

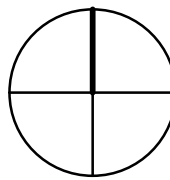
- 1 EXISTING LIGHTING FIXTURE TO REMAIN.
- 2 EXISTING LIGHTING FIXTURE AND PHOTOCELL TO BE REMOVED.
- 3 EXISTING UNDERGROUND FEEDER TO TRAILER TO BE REMOVED, BOLT TO SWITCH.
- 4 EXISTING RECEPTACLE AND CONDUCTORS TO BE REMOVED.
- 5 EXISTING LIGHTING FIXTURE SHALL BE REMOVED AND RELOCATED. REMOVE EXISTING CONDUIT AND CONDUCTORS. SEE DRAWING E10 FOR NEW LIGHTING FIXTURE LOCATION.
- 6 EXISTING DUCT BOLT (8" CONDUITS) TO REMAIN AND NOT BE DISTURBED.
- 7 EXISTING MANHOLE TO REMAIN
- 8 EXISTING PARKING LOT LIGHTING STANDARD TO BE REMOVED. REMOVE CONDUIT AND CONDUCTORS BACK TO SOURCE OR TO NEXT FIXTURE.
- 9 EXISTING LIGHTING FIXTURE TO BE REMOVED. REINSTALLED AND RECONNECTED. PROVIDE NEW CONDUCTORS AND SIZE TO MATCH EXISTING.
- 10 EXISTING LIGHTING FIXTURES TO REMAIN.
- 11 THIS WORK NOT REQUIRED IF EMERGENCY POWER ALTERNATE IS ACCEPTED.

NOTE:

IN THE EVENT THAT THE REMOVAL OF EXISTING ELECTRICAL ITEMS DISRUPTS THE CONTINUITY OF THE EXISTING BRANCH CIRCUIT, IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO REARRANGE THE BRANCH CIRCUIT WIRING TO MAINTAIN CONTINUITY THROUGHOUT THE BRANCH CIRCUIT.

1 ELECTRICAL SITE PLAN - DEMOLITION  
1" = 20'-0"

PROJECT  
NORTH



# FULLY SPRINKLERED BID DOCUMENTS

[illegible]



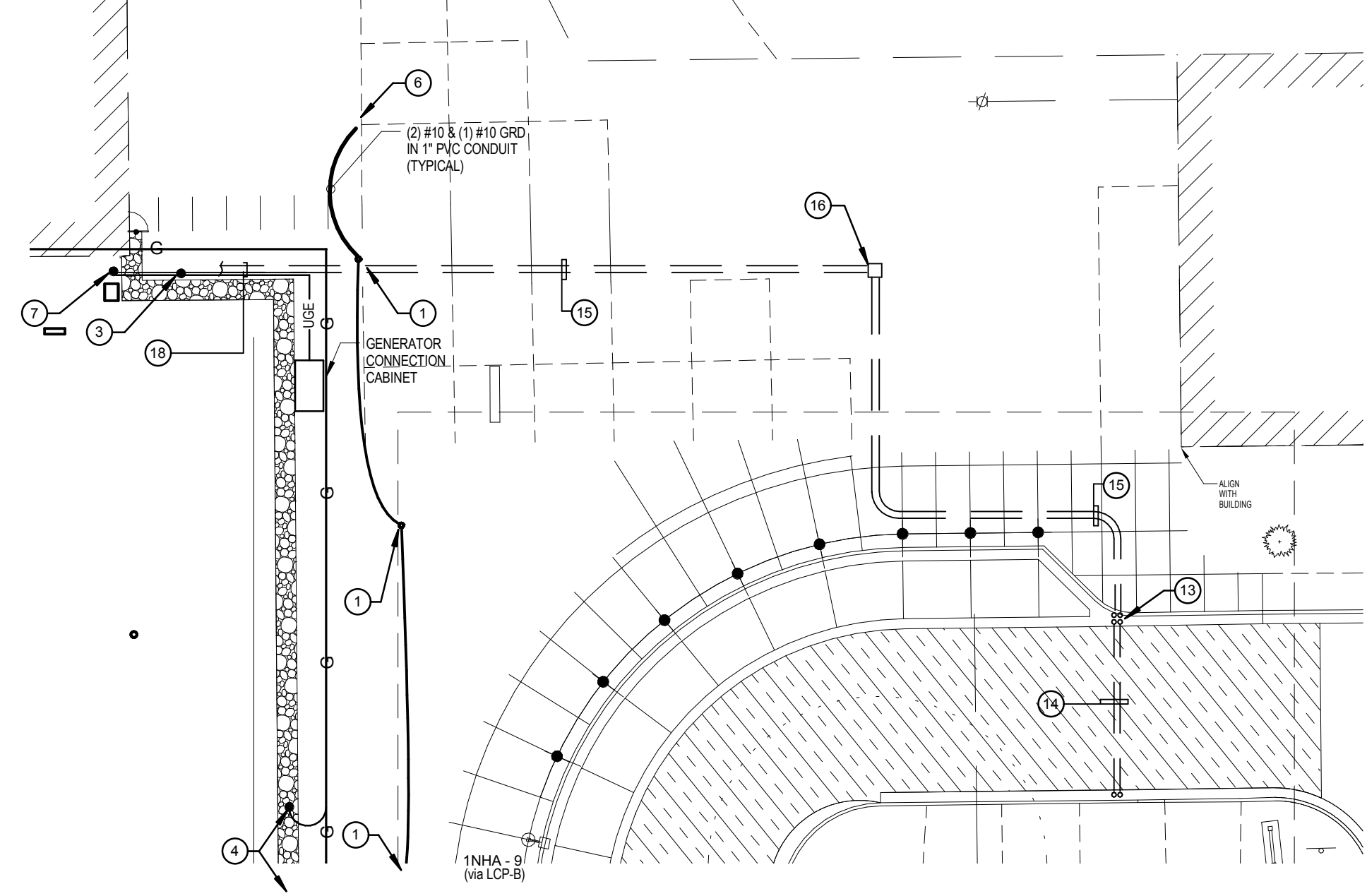
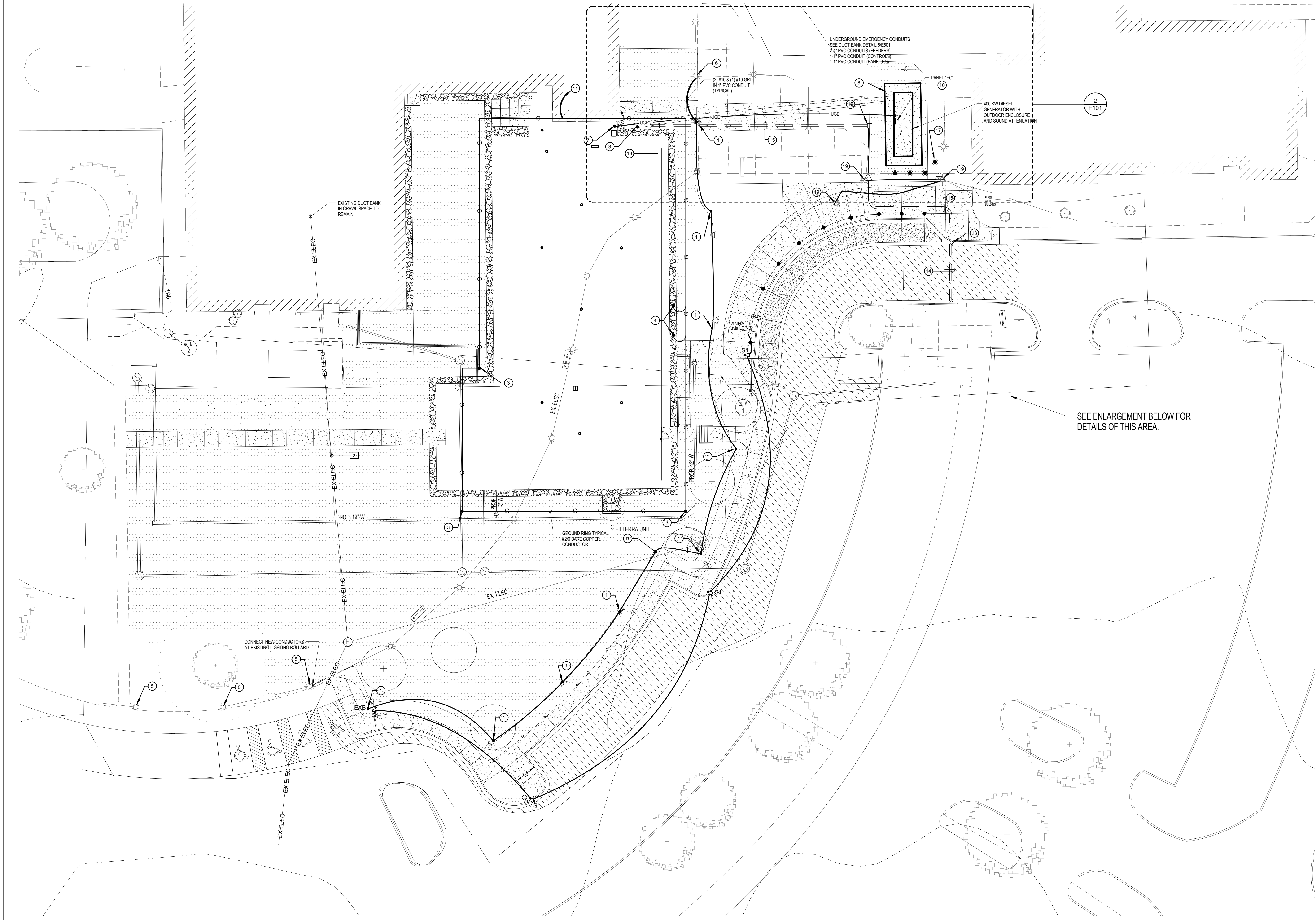








three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



- KEYNOTES (THIS DRAWING)
- 1 RELOCATED EXISTING LIGHTING BOLLARD.
  - 2 EXISTING UNDERGROUND DUCT BANK TO REMAIN (8 - 4" CONDUITS), DUCT BANK UNDER NEW ADDITION NOT TO BE DISTURBED DURING CONSTRUCTION.
  - 3 BONDING TO GROUND RING AND TO LIGHTING PROTECTION DOWN CONDUCTOR.
  - 4 TYPICAL BONDING JUMPERS AT BUILDING STEEL COLUMN LOCATIONS.
  - 5 EXISTING LIGHT FIXTURES, CONDUIT, AND CONDUCTORS.
  - 6 CONNECT NEW CONDUCTORS AT EXISTING LIGHTING BOLLARD.
  - 7 UP TO AT&HE ELECTRIC ROOM.
  - 8 GENERATOR CONCRETE EQUIPMENT PAD, COORDINATE ALL CONDUIT PENETRATIONS. SEE STRUCTURAL DRAWINGS FOR DETAILS.
  - 9 NEW UNDERGROUND CONDUIT AND CONDUCTORS (TYPICAL).
  - 10 FACTORY PROVIDED PANELBOARD IN GENERATOR ENCLOSURE.
  - 11 TO GROUND BAR IN PANEL "1"NDPBY.
  - 12 INSTALL GROUND RING MINIMUM 30" BELOW GRADE, 5'-0" AWAY FROM BUILDING STRUCTURE AND AVOID FILTERRA UNITS.
  - 13 2-1 1/2" 12" PVC CONDUITS STUBBED UP AT GATE LOCATION.
  - 14 2-1 1/2" 12" PVC CONDUITS STUBBED UP AT BOTH ENDS AT GATE LOCATION.
  - 15 1-1 1/2" 12" PVC UNDERGROUND CONDUITS:  
1- DATA / TELECOM  
1- POWER
  - 16 12" X 12" X 18" QUARTZITE HANDHOLE BOX WITH DIVIDER, MOUNT FLUSH WITH FINISH GRADE.
  - 17 EQUIPMENT PROTECTIVE BOLLARDS, TYPICAL OF 4, SEE DETAIL, DRAWING E501.
  - 18 STUB CONDUITS 12" AFF INTO ELECTRICAL ROOM, CAP AND IDENTIFY.
  - 19 EXISTING FIXTURE REINSTALLED AT SAME LOCATION AFTER GENERATOR AND ALL CIVIL WORK IS COMPLETED. CONDUIT AND WIRE SIZE TO MATCH EXISTING. RECONNECT TO EXISTING LIGHTING CIRCUIT CONDUCTORS.

1 ELECTRICAL SITE PLAN - NEW WORK  
1" = 20'-0"

2 EMERGENCY POWER ALTERNATE  
1" = 20'-0"

Revisions:	Date	CONSULTANTS:	SEAL 	ARCHITECTS/ENGINEERS:  6587 Hamilton Avenue Pittsburgh, Pennsylvania 15206 Ph: 412.287.7333 Fax: 412.287.7334 www.ae-works.com AE Works Project Number: 13030	Drawing Title ELECTRICAL SITE PLAN - NEW WORK	Project Title: H.H. MCGUIRE VAMC - CONSTRUCT SPINAL CORD ENHANCEMENT CENTER	Project Number 652 - 314	
					Approved: Project Director	Location: 1201 Broad Rock Boulevard, Richmond, VA 23249	Building Number 500	
					Date: 09/11/2017	Checked: GG	Drawn: TA	Drawing Number E101

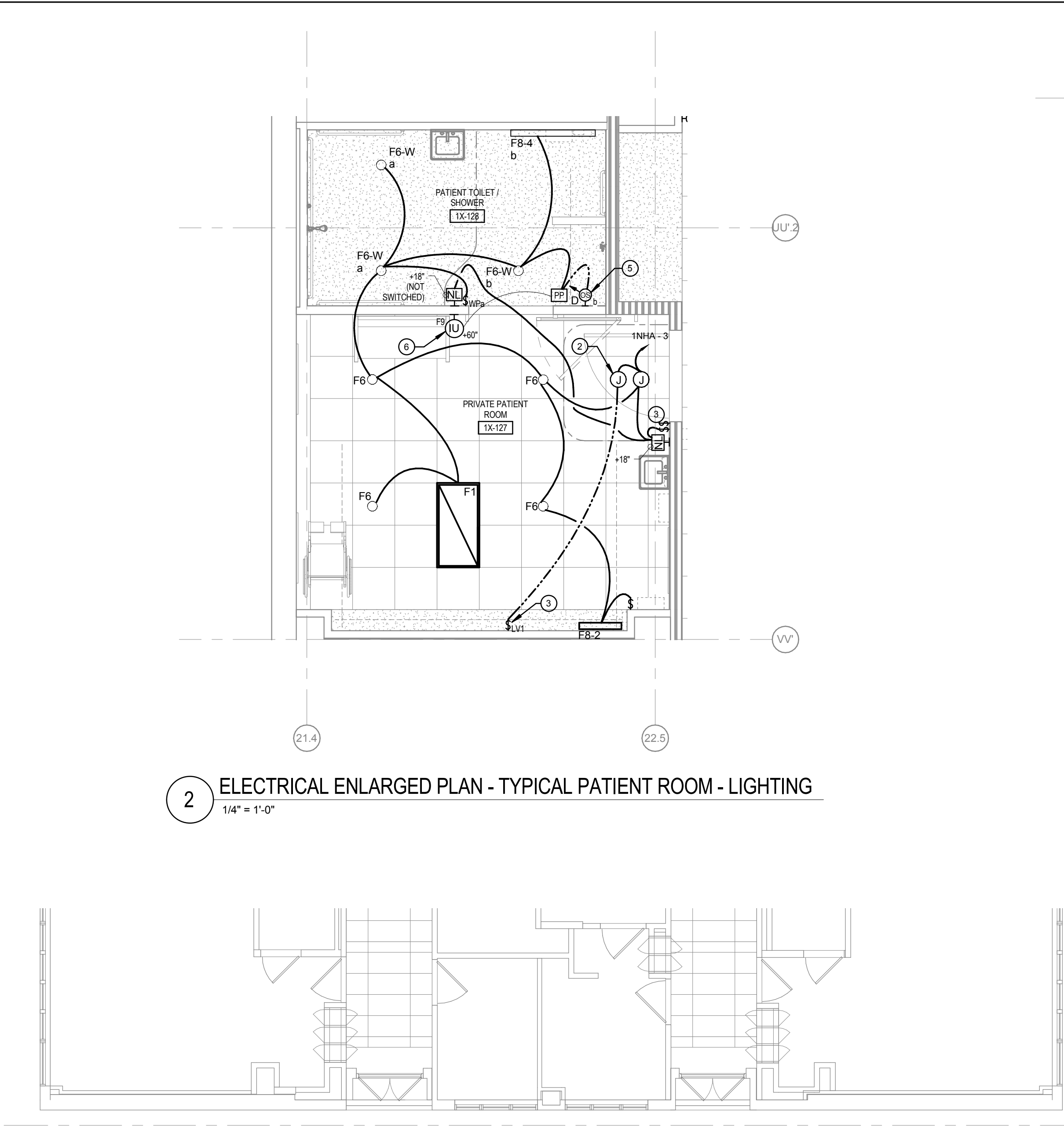
FULLY SPRINKLERED  
BID DOCUMENTS

PROJECT NORTH

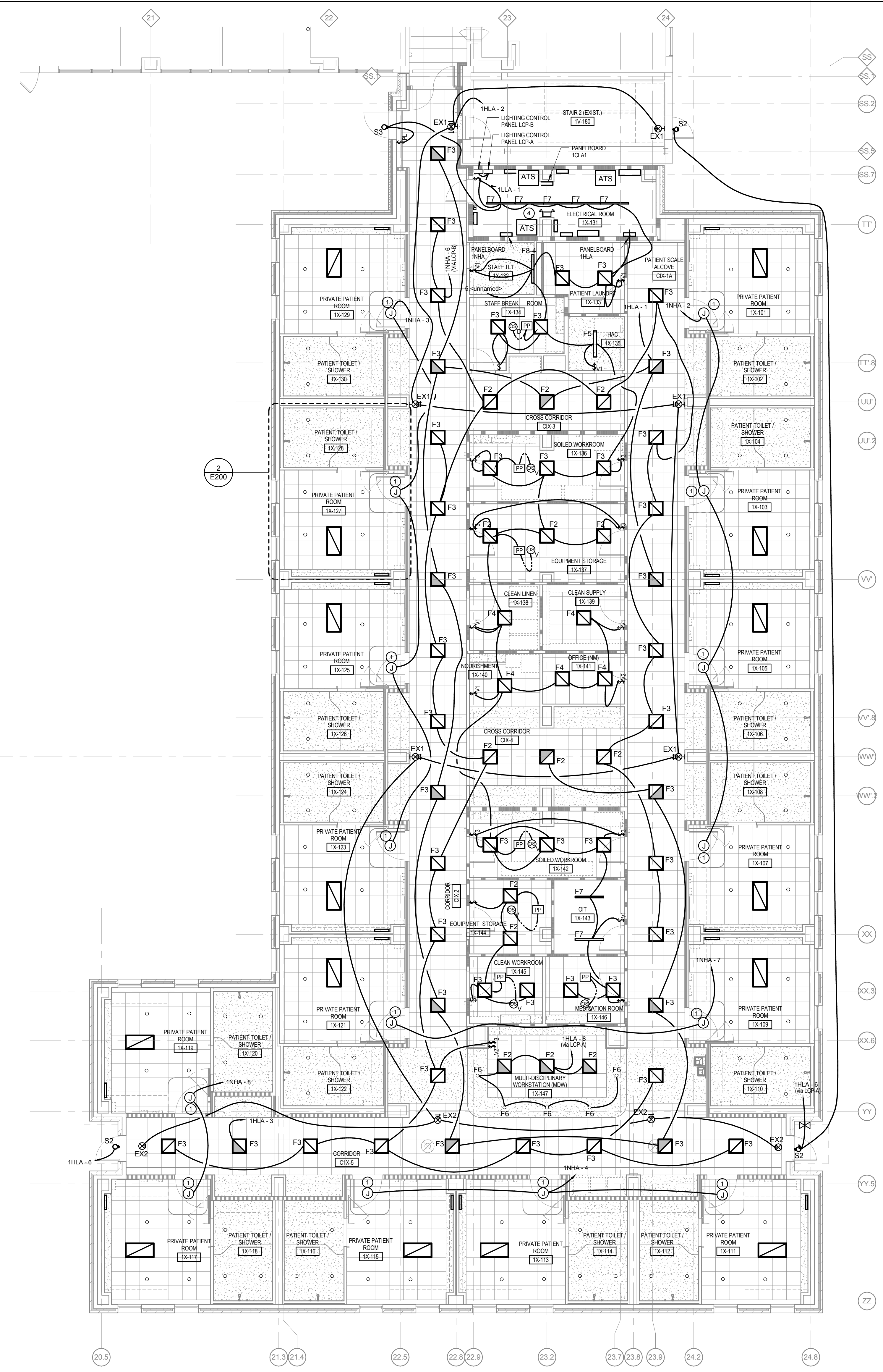
Office of  
Construction  
and Facilities  
Management  
 Department of  
Veterans Affairs



three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
one half inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



2 ELECTRICAL ENLARGED PLAN - TYPICAL PATIENT ROOM - LIGHTING  
1/4" = 1'-0"



1 ELECTRICAL - LEVEL ONE - LIGHTING  
1/8" = 1'-0"

### OCCUPANCY SENSOR INSTALLATION GUIDELINES

1. THE OCCUPANCY SENSORS INDICATED ON THE DRAWINGS ARE SHOWN FOR DESIGN INTENT ONLY. THE EXACT QUANTITY OF SENSORS SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR PRIOR TO INSTALLING SENSORS BASED ON THE MANUFACTURER'S RECOMMENDATION.
2. PROVIDE 100% COVERAGE OF EACH INDIVIDUAL ROOMSPACE SHOWN ON THE DRAWINGS.
3. DO NOT INSTALL SENSORS PRIOR TO SUBMITTING COVERAGE LAYOUTS FOR EACH INDIVIDUAL ROOMSPACE TO THE ENGINEER FOR APPROVAL.
4. DO NOT INSTALL SENSORS SUCH THAT THEY CAN POTENTIALLY "SEE" THROUGH OPEN DOORWAYS.
5. INSTALL ALL LOW VOLTAGE POWER PACKS DIRECTLY ABOVE LOCAL WALL SWITCHES IN THE AREA.
6. SENSOR OPERATION SHALL BE AS FOLLOWS:
  1. OCCUPANT ENTERS ROOM AND THEY MUST MANUALLY TURN ON LIGHTS.
  2. SENSOR TURNS OFF LIGHTS AFTER 10 MINUTES OF INACTIVITY.
  3. UPON SENSING ACTIVITY LIGHTS TURN BACK ON.
7. DO NOT INSTALL ULTRASONIC OR DUAL TECHNOLOGY SENSORS WITHIN 24" OF SUPPLY DIFFUSERS.

### LIGHTING GENERAL NOTES

1. ALL EXIT SIGNS SHALL BE POWERED FROM THE CIRCUIT INDICATED AND UNINTERRUPTED.
2. ALL NORMAL EMERGENCY FIXTURES POWERED BY AN EMERGENCY GENERATOR THAT IS NOT CONNECTED TO A RELAY PANEL SHALL HAVE A BODINE C7020A OR EQUAL ON THE CIRCUIT TO PERMIT LOCAL CONTROL WITH ADJACENT FIXTURES.
3. COORDINATE FINAL LOCATIONS OF FIXTURES WITH THE REFLECTED CEILING PLAN. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER.
4. COORDINATE ALL MOUNTING HEIGHTS WITH THE ARCHITECT AND ENGINEER PRIOR TO BEGINNING.
5. WHERE MORE THAN ONE SWITCH OCCURS IN THE SAME LOCATION, THEY SHALL BE INSTALLED IN GANG TYPE BOX UNDER ON COVERPLATE. MINIMUM CONDUIT SIZE IS 3/4". MINIMUM WIRE SIZE SHALL BE #12 AWG. ALL WIRE TO BE STRANDED COPPER.

### KEYNOTES

- 1 REFER TO ENLARGED PATIENT ROOM LIGHTING PLAN ON THIS SHEET FOR LIGHTING & CIRCUITING LAYOUT. CONSULT FOR BRANCH CIRCUITING OF LIGHTING AND CONTROLS SHALL BE RUN ABOVE CEILING BACK TO JUNCTION BOX ABOVE CEILING AT DOOR POWER FROM THE JUNCTION BOX TO THE PANELBOARD OR NEXT ROOM SHALL BE RUN IN INTERSTITIAL SPACE.
- 2 LIGHTING CONTROLLER SHALL BE MOUNTED ABOVE CEILING. REFER TO DETAIL 1 ON E200 FOR LIGHTING CONTROL DETAIL. INSTALL ABOVE SWITCHES.
- 3 REFER TO LIGHT SWITCH DETAILS ON DRAWING E500.
- 4 EMERGENCY BATTERY PACK SHALL BE WIRED AHEAD OF LOCAL SWITCHING.
- 5 TIMEOUT SETTING ON OCCUPANCY SENSOR SHALL BE SET TO 5min.
- 6 TYPE P8 FIXTURE SHALL BE CONNECTED TO OCCUPANCY SENSOR IN BATHROOM. WHEN THE SENSOR IS ACTIVATED THE "ROOM IN USE" SHALL BE DISPLAYED. AFTER THE SENSOR SHUTS OFF THE SIGN SHALL TURN OFF.

### FIRE RATED PARTITION LEGEND

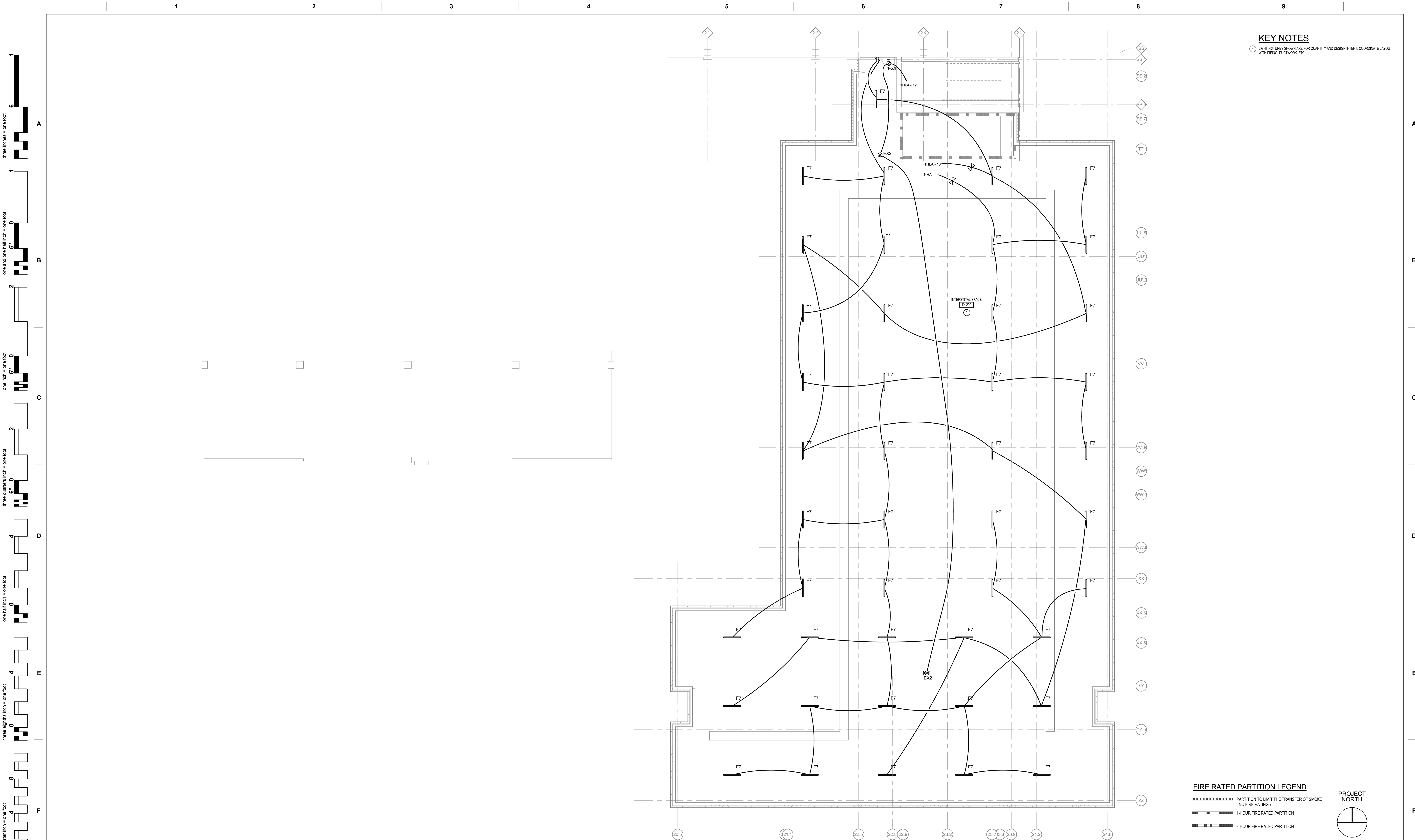
- PARTITION TO LIMIT THE TRANSFER OF SMOKE (NO FIRE RATING)
- 1-HOUR FIRE RATED PARTITION
- 2-HOUR FIRE RATED PARTITION



## FULLY SPRINKLERED BID DOCUMENTS

<b>Revisions:</b>	<b>Date</b>	<b>CONSULTANTS:</b>	<b>SEAL</b> 	<b>ARCHITECTS/ENGINEERS:</b>  6587 Hamilton Avenue Pittsburgh, Pennsylvania 15206 Ph: 412.287.7333 Fax: 412.287.7334 www.ae-works.com AE Works Project Number: 13030	<b>Drawing Title</b> ELECTRICAL - LEVEL ONE - LIGHTING	<b>Approved: Project Director</b>	<b>Project Title:</b> H.H. MCGUIRE VAMC - CONSTRUCT SPINAL CORD ENHANCEMENT CENTER	<b>Location:</b> 1201 Broad Rock Boulevard, Richmond, VA 23249	<b>Date:</b> 09/11/2017	<b>Checked:</b> GG	<b>Drawn:</b> JZ	<b>Project Number</b> 652 - 314	<b>Building Number</b> 500	<b>Drawing Number</b> E200	<b>Office of Construction and Facilities Management</b> 
-------------------	-------------	---------------------	-----------------	--	---	-----------------------------------	---	---	----------------------------	-----------------------	---------------------	------------------------------------	-------------------------------	-------------------------------	---



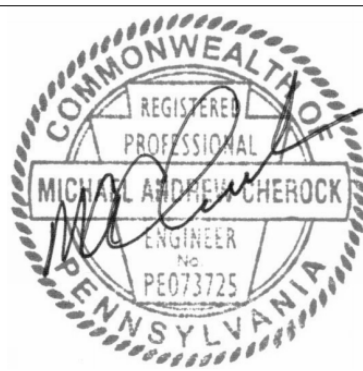


1 ELECTRICAL - LEVEL ONE INTERSTITIAL - LIGHTING  
1/8" = 1'-0"

[illegible]

**CONSULTANTS:**

## SEAL



**ARCHITECTS/ENGINEERS:**



**6587 Hamilton Avenue  
Pittsburgh, Pennsylvania 15206  
Ph: 412.287.7333 Fax: 412.287.7334  
www.ae-works.com**

**AE Works Project Number:** 13030

**Drawing Title**  
ELECTRICAL - LEVEL ONE INTERSTITIAL -  
LIGHTING

Approved: Project Director

**Project Title:**  
H.H. MCGUIRE VAMC -  
CONSTRUCT SPINAL CORD  
ENHANCEMENT CENTER

Location:

**Date:**  
09/11/2017

Checked: GG

Drawn:  
17

**Project Number**  
652 - 314

Building Number  
500

Drawing Number

E201

**Office of  
Construction  
and Facilities  
Management**

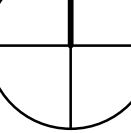


### FIRE RATED PARTITION LEGEND

 PARTITION TO LIMIT THE TRANSFER OF SMOKE  
 (NO FIRE RATING)

 1-HOUR FIRE RATED PARTITION 2-HOUR FIRE RATED PARTITION

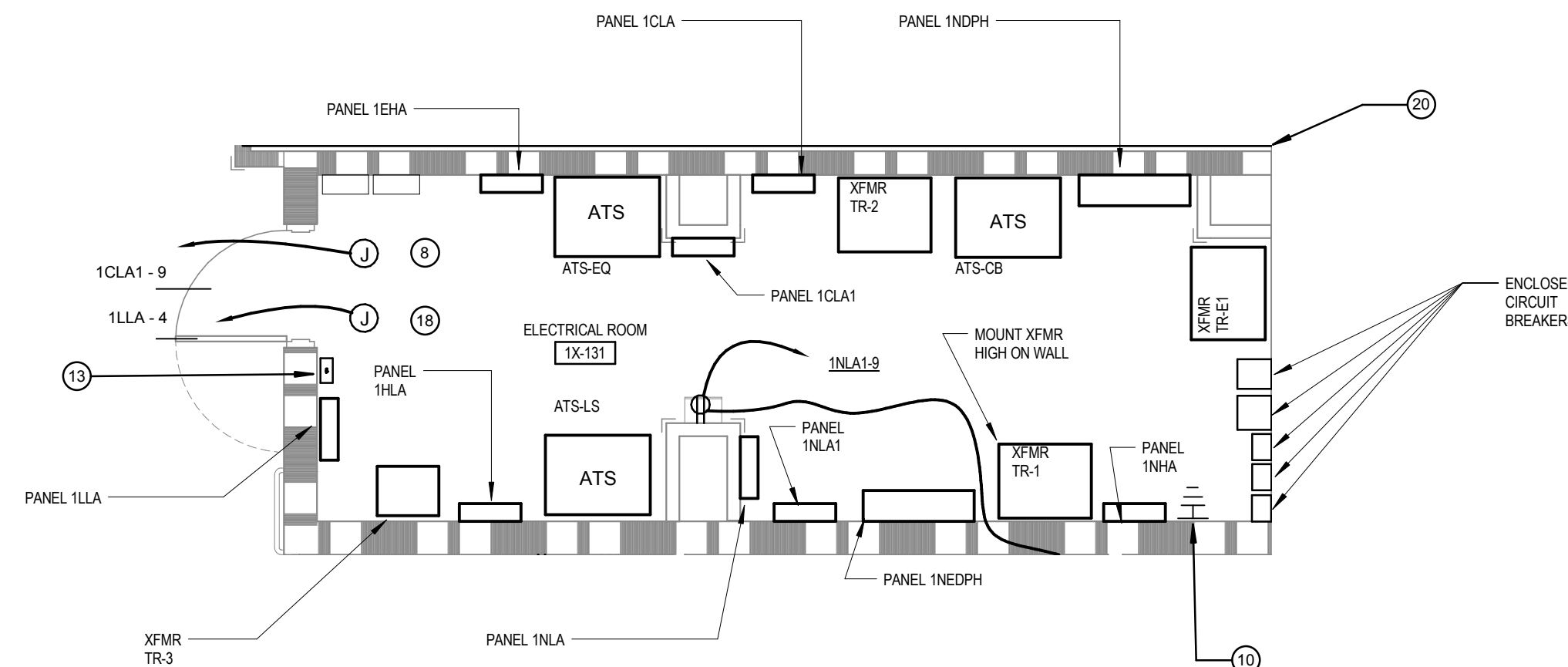
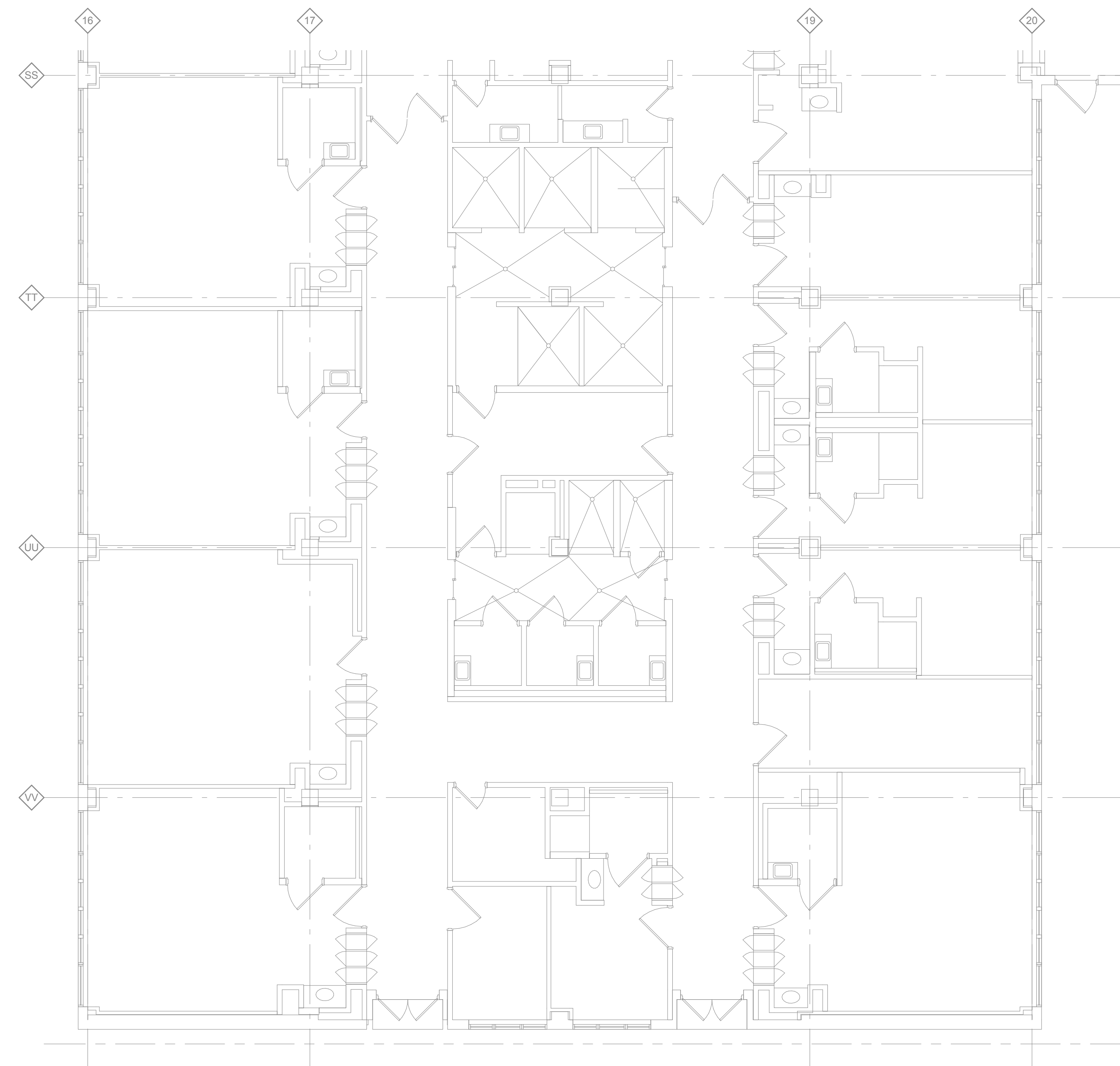
## PROJECT NORTH



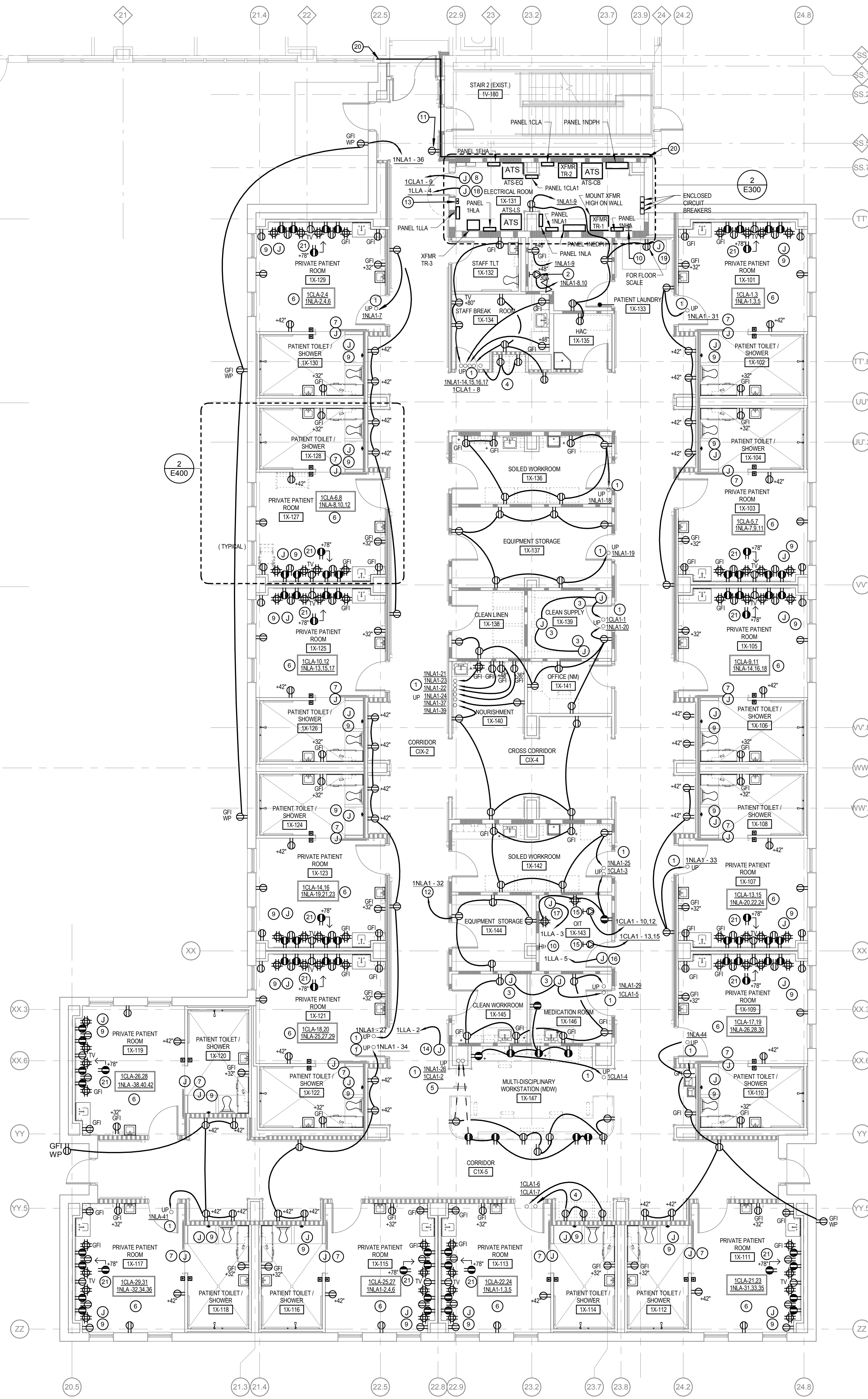
# FULLY SPRINKLERED BID DOCUMENTS



three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



2 LEVEL ONE EMERGENCY POWER - ALTERNATE  
1/4" = 1'-0"



1 ELECTRICAL - LEVEL ONE - POWER  
1/8" = 1'-0"

- KEY NOTES**
- BRANCH CIRCUIT HOMERUN VIA INTERSTITIAL SPACE.
  - DRYER OUTLET - 30A, 250V, NEMA 6-30R.
  - JUNCTION BOX FOR PAR SYSTEM POWER. VERIFY EXACT LOCATION.
  - OUTLET FOR OMNI CELL UNIT POWER. VERIFY EXACT LOCATION.
  - CONDUIT RUN UNDER FLOOR SLAB AND TURN UP AT WALL.
  - BRANCH CIRCUIT HOMERUN IDENTIFICATION FOR PATIENT ROOM. SEE ENLARGED PATIENT ROOM FOR TYPICAL WIRING ARRANGEMENT.
  - POWER CONNECTION AT DOOR HEADER FOR AUTOMATIC DOOR WITH PUSHBUTTON CONTROL AT DOOR JAMB.
  - POWER FOR ATC CONTROL PANEL. VERIFY EXACT LOCATION WITH EQUIPMENT.
  - JUNCTION BOX ABOVE CEILING FOR PATIENT LIFT SYSTEM. VERIFY EXACT LOCATION.
  - COPPER GROUND BAR, MOUNT AT 42" AFF. SEE GROUND BAR DETAIL, DRAWING #E302.
  - EXISTING RECEPTACLE TO BE REMOVED. REMOVE EXISTING CONDUIT AND CONDUCTORS BACK TO NEXT RECEPTACLE. ABANDON IN PLACE EXISTING CONDUIT WITHIN EXISTING STAIR TOWER.
  - UP TO RECEPTACLE ON ROOF AT CHILLER CH-1.
  - GENERATOR REMOTE CONTROL PANEL.
  - FOR MEDICAL GAS MONITORING PANEL. VERIFY EXACT LOCATION.
  - PROVIDE 2 POLE, 3 WIRE, 250V, L6-30 OUTLET MOUNTED ABOVE EQUIPMENT RACK. VERIFY EXACT LOCATION.
  - FOR NURSE CALL CONTROL CABINET. VERIFY EXACT LOCATION.
  - FOR DOOR CONTROL SYSTEM. VERIFY EXACT LOCATION.
  - FOR FIRE ALARM CONTROL PANEL. VERIFY EXACT LOCATION.
  - PROVIDE 4" SQUARE BOX AT 42" AFF WITH 3/4" CONDUIT STUBBED INTO SCALE DEPRESSIONED FLOOR AREA. SEE DETAIL ON DRAWING A403.
  - BUILDING EXPANSION JOINT.
  - MOUNT OUTLET 78" A.F.F. FOR AUTONOME SYSTEM CONTROL UNIT. COORDINATE EXACT LOCATION.

**FIRE RATED PARTITION LEGEND**

PARTITION TO LIMIT THE TRANSFER OF SMOKE (NO FIRE RATING)

1-HOUR FIRE RATED PARTITION

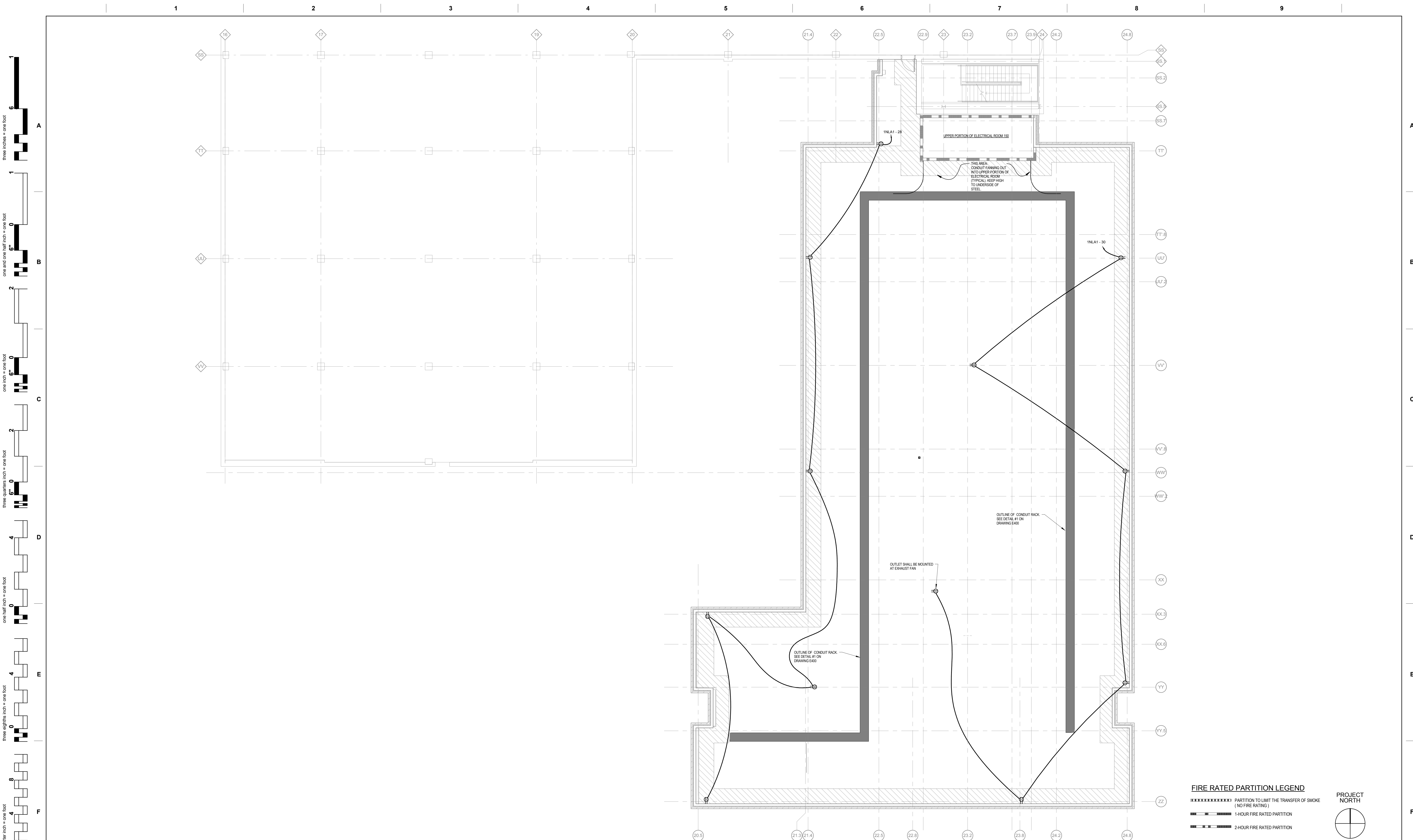
2-HOUR FIRE RATED PARTITION



## FULLY SPRINKLERED BID DOCUMENTS




																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----






1 ELECTRICAL - LEVEL ONE INTERSTITIAL - POWER  
1/8" = 1'-0"

### FIRE RATED PARTITION LEGEND

	PARTITION TO LIMIT THE TRANSFER OF SMOKE (NO FIRE RATING)
	1-HOUR FIRE RATED PARTITION
	2-HOUR FIRE RATED PARTITION

PROJECT  
NORTH

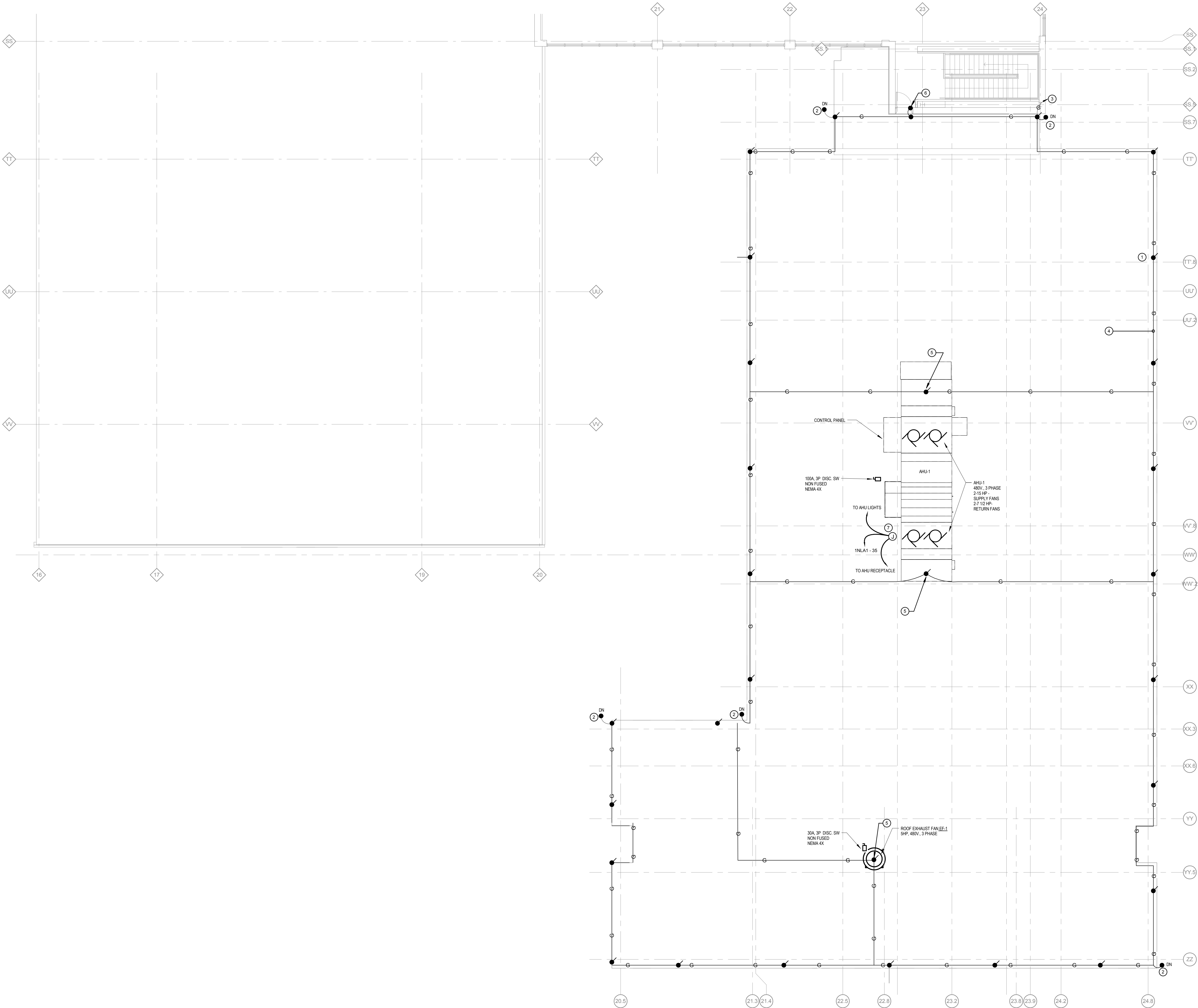


## FULLY SPRINKLERED BID DOCUMENTS

[illegible]



three inches = one foot  
one and one half inch = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot



KEY NOTES

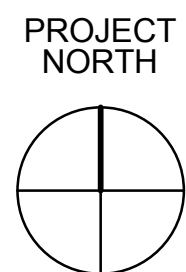
- 1 TYPICAL LIGHTNING PROTECTION SYSTEM AIR TERMINAL.
- 2 LIGHTNING PROTECTION SYSTEM GROUND CONDUCTOR DOWN TO GROUND RING.
- 3 DOWN TO ELECTRICAL SYSTEM GROUNDING CONDUCTOR.
- 4 TYPICAL LIGHTNING PROTECTION SYSTEM GROUNDING CONDUCTOR.
- 5 LIGHTNING AIR TERMINAL MOUNTED ON ROOF TOP EQUIPMENT.
- 6 BOND DOOR FRAME TO LIGHTNING PROTECTION SYSTEM.
- 7 JUNCTION BOX FOR AHU LIGHTS AND RECEPTACLE. VERIFY EXACT LOCATION.

GENERAL NOTES

1. BOND ALL MECHANICAL EQUIPMENT SHOWN OR NOT SHOWN ON DRAWINGS TO THE LIGHTNING PROTECTION SYSTEM.
2. THE INFORMATION SHOWN ON THIS PLAN IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO DEFINE THE SCOPE OF WORK. PROVIDE AN ENGINEERED LIGHTNING PROTECTION SYSTEM BY A UL MASTER LABEL INSTALLER.
3. THE COMPLETED INSTALLATION SHALL MEET THE INSTALLATION FOR LIGHTNING PROTECTION SYSTEMS, UL964 OF UNDERWRITERS LABORATORIES. THE UL MASTER LABEL SHALL BE FURNISHED TO THE OWNER UPON COMPLETION.
4. ALUMINUM LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL NOT BE MOUNTED TO COPPER SURFACES. COPPER COMPONENTS SHALL BE USED TO AVOID ELECTROLYTIC CORROSION.
5. ADHESIVE USED WITH ADHESIVE AIR TERMINAL BASES AND CONDUCTOR FASTENERS SHALL BE COMPATIBLE WITH ROOFING MEMBRANE - VERIFY COMPATIBILITY.
6. AIR TERMINALS ARE TO BE LOCATED AS SHOWN. THEY ARE TO BE A MINIMUM OF 24" FROM THE ROOF EDGE AND PROJECT A MINIMUM OF 18" ABOVE THE PROTECTED EDGE. THE SPACING BETWEEN AIR TERMINALS ARE NOT TO EXCEED 24 FEET. AIR TERMINALS THAT EXTEND 24" ABOVE THE PROTECTED EDGE ARE NOT TO EXCEED A SPACING GREATER THAN 25', EXCEPT FOR A MID-ROOF AIR TERMINALS (50' MAX SPACING).

FIRE RATED PARTITION LEGEND

- PARTITION TO LIMIT THE TRANSFER OF SMOKE (NO FIRE RATING)
- 1-HOUR FIRE RATED PARTITION
- 2-HOUR FIRE RATED PARTITION



FULLY SPRINKLERED  
BID DOCUMENTS

1 ELECTRICAL - ROOF LEVEL - POWER AND LIGHTNING PROTECTION PLAN  
1/8" = 1'-0"

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----








PROJECT NORTH



**Office of  
Construction  
and Facilities  
Management**

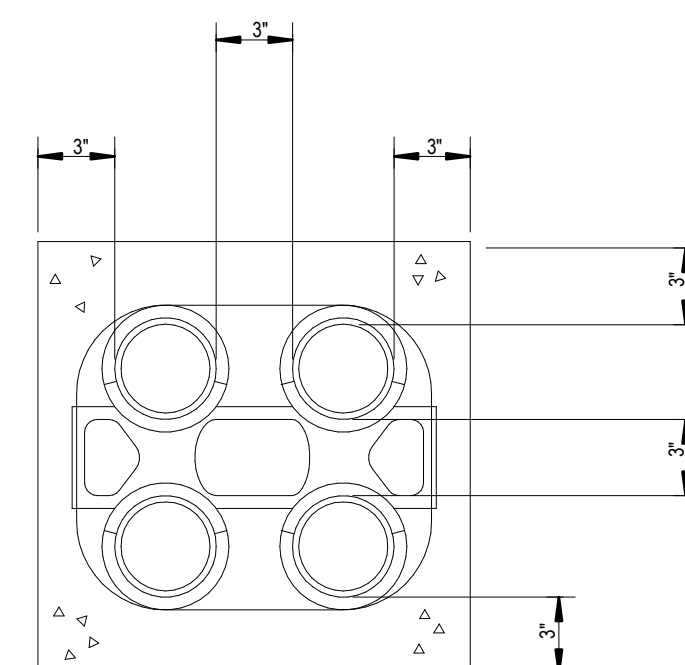

**Department of  
Veterans Affairs**

		<b>CONSULTANTS:</b>		<b>SEAL</b> 	<b>ARCHITECTS/ENGINEERS:</b>   <b>AE WORKS</b> 6587 Hamilton Avenue Pittsburgh, Pennsylvania 15206 Ph: 412.287.7333 Fax: 412.287.7334 www.ae-works.com AE Works Project Number: 13030	<b>Drawing Title</b> ELECTRICAL ENLARGED PLAN - TYPICAL PATIENT ROOM - POWER  <b>Approved: Project Director</b>	<b>Project Title:</b> H.H. MCGUIRE VAMC - CONSTRUCT SPINAL CORD ENHANCEMENT CENTER  <b>Location:</b> 1201 Broad Rock Boulevard, Richmond, VA 23249	<b>Project Number</b> 652 - 314  <b>Building Number</b> 500  <b>Drawing Number</b> E400	<b>Office of Construction and Facilities Management</b>  Department of Veterans Affairs
<b>Revisions:</b>	<b>Date</b>								









NOTES:

1. LABEL SHALL BE DISPLAYED ON ALL SWITCHBOARDS, PANELBOARDS, TRANSFER SWITCHES AND PULLBOXES (MULTIPLE VOLTAGES)
2. NAMEPLATE SHALL BE WHITE LETTERING ON BLACK MICARTA
3. IF ONLY ONE VOLTAGE IS PRESENT, LABEL SHALL INDICATE ONLY THAT RESPECTIVE VOLTAGE

1. BLACK MICARTA WITH WHITE ENGRAVED LETTERS, 3/8" HIGH
2. FASTEN TO EQUIPMENT WITH SELF TAPPING SCREWS.
3. PROVIDE NAMEPLATES FOR THE FOLLOWING:
  - A. PANELS, MOP POSITIONS, Ovens, COOLERS
  - B. FUSED SAFETY SWITCHES, STARTERS, CONTROL PANELS
  - C. CONTROL DEVICES OUT OF SIGHT OF CONTROLLED EQUIPMENT
  - D. ALL CONTROL DEVICES, SWITCHES AND PILOT LIGHTS, REMOTE SWITCHES, ETC.
4. SUBMIT LISTING OF NAMEPLATE ATTES FOR APPROVAL

A schematic diagram of a 90-degree pipe elbow. A vertical line on the left represents the pipe's axis. A horizontal line extends to the right from the top of this axis, ending in a short vertical segment. A weld symbol, consisting of a vertical line with a horizontal tick mark, is positioned on the horizontal section of the pipe.

1. CONCRETE SHALL BE 2000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE #4 REINFORCING RODS ON TOP AND BOTTOM OF DUCTS WHEN CROSSING OR PLACED IN ROADWAYS.
3. MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 24" OR AS OTHERWISE SPECIFIED IN SECTION 26 05 41.
4. PROVIDE MINIMUM 6" SPACE BETWEEN POWER AND TELECOMMUNICATION DUCTS. INCREASE SIZE AS REQUIRED.
5. INTERDUCT QUANTITY AND SIZE AS INDICATED ON PLANS.

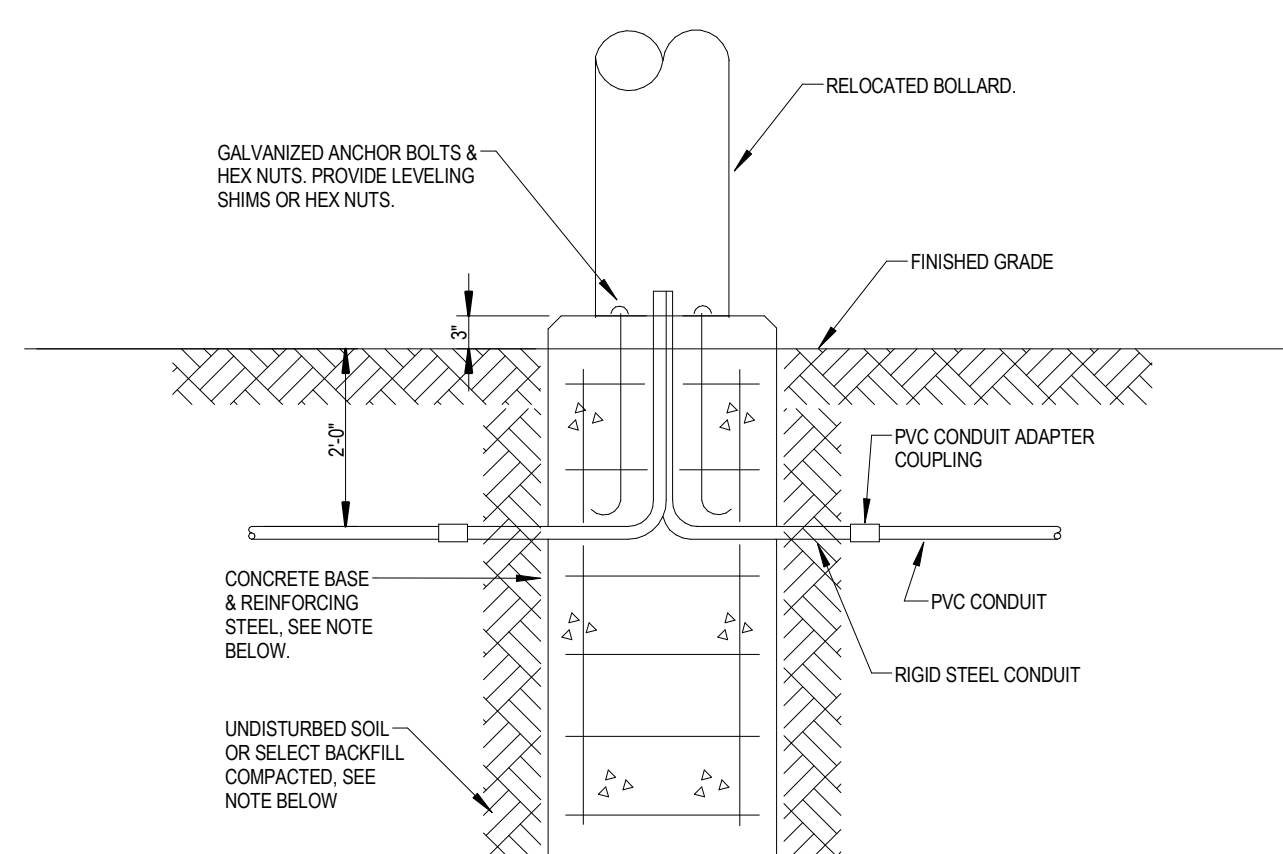
### BRANCH WIRING IDENTIFICATION

NTS

### FEEDER LABELING DETAIL

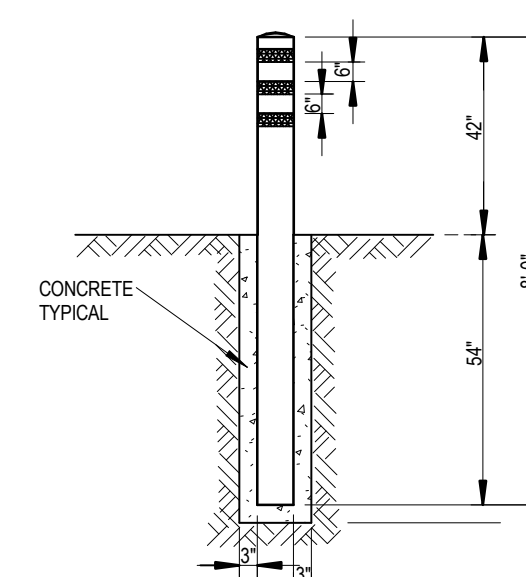
NTS

## NTS



1. BACKFILL, CONCRETE, REINFORCING STEEL, AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY. STRUCTURAL DESIGN IS SHOWN ON STRUCTURAL DRAWINGS.
2. REFER TO SPECIFICATION SECTION 26 56 00 FOR MOUNTING AND LEVELING REQUIREMENTS.
3. REFER TO LANDSCAPE DETAILS FOR INSTALLATION OF PAVERS AND INTERFACE BETWEEN PAVERS AND POLE BASE.

1. BACKFILL, CONCRETE, REINFORCING STEEL, AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY. STRUCTURAL DESIGN IS SHOWN ON STRUCTURAL DRAWINGS.
2. REFER TO SPECIFICATION SECTION 26 56 00 FOR MOUNTING AND LEVELING REQUIREMENTS



- 1 POSITION BARRIERS 36" FROM EQUIPMENT FOUNDATION ON ALL SIDES WHERE EQUIPMENT DOORS WILL BE LOCATED.
- 2 USE 6-INCH DIAMETER RIGID GALVANIZED STEEL CONDUIT, CUT TO 8 FEET AND WITH CONCRETE. ENCASE IN 3 INCHES OF CONCRETE AS SHOWN.
- 3 VEHICLE BARRIERS SHALL BE PAINTED YELLOW WITH THREE STRIPES OF 3-INCH REFLECTIVE TAPE.

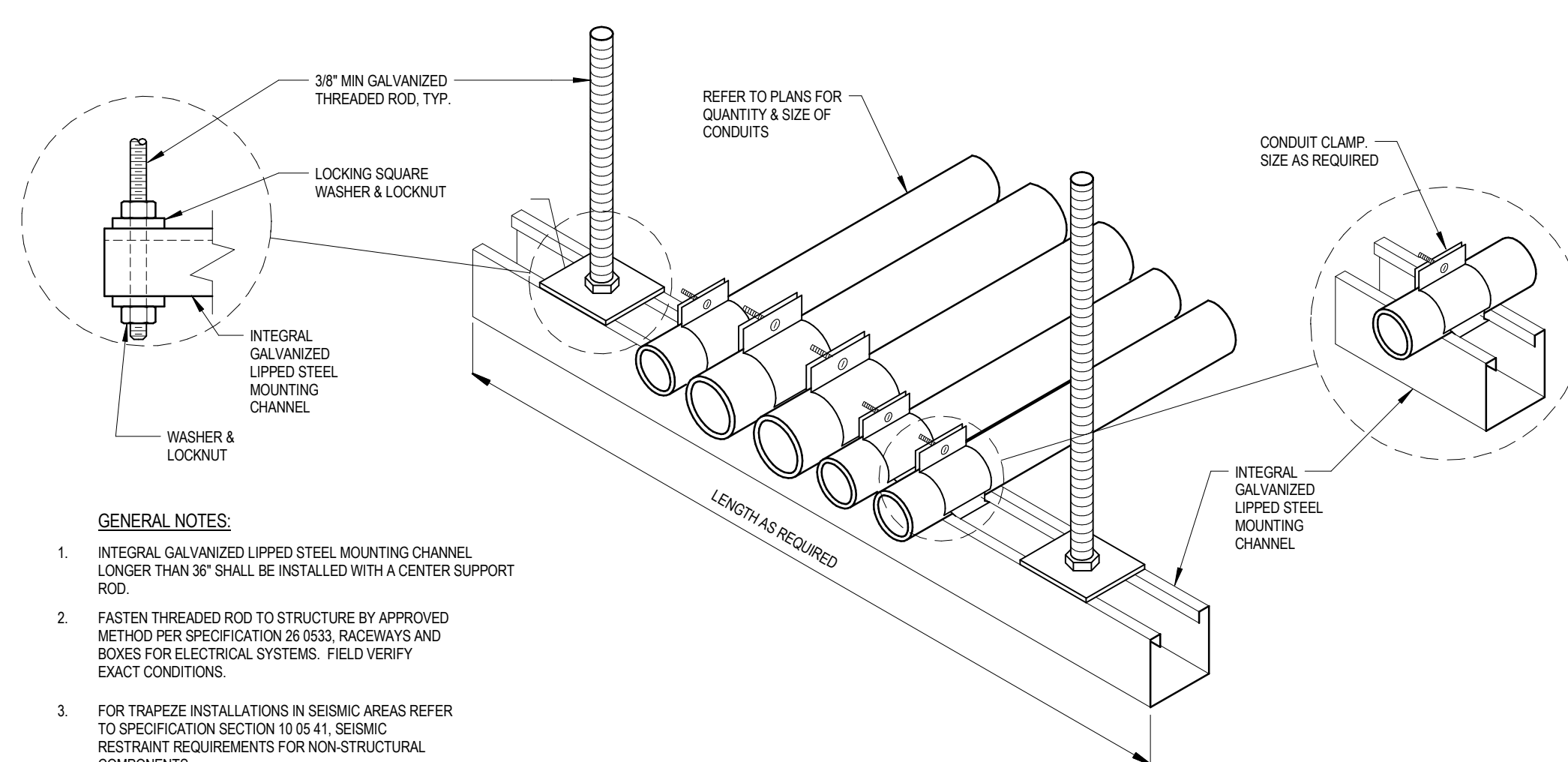
## NTS

1. MAINTAIN A MINIMUM CLEARANCE OF 12" ON ALL SIDES OF ROOF PENETRATION FROM WALLS, CURBS, AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING.
2. FLANGES OF ADJACENT FLASHINGS SHALL NOT BE CUT OR OVERLAPPED.
3. VERIFY ROOF AND STRUCTURAL SYSTEM WITH ARCHITECT.
4. COORDINATE FLASHING INSTALLATION WITH ROOFING CONTRACTOR TO ENSURE PROPER METHODS, AND MATERIALS ARE USED TO MAINTAIN ROOF WARRANTY.

## 7

## NTS

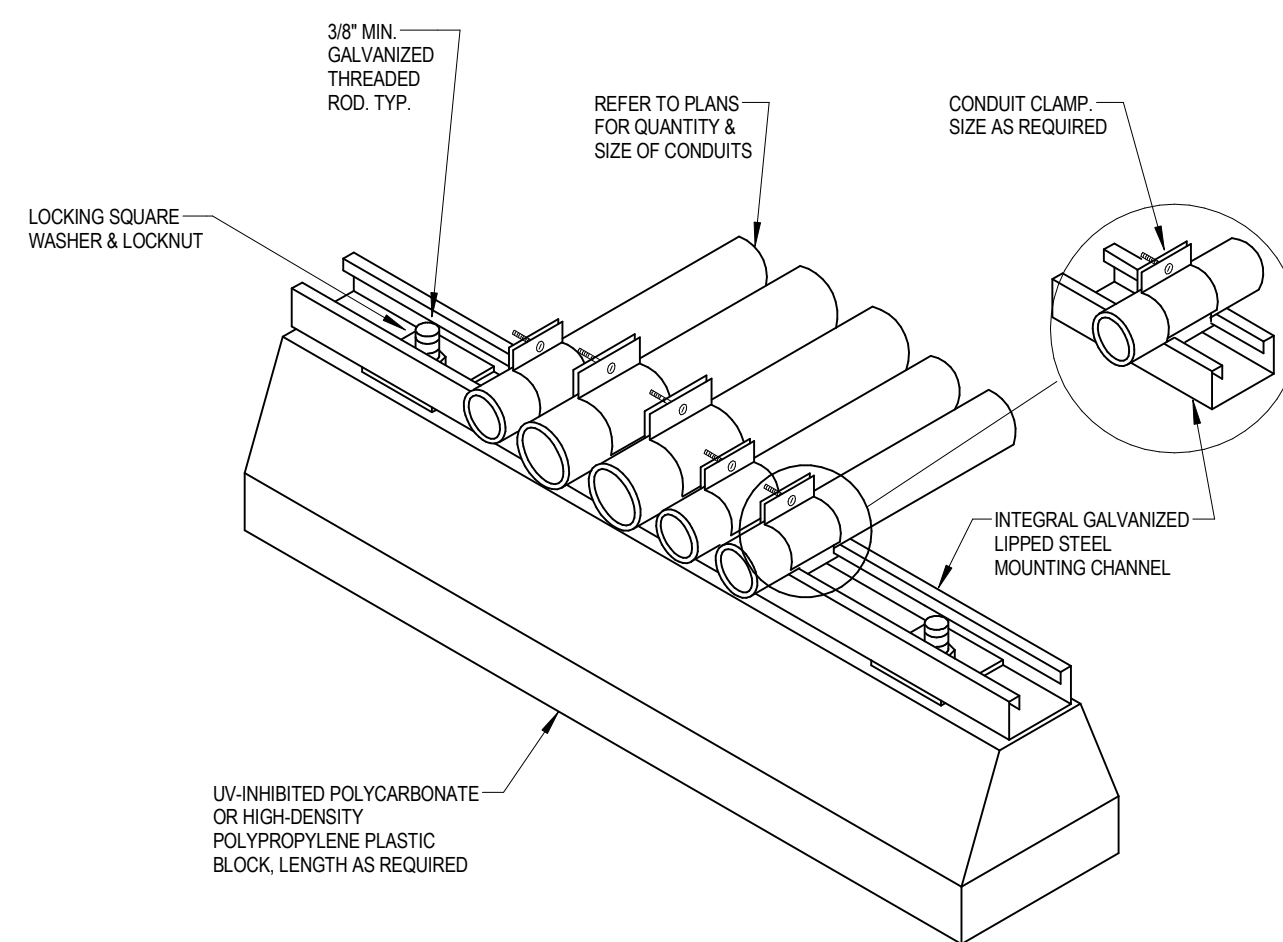
## NTS



1. INTEGRAL GALVANIZED UPPEP STEEL MOUNTING CHANNEL LONGER THAN 36" SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD PER SPECIFICATION 26 0533, RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS. FIELD VERIFY EXACT CONDITIONS.
3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO SPECIFICATION SECTION 10 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

## 10

## (11)



## 9

**CONSULTANTS:**

SEAL

**ARCHITECTS/ENGINEERS:**

6587 Hamilton Avenue  
Pittsburgh, Pennsylvania 15206  
Ph: 412.287.7333 Fax: 412.287.7334  
[www.ae-works.com](http://www.ae-works.com)

**AE Works Project Number:** 13030

**Drawing Title**  
ELECTRICAL DETAILS

Approved: Project Director

**Project Title:**  
H.H. MCGUIRE VAMC -  
CONSTRUCT SPINAL CORD  
ENHANCEMENT CENTER

**Location:**  
1201 Broad Rock Boulevard, Richmond, VA 23249

**Date:**  
09/11

Checked:

Drawn  
TA

Project Number  
652 - 314

Building Number  
500

Drawing Number  
E501

**Office of  
Construction  
and Facilities  
Management**







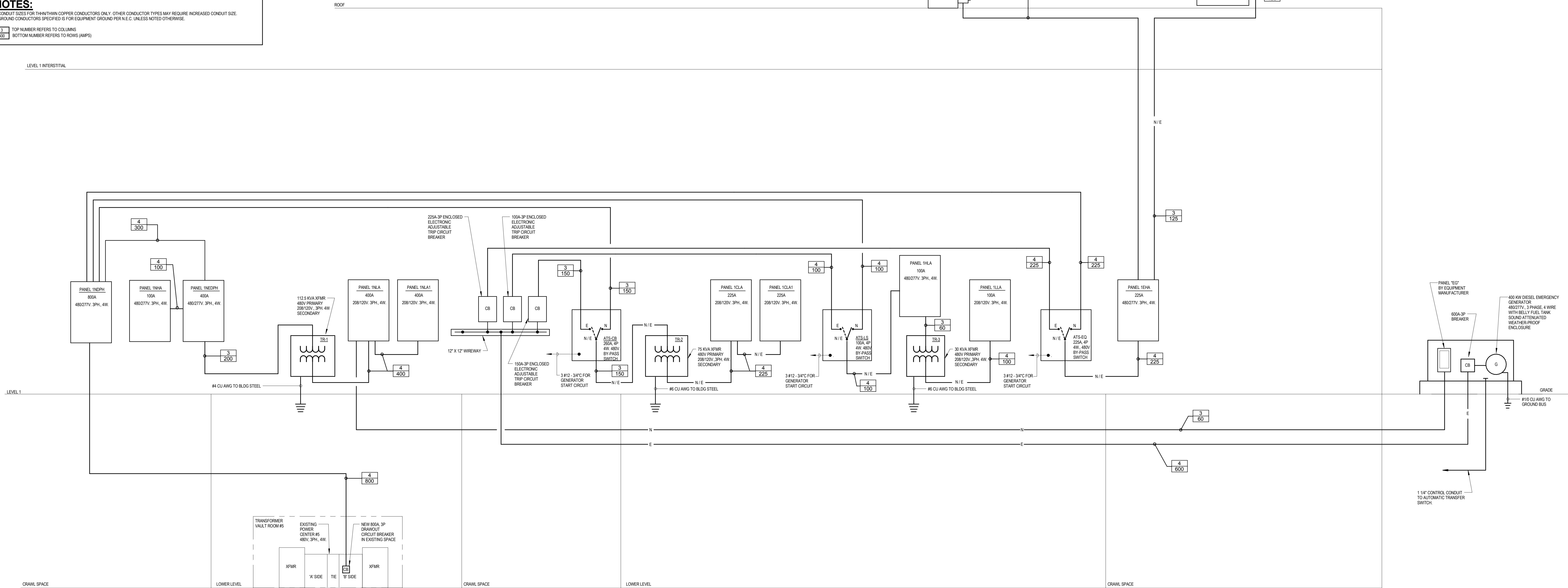
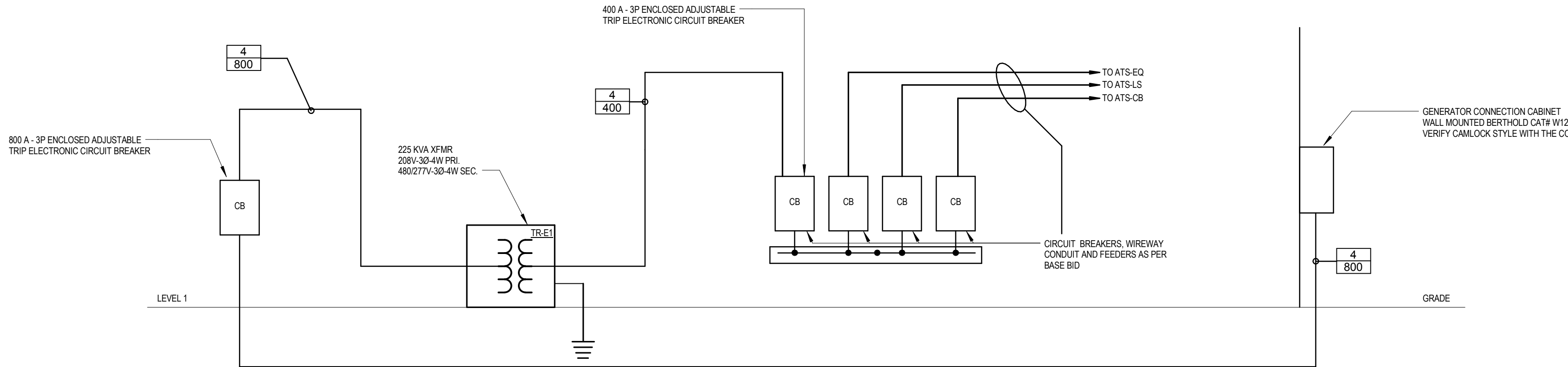


1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
989  
990  
991  
992  
993  
994  
995  
996  
997  
998  
999  
1000

ELECTRICAL FEEDER SCHEDULE	
COLUMN 3	COLUMN 4
AMPS	3PH, 3W, & GROUND
15	(3) #12 & 1#12 G IN 3/4" C
20	(3) #12 & 1#12 G IN 3/4" C
25	(3) #12 & 1#12 G IN 3/4" C
30	(3) #10 & 1#10 G IN 3/4" C
35	(3) #10 & 1#10 G IN 3/4" C
40	(3) #8 & 1#10 G IN 3/4" C
45	(3) #8 & 1#10 G IN 3/4" C
50	(3) #8 & 1#10 G IN 3/4" C
60	(3) #4 & 1#10 G IN 1" C
70	(3) #4 & 1#8 G IN 1 1/4" C
80	(3) #3 & 1#8 G IN 1 1/4" C
90	(3) #2 & 1#8 G IN 1 1/4" C
100	(3) #1 & 1#8 G IN 1 1/2" C
125	(3) #1 & 1#8 G IN 1 1/2" C
150	(3) #1/2 & 1#8 G IN 1 1/2" C
175	(3) #2/3 & 1#8 G IN 2" C
200	(3) #3/4 & 1#8 G IN 2" C
225	(3) #4/5 & 1#4 G IN 2" C
250	(3) #5/6 KCMIL & 1#4 G IN 2 1/2" C
300	(3) #5/6 KCMIL & 1#4 G IN 2 1/2" C
350	(3) #5/6 KCMIL & 1#3 G IN 3" C
400	(3) #5/6 KCMIL & 1#3 G IN 3" C
450	2 SETS OF (3) #4/5 & 1#2 G IN 2 1/2" C
500	2 SETS OF (3) #5/6 KCMIL & 1#2 G IN 2 1/2" C
600	2 SETS OF (3) #5/6 KCMIL & 1#1 G IN 3" C
800	2 SETS OF (3) #5/6 KCMIL & 1#1/2 G IN 3 1/2" C
900	3 SETS OF (3) #5/6 KCMIL & 1#2/3 G IN 3" C
1000	3 SETS OF (3) #5/6 KCMIL & 1#3/4 G IN 3 1/2" C
1200	4 SETS OF (3) #5/6 KCMIL & 1#3/4 G IN 3" C
1600	5 SETS OF (3) #5/6 KCMIL & 1#4/5 G IN 3" C
2000	6 SETS OF (3) #5/6 KCMIL & 1#5/6 KCMIL G IN 3 1/2" C
2500	7 SETS OF (3) #5/6 KCMIL & 1#5/6 KCMIL G IN 3 1/2" C
3000	8 SETS OF (3) #5/6 KCMIL & 1#5/6 KCMIL G IN 3 1/2" C
3500	10 SETS OF (3) #5/6 KCMIL & 1#5/6 KCMIL G IN 3 1/2" C
4000	11 SETS OF (3) #5/6 KCMIL & 1#5/6 KCMIL G IN 3 1/2" C

**NOTES:**  
1. CONDUIT SIZES FOR THIRTYTHREE COPPER CONDUCTORS ONLY. OTHER CONDUCTOR TYPES MAY REQUIRE INCREASED CONDUIT SIZE.  
2. GROUND CONDUCTORS SPECIFIED FOR EQUIPMENT GROUND PER NEC. UNLESS NOTED OTHERWISE.  
3. TOP NUMBER REFERS TO COLUMNS  
4. BOTTOM NUMBER REFERS TO ROWS (AMPS)

2 EMERGENCY POWER ALTERNATE - RISER DIAGRAM



1 ELECTRICAL - RISER DIAGRAM

FULLY SPRINKLERED  
BID DOCUMENTS

Revisions:	Date	CONSULTANTS:	SEAL MICHAEL A. ABERNETHY REGISTERED PROFESSIONAL ENGINEER PENNSYLVANIA PE073725	ARCHITECTS/ENGINEERS: AE WORKS 6587 Hamilton Avenue Pittsburgh, Pennsylvania 15206 Ph: 412.287.7333 Fax: 412.287.7334 www.ae-works.com AE Works Project Number: 13030	Drawing Title ELECTRICAL - RISER DIAGRAM	Project Title: H.H. MCGUIRE VAMC - CONSTRUCT SPINAL CORD ENHANCEMENT CENTER	Location: 1201 Broad Rock Boulevard, Richmond, VA 23249	Date: 09/11/2017	Checked: GG	Drawn: GG	Project Number 652 - 314	Building Number 500	Drawing Number E600	Office of Construction and Facilities Management Department of Veterans Affairs







three inches = one foot

one and one half inch = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one eighth inch = one foot

one eighth inch = one foot

1NLA													
VOLTAGE: 120/208 Wye		PHASE: 3	WIRES: 4	LOCATION: ELECTRICAL ROOM 1X-131						A.I.C. RATING: 10,000 - SEE NOTE			
MAIN TYPE: BKR		FED FROM: XFMR TR-1						FEED THRU... Yes					
BUSS RATING: 400 A		MOUNTING: Surface						TVSS: YES					
MCB RATING: 400 A		ENCLOSURE: Type 1						METER:					
Notes: CONNECTED LOAD - 101.7 KW DEMAND - 70.1 KW													
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPT - 1X-101	20 A	1	0.90			1.08			1	20 A	RECEPT - 1X-142	2
3	RECEPT - 1X-101	20 A	1		1.08			0.90		1	20 A	RECEPT - 1X-142	4
5	RECEPT - 1X-101, 1X-102	20 A	1			1.02			1.02	1	20 A	RECEPT - 1X-142, 1X-143	6
7	RECEPT - 1X-103	20 A	1	0.90			0.90			1	20 A	RECEPT - 1X-140	8
9	RECEPT - 1X-103	20 A	1		1.08			1.08		1	20 A	RECEPT - 1X-140	10
11	RECEPT - 1X-103, 1X-104	20 A	1			1.02			1.08	1	20 A	RECEPT - 1X-140, 1X-141	12
13	RECEPT - 1X-138	20 A	1	1.08			0.90			1	20 A	RECEPT - 1X-105	14
15	RECEPT - 1X-138	20 A	1		0.90			1.08		1	20 A	RECEPT - 1X-105	16
17	RECEPT - 1X-138, 1X-139	20 A	1			1.02			1.02	1	20 A	RECEPT - 1X-105, 1X-106	18
19	RECEPT - 1X-136	20 A	1	1.08			0.90			1	20 A	RECEPT - 1X-107	20
21	RECEPT - 1X-136	20 A	1		0.90			1.08		1	20 A	RECEPT - 1X-107	22
23	RECEPT - 1X-136, 1X-137	20 A	1			1.02			1.02	1	20 A	RECEPT - 1X-107, 1X-108	24
25	RECEPT - 1X-134	20 A	1	1.08			0.90			1	20 A	RECEPT - 1X-109	26
27	RECEPT - 1X-134	20 A	1		0.90			1.08		1	20 A	RECEPT - 1X-109	28
29	RECEPT - 1X-134, 1X-135	20 A	1			1.02			1.02	1	20 A	RECEPT - 1X-109, 1X-110	30
31	RECEPT - 1X-111	20 A	1	0.90			1.08			1	20 A	RECEPT - 1X-117	32
33	RECEPT - 1X-111	20 A	1		1.08			1.08		1	20 A	RECEPT - 1X-117	34
35	RECEPT - 1X-111, 1X-112	20 A	1			1.02			1.08	1	20 A	RECEPT - 1X-117	36
37	PANEL EG	50 A	2	1.00			1.08			1	20 A	RECEPT - 1X-119	38
39	--	--	--		1.00			1.08		1	20 A	RECEPT - 1X-119	40
41	SPARE	20 A	1			0.00			1.08	1	20 A	RECEPT - 1X-119	42
43	SPARE	20 A	1	0.00			1.15			1	20 A	POWER	44
45	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	46
47	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	48
49	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	50
51	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	52
53	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	54
55	PANEL 1NLA1 (FEED THRU)	400 A	3	11.66			0.00			1	20 A	SPARE	56
57	--	--	--		9.87			0.00		1	20 A	SPARE	58
59	--	--	--			9.17			0.00	1	20 A	SPARE	60
Total Load:				26590 VA	24190 VA		22810 VA						
Total Amps:				224 A	204 A		188 A						
Legend:													

1NHA

VOLTAGE: 480/277 Wye

PHASE: 3

WIRES: 4

LOCATION: ELECTRICAL ROOM 1X-131

A.I.C. RATING: 22,000 - SEE NOTE

MAIN TYPE: MLO

FED FROM: 1NEDPH

FEED THRU... No

BUSS RATING: 100 A

MOUNTING: Surface

TVSS:

MCB RATING:

ENCLOSURE: Type 1

METER:

Notes:

CONNECTED LOAD - 14.1 KW

DEMAND - 12.1 KW

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING - INTERSTITIAL SPACE	20 A	1	0.87			3.20			1	20 A	LTG - 101,103,105,107,109	2
3	LTG - ROOM 142,140,138,136,134	20 A	1		2.86			2.40		1	20 A	LTG - 111,113,115	4
5	STAFF TLT 1X-152	20 A	1			0.01			1.10	1	20 A	CORRIDOR CIX-2	6
7	POWER	20 A	1	1.60			1.60			1	20 A	LTG - 117,119	8
9	LIGHTING	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPACE	--	--			0.00			0.00	--	--	SPACE	18
19	SPACE	--	--	0.00			0.00			--	--	SPACE	20
21	SPACE	--	--		0.00			0.00		--	--	SPACE	22
23	SPACE	--	--			0.00			0.00	--	--	SPACE	24
25	SPACE	--	--	0.00			0.00			--	--	SPACE	26
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			--	--	SPACE	38
39	SPACE	--	--		0.00			0.00		--	--	SPACE	40
41	SPACE	--	--			0.00			0.00	--	--	SPACE	42
Total Load:				7268 VA			5255 VA		1112 VA				
Total Amps:				29 A			21 A		4 A				
Legend:													

1CLA													
VOLTAGE: 120/208 Wye		PHASE: 3		WIRES: 4		LOCATION: ELECTRICAL ROOM 1X-131				A.I.C. RATING: SEE NOTE			
MAIN TYPE: BKR		FED FROM: XFMR TR-2				FEED THRU... YES				TVSS: YES			
BUSS RATING: 225 A		MOUNTING: Surface				ENCLOSURE: Type 1				METER:			
MCB RATING: 225 A													
Notes:													
CONNECTED LOAD - 63.1 KW													
DEMAND - 42 KW													
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPT - 1X-101	20 A	1	0.90			0.90			1	20 A	RECEPT - 1X-142	2
3	MOTORIZED DOOR 1X-101	20 A	1		1.50			1.50		1	20 A	MOTORIZED DOOR 1X-142	4
5	RECEPT - 1X-103	20 A	1			0.90			0.90	1	20 A	RECEPT - 1X-140	6
7	MOTORIZED DOOR 1X-103	20 A	1	1.50			1.50			1	20 A	MOTORIZED DOOR 1X-140	8
9	RECEPT - 1X-105	20 A	1		0.90			0.90		1	20 A	RECEPT - 1X-138	10
11	MOTORIZED DOOR 1X-105	20 A	1			1.50			1.50	1	20 A	MOTORIZED DOOR 1X-138	12
13	RECEPT - 1X-107	20 A	1	0.90			0.90			1	20 A	RECEPT - 1X-136	14
15	MOTORIZED DOOR 1X-107	20 A	1		1.50			1.50		1	20 A	MOTORIZED DOOR 1X-136	16
17	RECEPT - 1X-109	20 A	1			0.90			0.90	1	20 A	RECEPT - 1X-134	18
19	MOTORIZED DOOR 1X-109	20 A	1	1.50			1.50			1	20 A	MOTORIZED DOOR 1X-134	20
21	RECEPT - 1X-111	20 A	1		0.90			0.90		1	20 A	RECEPT - 1X-113	22
23	MOTORIZED DOOR 1X-111	20 A	1			1.50			1.50	1	20 A	MOTORIZED DOOR 1X-113	24
25	RECEPT - 1X-115	20 A	1	0.90			0.90			1	20 A	RECEPT - 1X-119	26
27	MOTORIZED DOOR 1X-115	20 A	1		1.50			1.50		1	20 A	MOTORIZED DOOR 1X-119	28
29	RECEPT - 1X-117	20 A	1			0.90			0.00	1	20 A	SPARE	30
31	MOTORIZED DOOR 1X-117	20 A	1	1.50			0.00			1	20 A	SPARE	32
33	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	34
35	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	36
37	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	38
39	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	40
41	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	42
Total Load:				17280 VA	17510 VA		13480 VA						
Total Amps:				149 A	151 A		112 A						
Legend:													

1CLA1													
VOLTAGE: 120/208 Wye			PHASE: 3		WIRES: 4		LOCATION: ELECTRICAL ROO...			A.I.C. RATING: 10,000 - SEE NOTE			
MAIN TYPE: MLO						FED FROM: 1CLA			FED THRU LUGS: No				
BUSS RATING: 225 A						MOUNTING: Surface			TVSS: YES				
MCB RATING:						ENCLOSURE: Type 1			METER:				
Notes:													
CONNECTED LOAD - 12.5 KW													
DEMAND - 11.0 KW													
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	POWER CLEAN SUPPLY 1X-157	20 A	1	1.50			0.72			1	20 A	RECEPTACLE	2
3	RECEPTACLE OIT 1X-163	20 A	1		1.14			1.52		1	20 A	RECEPTACLE (MDW) 1X-165	4
5	POWER CLEAN WORKROOM 1X-164	20 A	1			1.00			0.98	1	20 A	OMNI CELL	6
7	REFRIGERATOR	20 A	1	0.80			0.36			1	20 A	OMNI CELL	8
9	ATC CONTROL PANEL	20 A	1		0.25			1.00		2	20 A	OIT 1X-163	10
11	SPARE	20 A	1			0.00			1.00	--	--	--	12
13	OIT 1X-163	20 A	2	1.00			0.00			1	20 A	SPARE	14
15	--	--	--		1.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	20
21	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	22
23	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	24
25	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	26
27	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	28
29	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			--	--	SPACE	38
39	SPACE	--	--		0.00			0.00		--	--	SPACE	40
41	SPACE	--	--			0.00			0.00	--	--	SPACE	42
Total Load:				4380 VA		4910 VA		2980 VA					
Total Amps:				38 A		43 A		25 A					
Legend:													



three inches = one foot

one and one half inch = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot

one quarter inch = one foot

one eighth inch = one foot

one sixteenth inch = one foot

1NDPH															
VOLTAGE: 480/277 Wye				PHASE: 3		WIRES: 4		LOCATION: ELECTRICAL ROOM 1X-131				A.I.C. RATING: 45,000 - SEE NOTE			
MAIN TYPE: BKR				FED FROM: XFMR VAULT RM 5				FED THRU... No				FEED THRU... No			
BUSS RATING: 800 A				MOUNTING: Surface				TVSS: YES				METER:			
MCB RATING: 800 A				ENCLOSURE: Type 1											
Notes:															
CONNECTED LOAD - 268 KW															
DEMAND - 196 KW															
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT		
1							0.00			3	100 A	SPARE	2		
3								0.00		--	--	--	4		
5									0.00	--	--	--	6		
7	ATS-LS	100 A	3	1.68			14.88			3	150 A	ATS-CB	8		
9	--	--	--		0.69			17.51		--	--	--	10		
11	--	--	--			0.62			12.58	--	--	--	12		
13	SURGE PROTECTOR	60 A	3	0.17			23.00			3	225 A	ATS-EQ	14		
15	--	--	--		0.17			23.00		--	--	--	16		
17	--	--	--			0.17			23.00	--	--	--	18		
19	SPACE	--	--		0.00		0.00			3	30 A	SPARE	20		
21	SPACE	--	--		0.00			0.00		--	--	--	22		
23	SPACE	--	--			0.00			0.00	--	--	--	24		
25	SPACE	--	--		0.00					--	--	SPACE	26		
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28		
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30		
31	SPACE	--	--		0.00		0.00			--	--	SPACE	32		
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34		
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36		
37	SPACE	--	--		0.00		0.00			--	--	SPACE	38		
39	SPACE	--	--			0.00		0.00		--	--	SPACE	40		
41	SPACE	--	--			0.00				--	--	SPACE	42		
Total Load:				39730 VA		41365 VA		36367 VA							
Total Amps:				145 A		151 A		131 A							
Legend:															

1LLA													
VOLTAGE: 120/208 Wye		PHASE: 3		WIRES: 4		LOCATION: ELECTRICAL ROOM 1X-131				A.I.C. RATING: 10,000 - SEE NOTE			
MAIN TYPE: BKR		FED FROM: XFMR TR-3				FEED THRU... No				FEED THRU... No			
BUSS RATING: 100 A		MOUNTING: Surface				TVSS: Yes				TVSS: Yes			
MCB RATING: 100 A		ENCLOSURE: Type 1				METER:				METER:			
Notes:													
CONNECTED LOAD - 2.5 KW													
DEMAND - 1.5 KW													
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING	20 A	1	0.00			0.50			1	20 A	MEDICAL GAS MONITORING PANEL	2
3	NURSE CALL	20 A	1		0.50			0.50		1	20 A	FIRE ALARM CONTROL PANEL	4
5	DOOR CONTROL	20 A	1			0.50			0.00	1	20 A	SPARE	6
7	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	8
9	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	10
11	SPACE	--	--			0.00			0.00	--	--	SPACE	12
13	SPACE	--	--	0.00			0.00			--	--	SPACE	14
15	SPACE	--	--		0.00			0.00		--	--	SPACE	16
17	SPACE	--	--			0.00			0.00	--	--	SPACE	18
19	SPACE	--	--	0.00			0.00			--	--	SPACE	20
21	SPACE	--	--		0.00			0.00		--	--	SPACE	22
23	SPACE	--	--			0.00			0.00	--	--	SPACE	24
25	SPACE	--	--	0.00			0.00			--	--	SPACE	26
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			--	--	SPACE	38
39	SPACE	--	--		0.00			0.00		--	--	SPACE	40
41	SPACE	--	--			0.00			0.00	--	--	SPACE	42
Total Load:				500 VA	1000 VA				500 VA				
Total Amps:				4 A	8 A				4 A				
Legend:													

VOLTAGE: 480/277 Wye

PHASE: 3

WIRES: 4

LOCATION: ELECTRICAL ROOM 1X-131

A.I.C. RATING: 22,000 - SEE NOTE

MAIN TYPE: BKR

FED FROM: ATS-LS

FEED THRU... No

BUSS RATING: 100 A

MOUNTING: Surface

TVSS: YES

MCB RATING: 100 A

ENCLOSURE: Type 1

METER:

Notes:

CONNECTED LOAD - 4.5 KW

DEMAND - 4.5 KW

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING CORRIDOR CIX-2	20 A	1	0.53			0.04			1	20 A	EXIT SIGNS	2
3	LIGHTING CORRIDOR CIX-2	20 A	1		0.08					1	20 A		4
5	XFMR TR-3	60 A	3			0.50			0.11	1	20 A	EGRESS LIGHTING	6
7	--	--	--	1.00			0.19			1	20 A	LIGHTING - NURSE STATION	8
9	--	--	--		0.50			0.36		1	20 A	LIGHTING	10
11	--	--	--						0.01	1	20 A	LIGHTING	12
13	SPARE	20 A	1	0.00			0.00			1	20 A	SPARE	14
15	SPARE	20 A	1		0.00			0.00		1	20 A	SPARE	16
17	SPARE	20 A	1			0.00			0.00	1	20 A	SPARE	18
19	SPACE	--	--	0.00			0.00			--	--	SPACE	20
21	SPACE	--	--		0.00			0.00		--	--	SPACE	22
23	SPACE	--	--			0.00			0.00	--	--	SPACE	24
25	SPACE	--	--	0.00			0.00			--	--	SPACE	26
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36
37	SPACE	--	--	0.00			0.00			--	--	SPACE	38
39	SPACE	--	--		0.00			0.00		--	--	SPACE	40
41	SPACE	--	--			0.00			0.00	--	--	SPACE	42
Total Load:				1764 VA		948 VA		621 VA					
Total Amps:				7 A		4 A		2 A					

Legend:

1EHA															
VOLTAGE: 480/277 Wye				PHASE: 3		WIRES: 4		LOCATION: ELECTRICAL ROOM 1X-131				A.I.C. RATING: 22,000 - SEE NOTE			
MAIN TYPE: BUSS RATING: 225 A MCB RATING: 225 A				FED FROM: ATS-EQ MOUNTING: Surface ENCLOSURE: Type 1				FEED THRU... TVSS: YES METER:							
Notes: CONNECTED LOAD - 72 KW DEMAND - 60 KW															
CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT		
1	AHU-1	110 A	3	17.00			0.00			1	0 A	SPARE	2		
3	--	--	--		17.00			0.00		1	0 A	SPARE	4		
5	--	--	--			17.00			0.00	1	0 A	SPARE	6		
7	HWP-1&2	20 A	3	1.00			6.00			3	30 A	EF-1	8		
9	--	--	--		1.00			6.00		--	--	--	10		
11	--	--	--			1.00			6.00	--	--	--	12		
13	SPACE	--	--	0.00			0.00			--	--	SPACE	14		
15	SPACE	--	--		0.00			0.00		--	--	SPACE	16		
17	SPACE	--	--			0.00			0.00	--	--	SPACE	18		
19	SPACE	--	--	0.00			0.00			--	--	SPACE	20		
21	SPACE	--	--		0.00			0.00		--	--	SPACE	22		
23	SPACE	--	--			0.00			0.00	--	--	SPACE	24		
25	SPACE	--	--	0.00			0.00			--	--	SPACE	26		
27	SPACE	--	--		0.00			0.00		--	--	SPACE	28		
29	SPACE	--	--			0.00			0.00	--	--	SPACE	30		
31	SPACE	--	--	0.00			0.00			--	--	SPACE	32		
33	SPACE	--	--		0.00			0.00		--	--	SPACE	34		
35	SPACE	--	--			0.00			0.00	--	--	SPACE	36		
37	SPACE	--	--	0.00			0.00			--	--	SPACE	38		
39	SPACE	--	--		0.00			0.00		--	--	SPACE	40		
41	SPACE	--	--			0.00			0.00	--	--	SPACE	42		
Total Load:				24000 VA	24000 VA		24000 VA								
Total Amps:				87 A	87 A		87 A								
Legend:															