

TOWN OF HEBRON
REGIONAL SCHOOL DISTRICT 8

85 WALL ST,
HEBRON, CT 06248



EMERGENCY ELECTRICAL GENERATOR SYSTEM
RHAM MIDDLE AND HIGH SCHOOL

PHASE I
MARCH 14, 2025

TOWN OF HEBRON PROJECT #2025-10
VANZELM PROJECT # 2023159.01



CT: 860.284.5064 MA: 617.218.9976 NC: 704.799.7275
10 TALCOTT NOTCH, FARMINGTON, CT 06032 - 1800
Connecticut | Massachusetts | North Carolina

DRAWING LIST

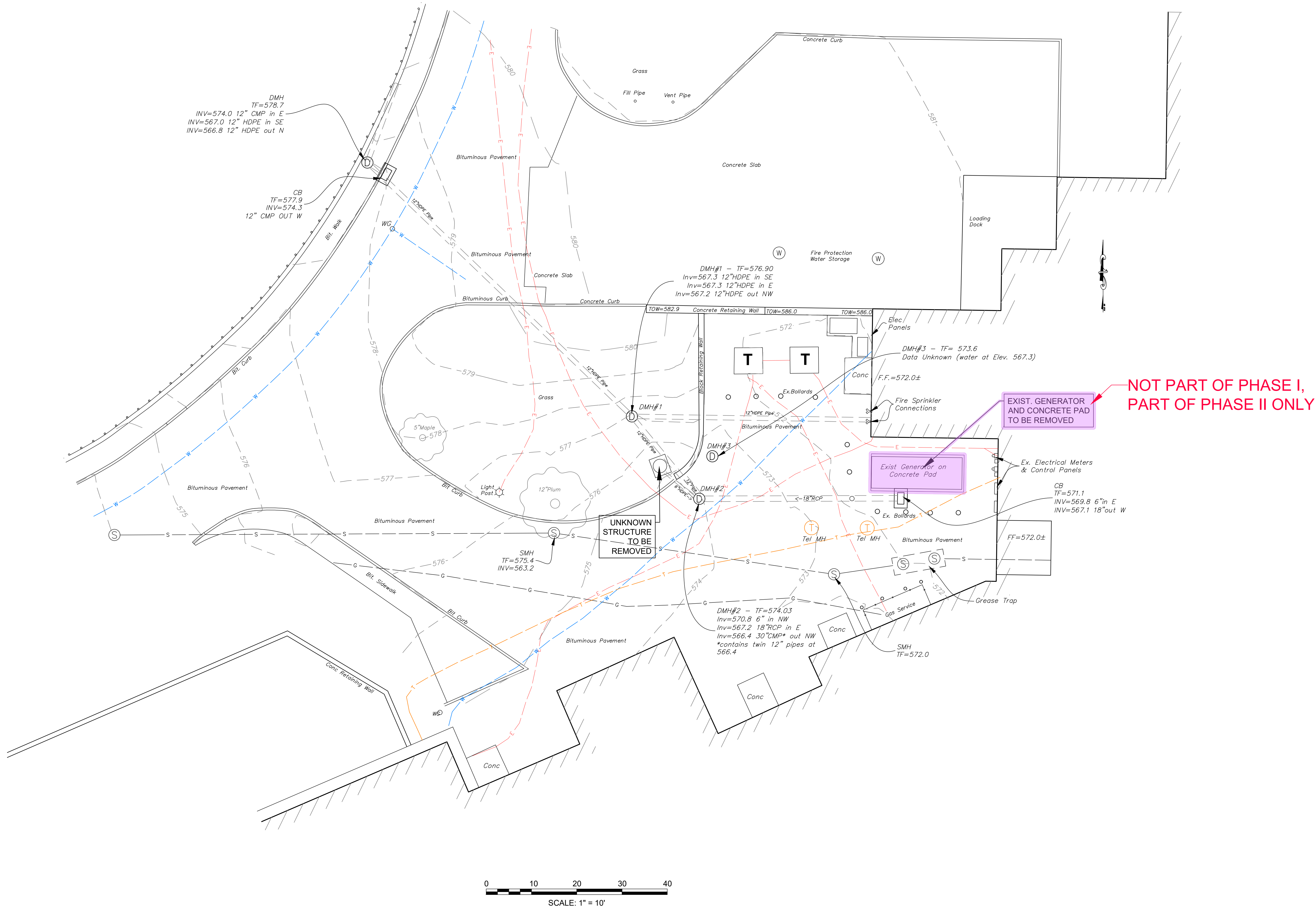
COVER SHEET

CIVIL

V1-01	CIVIL SITE PLAN - EXISTING CONDITIONS
C1-01	CIVIL SITE PLAN - PROPOSED GENERATOR PAD
C1-02	CONCRETE PAD SECTIONS

ELECTRICAL

E001	ELECTRICAL LEGENDS AND GENERAL NOTES
ESDU100	ELECTRICAL EXISTING CONDITIONS AND SITE UTILITIES DEMOLITION PLAN
ESU100	ELECTRICAL SITE UTILITIES NEW WORK PLAN
ESU101	ELECTRICAL ENLARGED SITE UTILITIES NEW WORK PLAN
E301	HIGH SCHOOL ELECTRICAL ONE-LINE RISER DIAGRAM
E302	ELECTRICAL SCHEDULES AND DETAILS



0 10 20 30 40
SCALE: 1" = 10'

LEGEND

— 572 —	Ground Contour
— E —	Indicates depth of utility line
— T —	Underground Electric Line
— W —	Light Post
— G —	Underground Telecommunications Line
— S —	Telephone Manhole
— D —	Water Line
— S —	Gas Main
— S —	Sanitary Sewer Line
— S —	Sanitary Sewer Manhole
— S —	Drainage Line
— S —	Drainage Manhole

NOTES:

1. TOPOGRAPHIC SURVEY PERFORMED BY HALEY WARD ON 7/10/2024, UTILIZING SURVEY GRADE GEOGRAPHIC POSITIONING SYSTEM ROVER EQUIPMENT.
2. HORIZONTAL DATUM BASED ON NORTH AMERICAN DATUM 1983 (NAD83).
3. VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NGVD88).
4. UNDERGROUND UTILITIES LOCATION AND DEPTH MARKED ON 9/6/2024 UTILIZING GROUND PENETRATING RADAR EQUIPMENT.
5. UNDERGROUND UTILITY PAINT MARKS SURVEYED BY HALEY WARD ON 9/9/2024 UTILIZING SURVEY GRADE GPS ROVER EQUIPMENT.

CONSULTANTS:

CIVIL ENGINEER:
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(860) 659-3100

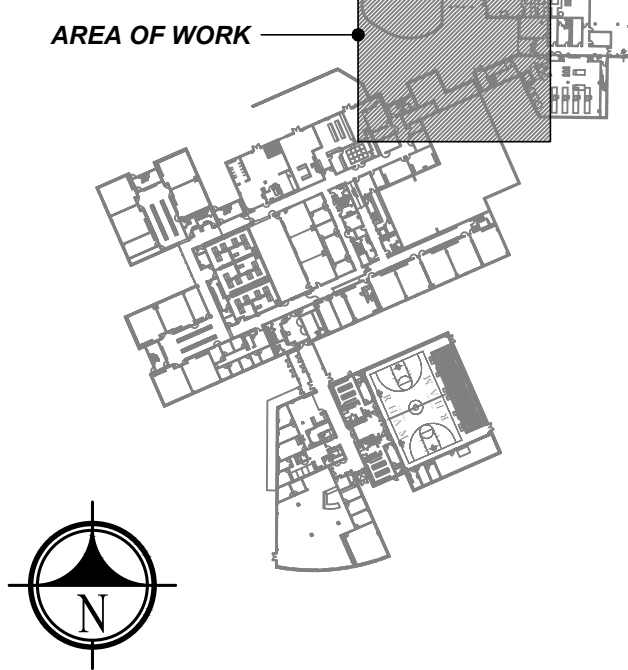
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(978) 897-7100

PROJECT NAME:

RHAM HIGH AND MIDDLE SCHOOL EMERGENCY ELECTRICAL GENERATOR SYSTEM REPLACEMENT REGIONAL SCHOOL DISTRICT #8 85 WALL STREET HEBRON, CT 06248

KEYPLAN



REVISIONS

REV.	DATE	DESCRIPTION
X	XX/XX/24	XXXXXXXX

DRAWING TITLE:

CIVIL SITE PLAN EXISTING CONDITIONS PHASE I

DATE: 3/14/2025

DRAWN BY: KLD

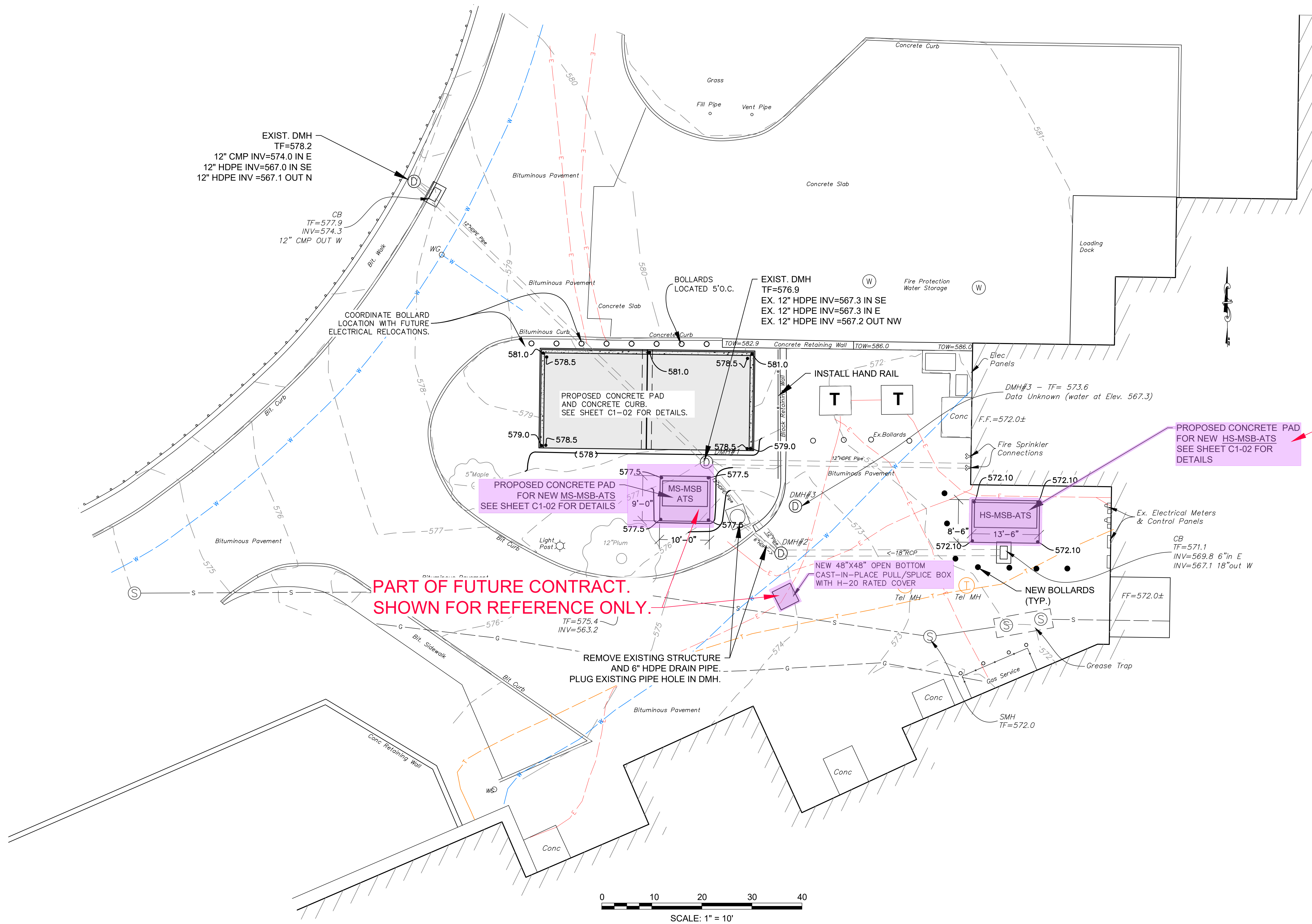
CHECKED BY: JEE

SCALE: 1"=10'

PROJ #: 2023159.00

DRAWING NUMBER:

V1-01

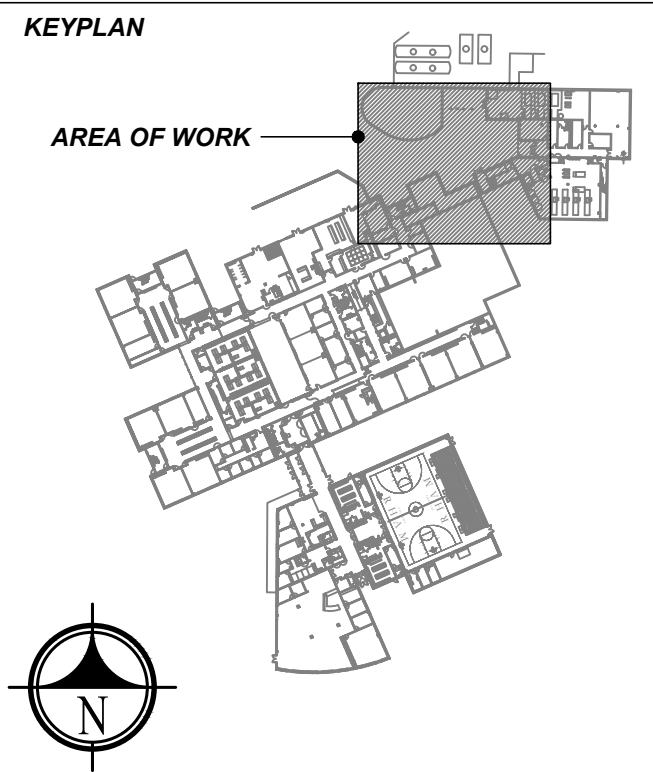


- NOTES:**
1. TOPOGRAPHIC SURVEY PERFORMED BY HALEY WARD ON 7/10/2024, UTILIZING SURVEY GRADE GEOGRAPHIC POSITIONING SYSTEM ROVER EQUIPMENT.
 2. HORIZONTAL DATUM BASED ON NORTH AMERICAN DATUM 1983 (NAD83).
 3. VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NGVD88)
 4. UNDERGROUND UTILITIES LOCATION AND DEPTH MARKED ON 9/6/2024 UTILIZING GROUND PENETRATING RADAR EQUIPMENT.
 5. UNDERGROUND UTILITY PAINT MARKS SURVEYED BY HALEY WARD ON 9/9/2024 UTILIZING SURVEY GRADE GPS ROVER EQUIPMENT.
 6. REFER TO ELECTRICAL DRAWINGS AND APPROVED SHOP DRAWINGS FOR COORDINATION OF THE LOCATION OF CONDUITS THAT WILL BE PENETRATING THE CONCRETE PADS FOR THE NEW GENERATOR, NEW HIGH SCHOOL (HS-MSB-ATS) AND MIDDLE SCHOOL (MS-MSB-ATS) SWITCHGEAR

**NOT PART OF PHASE I
PART OF PHASE II ONLY.**

LEGEND

---	572	Exist. Ground Contour
- - -	578	Prop. Ground Contour
=====		Prop. Concrete Pad
=====		Prop. Concrete Retaining Wall
- - -	E	Exist. Underground Electric Line
- - -	E	Prop. Underground Electric Line
☀		Exist. Light Post
- - -	T	Exist. Underground Telecommunications Line
○	T	Exist. Telephone Manhole
- - -	W	Exist. Water Line
- - -	G	Exist. Gas Main
- - -	S	Exist. Sanitary Sewer Line
○	S	Exist. Sanitary Sewer Manhole
○	D	Exist. Drainage Line
○	D	Exist. Drainage Manhole



REVISIONS		
REV.	DATE	DESCRIPTION
X	XX/XX/24	XXXXXXXX

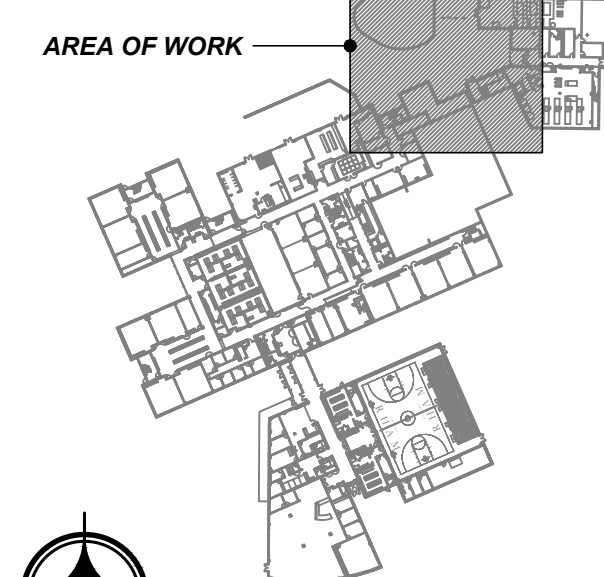
DRAWING TITLE:
CIVIL SITE PLAN
PROPOSED GENERATOR
PAD
PHASE I

DATE:	3/14/2025	DRAWING NUMBER:	C1-01
DRAWN BY:	KLD		
CHECKED BY:	JEE		
SCALE:	1"=10'		
PROJ #:	2023159.00		

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KEYPOINTS



<i>REVISIONS</i>		
REV. NO.	DATE	DESCRIPTION
✓	XX / XX / 0A	XXXXXXXX

PHASE I

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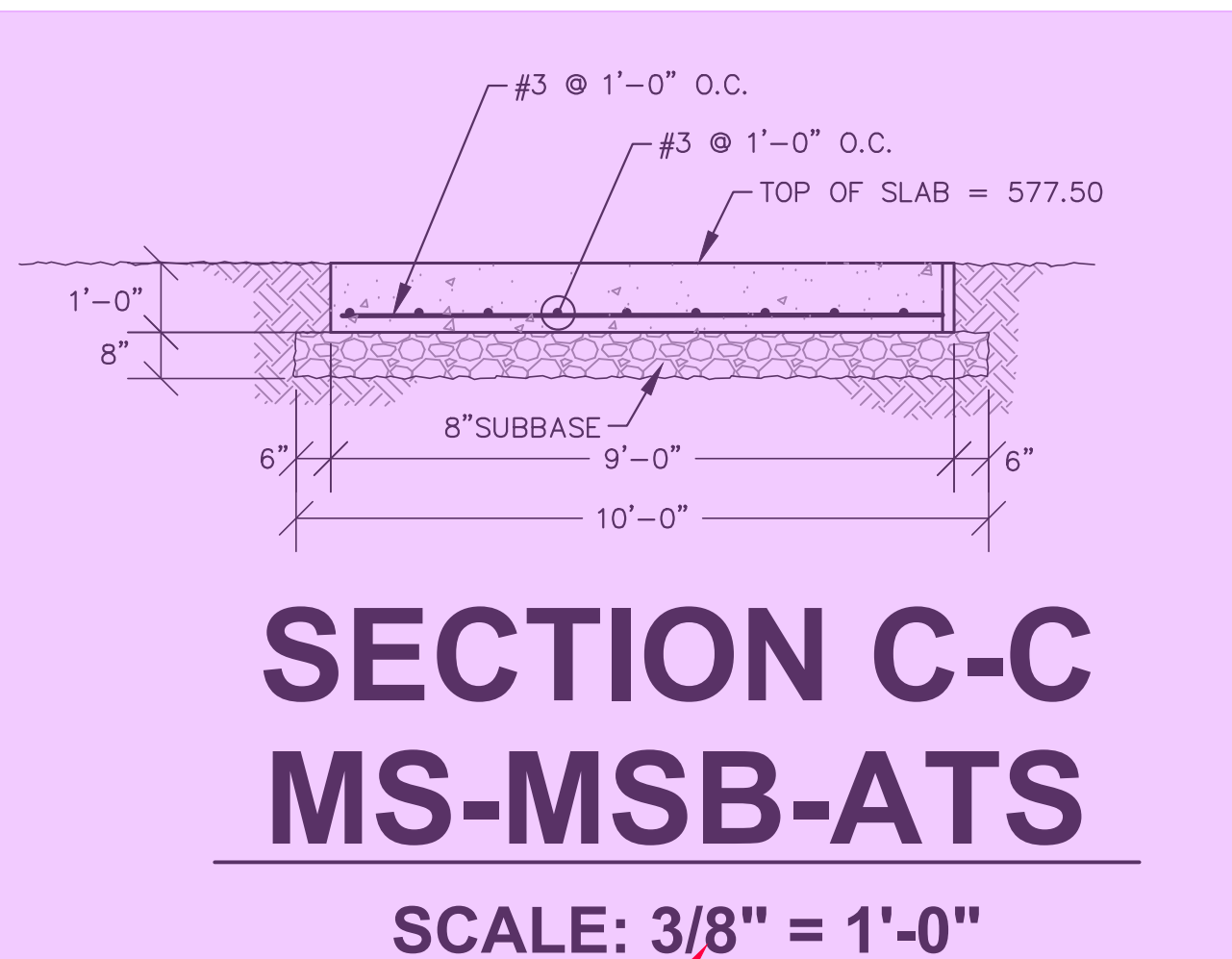
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China	2118	1.00
China		

DRAWING NUMBER:



1. *ALL REFERENCES ARE MADE TO THE STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR
ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION, FORM
818, 2020"*
2. CONCRETE TO BE PORTLAND CEMENT CONCRETE FOR PAVEMENT,
4,000 PSI 28 DAY STRENGTH, AS SPECIFIED IN SECTION M.03.01.
3. BAR REINFORCEMENT SHALL BE ASTM A 615, GRADE 60, BLACK
REBAR, AS SPECIFIED IN SECTION M.06.01.1.
4. ALL CONCRETE COVER OVER REINFORCEMENT TO BE 2 ½ INCHES
MIN.
5. SUBBASE SHALL BE AS SPECIFIED IN SECTION M.02.02.



GENERAL SITE ELECTRICAL NOTES

- A. PRIOR TO ANY EXCAVATION, CALL 811 "CALL BEFORE YOU DIG" TO NOTIFY AFFECTED UTILITIES.
- B. ALL TRENCHING AND BACKFILLING SHALL BE PROVIDED BY DIVISION 2.
- C. ALL CONCRETE PADS ARE PROVIDED BY DIVISION 3.
- D. CONTRACTOR SHALL VERIFY ALL EXISTING SERVICE LOCATIONS.
- E. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY COMPANY CHARGES.
- F. COORDINATE ALL SITE WORK WITH OWNER AND UTILITY COMPANIES. REFER TO SITE CIVIL ENGINEERING PLANS FOR ADDITIONAL INFORMATION, DETAILS, AND EXACT LOCATION OF EQUIPMENT.
- G. THE LOCATION AND QUANTITY OF EXISTING UNDERGROUND UTILITIES ARE SHOWN APPROXIMATELY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ENGINEER. DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. PROTECT ALL EXISTING TO REMAIN UTILITIES FROM DAMAGE DURING CONSTRUCTION.
- H. ANY EXISTING CONDUIT, WIRING, ETC. ROUTED IN AREAS THAT ARE DISTURBED BY CONSTRUCTION WORK OR LOCATED WHERE THE NEW CONSTRUCTION IS BEING ADDED SHALL BE RE-ROUTED AS REQUIRED TO ENSURE CONTINUITY OF EXISTING CIRCUITS.
- I. IN AREA BEING EXCAVATED, ABANDONED ELECTRICAL CONDUIT, WIRING, ETC. SHALL BE REMOVED. (REMOVE CONDUCTORS AND CONDUIT.) IF NO SITE WORK IS BEING DONE IN THESE AREAS, REMOVE CONDUCTORS AND ABANDON CONDUIT IN PLACE AND CAP.
- J. EXISTING UTILITIES SHALL REMAIN TO SERVE EXISTING STRUCTURES UNTIL THEY ARE VACATED. PROVIDE TEMPORARY SERVICES, INCLUDING PORTABLE GENERATORS AS REQUIRED. COORDINATE WITH UTILITIES AND OWNER.
- K. INSTALL ALL DUCTBANKS ON UNDISTURBED EARTH WHERE POSSIBLE. WHERE INSTALLED ON DISTURBED EARTH PROVIDE COMPACTED GRAVEL FILL PER SPECIFICATION SECTION, "COMPACTED GRAVEL FILL".
- L. ALL ELECTRIC AND COMMUNICATION DUCTBANKS SHALL BE CONCRETE ENCASED SCHEDULE 40 PVC CONDUIT, UNLESS NOTED OTHERWISE.
- M. PRIMARY ELECTRICAL DUCTBANKS SHALL REMAIN UNDISTURBED UNLESS SITE CONDITIONS DICTATE OTHERWISE.
- N. LOW VOLTAGE DUCTBANKS SHALL REMAIN UNDISTURBED, UNLESS REQUIRED TO BE REROUTED OR AS OTHERWISE NOTED.
- O. MAINTAIN MINIMUM 24" FROM FINISHED GRADE TO TOP OF ALL DUCTBANKS AND CONDUIT RUNS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- P. MAINTAIN MINIMUM OF 12" HORIZONTAL SEPARATION BETWEEN PRIMARY ELECTRICAL DUCTBANKS AND SECONDARY FEEDERS.
- Q. MAINTAIN MINIMUM OF 60" HORIZONTAL SEPARATION BETWEEN WATER LINES AND SECONDARY FEEDERS.
- R. PROVIDE TWO (2) 45° ELBOWS IN LIEU OF 90° SWEEPS FOR HORIZONTAL DUCTBANK RUNS.
- S. CONDUIT PENETRATIONS INTO VAULTS OR MANHOLES SHALL NOT ENTER AT AN ANGLE. ALL CONDUIT PENETRATIONS SHALL BE PERPENDICULAR TO THE INSIDE WALL SURFACE UNLESS OTHERWISE SPECIFIED.
- T. SEAL ALL TELECOMMUNICATION CONDUITS WITH CABLES AT THE LAST STRUCTURE PRIOR TO CONDUITS ENTERING A BUILDING AND WHERE CONDUITS ENTER A BUILDING WITH TYGO ELECTRONICS "JACKMOON" OR EQUAL QUADPLEX DUCT SEALING PLUGS. SEAL ALL SPARE TELECOMMUNICATION CONDUITS WITH BLANK DUCT PLUGS EQUAL TO TYGO ELECTRONICS "JACKMOON" OR EQUAL.
- U. WHERE PVC CONDUIT, WHETHER DIRECT BURIED OR IN DUCTBANK, TERMINATES WITHIN A BUILDING OR UTILITY STRUCTURE, THE PVC CONDUIT SHALL TRANSITION TO RIGID METAL CONDUIT AT LEAST 10 FEET PRIOR TO ENTERING BUILDING OR UTILITY STRUCTURE.
- V. BOND ALL METALLIC EQUIPMENT IN MANHOLE TO THE MANHOLE GROUND RING. THIS INCLUDES, BUT IS NOT LIMITED TO, COVER FRAME ASSEMBLY, RIGID METAL CONDUITS, CABLE SHIELDS, AND GROUND CONDUCTORS. PULLING EYES SHALL BE USED IN MANHOLES/HANDHOLES.

GENERAL ELECTRICAL DEMOLITION NOTES

- A. ALL ELECTRICAL DEVICES SHOWN CROSS HATCHED SHALL BE REMOVED UNLESS NOTED OTHERWISE.
- B. ALL LOW VOLTAGE UNDERGROUND CONDUIT AND WIRING (TELE, CABLE, DATA, FIRE ALARM, ETC.) TO REMAIN. PROVIDE ALL NECESSARY REPAIRS IF CONDUITS AND/OR WIRING IS DAMAGED.
- C. DISCONNECT AND REMOVE EXISTING WIRING, CONDUIT, BOXES, ETC. AS NOTED ON DRAWINGS.
- D. EXISTING ELECTRICAL ITEMS THAT ARE BEING DISCONNECTED AND REMOVED AND NOT BEING REUSED SHALL BE DISPOSED OF PROPERLY.
- E. ALL ABANDONED ELECTRICAL WIRING AND DEVICES SHALL BE REMOVED.
- F. IF CONTINUITY OF WIRING TO EXISTING ELECTRICAL ITEMS IS INTERRUPTED BY REMOVAL OF DEVICES, CONTRACTOR SHALL INSTALL ALL NECESSARY WIRING AND RACEWAY TO ENSURE THE CONTINUITY OF CIRCUITRY IN OTHER AREAS.
- G. WIRING FOR ITEMS BEING REMOVED SHALL BE REMOVED BACK TO POWER SOURCE OR LAST DEVICE TO REMAIN ACTIVE UNLESS NOTED OTHERWISE.
- H. NOTIFY CONSTRUCTION MANAGER OR GENERAL CONTRACTOR OF OPENINGS CAUSED BY REMOVAL OF EXISTING EQUIPMENT NOT BEING REPLACED. ENSURE THE PATCHING IS COMPLETE.
- I. REFER TO CIVIL DRAWINGS FOR ADDITIONAL RELATED WORK.
- J. THE BUILDING WILL BE OCCUPIED DURING DEMOLITION. COORDINATE PHASING OF DEMO WORK WITH CONSTRUCTION MANAGER OR GENERAL CONTRACTOR AND OWNER. EXISTING PANELS MAY NEED TEMPORARY RE-FEED. ENSURE CONTINUITY OF SERVICES.
- K. REUSE OF EXISTING UNDERGROUND MAIN SECONDARY CONDUCTORS FROM UTILITY TRANSFORMERS MAYBE REUSED IF TESTED AND TESTS RESULTS ARE APPROVED BY THE ENGINEER.
- L. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL ELECTRICAL NOTES

- A. REFER TO DRAWINGS FOR CONDUIT SIZES, ROUTING, ETC. AND WIRING SIZES.
- B. WIRE AND RACEWAY SIZES INDICATED SHALL BE CONTINUOUS FOR ENTIRE LENGTH, UNLESS NOTED OTHERWISE.
- C. ALL WIRING (CONDUITS, ETC) TO BE AS NOTED ON DRAWINGS.
- D. PROVIDE UNIVERSAL BLANK PLUGS ON ALL SPARE CONDUITS TERMINATING INSIDE BUILDING.
- E. CONDUIT ROUTINGS INDICATED ON DRAWINGS ARE RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL ROUTING.
- F. A COMPLETE FEEDER WIRING SYSTEM IS TO BE INSTALLED.
- G. TEMPORARY GENERATOR AND CONNECTIONS WILL BE REQUIRED.

GENERAL INSTALLATION NOTES:

ELECTRICAL WIRING: INSTALL ELECTRICAL DEVICES FURNISHED BY EQUIPMENT MANUFACTURERS BUT NOT SPECIFIED TO BE FACTORY MOUNTED.

- VERIFY THAT ELECTRICAL WIRING IS INSTALLED ACCORDING TO MANUFACTURER'S SUBMITTAL AND INSTALLATION REQUIREMENTS IN DIVISION 26 SECTIONS. PROCEED WITH EQUIPMENT START UP ONLY AFTER WIRING INSTALLATION IS SATISFACTORY.
- PROVIDE INTERCONNECTING WIRING BETWEEN GENERATOR AND AUTOMATIC TRANSFER SWITCH(ES).
- PROVIDE INTERCONNECTING WIRING BETWEEN GENERATOR AND REMOTE ANNUNCIATOR PANEL.
- PROVIDE INTERCONNECTING WIRING BETWEEN GENERATOR AND BMS TO SIGNAL THE BMS THAT NORMAL POWER IS LOST AND THE GENERATOR WILL BE POWERING LOADS.
- PROVIDE INTERCONNECTING WIRING BETWEEN GENERATOR FUEL CONSUMPTION METER AND GENERATOR RUNNING TIME METER TO THE BMS.
- PROVIDE INTERCONNECTING WIRING FROM THE GENERATOR CONTROLLER TO THE BMS THAT THE GENERATOR IS OVERLOADED AND SHUT DOWN ONE OF THE EXISTING CHILLERS AND ITS AUXILIARY EQUIPMENT
- PROVIDE INTERCONNECTING WIRING BETWEEN GENERATOR NEMA 3R ENCLOSURE PANEL AND DEVICES IN THE ENCLOSURE.
- UPGRADE AND REPROGRAM THE EXISTING HIGH SCHOOL BMS TO ACCEPT AND STORE DATA FROM GENERATOR AND RESPOND TO ACTIONS REQUIRED. THE BMS SYSTEM IS BY JOHNSON CONTROLS.

INPUT SIGNALS TO EXISTING BMS:

- FROM GENERATOR FUEL CONSUMPTION METER AND FROM GENERATOR RUNNING TIME METER TO BMS. BMS SHALL STORE THIS DATA FOR UP TO 3 YEARS.
- FROM GENERATOR LOAD MANAGEMENT SYSTEM TO BMS TO SHUT DOWN OF THE EXISTING CHILLER AND ITS AUXILIARY EQUIPMENT TO PREVENT OVERLOADING OF THE GENERATOR.
- FROM GENERATOR TO BMS TO SIGNAL THE BMS THAT NORMAL POWER IS LOST AND THE GENERATOR WILL BE POWERING LOADS. BMS SHALL STORE THIS DATA FOR UP TO 3 YEARS.
- DATA CONNECTION FROM GENERATOR TO THE HIGH SCHOOL BMS TO ENABLE ALL GENERATOR STATUS POINTS TO BE READ AND RECORDED.

ONE-LINE

SYMBOL	DESCRIPTION
	POTHEAD
	STRESSCONE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	FUSE
	FUSE CUT OUT
	FUSE & SWITCH
	SWITCH
	CIRCUIT BREAKER
	DRAWOUT CIRCUIT BREAKER
	MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
	BUSPLUG CIRCUIT BREAKER
	BUSPLUG FUSE & SWITCH
	LOAD BREAK ELBOW
	DEAD BREAK ELBOW
	DEAD-FRONT TERMINAL JUNCTION (TWO, THREE OR FOUR WAY)
	GROUND
	THERMAL OVERLOAD
	RELAY / COIL
	N/O CONTACT
	N.C. CONTACT
	PROTECTIVE RELAY
	AMMETER
	AMMETER SWITCH
	VOLTMETER
	VOLTMETER SWITCH
	SURGE PROTECTION DEVICE
	UTILITY METER
	OWNERS POWER METER
	DISTRIBUTED GENERATION METER
	PROGRAMMABLE LOGIC CONTROLLER
	TRANSFORMER (WITH GROUNDING ON SECONDARY SIDE)
	AUTO TRANSFORMER
	LIGHTNING ARRESTOR
	GENERATOR
	DELTA
	WYE
	KEY INTERLOCK (NUMBER INDICATES MATCHED PAIRS)
	AUTOMATIC TRANSFER SWITCH (A.T.S.)
	MAIN LUG ONLY PANELBOARD
	MAIN CIRCUIT BREAKER PANELBOARD
	MAIN FUSED SWITCH PANELBOARD
	CIRCUIT BREAKER WITH AMP FRAME OVER AMP TRIP
	FUSE DISCONNECT SWITCH, WITH SWITCH SIZE OVER FUSE SIZE
	SHORT CIRCUIT DATA POINT / FAULT CURRENT VALUE
	POINT OF CONNECTION BETWEEN EXISTING AND NEW WORK
	POINT OF CONNECTION / WIRE TAP
	TRIP UNIT ADJUSTMENT FEATURE: L = LONG TIME, LSI = LONG / SHORT / INSTANTANEOUS LSGI = LONG / SHORT / INSTANTANEOUS / GROUND FAULT
L / LSI / LSGI	

ABBREVIATIONS

SYMBOL	DESCRIPTION
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI / AFCI	ARC FAULT INTERRUPTER
AHF	ACTIVE HARMONIC FILTER
AHU	AIR HANDLING UNIT
C	CONDUIT
CATV	CABLE TELEVISION
CIB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CIR	CIRCUIT
CUH	CABINET UNIT HEATER
CT	CABLE TRAY
ER	EXISTING TO REMAIN
EF	EXHAUST FAN
ELTR	EXISTING LIGHTING TO REMAIN (WITHIN SPECIFIED AREA)
EM	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
EPTR	EXISTING POWER TO REMAIN (WITHIN SPECIFIED AREA)
EWV	ELECTRIC WATER COOLER
EWV	ELECTRIC WATER HEATER
EXP	EXPLOSION PROOF (INTRINSICALLY SAFE)
F	FUSED
FA	FIRE ALARM
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METALLIC CONDUIT
FUT	FUTURE
G / GND	GROUND
GFI / GFCI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
LFMC	LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT
MAU	MAKE-UP AIR UNIT
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
NC	NORMALLY CLOSED
NF	NON-FUSED
NE	NEW LOCATION OF EXISTING RELOCATED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NR	NEW TO REPLACE EXISTING
P	POLE (SPACE IN PANELBOARD)
PE	PRIMARY ELECTRIC SERVICE
PVC	POLYVINYL CHLORIDE CONDUIT
RE	REMOVE EXISTING
REF	REFRIGERATOR
RL	RELOCATE EXISTING
RMC	RIGID METALLIC CONDUIT
RR	REMOVE AND REPLACE ON NEW SURFACE
RTU	ROOFTOP UNIT
SD	SMOKE DAMPER
SE	SECONDARY ELECTRIC SERVICE
ST	SHUNT STRIP
S&P	SPACE AND PROVISION
T	TELEPHONE (VOICE)
TCP	TEMPERATURE CONTROL PANEL
TV	TELEVISION
TX	TRANSFORMER
TYP	TYPICAL
UNV	UNIVERSAL
VAC	VOLTS AC
W	WIRE OR WATTS
WA OR WAP	WIRELESS ACCESS POINT
WG	WIRE GUARD
WM	SURFACE MOUNTED RACEWAY
WP	WEATHERPROOF

LEGEND NOTE

THESE LEGENDS AND ABBREVIATIONS DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS DEFINED ARE NECESSARILY USED ON THIS PROJECT.

VANZELM ENGINEERS

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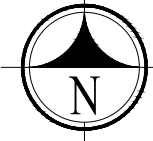
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PROJECT NAME:
**RHAM HIGH AND MIDDLE SCHOOL
EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248**

KEYPLAN

AREA OF WORK



REVISIONS

REV.	DATE	DESCRIPTION

DRAWING TITLE:

**ELECTRICAL LEGENDS
AND GENERAL NOTES**

DATE: 03/14/2025

DRAWN BY: AMA

CHECKED BY: EMG

SCALE: NONE

PROJ #: 2023159.00

DRAWING NUMBER:

**PHASE I
E001**



1 OVERALL PROJECT AREA - ELECTRICAL EXISTING CONDITIONS AND DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



KEY NOTES-PHASE I:

- EXISTING HIGH SCHOOL SECONDARY CONDUCTORS AND CONDUITS BETWEEN TRANSFORMER #323 AND "HS-MDB" TO REMAIN
- EXISTING MIDDLE SCHOOL CONDUCTORS AND CONDUIT BETWEEN TRANSFORMER #322 AND "MS-MDB" TO REMAIN
- EXISTING UTILITY PRIMARY TO REMAIN
- PREPARE TRANSFORMER #323 PIT WALLS TO ACCEPT NEW CONDUITS.
- PREPARE TRANSFORMER #322 PIT WALLS TO ACCEPT NEW CONDUITS.

CONSULTANTS:

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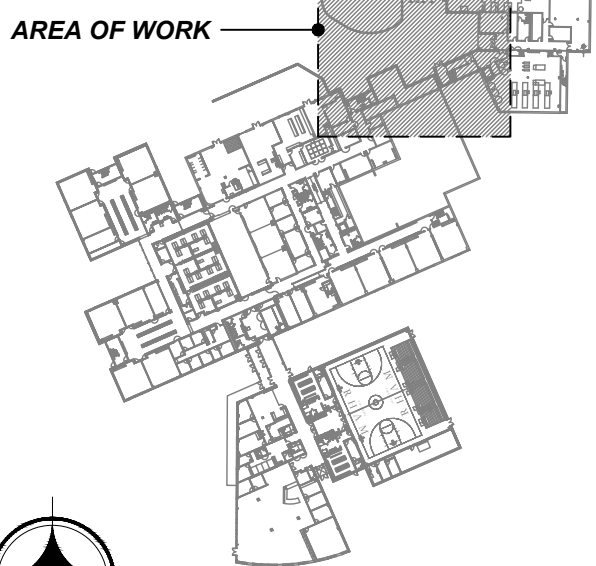
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SECURITY:
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PROJECT NAME:

**RHAM HIGH AND MIDDLE SCHOOL
EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248**

KEYPLAN



REVISIONS

REV.	DATE	DESCRIPTION

DRAWING TITLE:

**ELECTRICAL EXISTING
CONDITIONS AND SITE
UTILITIES DEMOLITION
PLAN**

DATE:

03/14/2025

DRAWN BY:

AMA

CHECKED BY:

EDC

SCALE:

1/8"=1'-0"

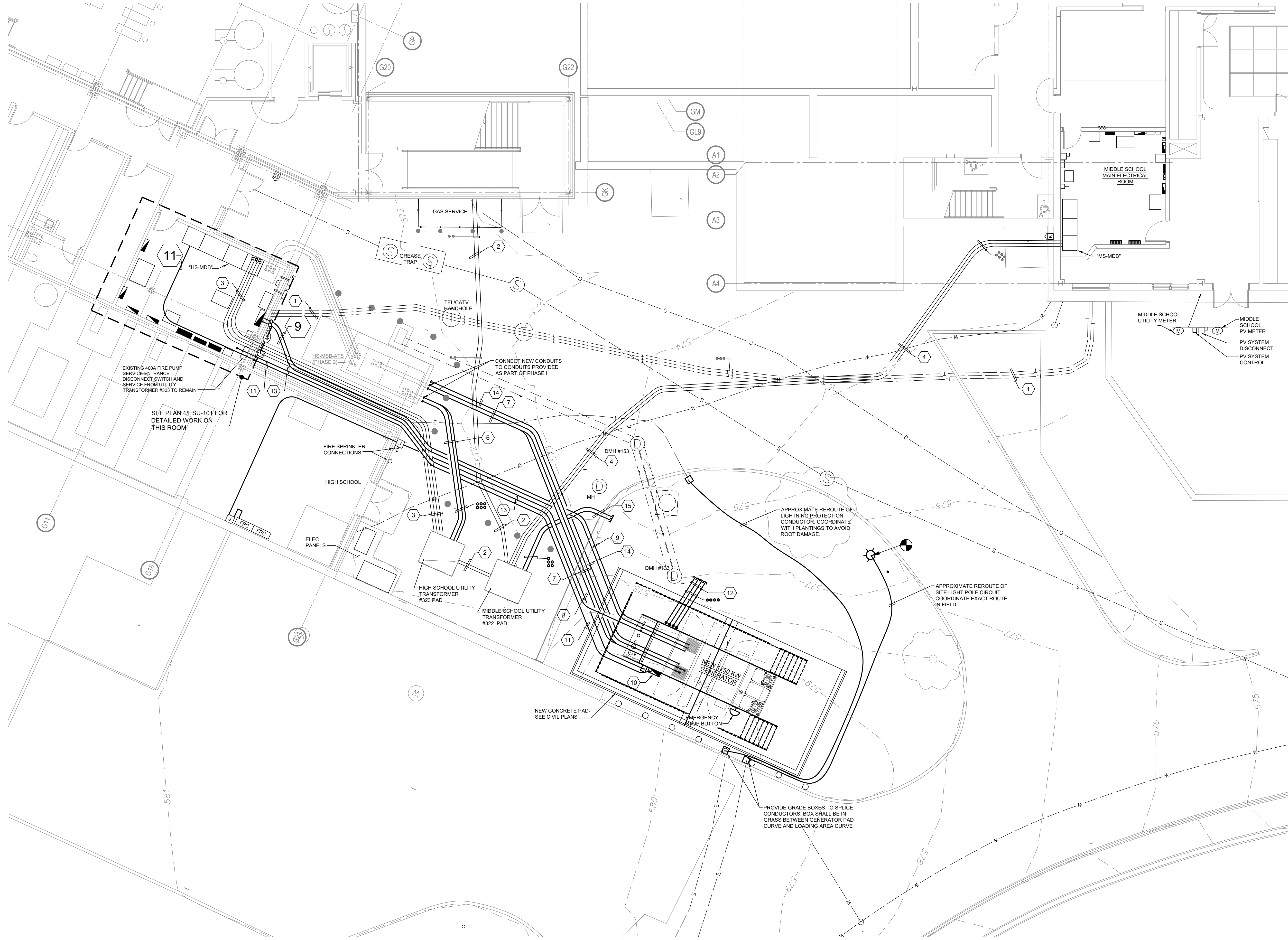
PROJ #:

2023159.00

DRAWING NUMBER:

PHASE I

ESUD100



1 OVERALL PROJECT AREA - NEW WORK PLAN
SCALE: 1/8" = 1'-0"



KEY NOTES:

- EXISTING (3) 4" CONDUITS FROM HIGH SCHOOL TO MIDDLE SCHOOL FOR TELEPHONE/CATV ETC TO REMAIN.
- EXISTING EVERSOURCE PRIMARY TO REMAIN.
- EXISTING HIGH SCHOOL SECONDARY FEEDER FROM TRANSFORMER #323 TO REMAIN
- EXISTING MIDDLE SCHOOL SECONDARY FEEDER FROM TRANSFORMER #322 TO REMAIN
- NOT USED
- PROVIDE (5) 4" C EACH PLUS (1) SPARE 4" C FROM TRANSFORMER #323 TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
- PROVIDE (5) 4" C EACH PLUS (1) SPARE 4" C FROM GENERATOR 2000A-3P C/B INSIDE GENERATOR ENCLOSURE TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
- EXTEND 3/4" 1#6, 2" C FROM 125A-3P C/B ON EXTERIOR OF GENERATOR TO HIGH SCHOOL FIRE PUMP CONTROLLER VIA JUNCTION BOX ON BUILDING EXTERIOR. FROM JUNCTION BOX, EXTEND 3/4" 1#6, 1#4G, 1#1 FEEDER TO EMERGENCY TERMINALS OF FIRE PUMP CONTROLLER TRANSFER SWITCH
- PROVIDE 2 SETS 4-500KCMIL, 1#1/0G, 4" C EACH FROM 800A C/B INSIDE GENERATOR ENCLOSURE TO PANEL "GDP" IN HIGH SCHOOL.
- INSTALL 100A, 120/208V-3Ø PANEL (FURNISHED WITH GENERATOR) ON OUTSIDE OF GENERATOR ENCLOSURE.
- EXTEND 4#1, 1#6G, 2" C FROM 100A-3P C/B IN MAIN SWITCHBOARD "HS-MDP" IN HIGH SCHOOL TO PANEL ON OUTSIDE OF GENERATOR ENCLOSURE.
- EXTEND (4) 5" C, 12" UP THROUGH GENERATOR PAD AND 4" OUT FROM EDGE OF GENERATOR PAD, ALIGN STUB-UP WITH EDGE OF GENERATOR ASSEMBLY FOR FUTURE EXTERNALLY MOUNTED BREAKER WHICH WILL FEED FUTURE MIDDLE SCHOOL OUTDOOR SWITCHGEAR UNDER SEPARATE CONTRACT. CAP AND SEAL CONDUIT ENDS
- EXTEND (4) 2" W/ DRAGLINE FROM GENERATOR TO HIGH SCHOOL MAIN ELECTRICAL ROOM, FOLLOWING ROUTE OF GENERATOR PANEL AND PANEL "GDP" FEEDERS
- EXTEND (3) 2" C W/ DRAGLINE FROM GENERATOR TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
- PROVIDE (5) 4" C, FROM TRANSFORMER #322 TO 24" BEYOND RETAINING WALL. CAP AND SEAL CONDUIT ENDS

NOTE:
WORK SHOWN IN LIGHT LINEWORK IS PART OF PHASE 2 AND IS SHOWN FOR REFERENCE ONLY. NONE OF PHASE 2 WORK IS PART OF THE SCOPE ON THESE DOCUMENTS

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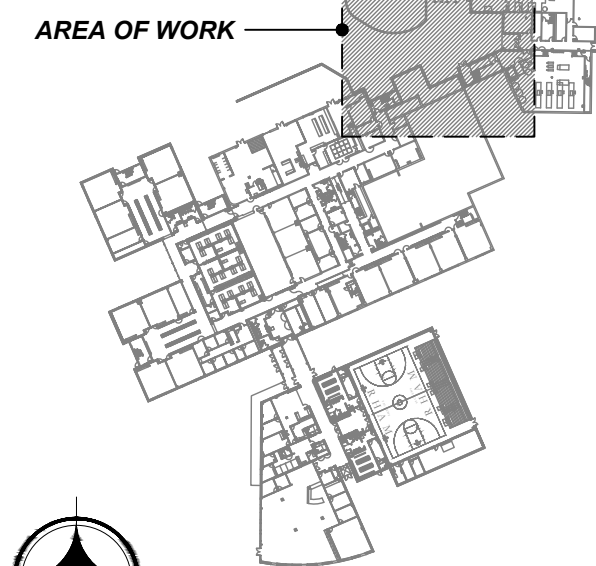
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SECURITY:
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PROJECT NAME:

**RHAM HIGH AND MIDDLE SCHOOL
EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248**

KEYPLAN



REVISIONS

REV.	DATE	DESCRIPTION

DRAWING TITLE:

**ELECTRICAL
SITE UTILITIES
NEW WORK PLAN**

DATE: 03/14/2025

DRAWN BY: AMA

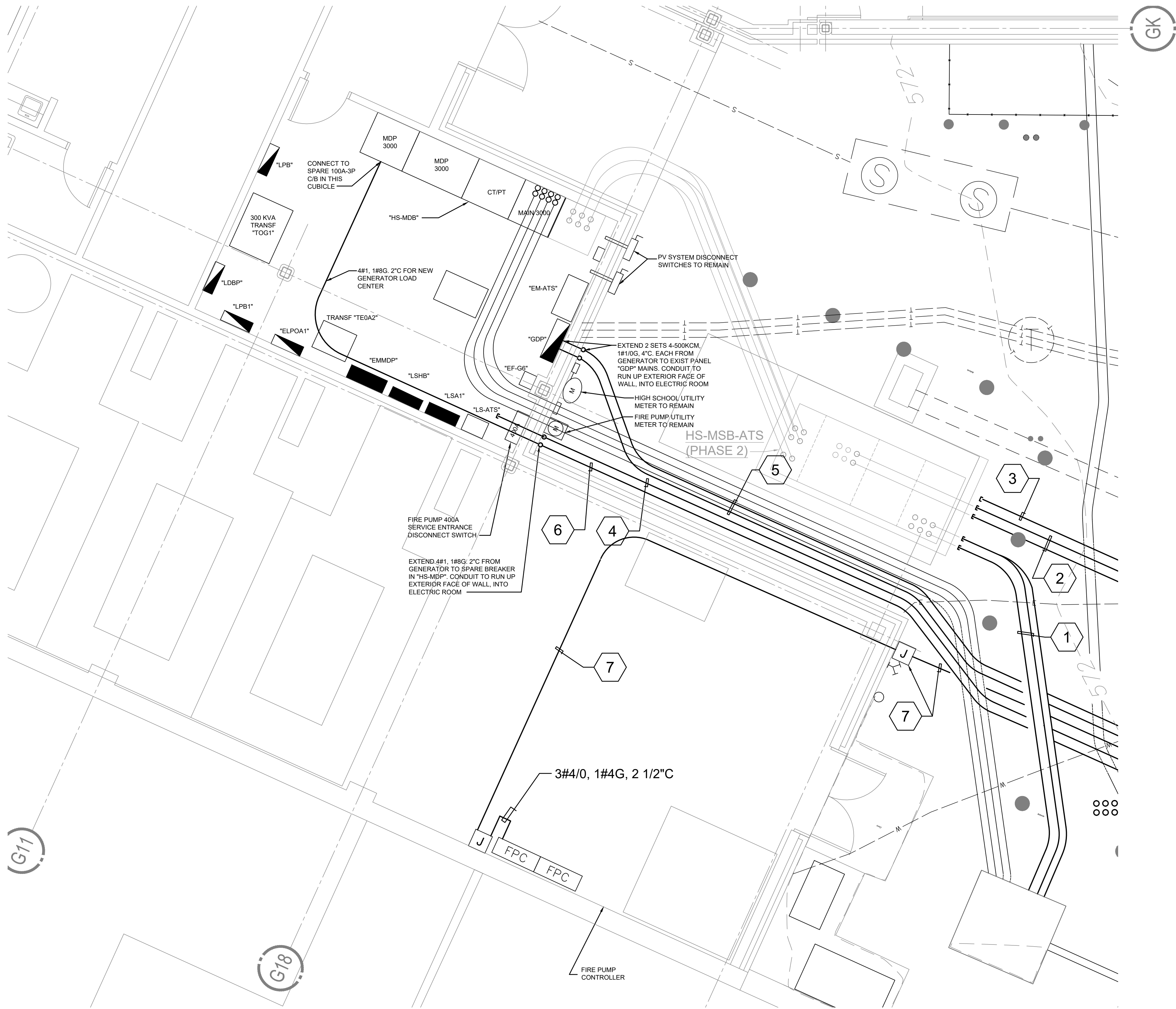
CHECKED BY: EDC

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

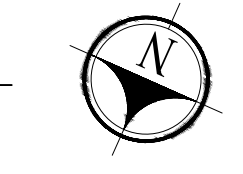
PROJ #: 2023159.00

DRAWING NUMBER:

**PHASE I
ESU100**



1 HIGH SHOOOL ENLARGED SITE UTILITIES AND MAIN ELECTRICAL ROOM AND NEW SWITCHGEAR PLAN
SCALE: 1/4" = 1'-0"



- KEY NOTES:
- 1 PROVIDE (5) 4" C EACH PLUS (1) SPARE 4" C FROM TRANSFORMER #323 TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
 - 2 PROVIDE (5) 4" C EACH PLUS (1) SPARE 4" C FROM GENERATOR 2000A-3P C/B INSIDE GENERATOR ENCLOSURE TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
 - 3 EXTEND (3) 2" C W/DRAGLINE FROM GENERATOR TO AREA OF FUTURE HS-MSB-ATS (PROVIDED AS PART OF PHASE 2). CAP AND SEAL CONDUIT ENDS
 - 4 EXTEND (4) 2" C W/ DRAGLINE FROM GENERATOR TO HIGH SCHOOL MAIN ELECTRICAL ROOM, FOLLOWING ROUTE OF GENERATOR PANEL AND PANEL "GDP" FEEDERS
 - 5 PROVIDE 2 SETS 4-500KCMIL, 1#1/0G, 4" C EACH FROM 800A C/B INSIDE GENERATOR ENCLOSURE TO PANEL "GDP" IN HIGH SCHOOL
 - 6 EXTEND 4#1, 1#6G, 2" C FROM 100A-3P C/B IN MAIN SWITCHBOARD "HS-MDP" IN HIGH SCHOOL TO PANEL ON OUTSIDE OF GENERATOR ENCLOSURE
 - 7 EXTEND 3#2, 1#6G, 2" C FROM 125A-3P C/B ON EXTERIOR OF GENERATOR TO HIGH SCHOOL FIRE PUMP CONTROLLER VIA JUNCTION BOX ON BUILDING EXTERIOR. FROM JUNCTION BOX, EXTEND 3#1/0, 1#4G, MI FEEDER TO EMERGENCY TERMINALS OF FIRE PUMP CONTROLLER TRANSFER SWITCH

NOTE:
WORK SHOWN IN LIGHT LINEWORK IS PART OF PHASE 2 AND IS SHOWN FOR REFERENCE ONLY. NONE OF PHASE 2 WORK IS PART OF THE SCOPE ON THESE DOCUMENTS

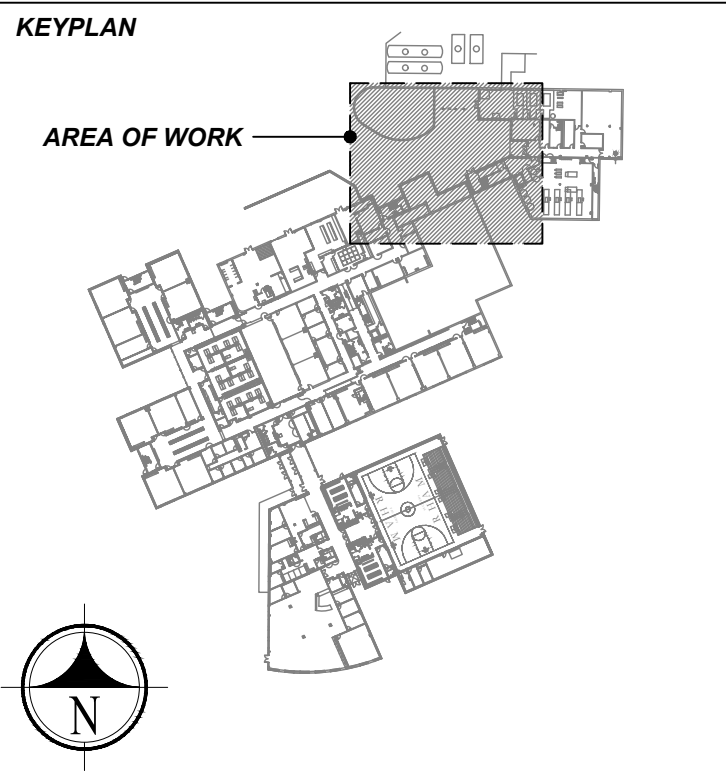
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PROJECT NAME:
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EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248**



REVISIONS		
REV.	DATE	DESCRIPTION

DRAWING TITLE:
**ELECTRICAL ENLARGED
SITE UTILITIES NEW
WORK PLAN**

DATE: 03/14/2025
DRAWN BY: AMA
CHECKED BY: EDC
SCALE: 1/4"=1'-0"
PROJ #: 2023159.00

DRAWING NUMBER:
**PHASE I
ESU101**

CONSULTANTS:

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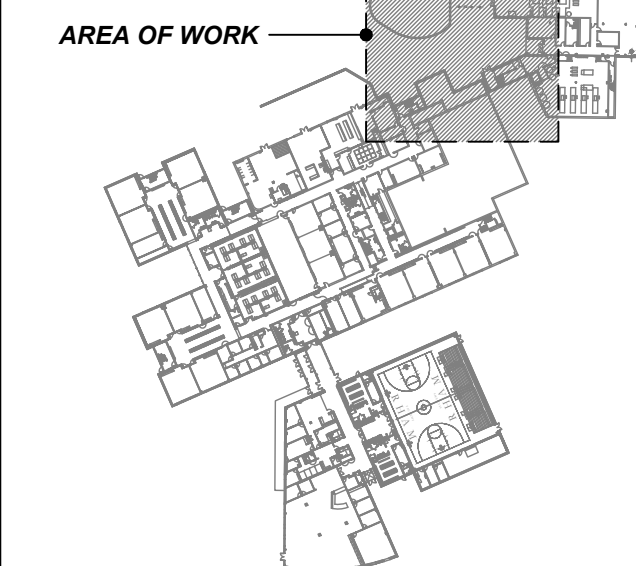
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RHAM HIGH AND MIDDLE SCHOOL
EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248

PROJECT NAME:

KEYPLAN



REVISIONS

REV.	DATE	DESCRIPTION

DRAWING TITLE:

HIGH SCHOOL
ELECTRICAL
ONE LINE RISER
DIAGRAM

DATE: 03/14/2025

DRAWN BY: AMA

CHECKED BY: EDC

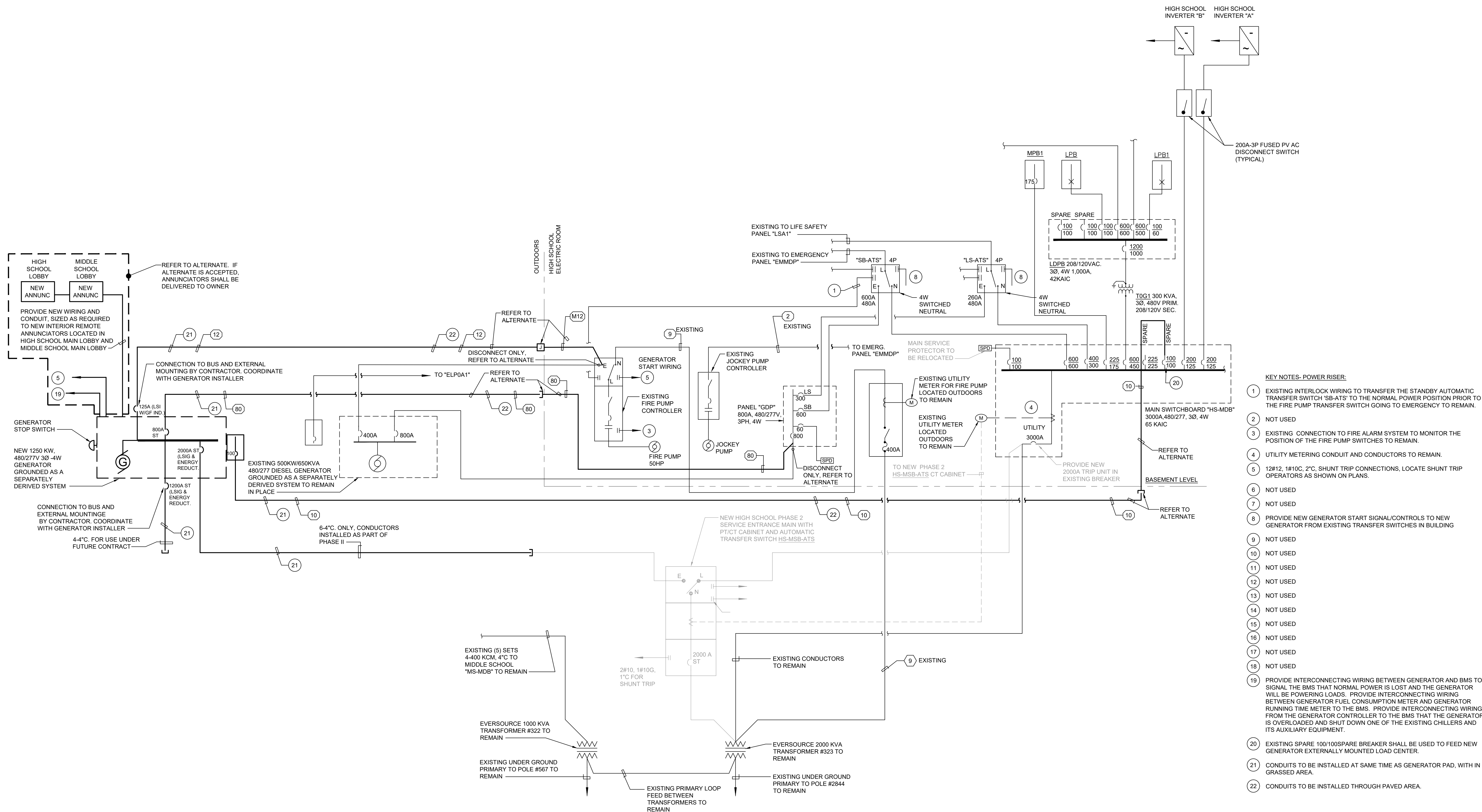
SCALE: NONE

PROJ #: 2023159.00

DRAWING NUMBER:

PHASE I
E301

NOTE:
WORK SHOWN IN LIGHT LINEWORK IS PART
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ONLY. NONE OF PHASE 2 WORK IS PART OF
THE SCOPE ON THESE DOCUMENTS



1 HIGH SCHOOL- PARTIAL ONE-LINE DIAGRAM - DEMO AND NEW WORK
SCALE: N.T.S

3 PHASE FEEDER SIZE SCHEDULE FOR MI CABLE APPLICATIONS

2-HOUR FIRE RESISTIVE RATED ASSEMBLY BASED ON PYROTEX SYSTEM 1850 @ 75°C CONDUCTOR TEMPERATURE			
CIRCUIT SYMBOL	CONDUCTORS, 3 PHASE, 3 WIRE PLUS GROUND	CONDUCTORS, 3 PHASE, 4 WIRE PLUS GROUND	CIRCUIT OR OVERCURRENT RATING 3POLE
(M1)	3#12, 1#12 G	4#12, 1#12 G	15A.
(M2)	3#12, 1#12 G	4#12, 1#12 G	20A.
(M3)	3#12, 1#12 G	4#12, 1#12 G	25A.
(M4)	3#12, 1#12 G	4#12, 1#12 G	30A.
(M5)	3#10, 1#10 G	4#10, 1#10 G	35A.
(M6)	3#8, 1#10 G	4#8, 1#10 G	40A.
(M7)	3#8, 1#10 G	4#8, 1#10 G	45A.
(M8)	3#8, 1#10 G	4#8, 1#10 G	50A.
(M9)	3#8, 1#10 G	4#8, 1#10 G	60A.
(M10)	3#6, 1#8 G	4#6, 1#8 G	70A.
(M11)	3#6, 1#8 G	4#6, 1#8 G	80A.
(M12)	3#4, 1#8 G	4#4, 1#8 G	90A.
(M13)	3#4, 1#8 G	4#4, 1#8 G	100A.
(M14)	3#4, 1#8 G	4#4, 1#8 G	110A.
(M15)	3#3, 1#6 G	4#3, 1#6 G	125A.
(M16)	3#2, 1#6 G	4#2, 1#6 G	150A.
(M17)	3#1, 1#6 G	4#1, 1#6 G	175A.
(M18)	3#1, 1#6 G	4#1, 1#6 G	200A.
(M19)	3#1/0, 1#4 G	4#1/0, 1#4 G	225A.
(M20)	3#1/0, 1#4 G	4#1/0, 1#4 G	250A.
(M21)	3#3/0, 1#4 G	4#3/0, 1#4 G	300A.
(M22)	3#4/0, 1#3 G	4#4/0, 1#3 G	350A.
(M23)	3#4/0, 1#3 G	4#4/0, 1#3 G	400A.
(M24)	3-250KCM, 1#2 G	4-250KCM, 1#2 G	450A.
(M25)	3-350KCM, 1#2 G	4-350KCM, 1#2 G	500A.
(M26)	3-500KCM, 1#1 G	4-500KCM, 1#1 G	600A.
(M27)	2 SETS OF 3#4/0, 1#1 G EA.	2 SETS OF 4#4/0, 1#1 G EA.	700A.
(M28)	2 SETS OF 3#4/0, 1#1/0 G EA.	2 SETS OF 4#4/0, 1#1/0 G EA.	800A.
(M29)	2 SETS OF 3-250KCM, 1#2/0 G EA.	2 SETS OF 4-250KCM, 1#2/0 G EA.	900A.
(M30)	2 SETS OF 3-350KCM, 1#2/0 G EA.	2 SETS OF 4-350KCM, 1#2/0 G EA.	1000A.
(M31)	2 SETS OF 3-500KCM, 1#2/0 G EA.	2 SETS OF 4-500KCM, 1#2/0 G EA.	1200A.
(M32)	4 SETS OF 3-#4/0, 1#4/0 G EA.	4 SETS OF 4-#4/0, 1#4/0 G EA.	1600A.
(M33)	4 SETS OF 3-350KCM, 1-250KCM G EA.	4 SETS OF 4-350KCM, 1-250KCM G EA.	2000A.
(M34)	5 SETS OF 3-350KCM, 1-250KCM G EA.	5 SETS OF 4-350KCM, 1-250KCM G EA.	2500A.
(M35)	6 SETS OF 3-350KCM, 1-400KCM G EA.	6 SETS OF 4-350KCM, 1-400KCM G EA.	3000A.
(M36)	8 SETS OF 3#4/0, 1-500KCM G EA.	8 SETS OF 4#4/0, 1-500KCM G EA.	3200A.
(M37)	8 SETS OF 3-250KCM, 1-500KCM G EA.	8 SETS OF 4-250KCM, 1-500KCM G EA.	3500A.
(M38)	8 SETS OF 3-350KCM, 1-500KCM G EA.	8 SETS OF 4-350KCM, 1-500KCM G EA.	4000A.

MI CABLE CIRCUIT SIZE SCHEDULE NOTES:

- MICS1 UNLESS OTHERWISE INDICATED, FEEDER SIZING SHALL MATCH THE SIZE INDICATED ABOVE FOR THE APPLICABLE OVERCURRENT DEVICE. PROVIDE LARGER FEEDER WHERE INDICATED.
- MICS2 PROVIDE 4 WIRE CIRCUIT UNLESS DEVICE/LOAD SERVED DOES NOT HAVE PROVISIONS FOR A NEUTRAL CONNECTION.
- MICS3 GROUNDING CONDUCTOR SHALL BE BARE COPPER AWG IN SIZE INDICATED, RUN IN CENTER OF EACH MI CABLE BUNDLE. USE OF INSULATED GROUNDING CONDUCTORS IS NOT ACCEPTABLE.
- MICS4 REFER TO TRANSFORMER SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR PRIMARY AND SECONDARY FEEDERS.
- MICS5 REFER TO MOTOR CIRCUIT SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR MOTOR LOADS.

*BEWARE OF SPECIAL VOLTAGE DROP CONSIDERATIONS, MI CABLE VOLTAGE DROP IS SIGNIFICANTLY MORE THAN THE EQUIVELANT CONDUIT AND WIRE ASSEMBLY. REFER TO MANUFACTURER'S VOLTAGE DROP CALCULATIONS AND TABLES. DO NOT EXCEED 2% VOLTAGE DROP.

FEEDER SIZE SCHEDULE

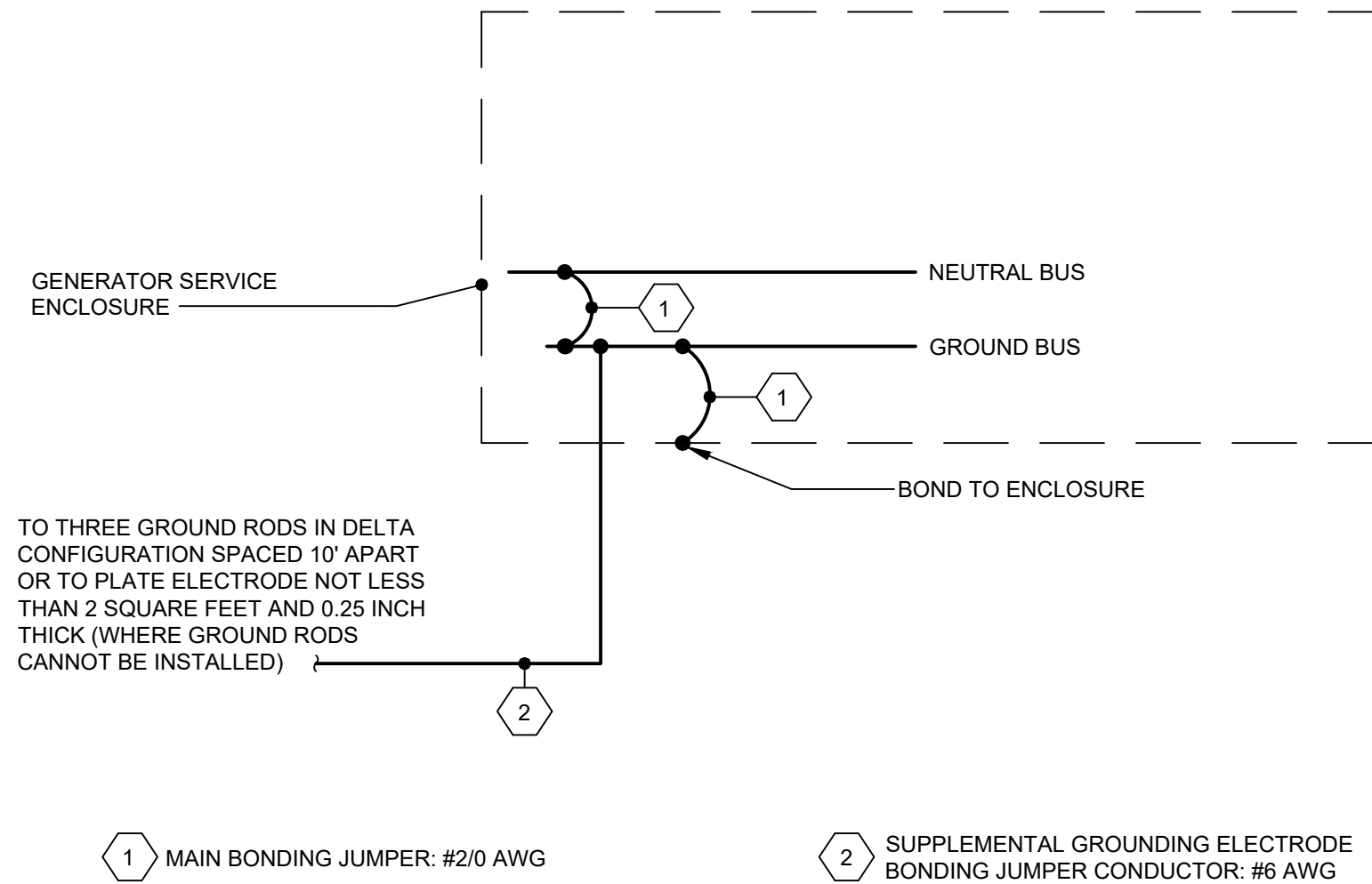
(COPPER CONDUCTORS)

CIRCUIT SYMBOL	CONDUCTORS (1 PHASE, 2W + GND)	CONDUCTORS (3 PHASE, 3W + GND)	CONDUIT SIZE	CONDUCTORS (3 PHASE, 4W + GND)	CONDUIT SIZE	CIRCUIT OR OVERCURRENT RATING
(1)	2#12, 1#12G	3#12, 1#12G	3/4"	4#12, 1#12G	3/4"	15A
(2)	2#12, 1#12G	3#12, 1#12G	3/4"	4#12, 1#12G	3/4"	20A
(2S)	2#10, 1#10G	3#10, 1#10G	3/4"	4#10, 1#10G	3/4"	25A
(3)	2#10, 1#10G	3#10, 1#10G	3/4"	4#10, 1#10G	3/4"	30A
(3S)	2#8, 1#10G	3#8, 1#10G	3/4"	4#8, 1#10G	1"	35A
(4)	2#8, 1#10G	3#8, 1#10G	3/4"	4#8, 1#10G	1"	40A
(4S)	2#6, 1#10G	3#6, 1#10G	1"	4#6, 1#10G	1"	45A
(5)	2#6, 1#10G	3#6, 1#10G	1"	4#6, 1#10G	1"	50A
(6)	2#4, 1#10G	3#4, 1#10G	1 1/4"	4#4, 1#10G	1 1/4"	60A
(7)	2#4, 1#8G	3#4, 1#8G	1 1/4"	4#4, 1#8G	1 1/4"	70A
(8)	2#3, 1#8G	3#3, 1#8G	1 1/4"	4#3, 1#8G	1 1/4"	80A
(9)	2#2, 1#8G	3#2, 1#8G	1 1/4"	4#2, 1#8G	1 1/2"	90A
(10)	2#1, 1#8G	3#1, 1#8G	1 1/2"	4#1, 1#8G	2"	100A
(11)	2#1, 1#6G	3#1, 1#6G	1 1/2"	4#1, 1#6G	2"	110A
(12)	2#1/0, 1#6G	3#1/0, 1#6G	2"	4#1/0, 1#6G	2"	125A
(15)	2#1/0, 1#6G	3#1/0, 1#6G	2"	4#1/0, 1#6G	2"	150A
(17)	2#2/0, 1#6G	3#2/0, 1#6G	2"	4#2/0, 1#6G	2"	175A
(20)	2#3/0, 1#6G	3#3/0, 1#6G	2"	4#3/0, 1#6G	2 1/2"	200A
(22)		3#4/0, 1#4G	2 1/2"	4#4/0, 1#4G	2 1/2"	225A
(25)		3-250KCM, 1#4G	2 1/2"	4-250KCM, 1#4G	3"	250A
(30)		3-350KCM, 1#4G	3"	4-350KCM, 1#4G	3"	300A
(35)		3-500KCM, 1#3G	3 1/2"	4-500KCM, 1#3G	4"	350A
(40)		3-500KCM, 1#3G	3 1/2"	4-500KCM, 1#3G	4"	400A
(45)		2 SETS OF 3#4/0, 1#2G	(2) 2 1/2"	2 SETS OF 4#4/0, 1#2G	(2) 2 1/2"	450A
(50)		2 SETS OF 3-250KCM, 1#2G	(2) 2 1/2"	2 SETS OF 4-250KCM, 1#2G	(2) 3"	500A
(60)		2 SETS OF 3-350KCM, 1#1G	(2) 3"	2 SETS OF 4-350KCM, 1#1G	(2) 3"	600A
(70)		2 SETS OF 3-500KCM, 1#1/0G	(2) 3 1/2"	2 SETS OF 4-500KCM, 1#1/0G	(2) 4"	700A
(80)		2 SETS OF 3-500KCM, 1#1/0G	(2) 3 1/2"	2 SETS OF 4-500KCM, 1#1/0G	(2) 4"	800A
(90)		3 SETS OF 3-350KCM, 1#2/0G	(3) 3"	3 SETS OF 4-350KCM, 1#2/0G	(3) 3"	900A
(100)		3 SETS OF 3-500KCM, 1#2/0G	(3) 3 1/2"	3 SETS OF 4-500KCM, 1#2/0G	(3) 4"	1000A
(120)		4 SETS OF 3-350KCM, 1#3/0G	(4) 4"	4 SETS OF 4-350KCM, 1#3/0G	(4) 4"	1200A
(160)		4 SETS OF 3-600KCM, 1#4/0G	(4) 4"	4 SETS OF 4-600KCM, 1#4/0G	(4) 4"	1600A
(200)		5 SETS OF 3-600KCM, 1-250KCM G	(5) 4"	5 SETS OF 4-600KCM, 1-250KCM G	(5) 4"	2000A
(250)		6 SETS OF 3-600KCM, 1-350KCM G	(6) 4"	6 SETS OF 4-600KCM, 1-350KCM G	(6) 4"	2500A
(300)		8 SETS OF 3-500KCM, 1-400KCM G	(8) 3 1/2"	8 SETS OF 4-500KCM, 1-400KCM G	(8) 4"	3000A
(320)		8 SETS OF 8-600KCM, 1-500KCM G	(8) 4"	8 SETS OF 4-600KCM, 1-500KCM G	(8) 4"	3200A
(350)		10 SETS OF 3-500KCM, 1-500KCM G	(10) 3 1/2"	10 SETS OF 4-500KCM, 1-500KCM G	(10) 4"	3500A
(400)		10 SETS OF 3-600KCM, 1-500KCM G	(10) 4"	10 SETS OF 4-600KCM, 1-500KCM G	(10) 4"	4000A
CIRCUIT SYMBOL	CONDUCTORS (3 PHASE, 5W + GND)		CONDUIT SIZE	CIRCUIT OR OVERCURRENT RATING		
(10)	3#1, 2#1N, 1#8G, 1#8IG		2"	100A		
(12)	3#1/0, 2#1/0N, 1#6G, 1#6IG		2"	125A		
(15)	3#1/0, 2#1/0N, 1#6G, 1#6IG		2"	150A		
(17)	3#2/0, 2#2/0N, 1#6G, 1#6IG		2"	175A		
(20)	3#3/0, 2#3/0N, 1#6G, 1#6IG		2 1/2"	200A		
(22)	3#4/0, 2#4/0N, 1#4G, 1#4IG		2 1/2"	225A		
(25)	3-250KCM, 2-250KCM N, 1#4G, 1#4IG		3"	250A		
(30)	3-350KCM, 2-350KCM N, 1#4G, 1#4IG		3"	300A		
(40)	3-500KCM, 2-500KCM N, 1#3G, 1#3IG		4"	400A		

CIRCUIT SIZE SCHEDULE NOTES:

- CS1 UNLESS OTHERWISE INDICATED, FEEDER SIZING SHALL MATCH THE SIZE INDICATED ABOVE FOR THE APPLICABLE OVERCURRENT DEVICE PROVIDED OR LARGER FEEDER WHERE INDICATED.
- CS2 SCHEDULE AS BASED ON THE TYPE THHN/THWN FOR CONDUCTOR SIZES SMALLER THAN #3 AWG AND TYPE XHHW FOR CONDUCTOR SIZES #3 AWG AND LARGER.
- CS3 PROVIDE 4 WIRE CIRCUIT UNLESS EQUIPMENT SERVED DOES NOT HAVE PROVISIONS FOR A NEUTRAL CONNECTION.
- CS4 MINIMUM SIZE CONDUIT UNDERGROUND IS 4 INCH EXCEPT 1 INCH FOR SITE BRANCH CIRCUIT FOR SYSTEMS, LIGHTING AND MISCELLANEOUS POWER, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- CS5 REFER TO TRANSFORMER SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR PRIMARY AND SECONDARY FEEDERS OF TRANSFORMERS.
- CS6 REFER TO MOTOR CIRCUIT SCHEDULE FOR CONDUCTOR AND CONDUIT SIZE REQUIREMENTS FOR EQUIPMENT LOADS.

* CONDUCTOR SIZES ARE BASED ON 60°C TEMPERATURE RATING FOR BREAKER SIZES 100A AND SMALLER AND BASED ON 75°C TEMPERATURE RATING FOR BREAKER SIZES LARGER THAN 100A. NOT MORE THAN THREE CURRENT CARRYING CONDUCTORS SHALL BE PROVIDED IN RACEWAY, CABLE OR EARTH (DIRECT BURY), BASED ON AMBIENT TEMPERATURE OF 30°C, UNLESS OTHERWISE NOTED



1 GENERATOR GROUNDING DETAIL
SCALE: N.T.S

SEQUENCE OF INSTALLATION

SEQUENCE OF INSTALLATION TO SUPPORT THE REVISED EMERGENCY FEED TO THE HIGH SCHOOL PHASE-1 AND PHASE-2

- INSTALL NEW GENERATOR, TEST AND ACCEPT NEW GENERATOR
- INSTALL NEW EMERGENCY, STANDBY, AND FIRE PUMP FEEDERS FROM NEW GENERATOR TO EXISTING PANEL "GDP" AND FIRE PUMP EMERGENCY DISCONNECT SWITCH IN ELECTRICAL ROOM. ANTICIPATE SHORT OUTAGE ONLY FOR LIFE SAFETY AND STANDBY LOADS (4 HOUR) AND THEN ANOTHER SHORT OUTAGE FOR FIRE PUMP ONLY (4 HOUR).
- REMOVE EXISTING GENERATOR, INSTALL NEW HIGH SCHOOL SERVICE ENTRANCE SWITCHBOARD HS-MSB-ATS, INSTALL NEW GENERATOR FEEDER TO NEW HS-MSB-ATS, NO OUTAGE. FIELD TEST AND ACCEPT NEW SWITCHBOARD AND COMPONENTS.
- RELOCATE EXISTING SURGE PROTECTION DEVICE FROM WALL TO FACE OF EXISTING SWITCHBOARD ABOVE MAIN BREAKER, CUT SLAB IN PREP FOR NEW LOAD FEEDER FROM HS-MSB-ATS, INSTALL NEW PULLBOX ON END OF EXISTING SWITCHBOARD, 1-DAY OUTAGE, STILL HAVE GENERATOR POWER.
- INSTALL (6) NEW FEEDER CONDUITS AND (5) NEW SETS OF CONDUCTORS FROM HS-MSB-ATS TO NEW PULLBOX ON END OF EXISTING SWITCHBOARD. PROVIDE SUFFICIENT LENGTH OF CONDUCTOR FOR CONNECTION TO BUS OF EXISTING SWITCHBOARD. NO OUTAGE REQUIRED.
- INSTALL (6) NEW FEEDER CONDUITS AND (5) NEW SETS OF CONDUCTORS FROM UTILITY TRANSFORMER "323" TO HS-MSB-ATS. DO NOT CONNECT TO TRANSFORMER SECONDARIES. UTILITY OUTAGE - 1 DAY - STILL HAVE GENERATOR POWER.
- DISCONNECT AND REMOVE EXISTING (8) SETS OF NORMAL POWER FEEDER CONDUCTORS BETWEEN UTILITY TRANSFORMER "323" AND HIGH SCHOOL SWITCHBOARD MAIN BREAKER. SEAL CONDUITS AND ABANDON IN PLACE. CONNECT (5) NEW SETS OF CONDUCTORS FROM HS-MSB-ATS TO TRANSFORMER "323" SECONDARIES. UTILITY OUTAGE 1-2 DAYS WILL STILL HAVE GENERATOR POWER.

CONSULTANTS:

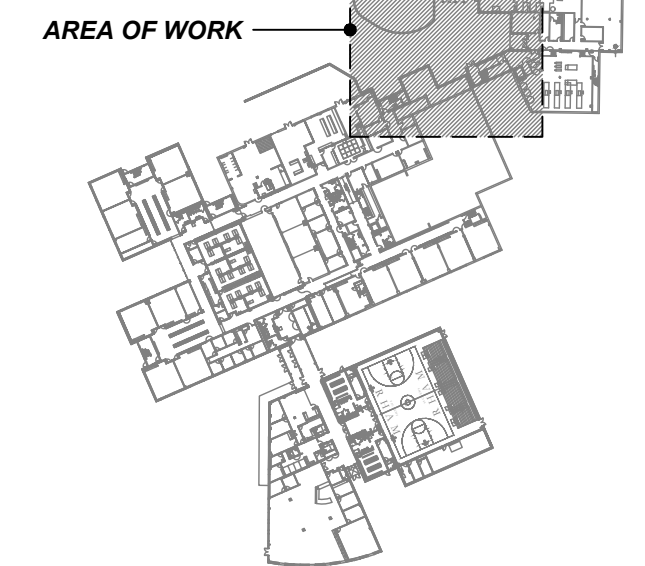
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PROJECT NAME:
**RHAM HIGH AND MIDDLE SCHOOL
EMERGENCY ELECTRICAL
GENERATOR SYSTEM REPLACEMENT
REGIONAL SCHOOL DISTRICT #8
85 WALL STREET
HEBRON, CT 06248**

KEYPLAN



REVISIONS

REV.	DATE	DESCRIPTION

DRAWING TITLE:
**ELECTRICAL SCHEDULES
AND DETAILS**

DATE: 03/14/2025

DRAWN BY: AMA

CHECKED BY: EMG

SCALE: NONE

PROJ #: 2023159.00

DRAWING NUMBER:

**PHASE I
E302**