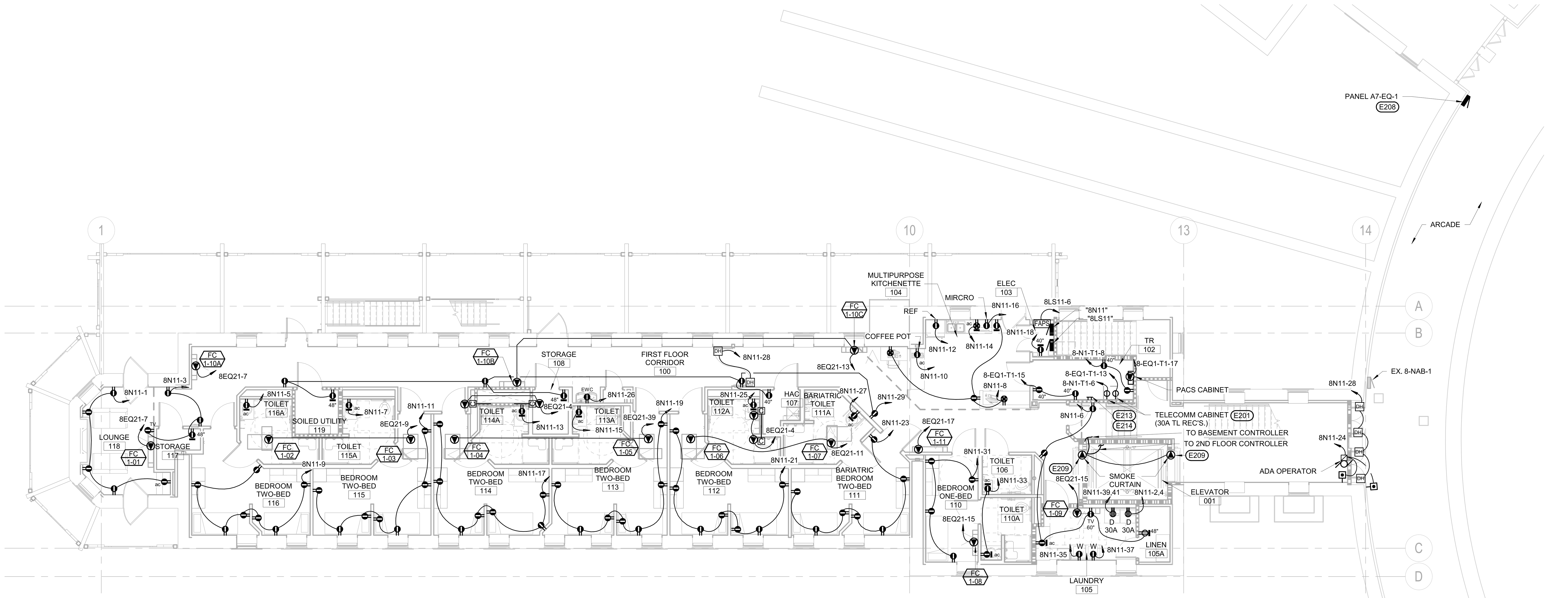


1 FIRST FLOOR POWER PLAN

1/8" = 1'-0"

NORTH

ELECTRICAL MISCELLANEOUS NOTES

A ALL FIXTURES OR WIRING DEVICES SHOWN TO BE INSTALLED WITHIN EXISTING SHEETROCK WALLS SHALL BE FISHED INTO THE WALL BY THE CONTRACTOR.

B ELECTRICAL ITEMS IN LIGHT PEN ARE EXITING. ELECTRICAL ITEMS IN DARK PEN ARE NEW OR ARE TO BE TREATED AS NOTED.

C COORDINATE ALL ROUGH-IN WITH CASEWORK AND EQUIPMENT PRIOR TO INSTALLATION.

ELECTRICAL SPECIFIC NOTES

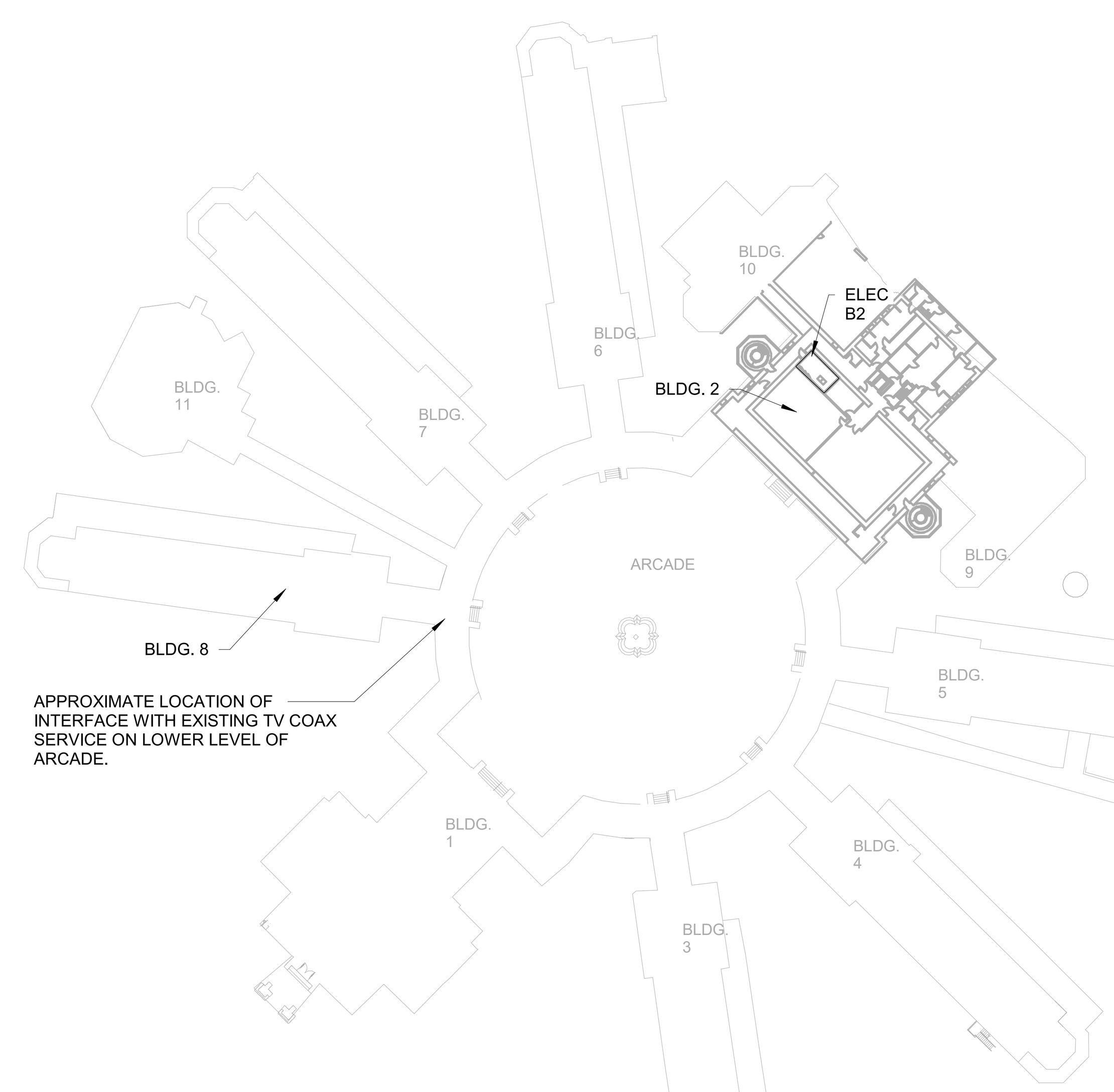
E201 CONTRACTOR TO PROVIDE NEMA L5-30R RECEPTACLES BEHIND CABINET ENCLOSURE. ONE CIRCUIT WILL BE USED TO PLUG THE UPS INTO WHICH WILL THEN FEED ONE OF THE PDUS. THE SECOND CIRCUIT WILL PROVIDE POWER DIRECTLY TO THE OTHER PDU.

E208 EXISTING PANEL A7-EQ-1 TO BE REPLACED WITH NEW PANEL AT SAME LOCATION. SEE NEW POWER ONE-LINE DIAGRAM AND NEW PANEL SCHEDULE FOR MORE DETAILS.

E209 PROVIDE POWER TO ELEVATOR SMOKE CURTAIN AS SHOWN. TIE SMOKE CURTAIN INTO FIRE ALARM SYSTEM SO THAT CURTAIN WILL DEPLOY WHEN SMOKE IS SENSED BY THE SMOKE DETECTOR IN THE ELEVATOR LOBBY.

E213 PROVIDE NEW GROUND BAR.

E214 THE FLOORING WITHIN THIS SPACE WILL BE STATIC DISSIPATIVE VINYL TILE (SDT). THE CONTRACTOR WILL NEED TO BOND THE SDT TO THE GROUND BAR WITHIN THE ROOM AS DETAILED IN THESE DOCUMENTS.



2 PROJECT KEY PLAN

1" = 60'-0"

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA
6/3/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FIRST FLOOR POWER PLAN

Approved: DOUG SPRINKLE

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS

Location: HOT SPRINGS, SOUTH DAKOTA

Issue Date: 06/03/2025 | Checked: MRS | Drawn: VLS

Project Number: VA #568A4-21-208 SGA #BR21039

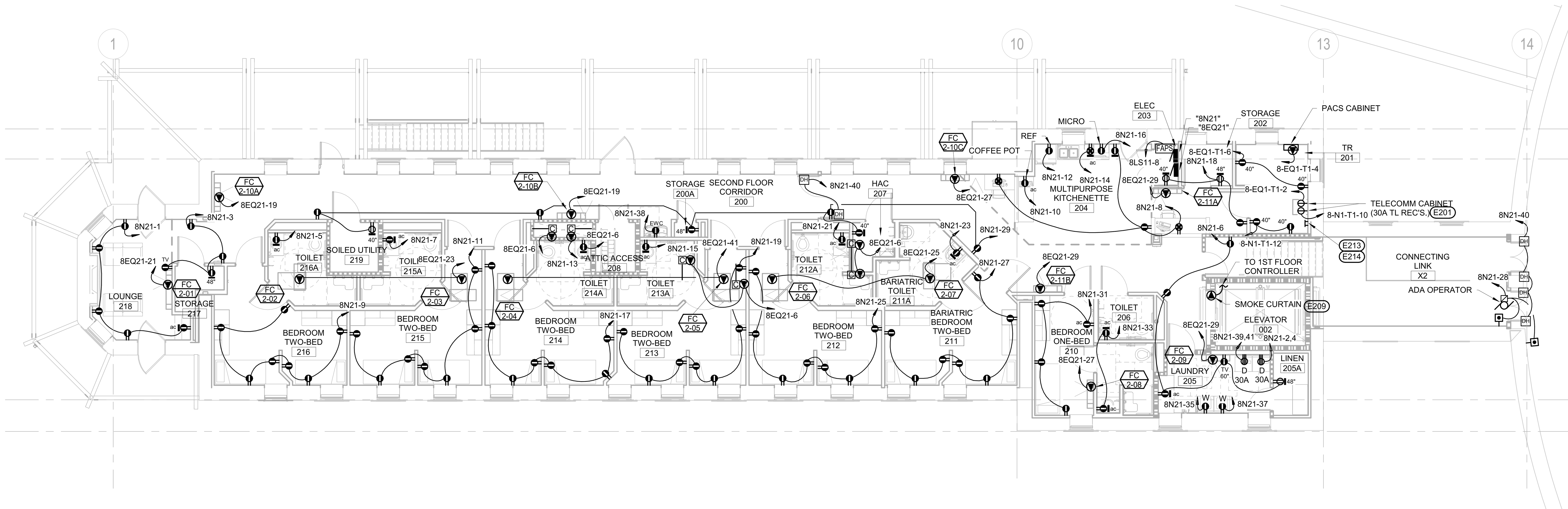
Building Number: 8

Drawing Number: EP-202

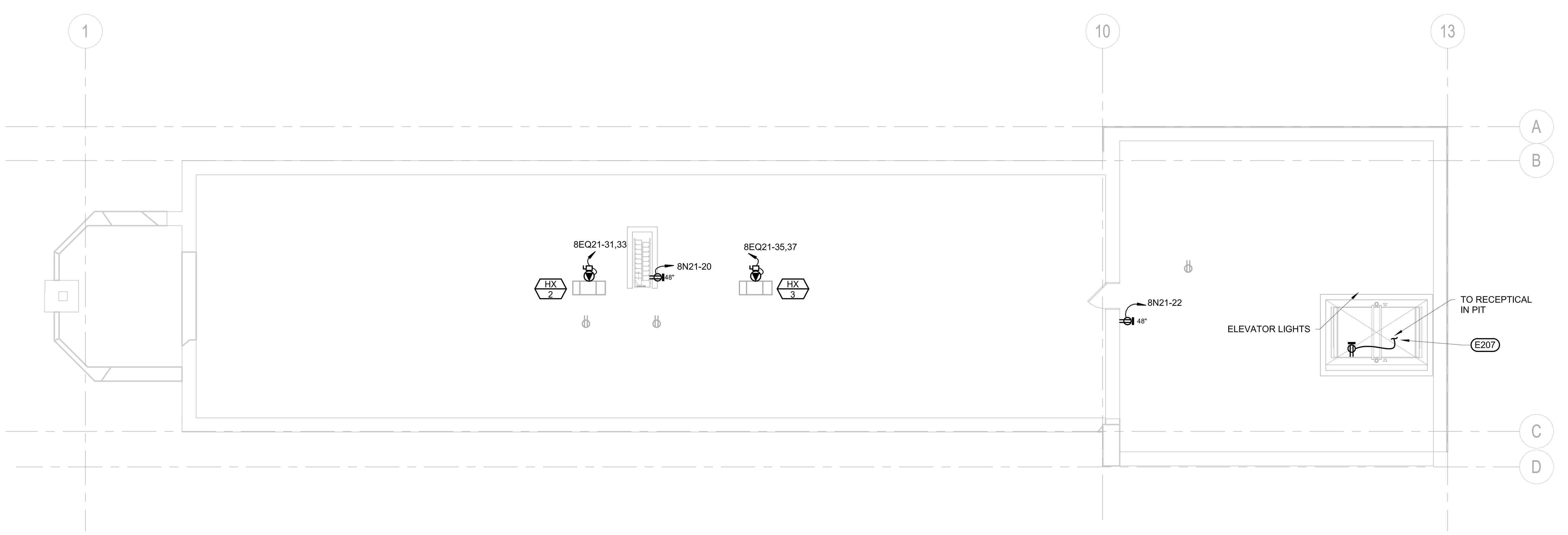
VA FORM 08 - 6231

C:\Revit Local Files\2023\BR21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vola.stephens.rvt

6/2/2025 2:25:48 PM



1 SECOND FLOOR POWER PLAN
1/8" = 1'-0"



2 ATTIC FLOOR POWER PLAN
1/8" = 1'-0"

ELECTRICAL MISCELLANEOUS NOTES

A ALL FIXTURES OR WIRING DEVICES SHOWN TO BE INSTALLED WITHIN EXISTING SHEETROCK WALLS SHALL BE FISHED INTO THE WALL BY THE CONTRACTOR.

B ELECTRICAL ITEMS IN LIGHT PEN ARE EXITING. ELECTRICAL ITEMS IN DARK PEN ARE NEW OR ARE TO BE TREATED AS NOTED.

C COORDINATE ALL ROUGH-IN WITH CASEWORK AND EQUIPMENT PRIOR TO INSTALLATION.

ELECTRICAL SPECIFIC NOTES

E201 CONTRACTOR TO PROVIDE NEMA L5-30R RECEPTACLES BEHIND CABINET ENCLOSURE. ONE CIRCUIT WILL BE USED TO PLUG THE UPS INTO WHICH WILL THEN FEED ONE OF THE PDUS. THE SECOND CIRCUIT WILL PROVIDE POWER DIRECTLY TO THE OTHER PDU.

E207 INSTALL RECEPTACLE IN ELEVATOR PIT AND AT TOP OF ELEVATOR SHAFT. COORDINATE FINAL LOCATION WITH ELEVATOR EQUIPMENT SUPPLIER.

E209 PROVIDE POWER TO ELEVATOR SMOKE CURTAIN AS SHOWN. TIE SMOKE CURTAIN INTO FIRE ALARM SYSTEM SO THAT CURTAIN WILL DEPLOY WHEN SMOKE IS SENSED BY THE SMOKE DETECTOR IN THE ELEVATOR LOBBY.

E213 PROVIDE NEW GROUND BAR.

E214 THE FLOORING WITHIN THIS SPACE WILL BE STATIC DISSIPATIVE VINYL TILE (SDT). THE CONTRACTOR WILL NEED TO BOND THE SDT TO THE GROUND BAR WITHIN THE ROOM AS DETAILED IN THESE DOCUMENTS.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

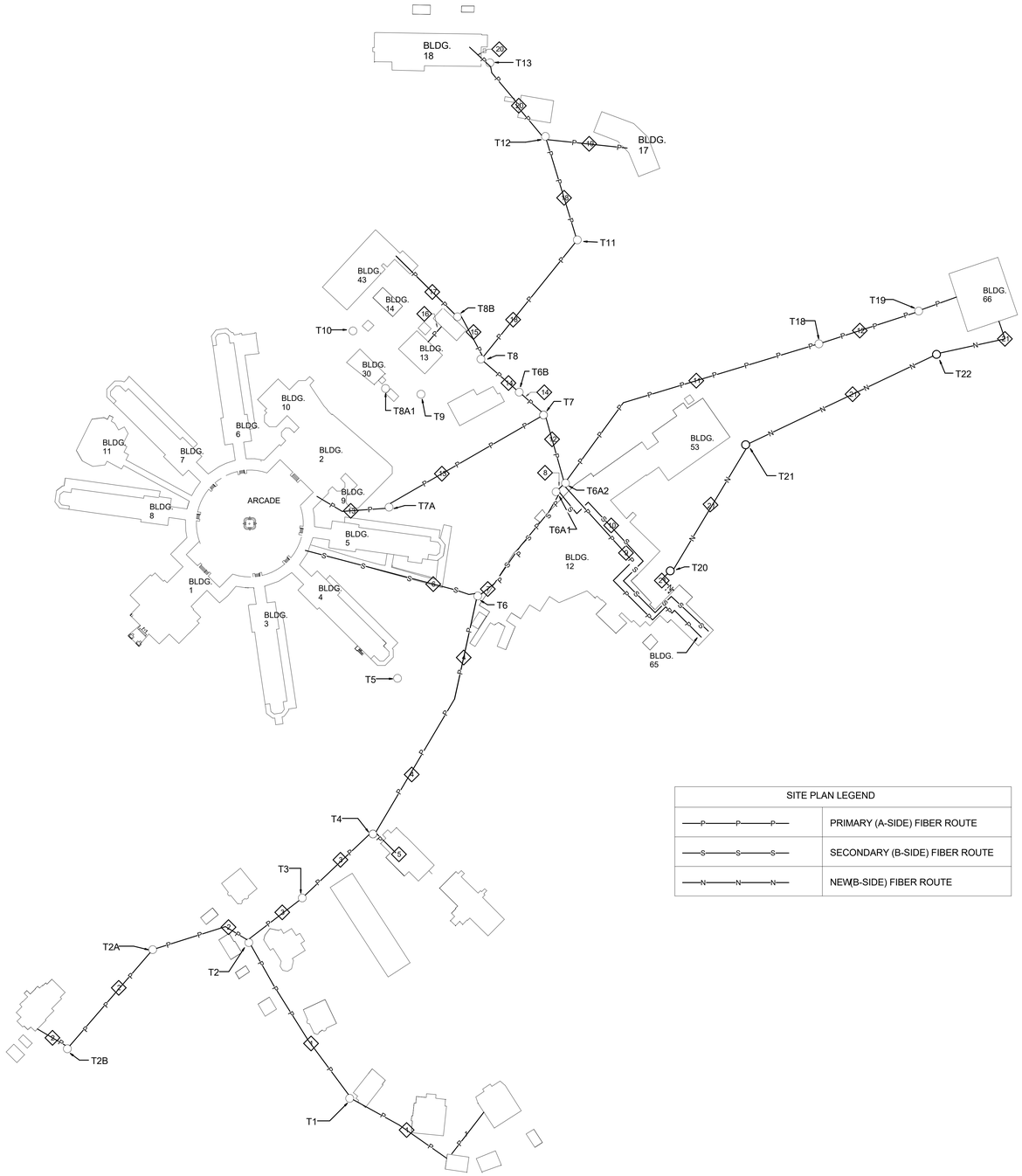
A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

STAMP

REGISTERED PROFESSIONAL ENGINEER, REG. NO. 7595, MICHAEL RAYMOND SIGMAN, SOUTH DAKOTA

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Field	Value
Drawing Title	SECOND FLOOR & ATTIC POWER PLANS
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	DOM RENOVATION FOR SEMIPRIVATE ROOMS
Project Number	VA #568A4-21-208 SGA #BR21039
Building Number	8
Approved	DOUG SPRINKLE
	FULLY SPRINKLERED
Location	HOT SPRINGS, SOUTH DAKOTA
Issue Date	06/03/2025
Checked	MRS
Drawn	VLS
Drawing Number	EP-203



1 **TELECOM SITE**
1" = 80'-0"

ELECTRICAL MISCELLANEOUS NOTES

A MANHOLE AND DUCT BANK DISTRIBUTION SYSTEM SHOWN PER RECORD DRAWINGS AND CONTRACTOR SHALL CONFIRM ROUTING PRIOR TO WORK.

B ALL CLOSETS WITH TR RACKS OR CABINETS WILL RECEIVE BOTH PRIMARY AND SECONDARY BACKBONE FIBER FROM BUILDING 65. EACH WILL FED BY ITS OWN DEDICATED FIBER FROM BUILDING 65.

C DESIGN INTENT IS TO ROUTE PRIMARY AND SECONDARY FIBER THROUGH EXISTING DUCT BANK SYSTEM TO BUILDING 8 AS INDICATED.

D PRIMARY AND SECONDARY ROUTE TO BUILDING 8 WILL CONSIST OF EXISTING CONDUIT FROM BUILDING 65 THROUGH BUILDING 12, EXISTING UNDERGROUND PATH INTO CENTRAL ARCADE FROM BUILDING 12, AND CONDUIT DISTRIBUTION AROUND ARCADE TO BUILDING 8.

FIBER PATHWAY SCHEDULE	
ROUTE	CONTENTS
1	
2	
3	
4	
5	
6	B8: S
7	B8: S
8	
9	B8: P
10	B8: S
11	
12	B8: P
13	B8: P
14	
15	
16	
17	
18	
19	
20	
21	

SITE PLAN LEGEND	
—P—P—P—	PRIMARY (A-SIDE) FIBER ROUTE
—S—S—S—	SECONDARY (B-SIDE) FIBER ROUTE
—N—N—N—	NEW(B-SIDE) FIBER ROUTE

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER

Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

WEST PLAINS ENGINEERING, INC.

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA
6/3/2025

Office of Construction and Facilities Management

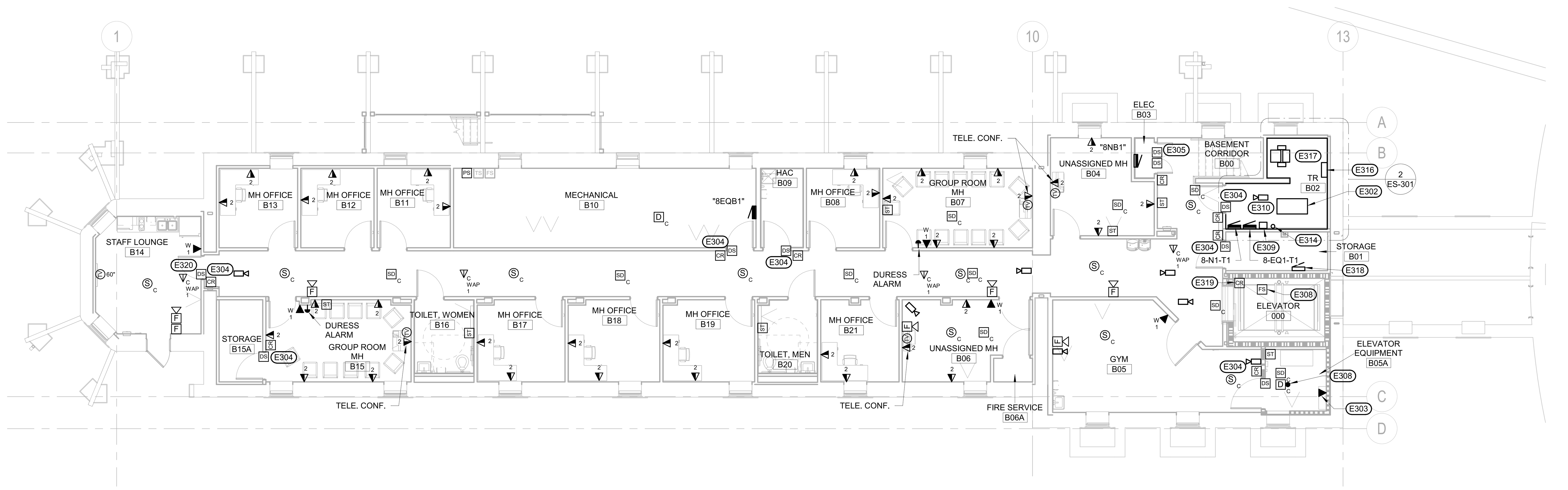
VA U.S. Department of Veterans Affairs

Drawing Title	FIBER SITE PLAN
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	DOM RENOVATION FOR SEMIPRIVATE ROOMS
Project Number	VA #568A4-21-208 SGA #BR21039
Building Number	8
Approved	DOUG SPRINKLE
	FULLY SPRINKLERED
Location	HOT SPRINGS, SOUTH DAKOTA
Issue Date	06/03/2025
Checked	MRS
Drawn	VLS
Drawing Number	ES-001

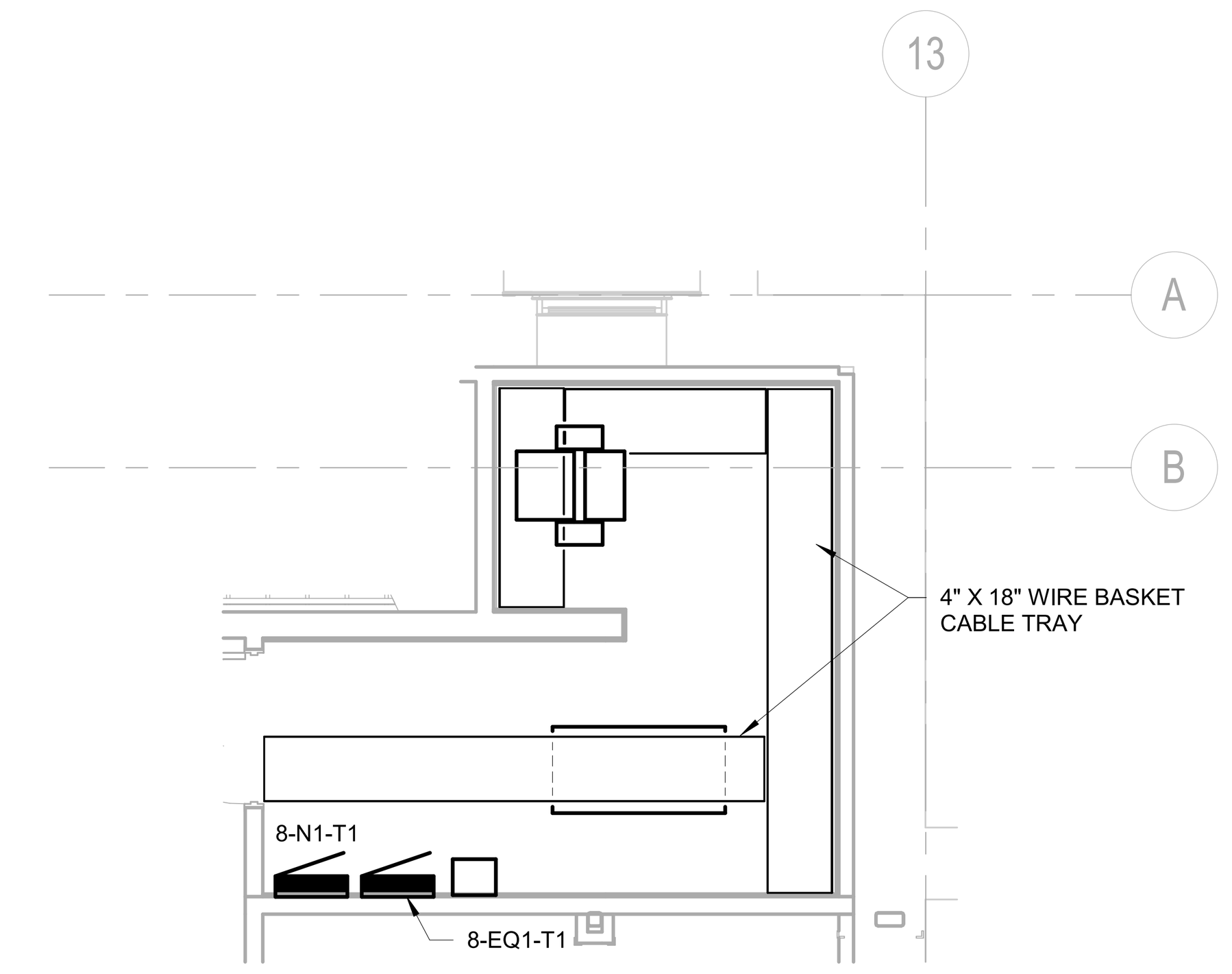
VA FORM 08 - 6231

6/2/2025 2:25:50 PM

C:\Revit Local Files\22238R21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vdoi.stephens.rvt



1 BASEMENT SIGNAL PLAN
1/8" = 1'-0"
NORTH



2 ENLARGED BASEMENT CABLE TRAY PLAN
1/4" = 1'-0"
NORTH

ELECTRICAL MISCELLANEOUS NOTES

A ALL FIXTURES OR WIRING DEVICES SHOWN TO BE INSTALLED WITHIN EXISTING SHEETROCK WALLS SHALL BE FISHED INTO THE WALL BY THE CONTRACTOR.

B ELECTRICAL ITEMS IN LIGHT PEN ARE EXITING. ELECTRICAL ITEMS IN DARK PEN ARE NEW OR ARE TO BE TREATED AS NOTED.

C COORDINATE ALL ROUGH-IN WITH CASEWORK AND EQUIPMENT PRIOR TO INSTALLATION.

D THE EXISTING FIRE ALARM SYSTEM IS A JOHNSON CONTROLS IFC SYSTEM. ALL WORK ON THE FIRE ALARM SYSTEM SHALL BE PERFORMED BY A JOHNSON CONTROLS NICET LEVEL II TECHNICIAN. ALL NEW FIRE ALARM WIRING IS TO BE INSTALLED IN NEW CONDUIT. ALL DEVICES SUPPLIED AS PART OF THIS PROJECT SHALL BE NEW AND MUST BE UL LISTED FOR USE WITH EXISTING CONTROL PANEL.

E FIRE ALARM CONTRACTOR TO PROVIDE RELAYS AT SMOKE AND COMBINATION SMOKE/FIRE DAMPERS TO CLOSE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

F ALL NEW DATA, TELEPHONE, COMBINATION DATA/TELEPHONE, WIRELESS ACCESS POINTS (WAPS) AND VIDEO SURVEILLANCE CAMERA CABLING WORK THAT IS PART OF THIS PROJECT WILL BE CAT 6A AND INSTALLED AND TERMINATED AS OUTLINED IN THE SPECIFICATION ON PLANS ON SHEET EJ-404. ALL NEW TELEPHONE AND DATA CABLING SHALL BE ROUTED TO THE NEW TR ROOMS AND TERMINATED AT PATCH PANELS. VIDEO SURVEILLANCE CABLING WHALL BE ROUTED TO THE VIDEO SURVEILLANCE RACK IN TR B02.

ELECTRICAL SPECIFIC NOTES

E302 CONTRACTOR TO RELOCATE EXISTING RACK FROM EXISTING 1ST FLOOR TR ROOM TO THIS NEW TR ROOM. EXISTING RACK IS AN ORTRONICS MODEL MM2073038-W WITH CABLE MANAGEMENT. THIS RACK HAS EXISTING FIBER PATCH CASSETTES THAT ACCOMMODATE THE TERMINATION OF 48 SINGLE MODE FIBERS THAT SERVE THE RACK; A 24 PORT CAT 6A PATCH PANEL FOR SERVICE TO EXISTING WIRELESS ACCESS POINTS (WAPS) AND A 48 PORT CAT 6A PATCH PANEL FOR SERVICE TO EXISTING TELECOM/DATA JACKS WITHIN BUILDING 8. THE CONTRACTOR TO PROVIDE ADDITIONAL CAT 6A PATCH PANELS TO BE LEVITON E2X1A-S48 WITH REAR CABLE MANAGEMENT AND ANGLED PANEL COVER, TO MATCH EXISTING PANELS BEING USED BY THE OWNER. PROVIDE QUANTITY AS NEEDED FOR CONNECTION OF ALL DROPS SHOWN IN THE BASEMENT PLUS 20% SPARES. THIS RACK IS CURRENTLY FED BY TWO SEPARATE FIBER CABLES ROUTED USING TWO INDEPENDENT PATHWAYS, EACH CONSISTING OF 24 FIBERS, THAT ORIGINATE FROM BUILDING 65. THIS FIBER IS ROUTED BY WAY CONDUIT THROUGH THE ARCADE AND THEN TO THE RACK. THESE FIBER CABLES WILL NEED TO BE PULLED BACK TO EXISTING PULL BOXES LOCATED IN THE ARCADE. THE CONTRACTOR WILL THEN NEED TO PROVIDE NEW 2" CONDUITS AS NOTED ELSEWHERE. CONTRACTOR TO PROVIDE 10 - 10' SINGLE MODE FIBER PATCH CORDS PRE-TERMINATED WITH LC CONNECTORS. CONTRACTOR TO PROVIDE 96 - 30' SINGLE MODE FIBER PATCH CORDS PRE-TERMINATED WITH LC CONNECTORS. CONTRACTOR TO ALSO PROVIDE ONE 7' CAT 6A PATCH CORD FOR THE CLOSET AND ONE 10' CAT 6A PATCH CORD FOR THE WORKSTATION END FOR EACH DROP INSTALLED.

E303 PROVIDE CAT 6A CABLE TO ELEVATOR CONTROL PANEL FOR COMMUNICATIONS REQUIREMENTS IN THE ELEVATOR CAB. CABLE SHALL BE RUN TO TR B02.

E304 PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER SINGLE DOOR ACCESS CONTROL DETAIL.

E305 PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER DOUBLE DOOR ACCESS CONTROL DETAIL.

E308 PROVIDE RELAYS WITH HEAT DETECTOR AND FLOW SWITCH TO INTERFACE WITH ELEVATOR SHUNT-TRIP DISCONNECT TO SHUNT POWER UPON ACTIVATION OF EITHER DEVICE.

E309 NEW LOCATION FOR ANALOG TERMINATION CABINET THAT IS BEING RELOCATED. THE 25 PAIR CABLE SERVING THE EXISTING IT CLOSET IS BE PULLED BACK TO ARCADE AND NEW CONDUIT PROVIDED FROM THE ARCADE TO THE NEW CABINET LOCATION FOR RE-ROUTING THE CABLE.

E310 NEW LOCATION FOR RELOCATED SECURITY CAMERA.

E314 CONTRACTOR TO PROVIDE 4" SLEEVE BETWEEN BASEMENT AND FIRST FLOOR. PROVIDE SMOKE AND FIRE RATING AROUND SLEEVE. PROVIDE FIRE PUTTY ON INSIDE OF CONDUIT.

E316 NEW LOCATION FOR PHYSICAL ACCESS CONTROL SYSTEM (PACS) CABINET AND ASSOCIATED EQUIPMENT TO SERVE BUILDING 8.

E317 NEW VIDEO SURVEILLANCE RACK TO BE CHATSWORTH MODEL 46353-E03 OR EQUAL WITH TWO VERTICAL CABLE MANAGEMENT CHATSWORTH MODEL 40099-703 OR EQUAL. CONTRACTOR TO ALSO PROVIDE TWO VERTICAL PDUS PER RACK EQUAL TO CHATSWORTH E1-2002-C. PROVIDE MOUNTING BRACKETS FOR CONNECTION TO RACKS. PROVIDE WITH RACK MOUNTED UPS EQUAL TO EATON MODEL 5PX3000RT3UNG2 OR EQUAL WITH L5-30P INPUT AND 1-L5-30R AND 6-5-20R OUTPUT RECEPTACLES. PROVIDE TWO L5-30R RECEPTACLES FOR UPS/POWER STRIPS TO PLUG INTO. THE CONTRACTOR TO PROVIDE CAT 6A PATCH PANEL LEVITON MODEL E2X1A-S48 WITH REAR CABLE MANAGEMENT AND ANGLED PANEL COVER TO MATCH EXISTING PATCH PANELS BEING USED BY THE OWNER. PROVIDE FOR CONDUIT AND SINGLE MODE FIBER AS REQUIRED FOR EXTENSION AND CONNECTION TO THE EXISTING VIDEO SURVEILLANCE SYSTEM. PROVIDE THE NECESSARY SINGLE MODE FIBER CASSETTES, AND CASSETTE ENCLOSURES AS NECESSARY TO PROVIDE A COMPLETE AND OPERATIONS VIDEO SURVEILLANCE SYSTEM THAT IS INTEGRATED WITH THE EXISTING CAMPUS WIDE VIDEO SURVEILLANCE SYSTEM.

E318 PROVIDE FIRE ALARM INTERFACE OF SMOKE CURTAIN IN FRONT OF ELEVATOR TO PROVIDE SIGNAL FOR CURTAIN TO CLOSE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

E319 PROVIDE CARD READER WITHIN ELEVATOR FOR CONTROLLED ACCESS TO BASEMENT.

E320 THE SECURITY SYSTEM FOR THIS DOOR WILL REQUIRE THE DOOR TO UNLOCK WITH FREE EGRESS DURING ACTIVATION OF THE FIRE ALARM SYSTEM AS THIS IS A REQUIRED EXIT DURING EMERGENCY.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

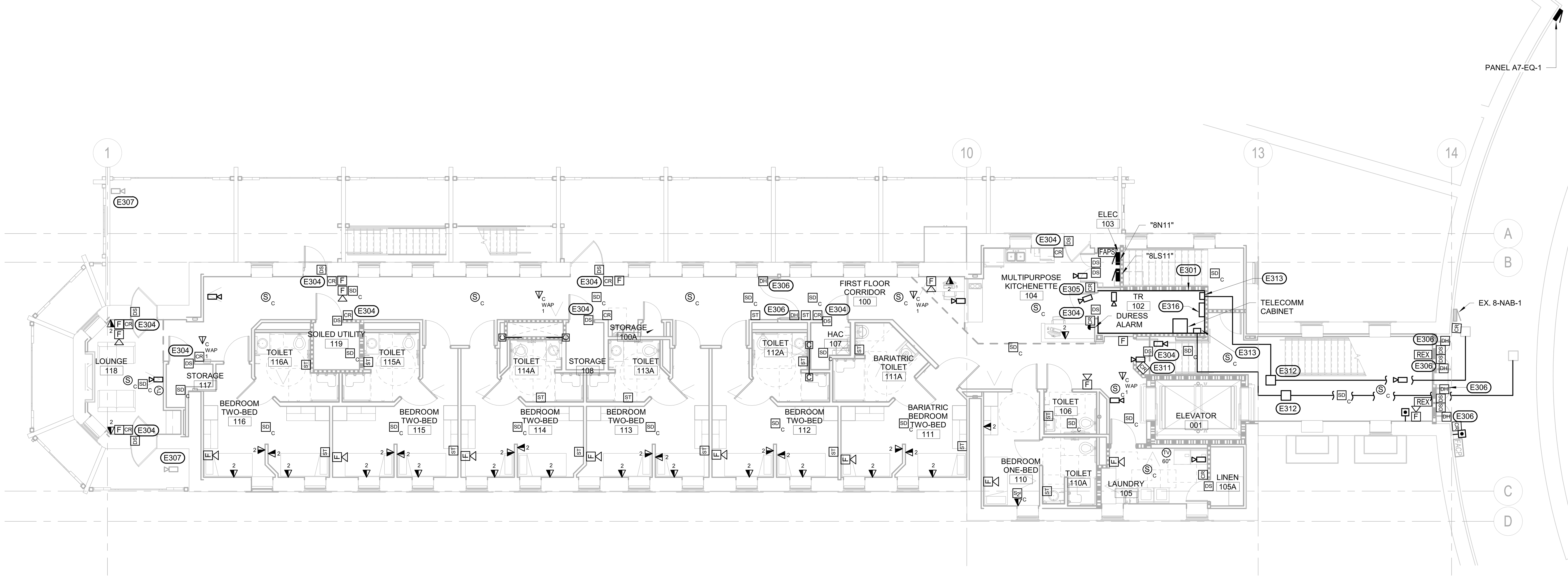
STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: BASEMENT SIGNAL PLAN	Phase: BID DOCUMENTS	Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS	Project Number: VA #568A4-21-208 SGA #BR21039
			Building Number: 8
Approved: DOUG SPRINKLE	FULLY SPRINKLERED	Location: HOT SPRINGS, SOUTH DAKOTA	Drawing Number: ES-301
		Issue Date: 06/03/2025 / Checked: MRS / Drawn: VLS	

VA FORM 08 - 6231



1 FIRST FLOOR SIGNAL PLAN

1/8" = 1'-0"

NORTH

ELECTRICAL MISCELLANEOUS NOTES

A ALL FIXTURES OR WIRING DEVICES SHOWN TO BE INSTALLED WITHIN EXISTING SHEETROCK WALLS SHALL BE FISHED INTO THE WALL BY THE CONTRACTOR.

B ELECTRICAL ITEMS IN LIGHT PEN ARE EXITING. ELECTRICAL ITEMS IN DARK PEN ARE NEW OR ARE TO BE TREATED AS NOTED.

C COORDINATE ALL ROUGH-IN WITH CASEWORK AND EQUIPMENT PRIOR TO INSTALLATION.

D THE EXISTING FIRE ALARM SYSTEM IS A JOHNSON CONTROLS IFC SYSTEM. ALL WORK ON THE FIRE ALARM SYSTEM SHALL BE PERFORMED BY A JOHNSON CONTROLS NICET LEVEL II TECHNICIAN. ALL NEW FIRE ALARM WIRING IS TO BE INSTALLED IN NEW CONDUIT. ALL DEVICES SUPPLIED AS PART OF THIS PROJECT SHALL BE NEW AND MUST BE UL LISTED FOR USE WITH EXISTING CONTROL PANEL.

E FIRE ALARM CONTRACTOR TO PROVIDE RELAYS AT SMOKE AND COMBINATION SMOKE/FIRE DAMPERS TO CLOSE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

F ALL NEW DATA, TELEPHONE, COMBINATION DATA/TELEPHONE, WIRELESS ACCESS POINTS (WAPS) AND VIDEO SURVEILLANCE CAMERA CABLING WORK THAT IS PART OF THIS PROJECT WILL BE CAT 6A AND INSTALLED AND TERMINATED AS OUTLINED IN THE SPECIFICATION ON PLANS ON SHEET EJ-404. ALL NEW TELEPHONE AND DATA CABLING SHALL BE ROUTED TO THE NEW TR ROOMS AND TERMINATED AT PATCH PANELS. VIDEO SURVEILLANCE CABLING WHALL BE ROUTED TO THE VIDEO SURVEILLANCE RACK IN TR B02.

ELECTRICAL SPECIFIC NOTES

#	
E301	CONTRACTOR TO LINE INSIDE OF TR ROOM WITH 3/4" FIRE RATED PLYWOOD AND PAINT GREY WITH FIRE RATED PAINT. PLYWOOD SHALL BE HUNG WITH 8' EDGE RUNNING VERTICALLY AND SHALL BE HELD OFF THE FLOOR BY 2".
E304	PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER SINGLE DOOR ACCESS CONTROL DETAIL.
E305	PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER DOUBLE DOOR ACCESS CONTROL DETAIL.
E306	INTERCONNECT DOOR HOLDS INTO FIRE ALARM SYSTEM TO RELEASE UPON FIRE ALARM SYSTEM ACTIVATION.
E307	EXISTING CAMERA IS TO REMAIN IN PLACE. PROVIDE NEW CAT 6A CABLE FROM CAMERA BACK TO TR ROOM. TERMINATE AT BOTH ENDS.
E311	PROVIDE A CHATSWORTH MODEL 11996-E48 CABINET W/ LOCKS FOR FRONT AND BACK; FAN AND FILTER KIT MODEL 40972-001701 AND TWO METERED POWER STRIPS EQUAL TO EATON PDUMH30. PROVIDE 4 LEVITON E2X1A-S24 OR EQUAL PATCH PANELS WITH REAR CABLE MANAGEMENT AND ANGLED PANEL COVER OR 2 EQUIVALENT 48 PORT PATCH PANELS. PROVIDE WITH RACK MOUNTED UPS EQUAL TO EATON MODEL 5PX3000RT3UNG2 OR EQUAL WITH L5-30P INPUT AND 1-L5-30R AND 6-5-20R OUTPUT RECEPTACLES. PROVIDE TWO L5-30R RECEPTACLES FOR UPS/POWER STRIPS TO PLUG INTO. CONTRACTOR TO PROVIDE TWO INDEPENDENT RUNS OF FIBER EACH CONSISTING OF A 24 STRAND SINGLE MODE (OS2) FIBER CABLE TO THIS CABINET. THIS FIBER WILL ORIGINATE FROM BUILDING 65 AND WILL BE ROUTED THROUGH THE EXISTING RACEWAY SYSTEM AS IDENTIFIED IN THESE PLANS TO THE TWO PULL BOXES LOCATED AND SHOWN IN THE ARCADE AND EXTEND NEW CONDUITS AS NOTED ELSEWHERE. PROVIDE ASSOCIATED 12 FIBER CASSETTES, EQUAL TO LEVITON HDX ENTERPRISE MTP WITH LC CONNECTORS REAR AND LC CONNECTORS FRONT. PROVIDE QUANTITY OF CASSETTES FOR TERMINATION OF ALL FIBER STRANDS PLUS 25% SPARE TERMINATIONS. PROVIDE FIBER DISTRIBUTION CABINET EQUAL TO LEVITON ANGLED OPT-X UHDX FOR MOUNTING OF CASSETTES WITHIN CABINET. PROVIDE FIBER CASSETTES AND CABINETS FOR TERMINATION OF FIBER AT BOTH ENDS. CONTRACTOR TO ALSO PROVIDE ONE 7' CAT 6A PATCH CORD FOR THE CLOSET AND ONE 10' CAT 6A PATCH CORD FOR THE WORKSTATION END FOR EACH DROP INSTALLED.
E312	CONTRACTOR TO INTERCEPT EXISTING 2" FIBER CONDUITS AT THESE APPROXIMATE LOCATIONS. PROVIDE NEW PULL BOXES AT THESE LOCATIONS. EXTEND NEW 2" CONDUIT ALONG THIS APPROXIMATE PATHWAY TO 2 NEW PULL BOXES IN NEW TR 102. ALL FIBER FOR THE NEW TR CLOSETS WILL BE ROUTED THRU THIS CONDUIT.
E313	CONTRACTOR TO PROVIDE NEW PULL BOXES NEAR CEILING OF TR 102. PROVIDE 3 NEW 2" CONDUITS FROM EACH OF THESE PULL BOXES FOR A TOTAL OF 6 NEW 2" CONDUITS. 2 CONDUITS WILL EXTEND TO THE BASEMENT TR B02 TO REROUTE EXISTING FIBER TO THE RACK IN TR B02. 2 CONDUITS WILL EXTEND NEW FIBER TO THE CABINET IN THIS ROOM. 2 CONDUITS WILL EXTEND NEW FIBER TO THE CABINET IN TR 201.
E316	NEW LOCATION FOR PHYSICAL ACCESS CONTROL SYSTEM (PACS) CABINET AND ASSOCIATED EQUIPMENT TO SERVE BUILDING 8.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

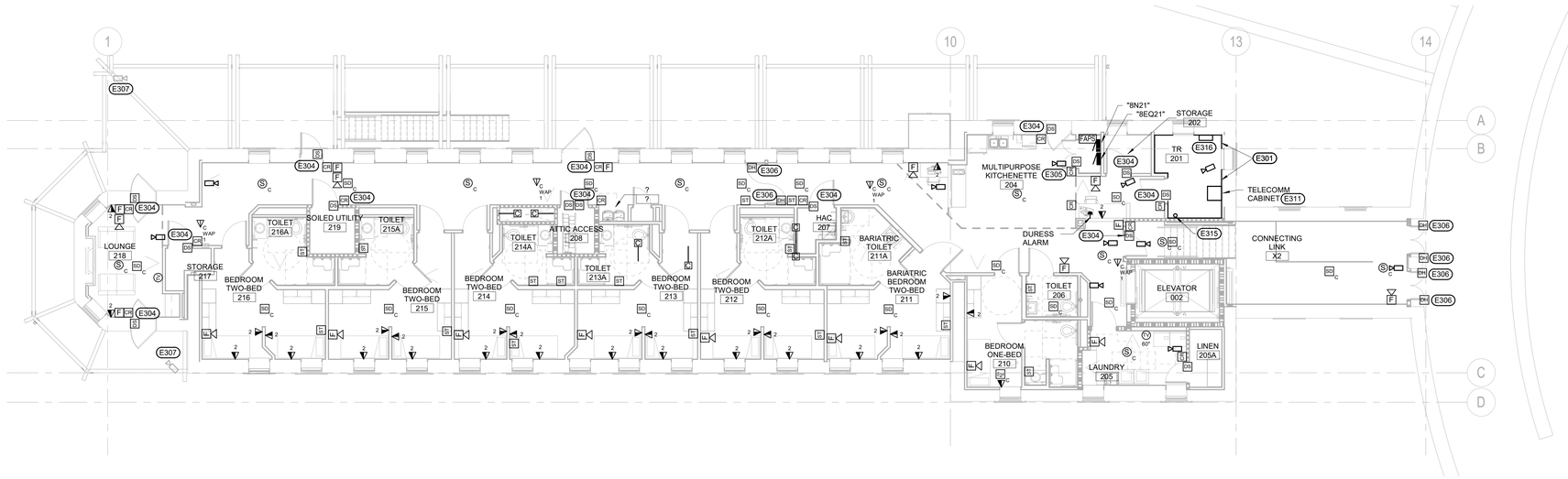
STAMP
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL SIGMAN
SOUTH DAKOTA

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	FIRST FLOOR SIGNAL PLAN
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	DOM RENOVATION FOR SEMIPRIVATE ROOMS
Project Number	VA #568A4-21-208 SGA #BR21039
Building Number	8
Approved	DOUG SPRINKLE
	FULLY SPRINKLERED
Location	HOT SPRINGS, SOUTH DAKOTA
Issue Date	06/03/2025
Checked	MRS
Drawn	VLS
Drawing Number	ES-302

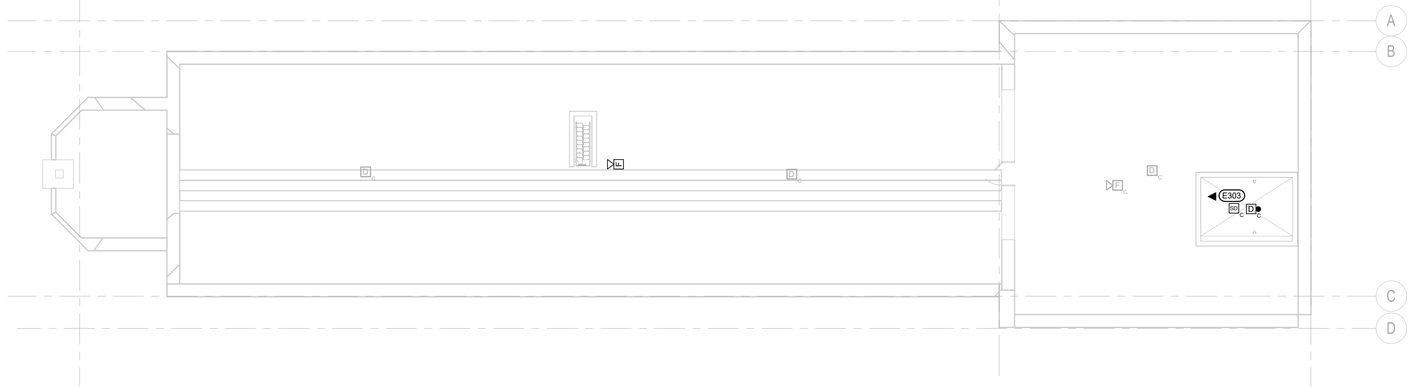
VA FORM 08 - 6231

6/2/2025 2:25:52 PM



1 SECOND FLOOR SIGNAL PLAN

1/8" = 1'-0"



2 ATTIC SIGNAL PLAN

1/8" = 1'-0"

ELECTRICAL MISCELLANEOUS NOTES

A ALL FIXTURES OR WIRING DEVICES SHOWN TO BE INSTALLED WITHIN EXISTING SHEETROCK WALLS SHALL BE FISHED INTO THE WALL BY THE CONTRACTOR.

B ELECTRICAL ITEMS IN LIGHT PEN ARE EXITING. ELECTRICAL ITEMS IN DARK PEN ARE NEW OR ARE TO BE TREATED AS NOTED.

C COORDINATE ALL ROUGH-IN WITH CASEWORK AND EQUIPMENT PRIOR TO INSTALLATION.

D THE EXISTING FIRE ALARM SYSTEM IS A JOHNSON CONTROLS IFC SYSTEM. ALL WORK ON THE FIRE ALARM SYSTEM SHALL BE PERFORMED BY A JOHNSON CONTROLS NICET LEVEL II TECHNICIAN. ALL NEW FIRE ALARM WIRING IS TO BE INSTALLED IN NEW CONDUIT. ALL DEVICES SUPPLIED AS PART OF THIS PROJECT SHALL BE NEW AND MUST BE UL LISTED FOR USE WITH EXISTING CONTROL PANEL.

E FIRE ALARM CONTRACTOR TO PROVIDE RELAYS AT SMOKE AND COMBINATION SMOKE/FIRE DAMPERS TO CLOSE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.

F ALL NEW DATA, TELEPHONE, COMBINATION DATA/TELEPHONE, WIRELESS ACCESS POINTS (WAPS) AND VIDEO SURVEILLANCE CAMERA CABLING WORK THAT IS PART OF THIS PROJECT WILL BE CAT 6A AND INSTALLED AND TERMINATED AS OUTLINED IN THE SPECIFICATION ON PLANS ON SHEET EJ-404. ALL NEW TELEPHONE AND DATA CABLING SHALL BE ROUTED TO THE NEW TR ROOMS AND TERMINATED AT PATCH PANELS. VIDEO SURVEILLANCE CABLING WHALL BE ROUTED TO THE VIDEO SURVEILLANCE RACK IN TR B02.

(#) ELECTRICAL SPECIFIC NOTES

E301 CONTRACTOR TO LINE INSIDE OF TR ROOM WITH 3/4" FIRE RATED PLYWOOD AND PAINT GREY WITH FIRE RATED PAINT. PLYWOOD SHALL BE HUNG WITH 8' EDGE RUNNING VERTICALLY AND SHALL BE HELD OFF THE FLOOR BY 2".

E303 PROVIDE CAT 6A CABLE TO ELEVATOR CONTROL PANEL FOR COMMUNICATIONS REQUIREMENTS IN THE ELEVATOR CAB. CABLE SHALL BE RUN TO TR B02.

E304 PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER SINGLE DOOR ACCESS CONTROL DETAIL.

E305 PROVIDE ACCESS CONTROL ROUGH-IN TO DOOR AS PER DOUBLE DOOR ACCESS CONTROL DETAIL.

E306 INTERCONNECT DOOR HOLDS INTO FIRE ALARM SYSTEM TO RELEASE UPON FIRE ALARM SYSTEM ACTIVATION.

E307 EXISTING CAMERA IS TO REMAIN IN PLACE. PROVIDE NEW CAT 6A CABLE FROM CAMERA BACK TO TR ROOM. TERMINATE AT BOTH ENDS.

E311 PROVIDE A CHATSWORTH MODEL 11996-E48 CABINET W/ LOCKS FOR FRONT AND BACK. FAN AND FILTER KIT MODEL 40972-001701 AND TWO METERED POWER STRIPS EQUAL TO EATON PDUMH30. PROVIDE 4 LEVITON E2X1A-S24 OR EQUAL PATCH PANELS WITH REAR CABLE MANAGEMENT AND ANGLED PANEL COVER OR 2 EQUIVALENT 48 PORT PATCH PANELS. PROVIDE WITH RACK MOUNTED UPS EQUAL TO EATON MODEL 5PX3000RT3UNG2 OR EQUAL WITH L5-30P INPUT AND 1-L5-30R AND 6-5-20R OUTPUT RECEPTACLES. PROVIDE TWO L5-30R RECEPTACLES FOR UPS/POWER STRIPS TO PLUG INTO. CONTRACTOR TO PROVIDE TWO INDEPENDENT RUNS OF FIBER EACH CONSISTING OF A 24 STRAND SINGLE MODE (OS2) FIBER CABLE TO THIS CABINET. THIS FIBER WILL ORIGINATE FROM BUILDING 65 AND WILL BE ROUTED THROUGH THE EXISTING RACEWAY SYSTEM AS IDENTIFIED IN THESE PLANS TO THE TWO PULL BOXES LOCATED AND SHOWN IN THE ARCADE AND EXTEND NEW CONDUITS AS NOTED ELSEWHERE. PROVIDE ASSOCIATED 12 FIBER CASSETTES, EQUAL TO LEVITON HDX ENTERPRISE MTP WITH LC CONNECTORS REAR AND LC CONNECTORS FRONT. PROVIDE QUANTITY OF CASSETTES FOR TERMINATION OF ALL FIBER STRANDS PLUS 25% SPARE TERMINATIONS. PROVIDE FIBER DISTRIBUTION CABINET EQUAL TO LEVITON ANGLED OPT-X UHDX FOR MOUNTING OF CASSETTES WITHIN CABINET. PROVIDE FIBER CASSETTES AND CABINETS FOR TERMINATION OF FIBER AT BOTH ENDS. CONTRACTOR TO ALSO PROVIDE ONE 7' CAT 6A PATCH CORD FOR THE CLOSET AND ONE 10' CAT 6A PATCH CORD FOR THE WORKSTATION END FOR EACH DROP INSTALLED.

E315 CONTRACTOR TO PROVIDE 4" SLEEVE BETWEEN FIRST FLOOR AND SECOND FLOOR. PROVIDE SMOKE AND FIRE RATING AROUND SLEEVE. PROVIDE FIRE PUTTY ON INSIDE OF CONDUIT.

E316 NEW LOCATION FOR PHYSICAL ACCESS CONTROL SYSTEM (PACS) CABINET AND ASSOCIATED EQUIPMENT TO SERVE BUILDING 8.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com
STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA
6/3/2025

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: SECOND FLOOR & ATTIC SIGNAL PLANS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: DOUG SPRINKLE	FULLY SPRINKLERED

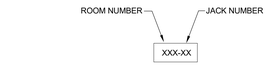
Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS			Project Number: VA #568A4-21-208 SGA #BR21039
			Building Number: 8
Location: HOT SPRINGS, SOUTH DAKOTA			Drawing Number: ES-303
Issue Date: 06/03/2025	Checked: MRS	Drawn: VLS	

VA FORM 08 - 6231

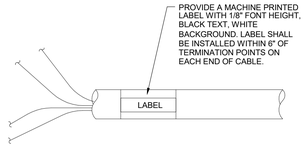
C:\Revit Local Files\22238R21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vdoi.stephens.rvt

6/2/2025 2:55:53 PM

NOTE:
A. LABELING SHALL MEET REQUIREMENTS OF VA ISTS, LATEST PUBLISHED VERSION AT TIME OF CONSTRUCTION, AND OF ANSI/TIA-606-D.

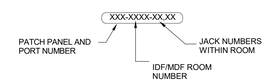


1 TYPICAL PATCH PANEL LABLING FORMAT DETAIL
NO SCALE

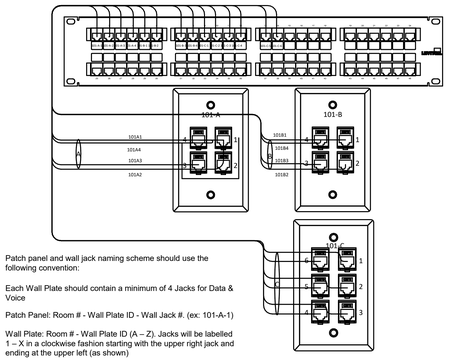


2 TYPICAL HORIZONTAL CABLE LABEL
NO SCALE

NOTE:
A. LABELING SHALL MEET REQUIREMENTS OF VA ISTS, LATEST PUBLISHED VERSION AT TIME OF CONSTRUCTION, AND OF ANSI/TIA-606D.



3 TELECOMMUNICATION OUTLET LABEL IDENTIFICATION FORMAT (TYPICAL) DETAIL
NO SCALE



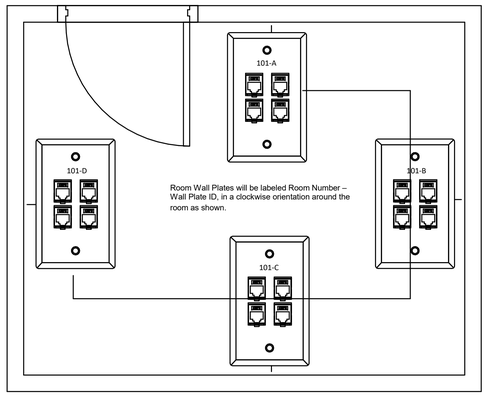
Patch panel and wall jack naming scheme should use the following convention:

Each Wall Plate should contain a minimum of 4 Jacks for Data & Voice

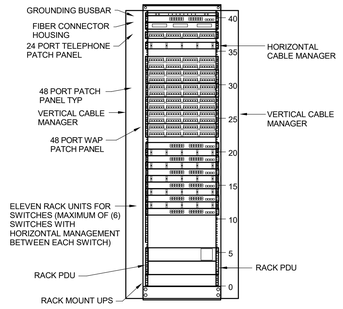
Patch Panel: Room # - Wall Plate ID - Wall Jack #. (ex: 101-A-1)

Wall Plate: Room # - Wall Plate ID (A – Z). Jacks will be labelled 1 – X in a clockwise fashion starting with the upper right jack and ending at the upper left (as shown)

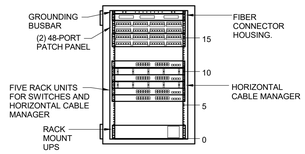
4 PATCH PANEL & WALL JACK LABELING SCHEME
NO SCALE



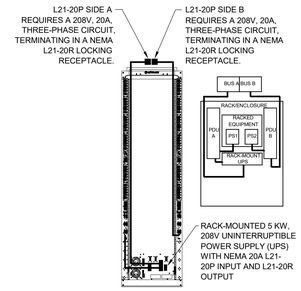
5 ROOM WALL PLATE LABELING SCHEME
NO SCALE



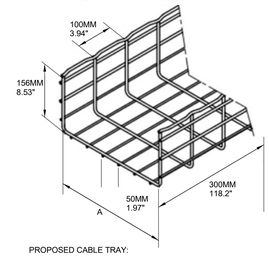
6 TYPICAL RACK ELEVATION VIEW
NO SCALE



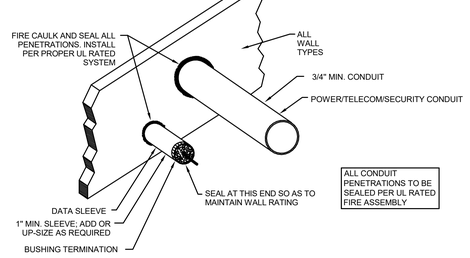
7 TYPICAL CABINET ELEVATION VIEW
NO SCALE



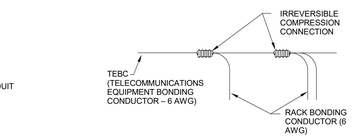
8 POWER ELEVATION AND SCHEMATIC FOR A ONE RACK TR
NO SCALE

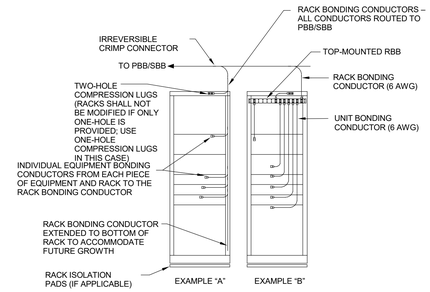


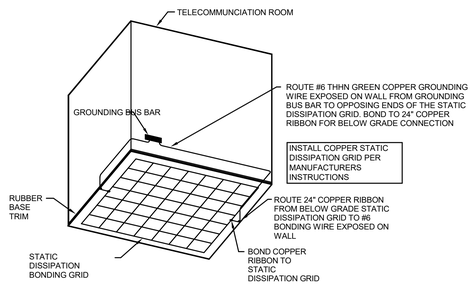
PROPOSED CABLE TRAY:
CABLOFIL
4" DEEP X 12" WIDE MINIMUM (SIZE COMMENSURATE WITH DISTRIBUTION REQUIREMENT)
WHITE POWERCOAT
TRAY INSERT



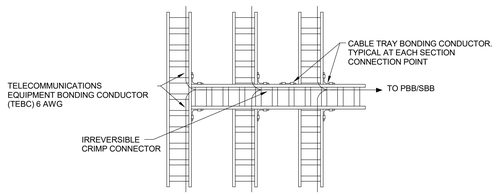
9 RATED WALL CONDUIT AND SLEEVE PENETRATIONS
NO SCALE





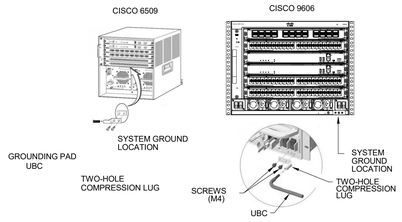


10 STATIC DISSAPATIVE FLOORING DETAIL
NO SCALE

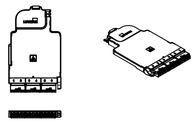


11 VA BONDING DETAIL
NO SCALE

NETWORK EQUIPMENT MUST BE GROUNDED. NEVER DEFEAT THE GROUND CONDUCTOR OR OPERATE THE EQUIPMENT IN THE ABSENCE OF A SUITABLY INSTALLED GROUND CONDUCTOR. THESE DEVICES WILL BE BONDED TO THE RACK BONDING BUSBAR (RBB) IN THE SAME RACK. EACH DEVICE WILL HAVE A DEDICATED UNIT BONDING CONDUCTOR (UBC). THE UBC WILL NOT BE SHARED.

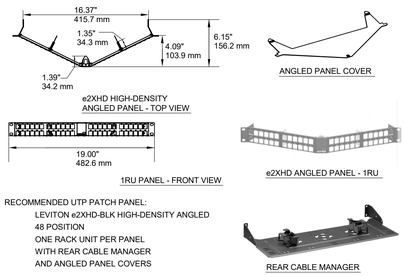


EARTHING EXAMPLE (CISCO 6509/9606) (REF: CISCO PRODUCT INSTALLATION GUIDE)
NO SCALE



RECOMMENDED CASSETTE: LEVITON HDX ENTERPRISE MTP
FIBER TYPE: OM4/OS1
FIBER COUNT: 12-FIBER
CONNECTOR (FRONT): LC
CONNECTOR (REAR): MPO
POLARITY: TYPE A

14 FIBER CASSETTE
NO SCALE

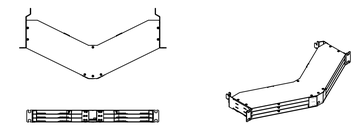


RECOMMENDED UTP PATCH PANEL:
LEVITON e2XHD-BLK HIGH-DENSITY ANGLED
48 POSITION
ONE RACK UNIT PER PANEL
WITH REAR CABLE MANAGER
AND ANGLED PANEL COVERS

15 UTP PATCH PANEL
NO SCALE

CAT. NO	DEPTH (IN)	WIDTH (IN)	CAT 6a 4-pr PLENUM (0.35")
CF105/300	4	12	248
CF105/450	4	18	373
CF105/500	4	20	414
CF105/600	4	24	497
CF150/150	6	6	186
CF150/200	6	8	238
CF150/300	6	12	357
CF150/450	6	18	536
CF150/500	6	20	596
CF150/600	6	24	715
CF150/900	6	36	1078

13 VA PATHWAY DETAILS
NO SCALE



RECOMMENDED FIBER DISTRIBUTION CABINET:
LEVITON ANGLED OPT-X UHDX
144 FIBER
ONE RACK UNIT

16 FIBER DISTRIBUTION CABINET
NO SCALE

1	BID DOCUMENTS	06/03/25
ISSUE #	DESCRIPTION	DATE

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)
WPE WEST PLAINS ENGINEERING, INC.

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com
STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA
6/2/25

Office of Construction and Facilities Management

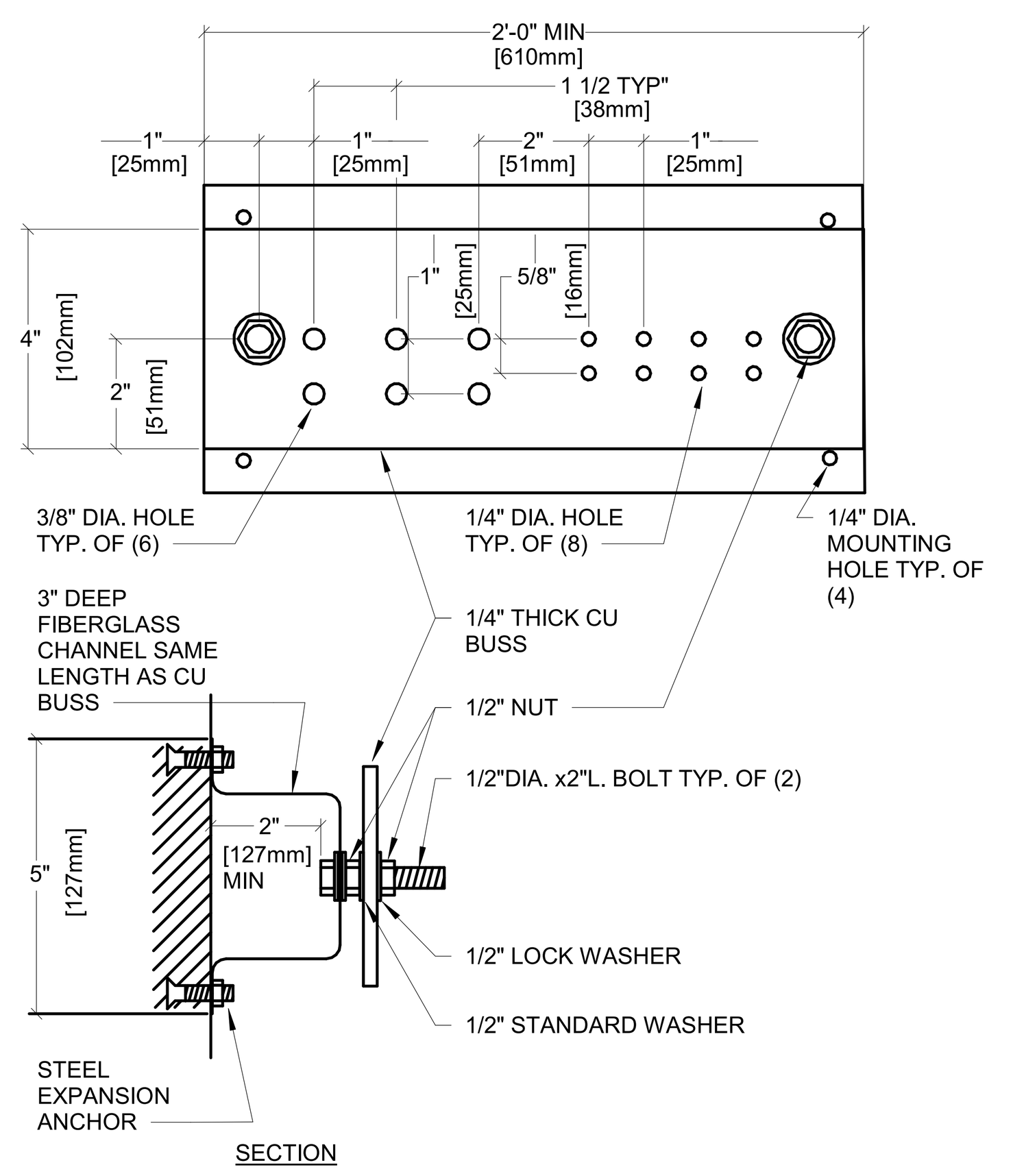
VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: DOUG SPRINKLE	FULLY SPRINKLERED

Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS			Project Number: VA #568A4-21-208 SGA #BR21039
			Building Number: 8
Location: HOT SPRINGS, SOUTH DAKOTA			Drawing Number: EJ-401
Issue Date: 06/03/2025	Checked: MRS	Drawn: VLS	

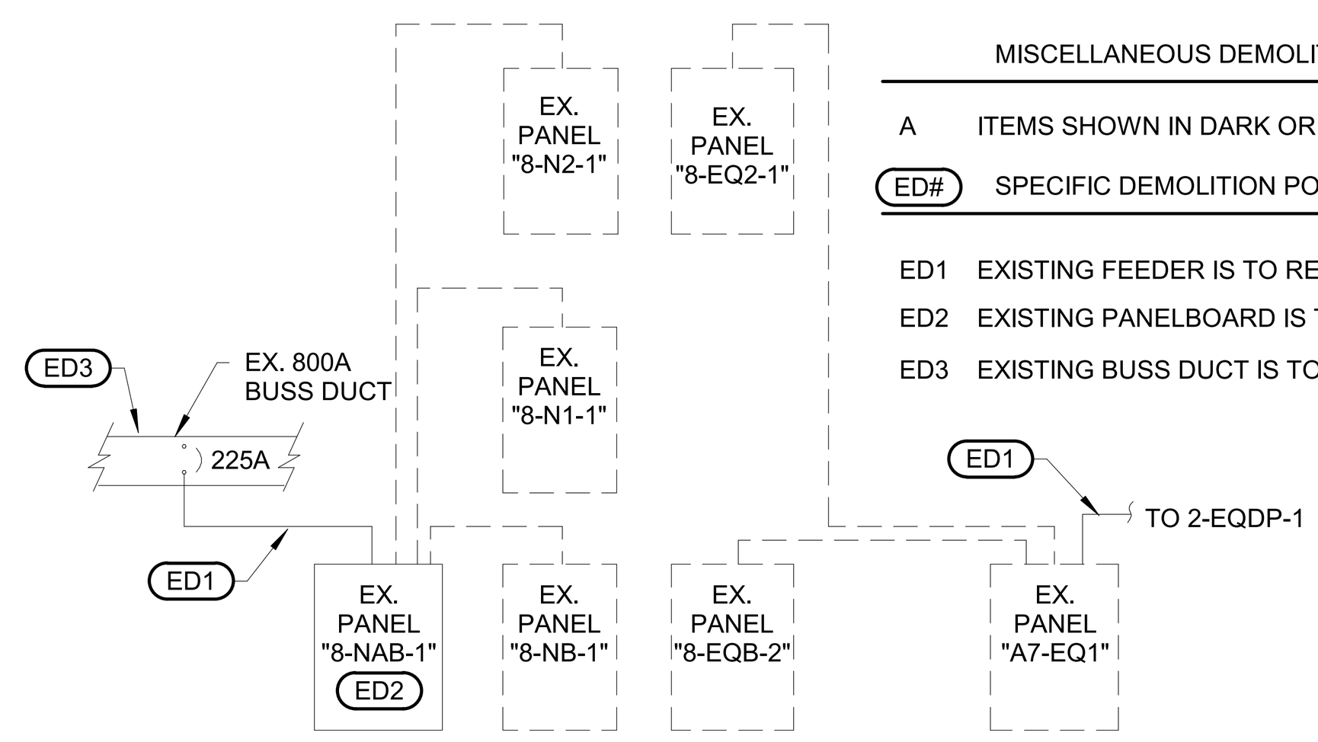
VA FORM 08 - 6231

C:\Revit Local Files\22328R2\1039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vs0.stephens.rvt
6/2/2025 7:25:53 PM



GENERAL NOTES
1. ALL HARDWARE SHOWN SHALL BE STAINLESS STEEL
2. PROVIDE 1 MOUNTING POINT PER 12" OF BAR LENGTH.
3. HOLES MAY BE ADDED IF REQUIRED.

1 STEEL TELECOM GROUND BAR DETAIL
NO SCALE



MISCELLANEOUS DEMOLITION POWER ONE-LINE NOTES

A ITEMS SHOWN IN DARK OR DASHED PEN ARE TO BE DEMOLISHED.

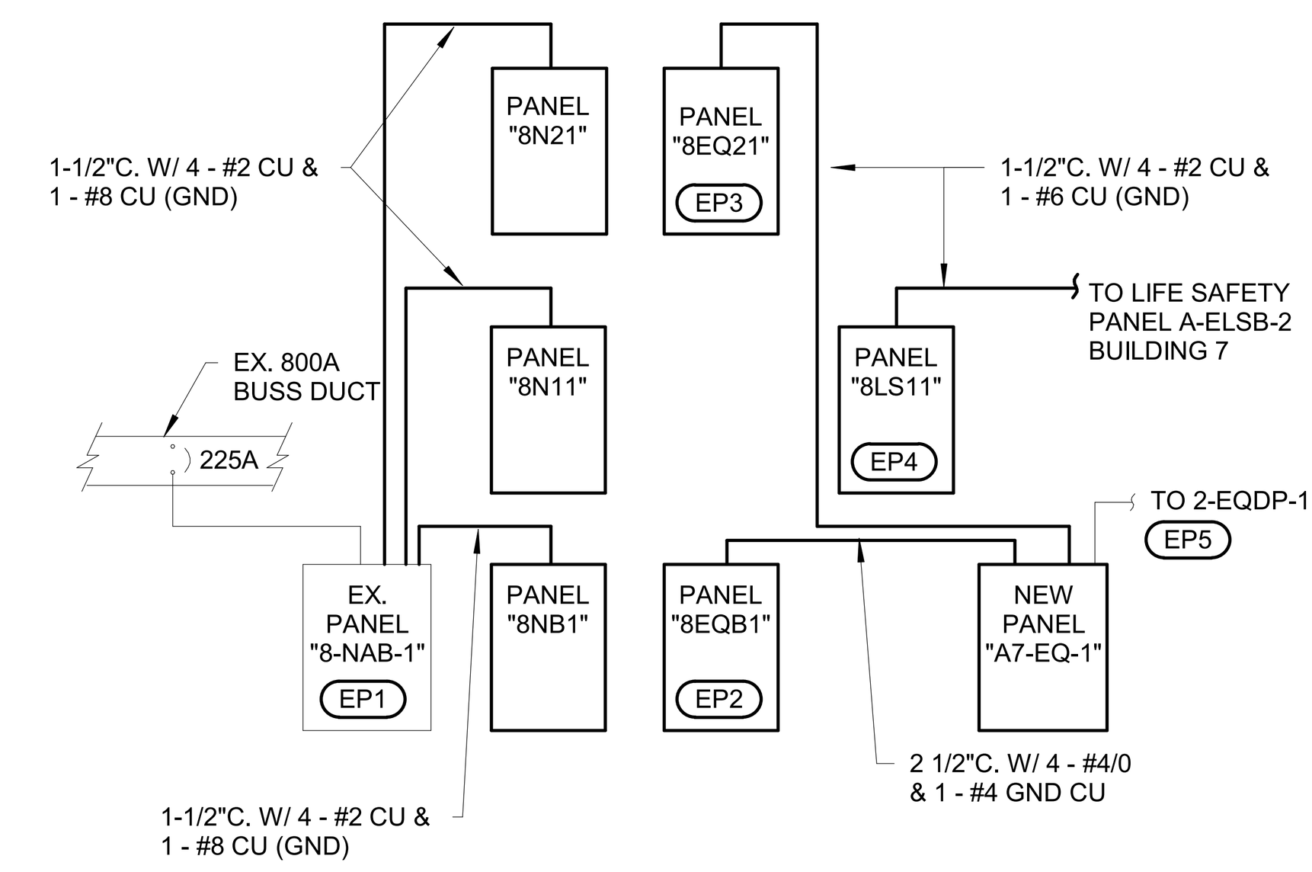
ED# SPECIFIC DEMOLITION POWER ONE-LINE NOTES

ED1 EXISTING FEEDER IS TO REMAIN.

ED2 EXISTING PANELBOARD IS TO REMAIN.

ED3 EXISTING BUSS DUCT IS TO REMAIN.

2 DEMOLITION POWER ONE-LINE DIAGRAM
NO SCALE



MISCELLANEOUS DEMOLITION POWER ONE-LINE NOTES

A ITEMS IN DARK PEN ARE NEW. ITEMS IN LIGHT PEN ARE EXISTING.

EP# SPECIFIC DEMOLITION POWER ONE-LINE NOTES

EP1 UTILIZE THE THREE EXISTING 100A/3P CIRCUIT BREAKERS IN EXISTING PANEL 8-NAB-1 THAT POWERING EXISTING PANELBOARDS THAT WERE DEMOLISHED UNDER THIS PROJECT TO POWER THREE NEW PANELBOARDS AS SHOWN. PROVIDE NEW FEEDERS AS SHOWN.

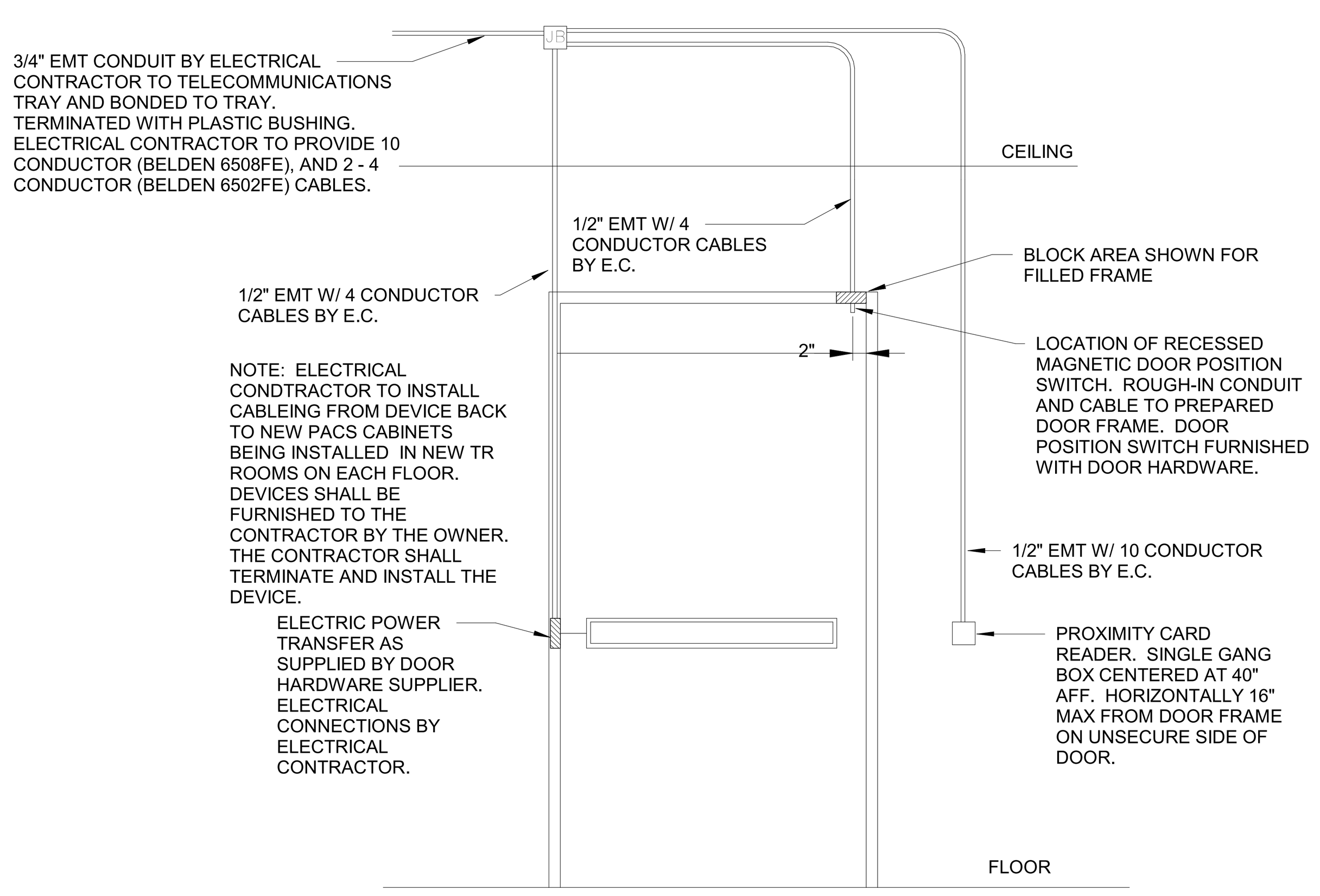
EP2 PANEL FED FROM DOUBLE FEED LUGS IN NEW PANELBOARD A7-EQ-1 TO POWER NEW PANELBOARD 8EQB1. PROVIDE NEW FEEDER AS SHOWN.

EP3 PANEL FED FROM NEW 100A/3P BREAKER IN NEW PANELBOARD A7-EQ-1. NEW PANELBOARD 8EQ21 IS BEING RELOCATED. PROVIDE NEW FEEDER AS SHOWN.

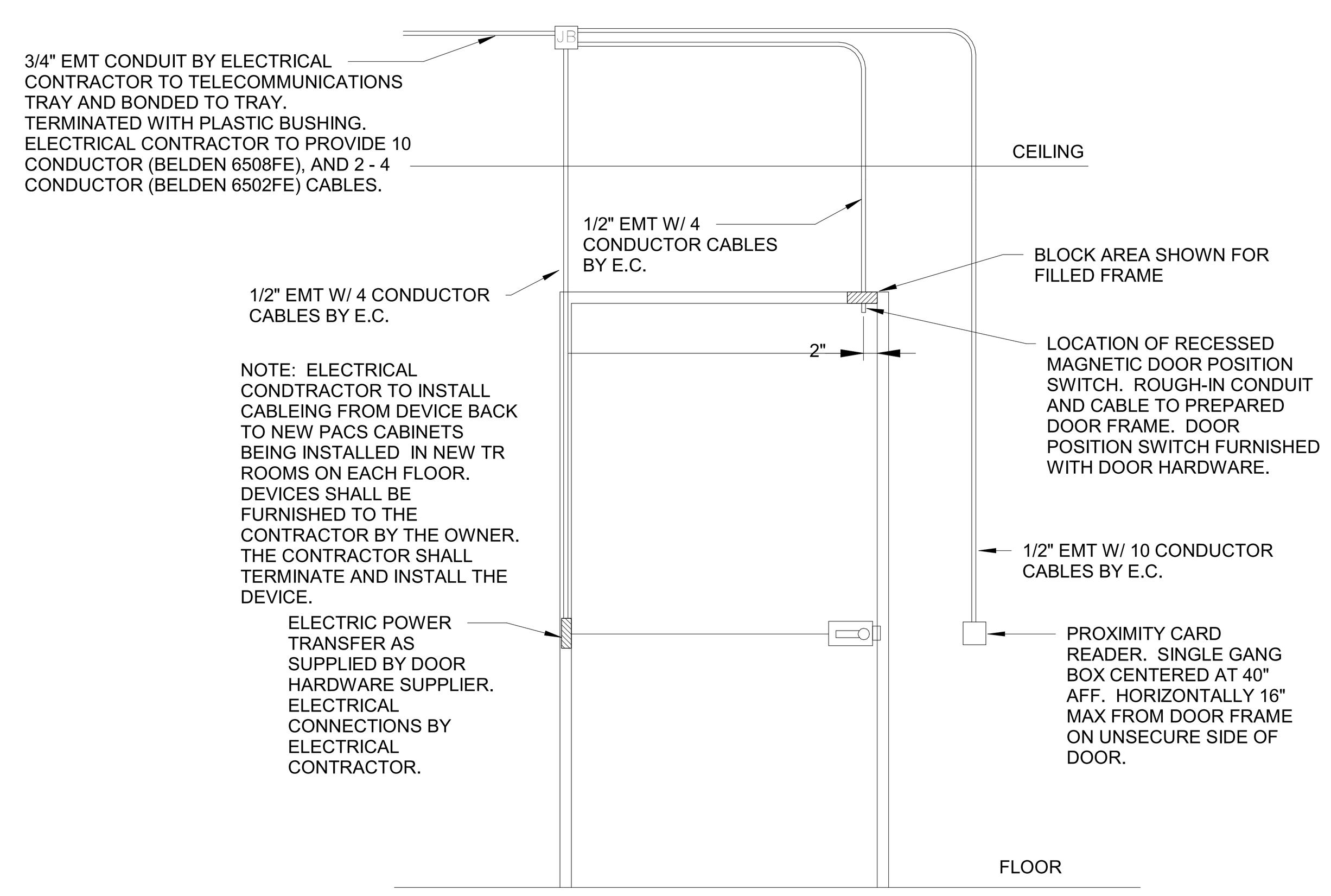
EP4 POWER NEW PANELBOARD BLS11 FROM EXISTING PANELBOARD A-ELSB-2 IN BUILDING 7. PROVIDE A NEW 60A/3P CIRCUIT BREAKER IN EXISTING PANELBOARD A-ELSB-2. PROVIDE NEW FEEDER AS SHOWN.

EP5 CONTRACTOR TO REPLACE EXISTING 150A/3P BREAKER IN PANEL 2-EQPD-1 WITH A NEW 225A/3P BREAKER. PANEL 2-EQPD-1 IS LOCATED IN BUILDING 2 ROOM B2 AND IS A WESTINGHOUSE CDP PANEL. BREAKER SHALL BE RATED AT 65KAIC. FEEDER TO REMAIN.

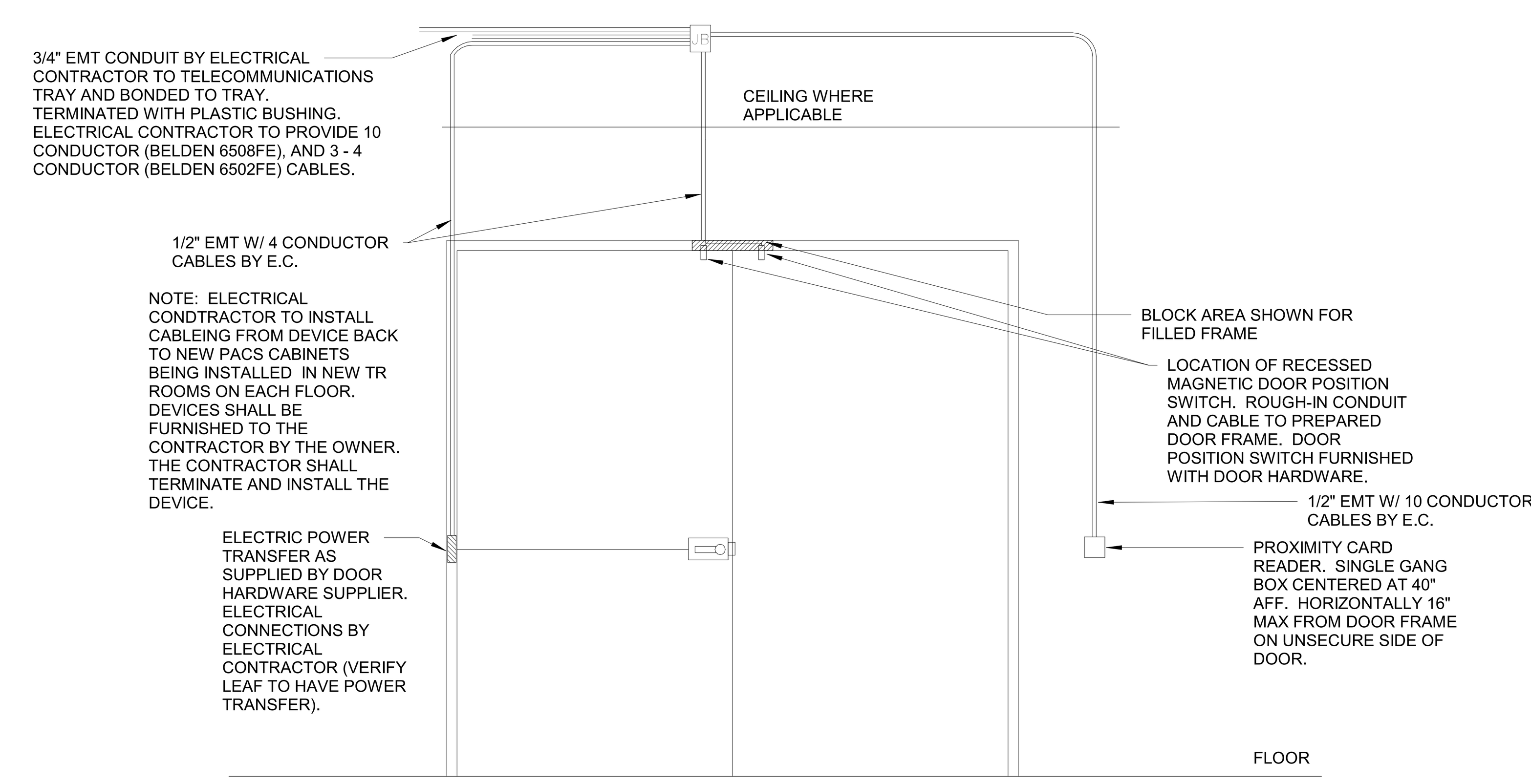
3 NEW POWER ONE-LINE DIAGRAM
NO SCALE



ACCESS CONTROL SINGLE DOOR PANIC DEVICE DETAIL
ALL WIRING TO BE YELLOW CASING



ACCESS CONTROL SINGLE DOOR LEVER DEVICE DETAIL
ALL WIRING TO BE YELLOW CASING



ACCESS CONTROL DOUBLE DOOR DETAIL
DOOR ROUGH-IN ONLY
ALL WIRING TO BE YELLOW CASING

4 DOOR DETAILS
NO SCALE

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

STAMP

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL DETAILS

Phase:

Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS

Project Number: VA #568A4-21-208 SGA #BR21039

Building Number: 8

Approved: DOUG SPRINKLE

FULLY SPRINKLERED

Location: HOT SPRINGS, SOUTH DAKOTA

Issue Date: 06/03/2025 | Checked: MRS | Drawn: VLS

Drawing Number: EJ-402

VA FORM 08 - 6231

ELECTRICAL ABBREVIATIONS

A STANDARD LIST. NOT ALL WORDS APPEAR IN THESE DRAWINGS.

SEE SPECIFICATION SECTION "EQUIPMENT WIRING" FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

A or AMP	AMPERE
A/C	AIR CONDITIONING
A/E or AE	ARCHITECT & ENGINEER
ac	ABOVE COUNTER
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AFI or AFCI	ARC FAULT CIRCUIT INTERRUPTER
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CURRENT
AL	ALUMINUM
ANN	ANNUNCIATOR
AS	AUTOMATIC SENSORS
AWG	AMERICAN WIRE GAUGE
bc	BELOW COUNTER
BC	BELOW COUNTER
BH	BASKETBALL HOOP OPER
BL	BLEACHER ELECTRIC OPERATOR
BRD or BD	BOARD
BUH	BLAST UNIT HEATER
C or COND	CONDUIT
C/B or CB	CIRCUIT BREAKER
CAT	CATEGORY
CCT or CKT	CIRCUIT
CM	CARBON MONOXIDE SENSOR
CO	CARBON MONOXIDE
COMB	COMBINATION
CONF	CONFERENCE
CP	CEILING PROJECTOR
CTC	CABLE TERMINATION CABINET
Cu or CU	COPPER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
DC	DIRECT CURRENT
DC	DISTRIBUTION CABINET
DP	DISTRIBUTION PANEL
DISC	DISCONNECT
DISP	DISPOSAL
DL	DOCK LEVELER
DN or DWN	DOWN
DR	DOOR
DW	DISHWASHER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EC	ELECTRICAL CABINET
EF	EXHAUST FAN
EH	ELECTRICAL HEAT
ELEC	ELECTRIC OR ELECTRICAL
EHD	ELECTRIC HAND DRYER
EM or EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXP	EXPLOSION PROOF
F or FUS	FUSE OR FUSIBLE
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FL, FLU or FLUOR	FLUORESCENT
FLA	FULL LOAD AMPERES
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GEN	GENERATOR
GFI or GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRC	GALVANIZED RIGID CONDUIT
GND or GRND	GROUND
H & AC	HEATING & AIR CONDITIONING
H & V	HEATING & VENTILATING
HA	HANDICAP ACCESS DOOR
HD	HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HPS	HIGH PRESSURE SODIUM
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ (CYCLES/SEC)
IC	INTERRUPTING CURRENT
IGR	ISOLATED GROUND RECEPTACLE
IMC	INTERMEDIATE METAL CONDUIT
INC	INCANDESCENT
ISO	ISOLATED OR ISOLATION
J, JB or J-BOX	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT - AMPERE
KVAR	KILOVOLT - AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT - HOUR
LA	LIGHTNING ARRESTOR
LT	LIGHT
LTG	LIGHTING
LTS	LIGHTS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFS	MAIN FUSIBLE SWITCH
MH	METAL HALIDE
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTS	MOTOR THERMAL SWITCH
MV	MERCURY VAPOR
MW	MICROWAVE
NA or N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEU, NEUT or N	NEUTRAL
NF	NON-FUSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
OFF, OF, or OFC	OFFICE
OH	OVERHEAD
OHD	OVERHEAD DOOR
P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PH	PHASE
PLBG	PLUMBING
PNL	PANEL
PR or pr	PAIR
PRV	POWER ROOF VENTILATOR
PS	PULL SWITCH
PS	PROJECTION SCREEN
PTZ	PAN TILT ZOOM
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCP	REFLECTED CEILING PLAN
REC or RECEPT	RECEPTACLE
REF or REFRIG	REFRIGERATOR
RH	RADIANT HEAT
RH	RANGE HOOD
RLY	RELAY
RM	ROOM
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SD	SMOKE DETECTOR
SFR	SAFETY RECEPTACLE
SFTY	SAFETY
SHLD	SHIELD OR SHIELDED
SIG	SIGNAL
SMR	SURFACE MOUNT RACEWAY
SN	SOLID NEUTRAL
SP	SUMP PUMP
SPECS	SPECIFICATIONS
SPKR	SPEAKER
SPR	SPLIT WIRE RECEPTACLE
SW	SWITCH
SWBD	SWITCH BOARD
TC	TEMPERATURE CONTROL
TC	TELEPHONE CABINET
TCC	TEMPERATURE CONTROL CONTRACTOR
TEL	TELEPHONE
TL	TWIST LOCK
TR, TRANS or TRFMR	TRANSFORMER
TTB	TELEPHONE TERMINATION BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UV	UNIT VENTILATOR
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WTR or H20	WATER
WS	WINDOW SHADE
XFMR	TRANSFORMER
Y	WYE CONNECTION
ϕ	PHASE
Δ	DELTA

ELECTRICAL SYMBOLS

THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.

ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, MOUNTING HEIGHTS INDICATED ON ARCH. WALL ELEVATIONS ORAS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED BELOW.

LIGHTING

- CEILING SURFACE MOUNT FIXTURE. (Capital letter indicates fixture type. Small letter indicates switching. Typical for all fixture types).
- EMERGENCY CEILING SURFACE MOUNT FIXTURE
- WALL FIXTURE
- EMERGENCY WALL FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- EXTERIOR POLE LIGHT
- BOLLARD LIGHT
- SURFACE MOUNT FIXTURE
- EMERGENCY SURFACE MOUNT FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- WALL FIXTURE
- FLOOD LIGHT
- TRACK LIGHT
- PC — PHOTO ELECTRIC CELL
- LC — LIGHTING CONTACTOR (54"M.H.)
- TC — TIME CLOCK (60" M.H.)
- LR — UL914 LIGHTING RELAY
- EMERGENCY LIGHTING W/BATTERY PACK
- CEILING EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- WALL EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- OS — OCCUPANCY SENSOR
- $ — SINGLE POLE SWITCH (46" M.H.)
- $2 — DOUBLE POLE SWITCH (46" M.H.)
- $3 — THREE-WAY SWITCH (46" M.H.)
- $4 — FOUR-WAY SWITCH (46" M.H.)
- $P — SWITCH WITH PILOT (46" M.H.)
- $K — KEY OPERATED SWITCH (46" M.H.)
- $M — MOMENTARY CONTACT SWITCH (60" M.H.)
- $D — DIMMER SWITCH (46" M.H.)
- $T — TIMER SWITCH (60" M.H.)
- $S — VARIABLE SPEED SWITCH
- $F — FUSED SWITCH

POWER

- PUSH BUTTON STATION (62" M.H.)
- DOUBLE PUSH BUTTON STATION
- EMERGENCY SHUTDOWN PUSHBUTTON
- ISOLATED GROUND RECEPTACLE (18" M.H.)
- DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SINGLE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SPLIT WIRED DUPLEX RECEPTACLE (18" M.H)
- SAFETY CONVENIENCE RECEPTACLE
- POWER RECEPTACLE
- EMERGENCY DUPLEX RECEPTACLE
- TWIST LOCK RECEPTACLE
- GFI DUPLEX CONVENIENCE RECEPTACLE
- GFI DOUBLE DUPLEX CONVENIENCE RECEPTACLE
- SPECIAL PURPOSE OUTLET OR CONNECTION
- CORD/PLUG
- CORD REEL
- CEILING DUPLEX RECEPTACLE
- FLUSH FLOOR DUPLEX RECEPTACLE
- FLUSH FLOOR DOUBLE DUPLEX RECEPTACLE
- FLUSH FLOOR MULTI-SERVICE OUTLET (WITH DEVICES INDICATED)
- CP — MULTI-SERVICE POLE (WITH DEVICES INDICATED)
- B — BLANK OUTLET
- J — JUNCTION BOX
- P — PULL BOX
- MOTOR
- DISCONNECT SWITCH
- GAP — GENERATOR ANNUNICIATOR PANEL
- ATS — AUTOMATIC TRANSFER SWITCH
- VFD — VARIABLE FREQUENCY DRIVE
- VFD — COMBINATION VARIABLE FREQUENCY DRIVE DISCONNECT
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- MOTOR THERMAL SWITCH
- TR — TRANSFORMER
- M — ELECTRIC METER
- SWITCHBOARD/DISTRIBUTION PANEL SECTION
- PANELBOARD OR LOAD CENTER
- PANELBOARD OR LOAD CENTER (EXISTING TO REMAIN)
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSER
- CIRCUIT BREAKER
- FUSE
- H — HUMIDISTAT
- T — THERMOSTAT
- R — REMOTE HVAC SENSOR
- RADIANT HEAT PANEL
- BASEBOARD OR COVE ELEC. HEAT
- ELECTRIC UNIT HEATER
- ELECTRIC CABINET UNIT HEATER
- M — MOTORIZED DAMPER
- BUS DUCT
- SURFACE MOUNT RACEWAY
- CEILING PADDLE FAN
- XX — TYPE OF EQUIPMENT; # — EQUIPMENT NUMBER; SEE SCHEDULES
- ROOFTOP EQUIPMENT/CIRCUITING
- EXISTING EQUIPMENT/CIRCUITING
- GROUND
- UG — CONDUIT IN FLOOR OR UNDERGROUND
- PNL-1,2,3 — CONDUIT IN WALL OR CEILING SPACE, CROSS MARKS INDICATE NUMBER OF WIRES, NO MARKS INDICATE TWO WIRES. ARROWS INDICATE HOME RUNS TO PANEL. NUMBERS INDICATE PANEL AND CIRCUIT IN PANEL.
  - SWITCHLEG
  - TRAVELER
  - HOT
  - NEUTRAL WIRE
  - INDICATES SEPARATE GROUND WIRE TO BE INSTALLED IN RACEWAY

TELECOM

- SPECIAL EQUIPMENT CABINET-AS NOTED
- TERMINATION BOARD - AS NOTED
- CABLE TRAY
- INTERCOM
- TELEPHONE/VOICE OUTLET (18" M.H.)
- W — WALL PHONE (46" M.H.)
- DATA OUTLET (18" M.H.)
- C — CEILING MOUNT DATA OUTLET
- COMBINATION VOICE/DATA OUTLET (18" M.H.)
- TV — TELEVISION OUTLET (18" M.H.)
- TV C — CEILING MOUNT TELEVISION OUTLET

FIRE ALARM

- F — FIRE ALARM MANUAL STATION (46" M.H.)
- D — HEAT DETECTOR (RATE OF RISE)
- D — HEAT DETECTOR (FIXED TEMP. ONLY)
- SD U — UNITARY TYPE SMOKE DETECTOR
- SD — SMOKE DETECTOR
- SD — DUCT SMOKE DETECTOR
- BD — BEAM DETECTOR TRANSMITTER
- BD — BEAM DETECTOR RECEIVER
- RT — REMOTE TEST STATION
- HS — COMB HEAT/SMOKE DETECTOR
- FS — FLOW SWITCH
- PS — PRESSURE SWITCH
- TS — TAMPER SWITCH
- FR — FIRE ALARM CUT-OFF RELAY
- RA — REMOTE ANNUNCIATOR
- DH — DOOR HOLDER
- MM — MONITOR MODULE
- CM — CONTROL MODULE
- CH — FIRE ALARM CHIME/STROBE
- F — FIRE ALARM HORN/STROBE (80"M.H)
- F C — CEILING MOUNT FIRE ALARM HORN/STROBE
- V — FIRE ALARM VOICE/STROBE (80"M.H)
- V C — CEILING MOUNT FIRE ALARM VOICE/STROBE
- H — MINI FIRE ALARM HORN
- M — MINI FIRE ALARM HORN/STROBE
- S — PROJECTION HORN
- ST — FIRE ALARM STROBE (80" M.H.)
- ST C — CEILING MOUNT FIRE ALARM STROBE
- F — FIRE ALARM BELL (88" M.H.)
- C — COMBINATION FIRE/SMOKE DAMPER
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FACP — FIRE ALARM CONTROL PANEL
- F — FIRE FIGHTER PHONE JACK

SOUND AND SECURITY

- S — FLUSH SPEAKER
- S — SURFACE SPEAKER
- S — PAGING HORN
- V — COLUME CONTROL (46" M.H.)
- M — MICROPHONE OUTLET (18" M.H.)
- AUX — AUXILIARY OUTLET
- AMP — AMPLIFIER
- CEILING MOUNTED SURVEILLANCE VIDEO CAMERA
- PTZ — SURVEILLANCE VIDEO CAMERA - PAN/TILT/ZOOM
- VM — SURVEILLANCE VIDEO MONITOR
- VR — SURVEILLANCE VIDEO RECORDER
- VS — SURVEILLANCE VIDEO SWITCHER
- ACP — ALARM CONTROL PANEL
- BAA — BURGLAR ALARM ANNUNCIATOR
- ANTENNA (AS NOTED)
- AS — ALARM PANIC SWITCH
- DS — ALARM DOOR SWITCH
- DR — DOOR RELEASE MECHANISM
- MD — ALARM MOTION DETECTOR
- SP — ALARM SHUNT PAD
- KP — ALARM KEYPAD
- CR — CARD READER
- IC — SECURITY INTERCOM (54" M.H.)
- REX — REQUEST EXIT PUSH BUTTON

STARTER DISCONNECT SCHEDULE

UNIT TYPE	UNIT NUMBER	KW	MOTOR HP	MOTOR MCA	VOLTAGE	PHASES	STARTER TYPE	STARTER NEMA SIZE	STARTER ENCLOSURE TYPE	CONTROL	DISCONNECT SWITCH SIZE	DISCONNECT FUSE SIZE	COMMENTS
ACU	1			17 A	208 V	1					30A/2P/NEMA 3R/F	PER NAMEPLATE	NOTE 1, 7
CH	1			159 A	208 V	3			-		200A/3P/NEMA 3R/F	PER NEC	NOTE 1
CP	1A		7.5 hp		208 V	3	VFD	-	NEMA 1	TC SYSTEM	-	-	NOTE 6
CP	1B		7.5 hp		208 V	3	VFD	-	NEMA 1	TC SYSTEM	-	-	NOTE 6
CP	2A		5 hp		208 V	3	VFD	-	NEMA 1	TC SYSTEM	-	-	NOTE 6
CP	2B		5 hp		208 V	3	VFD	-	NEMA 1	TC SYSTEM	-	-	NOTE 6
ELEV. LIGHTS				0 A	120 V	2							
ELEV. POWER			25 hp	0 A	208 V	3							
FC	1-01			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-02			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-03			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-04			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-05			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-06			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-07			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-08			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-09			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-10A			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-10B			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-10C			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	1-11			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-01			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-02			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-03			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-04			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-05			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-06			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-07			7 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-08			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-09			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-10A			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-10B			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-10C			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-11A			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	2-11B			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-01			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-02			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-03			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-04			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-05			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-06			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-07			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-08			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-09			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-10			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-11			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-12			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-13			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-14			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-15			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-16			9 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-17A			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-17B			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-17C			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
FC	B-18			4 A	120 V	1	-	-	-	TC SYSTEM	-	-	NOTE 2
GF	1				120 V	1	-	-	-	-	-	-	NOTE 3
GF	2				120 V	1	-	-	-	-	-	-	NOTE 3
HX	1		0.6 hp	7 A	208 V	1	-	-	-	TC SYSTEM	30A/2P/F/NEMA 1	PER NEC	NOTE 1
HX	2		0.6 hp	7 A	208 V	1	-	-	-	TC SYSTEM	30A/2P/F/NEMA 1	PER NEC	NOTE 1
HX	3		0.6 hp	7 A	208 V	1	-	-	-	TC SYSTEM	30A/2P/F/NEMA 1	PER NEC	NOTE 1
PD	B-01		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-02		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-03		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-04		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-05		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-06		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-07		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-08		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-09		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-10		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-12		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-13		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-14		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-15		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-16		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-17A		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-17B		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-17C		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
PD	B-18		0.033 hp		120 V	1	MMS	-	NEMA 1	INTEGRAL	-	-	MOTOR THERMAL SWITCH
SP	2		0.4 hp		120 V	1	-	-	-	INTEGRAL	-	-	NOTE 5
SP	E1		0.4 hp		120 V	1	-	-	-	INTEGRAL	-	-	NOTE 5
UH	1		0.02 hp	1 A	120 V	1	MMS	-	NEMA 1	TC SYSTEM	-	-	MOTOR THERMAL SWITCH
UH	2		0.02 hp	1 A	120 V	1	MMS	-	NEMA 1	TC SYSTEM	-	-	MOTOR THERMAL SWITCH

COMMENTS:

1. FUSE PER MANUFACTURER'S RECOMMENDATIONS.
2. UNIT FURNISHED WITH INTEGRAL DISCONNECT SWITCH.
3. UNIT FURNISHED WITH CORD AND PLUG. E.C. TO PROVIDE RECEPTACLE.
4. REFER TO SPECIFIC NOTE ON PLANS.
5. PROVIDE LOCKABLE CIRCUIT BREAKER.
6. VFD FURNISHED BY TC CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
7. INDOOR FAN COIL UNIT DERIVES POWER FROM OUDOOR CONDENSING UNIT

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	MANUFACTURER	MODEL	MOUNTING	TYPE	LUMENS AND WATTS	LPW	COMMENTS	ADDITIONAL MANUFACTURERS
A4	LITHONIA	2BLT4-40L-ADP-EZ1-LP835	CEILING/RECESSED	LED	4197 LUMENS, 30.5 WATTS	137.81	2X4 VOLUMETRIC RECESSED FIXTURE, NOTE 1	COOPER, COLUMBIA, LSI
A4F	LITHONIA	2BLT4-40L-ADP-EZ1-LP835-DGA24	CEILING/RECESSED	LED	4197 LUMENS, 30.50 WATTS	137.81	2X4 VOLUMETRIC RECESSED FIXTURE, CEILING FLANGE ACCESSORY, NOTE 1	COOPER, COLUMBIA, LSI
A5	LITHONIA	2BLT4-48L-ADP-EZ1-LP835	CEILING/RECESSED	LED	5032 LUMENS, 39.3 WATTS	128.09	2X4 VOLUMETRIC RECESSED FIXTURE, NOTE 1	COOPER, COLUMBIA, LSI
B5	LITHONIA	2BLT4-48L-ADP-EZ1-LP835-2X4SMKSHP PAF	CEILING/SURFACE	LED	5032 LUMENS, 39.3 WATTS	130.5	2X4 VOLUMETRIC FIXTURE, SURFACE MOUNTING FRAME, NOTE 1	COOPER, COLUMBIA, LSI
C1	LITHONIA	ZL1D-L48-5000LM-FST-MVOLT-35K-80CRI-WH-HC36 M12-WGZ48	SURFACE AND/OR CHAIN	LED	5456 LUMENS, 41 WATTS	133.07	CHAIN HUNG STRIP LIGHT, WIRE GARD, NOTE 1	COOPER, COLUMBIA, LSI
DP	SPECTRUM	SGE8LEDOS30L35KDO101BH27/AR8223OSSGSO	CEILING/RECESSED	LED	2519 LUMENS, 28 WATTS	90	8 INCH, RECESSED CAN, NOTE 1	LITHONIA, COOPER, COLUMBIA, LSI
DS	SPECTRUM	SGE8LEDOS20L35KDO101BH27/AR8223OSSGSOWL	CEILING/RECESSED	LED	1833 LUMENS, 20 WATTS	92	8 INCH, RECESSED CAN, WET LOCATION, NOTE 1	LITHONIA, COOPER, COLUMBIA, LSI
F1	LITHONIA	STL4-40L-EZ1-LP835	CEILING/SURFACE	LED	3834 LUMENS, 34.9 WATTS	109.9	SURFACE VOLUMETRIC WRAP FIXTURE, NOTE 1	COOPER, COLUMBIA, LSI
F2	LITHONIA	STL4-48L-EZ1-LP835	CEILING/SURFACE	LED	4850 LUMENS, 45.2 WATTS	107.3	SURFACE VOLUMETRIC WRAP FIXTURE, NOTE 1	COOPER, COLUMBIA, LSI
FW	LITHONIA	WL4-40L-EZ1-LP835-NOC	WALL/SURFACE	LED	4124 LUMENS, 39.5 WATTS	104	SURFACE WALL MOUNT LIGHT FIXTURE, NOTE 1	COOPER, COLUMBIA, LSI
W1	LITHONIA	WST LED-P1-40K-VW-MVOLT-PE-DDBXD	WALL/SURFACE	LED	1659 LUMENS, 12 WATTS	138	LED WALL MOUNT EXTERIOR LIGHT, NOTE 1	COOPER, COLUMBIA, LSI
X	LITHONIA	LQM-2-W-3-R-120/277	UNIVERSAL	LED	-, 0.62 WATTS	-	EXIT SIGN, THERMOPLASTIC, PROVIDE ONE OR TWO SIDED AS REQUIRED PER THE DRAWINGS.	SURE LITES, DUALLITE, MULE

COMMENTS:

1. FIXTURES SUBMITTED FOR APPROVAL CANNOT BE MORE THAN 5% LESS EFFICIENT THAN THE FIXTURE SPECIFIED.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegroupararchitects.com

STAMP

REGISTERED PROFESSIONAL ENGINEER, REG. NO. 7595, MICHAEL RAYMOND SIGMAN, SOUTH DAKOTA, 6/3/2025

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ELECTRICAL SCHEDULES	100% CONSTRUCTION DOCUMENTS	DOM RENOVATION FOR SEMIPRIVATE ROOMS	VA #568A4-21-208 SGA #BR21039
			Building Number: 8
Approved: DOUG SPRINKLE	FULLY SPRINKLERED	Location: HOT SPRINGS, SOUTH DAKOTA	Drawing Number: EJ-403
		Issue Date: 06/03/2025; Checked: MRS; Drawn: VLS	

C:\Revit Local Files\2023\BR21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vola.stephens.rvt
6/2/2025 2:25:56 PM

A7-EQ-1

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 225 A
AIC RATING:	22,000	LOCATION:	ARCADE		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		MAIN TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	EXISTING	E	20 A	1	0	0					1	20 A	E	EXISTING	2
3	EXISTING	E	20 A	1			0	0			2	20 A	E	EXISTING	4
5	EXISTING	E	20 A	2					0	0					6
7					0	0					1	20 A	E	EXISTING	8
9	AHU-6 (EXISTING)	E	30 A	3			0	0			1	20 A	E	EXISTING	10
11									0	0	3	100 A	2	PANEL 8EQ21	12
13					0	0									14
15	AHU-7 (EXISTING)	E	30 A	3			0	0							16
17									0	0	3	100 A	-	SPARE	18
19					0	0									20
21	SPARE	-	20 A	1			0	0							22
23	SPARE	-	20 A	1					0	0	1	20 A	-	SPARE	24
25	SPARE	-	20 A	1	0	0					1	20 A	-	SPARE	26
27	SPARE	-	20 A	1			0	0			1	20 A	-	SPARE	28
29	SPARE	-	20 A	1					0	0	1	20 A	-	SPARE	30
31	SPACE	-	--	1	--	--					1	--	-	SPACE	32
33	SPACE	-	--	1			--	--			1	--	-	SPACE	34
35	SPACE	-	--	1					--	--	1	--	-	SPACE	36
37	SPACE	-	--	1	--	--					1	--	-	SPACE	38
39	SPACE	-	--	1			--	--			1	--	-	SPACE	40
41	SPACE	-	--	1					--	--	1	--	-	SPACE	42
	TOTAL CONNECTED LOAD:				0 W		0 W		0 W		AMPS:	0 A	LOAD:	0 W	

NOTES:
1. PROVIDE WITH DOUBLE FEED LUGS TO FEED PANEL 8EQB1.

8NB1

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 125 A
AIC RATING:	22,000	LOCATION:	ELEC B03		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	RM B14 REC'S.	12	20 A	1	900	180					1	20 A	12	RM. B07 TELE. CONF.REC.(NOTE 2)	2
3	RM. B14 MICRO REC. (NOTE 1)	12	20 A	1			1500	180			1	20 A	12	RM. B04 TELE. CONF.REC.(NOTE 2)	4
5	RM. B14 COFFEE REC.(NOTE 1)	12	20 A	1					1500	900	1	20 A	12	RMS. B00, BO4 REC'S.	6
7	RM B14 REC.	12	20 A	1	360	540					1	20 A	12	RMS. B00, B01 REC'S. (NOTE 2)	8
9	RM B14 REF. REC.	12	20 A	1			1200	900			1	20 A	12	RMS. B03, B04 REC'S. (NOTE 2)	10
11	RM. B13 REC'S.	12	20 A	1					1080	1695	2	20 A	12	ACU-1	12
13	RM. B12 REC'S.	12	20 A	1	1080	1695									14
15	RM. B15 TELE. ONF.REC.(NOTE 2)	12	20 A	1			180	0			1	20 A	-	SPARE	16
17	RM. B11 REC'S.	12	20 A	1					1080	977	1	20 A	12	BASEMENT LIGHTING	18
19	RM. B15, B15A REC'S. (NOTE 2)	12	20 A	1	1260	1862					1	20 A	12	BASEMENT LIGHTING	20
21	RMS. B16, B17 REC'S.	12	20 A	1			1260	180			1	20 A	12	EXTERIOR REC.	22
23	RM. B18 REC'S.	12	20 A	1					1080	1500	1	20 A	12	BASEMENT EWC (NOTE 1)	24
25	RM. B19 REC'S.	12	20 A	1	1080	0					1	20 A	-	SPARE	26
27	RMS. B00, B20 REC'S. (NOTE 2)	12	20 A	1			360	0			1	20 A	-	SPARE	28
29	RM. B08 REC'.S	12	20 A	1					1080	0	1	20 A	-	SPARE	30
31	RM. B07 REC'S. (NOTE 2)	12	20 A	1	1080	0					1	20 A	-	SPARE	32
33	RMS. B20, B10 REC'S.	12	20 A	1			1260	0			1	20 A	-	SPARE	34
35	RM. B06 TELE. CONF. REC.	12	20 A	1					180	0	1	20 A	-	SPARE	36
37	RMS. B04, B05 REC'S. (NOTE 2)	12	20 A	1	720	0					1	20 A	-	SPARE	38
39	RM. B05 REC'S. (NOTE 2)	12	20 A	1			360	0			1	20 A	-	SPARE	40
41	RMS. B04, B04A REC'S. (NOTE 2)	12	20 A	1					720	0	1	20 A	-	SPARE	42
	TOTAL CONNECTED LOAD:				10757 W		7380 W		11792 W		AMPS:	83 A	LOAD:	29928.63 W	

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER.
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.

8LS11

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 125 A
AIC RATING:	22,000	LOCATION:	ELEC 103		MAIN CONNECTION: 60A MCB
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	BASEMENT EMERG. LIGHTING	12	20 A	1	76	108					1	20 A	12	EXTERIOR LIGHTING	2
3	BASEMENT EMERG. LIGHTING	12	20 A	1			389	1000			1	20 A	12	ELEV. SMOKE CURTAINS & PNL.	4
5	FIRST FLOOR EMERG. LIGHTING	12	20 A	1					551	1000	1	20 A	12	ELEC 103 FAPS	6
7	SECOND FLOOR EMERG. LTG.	12	20 A	1	543	1000					1	20 A	12	ELEC 203 FAPS	8
9	SPARE	-	20 A	1			0	--			1	--	-	SPACE	10
11	SPARE	-	20 A	1					0	--	1	--	-	SPACE	12
13	SPARE	-	20 A	1	0	--					1	--	-	SPACE	14
15	SPARE	-	20 A	1			0	--			1	--	-	SPACE	16
17	SPARE	-	20 A	1					0	--	1	--	-	SPACE	18
19	SPARE	-	20 A	1	0	--					1	--	-	SPACE	20
21	SPARE	-	20 A	1			0	--			1	--	-	SPACE	22
23	SPACE	-	--	1					--	--	1	--	-	SPACE	24
25	SPACE	-	--	1	--	--					1	--	-	SPACE	26
27	SPACE	-	--	1			--	--			1	--	-	SPACE	28
29	SPACE	-	--	1					--	--	1	--	-	SPACE	30
31	SPACE	-	--	1	--	--					1	--	-	SPACE	32
33	SPACE	-	--	1			--	--			1	--	-	SPACE	34
35	SPACE	-	--	1					--	--	1	--	-	SPACE	36
37	SPACE	-	--	1	--	--					1	--	-	SPACE	38
39	SPACE	-	--	1			--	--			1	--	-	SPACE	40
41	SPACE	-	--	1					--	--	1	--	-	SPACE	42
	TOTAL CONNECTED LOAD:				1727 W		1389 W		1551 W		AMPS:	10 A	LOAD:	3667 W	

NOTES:
1. PROVIDE LOCKABLE CIRCUIT BREAKER.

8EQ21

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 125 A
AIC RATING:	22,000	LOCATION:	ELEC 203		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	SPARE	-	20 A	1	0	0					1	20 A	-	SPARE	2
3	SPARE	-	20 A	1			0	720			1	20 A	12	SMOKE DAMPERS FLOOR 1	4
5	SPARE	-	20 A	1					0	1080	1	20 A	12	SMOKE DAMPERS FLOOR 2	6
7	FC-1-1 & FC-1-10A (NOTE 2)	12	20 A	1	1584	0					1	20 A	-	SPARE	8
9	FC-1-2, FC-1-3 (NOTE 2)	12	20 A	1			1584	0			1	20 A	-	SPARE	10
11	FC-1-6 & FC-1-7 (NOTE 2)	12	20 A	1					1584	0	1	20 A	-	SPARE	12
13	FC-1-10B & FC-1-10C (NOTE 2)	12	20 A	1	1056	--					1	--	-	SPACE	14
15	FC-1-8 & FC-1-9 (NOTE 2)	12	20 A	1			1056	--			1	--	-	SPACE	16
17	FC-1-11 (NOTE 2)	12	20 A	1					1056	--	1	--	-	SPACE	18
19	FC-2-10A & FC-2-10B (NOTE 2)	12	20 A	1	1056	0					1	20 A	-	SPARE	20
21	FC-2-1 (NOTE 2)	12	20 A	1			1056	--			1	--	-	SPACE	22
23	FC-2-2, FC-2-3 (NOTE 2)	12	20 A	1					1584	--	1	--	-	SPACE	24
25	FC-2-6 & FC-2-7 (NOTE 2)	12	20 A	1	1584	--					1	--	-	SPACE	26
27	FC-2-8 & FC-2-10C (NOTE 2)	12	20 A	1			1056	--			1	--	-	SPACE	28
29	FC-2-9,FC-2-11A FC-211B(NOTE 2)	12	20 A	1					1584	--	1	--	-	SPACE	30
31	HX-2	10	20 A	2	739	--					1	--	-	SPACE	32
33							739	--			1	--	-	SPACE	34
35	HX-3	10	20 A	2					739	--	1	--	-	SPACE	36
37					739	--					1	--	-	SPACE	38
39	FC-1-4, FC-1-5 (NOTE 2)	12	20 A	1			1584	--			1	--	-	SPACE	40
41	FC-2-4, FC-2-5 (NOTE 2)	12	20 A	1					1584	--	1	--	-	SPACE	42
	TOTAL CONNECTED LOAD:				6757 W		7795 W		9211 W		AMPS:	66 A	LOAD:	23762 W	

NOTES:
1. PROVIDE LOCKABLE CIRCUIT BREAKER.
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.

8N11

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 125 A
AIC RATING:	22,000	LOCATION:	ELEC 103		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	RM. 118 REC'S. (NOTE 2)	12	20 A	1	900	2500					2	30 A	10	RM. 105 DRYER REC. (NOTE 1)	2
3	RM 100, 117, 118 REC'S. (NOTE 2)	12	20 A	1			720	2500							4
5	RM. 116A REC. (NOTE 2)	12	20 A	1					180	900	1	20 A	12	RMS.104,105,105A REC'.S (NOTE 2)	6
7	RMS. 116A REC. (NOTE 2)	12	20 A	1	180	1080					1	20 A	12	RM. 104 REC'S. (NOTE 2)	8
9	RM. 116 REC'S. (NOTE 2)	12	20 A	1			1260	1500			1	20 A	12	RM. 104 COFFEE REC.(NOTE 1)	10
11	RM. 115 REC'S. (NOTE 2)	12	20 A	1					1260	1200	1	20 A	12	RM. 104 REF REC. (NOTE 1)	12
13	RM. 114A REC. (NOTE 2)	12	20 A	1	180	360					1	20 A	12	RM. 104 REC.	14
15	RM. 113A REC. (NOTE 2)	12	20 A	1			180	1500			1	20 A	12	RM. 104 MICRO REC. (NOTE 1)	16
17	RM. 114 REC'S. (NOTE 2)	12	20 A	1					1260	180	1	20 A	12	ELEC 103 REC.	18
19	RM. 113 REC'S. (NOTE 2)	12	20 A	1	1260	1250					1	20 A	12	FIRST FLOOR LIGHTING (NOTE 2)	20
21	RM. 112 REC'S. (NOTE 2)	12	20 A	1			1260	1101			1	20 A	12	FIRST FLOOR LIGHTING (NOTE 2)	22
23	RM. 111 REC'S. (NOTE 2)	12	20 A	1					1260	250	1	20 A	12	ADA DOOR OPERATOR	24
25	RM. 112A REC. (NOTE 2)	12	20 A	1	180	1500					1	20 A	12	FIRST FLOOR EWC (NOTE 1)	26
27	RM. 111A REC. (NOTE 2)	12	20 A	1			180	900			1	20 A	12	DOOR HOLDERS	28
29	RM.100,107,108,119REC'S.(NOTE 2)	12	20 A	1					1260	0	1	20 A	-	SPARE	30
31	RM. 110 REC'S. (NOTE 2)	12	20 A	1	720	0					1	20 A	-	SPARE	32
33	RMS. 106, 110A REC'S. (NOTE 2)	12	20 A	1			360	0			1	20 A	-	SPARE	34
35	RM. 105 WASHER REC. (NOTE 1)	12	20 A	1					1200	0	1	20 A	-	SPARE	36
37	RM. 105 WASHER REC. (NOTE 1)	12	20 A	1	1200	0					1	20 A	-	SPARE	38
39	RM. 105 DRYER REC. (NOTE 1)	10	30 A	2			2500	0			1	20 A	-	SPARE	40
41									2500	0	1	20 A	-	SPARE	42
	TOTAL CONNECTED LOAD:				11310 W		13961 W		11450 W		AMPS:	102 A	LOAD:	36720.76 W	

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER.
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.

8EQB1

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 225 A
AIC RATING:	22,000	LOCATION:	MECHANICAL B10		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	RM. B10 REC'S.	12	20 A	1	360	1176					1	20 A	12	SP-2 (NOTE 1)	2
3	ELEVATOR LIGHTS B05A	12	20 A	1			200	1000			1	20 A	12	TEMP. CONTROL PANEL	4
5	POWER ELEVATOR RECEPTS	12	20 A	1					360	2102	3	35 A	8	CP-2A (NOTE 1)	6
7	SPARE	-	20 A	1	0	2102									8
9	SPARE	-	20 A	1			0	2102							10
11	SPARE	-	20 A	1					0	2102	3	35 A	8	CP-2B (NOTE 1)	12
13	SPARE	-	20 A	1	0	2102									14
15	FC-B-01 ,PD-B-01 (NOTE 2)	12	20 A	1			1256	2102							16
17	FC-B-7,8 & PD-B07,8 (NOTE 2)	12	20 A	1					1456	1176	1	20 A	12	SP-E1 (NOTE 1)	18
19	FC-B-9,10 &PD-B-09,10 (NOTE 2)	12	20 A	1	1456	1256					1	20 A	12	FC-B-03, PD-B-03 (NOTE 2)	20
21	FC-B-14,BC-17C,PD-B-14,PD-B-17C (NOTE 2)	12	20 A	1			1456	728			1	20 A	12	FC-B-06, PD-B-06 (NOTE 2)	22
23	FC-B-16&PD-B-16 (NOTE 2)	12	20 A	1					1256	728	1	20 A	12	FC-B-12, PD-B-12 (NOTE 2)	24
25	FC-B-15,FC-B-18,PD-B15,PDB-18 (NOTE 2)	12	20 A	1	1636	3038					3	50 A	6	CP-1B (NOTE 1)	26
27	FC-B-11,FC-B-13&PD-B-13(NOTE 2)	12	20 A	1			1256	3038							28
29	GF-1	12	20 A	1					0	3038					30
31	UH-1 & UH-2	12	20 A	1	500	3038					3	50 A	6	CP-1A (NOTE 1)	32
33	HX-1	12	20 A	2			739	3038							34
35									739	3038					36
37	FC-17-A ,FC-17-B&PD-B-17A&B(NOTE 2)	12	20 A	1	1456	--					1	--	-	SPACE	38
39	FC-B-4&-5&PD-B-04&05(NOTE 2)	12	20 A	1			1456	--			1	--	-	SPACE	40
41	FC-B-2, PD-B-02 (NOTE 2)	12	20 A	1					728	--	1	--	-	SPACE	42
	TOTAL CONNECTED LOAD:				18119 W		18370 W		16722 W		AMPS:	148 A	LOAD:	53211 W	

NOTES:
1. PROVIDE LOCKABLE CIRCUIT BREAKER.
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.

8N21

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 125 A
AIC RATING:	22,000	LOCATION:	ELEC 203		MAIN CONNECTION: MLO
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		ENCLOSURE TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	RM. 218 REC'S. (NOTE 2)	12	20 A	1	900	2500					2	30 A	10	RM. 205 DRYER REC. (NOTE 1)	2
3	RMS. 200, 217, 218 REC'S. (NOTE 2)	12	20 A	1			720	2500							4
5	RM. 216A REC. (NOTE 2)	12	20 A	1					180	900	1	20 A	12	RMS.200,205,205A REC'S.(NOTE 2)	6
7	RM. 215A REC. (NOTE 2)	12	20 A	1	180	1080					1	20 A	12	RM. 204 REC'S. (NOTE 2)	8
9	RM. 216 REC'S. (NOTE 2)	12	20 A	1			1260	180			1	20 A	12	RM. 204 COFFEE REC.(NOTE 1)	10
11	RM. 215 REC'S. (NOTE 2)	12	20 A	1					1260	1200	1	20 A	12	RM. 204 REF. REC. (NOTE 1)	12
13	RM. 214A REC. (NOTE 2)	12	20 A	1	180	360					1	20 A	12	RM. 204 REC,	14
15	RM. 213A REC. (NOTE 2)	12	20 A	1			180	1500			1	20 A	12	RM. 204 MICRO. REC. (NOTE 1)	16
17	RM. 214 REC'S. (NOTE 2)	12	20 A	1					1080	540	1	20 A	12	RMS. 201, 202, 203 REC'S. (NOTE 2)	18
19	RM. 213 REC'S. (NOTE 2)	12	20 A	1	1260	180					1	20 A	12	ATTIC REC.	20
21	RM. 212A REC. (NOTE 2)	12	20 A	1			180	180			1	20 A	12	ATTIC REC.	22
23	RM. 211A REC. (NOTE 2)	12	20 A	1					180	1267	1	20 A	12	SECOND FLOOR LTG. (NOTE 2)	24
25	RM. 212 REC'S. (NOTE 2)	12	20 A	1	1260	1378					1	20 A	12	SECOND FLOOR LTG. (NOTE2)	26
27	RM. 211 REC'S. (NOTE 2)	12	20 A	1			1260	250			1	20 A	12	ADA DOOR OPERATOR	28
29	RMS.200,208,217-218REC'S.(NOTE2)	12	20 A	1					1260	0	1	20 A	-	SPARE	30
31	RM. 210 REC'S. (NOTE 2)	12	20 A	1	720	0					1	20 A	-	SPARE	32
33	RM. 206, 210 REC'S. (NOTE 2)	12	20 A	1			360	0			1	20 A	-	SPARE	34
35	RM. 205 WASHER REC. (NOTE 1)	12	20 A	1					1200	0	1	20 A	-	SPARE	36
37	RM. 205 WASHER REC. (NOTE 1)	12	20 A	1	1200	1500					1	20 A	12	SECOND FLOOR EWC (NOTE 1)	38
39	RM. 205 DRYER REC. (NOTE 1)	10	30 A	2			2500	900			1	20 A	12	DOOR HOLDERS	40
41									2500	--	1	--	-	SPACE	42
	TOTAL CONNECTED LOAD:				12698 W		11970 W		11567 W		AMPS:	101 A	LOAD:	36235.16 W	

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER.
2. PROVIDE AFCI TYPE CIRCUIT BREAKER.

8-EQ1-T1

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 100 A
AIC RATING:		LOCATION:	TR B02		MAIN CONNECTION:
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		MAIN TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	TR B02 DATA RACK	12	20 A	3	500	1000					1	30 A	10	TR 201 DATA CAB. REC.	2
3							500	1500			1	20 A	12	TR 201 PACS CABINET	4
5									500	360	1	20 A	12	TR 201 REC'S.	6
7	TR B02 VIDEO SURVEILLANCE...	10	30 A	1	1000	0					1	15 A	-	SPARE	8
9	TR B02 PACS CABINET	12	20 A	1			1500	0			1	20 A	-	SPARE	10
11	TR B02 REC'S.	12	20 A	1					540	0	1	20 A	-	SPARE	12
13	TR 102 DATA CAB. REC.	10	30 A	1	1000	--					1	--	-	SPACE	14
15	TR 102 REC'S.	12	20 A	1			360	--			1	--	-	SPACE	16
17	TR 102 PACS CABINET	12	20 A	1					1500	--	1	--	-	SPACE	18
19	SPACE	-	--	1	--	--					1	--	-	SPACE	20
	TOTAL CONNECTED LOAD:				3500 W		3860 W		2900 W		AMPS:	28 A	LOAD:	10260 W	

NOTES:
1. BREAKERS 7, 9, 11, 13, 15, 17, 2, 6, AND 12 ARE NEW TO BE INSTALLED IN EXISTING PANELBOARD.

8-N1-T1

VOLTS:	120/208 Wye	PHASES:	3	WIRE: 4	MAIN CAPACITY: 100 A
AIC RATING:		LOCATION:	TR B02		MAIN CONNECTION:
MOUNTING:	SURFACE	FEEDER SIZE:	SEE POWER ONE-LINE DIAGRAM		MAIN TYPE: TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)		B (WATTS)		C (WATTS)		POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	TR B02 DATA RACK	12	20 A	3	500	360					1	20 A	12	TR B02 REC'S.	2
3							500	1000			1	30 A	10	TR B02 VIDEO SURVEILLANCE...	4
5									500	1000	1	30 A	10	TR 102 DATA CAB. REC.	6
7	SPARE	-	45 A	2	0	360					1	20 A	12	TR B02 REC.	8
9							0	1000			1	30 A	10	TR 201 DATA CAB. REC.	10
11	SPARE	-	40 A	2					0	360	1	20 A	12	TR 201 REC'S.	12
13					0	0					1	20 A	-	SPARE	14
15	SPARE	-	20 A	1			0	0			1	20 A	-	SPARE	16
17	SPARE	-	20 A	1					0	0	1	20 A	-	SPARE	18
19	SPACE	-	--	1	--	0					1	20 A	-	SPARE	20
21	SPACE	-	--	1			--	0			1	20 A	-	SPARE	22
23	SPACE	-	--	1					--	0	1	20 A	-	SPARE	24
25	SPACE	-	--	1	--	--					1	--	-	SPACE	26
27	SPACE	-	--	1			--	--			1	--	-	SPACE	28
29	SPACE	-	--	1					--	--	1	--	-	SPACE	30
	TOTAL CONNECTED LOAD:				1220 W		2500 W		1860 W		AMPS:	15 A	LOAD:	5580 W	

NOTES:
1. BREAKERS 4, 6, AND 10 ARE NEW TO BE INSTALLED IN EXISTING PANELBOARD.

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com

STAMP

REGISTERED PROFESSIONAL ENGINEER REG. NO. 7595 MICHAEL RAYMOND SIGMAN SOUTH DAKOTA 6/3/2025

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SCHEDULES
Approved: DOUG SPRINKLE
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS
Location: HOT SPRINGS, SOUTH DAKOTA
Issue Date: 06/03/2025
Checked: MRS
Drawn: VLS
Project Number: VA #568A4-21-208 SGA #BR21039
Building Number: 8
Drawing Number: EJ-404

VA FORM 08 - 6231

6/2/2025 2:25:57 PM
C:\Revit Local Files\2023\BR21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vicki.stephens.rvt

DIVISION 27 SPECIFICATIONS

SECTION 270010 GENERAL PROVISIONS

1. This section shall apply to Divisions 27 and 28.

2. Contractor shall provide shop drawing submittals as outlined in Division 01 for all materials and equipment specified within the following Division 27 and 28 specifications and/or specifically noted items called out on Signal Plan Sheets.

3. Contractor shall include these shop drawings, testing information and warranty information as part of O&M Manuals at completion of project as outlined in Division 01.

4. Contractor shall also provide As-Built drawings of these systems at completion of project as outlined in Division 01.

SECTION 271500 COMMUNICATIONS STRUCTURED CABLING

Submittal:
1. Submit communication closet layout per communication standards and per provided layout.

2. Product data:
   a. NOTE: All components shall be as specified or be 100% compatible (ie. completely interchangeable, etc.).
   b. Materials list of items proposed to be provided under this section.
   c. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

3. Submit information on the labeling scheme that will be used. MUST be coordinated with the owner.

4. Project Record Documents: Record actual locations and sizes of pathways and outlets.

Quality Assurance:
1. Work shall be installed in accordance with the manufacturer's recommendations of the equipment to be supplied and installed under this contract. Installations and materials shall be in accordance with latest edition of the Uniform Building Code (UBC), National Electrical Code (NEC), and Building Industry Consulting Service International (BICSI).

2. Installer Qualifications: Company specializing in installing similar systems, with minimum five years documented experience.

Qualifications:
1. All cabling and terminations shall be by a telecommunications contractor. This contractor shall be a certified installer with at least 5 years of verifiable experience. References may be requested.

2. Installer: Personnel installing and terminating the Cabling system shall be trained for voice and data installations and testing work. All installers/testers shall provide proof of training. Training must be from a nationally recognized organization and must be able maintain system warranties of materials being installed. Proof of training shall be submitted as part of the submittal process prior to start of work.

Warranty:
1. Work subject to terms of Article "Warranty of Construction," FAR clause 52.246-21.

System Description:
1. Provide conduits, cable trays, backboards, racks, patch panels, termination blocks, cables, and outlets to form a raceway and wiring system for voice, data, wireless access points (WAP's) and Video Surveillance cameras. Conduits shall be bonded at cable tray and/or back in Telecommunications Rooms (TR's). Cable tray shall include a #6 ground the entire length with each section bonded to the ground wire and tied back to the ground bar in the TR's.

2. Structured cabling work shall be installed in accordance with the latest BICSI Telecommunication Distribution Methods Manual. This manual shall be on site for reference at all times telecommunication work is in progress. All cable shall be color coded per BICSI Standards. Confirm CAT 6A termination EIA/TIA 568A or EIA/TIA 568B method with Owner prior to commencing any terminations.

3. Contractor shall provide two 24 strand single mode fiber cables from the existing Main Server Room in Building 65 to each of the TR's to include TR B02; TR 102; and TR 201. This will provide a total of 6 - 24 strand single mode fiber cables. Provide a 100 foot loop in Main Server Room for each cable and 20 foot loop in each TR. Each cable will be run in its own/separate conduit along path indicated on plans. Provide a minimum of 24 inch separation between these two conduits. Confirm routing prior to installation and any locations where this 24 inch separation is not possible shall be brought to COR's attention for review. This will provide to parallel redundant service pathways from the Main Server Room in Building 65 each of the TR Closets in Building 8.

4. Total station wire length to each workstation area shall be a maximum of 90 meters (295 feet) and a minimum of 20 meters (60 feet). Provide 20 foot loop for each cable within TR closet.

5. Combination Voice/Data Outlets shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 1 inch conduit. Conduit size shall be increased as required based on need to meet conduit fill or multiple conduits provided to meet conduit fill requirements based on the number of cables ran to each outlet location. Each outlet shall include the number of RJ-45/8 wire modular jacks rated CAT 6A indicated or a minimum of two (2) where not noted. Each jack shall be fed by its own CAT 6A 4 pair cable. One of these jacks will be voice and the others will be data unless otherwise noted. All conduits and cables will be terminated at patch panels at their assigned floor's TR room.

6. Data Only Outlets shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 1 inch conduit. Conduit size shall be increased as required based on need to meet conduit fill or multiple conduits provided to meet conduit fill requirements based on the number of cables ran to each outlet location. Each outlet shall include the number of RJ-45/8 wire modular jacks rated CAT 6A indicated or a minimum of two (2) where not noted. Each jack shall be fed by its own CAT 6A 4 pair cable. All conduits and cables will be terminated at patch panels at their assigned floor's TR room.

7. Wall Phone Voice outlets shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 3/4 inch conduit and have appropriate face plate for hanging phone with one RJ-45/8 wire jack rated CAT 6A. All conduits and cables will be terminated at patch panels at their assigned floor's TR room.

8. Wireless Access Points (WAP's) shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 3/4 inch conduit include one CAT 6A 4 pair cable to each location terminated with an RJ-45/8 wire jack rated CAT 6A. All conduits and cables will be terminated at patch panels at their associated floor's TR room. WAP's will be provided and installed by the Owner. Coordinate final locations and all work with Owner prior to rough-in.

9. Video Surveillance Cameras shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 3/4 inch conduit include one CAT 6A 4 pair cable to each location terminated with an RJ-45/8 wire jack rated CAT 6A. All conduits will be run to the nearest TR will all cabling extending to the Video Surveillance rack in TR B02. Video Surveillance Rack and Cameras will be provided and installed by the Video Surveillance Contractor. Coordinate all work prior to installation with the Video Surveillance Contractor and the Owner.

10. TV outlet shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 1 inch conduit. Each outlet shall include the one RJ-45/8 wire modular jacks rated CAT 6A with a CAT 6A 4 pair cable and one RG-6 cable as defined in section 274131 below. All conduits will extend TR rooms where the CAT 6A cable will be terminated at patch panels and the RG-6 Coax cable will extend from here to the lower level Arcade area where the existing TV Coax service is located.

CAT 6A Cable:
1. UL Listed CAT 6A, 10GBASE-T Plenum Rated cable with maximum outside cable diameter of 0.275 in. Conductor size 22-24 AWG. Performance Specifications. Meets or exceeds TIA-EIA-568-C.2-10 and TSB-155. Limited Power (LP) Certification. UL Listed as x-LP (0.7A).

2. Label both ends of cable. Label at faceplates and patch panels shall match VA Standard labeling scheme as shown in detail on plans. Coordinate with VA prior to installing.

3. Patch Cord Assembly: Provide 2 patch cords per terminated cable. Patch cords shall be CAT 6A, 7 feet length for closet end and 10 feet for User/Outlet end connection.

Fiber Optic Cable:
1. 24 Strand Single Mode Indoor/Outdoor Rated, Gel Free, Plenum Rated Cable equal to AFL Model LQ02493018XB:C4C or Corning Model 024EWP-T4101D20.

2. Fiber ends shall be terminated using type LC on each end and shall be tested to within 3db loss.

3. Provide 10 – 10' and 96 – 30' Single Mode Patch Cords pre-terminated with LC connectors.

System Components:
1. All components such as faceplates and RJ-45 jacks shall be by a single manufacturer and 100% compatible (ie. completely interchangeable, etc.). Male and Female RJ-45 jacks shall be CAT 6A rated. Materials shall be equal to Leviton or Panduit Netkey style.

2. Faceplates shall be a minimum of 4 port with ID window.

3. Wall phone plates shall have studs for hanging phone and one CAT 6A port.

4. Equipment/Communications Racks: Existing rack in existing TR 107 will be relocated to new TR B02 as called out in the plans. New Cabinets with equipment and accessories will be provided in new TR102 and TR201 as called out in the plans.

5. Rack Mounted Patch Panels shall be Leviton Model E2X1A-S48 or equal with rear cable management and angled panel cover. Provide quantity of Patch Panels as indicated in plans or as needed for all cables shown to be installed plus 20% spares whichever is the greatest number. Patch Panels shall be provided with mounting and labeling kits.

6. Rack Mounted Fiber Patch Panels shall be equal to AFL Model XFM-1-U-B-0 with Patch and Splice Module equal to AFL PM-L-12-ULC-0-S-01. Provide quantity of Patch and Splice Modules as needed on each end for termination of all strands of fiber from each cable.

7. Telecommunications Ground Bus Bar. Provide grounding bus bar in each TR room on each floor. Provide for modification of existing #3/0 copper ground that is currently installed to existing TR 107 to new TR B02 as noted on the plans. If an extension is required provide non-reversible splice. Provide #4 copper ground from connection from TR B02 to each Ground Bus Bar in TR 102 and TR 201 as noted in the plans. Ground Bus Bar: Copper, minimum 1/4" thick by 4" wide by 18" long with 3/8", 9/32", and 1/4" holes spaced per industry standard. Stand-Off Insulators: Comply with UL 891 for use in Switchboards, 600V. Lexan or PVC impulse tested at 5000V. Connectors: Mechanical type, cat silicon bronze, solderless compression type wire terminals and long barrel, two bolt connection to ground bus bar.

Testing of Copper and Fiber Systems:
1. Test 100% of the cables installed. Conduct testing after terminations have been made at room jack and patch panels. Any cable that fails must be replaced and re-terminated until it passes.

2. Owner shall be provided the option to observe all testing. Contractor shall notify Owner's representative 48 hours before commencing testing so Owner can make arrangement for observing testing.

3. Contractor shall provide a printed copy of all tests and test results and provide a copy within each of the O&M manuals. An electronic copy of the test results shall also be provided with the O&M manuals.

4. Test all CAT 6A cable to current BICSI standards for CAT 6A cabling using properly calibrated test equipment. Test report shall identify the cable being tested by matching labeling scheme approved during the installation process. Test and record the following: NEXT (Near End Cross Talk) NEXT (Near End Cross Talk); Attenuation; ACR (Attenuation to Cross Talk Ratio); Length of cable; 4% or 2 feet whichever is greater; Impedance; Loop Resistance; Capacitance; Measure Wire Map; Capable of indicating pass or failure of testing. Each cable shall be field certified to meet performance category requirements per TIA 568-C.2.

5. Test all Fiber Optic cable strands after terminations in spice module on both ends. All optical connections must be tested for basic link with and Optical Time domain Reflectometer (OTDR). Single mode fibers shall be tested at 1310 and 1550 Nanometers wavelength in both directions. Acceptable loss less that 0.5 dB, per mated pair, acceptable splice loss less than 0.2dB, acceptable cable loss per manufacturer's calculated maximum dB loss per KM.

SECTION 274131 TELEVISION CABLING

Submittal:
1. Submit floor plan layout of showing TV locations with cabling interconnection shown.

2. Product data:
   a. NOTE: All components shall be as specified or be 100% compatible (ie. completely interchangeable, etc.).
   b. Materials list of items proposed to be provided under this section.
   c. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

3. Project Record Documents: Record actual locations and sizes of pathways and TV locations.

Quality Assurance:
1. Work shall be installed in accordance with the manufacturer's recommendations of the equipment to be supplied and installed under this contract. Installations and materials shall be in accordance with latest edition of the Uniform Building Code (UBC), National Electrical Code (NEC), and Building Industry Consulting Service International (BICSI).

2. Installer Qualifications: Company specializing in installing similar systems, with minimum five years documented experience.

Qualifications:
1. All cabling and terminations shall be by a telecommunications contractor. This contractor shall be a certified installer with at least 5 years of verifiable experience. References may be requested.

Warranty:
1. Work subject to terms of Article "Warranty of Construction," FAR clause 52.246-21.

System Description:
1. Provide conduits, junction boxes, cables, terminations and faceplates to form a complete and functioning Television Distribution System.

2. TV outlet shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) with single gang mud ring and minimum of a 1 inch conduit. Each outlet shall include the one RJ-45/8 wire modular jacks rated CAT 6A with a CAT 6A 4 pair cable and one RG-6 cable as defined in section 274131 below. All conduits will extend TR rooms where the CAT 6A cable will be terminated at patch panels and the RG-6 Coax cable will extend from here to the lower level Arcade area where the existing TV Coax service is located.

3. Provide TV outlet and cable (RG-6) from each outlet to lower level Arcade area where the existing TV Coax service is located. In addition, provide (1) CAT 6A data cable to each TV outlet. CAT 6A cable shall conform to specification 271500 Communications Structured Cabling and installed as outlined in that specification section.

Video Cable:
1. Branch distribution cable shall be RG-6 Coax, 75 ohm, 100% shielded, plenum rated.

System Components:
1. Faceplates shall be by the same manufacturer as provided under 271500 Communications Structured Cabling.

2. Connectors shall be Standard "F" connectors, 75 ohm back matched, Bandpass: 40Mhz to 1Ghz. Flatness: Plus or minus 0.5 dB or better over entire frequency range. Input and Output Return Loss: 20dB of greater for each component over complete frequency range.

3. Amplifiers shall be Blonder Tongue Laboratories, Inc; Model BIDA 5900 Series or equal by Winegard, Beldon or Jerrold. Provide one single channel VHF amplifier with automatic gain control for each required channel, including converted UHF channels. Provide 120V power for amplifiers from local receptacle circuit.

Testing:
1. CAT 6A cable shall be tested as outlined in 271500 Communications Structured Cabling.

2. All new equipment shall be aligned as recommended per the manufacturer. Video signals shall be 100 IRE at the designation point. Sync levels shall be at -40 IRE. SC and horizontal phasing shall be done using a vector scope and waveform monitor. Provide documentation of signal strength for every TV outlet location and include in the O&M Manual for the project.

3. Contractor shall provide a demonstration and training of operation to VA staff at completion of project.

SECTION 275123 PUBLIC ADDRESS SYSTEM

Submittal:
1. No submittals required for this section.

2. Project Record Documents: Record actual locations and sizes of pathways and rough-in to speaker locations.

System Description:
1. Public Address System shall consist of 4-11/16 inch by 4-11/16 inch by 2-1/8 inch deep J-box (42 cubic inches) at speaker locations located on drawings with a cover plate label as Public Address and painted tan with a minimum of a 3/4 inch conduit between speaker locations and back to Arcade..

2. Provide conduits and junction boxes from each level to the Arcade where the new conduits will interface with the existing conduit/raceway system that serves the existing Public Address System. Contractor to remove existing conduits and cables from Building 8 back to the Arcade. Contractor to ensure that cabling serving other areas not being remodeled remain in tact and continue to operate as a functional system.

3. A new Public Address System is currently being installed. New cable, speakers, head-end, etc will be installed as part of that project utilizing the conduit raceway system being provided as part of this contract.

DIVISION 28 SPECIFICATIONS

SECTION 283100 FIRE DETECTION AND ALARM SYSTEM

Submittal:
1. Submit floor plan layout using AutoCAD 2019 or newer and include all contractor's information. Layering shall be by VA criteria as provided by the Contracting Officer's Representative (COR). Bid drawing files in AutoCAD format will be provided to the Contractor upon request. The contractor shall be responsible for verifying all critical dimensions shown on the drawings provided by VA showing all Fire Alarm devices and equipment to include cabling interconnection.

2. Floor plans: Provide locations of all devices (with device number at each addressable device corresponding to control unit programming), appliances, panels, equipment, junction/terminal cabinets/boxes, risers, electrical power connections, individual circuits and raceway routing, system zoning; number, size, and type of raceways and conductors in each raceway; conduit fill calculations with cross section area percent fill for each type and size of conductor and raceway. Only those devices connected and incorporated into the final system shall be on these floor plans. Do not show any removed devices on the floor plans. Show all interfaces for all fire safety functions.

3. Detailed wiring diagrams: Provide for control panels, modules, power supplies, electrical power connections, auxiliary relays and annunciators showing termination identifications, size and type conductors, circuit boards, LED lamps, indicators, adjustable controls, switches, ribbon connectors, wiring harnesses, terminal strips and connectors, spare zones/circuits. Diagrams shall be drawn to a scale sufficient to show spatial relationships between components, enclosures and equipment configuration.

4. Provide power supply and battery calculations as noted within this specification.

5. Two weeks prior to final inspection, the Contractor shall deliver to the COR 3 sets of as-built drawings and one set of the as-built drawing computer files (using AutoCAD 2019 or newer). As built drawings (floor plans) shall show all new and/or existing conduit used for the fire alarm system.

6. Product data:
   a. NOTE: All components shall be as specified or be 100% compatible (ie. completely interchangeable, etc.).
   b. Materials list of items proposed to be provided under this section.
   c. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

7. Project Record Documents: Record actual locations of devices and equipment along with all cabling interconnections.

8. Submit simultaneously with the shop drawings, companion copies of complete maintenance and operating manuals including technical data sheets for all items used in the system, power requirements, device wiring diagrams, dimensions, and information for ordering replacement parts. Wiring diagrams shall have their terminals identified to facilitate installation, operation, expansion and maintenance. Wiring diagrams shall indicate internal wiring for each item of equipment and the interconnections between the items of equipment. Include complete listing of all software used and installation and operation instructions including the input/output matrix chart. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate, inspect, test and maintain the equipment and system. Provide all manufacturer's installation limitations including but not limited to circuit length limitations. Include information indicating who will provide emergency service and perform post contract maintenance. Provide a replacement parts list with current prices. Include a list of recommended spare parts, tools, and instruments for testing and maintenance purposes. A computerized preventive maintenance schedule for all equipment. The schedule shall be provided on disk in a computer format acceptable to the VAMC and shall describe the protocol for preventive maintenance of all equipment. The schedule shall include the required times for systematic examination, adjustment and cleaning of all equipment. A printout of the schedule shall also be provided in the manual. Provide the disk in a pocket within the manual. Furnish manuals in 3 ring loose-leaf binder or manufacturer's standard binder. A printout for all devices proposed on each signaling line circuit with spare capacity indicated.

9. Two weeks prior to final inspection, deliver 4 copies of the final updated maintenance and operating manual to the COR.

Quality Assurance:
1. Work shall be installed in accordance with the manufacturer's recommendations of the equipment to be supplied and installed under this contract. Installations and materials shall be in accordance with latest edition of the Uniform Building Code (UBC), NFPA 70 National Electrical Code (NEC), NFPA 72 National Fire Alarm and Signaling Code, NFPA 101 Life Safety Code and Building Industry Consulting Service International (BICSI).

2. The installing company shall employ NICET (minimum Level II Fire Alarm Technology) technicians on site to guide the final check-out and to ensure the systems integrity. The equipment supplier shall employ NICET (minimum Level III fire alarm technology) technician at their local office to prepare installation drawings and verify compliance with the specifications.

3. Installer Qualifications: Manufacturer authorized distributor and installer of Johnson Controls Fire Alarm Systems, with minimum five years documented experience for installing Fire Alarm System. The manual shall be updated to include any information necessitated by the maintenance and operating manual approval. Complete "As installed" wiring and schematic diagrams shall be included that shows all items of equipment and their interconnecting wiring. Show all final terminal identifications. Complete listing of all programming information, including all control events per device including an updated input/output matrix. Certificate of Installation as required by NFPA 72 for each building. The certificate shall identify any variations from the National Fire Alarm Code. Certificate from equipment manufacturer assuring compliance with all manufacturers installation requirements and satisfactory system operation.

Qualifications:
1. All cabling and terminations shall be by a Simplex Fire Alarm System authorized contractor. This contractor shall be a certified installer with at least 5 years of verifiable experience. References may be requested.

Warranty:
1. All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of one year from the date of acceptance of the entire installation by the Contracting Officer.

Guaranty Period Services:
1. Complete inspection, testing, maintenance and repair service for the fire alarm system shall be provided by a factory trained authorized representative of the manufacturer of the major equipment for a period of 5 years from the date of acceptance of the entire installation by the Contracting Officer.

2. Contractor shall provide all necessary test equipment, parts and labor to perform required inspection, testing, maintenance and repair.

3. All inspection, testing, maintenance and permanent records required by NFPA 72, and recommended by the equipment manufacturer shall be provided by the contractor. Work shall include operation of sprinkler system alarm and supervisory devices as well as all reused existing equipment connected to the fire alarm system. It shall include all interfaced equipment including but not limited to elevators, HVAC shutdown, and extinguishing systems.

4. Maintenance and testing shall be performed in accordance with NFPA 72. A computerized preventive maintenance schedule shall be provided and shall describe the protocol for preventive maintenance of equipment. The schedule shall include a systematic examination, adjustment and cleaning of all equipment.

5. Non-included Work: Repair service shall not include the performance of any work due to improper use, accidents, or negligence for which the contractor is not responsible.

6. Service and emergency personnel shall report to the Engineering Office or their authorized representative upon arrival at the hospital and again upon the completion of the required work. A copy of the work ticket containing a complete description of the work performed and parts replaced shall be provided to the VA COR or his authorized representative.

7. Emergency Service:
a. Warranty Period Service: Service other than the preventative maintenance, inspection, and testing required by NFPA 72 shall be considered emergency call-back service and covered under the warranty of the installation during the first year of the warranty period, unless the required service is a result of abuse or misuse by the Government. Written notification shall not be required for emergency warranty period service and the contractor shall respond as outlined in the following sections on Normal and Overtime Emergency Call-Back Service. Warranty period service can be required during normal or overtime emergency call-back service time periods at the discretion of the COR or his authorized representative.

b. Normal and overtime emergency call-back service shall consist of an on-site response within 2 hours of notification of a system trouble.

c. Normal emergency call-back service times are between the hours of 7:30 a.m. and 4:00 p.m., Monday through Friday, exclusive of federal holidays. Service performed during all other times shall be considered to be overtime emergency call-back service. The cost of all normal emergency call-back service for years 2 through 5 shall be included in the cost of this contract.

d. Overtime emergency call-back service shall be provided for the system when requested by the Government. The cost of the first 40 manhours per year of overtime call-back service during years 2 through 5 of this contract shall be provided under this contract. Payment for overtime emergency call-back service in excess of the 40 man hours per year requirement will be handled through separate purchase orders. The method of calculating overtime emergency call-back hours is based on actual time spent on site and does not include travel time.

8. The contractor shall maintain a log at each fire alarm control unit. The log shall list the date and time of all examinations and trouble calls, condition of the system, and name of the technician. Each trouble call shall be fully described, including the nature of the trouble, necessary correction performed, and parts replaced.

System Description:
1. The existing Fire Alarm System serving the Hot Springs VA Medical Complex is a Johnson Controls IFC Fire Alarm System. It is the intent of this project to integrate all of the work performed under this contract into the existing Johnson Controls IFC Fire Alarm System. The Contractor is to provide conduits, junction boxes, cables, terminations, devices and equipment to form a complete and functioning Fire Alarm System that is networked with the rest of Hot Springs VA Medical Complex. The existing Fire Alarm Control Panel (FACP) that serves Building 8 is located in Building 2 Elect B2. All work performed as part of this project shall be integrated with this existing FACP. A new fire alarm system expander panel may need to be installed in Building #2 next to the existing FACP. All work to be performed by Johnson Controls out of Sioux Falls, South Dakota is the servicing vendor that shall be hired for modifications and integration of this system. POC Jason Klocker at (605)362-5325.

2. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on a Class A (NFPA Style 4) Signaling Line Circuit (SLC).

3. Initiation Device Circuits (IDC) shall be wired Class A (NFPA Style C), as part of an addressable device connected by the SLC Circuit.

4. Notification Appliance Circuits (NAC) shall be wired Class A (NFPA Style Y), as part of an addressable device connected by the SLC Circuit.

Equipment and Materials, General:
1. All equipment and components shall be new. All equipment and components shall be manufactured by Johnson Controls IFC and be UL listed for use with the existing Johnson Controls IFC FACP. The authorized representative of the manufacturer of the major equipment shall certify that the installation complies with all manufacturers' requirements and that satisfactory total system operation has been achieved.

2. Building 8 shares an SLC loop with Building 1. Since the detectors installed in Building 8 and Building 1 have been discontinued all of the devices on this loop will need to be replaced with new. In addition to the new devices shown in Building 8 the following devices shall also be replaced in Building 1:
   - 31 Smoke Detectors
   - 1 Heat Detector
   - 4 Duct Detectors and associated test stations
   - 10 Manual Pull Stations
   - 30 Monitor/Dual Monitor Modules
   - 16 Relay Modules

Conduit, Boxes and Wire:
1. Conduit shall be in accordance with Section 26 05 33 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS. All new conduits shall be installed in accordance with NFPA 70. Conduit fill shall not exceed 40 percent of interior cross sectional area. All new conduits shall be 3/4 inch (19 mm) minimum.

2. All wiring for the Fire Alarm System shall be installed in conduit. Wiring shall be in accordance with NEC article 760 and as recommended by the manufacturer of the fire alarm system. All wires shall be color coded. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG for initiating device circuits and 14 AWG for notification device circuits.

3. Terminal Boxes, Junction Boxes, and Cabinets shall be galvanized steel in accordance with UL requirements. All boxes shall be sized and installed in accordance with NFPA 70. Covers shall be repainted red in accordance with Section 09 91 00, PAINTING and shall be identified with white markings as "FA" for junction boxes and as "FIRE ALARM SYSTEM" for cabinets and terminal boxes. Lettering shall be a minimum of 3/4 inch (19 mm) high. Terminal boxes and cabinets shall have a volume 50 percent greater than required by the NFPA 70. Minimum sized wire shall be considered as 14 AWG for calculation purposes. Terminal boxes and cabinets shall have identified pressure type terminal strips and shall be located at the base of each riser. Terminal strips shall be labeled as specified or as approved by the COR.

Standby Power Supply:
1. Contractor shall perform power calculations to determine the number of power supplies needed to support the new devices being installed in Building 8. Contractor to also provide appropriate power to these panels from Life Safety Panel 8LS11. Contractor shall supply the correct number of power supplies and then calculate power needed for the battery backup system. The Contractor shall provide the revised battery backup system to meet the revised load. The calculations for these systems shall be included as part of the shop drawing submittal. The battery system shall have sufficient capacity to power the fire alarm system for not less than 24 hours plus 5 minutes of alarm to an end voltage of 1.14 volts per cell, upon a normal AC power failure. If required the battery charge shall also be upgraded to meet the new load requirements.

Alarm Notification Appliances:
1. Horns, horn strobes and strobes shall all match the existing equipment. While these devices are shown diagrammatically on the plans, the contractor will be responsible for meeting sound pressure requirements and visual requirements as required by NFPA 72.

Alarm Initiating Devices:
1. Manual Pull Stations; Smoke Detectors; Duct Smoke Detectors; Heat Detectors; Water Flow and Pressure Switches; and Address Reporting Interface Devices shall all match existing equipment. While smoke detectors and heat detectors are shown on the plans, the contractor will be responsible for providing shop drawings and layouts that meet NFPA 72 requirements.

Electromagnetic Door Holders:
1. New Door Holders shall be supplied by Division 08 and shall be 120V.

2. The Fire Alarm Contractor will provide interface for Door Holds to release upon activation of the Fire Alarm system.

Installation:
1. Installation shall be in accordance with NFPA 70, 72, 90A, and 101 as shown on the drawings, and as recommended by the major equipment manufacturer. Fire alarm wiring shall be installed in conduit and all penetrations of smoke and fire barriers shall be protected as required by Section 07 84 00, FIRESTOPPING. Refer to Architectural drawings for smoke and fire barrier locations.

2. All conduits, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas.

3. All new conduit within finished spaces shall be concealed. If the Contractor feels that this is not possible in a space for some reason a request must be provided to install as exposed. If exposed conduits are approved they shall be painted in accordance with Section 09 91 00, PAINTING to match surrounding finished areas and red in unfinished areas.

4. All existing accessible fire alarm conduit not reused shall be removed.

5. All fire detection and alarm system devices, control units and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas. Exact locations are to be approved by the COR.

6. Horns and Horn Strobes shown to be installed in ceiling shall be ceiling mounted and fully recessed in areas with suspended ceilings.

7. Horn Strobes and/or Strobes shall be flush wall mounted with the bottom of the unit located 80 inches (2,000 mm) above the floor or 6 inches (150 mm) below ceiling, whichever is lower. Locate and mount to maintain a minimum 36 inches (900 mm) clearance from side obstructions.

8. Manual pull stations shall be installed not less than 42 inches (1,050 mm) or more than 48 inches (1,200 mm) from finished floor to bottom of device and within 60 inches (1,500 mm) of a stairway or an exit door.

Typical Operation:
1. Activation of any manual pull station, water flow or pressure switch, heat detector, or smoke detector shall cause the following operations to occur:

a. Operate the horns and strobe system in Building 8. For sprinkler protected buildings, flash strobes continuously only in the zone of alarm. For buildings without sprinkler protection throughout, flash strobes continuously only on the floor of alarm. Confirm this operation with the Hot Springs VA Fire Department.

b. Continuously sound a temporal pattern general alarm and flash all strobes in the building in alarm until reset at the local fire alarm control unit in Building 8.

c. Release only the magnetic door holders in the smoke zone on the floor from which alarm was initiated.

d. Transmit a separate alarm signal, via the main fire alarm control unit to the fire department.

e. Unlock the electrically locked exit doors on the floor of the alarm.

f. Close all smoke and combination smoke/fire dampers.

2. Heat detectors in elevator machine rooms shall, in addition to the above functions, disconnect all power to all elevators served by that machine room after a time delay. The time delay shall be programmed within the fire alarm system programming and be equal to the time it takes for the car to travel from the highest to the lowest level, plus 10 seconds.

3. Smoke detectors in the primary elevator lobbies of Buildings 8 shall, in addition to the above functions, return the elevators to the approved floor as directed by the VA Fire Department.

4. Smoke detectors in the remaining elevator lobbies, elevator machine room, or top of hoist way shall, in addition to the above functions, return the elevator to the primary floor.

5. Operation of a smoke detector at a corridor door used for automatic closing shall also release only the magnetic door holders on that floor.

6. Operation of duct smoke detectors shall cause a system supervisory condition and shut down the ventilation system and close the associated smoke dampers as appropriate.

7. Operation of any sprinkler or standpipe system valve supervisory switch, high/low air pressure switch, or fire pump alarm switch shall cause a system supervisory condition.

8. Alarm verification shall not be used for smoke detectors installed for the purpose of early warning

Tests:
1. Provide the service of a NICET level III, competent, factory trained engineer or technician authorized by the manufacturer of the fire alarm equipment to technically supervise and participate during all of the adjustments and tests for the system. Make all adjustments and tests in the presence of the COR.

2. When the systems have been completed and prior to the scheduling of the final inspection, furnish testing equipment and perform the following tests in the presence of the COR. When any defects are detected, make repairs or install replacement components, and repeat the tests until such time that the complete fire alarm systems meets all contract requirements. After the system has passed the initial test and been approved by the COR, the contractor may request a final inspection.

a. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.

b. Test the insulation on all installed cable and wiring by standard methods as recommended by the equipment manufacturer.

c. Run water through all flow switches. Check time delay on water flow switches. Submit a report listing all water flow switch operations and their retard time in seconds.

d. Open each alarm initiating and notification circuit to see if trouble signal actuates.

e. Ground each alarm initiation and notification circuit and verify response of trouble signals.

Final Inspection and Acceptance:
1. Prior to final acceptance a minimum 30 day "burn in" period shall be provided. The purpose shall be to allow equipment to stabilize and potential installation and software problems and equipment malfunctions to be identified and corrected. During this diagnostic period, all system operations and malfunctions shall be recorded. Final acceptance will be made upon successful completion of the "burn in" period and where the last 14 days is without a system or equipment malfunction.

2. At the final inspection a factory trained representative of the manufacturer of the major equipment shall repeat the tests in Article 3.3 TESTS and those required by NFPA 72. In addition the representative shall demonstrate that the systems function properly in every respect. The demonstration shall be made in the presence of a VA representative.

Instruction:
1. The manufacturer's authorized representative shall provide instruction and training to the VA as follows:

a. Four 2-hour sessions to Engineering and Fire Department staff for detailed operation of the system. Two sessions at the completion of installation and 2 sessions 3 months after the completion of installation.

2. The Contractor and/or the Systems Manufacturer's representative shall provide a typewritten "Sequence of Operation" including a trouble shooting guide of the entire system for submittal to the VA. The sequence of operation will be shown for each input in the system in a matrix format and provided in a loose leaf binder. When reading the sequence of operation, the reader will be able to quickly and easily determine what output will occur upon activation of any input in the system. The INPUT/OUTPUT matrix format shall be as shown in Appendix A to NFPA 72.

SECTION 281300 ACCESS CONTROL SYSTEM

Submittal:
1. Submit floor plan layout of access control device and equipment locations with cabling interconnection shown. Provide wiring connection details for all devices, equipment and head end equipment.

2. Product data:
   a. NOTE: All components shall be as specified or be 100% compatible (ie. completely interchangeable, etc.).
   b. Materials list of items proposed to be provided under this section.
   c. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

3. Project Record Documents: Record actual locations and sizes of pathways, devices and equipment.

Quality Assurance:
1. Work shall be installed in accordance with the manufacturer's recommendations of the equipment to be supplied and installed under this contract. Installations and materials shall be in accordance with latest edition of the Uniform Building Code (UBC), National Electrical Code (NEC), and Building Industry Consulting Service International (BICSI).

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com
STONE GROUP ARCHITECTS

STAMP
REGISTERED PROFESSIONAL ENGINEER REG. NO. 7595 MICHAEL RAYMOND SIGMAN SOUTH DAKOTA 6/3/2025

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: ELECTRICAL SPECIFICATIONS
Approved: DOUG SPRINKLE
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: DOM RENOVATION FOR SEMIPRIVATE ROOMS
Location: HOT SPRINGS, SOUTH DAKOTA
Issue Date: 06/03/2025
Checked: MRS
Drawn: VLS
Project Number: VA #568A4-21-208 SGA #BR21039
Building Number: 8
Drawing Number: EJ-405

VA FORM 08 - 6231
6/2/2025 2:25:57 PM
C:\Revit Local Files\2023\BR21039-Hot Springs Domiciliary Renovation Building 8-MEP23-Central_vicki.stephens.rvt

DIVISION 28 SPECIFICATIONS CONTINUED

2. Installer Qualifications: Company specializing in installing similar systems, with minimum five years documented experience.

Qualifications:
1. All cabling and terminations shall be by the access control contractor. This contractor shall be a certified installer with at least 5 years of verifiable experience. References may be requested.

Warranty:
1. Work subject to terms of Article "Warranty of Construction," FAR clause 52.246-21.

System Description:
1. Provide conduits, junction boxes, cables, backboxes and speakers to form a complete and functioning access control system that integrates with the existing system.

2. The existing Access Control System is a Johnson Controls C-Cure 9000 Access Control System. All new devices shall be provided by Johnson Controls that match similar devices being installed in other areas. All wiring shall be installed in conduit back to the Control Panel. The new devices and control panel will need to be integrated into the head end equipment of the Johnson Controls C-Cure 9000 control system with all programming included as part of this project. Johnson Controls out of Sioux Falls, South Dakota is the servicing vendor that shall be hired for modifications and integration of this system. POC Jason Klocker at (605)362-5325.

3. Card Readers shall be HID model 40HTKS-03-0004XR.

4. Request to Exit shall be Bosch model DS-160.

SECTION 28200 VIDEO SURVEILLANCE SYSTEM

Submittal:
1. Submit floor plan layout of access control device and equipment locations with cabling interconnection shown. Provide wiring connection details for all devices, equipment and head end equipment.

2. Product data:
   a. NOTE: All components shall be as specified or be 100% compatible (ie. completely interchangeable, etc.).
   b. Materials list of items proposed to be provided under this section.
   c. Manufacturer's specifications and other data needed to provide compliance with the specified requirements.

3. Project Record Documents: Record actual locations and sizes of pathways, devices and equipment.

Quality Assurance:
1. Work shall be installed in accordance with the manufacturer's recommendations of the equipment to be supplied and installed under this contract. Installations and materials shall be in accordance with latest edition of the Uniform Building Code (UBC), National Electrical Code (NEC), and Building Industry Consulting Service International (BICSI).

2. Installer Qualifications: Company specializing in installing similar systems, with minimum five years documented experience.

Qualifications:
1. All cabling and terminations for cameras shall be by a telecommunications contractor. This contractor shall be a certified installer with at least 5 years of verifiable experience. References may be requested.

Warranty:
1. Work subject to terms of Article "Warranty of Construction," FAR clause 52.246-21.

System Description:
1. Provide conduits, junction boxes, cables, backboxes and speakers to form a complete and functioning access control system that integrates with the existing system.

2. The existing Video Surveillance System is a Milestone X-Protect Corporate Platform. The headend for this system resides in Building 65 Main Computer Room. All new devices and Materials shall be provided by Johnson Controls that match similar devices being installed in other areas. All wiring for cameras shall be CAT 6A and installed per Section 271500 Communications Structured Cabling back to the Video Surveillance Rack in TR B02. All work to be performed by Johnson Controls out of Sioux Falls, South Dakota is the servicing vendor that shall be hired for modifications and integration of this system. POC Jason Klocker at (605)362-5325.

3. Headend equipment shall be expanded for recording purposes to retain storage that matches existing system using the same frame rate, resolution, etc that the existing system utilizes.

4. Video Surveillance Contractor to provide 2 post rack with all associated accessories as indicated in Specific Note E317 on Sheet ES-301. Contractor to also provide all switches and other equipment and wiring necessary operate and record all of the cameras within Building 8. Provide Fiber tie as necessary to interface with the campus with system. Coordinate work with VA staff.

5. New Cameras shall be Axis Fixed V-F 1080p IR model P3265-LV for all areas except the TR rooms. TR room cameras shall be Axis model M4317-PLVE (6MP).

ISSUE #	DESCRIPTION	DATE
1	BID DOCUMENTS	06/03/25

CONSULTANTS

STRUCTURAL:
ALBERTSON ENGINEERING, INC.
3202 W. MAIN ST., #C
RAPID CITY, SD 57702
605-343-9606
STEPHEN KILBER
Albertson Engineering Inc.

MEP:
WEST PLAINS ENGINEERING, INC.
1750 RAND ROAD
RAPID CITY, SD 57702
605-348-7455
MIKE SIGMAN (ELEC)
MICHAEL HEINRICH (MECH)
WPE WEST PLAINS ENGINEERING, INC.

DESIGNER OF RECORD

A/E:
Stone Group Architects
600 E. 7th Street
Sioux Falls, SD 57103
phone: 605.271.1144
stonegrouparchitects.com
STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7595
MICHAEL RAYMOND SIGMAN
SOUTH DAKOTA
6/3/2025

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ELECTRICAL SPECIFICATIONS	100% CONSTRUCTION DOCUMENTS	DOM RENOVATION FOR SEMIPRIVATE ROOMS	VA #568A4-21-208 SGA #BR21039
			Building Number: 8
Approved: DOUG SPRINKLE	FULLY SPRINKLERED	Location: HOT SPRINGS, SOUTH DAKOTA	Drawing Number: EJ-406
		Issue Date: 06/03/2025; Checked: MRS; Drawn: VLS	

VA FORM 08 - 6231