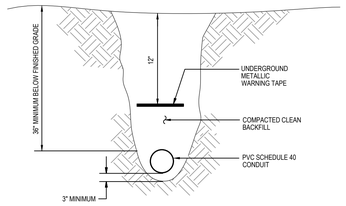
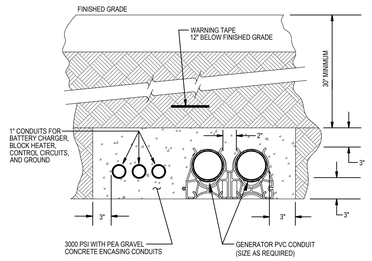
Drawing Title
PART FIRST FLOOR PLAN - NEW WORK

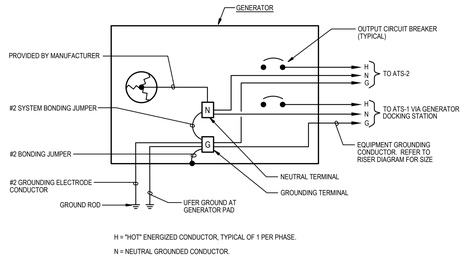
Sheet No:
M-3



8 E-0 **DETAIL**
DIRECTLY-BURIED CONDUIT
NOT TO SCALE



7 E-0 **DETAIL**
GENERATOR DUCTBANK
NOT TO SCALE



3 E-0 **DIAGRAM**
GENERATOR GROUNDING WIRING
NOT TO SCALE

GENERATOR DOCKING STATION

FOR CONNECTIONS TO A TEMPORARY PORTABLE GENERATOR

CONFIGURE TEMPORARY PORTABLE GENERATOR WITH GENERATOR NEUTRAL CONNECTED TO GENERATOR GROUND. GENERATOR SHALL BE A SEPARATELY DERIVED SYSTEM.

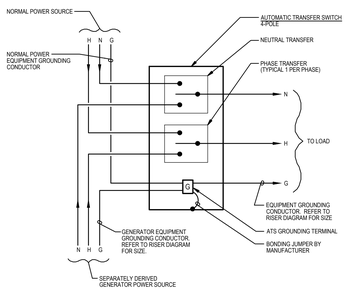
MECHANICALLY FASTEN SIGN TO FRONT OF GENERATOR DOCKING STATION

6 E-0 **DETAIL**
PLACARD AT GENERATOR DOCKING STATION
NOT TO SCALE

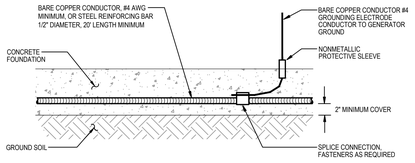
EMERGENCY AND STANDBY POWER
250KW, 120/208 VOLTS, 3-PHASE, 4-WIRE
NATURAL GAS GENERATOR
LOCATED OUTDOORS
NEXT TO LOADING DOCK AND
MECHANICAL ROOM

MECHANICALLY FASTEN SIGN TO FRONT OF MAIN SWITCHBOARD

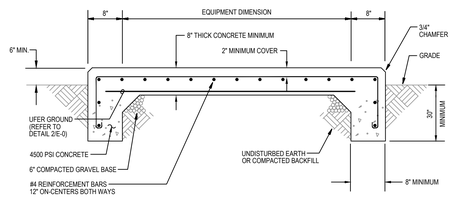
5 E-0 **DETAIL**
PLACARD AT MAIN SERVICE
NOT TO SCALE



4 E-0 **DIAGRAM**
AUTOMATIC TRANSFER SWITCH GROUND WIRING
NOT TO SCALE



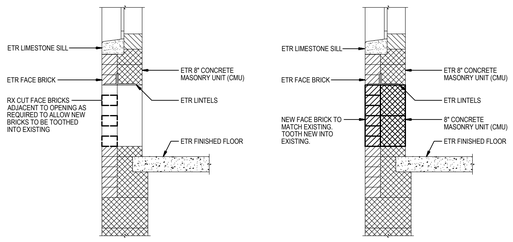
2 E-0 **DETAIL**
TYPICAL UFER GROUND
NOT TO SCALE



1 E-0 **DETAIL**
GENERATOR CONCRETE PAD
NOT TO SCALE

ABBREVIATIONS

A, AMP	AMPERE(S)
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CT	CURRENT TRANSFORMERS
DIST	DISTRIBUTION
EM	EMERGENCY
ETR	EXISTING TO REMAIN
EX	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FLR	FLOOR
G	GROUND
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
H	HOT
HP	HORSEPOWER
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LTG	LIGHTING
MCPS	MONTGOMERY COUNTY PUBLIC SCHOOLS
MIN	MINIMUM
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEMA	NATIONAL ELECTRICAL MANUFATURERS ASSOCIATION
P	POLE(S)
PA	PUBLIC ADDRESS
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
REC	RECEPTACLE
RM	ROOM
RX	REMOVE EXISTING
V	VOLT(S)
W	WIRE(S)
Ø	PHASE



9 E-0 **DETAIL**
TYPICAL INFILL AT EXISTING MASONRY WALL OPENING
NOT TO SCALE

ELECTRICAL SYMBOLS AND ABBREVIATIONS

GENERAL

1 — DENOTES REFERENCE TO SPECIFIC NOTE ON DRAWING.

1 / E-1 — DETAIL, DIAGRAM OR PLAN NUMBER / DRAWING NUMBER WHERE DETAIL, DIAGRAM OR PLAN IS LOCATED.

#/E-# — DETAIL, DIAGRAM OR PLAN REFERENCE: DETAIL, DIAGRAM OR PLAN NUMBER/DRAWING NUMBER

NOTES:

A. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.

B. THE EXISTING FACILITY WILL REMAIN IN OPERATION DURING RENOVATION. INTERRUPTION TO THE EXISTING BUILDING ELECTRIC SERVICE SHALL BE COORDINATED WITH THE USER TO MINIMIZE DISRUPTION. INTERRUPTION OF UTILITIES SHALL NOT OCCUR DURING SCHOOL WORK HOURS.

DEMOLITION

DISCONNECT AND REMOVE EXISTING WIRING IN CONDUIT.

DISCONNECT AND REMOVE EXISTING HOMERUN WIRING IN CONDUIT BACK TO SOURCE.

EXISTING

EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE.

EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE.

EXISTING TO REMAIN WALL OUTLET AND LIGHTING FIXTURE PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.

EXISTING TO REMAIN CEILING OUTLET AND LIGHTING FIXTURE ON GENERATOR POWER CIRCUIT, OR PREVIOUSLY ON NORMAL POWER CIRCUIT AND CHANGED TO GENERATOR POWER CIRCUIT.

S S_3 — EXISTING TO REMAIN WALL MOUNTED SWITCH.

EXISTING TO REMAIN EXIT SIGN.

EXISTING TO REMAIN 120/208V PANELBOARD, SURFACE OR RECESSED MOUNTED.

EXISTING TO REMAIN EQUIPMENT CABINET AS INDICATED.

EM — EXISTING TO REMAIN WIRING IN CONDUIT.

EXISTING TO REMAIN WIRING IN CONDUIT CONTINUED.

EXISTING TO REMAIN WIRING IN CONDUIT TURNING DOWN.

EXISTING TO REMAIN HOMERUN WIRING IN CONDUIT BACK TO SOURCE.

J — EXISTING TO REMAIN CEILING MOUNTED JUNCTION BOX.

EXISTING MOTOR CONNECTION TO BE RECONNECTED WHERE INDICATED.

EXISTING EQUIPMENT CONNECTION TO BE RECONNECTED WHERE INDICATED.

D — EXISTING TO REMAIN ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH).

M — EXISTING TO REMAIN MOTOR STARTER.

EXISTING TO REMAIN DUPLEX RECEPTACLE.

EXISTING TO REMAIN DUPLEX RECEPTACLE ON GENERATOR CIRCUIT.

EXISTING TO REMAIN QUADRUPLEX (DOUBLE-DUPLEX) RECEPTACLE.

EXISTING TO REMAIN SPECIAL-PURPOSE RECEPTACLE.

POWER

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.

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.

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 LIGHTING CIRCUIT. PROVIDE GROUND WIRES IN CONDUITS.

WIRING IN CONDUIT RUN BELOW GRADE.

WIRING IN CONDUIT CONTINUED.

J — JUNCTION BOX WITH BLANK COVER PLATE.

ELECTRIC PANELBOARD (120/208V), SURFACE MOUNTED.

EQUIPMENT CABINET AS NOTED.

ATS — AUTOMATIC TRANSFER SWITCH.

CB — ENCLOSED CIRCUIT BREAKER.

D — 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.

MOTOR CONNECTION.

HARD-WIRED ELECTRICAL CONNECTION. CONNECT TO EQUIPMENT AS NOTED.

SPD — SURGE PROTECTIVE DEVICE IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED.

WP H — DUPLEX RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT, SURFACE WALL-MOUNTED 48" ABOVE FLOOR TO TOP 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. RECEPTACLES DESIGNATED WITH A "H" SHALL BE SHALL BE HOSPITAL GRADE TYPE.

DOUBLE-DUPLEX (QUADRUPLEX) RECEPTACLE (NEMA 5-20R) ON GENERATOR STANDBY POWER CIRCUIT, SURFACE WALL-MOUNTED 48" ABOVE FLOOR TO TOP OF BOX.

C — 4-POLE CONTACTOR IN NEMA TYPE 1 ENCLOSURE. PROVIDE 2 #12 + #12 GROUND IN 3/4" CONDUIT FROM CONTACTOR TO EACH EMERGENCY BOILER SHUT-OFF SWITCH IN MAIN MECHANICAL ROOM, AND FROM CONTACTOR TO EACH SHUNT-TRIP CIRCUIT BREAKER IN PANEL SP SERVING BOILERS. MAKE CONNECTIONS NECESSARY FOR COMPETE INSTALLATION.

FIRE DETECTION AND ALARM

REFER TO SPECIFIC NOTE 10 ON DRAWING E-1 AND DRAWING E-4 FOR INFORMATION ON MODIFICATIONS TO EXISTING FIRE DETECTION AND ALARM SYSTEM.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878

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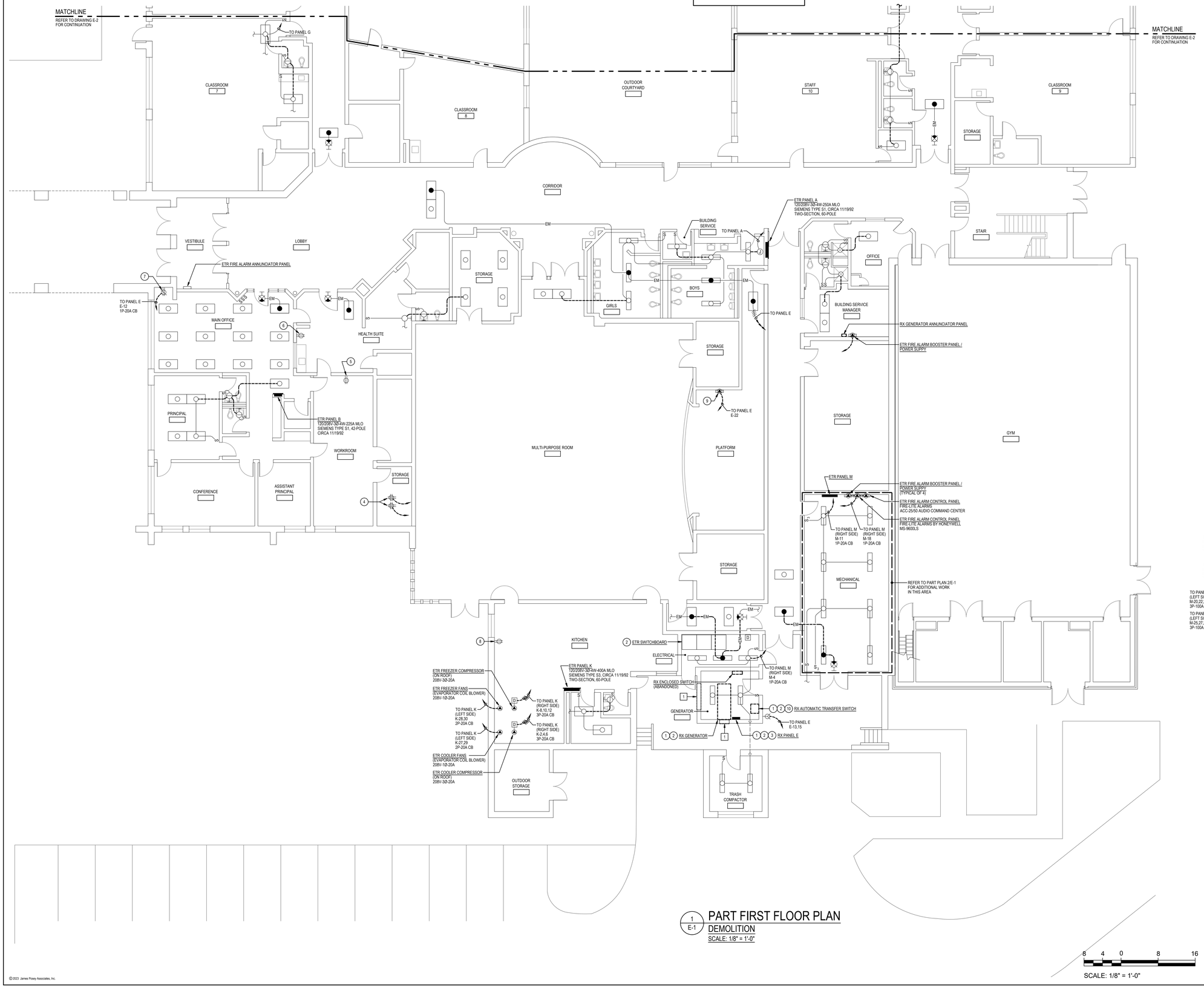
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
SYMBOLS LIST, ABBREVIATIONS, DETAILS AND DIAGRAMS

Sheet No:
E-0



SPECIFIC NOTES (ARCHITECTURAL):

1. INFILL EXISTING OPENING IN BRICK / CMU EXTERIOR WALL AT DEMOLISHED GENERATOR INTAKE / EXHAUST. PRIME AND PAINT BRICK / CMU WALL. PAINT WALL SURFACE TO NEAREST NATURAL BREAK LINES (OUTSIDE OR INSIDE CORNER) TO MATCH EXISTING ADJACENT SURFACE. SEE DETAIL 9/E-0.

GENERAL NOTES:

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B. 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.

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.

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. MAINTAIN OPERATION OF EXISTING GENERATOR AND ASSOCIATED GENERATOR EQUIPMENT UNTIL THE NEW GENERATOR, NEW GENERATOR EQUIPMENT, AND ASSOCIATED FEEDERS AND BRANCH CIRCUITS ARE INSTALLED AND EXISTING FEEDERS AND BRANCH CIRCUIT ARE READY TO BE RECONNECTED TO NEW GENERATOR EQUIPMENT.
2. REFER TO PART POWER RISER DIAGRAM ON DRAWING E-7 FOR ADDITIONAL INFORMATION.
3. DISCONNECT EXISTING BRANCH CIRCUITS FROM CIRCUIT BREAKERS. EXISTING EMERGENCY LIGHTING CIRCUITS SHALL REMAIN. NON-EMERGENCY LIGHTING CIRCUITS SHALL BE REMOVED. REMOVE INTERIOR COMPONENTS (BUSBAR, CIRCUIT BREAKERS) OF EXISTING PANEL E. ENCLOSURE OF EXISTING PANEL E SHALL REMAIN AND BECOME A PULLBOX.
4. QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
5. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN WORKROOM.
6. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN HEALTH SUITE.
7. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING INTERCOM / PUBLIC ADDRESS SYSTEM CONSOLE / RACK IN MAIN OFFICE AREA.
8. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REACH-IN REFRIGERATOR AND ICE CREAM DISPLAY CHEST / FREEZER IN KITCHEN.
9. EXISTING TO REMAIN SOUND SYSTEM AMPLIFIER FOR PLATFORM / MULTI-PURPOSE ROOM.
10. DISCONNECT EXISTING FIRE DETECTION AND ALARM SYSTEM MONITORING MODULES FOR "GENERATOR RUN" AND "GENERATOR FAULT". EXISTING MONITORING MODULES SHALL REMAIN FOR RECONNECTION. REFER TO SPECIFIC NOTE 10 ON DRAWING E-4 FOR ADDITIONAL INFORMATION.

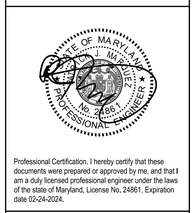
1 E-1 PART FIRST FLOOR PLAN
DEMOLITION
SCALE: 1/8" = 1'-0"

2 E-1 PART PLAN
MECHANICAL ROOM
DEMOLITION
SCALE: 1/8" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"

KEY PLAN
NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878
MONTGOMERY COUNTY PUBLIC SCHOOLS



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Baltimore, Maryland 21117
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Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
PART FIRST FLOOR PLAN - DEMOLITION

Sheet No:
E-1

1
E-2

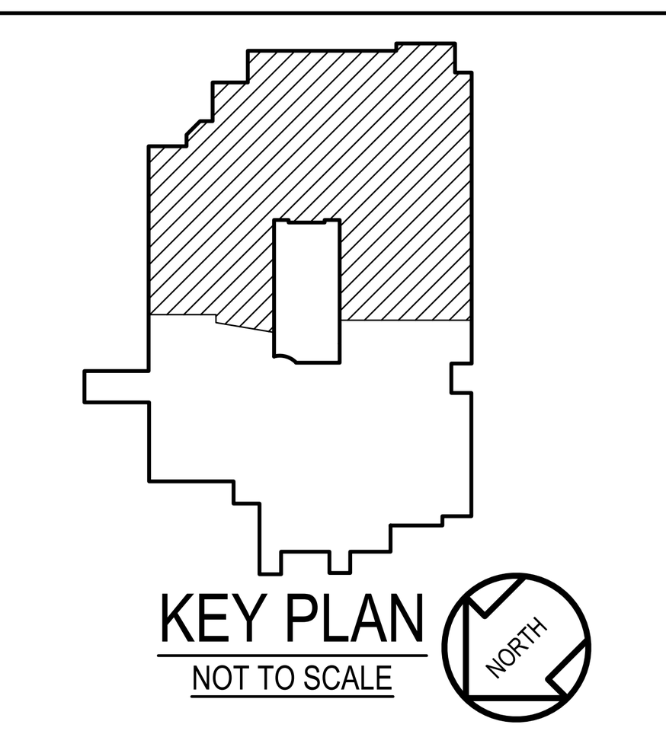
PART FIRST FLOOR PLAN

DEMOLITION

SCALE: 1/8" = 1'-0"

8 4 0 8 16

SCALE: 1/8" = 1'-0"



KEY PLAN

NOT TO SCALE

GENERAL NOTES:

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B. WHERE EQUIPMENT IS NOTED "DISCONNECT" OR "REMOVE", REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE, UNLESS OTHERWISE NOTED.

C. REMOVE EXISTING EQUIPMENT AND DEVICES INDICATED, INCLUDING ASSOCIATED WIRE AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.

D. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION, BUT ARE TO REMAIN, SHALL BE MADE CONTINUOUS.

E. WHERE DEVICES ARE TO BE REMOVED AND REINSTALLED, PROVIDE WIRE AND CONDUIT TO NEW LOCATION AS REQUIRED.

F. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

G. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.

H. UNLESS OTHERWISE NOTED, ELECTRICAL ITEMS SHOWN HEAVY DASHED (-----) SHALL BE REMOVED AND ELECTRICAL ITEMS SHOWN LIGHT SOLID (———) SHALL REMAIN.

I. 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.

J. REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.

K. 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.

SPECIFIC NOTES:

1. EXISTING DUPLEX RECEPTACLES AS NOTED ARE CURRENTLY SERVING DATA RACKS IN ROOM.
2. QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
3. EXISTING TO REMAIN DISCONNECT FOR ELEVATOR.
4. EXISTING TO REMAIN DISCONNECT FOR ELEVATOR CAB LIGHTING.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878

MONTGOMERY COUNTY PUBLIC SCHOOLS

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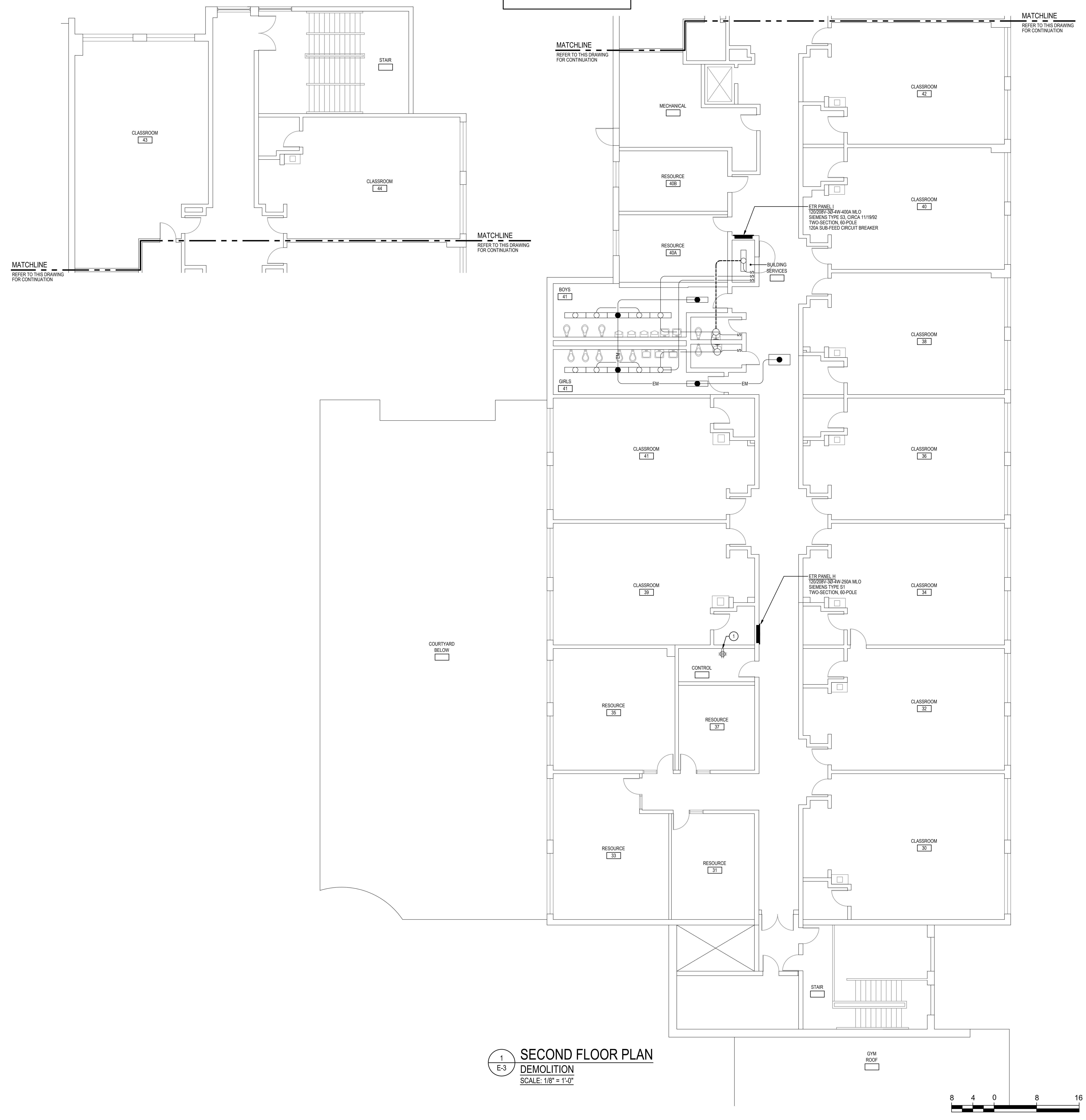
Drawing Title

PART FIRST FLOOR PLAN - DEMOLITION

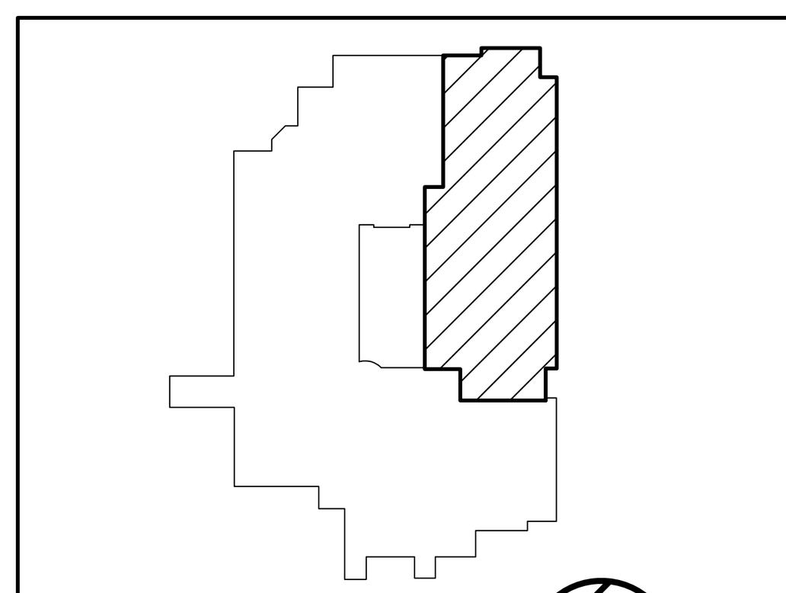
Sheet No:

E-2



1 / E-3 **SECOND FLOOR PLAN**
DEMOLITION
SCALE: 1/8" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"



KEY PLAN
NOT TO SCALE

GENERAL NOTES:

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F. IN BLOCK OR CONCRETE WALLS TO REMAIN, PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR DEVICES REMOVED.

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J. REMOVE AND REINSTALL EXISTING CEILING TILES WITHIN CONSTRUCTION AREAS AS REQUIRED.

K. 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.

SPECIFIC NOTES:

(1) EXISTING QUAD RECEPTACLE AS NOTED IS CURRENTLY SERVING THE SCHOOL SERVER RACK IN ROOM.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878
MONTGOMERY COUNTY PUBLIC SCHOOLS

STATE OF MARYLAND
PATRICK J. MARQUEZ
No. 24861
PROFESSIONAL ENGINEER

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 02-24-2024.

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Project No	7738-22
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Drawing Title
SECOND FLOOR PLAN - DEMOLITION

Sheet No:
E-3

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT

THURGOOD MARSHALL ELEMENTARY SCHOOL

12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878

MONTGOMERY COUNTY PUBLIC SCHOOLS

GENERAL NOTES:

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SPECIFIC NOTES:

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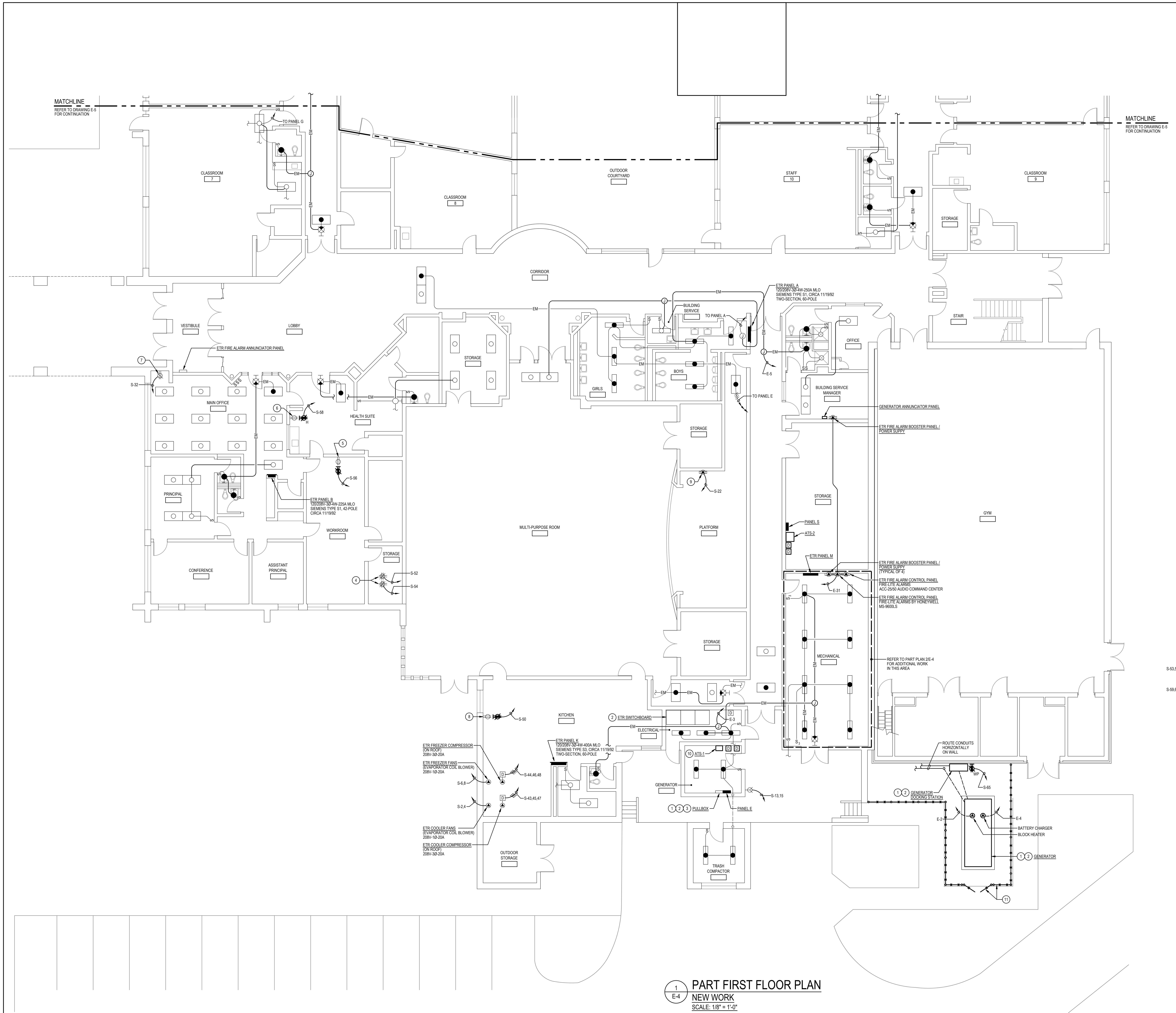
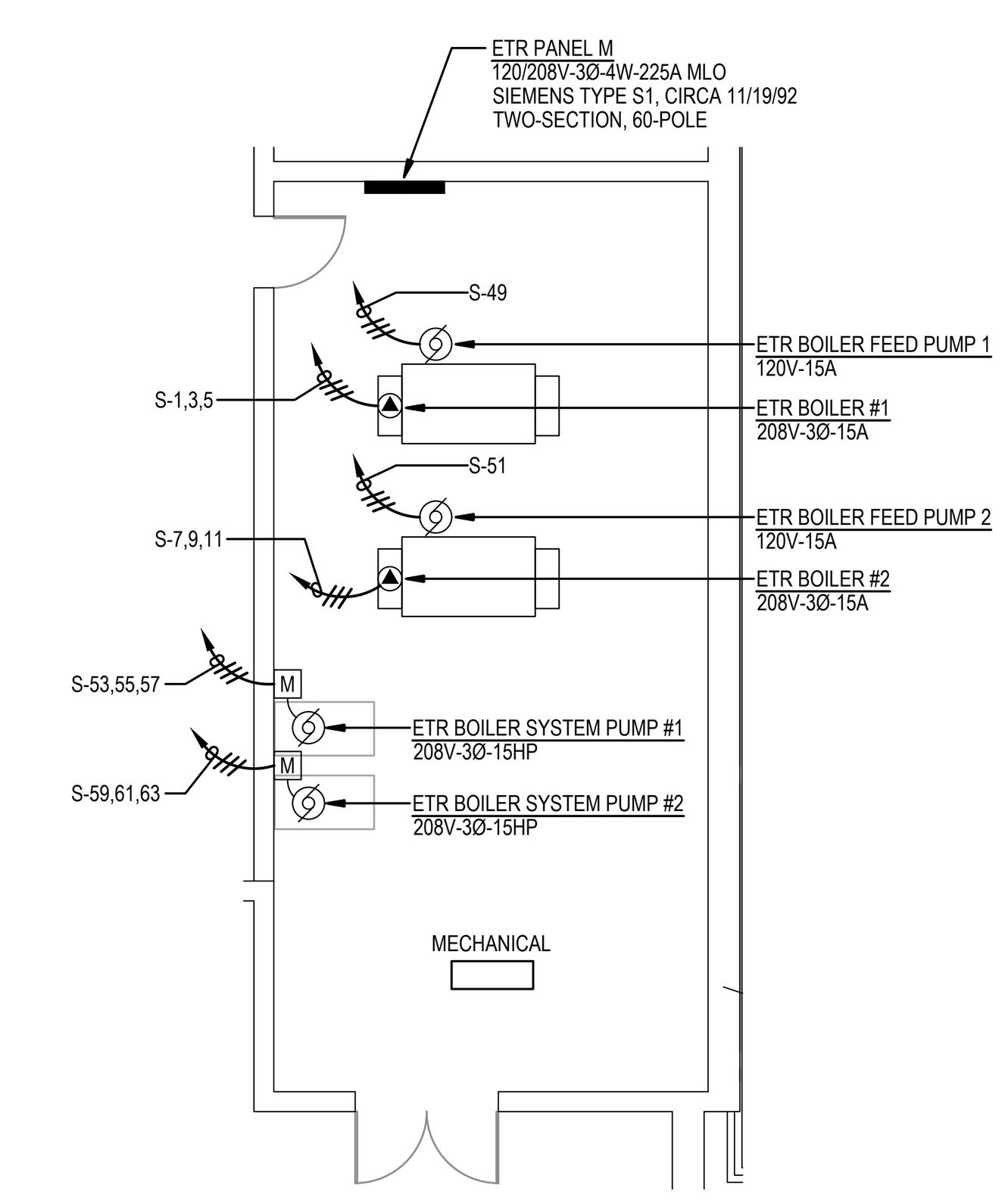
2. REFER TO PART POWER RISER DIAGRAM ON DRAWING E-7 FOR ADDITIONAL INFORMATION.
3. UTILIZE PANELBOARD ENCLOSURE AS A PULLBOX TO INTERCEPT AND SPLICE EXISTING EMERGENCY LIGHTING CIRCUITS. REFER TO SPECIFIC NOTE 3 ON DRAWING E-1 FOR ADDITIONAL INFORMATION.
4. QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
5. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN WORKROOM.
6. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REFRIGERATOR IN HEALTH SUITE.
7. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING INTERCOM / PUBLIC ADDRESS SYSTEM CONSOLE / RACK IN MAIN OFFICE AREA.
8. DUPLEX RECEPTACLE AS NOTED IS CURRENTLY SERVING REACH-IN REFRIGERATOR AND ICE CREAM DISPLAY CHEST / FREEZER IN KITCHEN.
9. EXISTING TO REMAIN SOUND SYSTEM AMPLIFIER FOR PLATFORM / MULTI-PURPOSE ROOM.
10. RECONNECT EXISTING FIRE DETECTION AND ALARM SYSTEM MONITORING MODULES FOR "GENERATOR RUN" AND "GENERATOR FAULT" TO GENERATOR AT ATS-1. EXTEND EXISTING FIRE ALARM WIRING IN CONDUIT AND MAKE CONNECTIONS NECESSARY FOR COMPLETE INSTALLATION. RE-PROGRAM FIRE ALARM CONTROL PANEL AS REQUIRED.
11. PROVIDE CHAIN LINK FENCE WITH 6'-0" WIDE GATE AS INDICATED. MAINTAIN MINIMUM 3'-0" CLEARANCE AROUND GENERATOR AND IN FRONT OF ELECTRICAL EQUIPMENT.

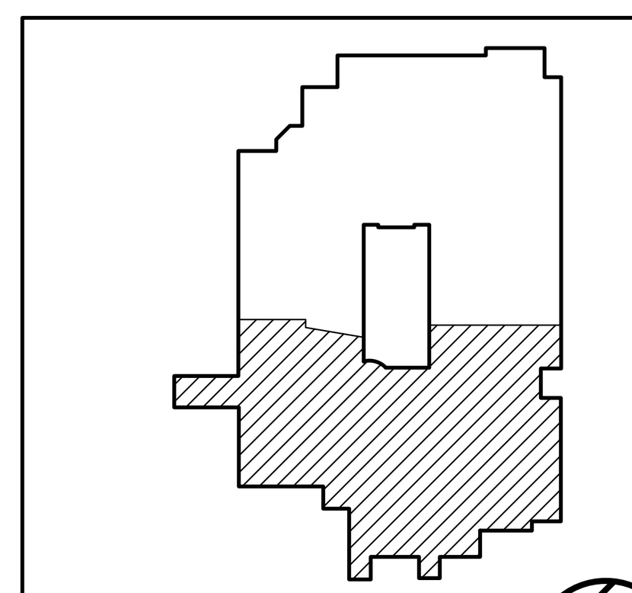


1 / E-4 PART FIRST FLOOR PLAN
NEW WORK
SCALE: 1/8" = 1'-0"



2 / E-1 PART PLAN
MECHANICAL ROOM
DEMOLITION
SCALE: 1/8" = 1'-0"

SCALE: 1/8" = 1'-0"



KEY PLAN
NOT TO SCALE

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jamesposey.com

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Scale	AS NOTED
Project No	7738-22
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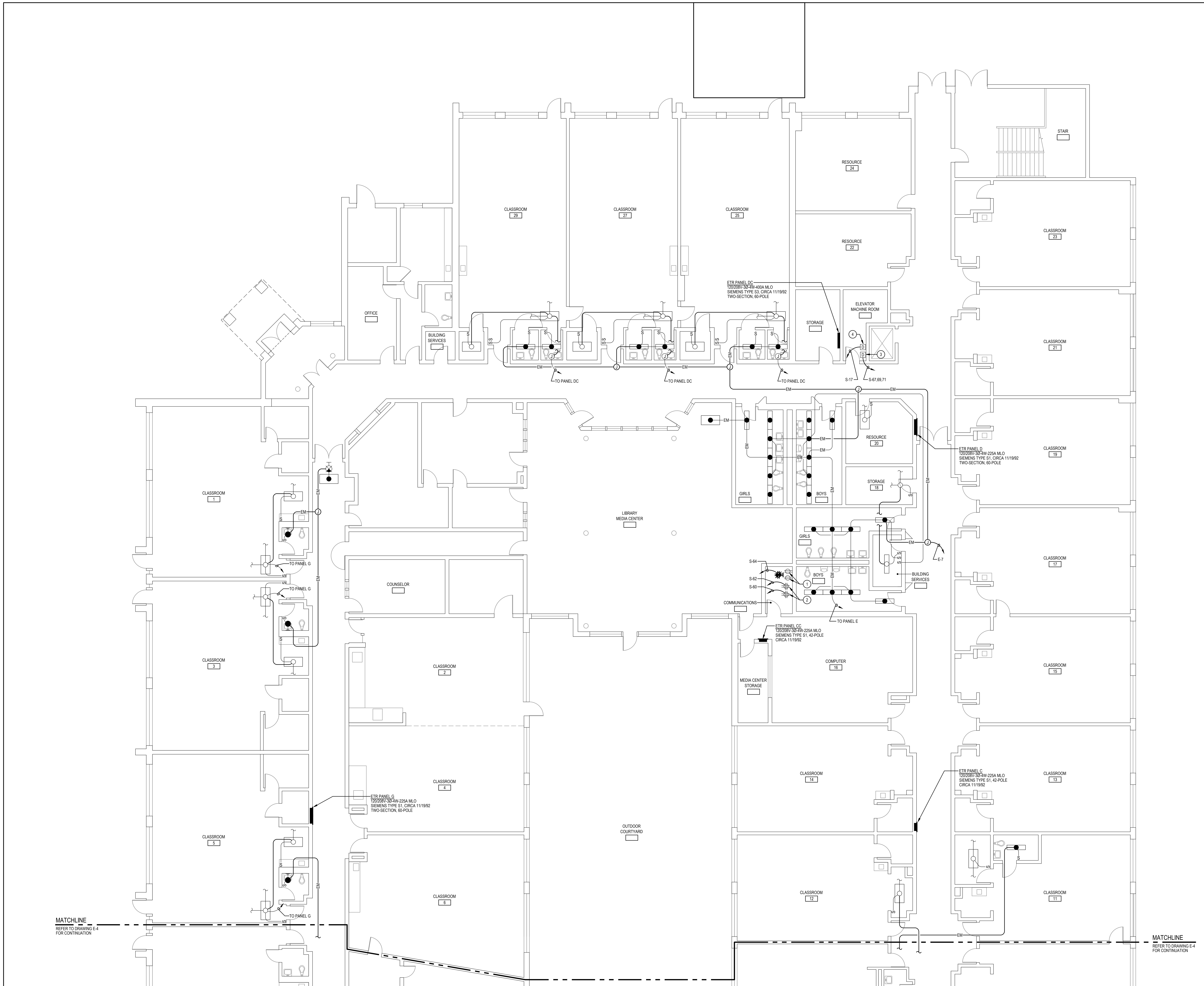
Drawing Title
PART FIRST FLOOR PLAN - NEW WORK

Sheet No:
E-4



PART FIRST FLOOR PLAN
NEW WORK
SCALE: 1/8" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

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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.

SPECIFIC NOTES:

1. EXISTING DUPLEX RECEPTACLES AS NOTED ARE CURRENTLY SERVING DATA RACKS IN ROOM.
2. QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.
3. EXISTING TO REMAIN DISCONNECT FOR ELEVATOR.
4. EXISTING TO REMAIN DISCONNECT FOR ELEVATOR CAB LIGHTING.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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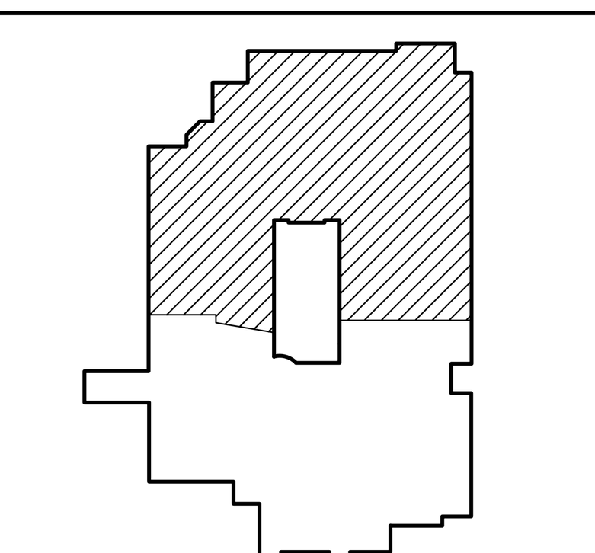
PART FIRST FLOOR PLAN - NEW WORK



KEY PLAN
NOT TO SCALE

Sheet No:
E-5

GENERAL NOTES:

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SPECIFIC NOTES:

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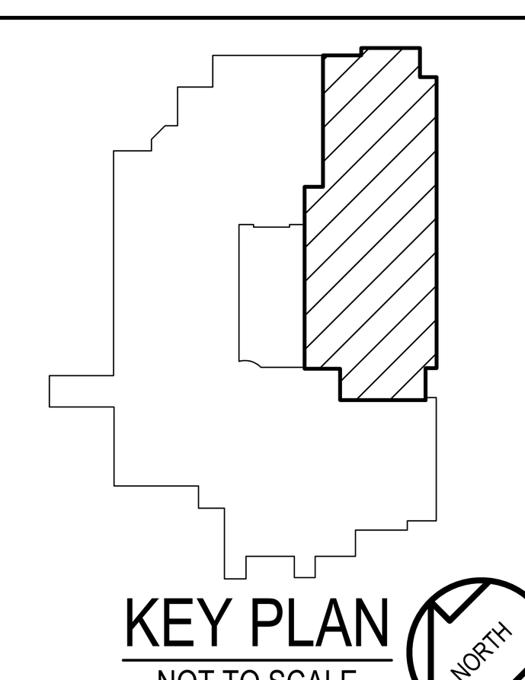
(2) QUAD RECEPTACLES AS NOTED ARE CURRENTLY MOUNTED ON THE BOTTOM OF EXISTING DATA RACK IN ROOM.

1
E-6
SECOND FLOOR PLAN
NEW WORK
SCALE: 1/8" = 1'-0"

8 4 0 8 16
SCALE: 1/8" = 1'-0"



KEY PLAN
NOT TO SCALE

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
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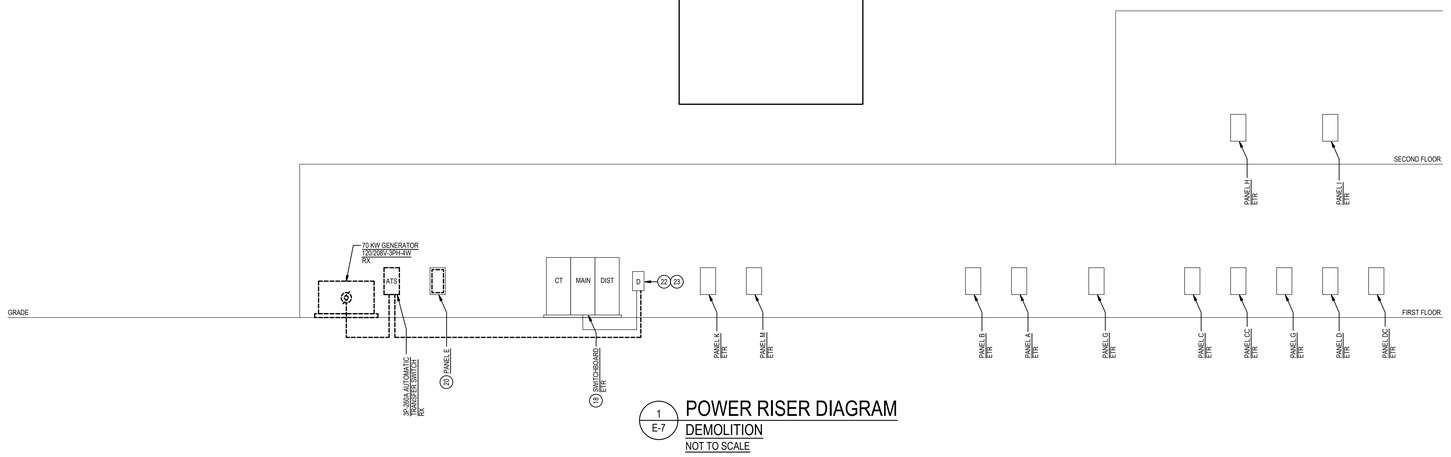
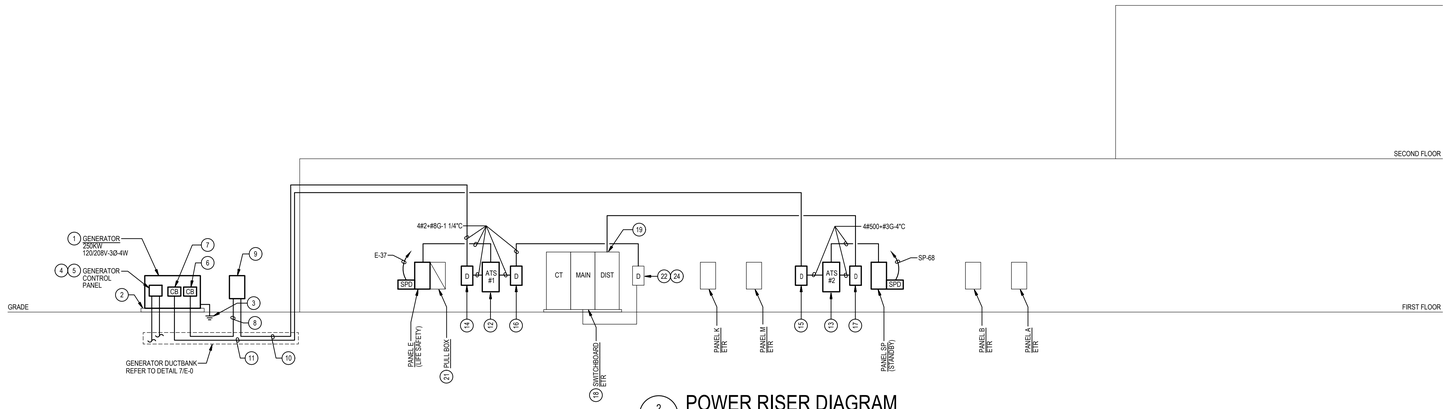
Drawing Title
SECOND FLOOR PLAN - NEW WORK

Sheet No:
E-6



1 E-7 **POWER RISER DIAGRAM**
DEMOLITION
NOT TO SCALE



2 E-7 **POWER RISER DIAGRAM**
NEW WORK
NOT TO SCALE

WIRING SCHEDULE: PANEL E

120 / 208 VOLTS — 3 PHASE 4 WIRE — 100 AMP BUS — SURFACE MOUNTED

CIR-CUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA/Ø A	KVA/Ø B	KVA/Ø C	CIR-CUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	SPARE		1	20	- 1.5			2	2	GENERATOR BLOCK HEATER	#10-3/4"C	1	20
3	3	EM LTG ELEC.,GEN.TRASH	#10-3/4"C	1	20		1.0 0.1		4	4	GEN BATTERY CHARGER	#10-3/4"C	1	20
5	5	EM LTG BOYS & GIRLS AREA A	#10-3/4"C	1	20			0.4 -	-	6	SPACE	-	1	-
7	7	EM LTG BOYS & GIRLS AREA D	#8-3/4"C	1	20	0.8 -			-	8	SPACE	-	1	-
9	9	EM LTG BOYS & GIRLS 2ND FLR	#8-3/4"C	1	20		0.5 -		-	10	SPACE	-	1	-
11	11	SPARE		1	20			- -	-	12	SPACE	-	1	-
13	13	SPARE		1	20	- -			-	14	SPACE	-	1	-
15	15	SPARE		1	20		- -		-	16	SPACE	-	1	-
17	17	SPARE		1	20			0.5 -	-	18	SPACE	-	1	-
19	19	SPARE		1	20	- -			-	20	SPACE	-	1	-
21	21	EX EM LTG LIBRARY SECTION	NOTE (2)	1	20		1.2 -		-	22	SPACE	-	1	-
23	23	EX EM LTG 2ND FLOOR	NOTE (2)	1	20			1.2 -	24	24	SPARE		1	20
25	25	EX EM LTG BOYS & GIRLS	NOTE (2)	1	20	1.2 -			26	26	SPARE		1	20
27	27	SPARE		1	20		- -		28	28	SPARE		1	20
29	29	SPARE		1	20			- 1.2	30	30	EX EM LTG CORRIDOR 1	NOTE (2)	1	20
31	31	FIRE ALARM CONTROL PANEL	#10-3/4"C	1	20	0.5 1.2			32	32	EX EM LTG CORRIDOR 5	NOTE (2)	1	20
33	33	EX EM LTG MAIN LOBBY	NOTE (2)	1	20		1.2 1.2		34	34	EX EM LTG CORR 2 & KITCHEN	NOTE (2)	1	20
35	35	EX EM LTG GYM	NOTE (2)	1	20			1.2 1.2	36	36	EX EM LTG MULTI-PURPOSE	NOTE (2)	1	20
37	37	EXTERNAL SURGE	4#8+	3	30	- 1.2			38	38	EX EM LTG CORRIDOR 3	NOTE (2)	1	20
-	39	PROTECTIVE DEVICE	#8G-				- -		40	40	SPACE			
-	41		1"C					- -	42	42	SPACE			
						2.5 3.9	3.9 1.3	3.3 2.4						
						6.4	5.2	5.7						

CONNECTED LOAD = 17.3 KVA

DEMAND LOAD = 16.8 KVA

MIN AIC RATING = 65,000 AMPS SYMMETRICAL

MAIN FUSE 100 AMPS

LOCATION GENERATOR RM

NOTES:
(1) PROVIDE FUSIBLE BRANCH CIRCUIT PANELBOARD.
(2) INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT AT PANELBOARD ENCLOSURE, PREVIOUSLY PANEL E, TO BE USED AS A PULL BOX. MATCH EXISTING WIRING.

WIRING SCHEDULE: PANEL S

120 / 208 VOLTS — 3 PHASE 4 WIRE — 400 AMP BUS — SURFACE MOUNTED

CIR-CUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA/Ø A	KVA/Ø B	KVA/Ø C	CIR-CUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	ETR BOILER #1	3#12+	3	15	1.0 1.3			2	2	ETR COOLER FANS	2#10+#10G	2	20
-	3		#12G-				1.0 1.3		-	4		-3/4"C		
-	5		3/4"C					1.0 1.3	6	6	ETR FREEZER FANS	2#10+#10G	2	20
7	7	ETR BOILER #2	3#12+	3	15	1.0 1.3			-	8		-3/4"C		
-	9		#12G-				1.0 -		10	10	ELEVATOR SHUNT TRIP	#10-3/4"C	1	20
-	11		3/4"C					1.0 0.5	12	12	ETR REC INTERCOM/PA	#10-3/4"C	1	20
13	13	ETR REC MSL TRAILER	2#8+#8G-	2	50	3.3 1.2			14	14	ETR LOAD (3)	2#10+#10G	2	20
-	15		3/4"C				3.3 1.2		-	16		-3/4"C		
17	17	ETR LTG ELEVATOR CAB	#10-3/4"C	1	20			0.4		18	SPARE		1	20
19	19	ETR REC TV HEAD-IN RM (3)	#8-3/4"C	1	20	0.2				20	SPARE		1	20
	21	SPARE		1	20			0.5	22	22	ETR PLATFORM SOUND	#10-3/4"C	1	20
	23	SPARE		1	20			0.4	24	24	ETR REC OFFICE (3)	#10-3/4"C	1	20
	25	SPARE		1	20	0.4			26	26	ETR REC TELEPHONE (3)	#10-3/4"C	1	20
27	27	ETR REC 2ND FLOOR (3)	#8-3/4"C	1	20		0.2 0.4		28	28	ETR REC OFFICE (3)	#10-3/4"C	1	20
29	29	ETR REC (3)	#10-3/4"C	1	20			0.2	30	30	SPARE		1	20
	31	SPARE		1	20				32	32	SPARE		1	20
	33	SPARE		1	20				34	34	SPARE		1	20
	35	SPARE		1	20				36	36	SPARE		1	20
	37	SPARE		1	20				38	38	SPARE		1	20
39	39	ETR LOAD (3)	2#10+#10G	2	20		1.2 1.2		40	40	ETR LOAD (3)	2#10+#10G	2	20
-	41		-3/4"C					1.2 1.2	-	42		-3/4"C		
43	43	ETR COOLER COMPRESSOR	3#12+	3	20	1.5 1.5			44	44	ETR FREEZER COMPRESSOR	3#12+	3	20
-	45		#12G-				1.5 1.5		-	46		#12G-		
-	47		3/4"C					1.5 1.5	-	48		3/4"C		
49	49	ETR BOILER FEED PUMP 1	#12-3/4"C	1	15	0.7 0.5			50	50	REC REFRIG. KITCHEN (1)	#10-3/4"C	1	20
51	51	ETR BOILER FEED PUMP 2	#12-3/4"C	1	15		0.7 1.0		52	52	ETR REC DATA RACK AREA B	#10-3/4"C	1	20
53	53	ETR BOILER SYSTEM PUMP #1	3#4+	3	100			5.5 1.0	54	54	ETR REC DATA RACK AREA B	#10-3/4"C	1	20
-	55		#8G-			5.5 0.5			56	56	REC REFRIG. WORKRM (1)	#10-3/4"C	1	20
-	57		1-1/4"C				5.5 0.5		58	58	REC REFRIG. HEALTH (1)	#10-3/4"C	1	20
59	59	ETR BOILER SYSTEM PUMP #2	3#4+	3	100			5.5 1.0	60	60	ETR REC DATA RACK AREA CC	#8-3/4"C	1	20
-	61		#8G-			5.5 1.0			62	62	ETR REC DATA RACK AREA CC	#8-3/4"C	1	20
-	63		1-1/4"C				5.5 1.0		64	64	REC DATA RACK AREA CC	#8-3/4"C	1	20
65	65	REC GENERATOR	#10-3/4"C	1	20			0.2 1.0	66	66	REC SERVER 2ND FLR	#8-3/4"C	1	20
67	67	ELEVATOR (2)	3#1/0+	3	125	9.0 -			68	68	EXTERNAL SURGE	4#8+	3	30
-	69		#6G-				9.0 -		-	70	PROTECTIVE DEVICE	#8G-		
-	71		1-1/2"C					9.0 -	-	72		1"C		
						27.7 7.7	28.9 8.6	25.5 7.9						
						35.4	37.5	33.4						

CONNECTED LOAD = 106.3 KVA

DEMAND LOAD = 92.5 KVA

MIN AIC RATING = 65,000 AMPS SYMMETRICAL

MAIN BREAKER 400 AMPS

LOCATION STORAGE

NOTES:
(1) PROVIDE GFCI-TYPE CIRCUIT BREAKER.
(2) PROVIDE SUB-FEED SHUNT TRIP TYPE CIRCUIT BREAKER
(3) TRACE EXISTING BRANCH CIRCUIT FROM REMOVED PANEL E AND INTERCEPT & SPLICE EXISTING BRANCH CIRCUIT IN CEILING SPACE.

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.

B. 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.

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.

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.

SPECIFIC NOTES:

1. PROVIDE TYPE 10 GENERATOR, PER NFPA 110. THE GENERATOR SHALL BE ABLE TO PROVIDE GENERATOR POWER TO THE SCHOOL WITHIN 10 SECONDS AFTER A UTILITY POWER OUTAGE.
2. PROVIDE GENERATOR CONCRETE PAD. REFER TO DETAIL 1/E-0 FOR ADDITIONAL INFORMATION.
3. REFER TO DIAGRAM 3/E-0 FOR GENERATOR GROUNDING.
4. 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.
5. PROVIDE WIRING IN CONDUIT FROM GENERATOR CONTROL PANEL TO GENERATOR REMOTE ALARM ANNUNCIATOR PANEL. WIRING SHALL BE AS PER GENERATOR MANUFACTURER'S RECOMMENDATIONS.
6. PROVIDE 3P-700A 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.
7. PROVIDE 3P-400A CIRCUIT BREAKER TO SERVE GENERATOR STANDBY LOADS. MOUNT CIRCUIT BREAKER WITHIN GENERATOR ENCLOSURE AND MAKE CONNECTIONS. COORDINATE LOCATION OF CIRCUIT BREAKER WITH GENERATOR MANUFACTURER.
8. PROVIDE TWO SETS: (4 #400 + #1/0 GROUND IN 3" CONDUIT) BETWEEN 3P-700A ELECTRONIC TRIP CIRCUIT BREAKER AT GENERATOR SERVING EMERGENCY (LIFE SAFETY) LOADS AND GENERATOR DOCKING STATION, SIZED FOR LOAD BANK CONNECTION.
9. PROVIDE 700A GENERATOR DOCKING STATION IN NEMA TYPE 3R ENCLOSURE, EQUAL TO TRYSTAR DSDS-5 WITH TWO 3P-100A CIRCUIT BREAKERS, KIRK KEY INTERLOCKED, FOR CONNECTIONS TO ATS-1 AND PORTABLE MOBILE GENERATOR. FEEDER FOR LOAD BANK CONNECTION SHALL BE SIZED FOR 700A. PROVIDE SIGN ON FRONT OF GENERATOR DOCKING STATION TO READ AS FOLLOWS "SERVING EMERGENCY TRANSFER SWITCH (ATS-1) IN ELECTRICAL ROOM, 120/208V, 3-PHASE, 4-WIRE".
10. PROVIDE 4 #2 + #8 GROUND IN 1 1/4" CONDUIT. REFER TO DETAIL 7/E-0 FOR GENERATOR DUCTBANK.
11. PROVIDE 4 #500 + #2 GROUND IN 4" CONDUIT. REFER TO DETAIL 7/E-0 FOR GENERATOR DUCTBANK.
12. PROVIDE 4P-100A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE EMERGENCY (LIFE SAFETY) LOADS. ATS SHALL HAVE A MINIMUM UL 1008 WITHSTAND AND CLOSING RATING OF 65K AIC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "EMERGENCY ATS".
13. PROVIDE 4P-400A AUTOMATIC TRANSFER SWITCH (ATS) TO SERVE STAND-BY LOADS. ATS SHALL HAVE A MINIMUM UL 1008 WITHSTAND AND CLOSING RATING OF 65K AIC. PROVIDE NAMEPLATE ON FRONT OF ATS TO READ "STANDBY ATS".
14. PROVIDE 3P-100A-250V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR EMERGENCY / LIFE SAFETY LOADS.
15. PROVIDE 3P-400A-250V NON-FUSED ENCLOSED SWITCH WITH NEUTRAL KIT IN NEMA TYPE 1 ENCLOSURE TO SERVE GENERATOR STAND-BY LOADS.
16. PROVIDE 3P-100A-250V FUSED ENCLOSED SWITCH WITH NEUTRAL IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 100A CURRENT-LIMITING FUSES.
17. PROVIDE 3P-100A-250V FUSED ENCLOSED SWITCH WITH NEUTRAL IN NEMA TYPE 1 ENCLOSURE. PROVIDE WITH 400A CURRENT-LIMITING FUSES.
18. EXISTING SWITCHBOARD IS BY SIEMENS, TYPE FC-II, CIRCA DECEMBER 1992, RATED AT 120/208V, 3-PHASE, 4-WIRE, 65,000 AIC, 2500A MAINS WITH 2500A MAIN FUSED SWITCH.
19. PROVIDE 3P-400A CIRCUIT BREAKER IN SPACE OF DISTRIBUTION SECTION OF EXISTING SWITCHBOARD. CIRCUIT BREAKER TYPE AND AIC RATING SHALL MATCH EXISTING.
20. REFER TO SPECIFIC NOTE 3/E-1 FOR ADDITIONAL INFORMATION.
21. REFER TO SPECIFIC NOTE 3/E-4 FOR ADDITIONAL INFORMATION.
22. ETR 3P-400A FUSED ENCLOSED SWITCH.
23. REMOVE 400A FUSES FROM ETR ENCLOSED SWITCH.
24. PROVIDE 100A FUSES IN ETR ENCLOSED SWITCH. TYPE TO MATCH EXISTING.

GENERATOR AND ELECTRICAL EQUIPMENT REPLACEMENT
THURGOOD MARSHALL ELEMENTARY SCHOOL
12260 MCDONALD CHAPEL DRIVE
GAITHERSBURG, MD 20878
MONTGOMERY COUNTY PUBLIC SCHOOLS

STATE OF MARYLAND — JAMES M. POSEY — No. 24861 — PROFESSIONAL ENGINEER

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 02-24-2024.

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Tag	Description	Date
	BID SET	02/06/23

PSC No	
Scale	AS NOTED
Project No	7738-22
Date	FEBRUARY 6, 2023

Drawing Title
POWER RISER DIAGRAMS AND SCHEDULES

Sheet No:
E-7