

DRAWING CONTENTS

ARCHITECTURAL SHEETS

A0.00	COVER SHEET
A0.01	OVERALL SITE PLAN
A0.02	ROSS HEADFRAME MAIN LEVEL
A0.03	ROSS HEADFRAME LOWER LEVEL
A0.05	YATES HEADFRAME MAIN LEVEL
A0.06	YATES HEADFRAME LOWER LEVEL
A0.10	DOOR SCHEDULES
A0.11	TYPICAL SWING DOOR DETAILS
A0.12	TYPICAL JAMB DETAILS
A0.13	TYPICAL HEAD DETAIL
A0.14	TYPICAL OH DOOR DETAILS
A0.15	TYPICAL OH DOOR JAMB DETAIL
A0.16	ALTERNATE OH DOOR JAMB DETAIL
A0.17	TYPICAL OH DOOR SILL DETAIL
A0.18	TYPICAL OH DOOR HEAD DETAIL
A0.19	TYPICAL BOLLARD DETAIL
R005	DOUBLE DOOR - INFILL
R010	SINGLE DOOR
R011	SINGLE DOOR
R015	SINGLE DOOR
R016	SINGLE DOOR
R020	OVERHEAD DOOR
R025	OVERHEAD DOOR
R100	DOUBLE DOOR
R105	OVERHEAD DOOR
R110	SINGLE DOOR
R115	OVERHEAD DOOR
R120	SINGLE DOOR
R125	OVERHEAD DOOR
R130	SINGLE DOOR
R135	SINGLE DOOR
R140	OVERHEAD DOOR
R145	SINGLE DOOR
R150	DOUBLE DOOR
Y010	OVERHEAD DOOR
Y015	SINGLE DOOR
Y025	SINGLE DOOR
Y030	EXTERIOR OPENING
Y100	SINGLE DOOR - INFILL
Y105	DOUBLE DOOR - INFILL
Y110	DOUBLE DOOR - INFILL
Y115	DOUBLE DOOR
Y120	SINGLE DOOR
Y130	SINGLE DOOR
Y135	OVERHEAD DOOR
Y140	OVERHEAD DOOR
Y145	SINGLE DOOR
Y147	SINGLE DOOR - REMOVE
Y150	OVERHEAD DOOR
Y155	DOUBLE DOOR
Y160	OVERHEAD DOOR
Y165	SINGLE DOOR
Y170	OVERHEAD DOOR
Y175	OVERHEAD DOOR - INFILL
Y180	OVERHEAD DOOR

ELECTRICAL SHEETS

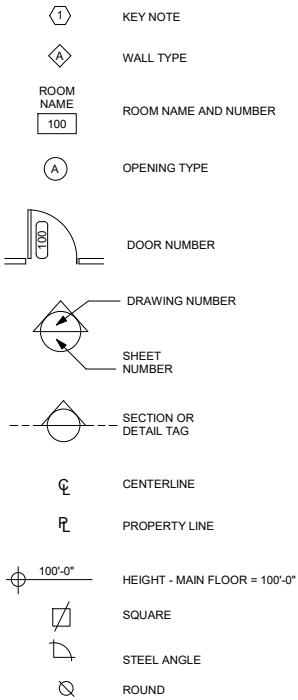
E0.01	ROSS MAIN LEVEL LIGHTING PLAN
E0.02A	ROSS MAIN LEVEL POWER AND SIGNAL PLAN
E0.02B	ROSS MAIN LEVEL POWER AND SIGNAL NOTES
E0.03	ROSS LOWER LEVEL LIGHTING PLAN
E0.04A	ROSS LOWER LEVEL POWER AND SIGNAL PLAN
E0.04B	ROSS MAIN LEVEL POWER AND SIGNAL NOTES
E0.05	ROSS DRY LOWER LEVEL POWER AND SIGNAL PLAN
E0.06	YATES MAIN LEVEL LIGHTING PLAN
ME0.07A	YATES MAIN LEVEL POWER AND SIGNAL PLAN
ME0.07B	YATES MAIN LEVEL POWER AND SIGNAL NOTES
ME0.07C	MECHANICAL SCHEDULES
E0.08	YATES LOWER LEVEL LIGHTING PLAN
E0.09A	YATES LOWER LEVEL POWER AND SIGNAL PLAN
E0.09B	YATES MAIN LEVEL POWER AND SIGNAL NOTES
E0.10	YATES ADMIN POWER AND SIGNAL PLAN
E0.11	ELECTRICAL SCHEDULES
E0.12	ELECTRICAL SCHEDULES
E0.13	ELECTRICAL DETAILS
E0.14	ELECTRICAL DETAILS
E0.15	ELECTRICAL DETAILS
E0.16	ELECTRICAL DETAILS
E0.17	ELECTRICAL DETAILS
E0.18	ELECTRICAL DETAILS
E0.19	ELECTRICAL DETAILS

SOUTH DAKOTA SCIENCE AND TECHNOLOGY AUTHORITY/ SANFORD UNDERGROUND RESEARCH FACILITY HEADFRAME SECURITY UPGRADES 630 E. SUMMIT ST. LEAD, SOUTH DAKOTA

CODE REVIEW

CODE USED: 2018 INTERNATIONAL BUILDING CODE (IBC)
OCCUPANCY GROUP: S
TYPE OF CONSTRUCTION: TYPE IIB
ALLOWABLE AREA/STORIES: NOT APPLICABLE TO IMPROVEMENTS TO EXISTING CONDITIONS
ACTUAL AREA: NOT APPLICABLE TO IMPROVEMENTS TO EXISTING CONDITIONS
FIRE PROTECTION SYSTEM: NOT APPLICABLE TO IMPROVEMENTS TO EXISTING CONDITIONS
ACCESSIBILITY: IMPROVEMENTS MEET REQUIREMENTS OF IBC CHAPTER II

LEGEND



ABBREVIATIONS

(ALL MAY NOT BE USED IN DRAWING SET)

/	PER
@	AT
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
APC	ACOUSTIC PANEL CEILING
BRG	BEARING
CC	CENTER TO CENTER
CMU	CONCRETE MASONRY UNIT
COORD	COORDINATE
CPT	CARPET
CT	CERAMIC TILE
DR	DOOR
EA	EACH
ELEC'L	ELECTRICAL
EQ	EQUAL
FR	FRAME
FT	FOOT
GYPBD	GYP SUM BOARD
HM	HOLLOW METAL
IG	INSULATED GLASS
MAX	MAXIMUM
MECH'L	MECHANICAL
MIN	MINIMUM
OC	ON CENTER
PT	PAINT
REV	REVERSE
SIM	SIMILAR
STRUCT'L	STRUCTURAL
TBD	TO BE DETERMINED
TEXT	TEXTURE
TSG	TEMPERED SAFETY GLASS
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
W/	WITH
WD	WOOD
WG	WIRE GLASS

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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

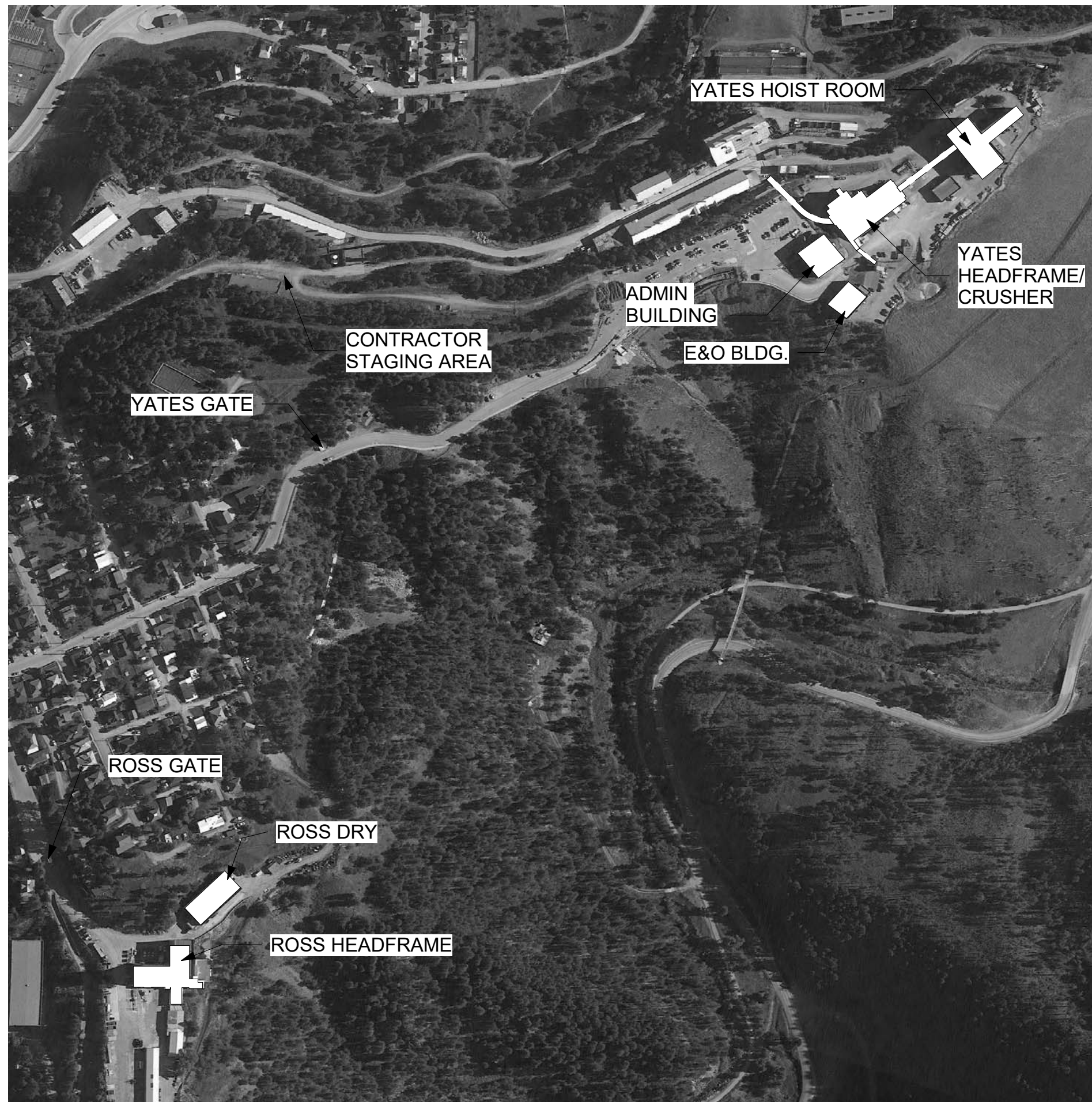
PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

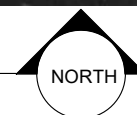


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COVER SHEET

A0.00



① OVERALL SITE PLAN
1" = 300'-0"



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**COORDINATE HAZARDOUS
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PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

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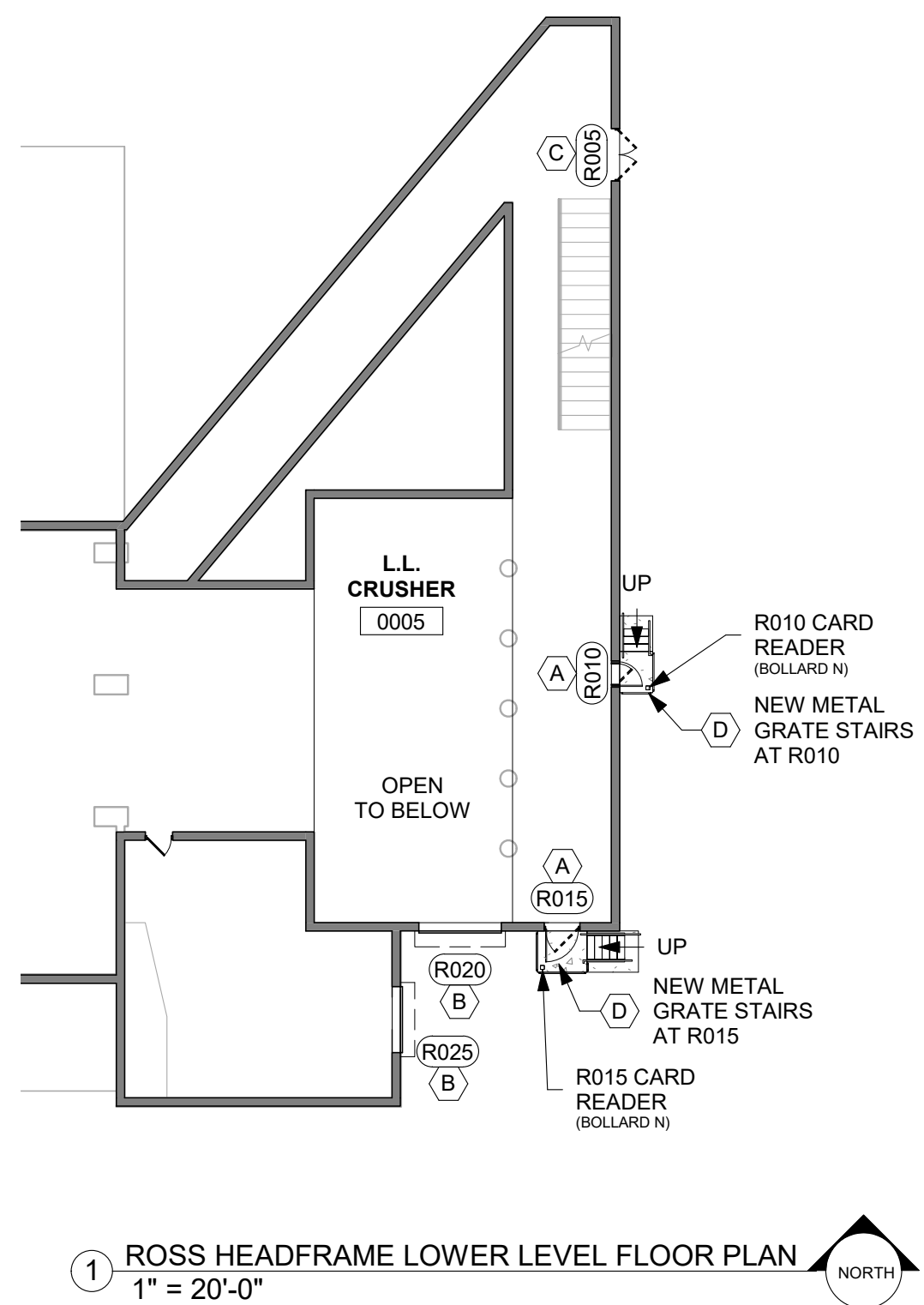
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LEAD, SOUTH DAKOTA

OVERALL SITE PLAN

A0.01

1. OVERALL PROJECT DURATION IS 150 DAYS.
2. EACH LETTERED PHASE MUST BE ACCOMPLISHED INDEPENDENT OF THE OTHER LETTERED PHASES.
3. WORK ON LOWER LEVEL OF ROSS & YATES CAMPUSES MAY COINCIDE WITH ANY PHASE A/B/C/D.
4. ROSS & YATES PHASES MAY PROGRESS SIMULTANEOUSLY.
5. A PRE-CONSTRUCTION PHASE FOR PROCUREMENT OF MATERIALS WILL BE 50 DAYS.
6. EACH PHASE IS INTENDED TO TAKE UP TO 25 CALENDAR DAYS.
7. PHASES CAN BE PROPOSED IN ANY SEQUENCE/ORDER.
8. COORDINATE PHASING SCHEDULE WITH OWNER! OBTAIN OWNER ACCEPTANCE AND APPROVAL OF PHASING LOGISTICS BEFORE PROCEEDING.





1 ROSS HEADFRAME LOWER LEVEL FLOOR PLAN
1" = 20'-0"

PHASING:

1. OVERALL PROJECT DURATION IS 150 DAYS.
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KEYNOTES - SEE OPENINGS SCHEDULES ON A0.10

- A REPLACE EXISTING SWINGING DOOR, FRAME, HARDWARE & ACCESSORIES.
- B REPLACE EXISTING OH COILING DOOR, TRACK, HARDWARE & ACCESSORIES.
- C INFILL EXISTING OPENING.
- D MISCELLANEOUS REPAIR/IMPROVEMENT.

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DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

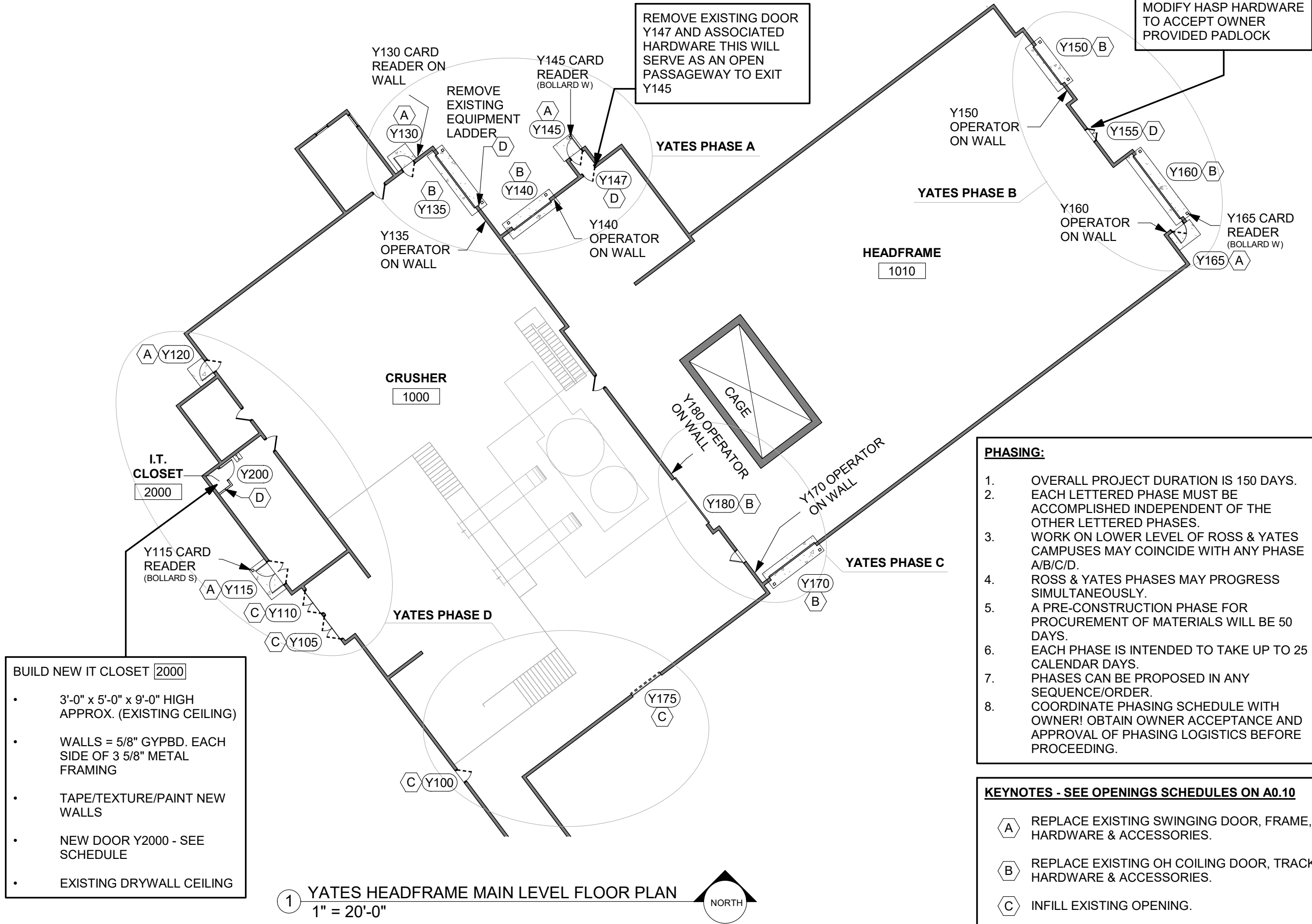
PROJECT NUMBER: 2019-035

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ROSS HEADFRAME LOWER LEVEL

A0.03



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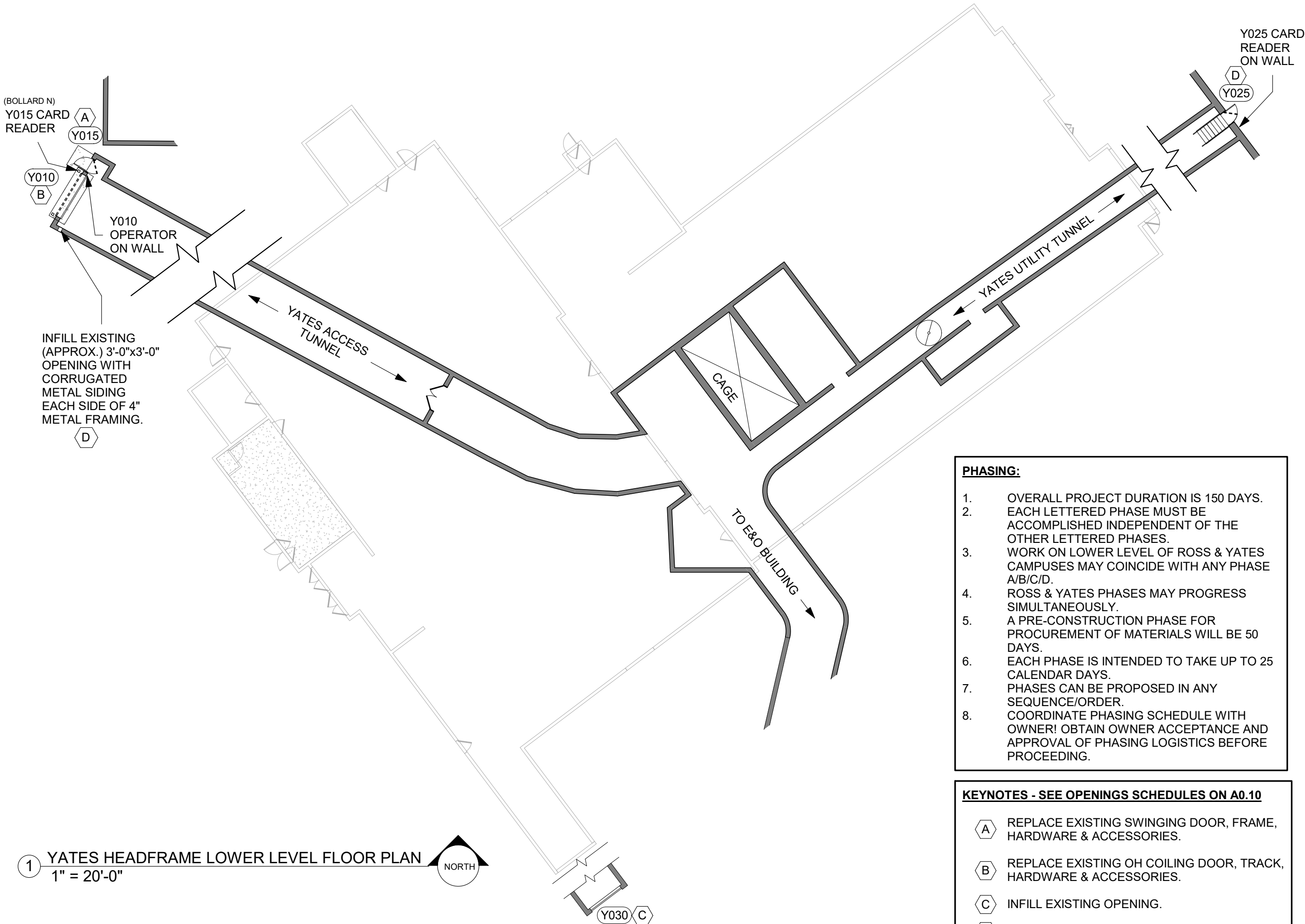
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YATES HEADFRAME MAIN LEVEL

A0.05



1 YATES HEADFRAME LOWER LEVEL FLOOR PLAN
1" = 20'-0"

- PHASING:**
1. OVERALL PROJECT DURATION IS 150 DAYS.
 2. EACH LETTERED PHASE MUST BE ACCOMPLISHED INDEPENDENT OF THE OTHER LETTERED PHASES.
 3. WORK ON LOWER LEVEL OF ROSS & YATES CAMPUSES MAY COINCIDE WITH ANY PHASE A/B/C/D.
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- KEYNOTES - SEE OPENINGS SCHEDULES ON A0.10**
- (A) REPLACE EXISTING SWINGING DOOR, FRAME, HARDWARE & ACCESSORIES.
 - (B) REPLACE EXISTING OH COILING DOOR, TRACK, HARDWARE & ACCESSORIES.
 - (C) INFILL EXISTING OPENING.
 - (D) MISCELLANEOUS REPAIR/IMPROVEMENT.

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HEADFRAME SECURITY UPGRADES

LEAD, SOUTH DAKOTA

YATES HEADFRAME LOWER LEVEL

A0.06

Opening - Swinging Doors - Specification Section 081113							
<u>Opening Designation</u>	<u>Width</u>	<u>Height</u>	<u>New Door Size (Verify)</u>	<u>Door/Frame Type</u>	<u>Glazing</u>	<u>Hardware Group - 087100</u>	<u>Notes:</u>
R010	3' - 0"	7' - 2"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1,2
R015	4' - 0"	9' - 0"	3' - 11" x 8' - 8'	HM/ Split Frame	1" Insulated	1001	
R100	7' - 0"	7' - 0"	(2) 3' - 5" x 6' - 8'	HM/ Split Frame	1" Insulated	1021	
R110	3' - 0"	6' - 8"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1,2
R120	3' - 0"	7' - 0"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
R130	3' - 0"	7' - 2"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1,2
R135	3' - 0"	6' - 8"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1,2
R145	3' - 0"	7' - 2"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
R150	6' - 0"	7' - 0"	(2) 2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1022	1
Y015	3' - 0"	7' - 2"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
Y025	3' - 0"	7' - 2"	Existing Door/Frame To Remain	Existing Door/Frame To Remain	Relief Vent	1010	
Y115	6' - 0"	6' - 8"	(2) 2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1020	1,2
Y120	3' - 0"	7' - 0"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
Y130	3' - 0"	7' - 2"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
Y145	3' - 0"	7' - 0"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
Y165	3' - 0"	7' - 0"	2' - 11" x 6' - 8'	HM/ Split Frame	1" Insulated	1000	1
Y200	3' - 0"	7' - 2"	3' - 0" x 7' - 0'	2" HM Jamb/Head		1100	

SCHEDULE NOTES:

- 1.2'-11" DOORS TO ALLOW FOR MINIMUM 32" CLEAR OPENING DIMENSION WHEN 90 DEGREE OPEN
- 2.MODIFY OPENING SIZE
- 3.TYPICAL CONDITIONS A4.34, A4.36, A4.37
- 4.REDUCED WIDTH PER A4.35
- 5.REDUCED OPENING HEIGHT TO ACCOMODATE HOOD BELOW STRUCTURE
- 6.EXTERIOR MOUNT
- 7.INFILL
- 8.REMOVE EXISTING DOOR AND HARDWARE
- 9.MODIFY HASP HARDWARE TO RECIEVE OWNER PROVIDED PADLOCK

Opening - OH Coiling Doors - Specification Section 083323					
<u>Opening Designation</u>	<u>Width</u>	<u>Height</u>	<u>Hardware Group - 087100</u>	<u>Operation</u>	<u>Notes</u>
R020	10' - 0"	10' - 0"	2000	MANUAL	3,6
R025	8' - 0"	10' - 0"	2000	MANUAL	3
R105	10' - 0"	13' - 6"	2000	MOTOR	4,5
R115	14' - 0"	22' - 0"	2000	MOTOR	3
R125	10' - 0"	12' - 0"	2000	MOTOR	3
R140	12' - 0"	16' - 6"	2000	MOTOR	3
Y010	11' - 0"	7' - 6"	2000	MOTOR	3,5
Y135	14' - 0"	22' - 0"	2000	MOTOR	3
Y140	10' - 0"	12' - 0"	2000	MOTOR	3
Y150	10' - 0"	9' - 0"	2000	MOTOR	3
Y160	16' - 8"	12' - 7"	2000	MOTOR	4,5
Y170	12' - 2"	12' - 0"	2000	MOTOR	3
Y180	12' - 0"	8' - 0"	2000	MOTOR	3

Opening Schedule - Infill Existing Opening			
<u>Opening Designation</u>	<u>Width</u>	<u>Height</u>	<u>Notes</u>
R005	6' - 0"	7' - 0"	7
Y105	6' - 0"	7' - 0"	7
Y110	6' - 0"	7' - 0"	7
Y147	3' - 0"	7' - 0"	8
Y155	3' - 0"	4' - 0"	9
Y175	7' - 8"	9' - 0"	7

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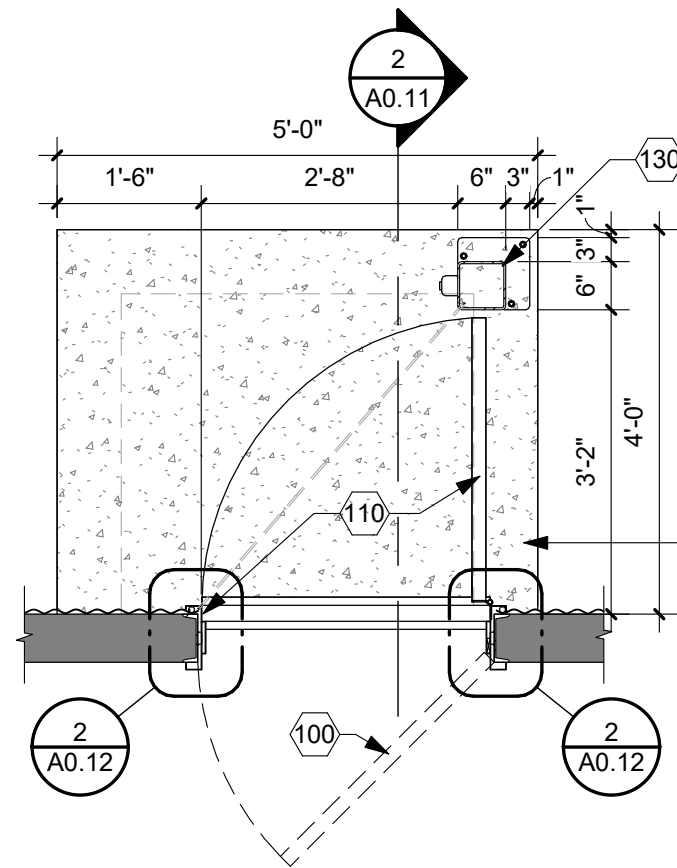
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DOOR SCHEDULES

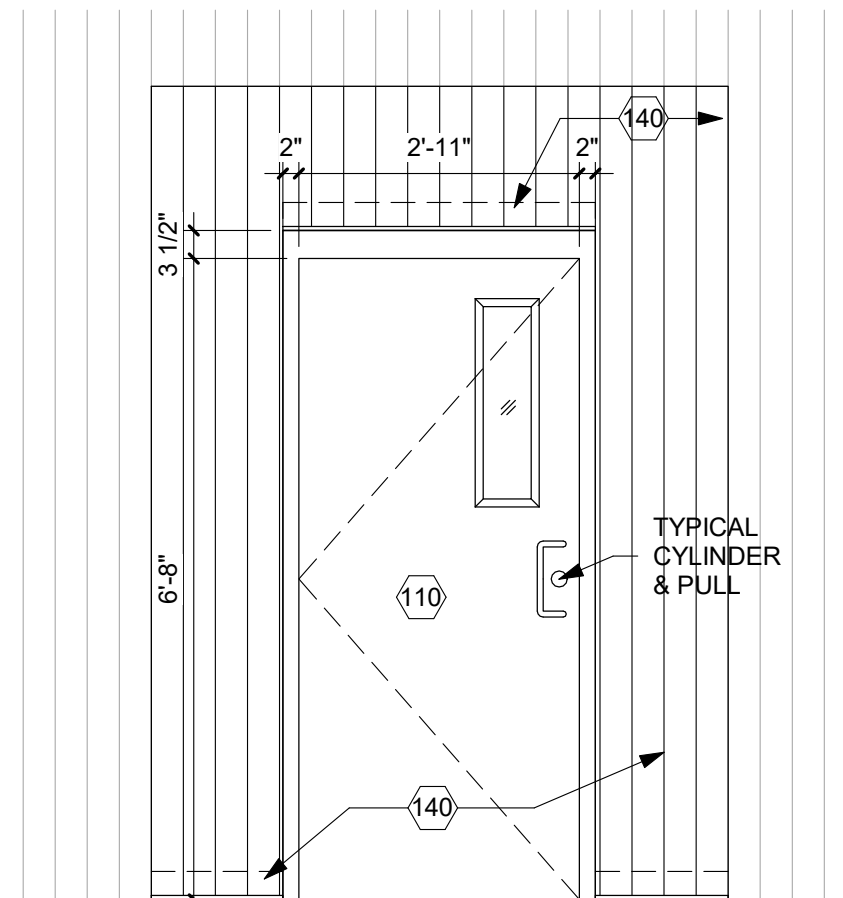
A0.10

TYPICAL SWINGING DOORS

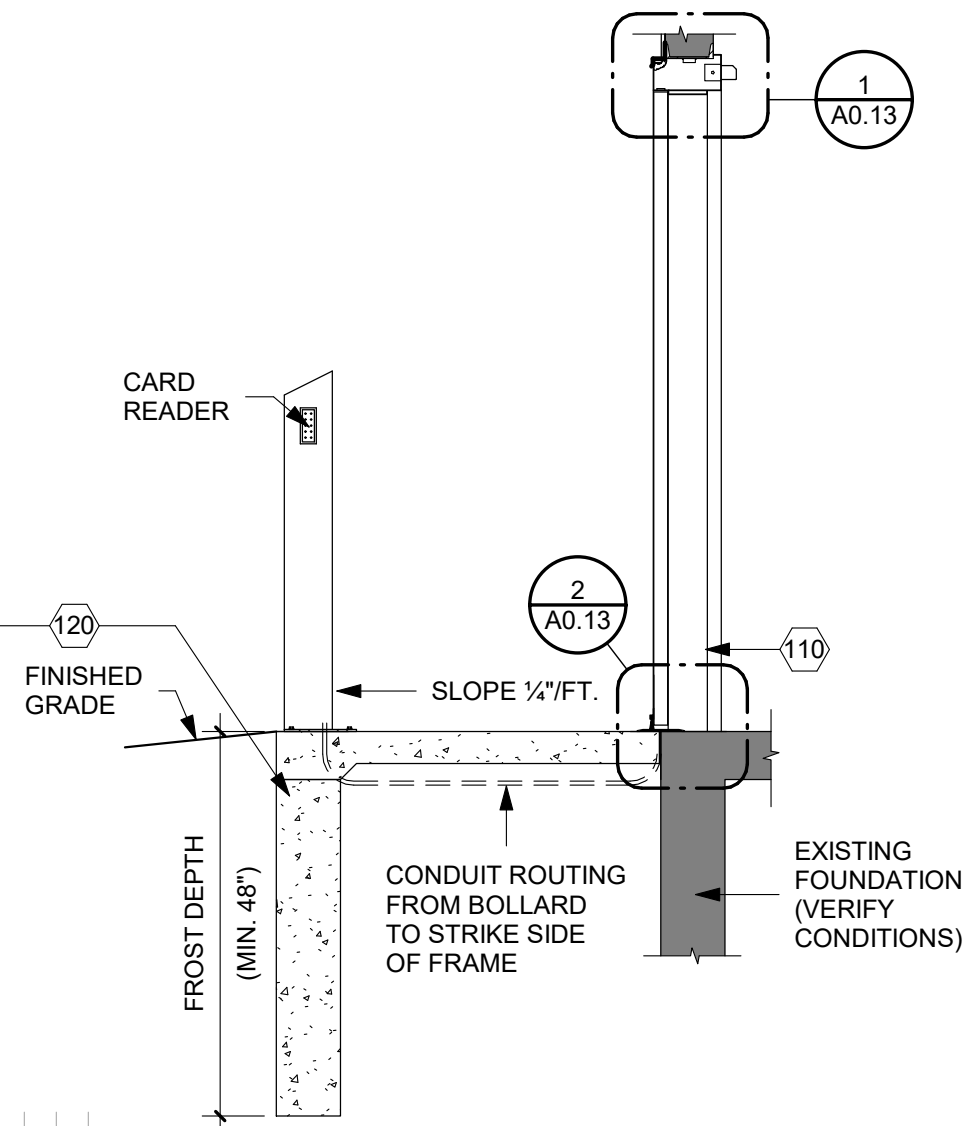
- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 110 NEW DOOR/FRAME/HARDWARE
- 111 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL
- 121 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION



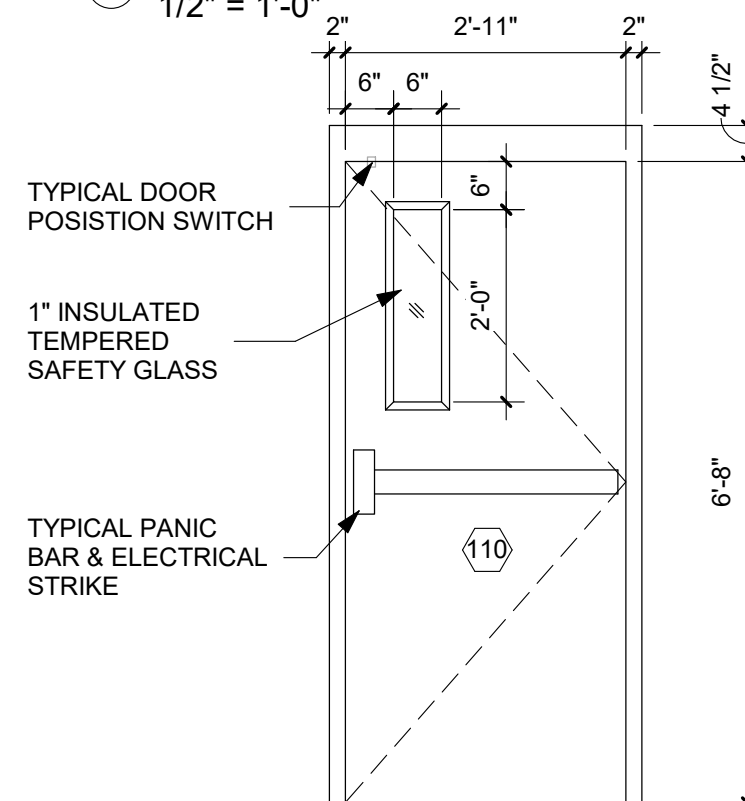
1 TYPICAL DOOR PLAN
1/2" = 1'-0"



3 TYPICAL DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"

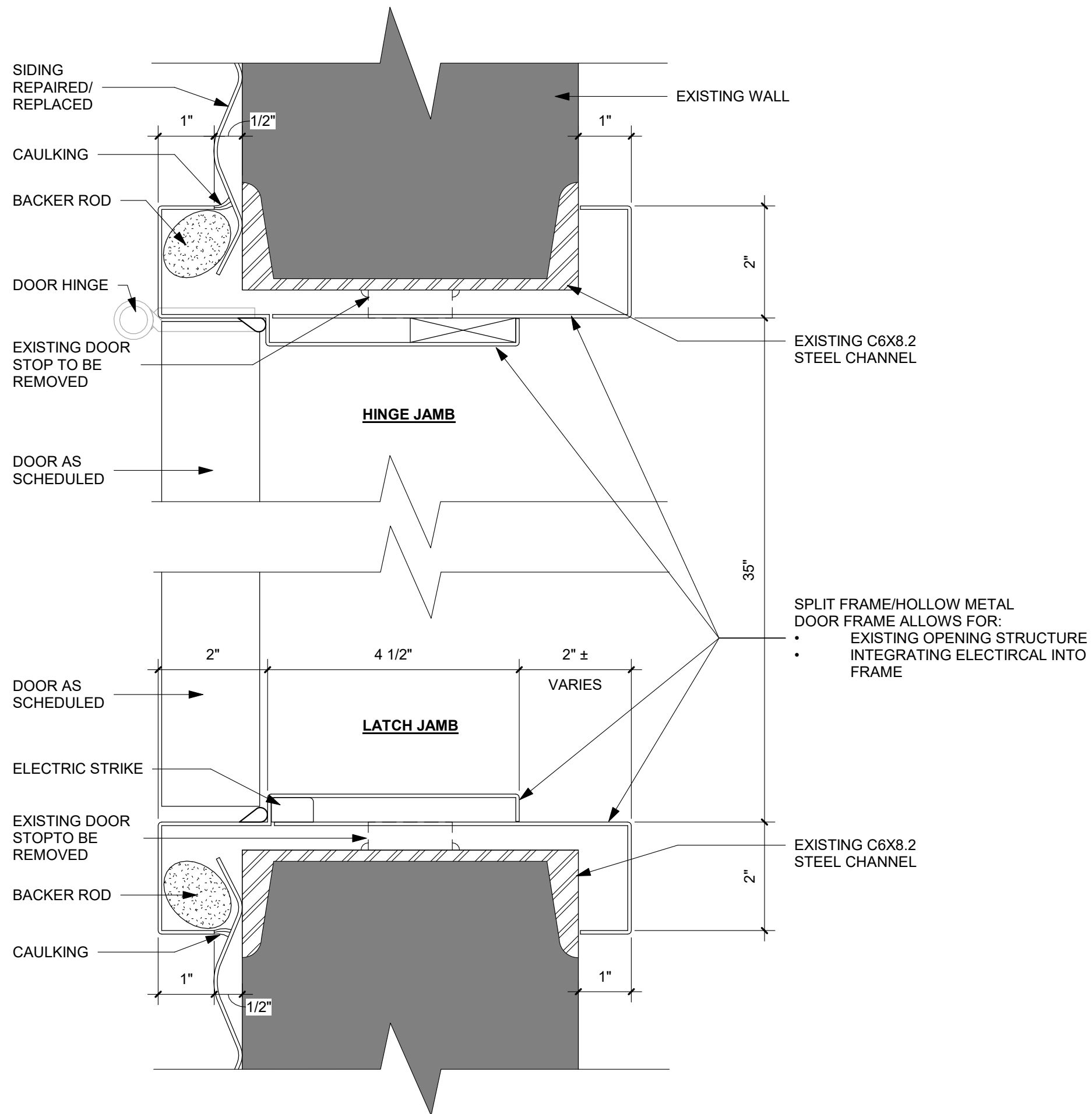


2 TYPICAL STOOP SECTION
1/2" = 1'-0"



4 TYPICAL DOOR ELEVATION - INTERIOR
1/2" = 1'-0"





② MISC JAMB DETAIL
6" = 1'-0"

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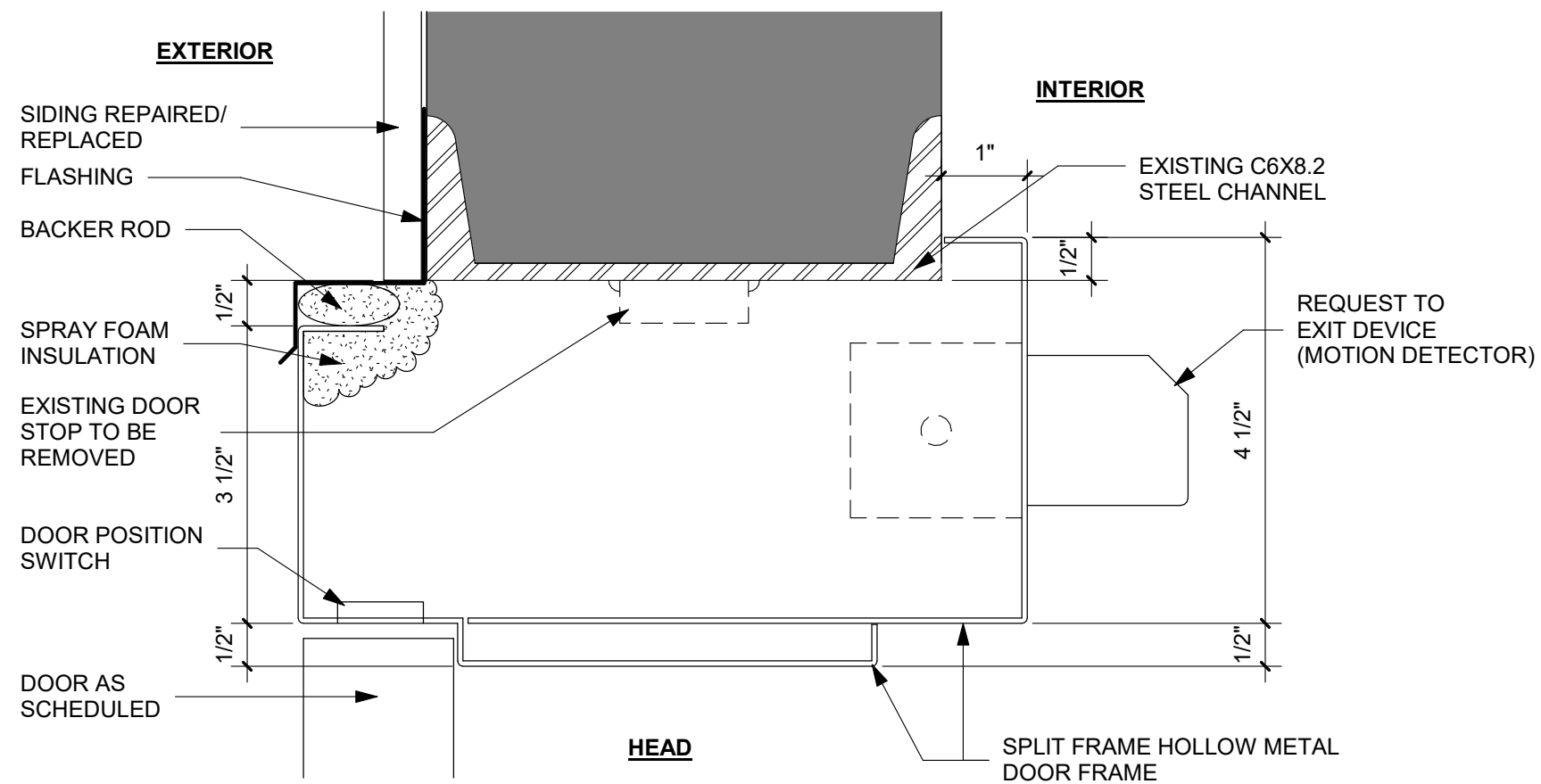


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LEAD, SOUTH DAKOTA

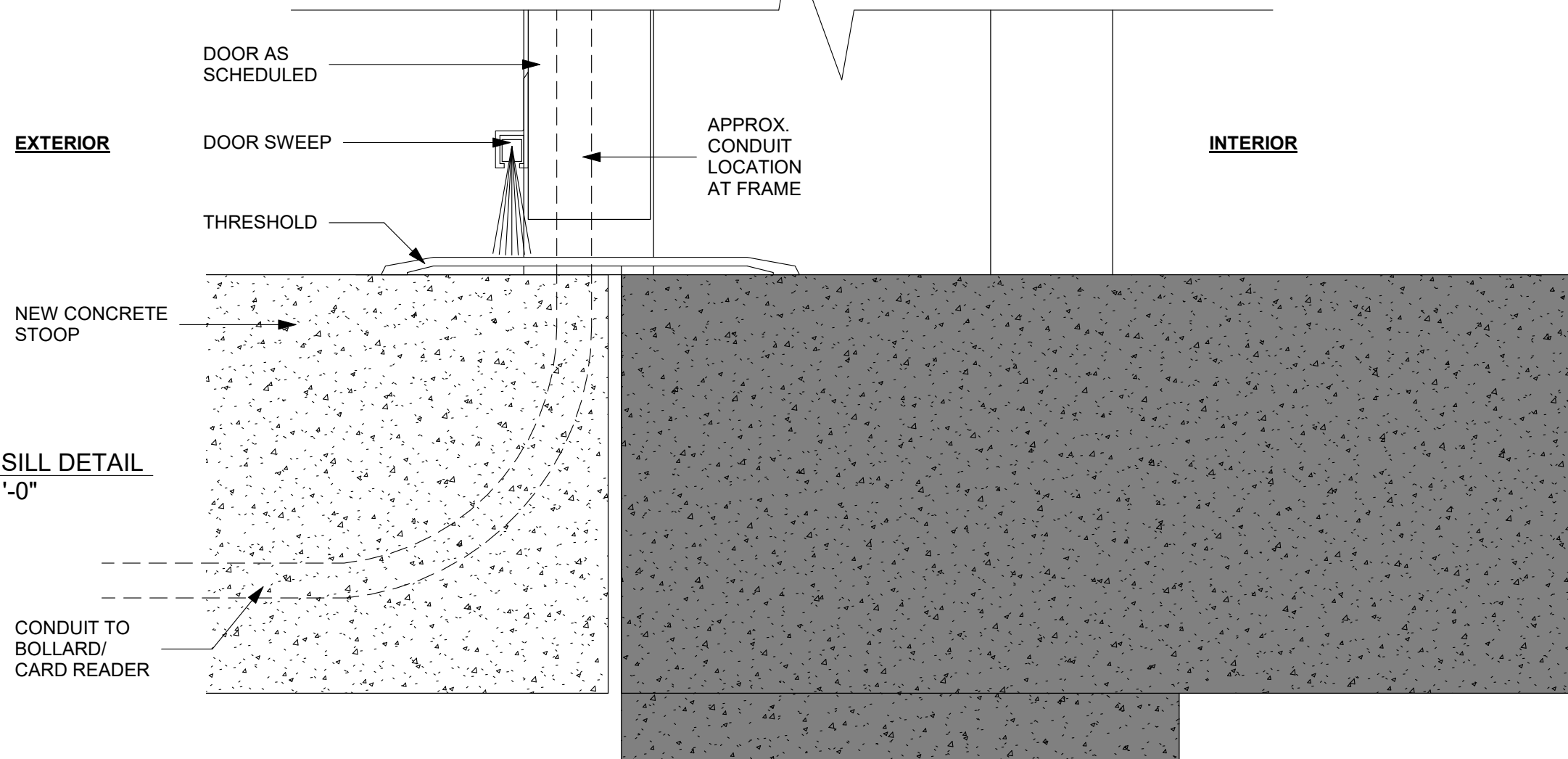
TYPICAL JAMB DETAILS

A0.12

1 MISC HEAD DETAIL
6" = 1'-0"



2 MISC SILL DETAIL
6" = 1'-0"



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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

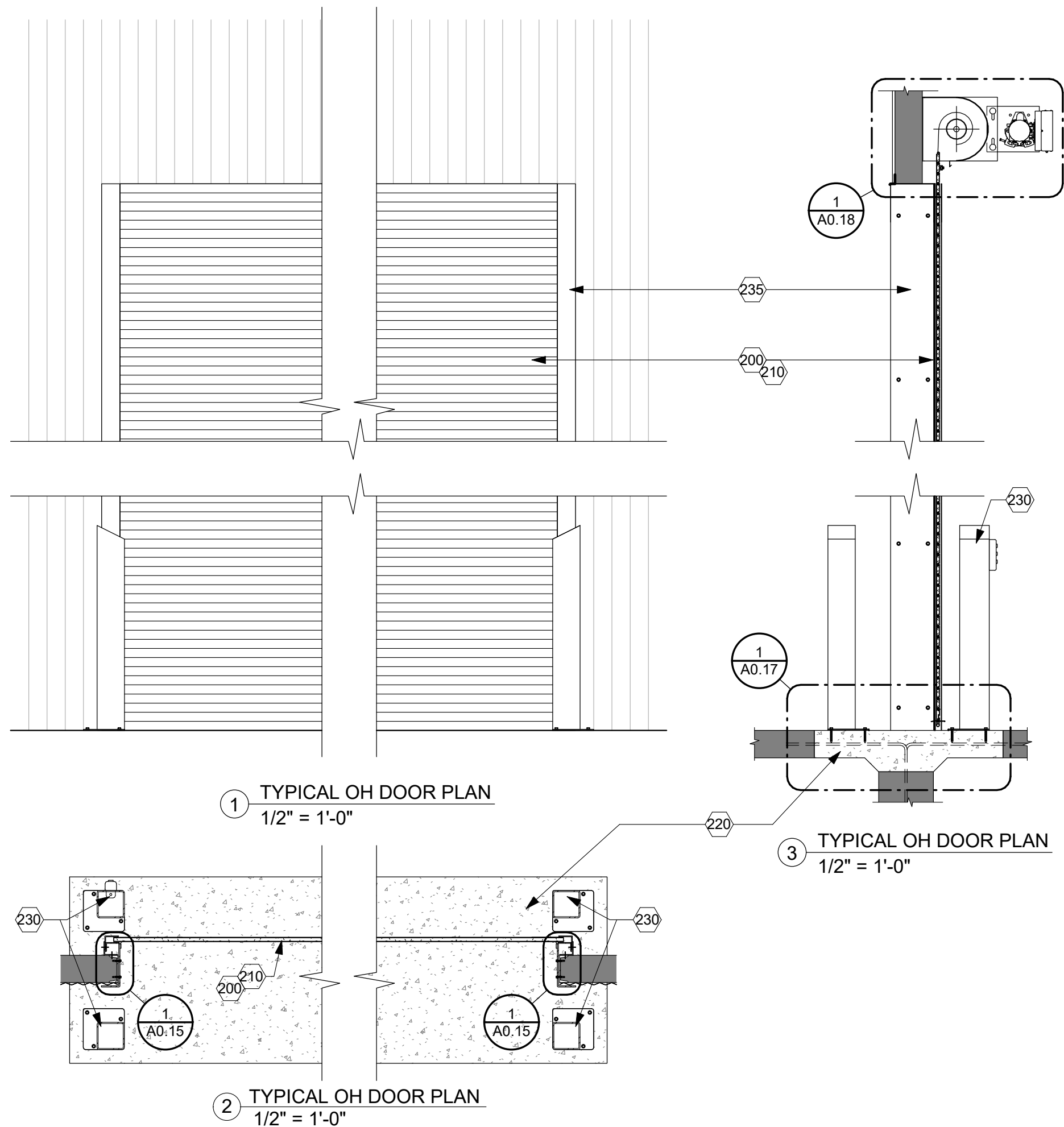


SANFORD
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RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

TYPICAL HEAD DETAIL

A0.13

- TYPICAL OH COILING DOORS
- 200 PREPARE OPENING FOR NEW OH COILING DOOR(S) REMOVE EXISTING OH COILING DOOR(S) & ACCESSORIES.
- 201 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- NEW OH COILING DOOR & ACCESSORIES
210 DETERMINE ALLOWABLE/MAXIMUM NEW DOOR SIZE CONFIRM STANDARD JAMB CONDITION - 1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16
- 211 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE = 3'-6"W x OPENING LENGTH x 12" EACH END.
- COORDINATE REMOVAL W/ EXISTING RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF. @ 18" O.C. EACH WAY AND DOWELED 8" INTO EXISTING SLABS & FOUNDATION
- 221 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON CONTROLLER.
- 231 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION
- 235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.
- 241 NOTE RESERVED FOR CUSTOMIZATION AT EACH SPECIFIC OPENING/CONDITION



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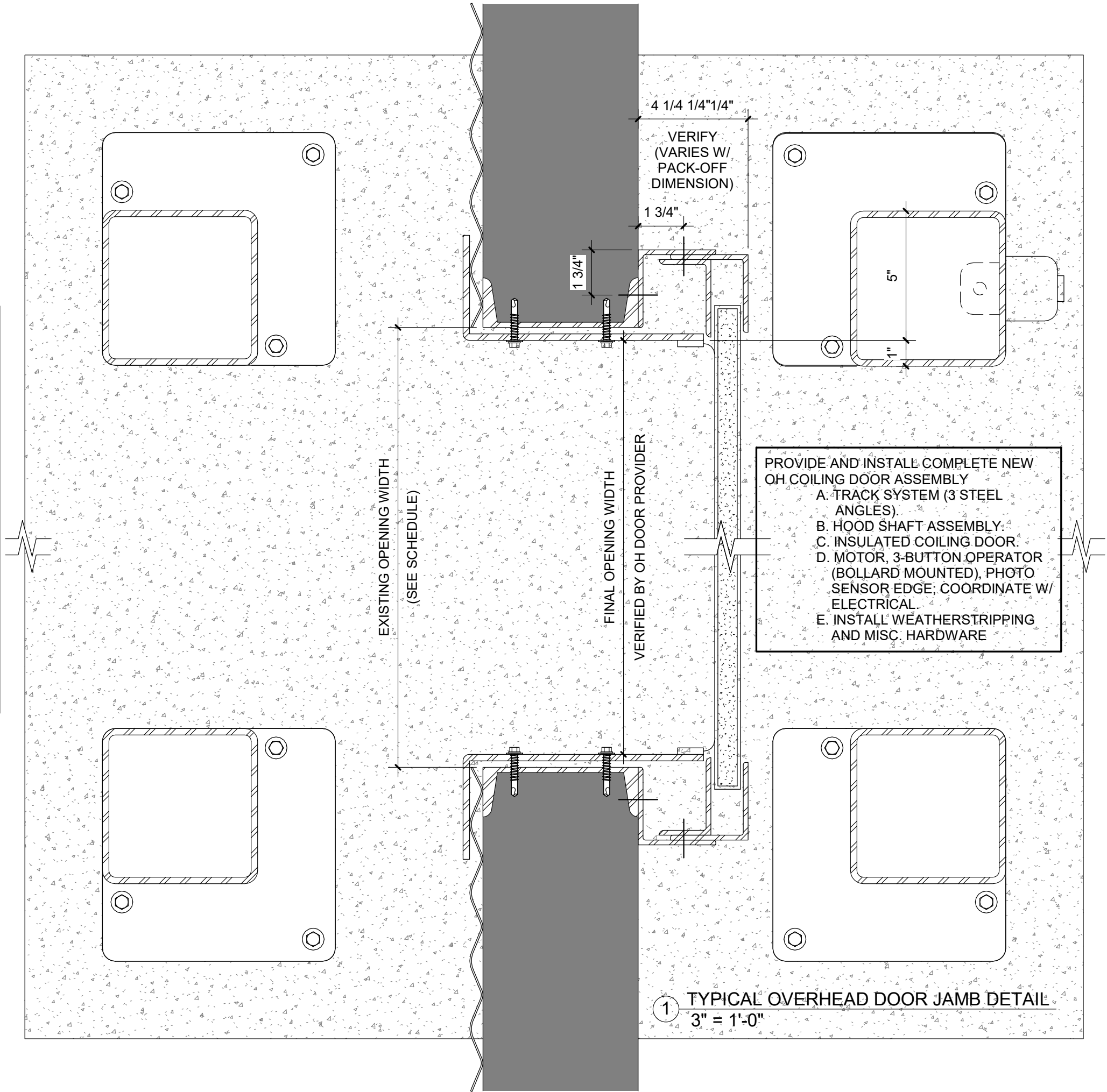
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TYPICAL OH DOOR DETAILS

A0.14

- DETERMINE OPENING SIZE:
- A. EXISTING OPENING SIZE SHOWN ON SCHEDULE IS $\pm 2"$.
 - B. CONFIRM FINAL OPENING SIZE INCLUDING MINIMUM JAMB, HEAD & MOTOR MOUNTING SPACE.
- SELECTIVE DEMOLITION:
- A. REMOVE EXISTING OH COILING DOOR(S) AND TRACK(S).
 - B. REMOVE EXISTING CONCRETE SLAB AND APRON.
(MAINTAIN EXISTING CART RAILS WHERE REQUIRED TO REMAIN).
- PROVIDE AND INSTALL COMPLETE NEW OH COILING DOOR ASSEMBLY
- A. TRACK SYSTEM (3 STEEL ANGLES).
 - B. HOOD SHAFT ASSEMBLY.
 - C. INSULATED COILING DOOR.
 - D. MOTOR, 3-BUTTON OPERATOR (BOLLARD MOUNTED), PHOTO SENSOR EDGE; COORDINATE W/ ELECTRICAL.
 - E. INSTALL WEATHERSTRIPPING AND MISC. HARDWARE



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PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY

HEADFRAME SECURITY UPGRADES

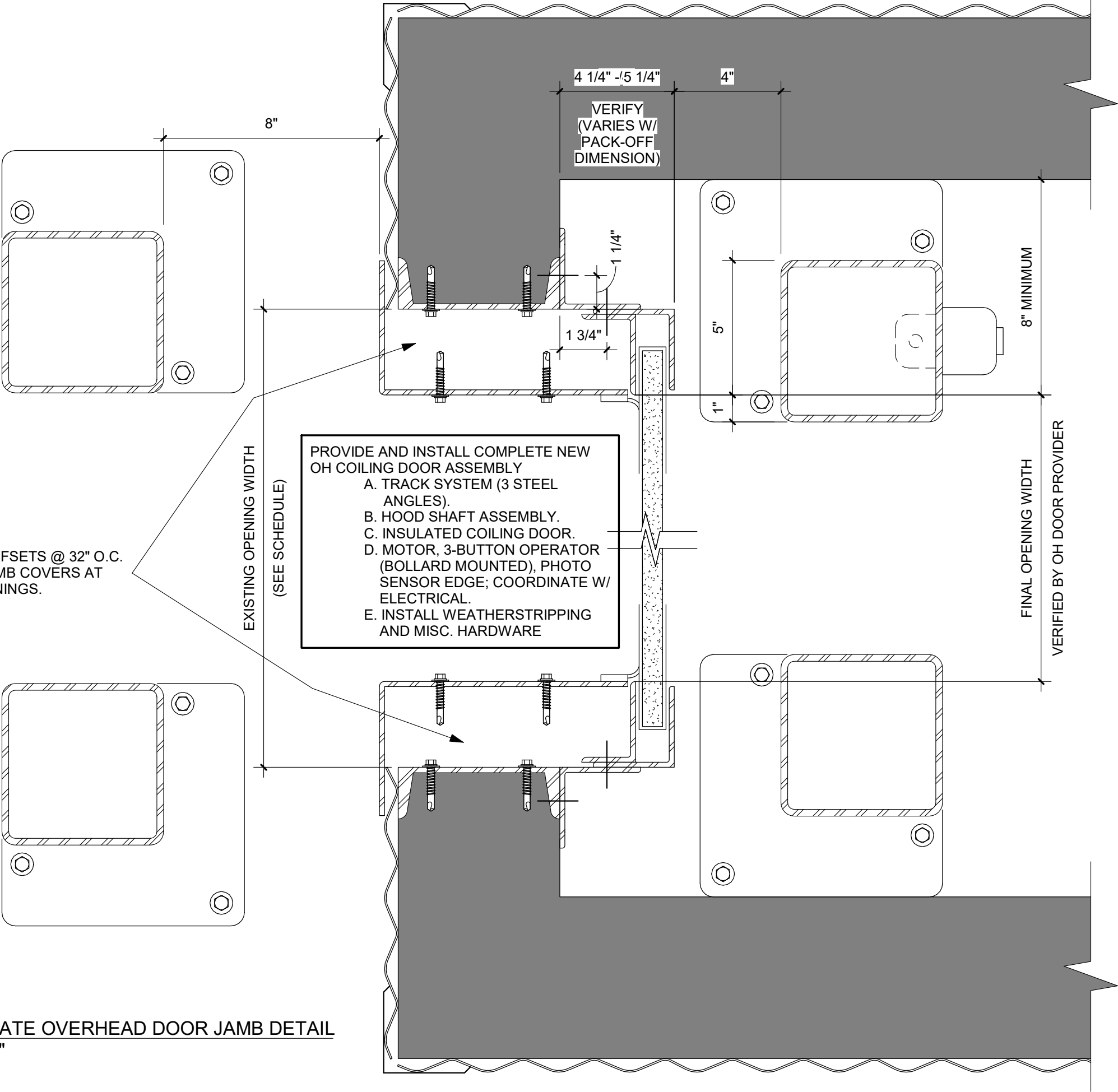
LEAD, SOUTH DAKOTA

TYPICAL OH DOOR JAMB DETAIL

A0.15

- DETERMINE OPENING SIZE:
- A. EXISTING OPENING SIZE SHOWN ON SCHEDULE IS $\pm 2"$.
 - B. CONFIRM FINAL OPENING SIZE INCLUDING MINIMUM JAMB, HEAD & MOTOR MOUNTING SPACE.
- SELECTIVE DEMOLITION:
- A. REMOVE EXISTING OH COILING DOOR(S) AND TRACK(S).
 - B. REMOVE EXISTING CONCRETE SLAB AND APRON. (MAINTAIN EXISTING CART RAILS WHERE REQUIRED TO REMAIN).
- PROVIDE AND INSTALL COMPLETE NEW OH COILING DOOR ASSEMBLY
- A. TRACK SYSTEM (3 STEEL ANGLES).
 - B. HOOD SHAFT ASSEMBLY.
 - C. INSULATED COILING DOOR.
 - D. MOTOR, 3-BUTTON OPERATOR (BOLLARD MOUNTED), PHOTO SENSOR EDGE; COORDINATE W/ ELECTRICAL.
 - E. INSTALL WEATHERSTRIPPING AND MISC. HARDWARE

PROVIDE 18 GA. METAL "Z" OFFSETS @ 32" O.C. VERTICALLY TO SUPPORT JAMB COVERS AT REDUCED WIDTH DOOR OPENINGS.



1 ALTERNATE OVERHEAD DOOR JAMB DETAIL
3" = 1'-0"

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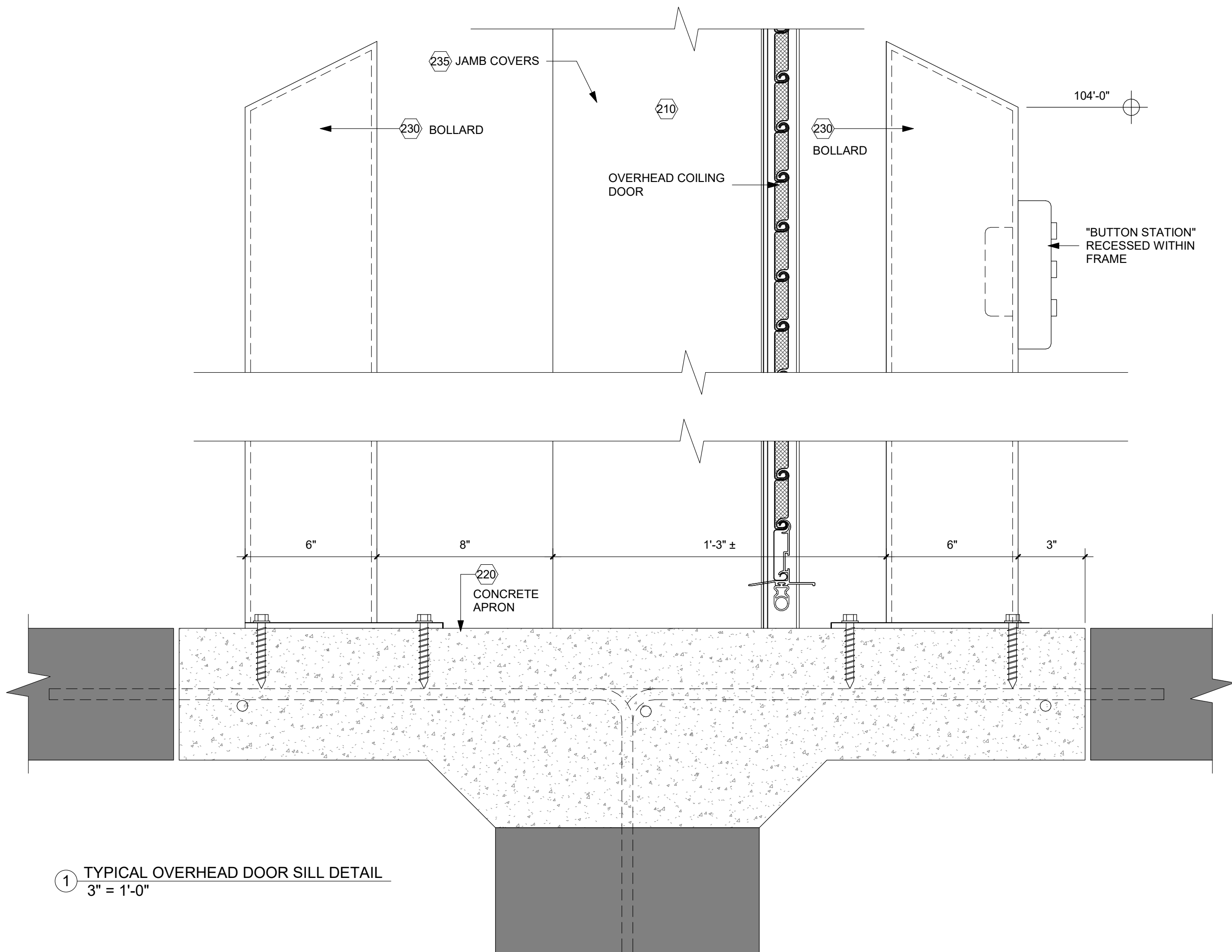
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ALTERNATE OH DOOR JAMB DETAIL

A0.16



1 TYPICAL OVERHEAD DOOR SILL DETAIL
3" = 1'-0"

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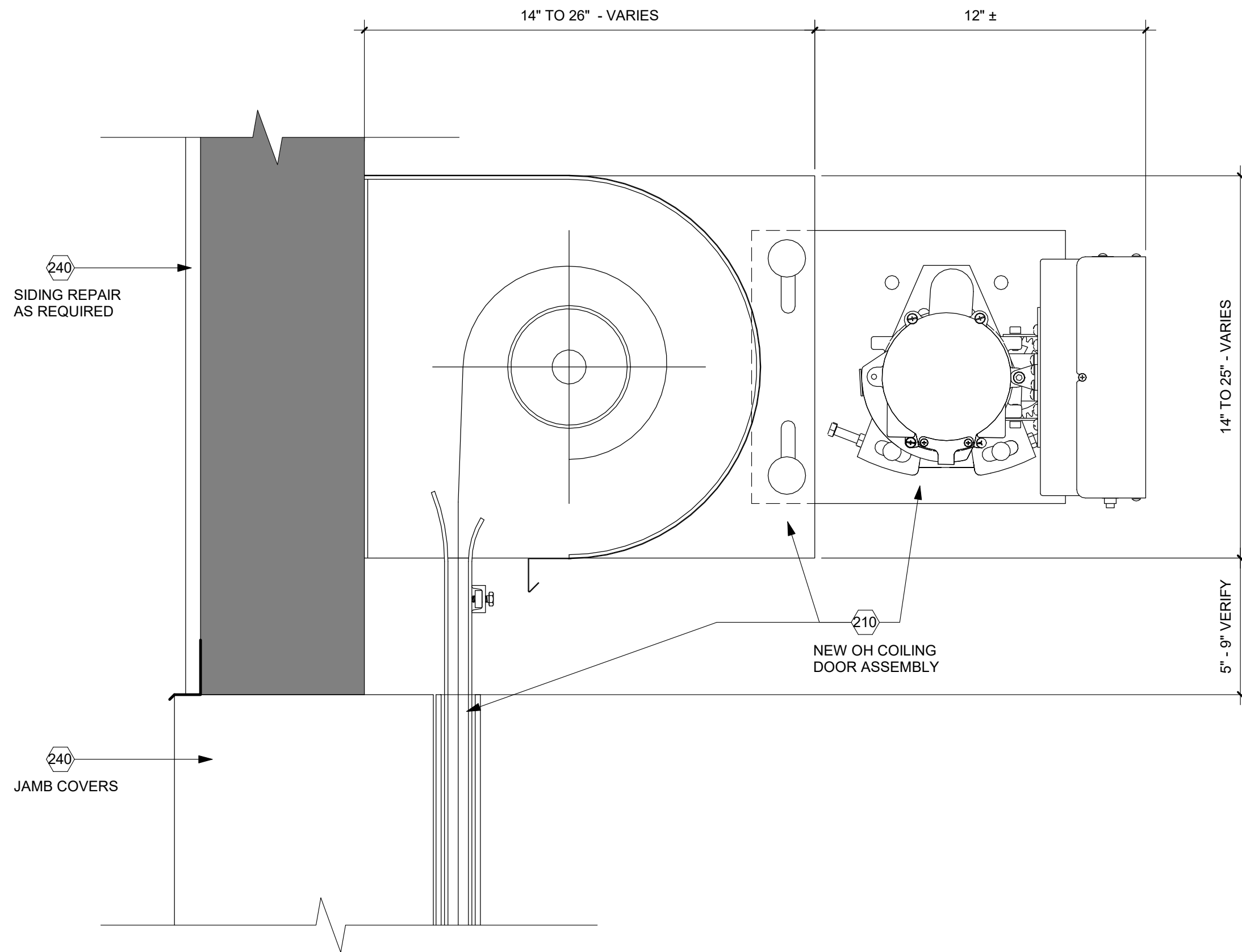
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TYPICAL OH DOOR SILL DETAIL

A0.17



1 TYPICAL OVERHEAD DOOR HEAD DETAIL
3" = 1'-0"

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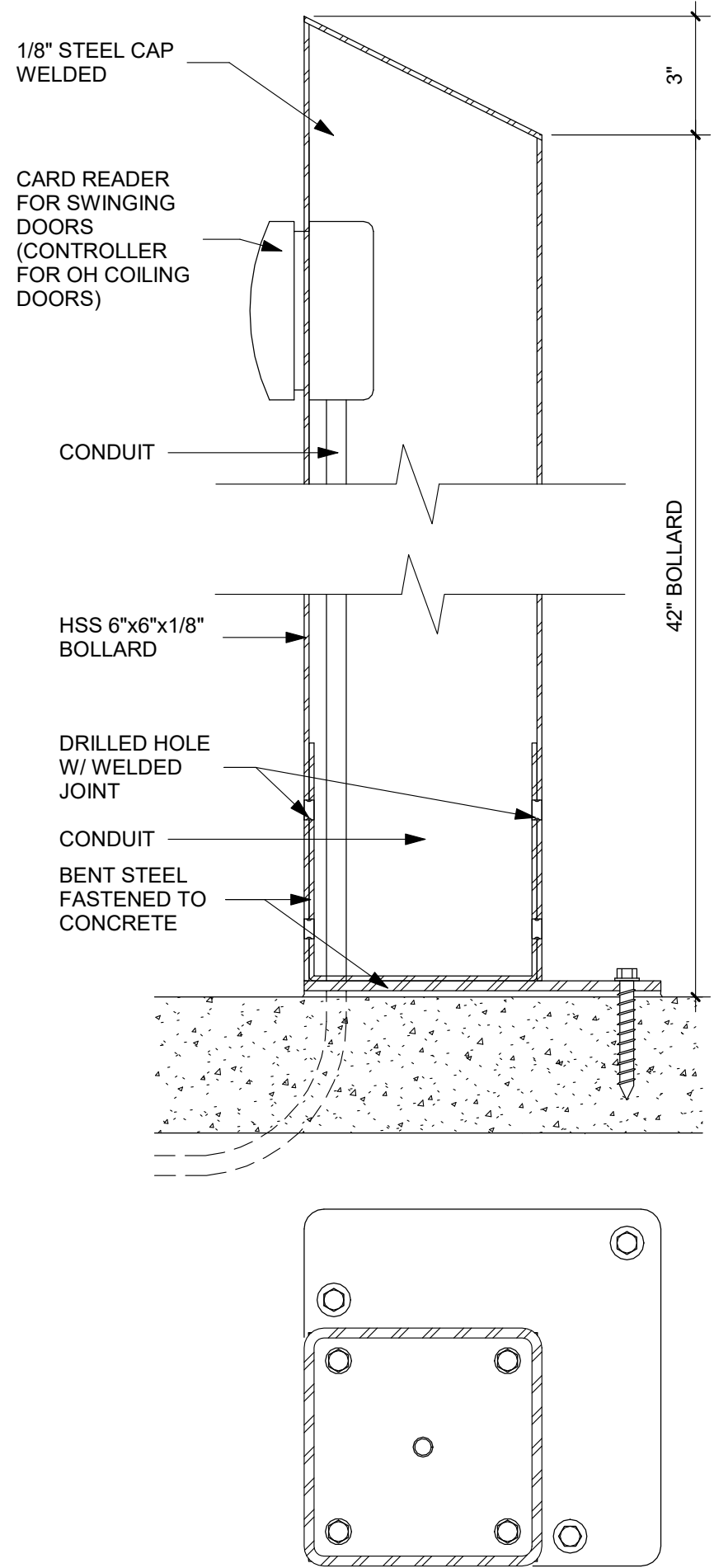
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TYPICAL OH DOOR HEAD DETAIL

A0.18



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TYPICAL BOLLARD DETAIL

A0.19



R005 PHOTO

REMOVE EXISTING
DOOR/FRAME/
HARDWARE;
PREPARE OPENING
FOR INFILL

SET "INFILL"
2" IN FROM
FACE OF
WALL

METAL SILL
FLASHING
(NO J-MOLD)

J-MOLD METAL TRIM AT PERIMETER U.N.O.

CORRUGATED METAL SIDING EACH SIDE

3 5/8" METAL FRAMING @ PERIMETER
& 2'-0" O.C. HORIZONTAL

SEALANT
AROUND
PERIMETER
INSIDE & OUT

① **R005 EXTERIOR**
1/2" = 1'-0"

② **R005 INTERIOR**
1/2" = 1'-0"

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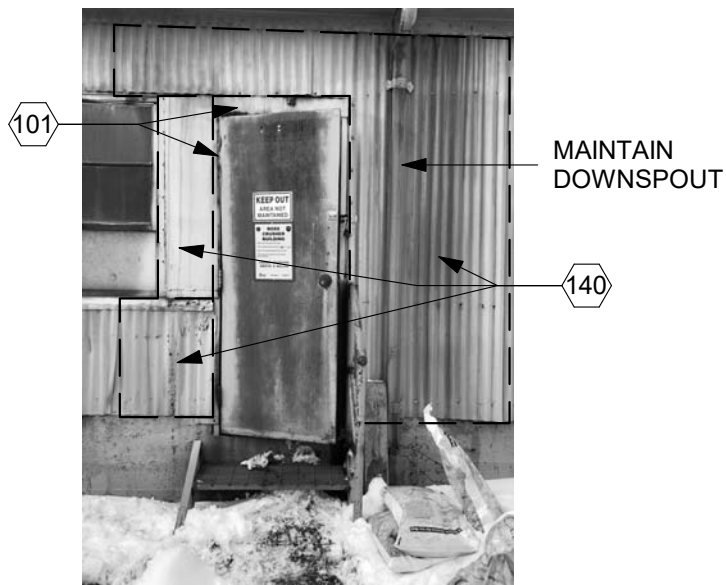
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UPGRADES
LEAD, SOUTH DAKOTA

DOUBLE DOOR - INFILL

R005

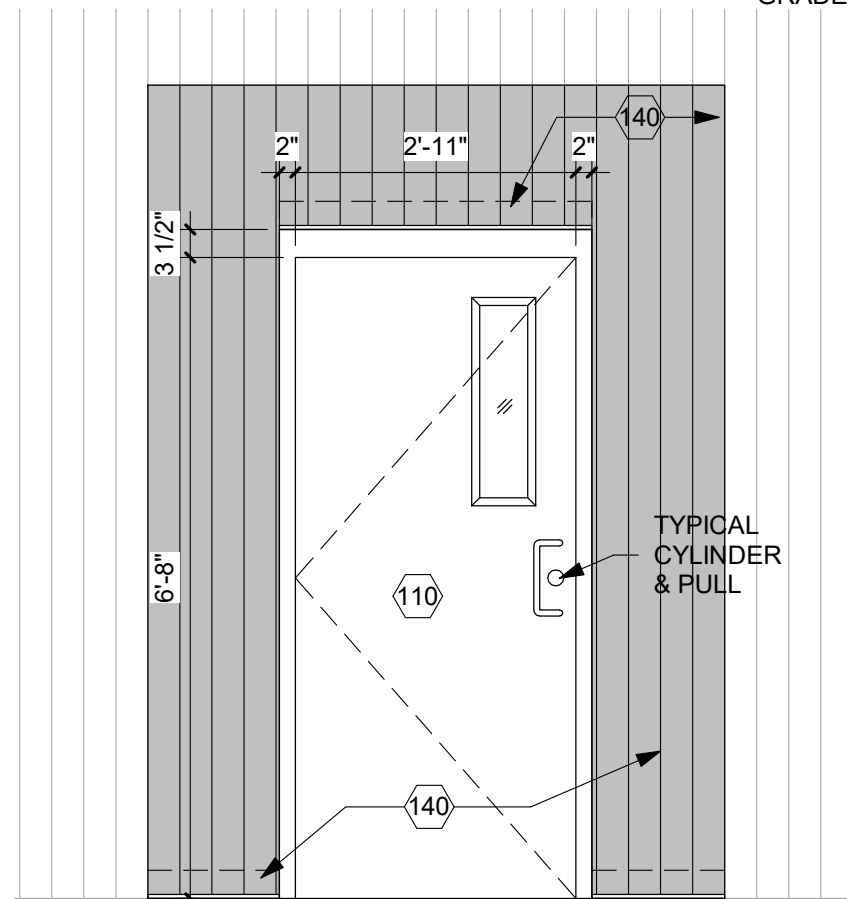


R010 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

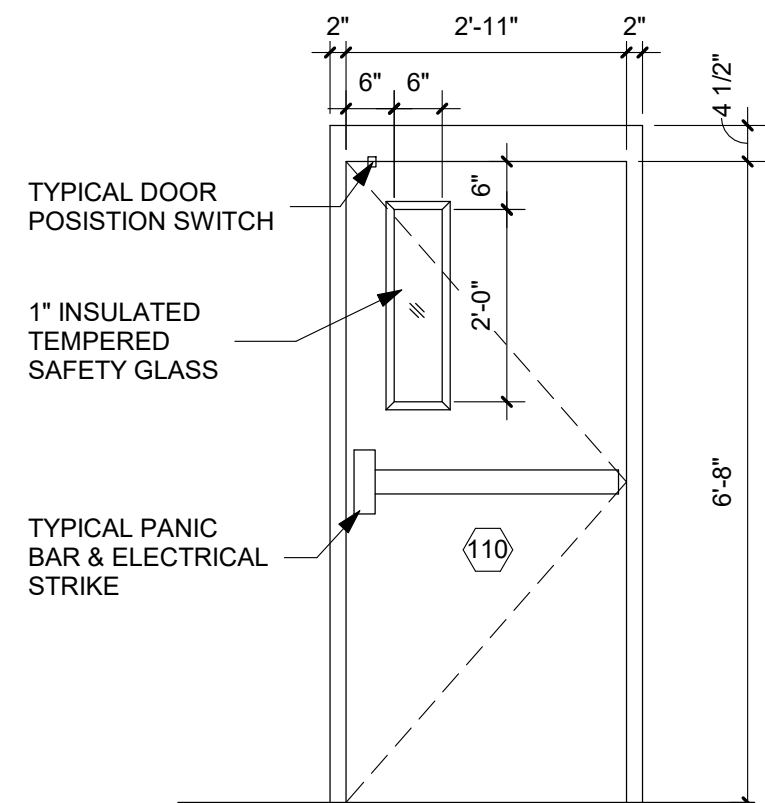
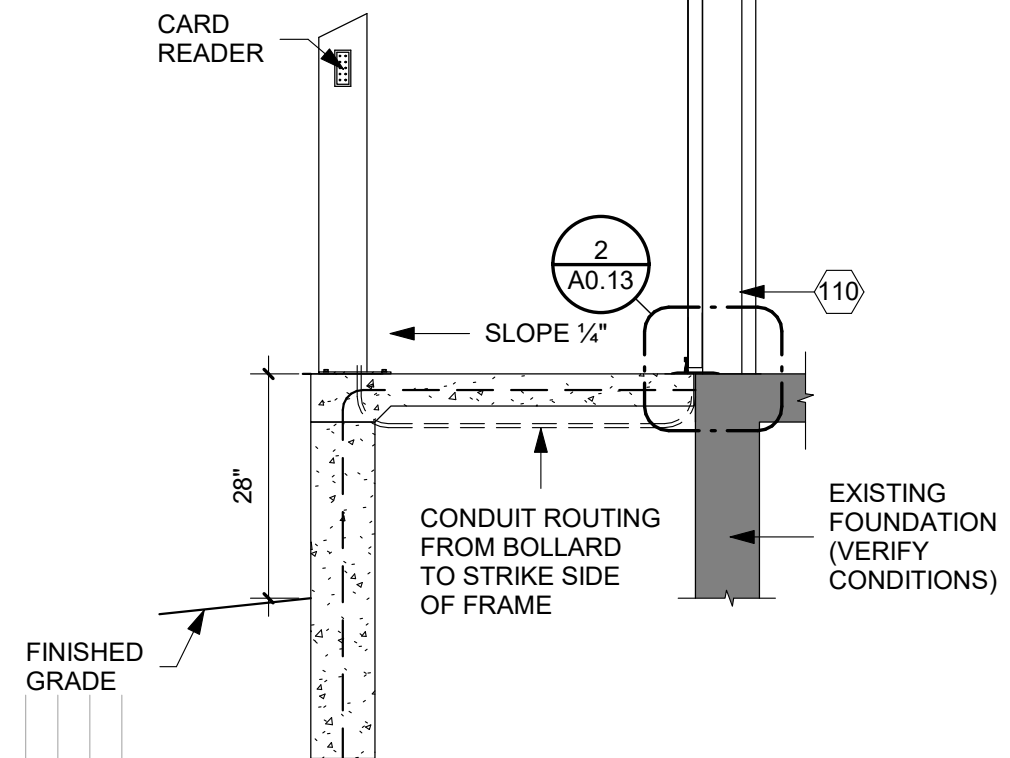
- 100** REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101** ENLARGE OPENING @ JAMB & HEAD TO ACCOMMODATE NEW DOOR & FRAME. ADD (2) 6"x18GA. METAL STUDS @ HEAD & JAMB
- 110** NEW DOOR/FRAME/HARDWARE
- 120** NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130** BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 131** METAL BAR GRATE STEPS (3T/4R) WITH
- 140** METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.

PLAN VIEW OF DOOR SHOWN ON R011



3 R010 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"

2 R010 - STOOP SECTION
1/2" = 1'-0"



4 R010 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"

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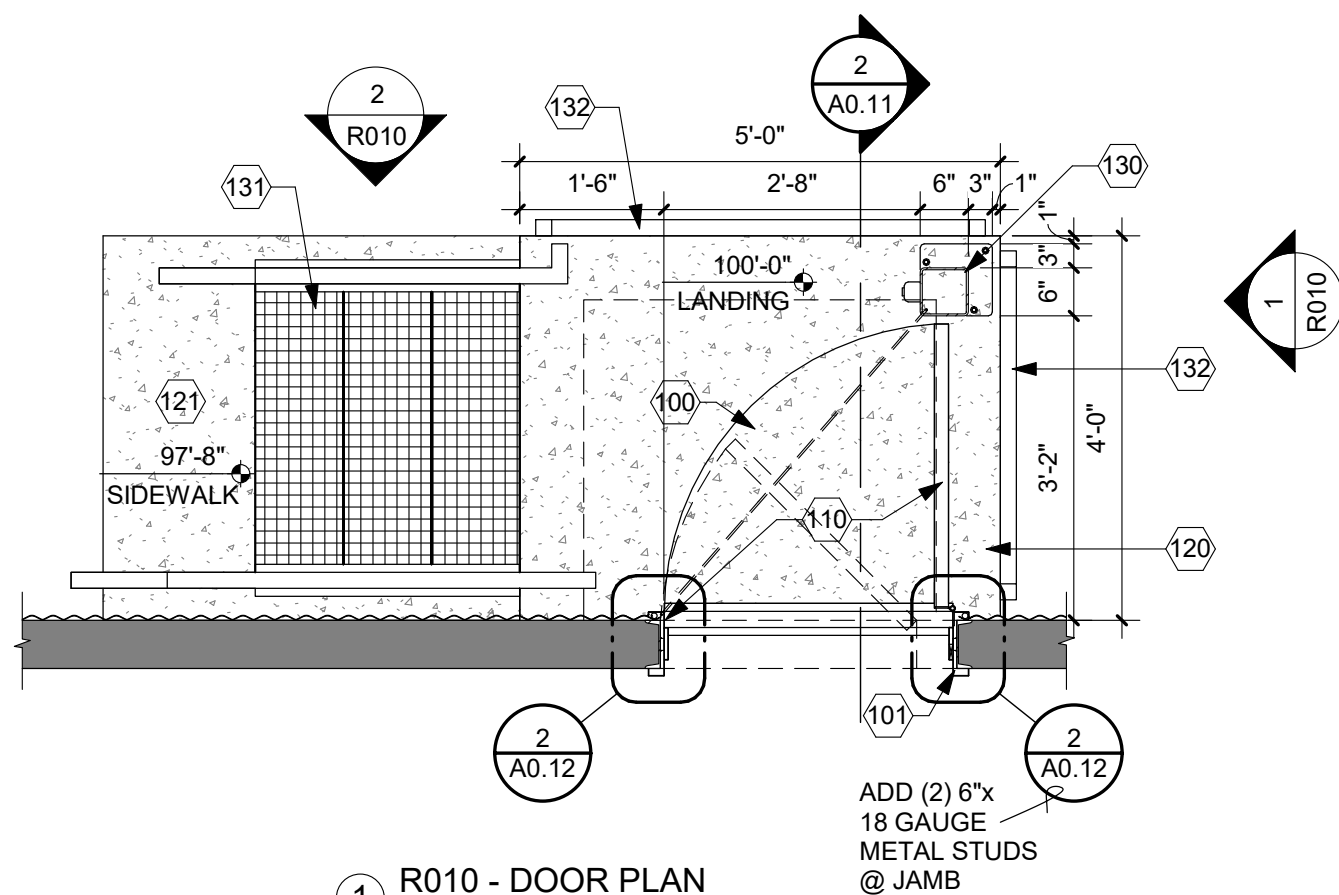
LEAD, SOUTH DAKOTA

SINGLE DOOR

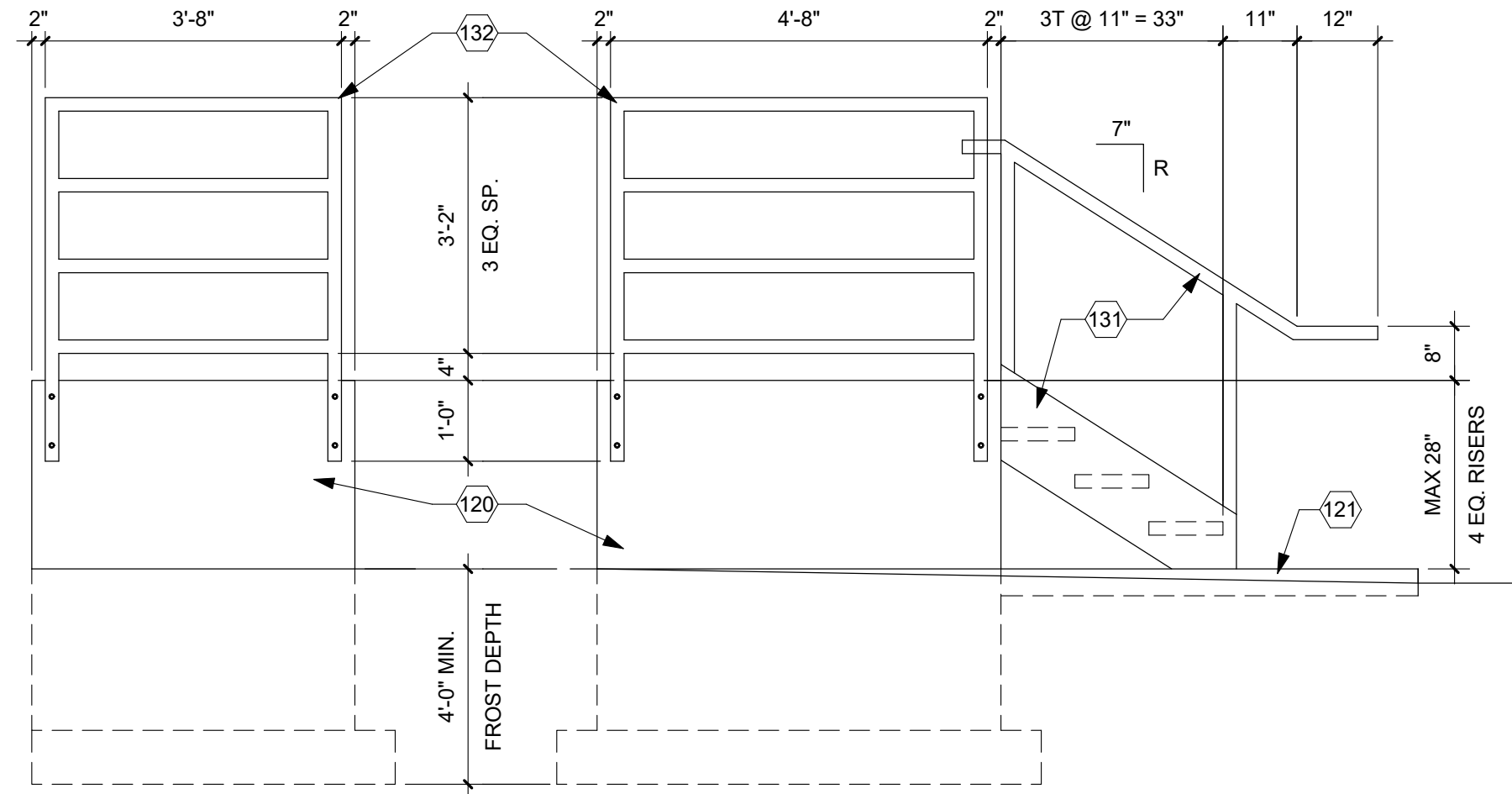
R010

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 ENLARGE OPENING @ JAMB & HEAD TO ACCOMMODATE NEW DOOR & FRAME. ADD (2) 6"x18GA. METAL STUDS @ HEAD & JAMB
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL
- 121 NEW 4"x 4'-0"x 5'-0"
- CONCRETE SIDEWALK W/#4 REINF. @ 16" O.C. EACH WAY.
- 130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 METAL BAR GRATE STEPS (3T/4R) WITH HSS 1/4"x4"x12" STRINGER EACH SIDE; BOLTED ATTACHMENT TO STOOP & SIDEWALK.
- 132 GUARDRAIL ASSEMBLY HSS 2"x2"x1/8"; 42" HIGH W/ 3 HORIZONTAL RAILS; BOLTED ATTACHMENT TO SIDE OF STOOP.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



1 R010 - DOOR PLAN
1/2" = 1'-0"



1 R010 - STEPS & GUARDRAIL
1/2" = 1'-0"

2 R010 - STEPS & GUARDRAIL
1/2" = 1'-0"

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SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR

R011

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 ENLARGE OPENING @ JAMB & HEAD TO ACCOMMODATE NEW DOOR & FRAME.
- 110 NEW DOOR/FRAME/HARDWARE
- 111 3/8" NEOPRENE RUBBER CLOSURE FIT AROUND BEAM
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 121 NEW 4"x 4'-0"x 5'-0"
 - CONCRETE SIDEWALK W/#4 REINF. @ 16" O.C. EACH WAY.
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 METAL BAR GRATE STEPS (3T/4R) WITH HSS 1/4"x4"x12" STRINGER EACH SIDE; BOLTED ATTACHMENT TO STOOP & SIDEWALK.
- 132 GUARDRAIL ASSEMBLY HSS 2"x2"x1/8"; 42" HIGH W/ 3 HORIZONTAL RAILS; BOLTED ATTACHMENT TO SIDE OF STOOP.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



R015 PHOTO

PLAN VIEW OF DOOR SHOWN ON R016

MAINTAIN TROLLEY/ HOIST BEAM

CARD READER

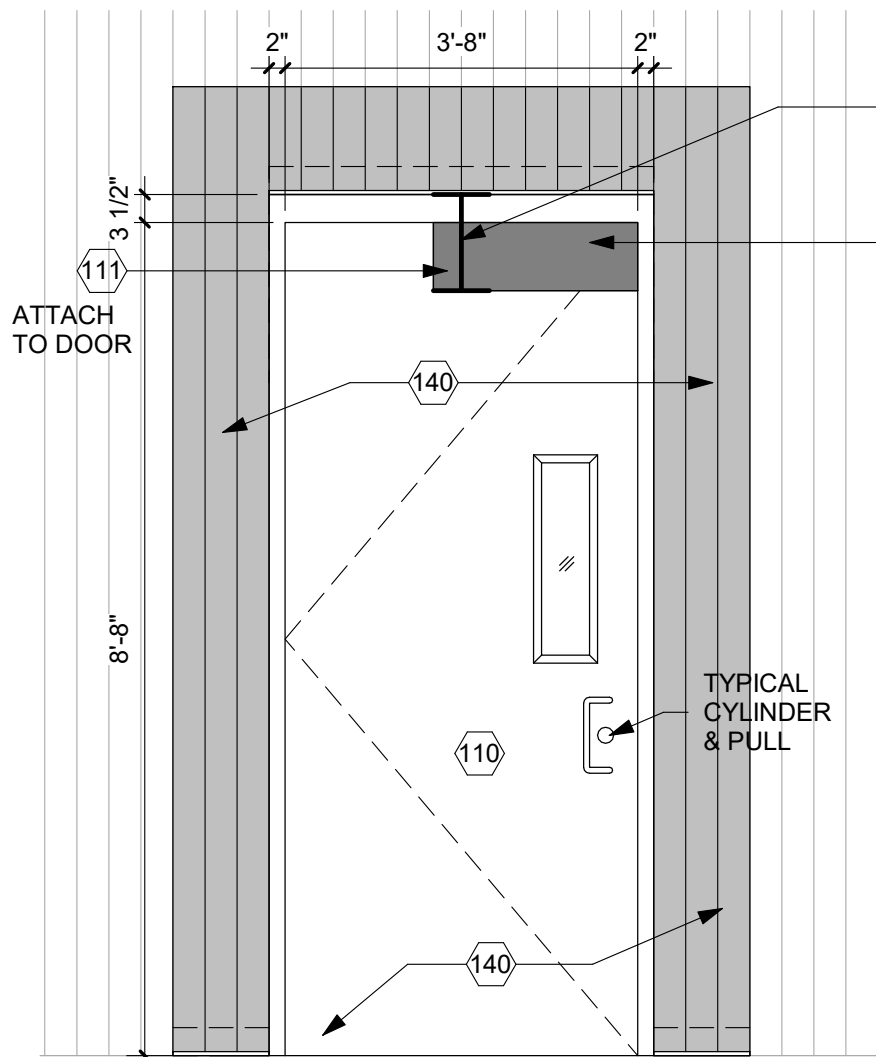
FINISHED GRADE

SLOPE 1/4"

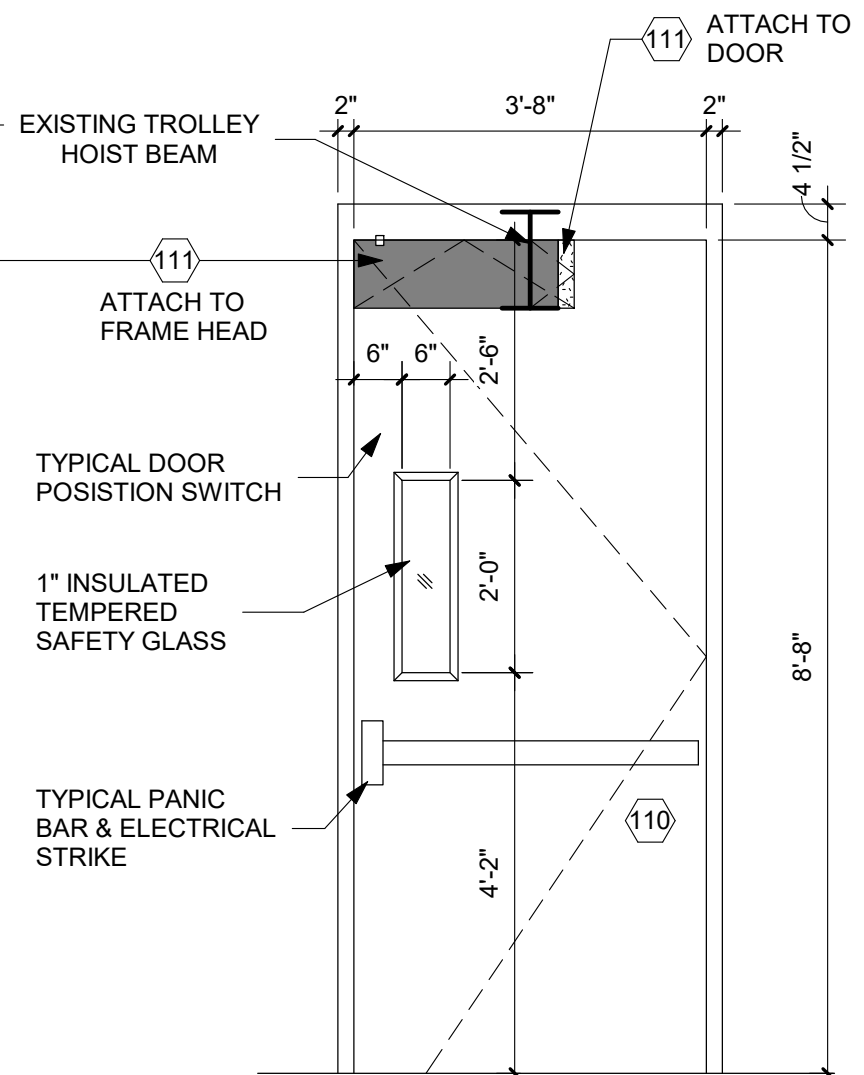
CONDUIT ROUTING FROM BOLLARD TO STRIKE SIDE OF FRAME

EXISTING FOUNDATION (VERIFY CONDITIONS)

2 R015 - STOOP SECTION
1/2" = 1'-0"



3 R015 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



4 R015 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"

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UPGRADES

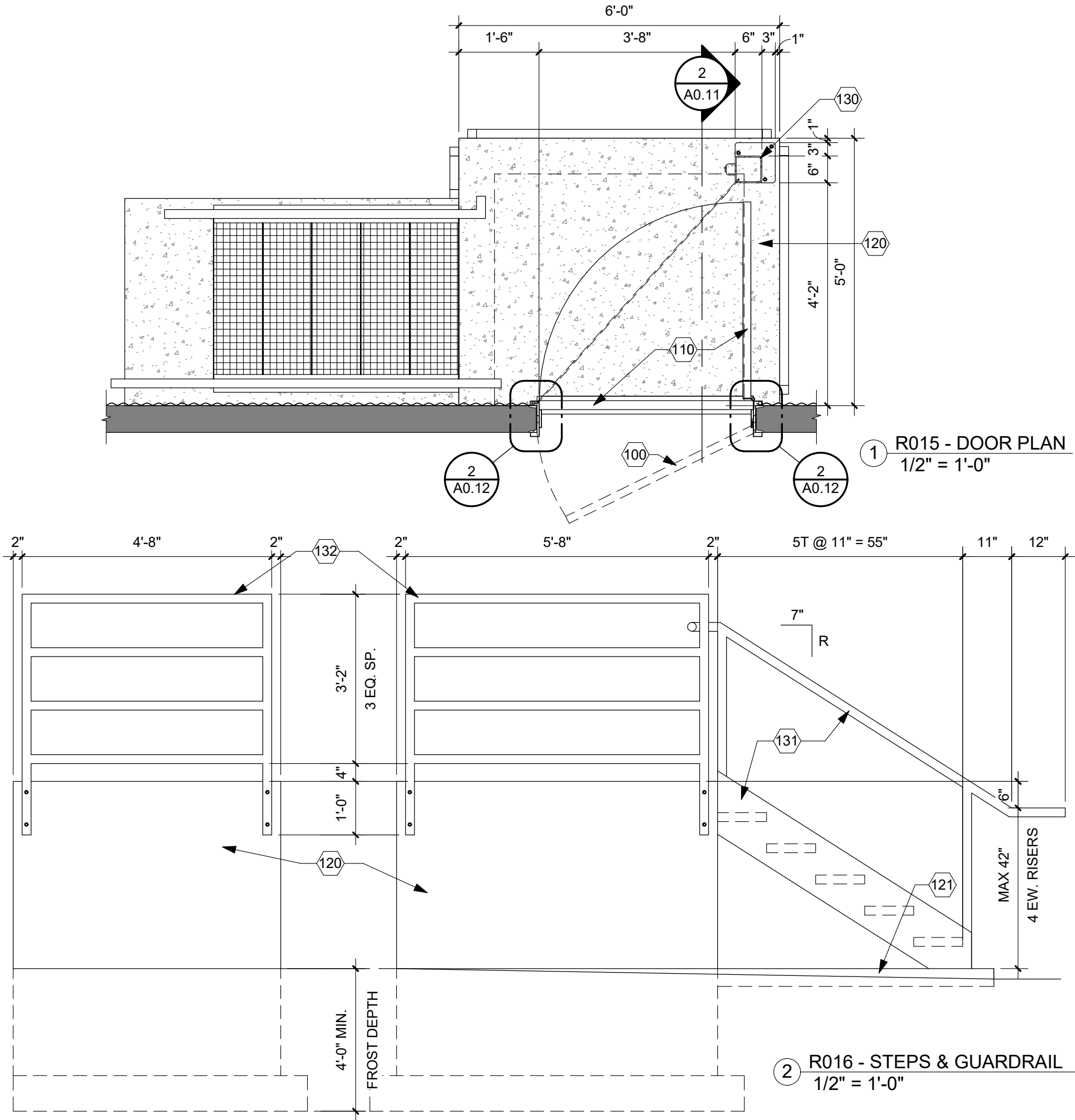
LEAD, SOUTH DAKOTA

SINGLE DOOR

R015

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 ENLARGE OPENING @ JAMB & HEAD TO ACCOMMODATE NEW DOOR & FRAME.
- 110 NEW DOOR/FRAME/HARDWARE
- 111 3/8" NEOPRENE RUBBER CLOSURE FIT AROUND BEAM
- 120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL
- 121 NEW 4"x 4'-0"x 5'-0"
- CONCRETE SIDEWALK W/#4 REINF. @ 16" O.C. EACH WAY.
- 130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 METAL BAR GRATE STEPS (5T/6R) WITH HSS 1/4"x4"x12" STRINGER EACH SIDE; BOLTED ATTACHMENT TO STOOP & SIDEWALK.
- 132 GUARDRAIL ASSEMBLY HSS 2"x2"x1/8"; 42" HIGH W/ 3 HORIZONTAL RAILS; BOLTED ATTACHMENT TO SIDE OF STOOP.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141



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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR

R016



R020 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

211 R020 IS AN EXTERIOR MOUNT; TRACK
ASSEMBLY/ANGLES MOUNTED TO JAMB COVER.

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

221 NO APRON AT R020

230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.

231 NO BOLLARDS AT R020

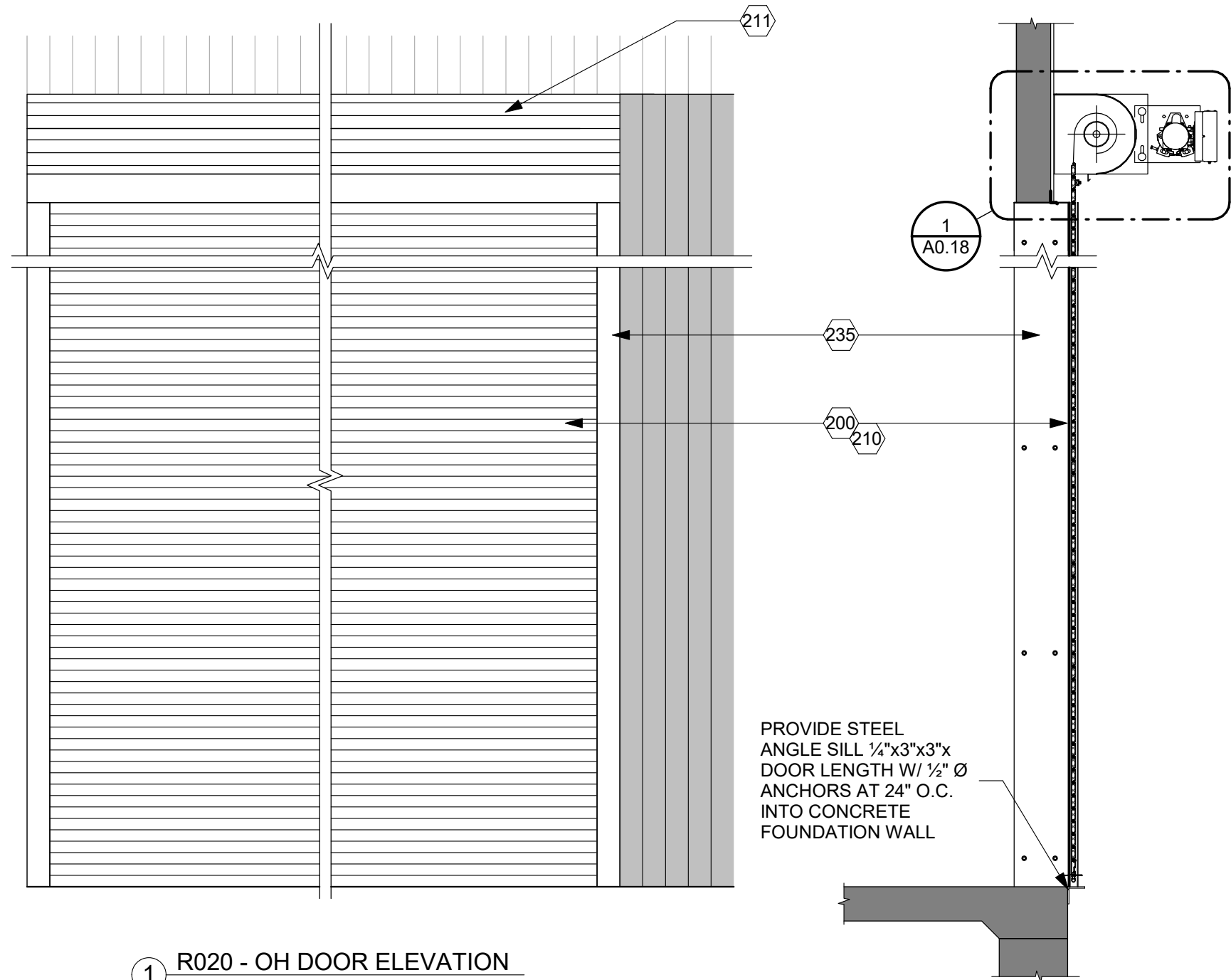
235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

240 METAL SIDING - REPLACE AS REQUIRED.

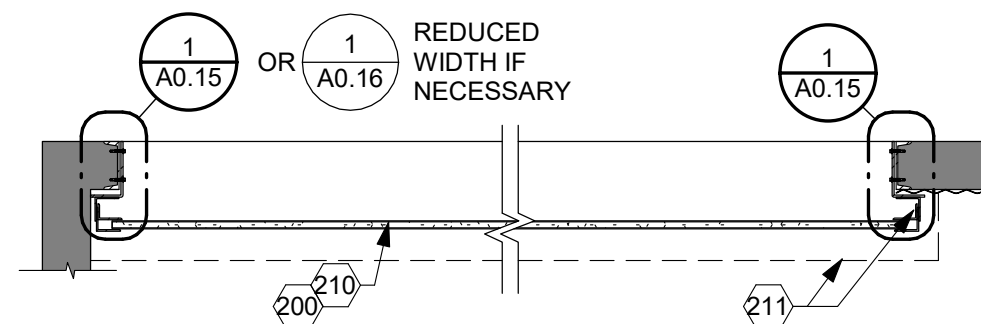
241 25 SF. OF METAL SIDING; REPLACE

NO FLOOR @ INTERIOR
SIDE/OPEN TO DEEP
PIT BELOW.

EXISTING HOPPER
OPENING W/ STEEL
PLATE COVER.



1 R020 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R020 - OH DOOR PLAN
1/2" = 1'-0"

3 R020 - OH DOOR PLAN
1/2" = 1'-0"

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**COORDINATE HAZARDOUS
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PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



**SANFORD
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HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

R020



R025 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

201 REPAIR CMU JAMBS - ADD #5 VERTICAL REINF. @
CENTER OF EACH CELL; GROUT FILL.

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

211 R020 IS AN EXTERIOR MOUNT; TRACK
ASSEMBLY/ANGLES MOUNTED TO JAMB COVER.

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 1'-6"W x OPENING LENGTH x 12" EACH
END.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

221 INTERIOR APRON ONLY @ R025

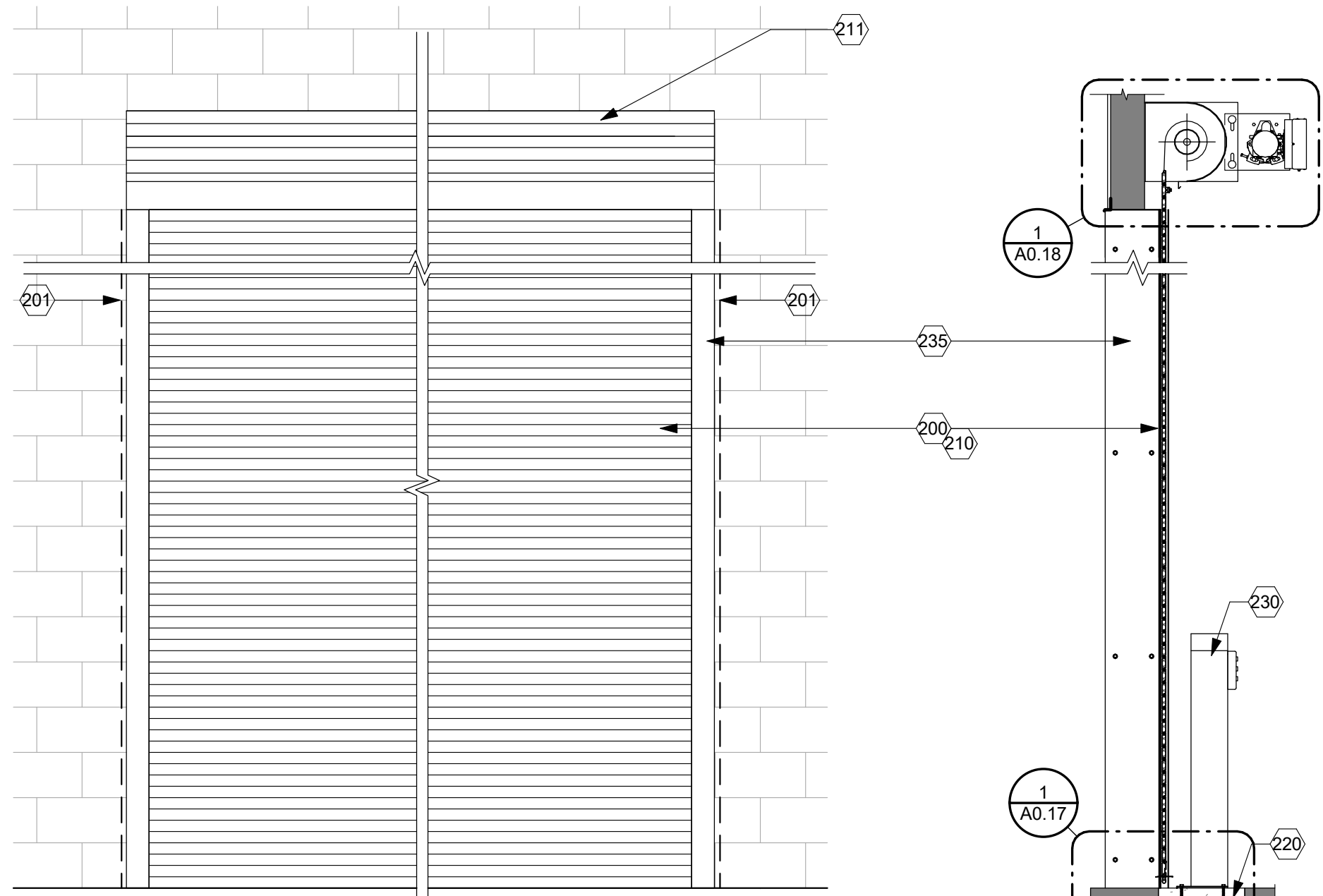
230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.

231 2 INTERIOR BOLLARDS ONLY @ R025

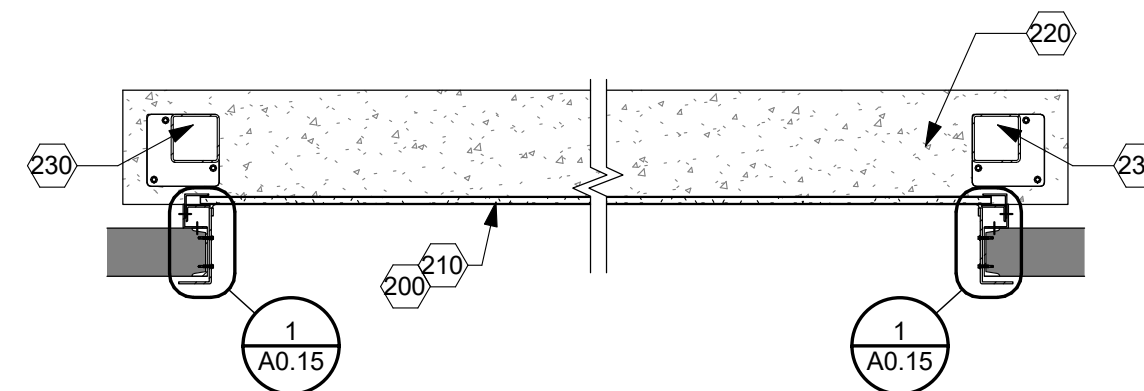
235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

240 METAL SIDING - REPAIR AS REQUIRED.

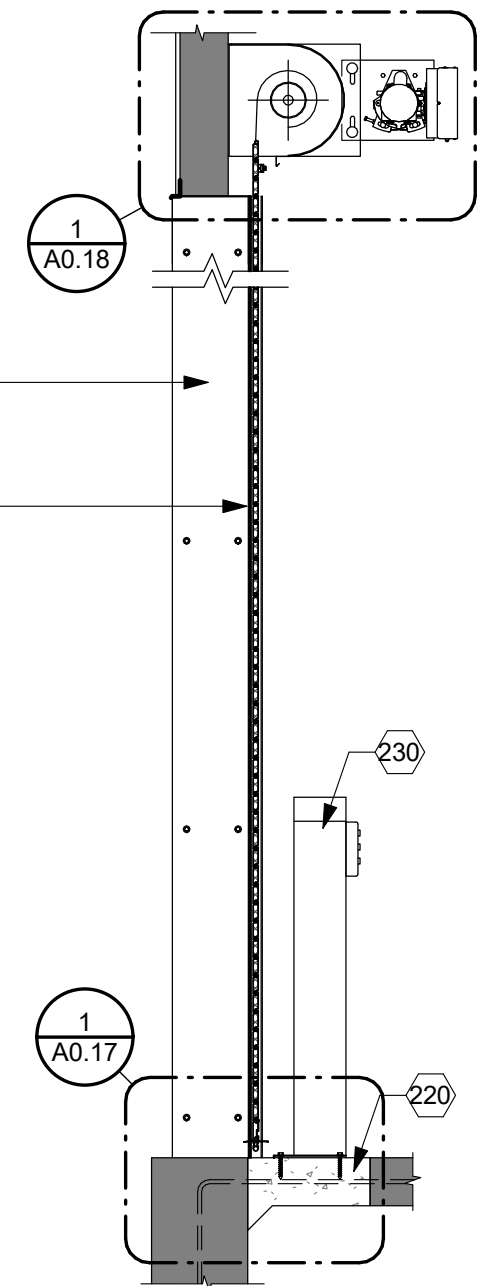
241 NO SIDING REPAIR AT R025



3 R025 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R025 - OH DOOR PLAN
1/2" = 1'-0"



3 R025 - OH DOOR PLAN
1/2" = 1'-0"

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**COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



**SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

OVERHEAD DOOR

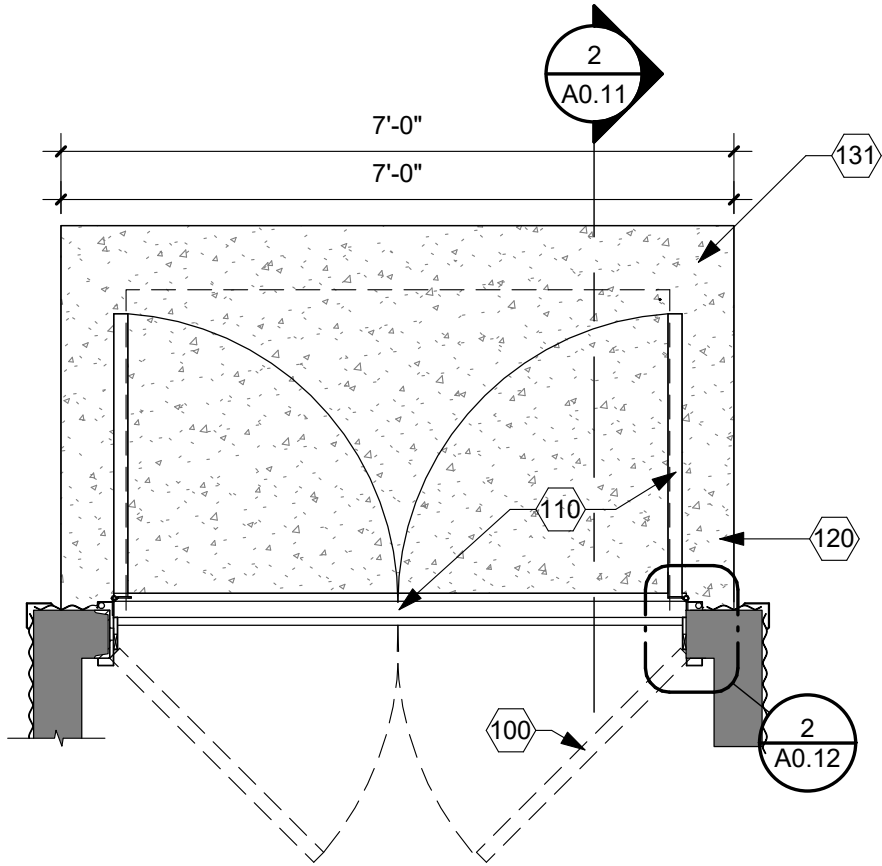
R025

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

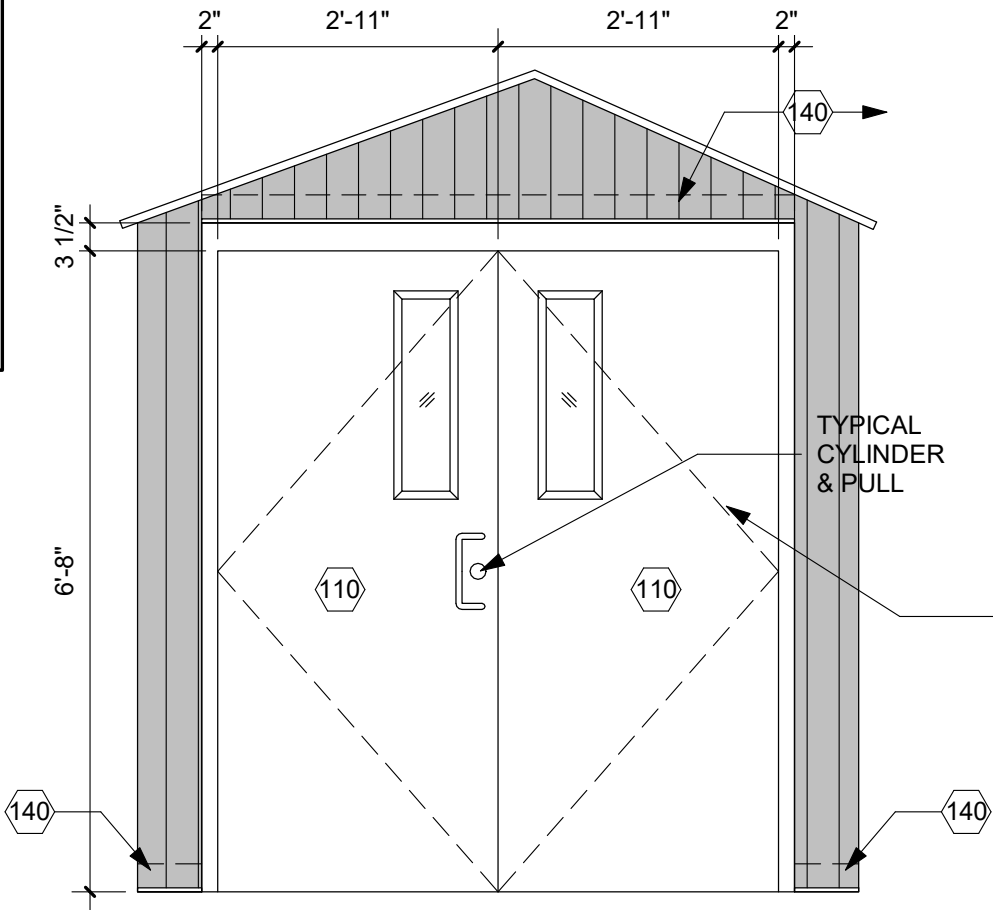
- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL
- 130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 NO BOLLARD/CARD READER IN THIS LOCATION.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141 REPLACE ALL METAL SIDING ON WEST FACE OF DORMER.



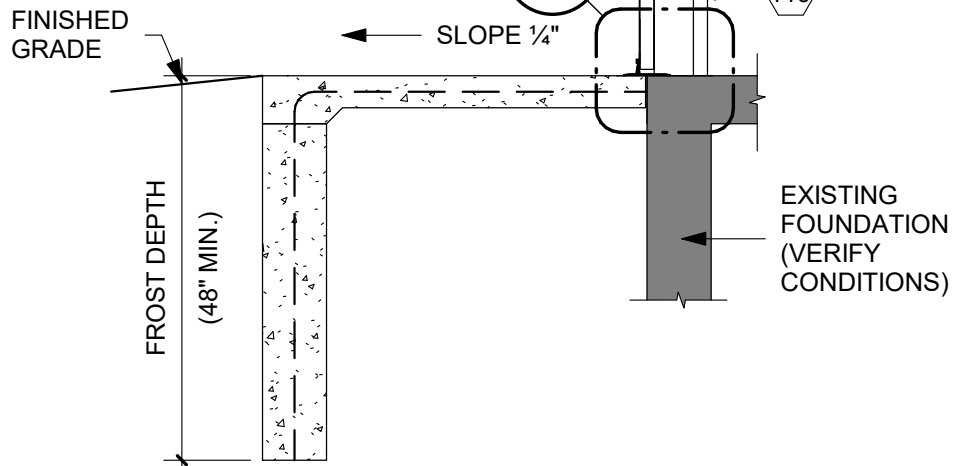
R100 PHOTO



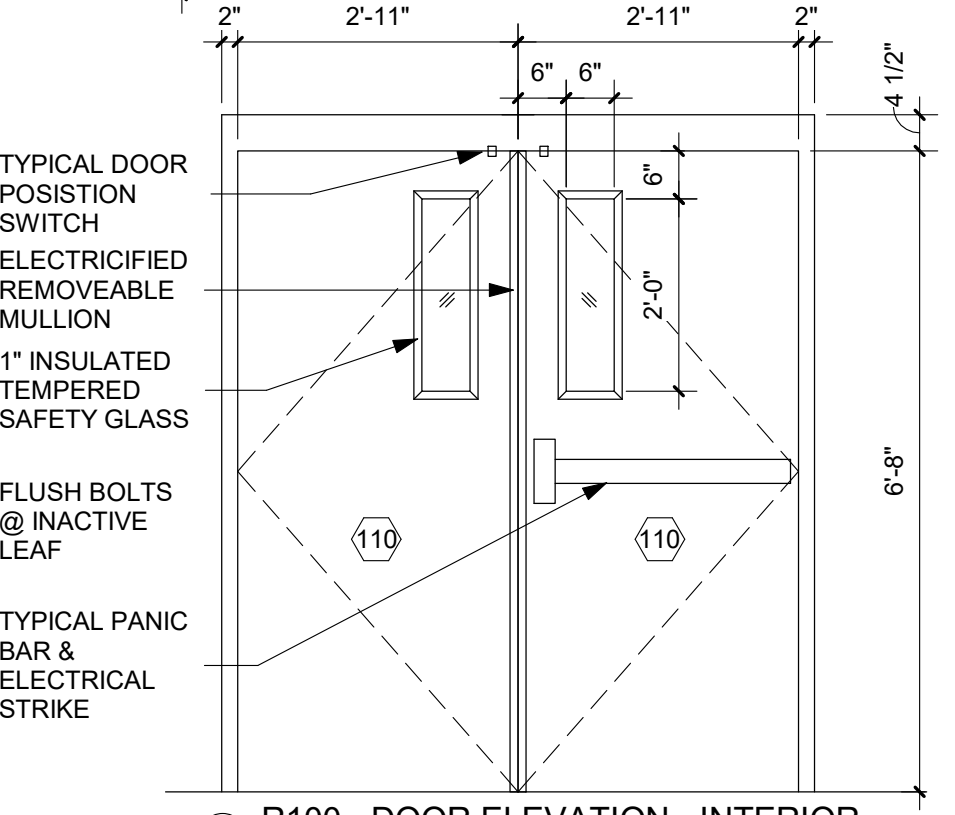
1 R100 - DOOR PLAN
1/2" = 1'-0"



3 R100 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



2 R100 - STOOPT SECTION
1/2" = 1'-0"



4 R100 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"

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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

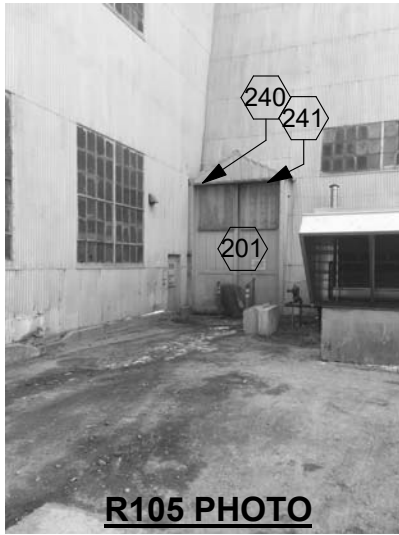
PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY
HEADFRAME SECURITY UPGRADES
LEAD, SOUTH DAKOTA

DOUBLE DOOR

R100



R105 PHOTO



R105 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

201 EXISTING DOOR IS LARGE/WOOD/FOLDING DOOR

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

211 EXISTING JAMB & HEAD CONDITIONS WILL
REDUCE OPENING SIZE VERIFY AVAILABLE
HEIGHT & WIDTH.

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

221 NE CORNER OF APRON WILL BE TERMINATED
SHORT BY NEW STOOP FOR R105

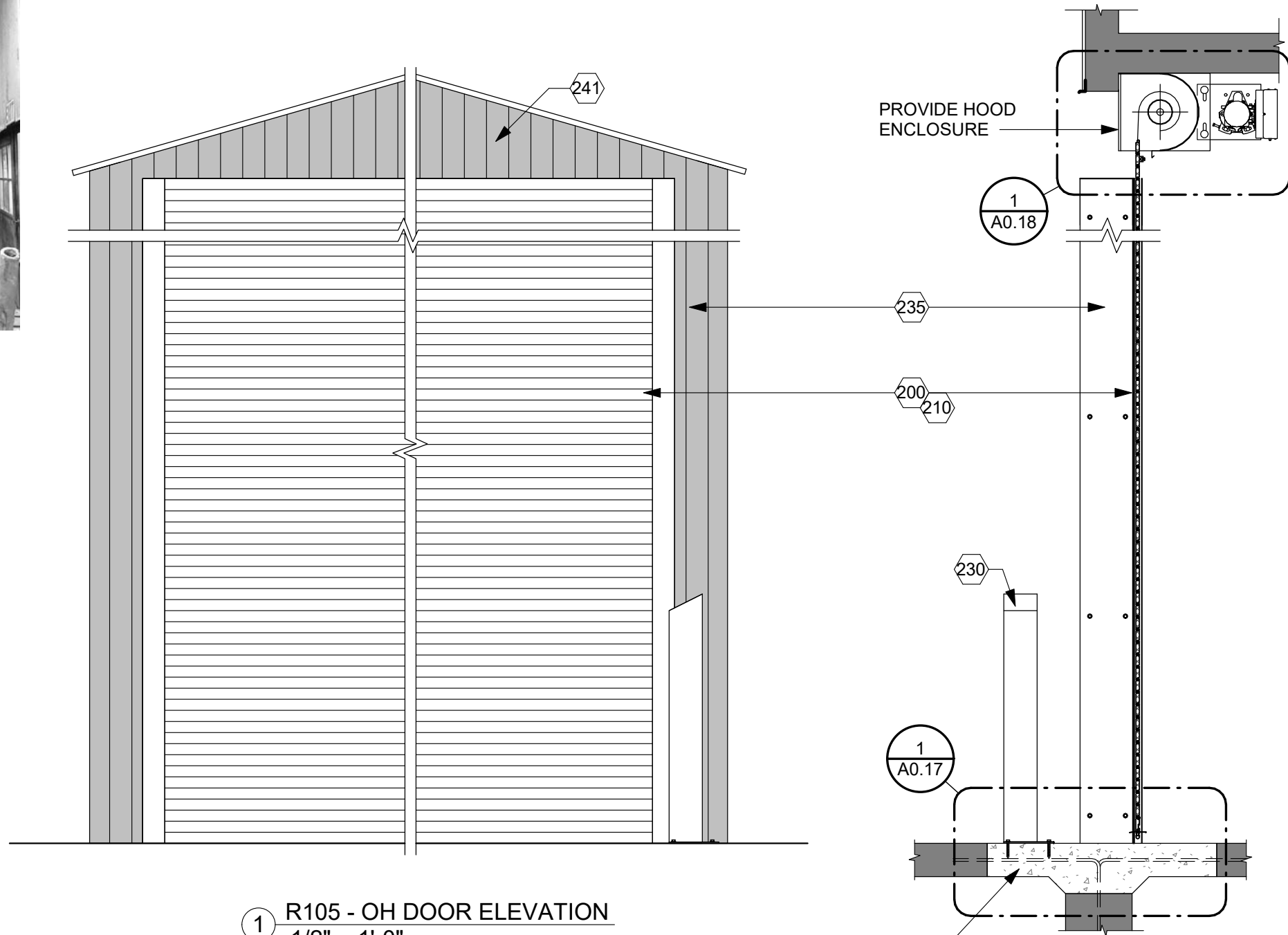
230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

231 3 BOTTON CONTROLLER MOUNTED ON WALL.

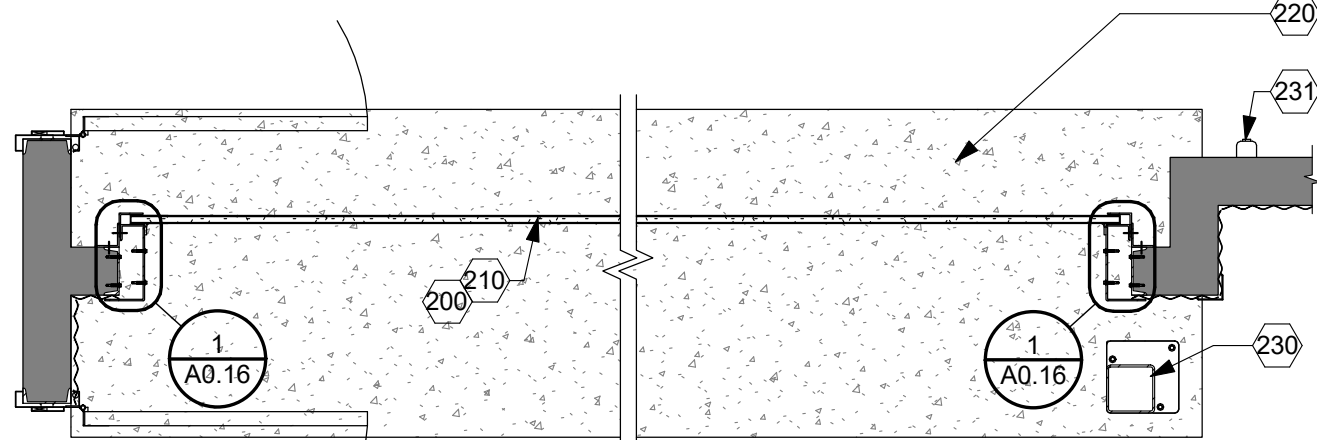
235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

240 METAL SIDING - REPAIR AS REQUIRED.

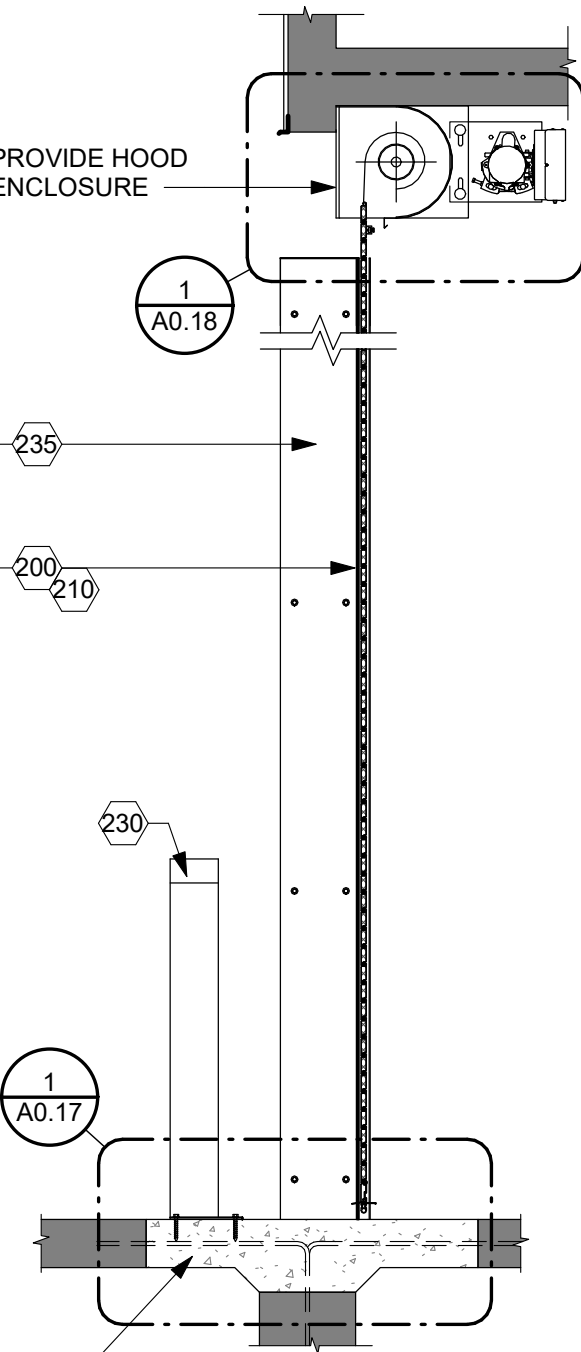
241 REPLACE SIDING AT ENTIRE NORTH FACE OF
DORMER



1 R105 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R105 - OH DOOR PLAN
1/2" = 1'-0"



3 R105 - OH DOOR PLAN
1/2" = 1'-0"

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**COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
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PROJECT NUMBER: 2019-035



**SANFORD
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HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

R105



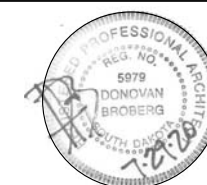
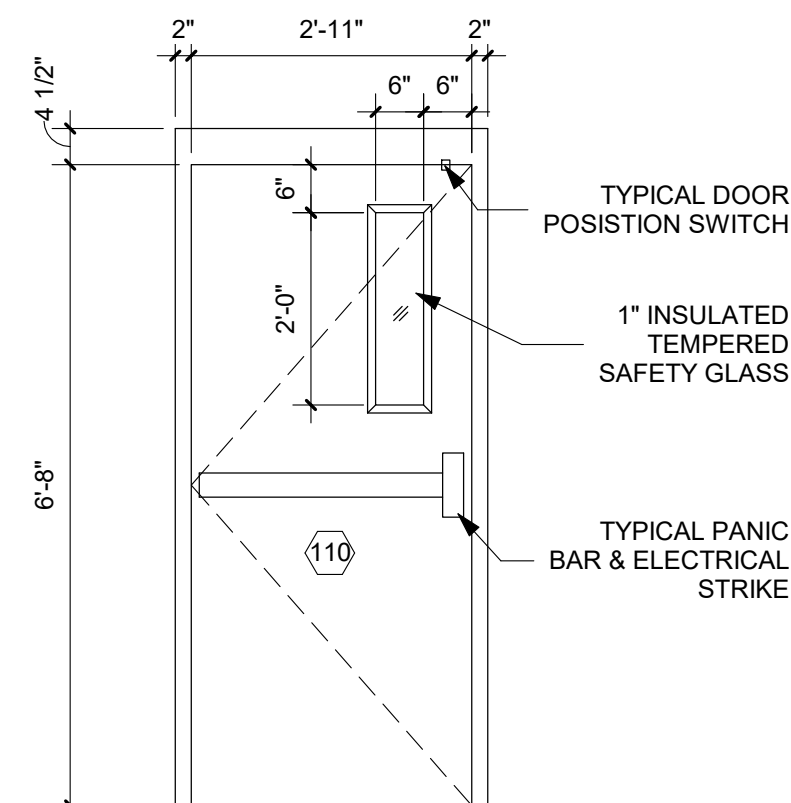
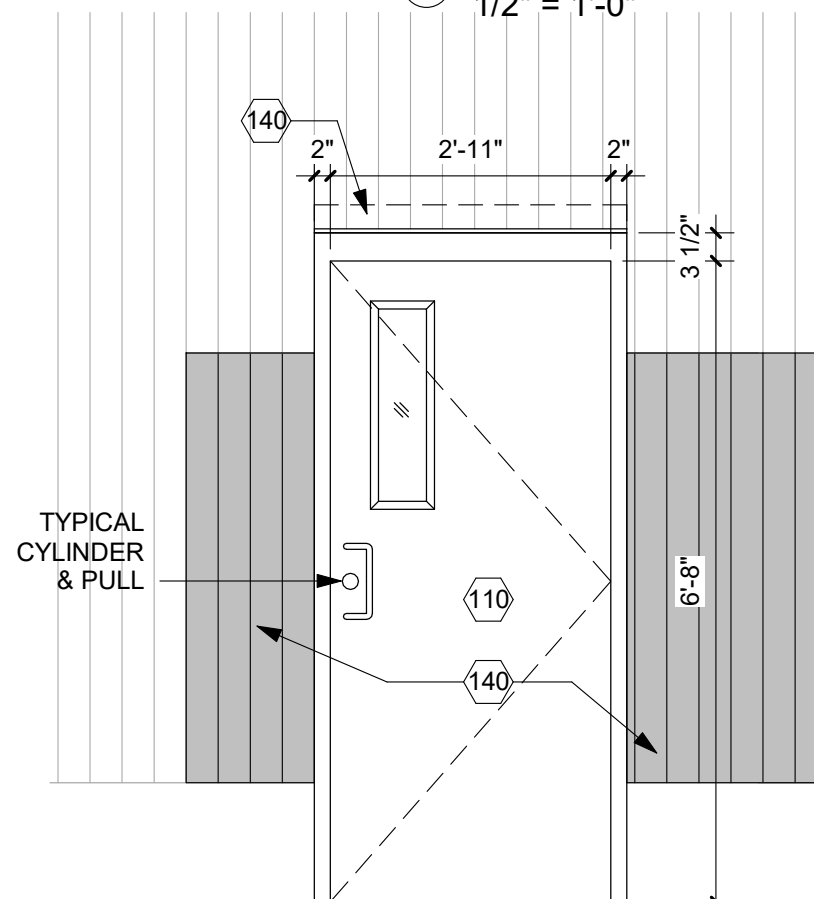
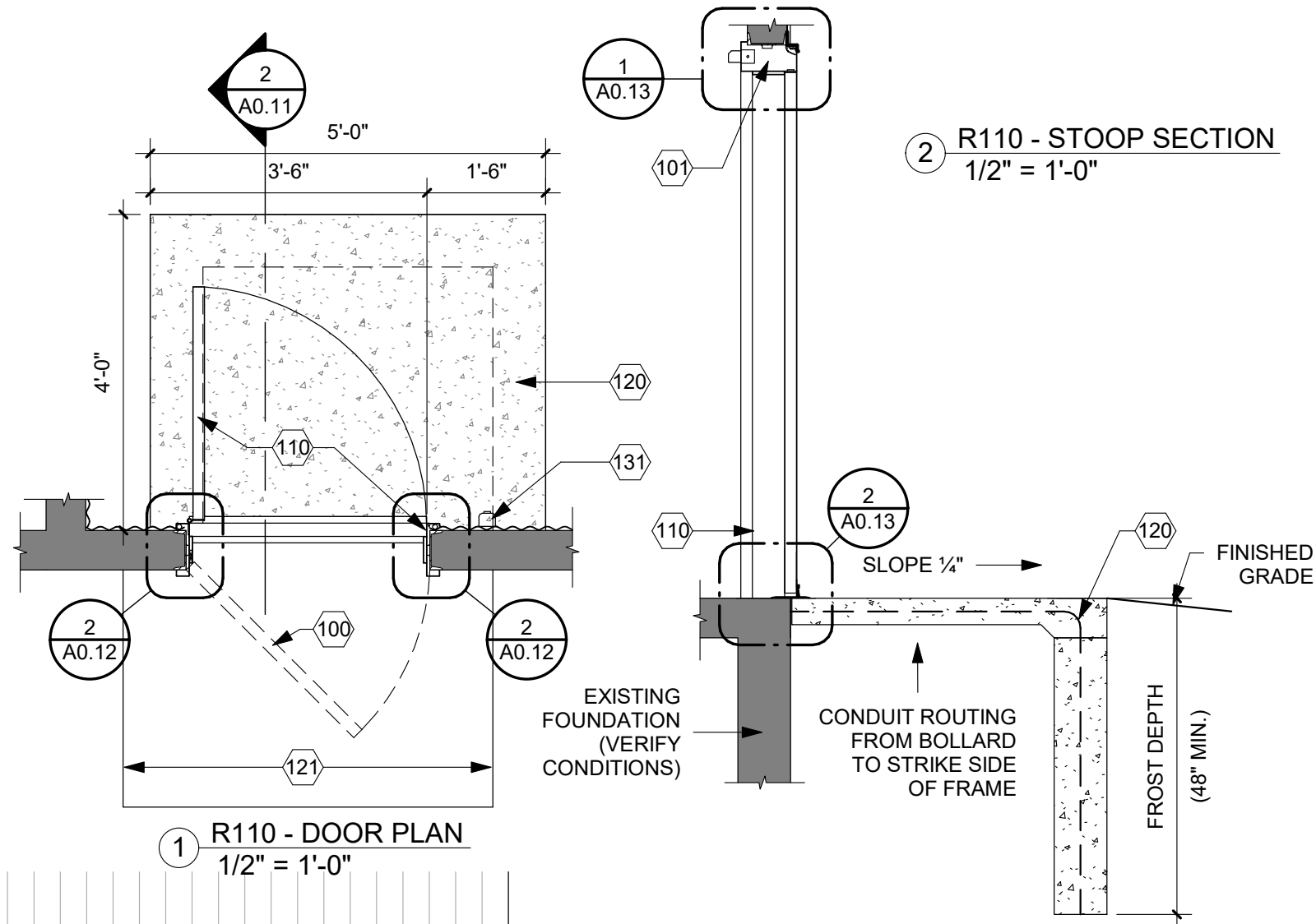
R110 PHOTO

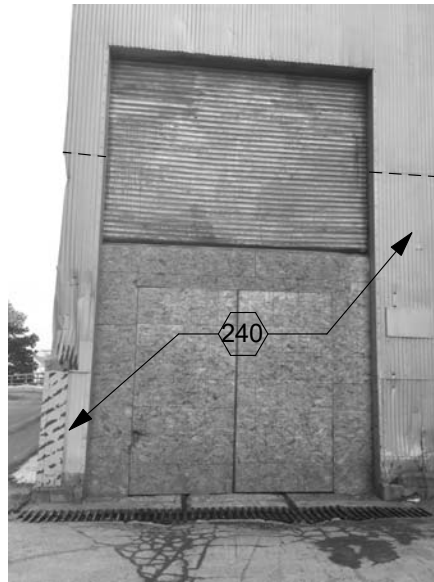


R110 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 RAISE HEAD FRAMING AS NECESSARY PROVIDE (2) 6"x18 GA. METAL STUDS @ HEAD.
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 121 REMOVE/REPLACE INTERIOR SLOPED CONCRETE FLOOR TO LOWER THRESHOLD TO MATCH ADJACENT FLOOR
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 131 NO BOLLARD AT THIS LOCATION - CARD READER MOUNTED ON WALL
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.





R115 PHOTO



R115 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

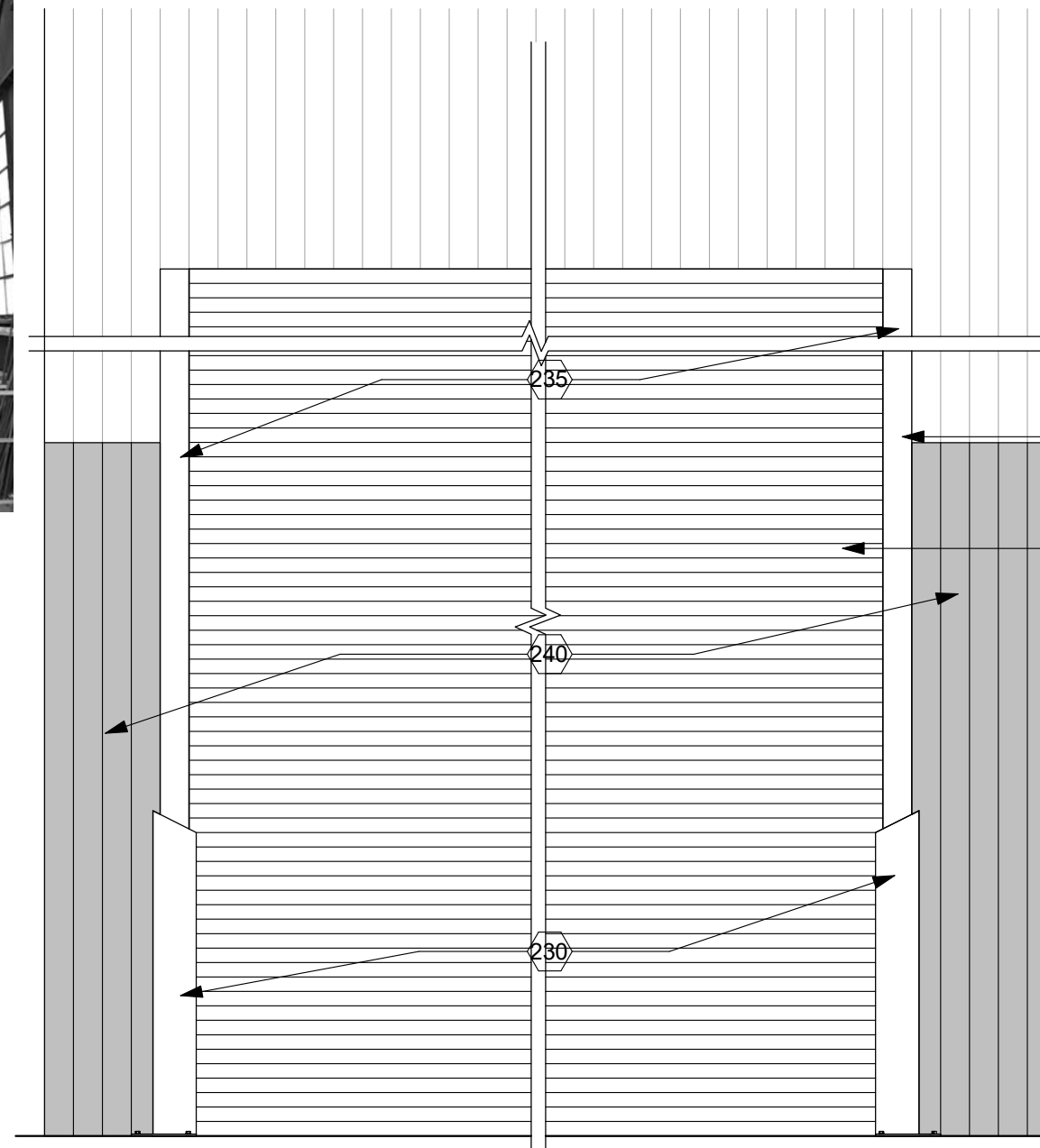
220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

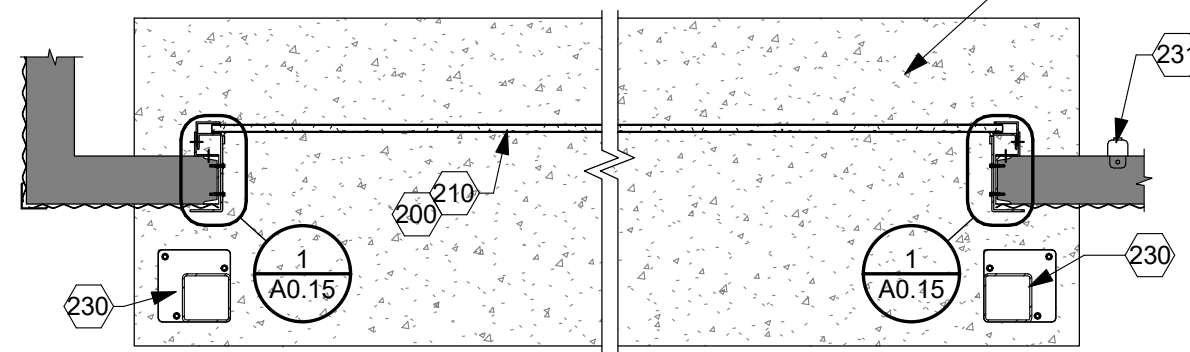
231 3 BUTTON CONTROLLER MOUNTED ON WALL

235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

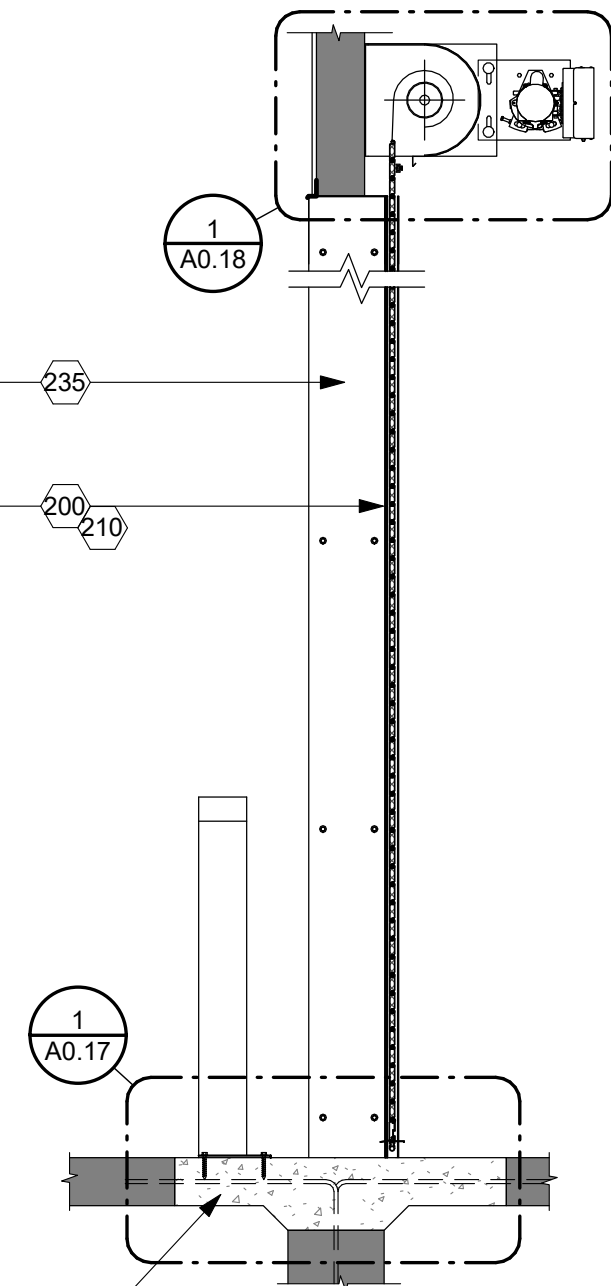
240 METAL SIDING - REPAIR AS REQUIRED.



1 R115 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R105 - OH DOOR PLAN
1/2" = 1'-0"



3 R105 - OH DOOR PLAN
1/2" = 1'-0"

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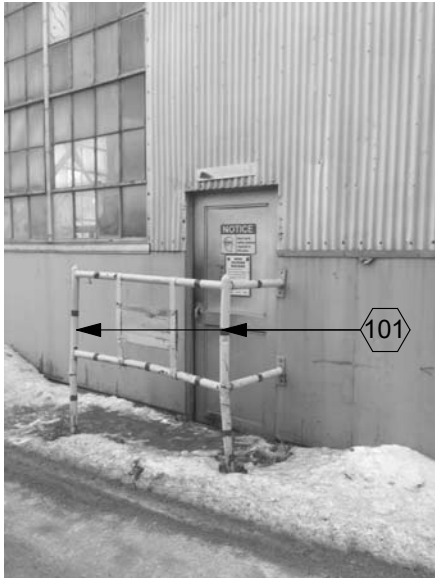
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LEAD, SOUTH DAKOTA

OVERHEAD DOOR

R115



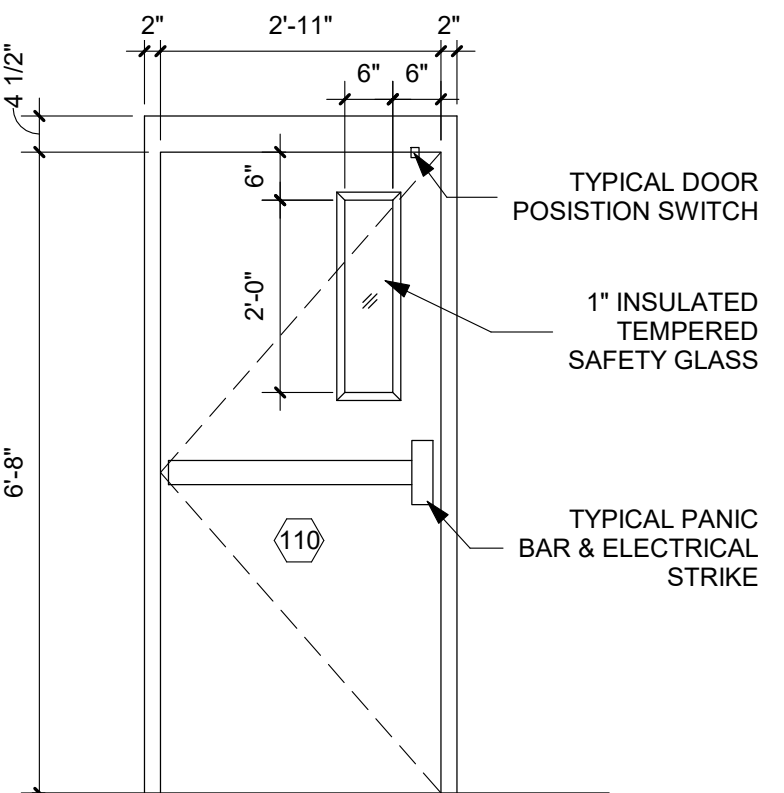
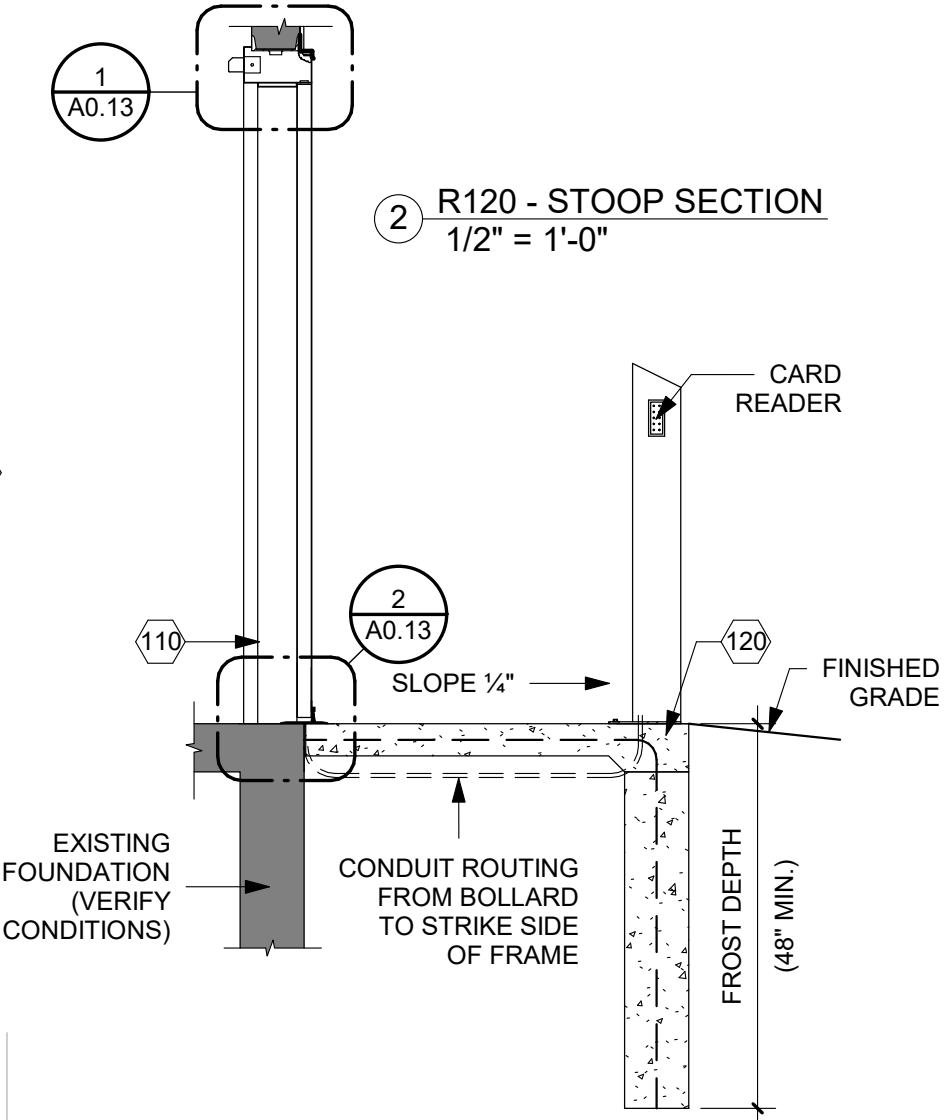
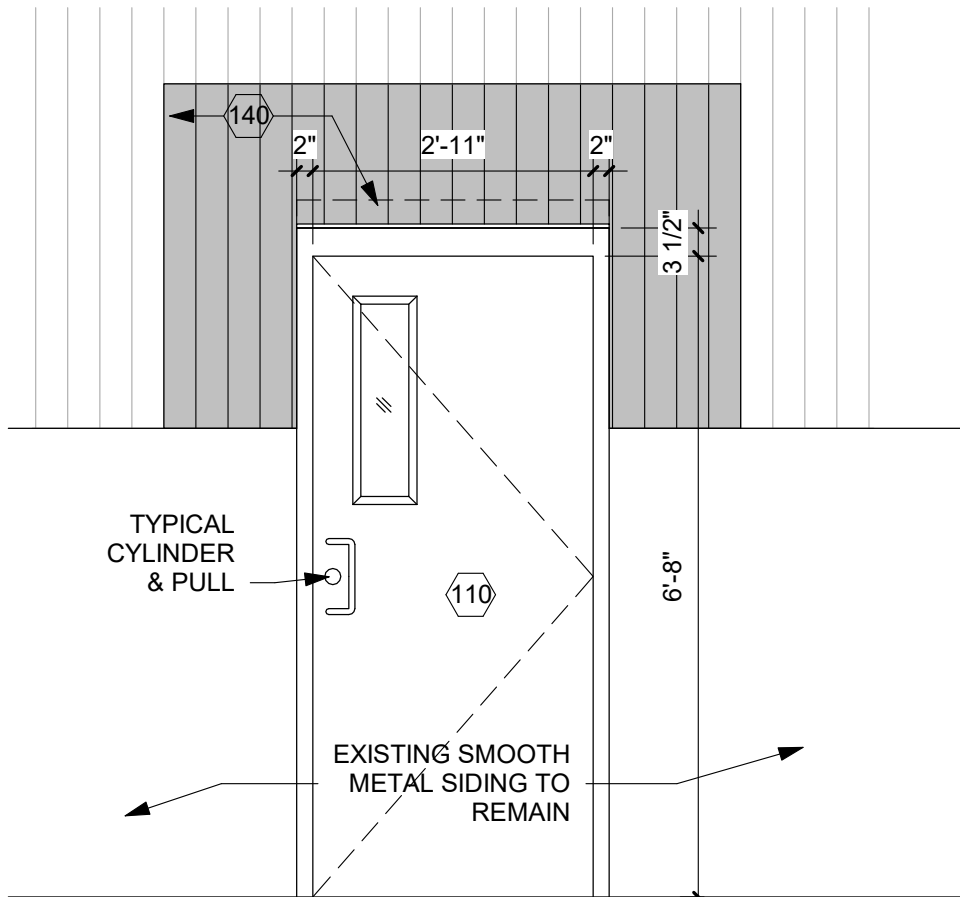
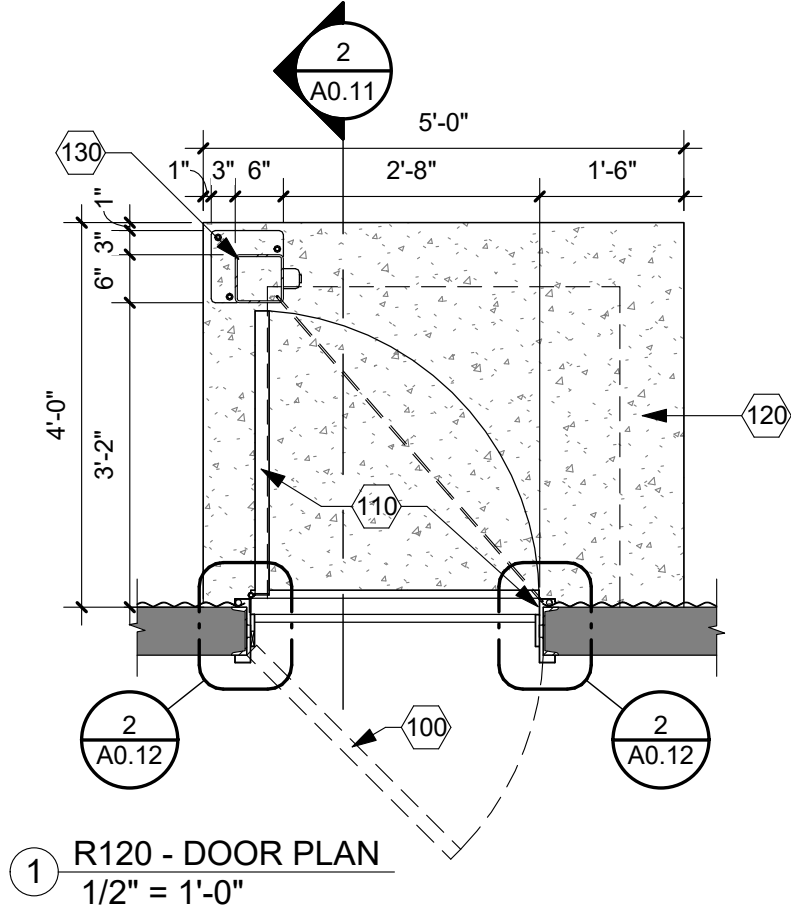
R120 PHOTO



R120 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 REMOVE PROTECTICE PIPE ASSEMBLY
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY

HEADFRAME SECURITY UPGRADES

LEAD, SOUTH DAKOTA

SINGLE DOOR

R120



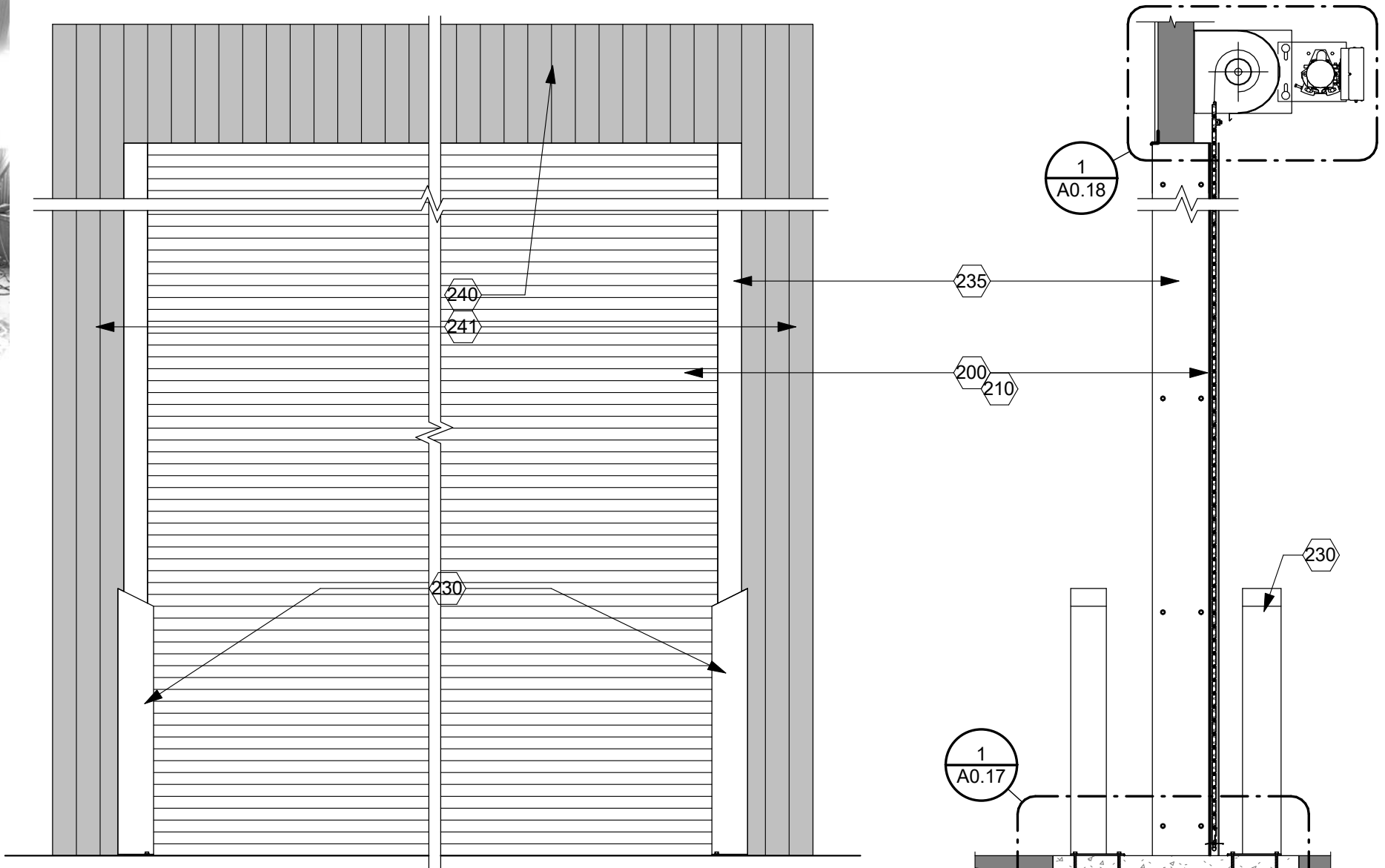
R125 PHOTO



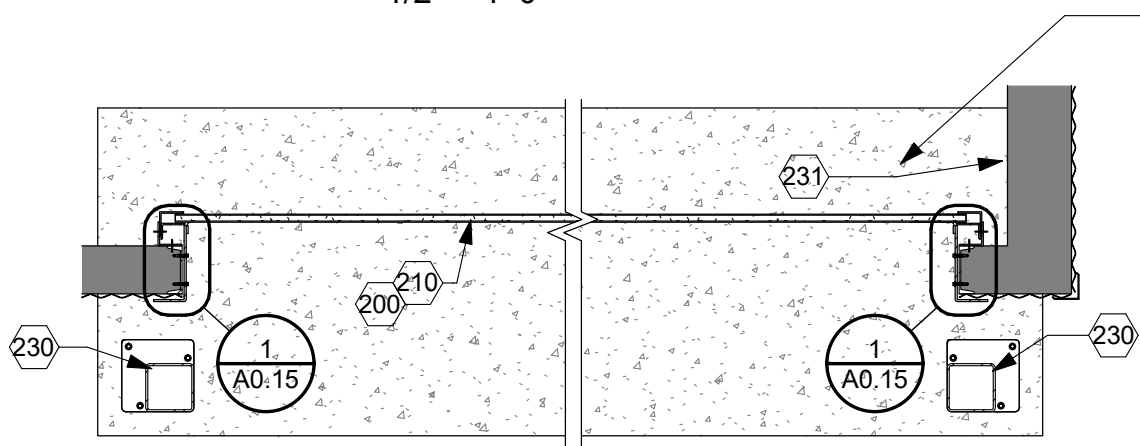
R125 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

- 200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.
- 210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16
- 220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION
- 230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.
- 231 3 BUTTON CONTROLLER MOUNTED ON ADJACENT
WALL
- 235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.
- 241 REPLACE SIDING AT ENTIRE SOUTH FACE OF
DORMER PROJECTION.



1 R125 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R125 - OH DOOR PLAN
1/2" = 1'-0"



3 R125 - OH DOOR PLAN
1/2" = 1'-0"

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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



**SANFORD
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RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

R125



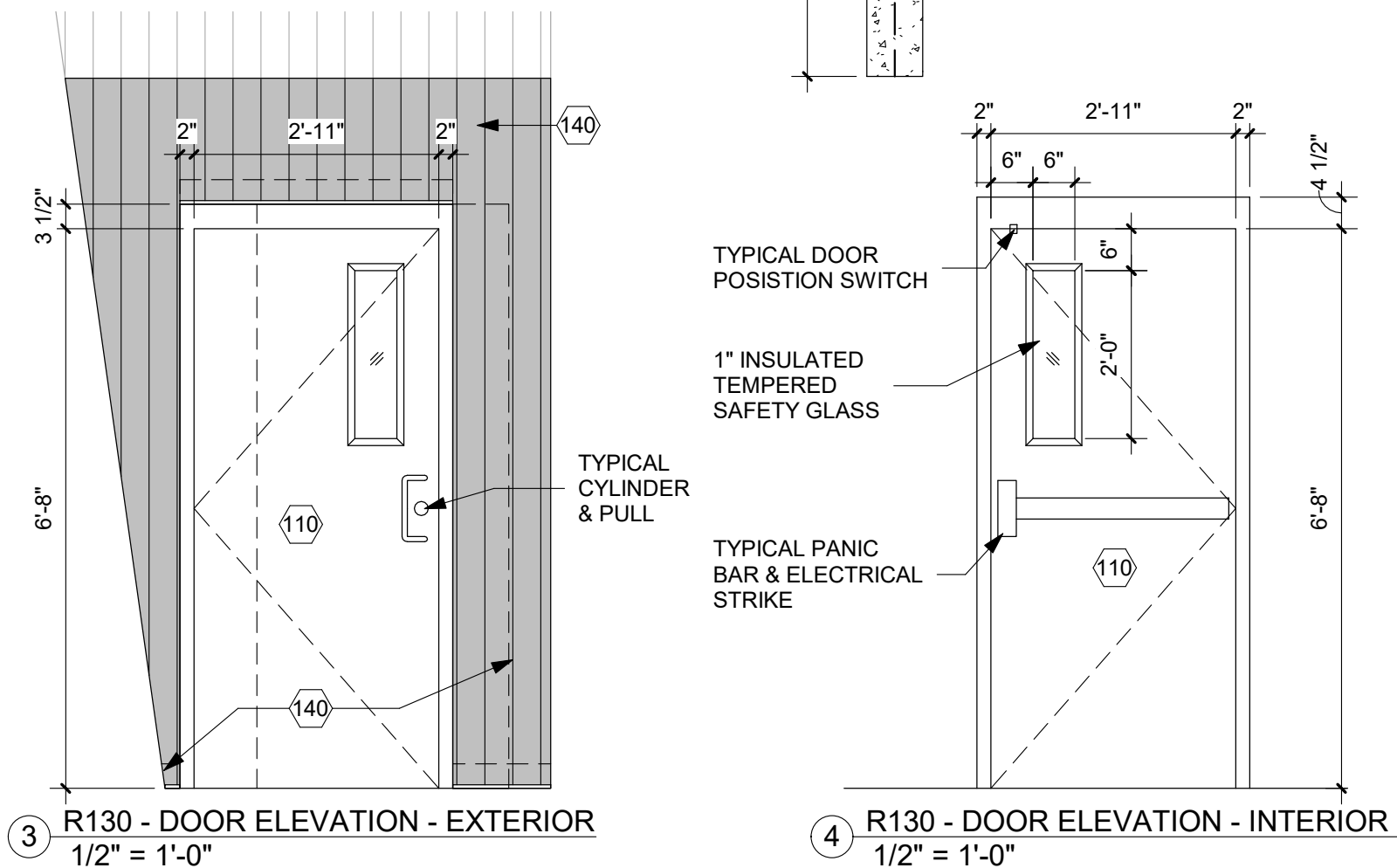
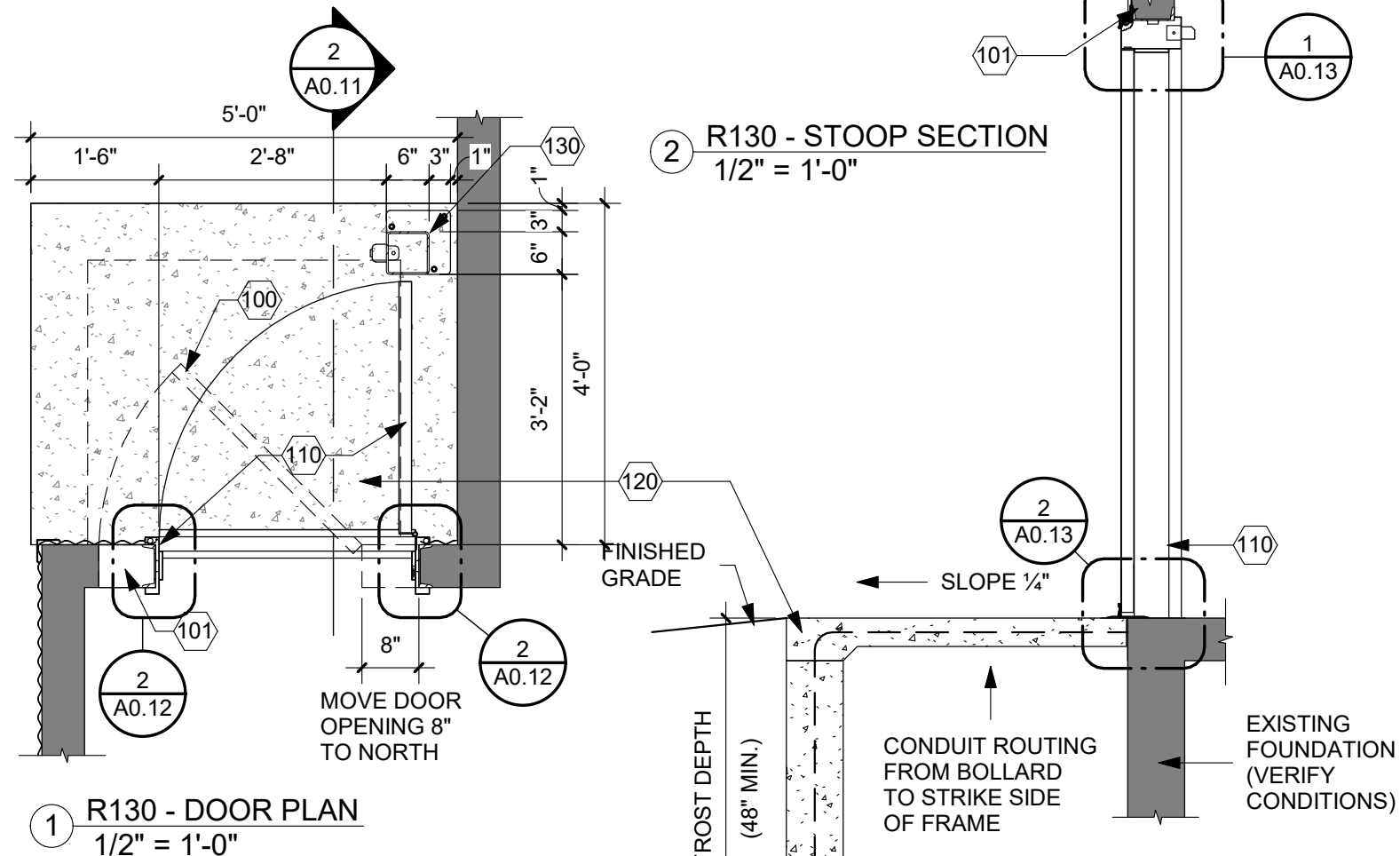
R130 PHOTO



R130 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 ADJUST OPENING = 8" TO NORTH; PROVIDE (2) 6"x18GA. METAL STUDS @ HEAD & JAMBS
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141 REPLACE METAL SIDING @ ENTIRE WEST SIDE OF DORMER PROJECTION



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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY

HEADFRAME SECURITY UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR

R130



R135 PHOTO



R140 PHOTO



R140 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

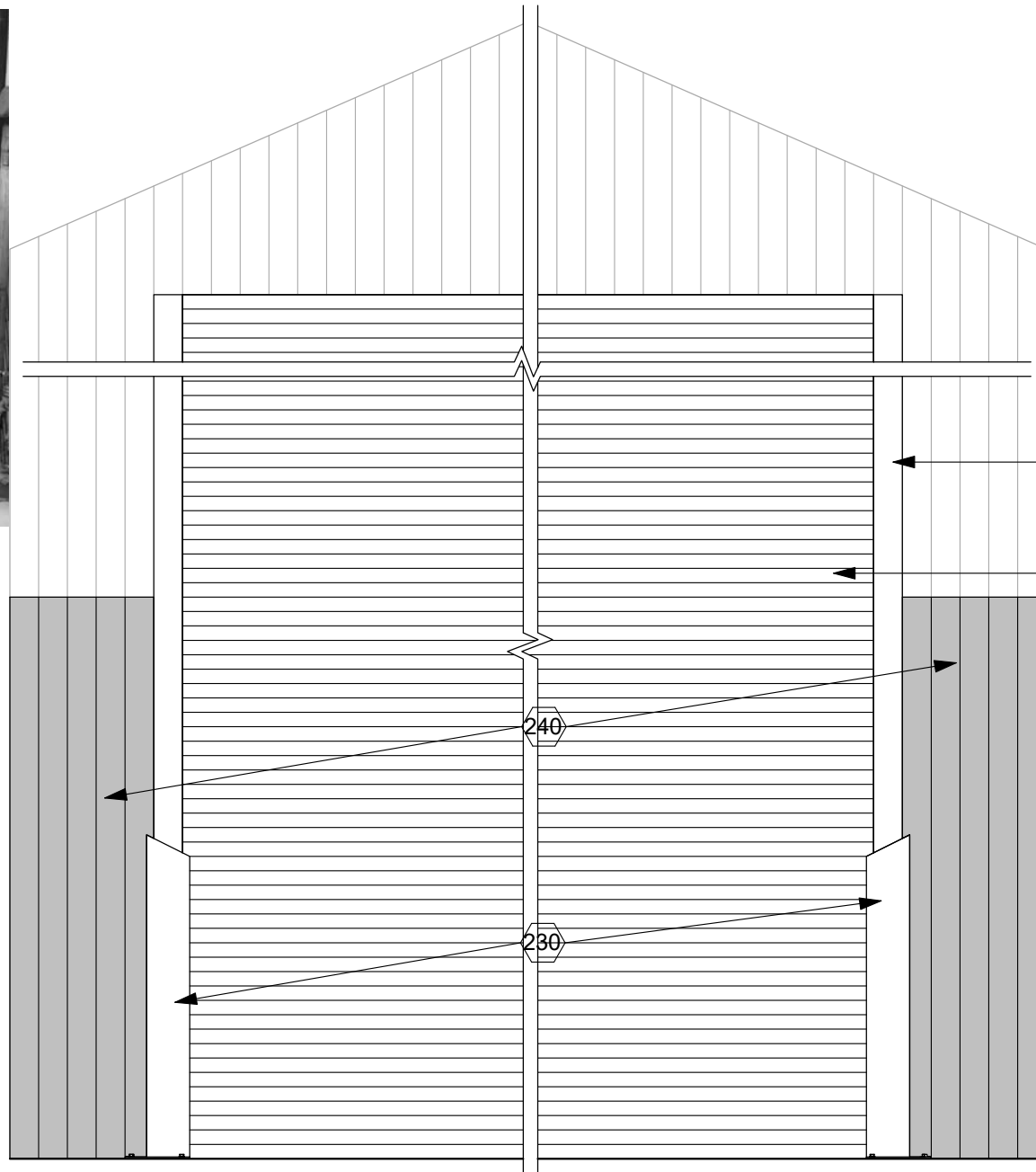
210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

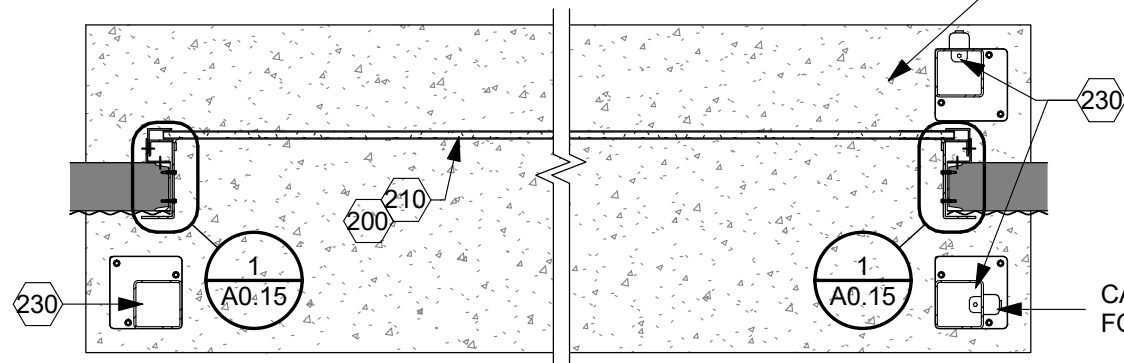
230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

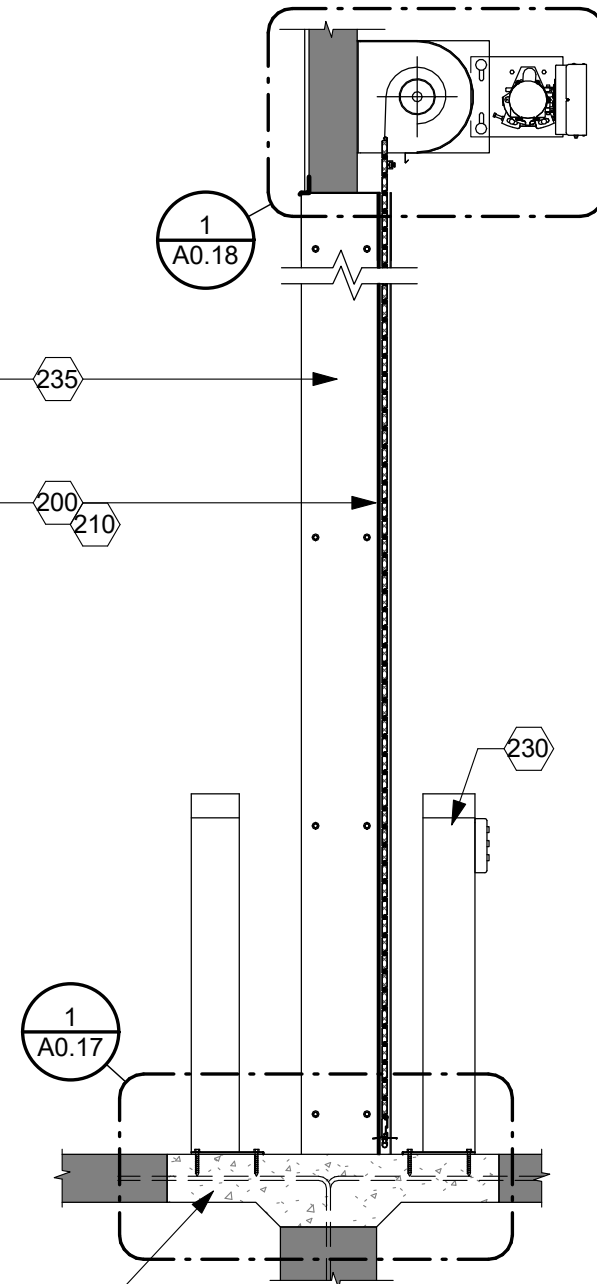
240 METAL SIDING - REPAIR AS REQUIRED.



1 R140 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R140 OH DOOR PLAN
1/2" = 1'-0"



3 R140 - OH DOOR PLAN
1/2" = 1'-0"

CARD READER
FOR DOOR R135

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**COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



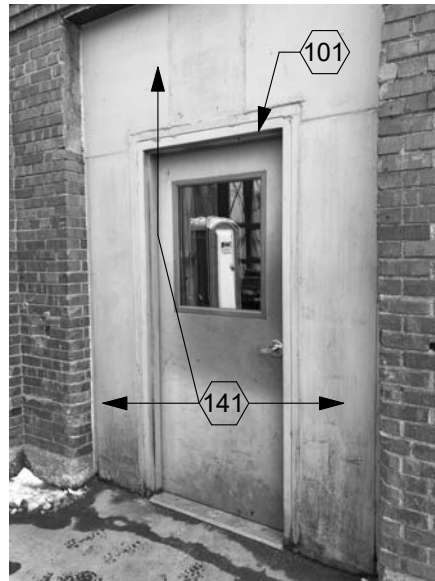
**SANFORD
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RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

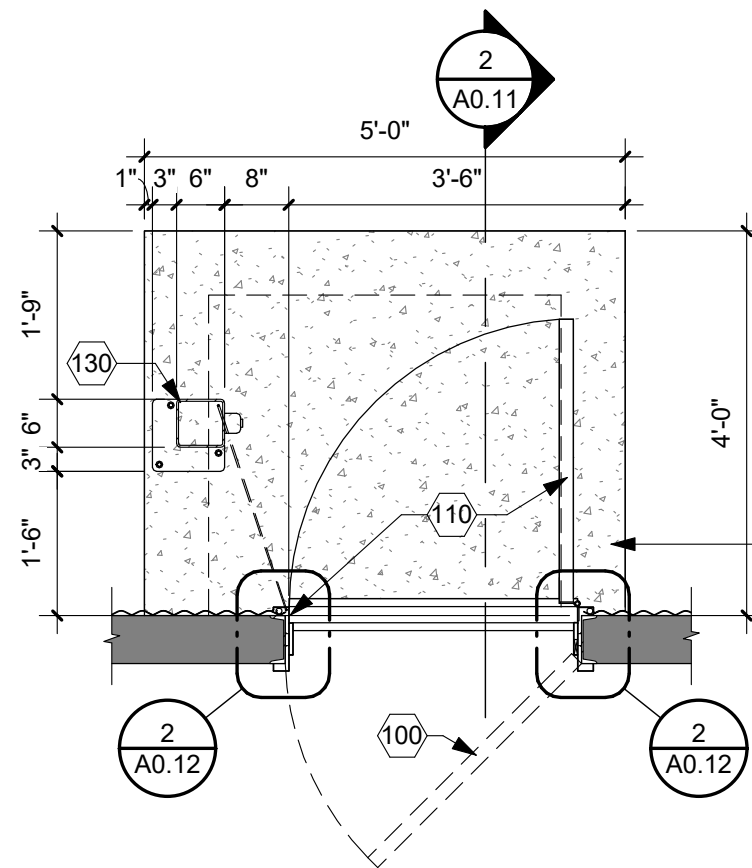
R140



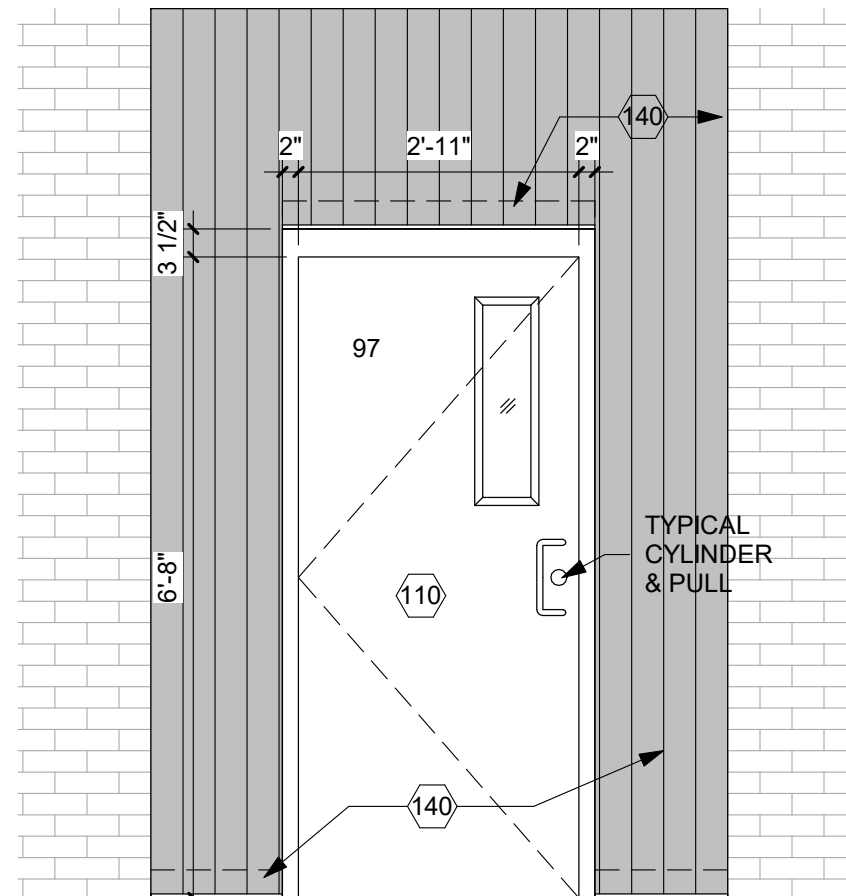
R145 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

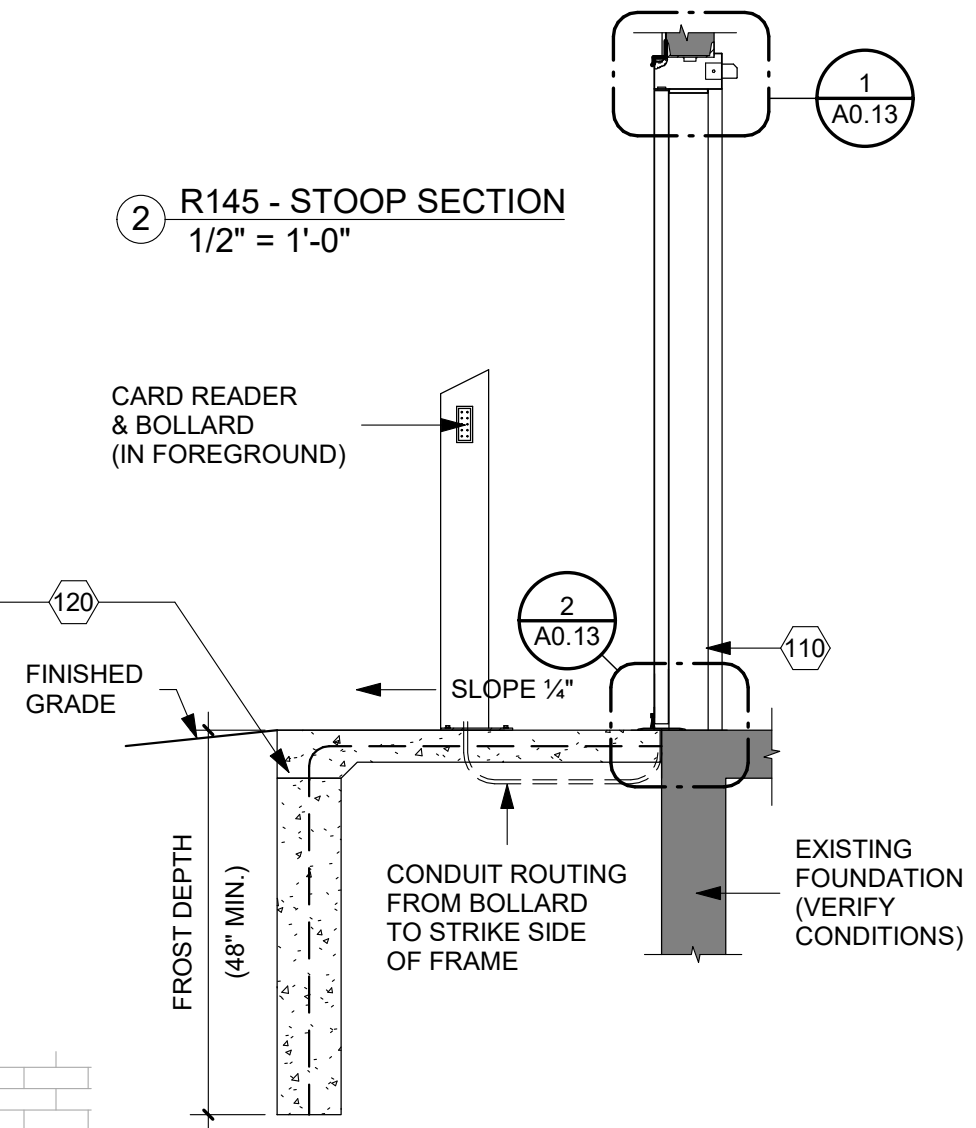
- 100** REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101** REMOVE EXISTING HOLLOW METAL DOOR FRAME (VERIFY/MATCH OVERALL FRAME HEIGHT)
- 110** NEW DOOR/FRAME/HARDWARE
- 120** NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130** BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 140** METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141** PROVIDE NEW CORRUGATED METAL SIDING AT ENTIRE WALL INSET AREA.



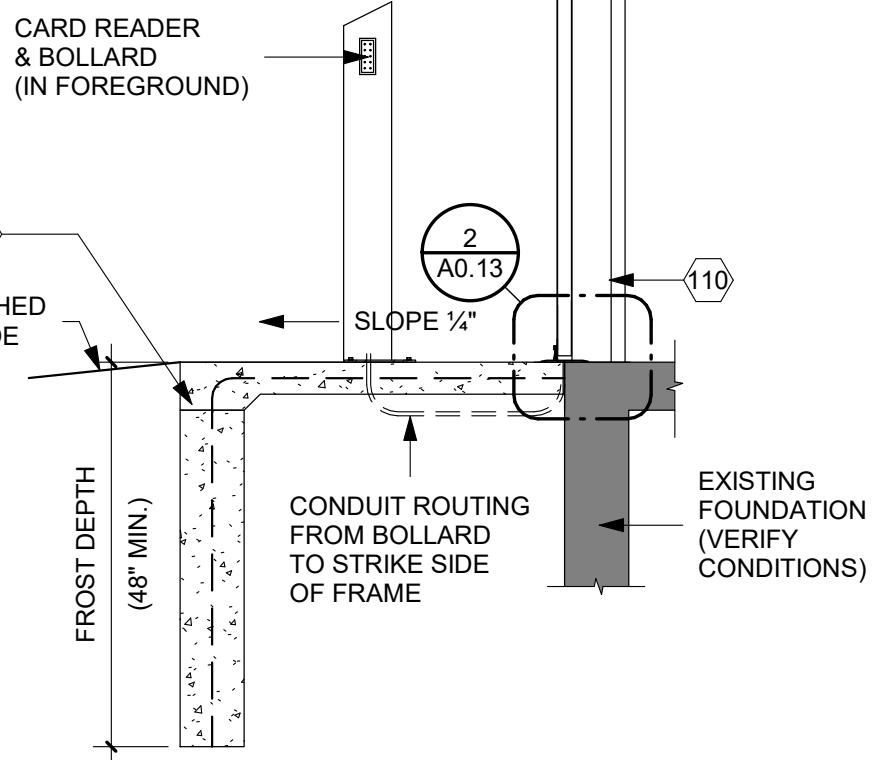
1 R145 - DOOR PLAN
1/2" = 1'-0"



3 R145 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



2 R145 - STOOP SECTION
1/2" = 1'-0"



4 R145 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"





R150 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE

110 NEW DOOR/FRAME/HARDWARE

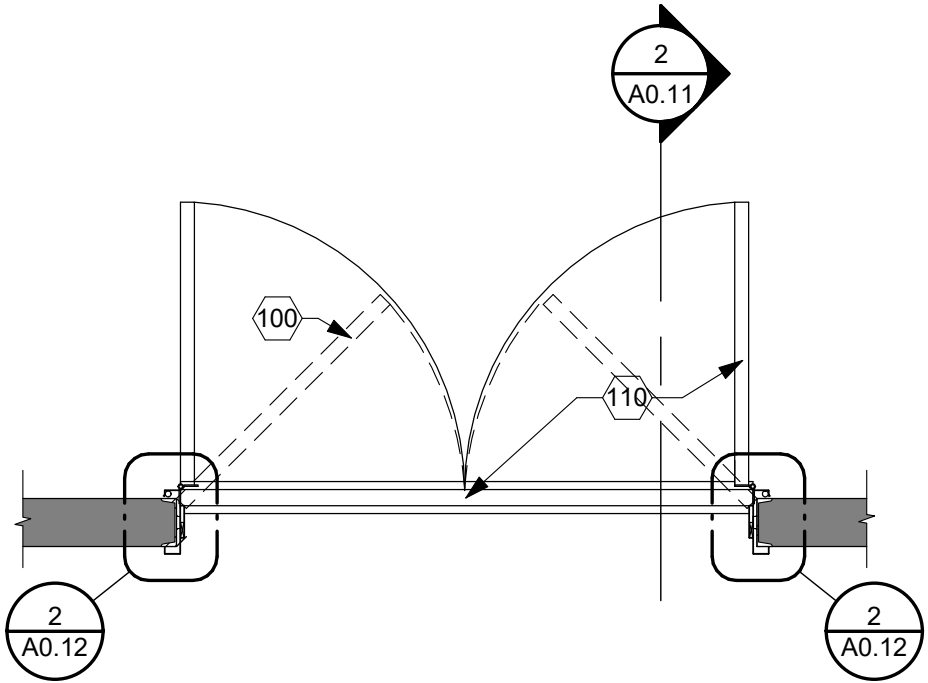
120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL

121 NO CONCRETE STOOP IN THIS LOCATION.

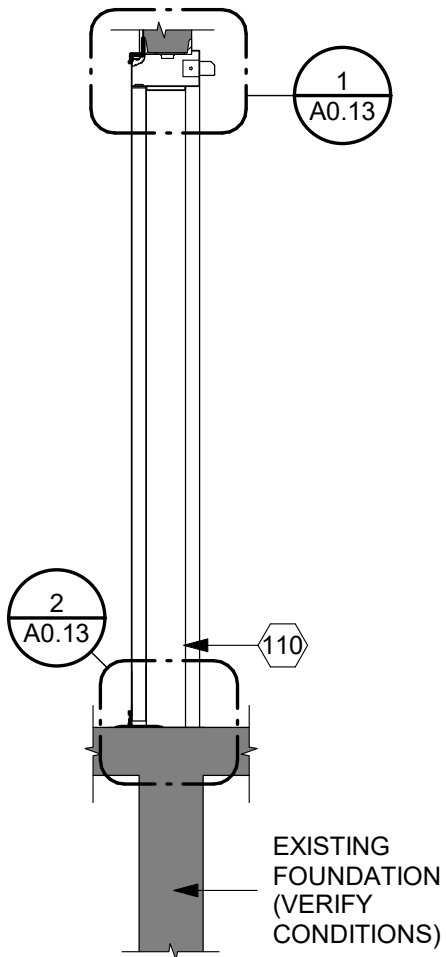
130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.

131 NO BOLLARD/CARD READER IN THIS LOCATION.

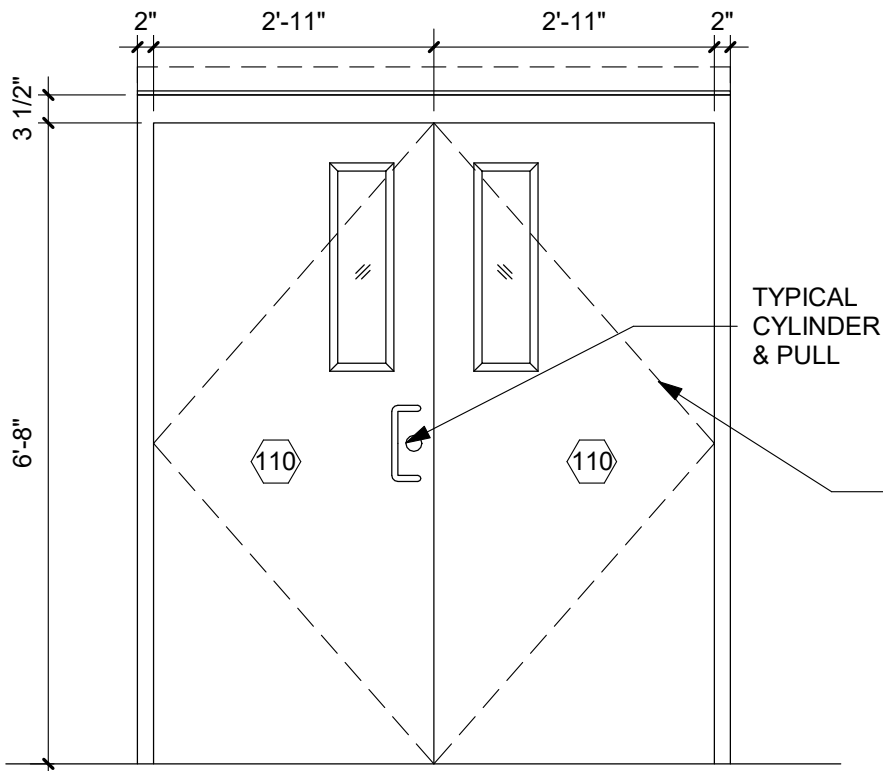
140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



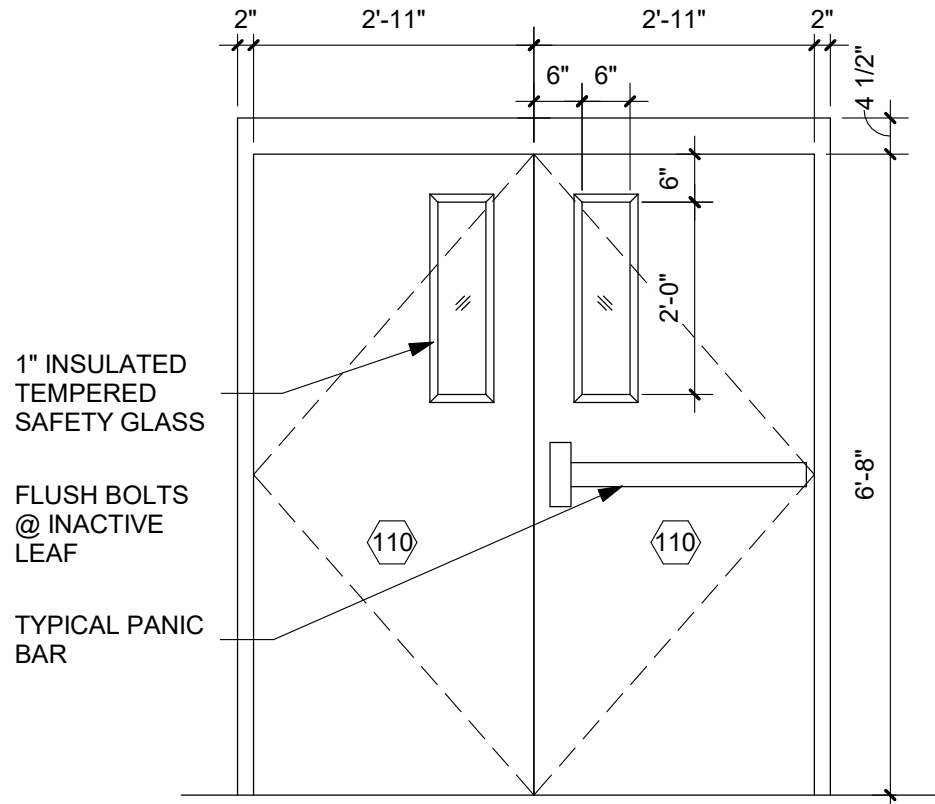
1 R150 - DOOR PLAN
1/2" = 1'-0"



2 R150 - STOOP SECTION
1/2" = 1'-0"



3 R150 - DOOR ELEVATION - EAST SIDE
1/2" = 1'-0"



4 R150 - DOOR ELEVATION - WEST SIDE
1/2" = 1'-0"

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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020
 PROJECT MANAGER: DONOVAN BROBERG
 PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY
 HEADFRAME SECURITY UPGRADES
 LEAD, SOUTH DAKOTA
 DOUBLE DOOR

R150



Y010 PHOTO

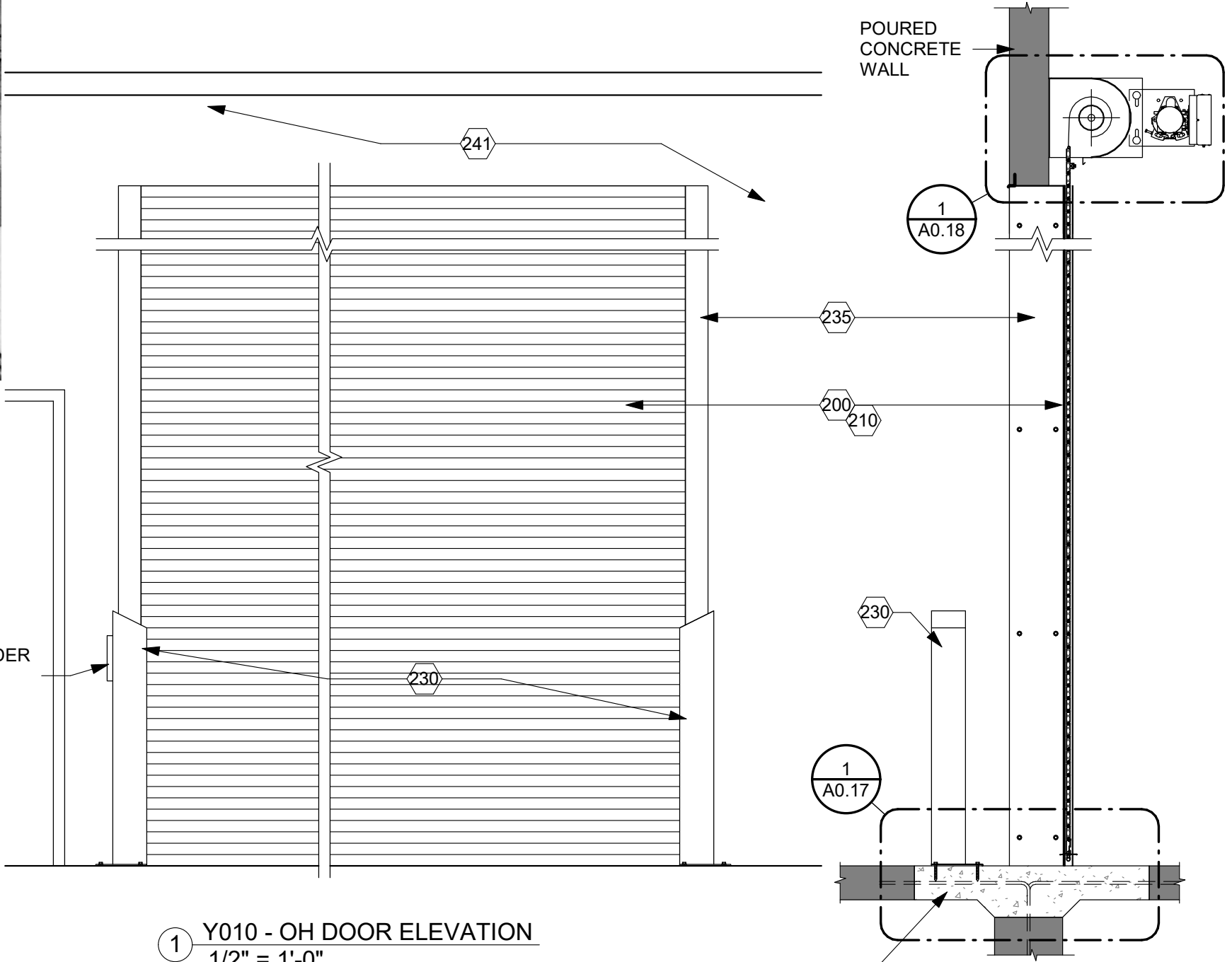
INFILL EXISTING (APPROX.) 3'-0"x3'-0"
OPENING WITH CORRUGATED METAL
SIDING EACH SIDE OF 4" METAL FRAMING.



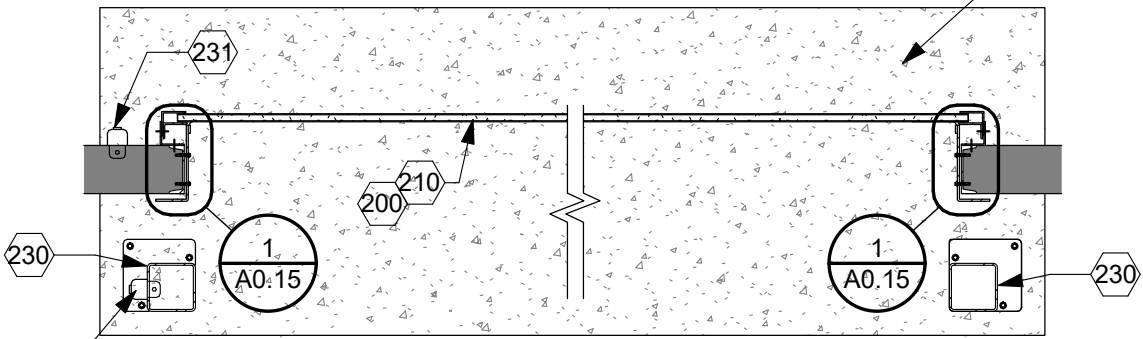
Y010 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

- 200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.
- 210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16
- 220 CONCRETE APRON -
 - SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
 - COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
 - NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION
- 230 BOLLARD
 - HSS 6"x6"x $\frac{1}{4}$ " W/ 9"x9"x $\frac{1}{2}$ " BASEPLATE W/
(3) $\frac{1}{2}$ " $\varnothing$ x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.
- 231 NO INTERIOR BOLLARDS - 3 BUTTON
CONTROLLER MOUNTED TO WALL.
- 235 JAMB COVERS - $\frac{1}{4}$ " x 4" x VARIES BENT STEEL
PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.
- 241 CONCRETE WALL - NO SIDING REPAIR REQUIRED
AT DOOR Y010

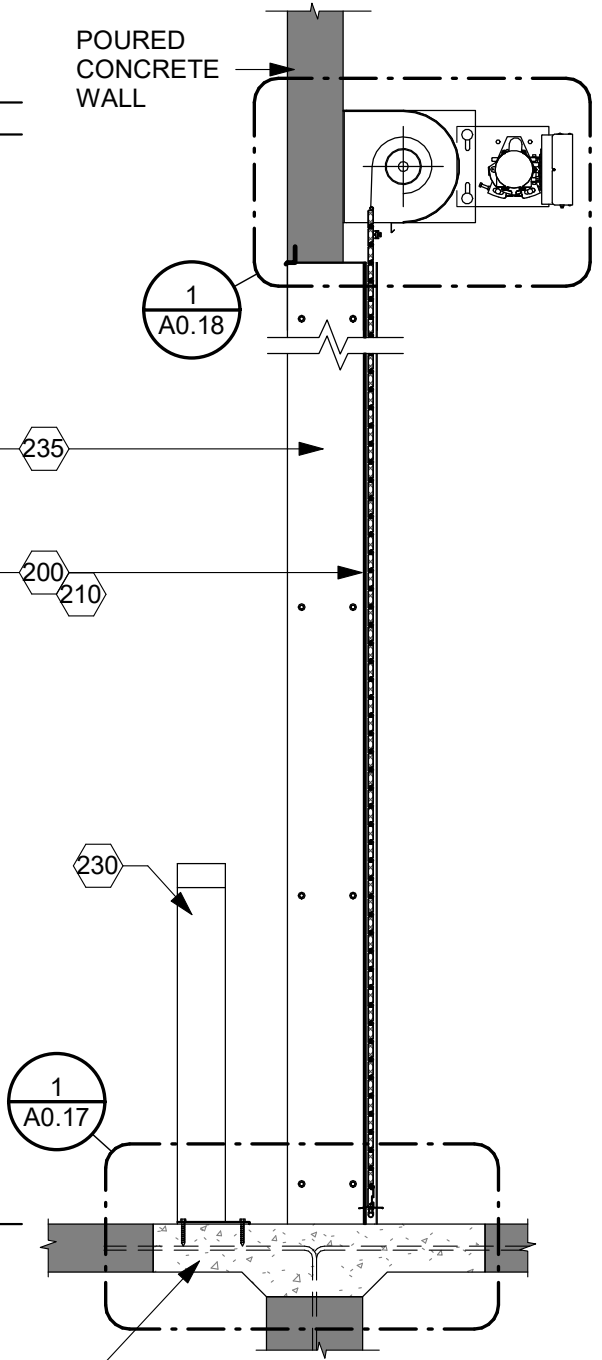


1 Y010 - OH DOOR ELEVATION
1/2" = 1'-0"



CARD READER
FOR Y015

2 Y010 - OH DOOR PLAN
1/2" = 1'-0"



3 Y010 - OH DOOR PLAN
1/2" = 1'-0"

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DATED JULY 30TH, 2020.

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PROJECT NUMBER: 2019-035



SANFORD
UNDERGROUND
RESEARCH FACILITY

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y010



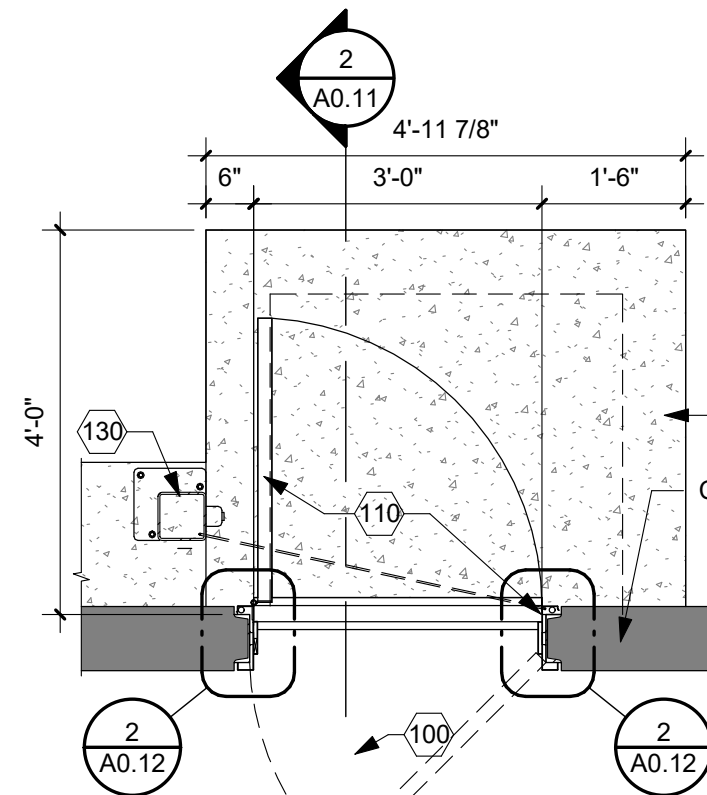
Y015 PHOTO



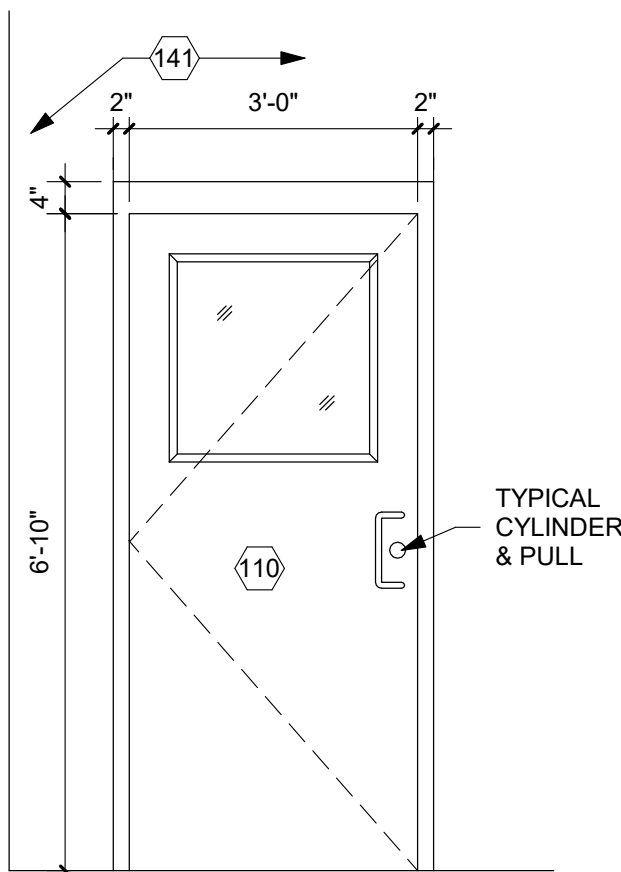
Y015 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

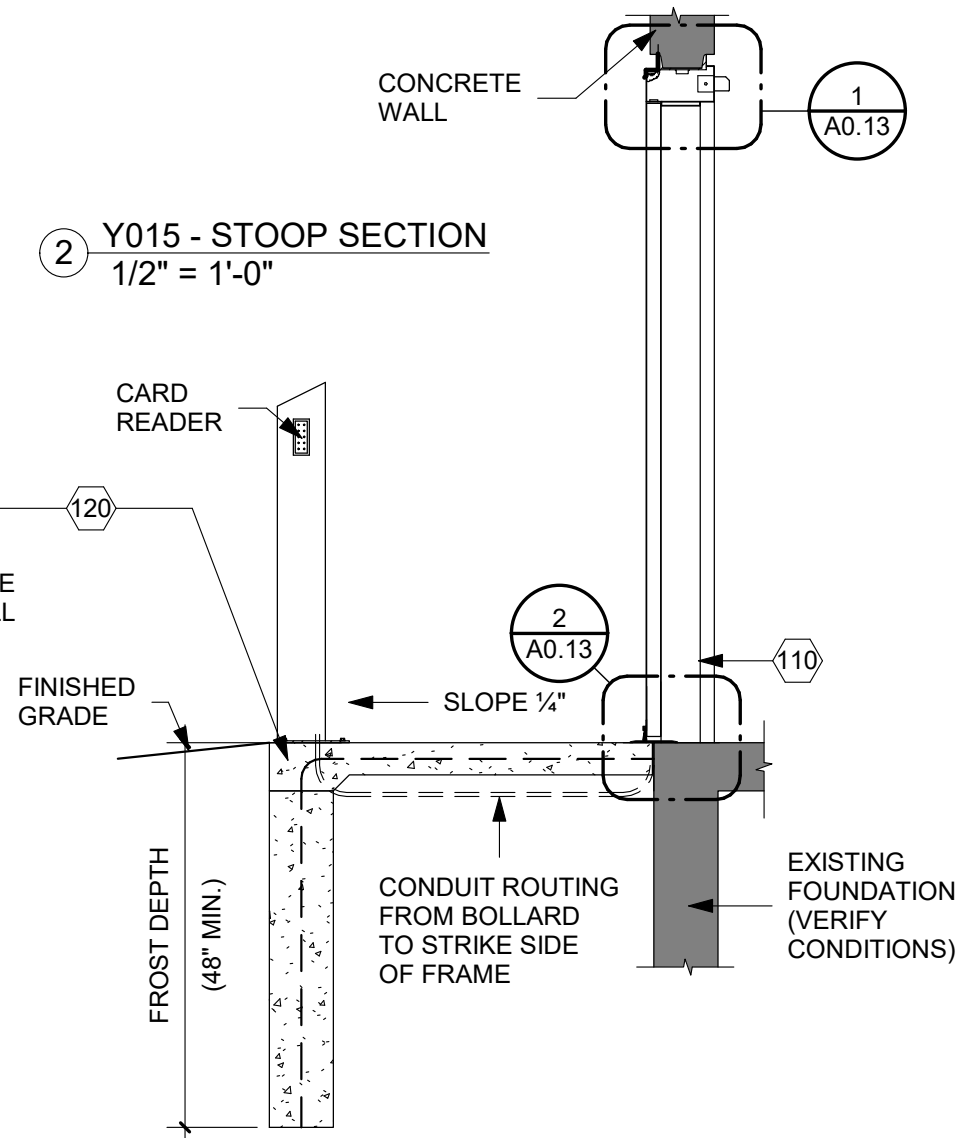
- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 101 REMOVE EXISTING FRAME
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.
- 141 NO SIDING REPAIR IN THIS AREA.



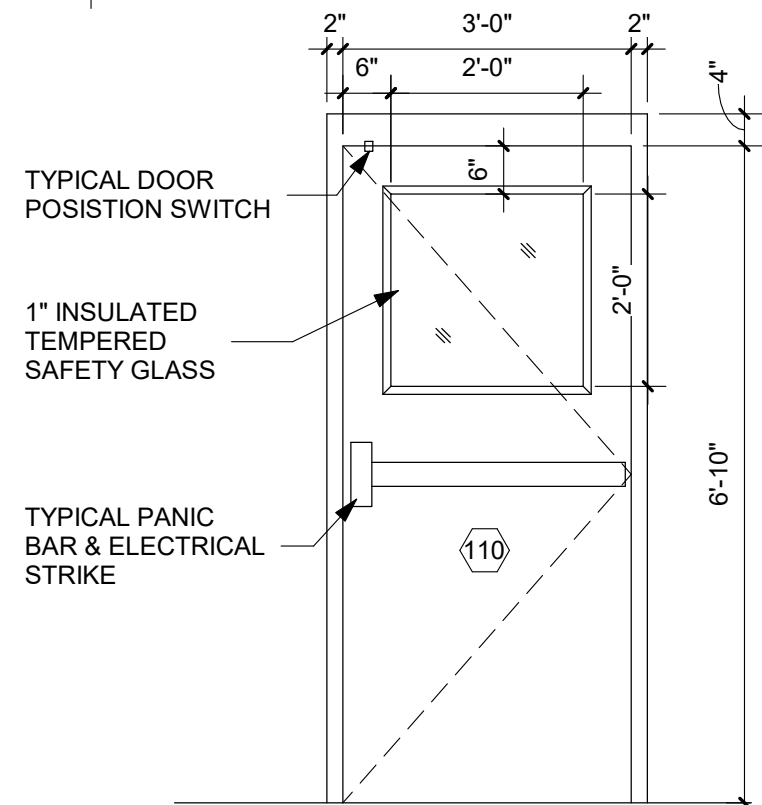
1 Y015 - DOOR PLAN
1/2" = 1'-0"



3 Y015 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



2 Y015 - STOOP SECTION
1/2" = 1'-0"



4 Y015 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"

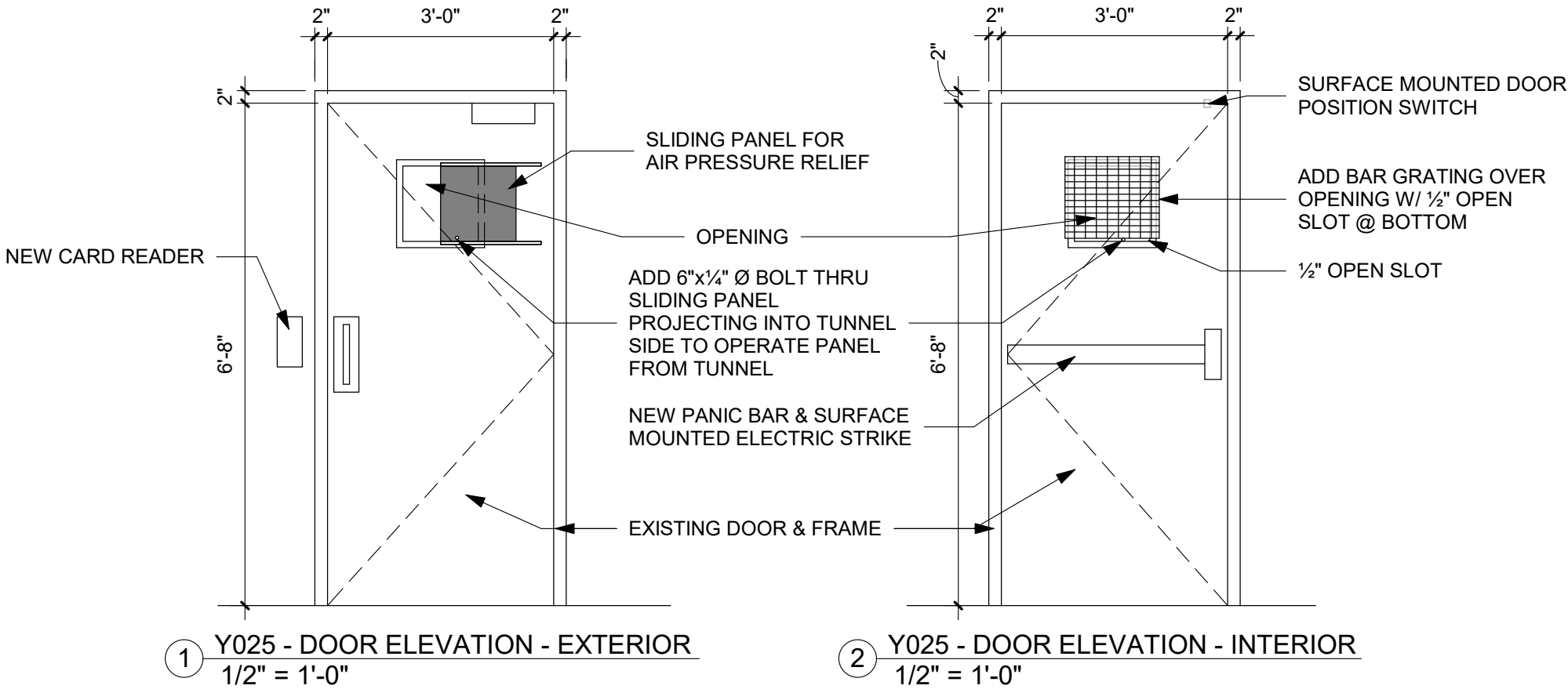




Y025 HOIST ROOM SIDE



Y025 TUNNEL SIDE



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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

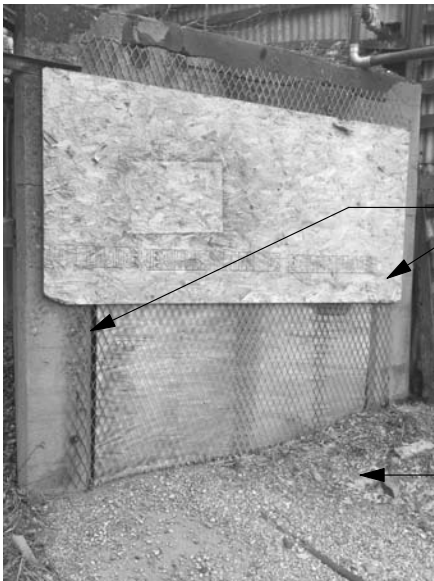
PROJECT NUMBER: 2019-035

**SANFORD
UNDERGROUND
RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR

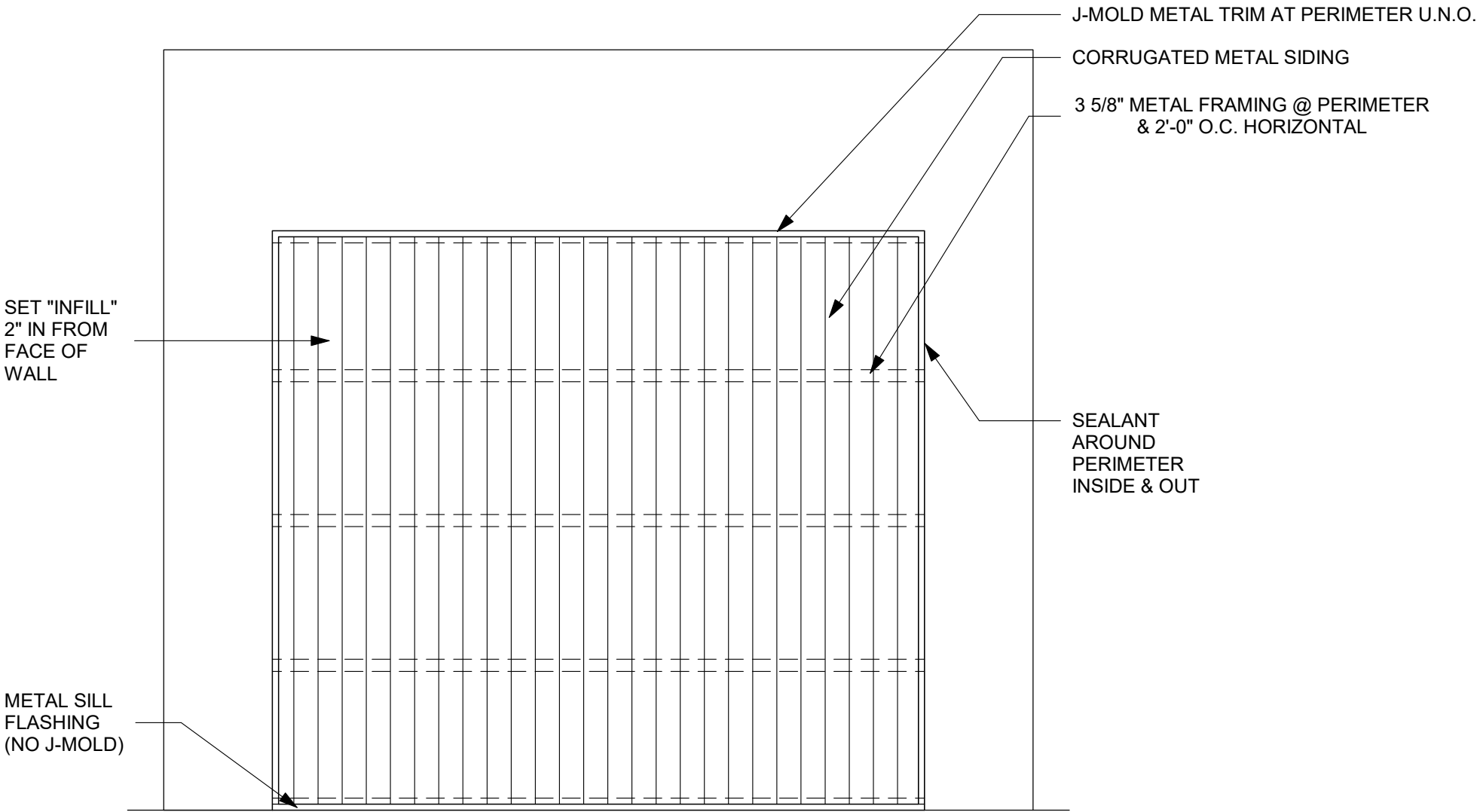
Y025



REMOVE EXISTING
PLYWOOD/EXPANDED
METAL COVER;
PREPARE OPENING
FOR INFILL

REMOVE EROSION MATERIAL
DOWN TO EXISTING SLAB
ON GRADE.

Y030 PHOTO



1 Y030 EXTERIOR
1/2" = 1'-0"

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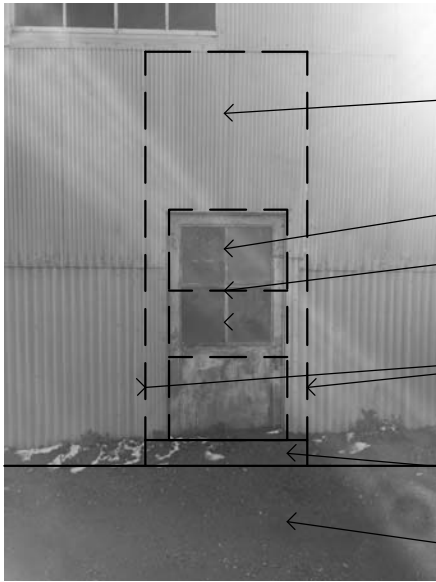
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PROJECT NUMBER: 2019-035

SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

EXTERIOR OPENING

Y030



Y100 PHOTO

TYPICAL INFILL

REMOVE EXISTING SIDING TO NEXT EXISTING LAP SEAM

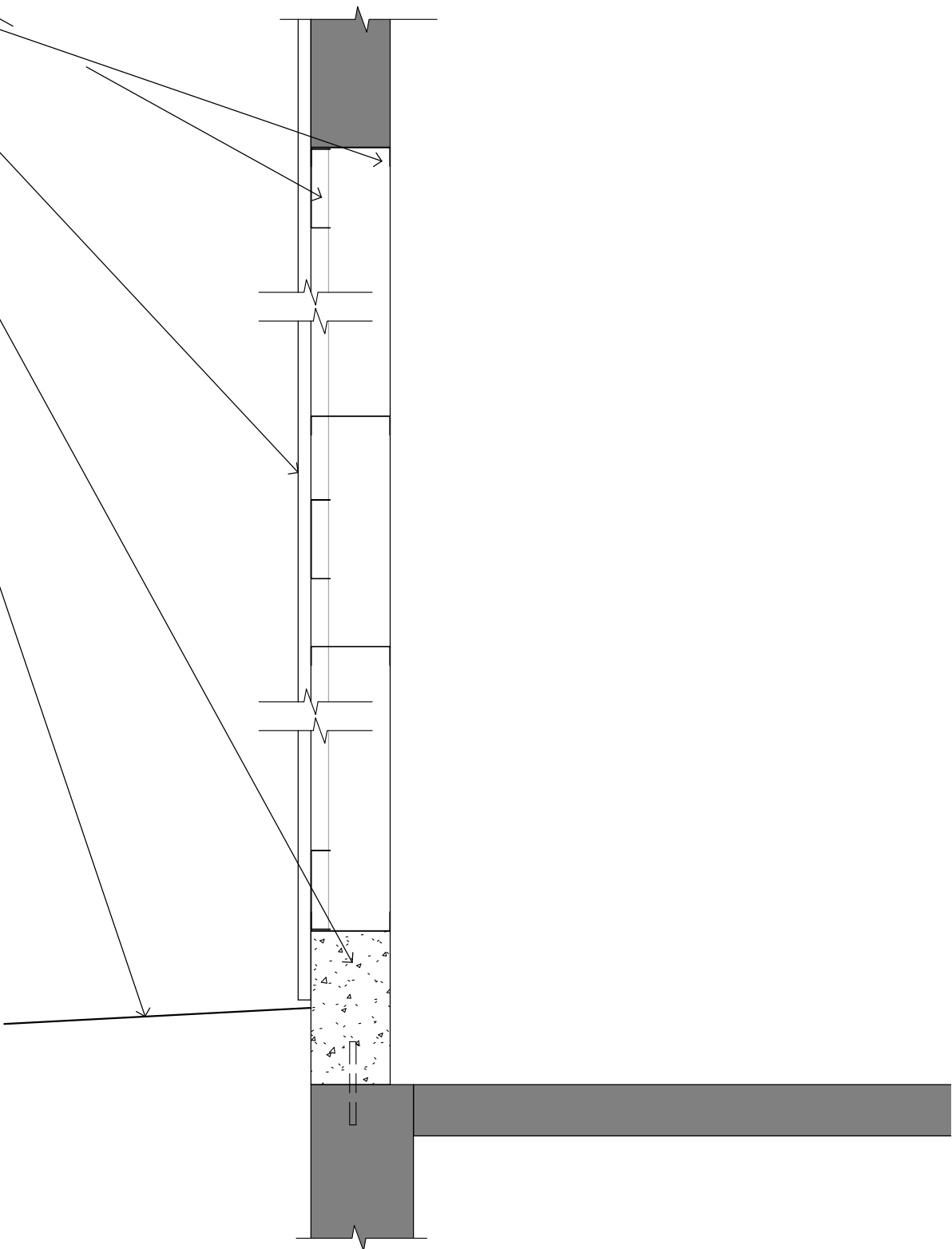
REMOVE EXISTING DOOR & HARDWARE

NEW HORIZONTAL INFILL FRAMING (6"x18GA. METAL STUDS) @ 24" O.C. AND PERIMETER OF OF DOOR OPENING.

NEW CORRUGATED METAL SIDING - TERMINATE BOTTOM W/ SILL FLASHING JUST ABOVE EXISTING GRADE (WHICH IS ABOVE EXISTING FLOOR AND SIDING LEVEL)

NEW CONCRETE CURB 6"W x 12"H x LENGTH OF SIDING REPAIR

ENSURE DRAINAGE AWAY FROM BUILDING



1 INFILL DETAIL W/ CONCRETE CURB
1" = 1'-0"

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**COORDINATE HAZARDOUS
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PROJECT MANAGER: DONOVAN BROBERG

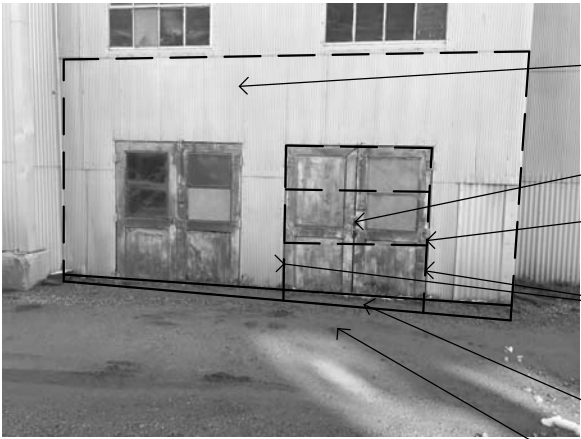
PROJECT NUMBER: 2019-035



**SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR - INFILL

Y100



Y105 PHOTO

TYPICAL INFILL

REMOVE EXISTING SIDING TO NEXT EXISTING LAP SEAM

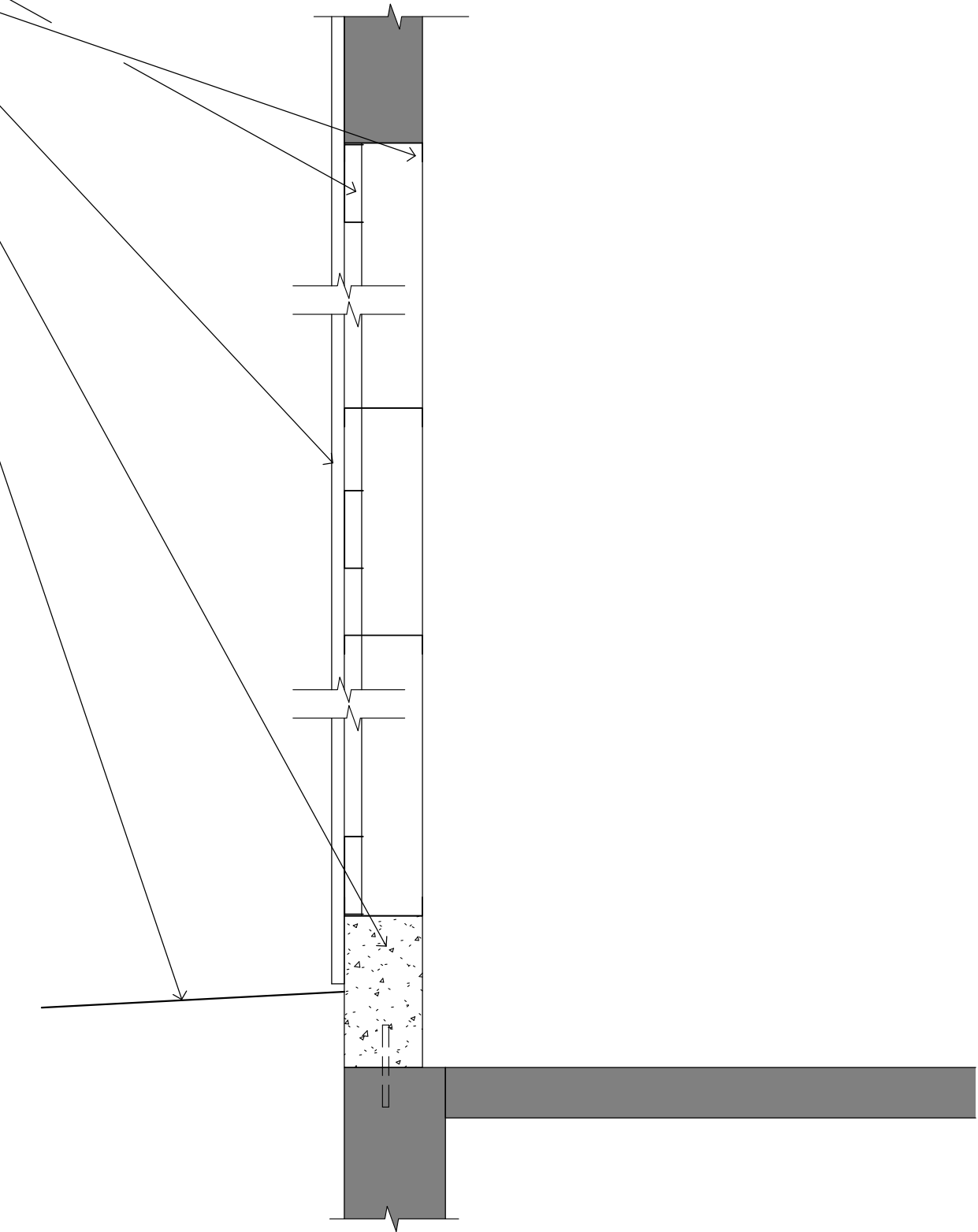
REMOVE EXISTING DOOR & HARDWARE

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NEW CONCRETE CURB 6"W x 12"H x LENGTH OF SIDING REPAIR

ENSURE DRAINAGE AWAY FROM BUILDING



1 INFILL DETAIL W/ CONCRETE CURB
1" = 1'-0"

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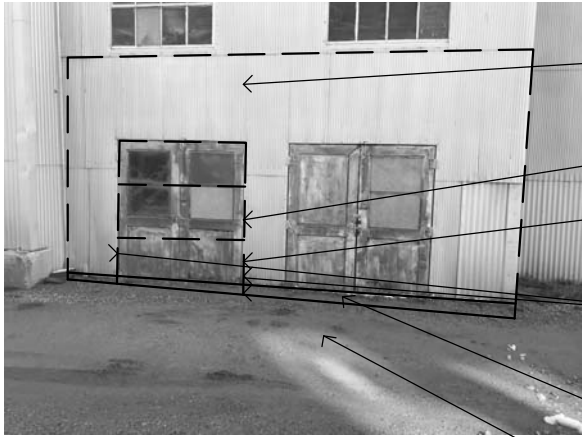
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SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

DOUBLE DOOR - INFILL

Y105



Y110 PHOTO

TYPICAL INFILL

REMOVE EXISTING SIDING TO NEXT EXISTING LAP SEAM

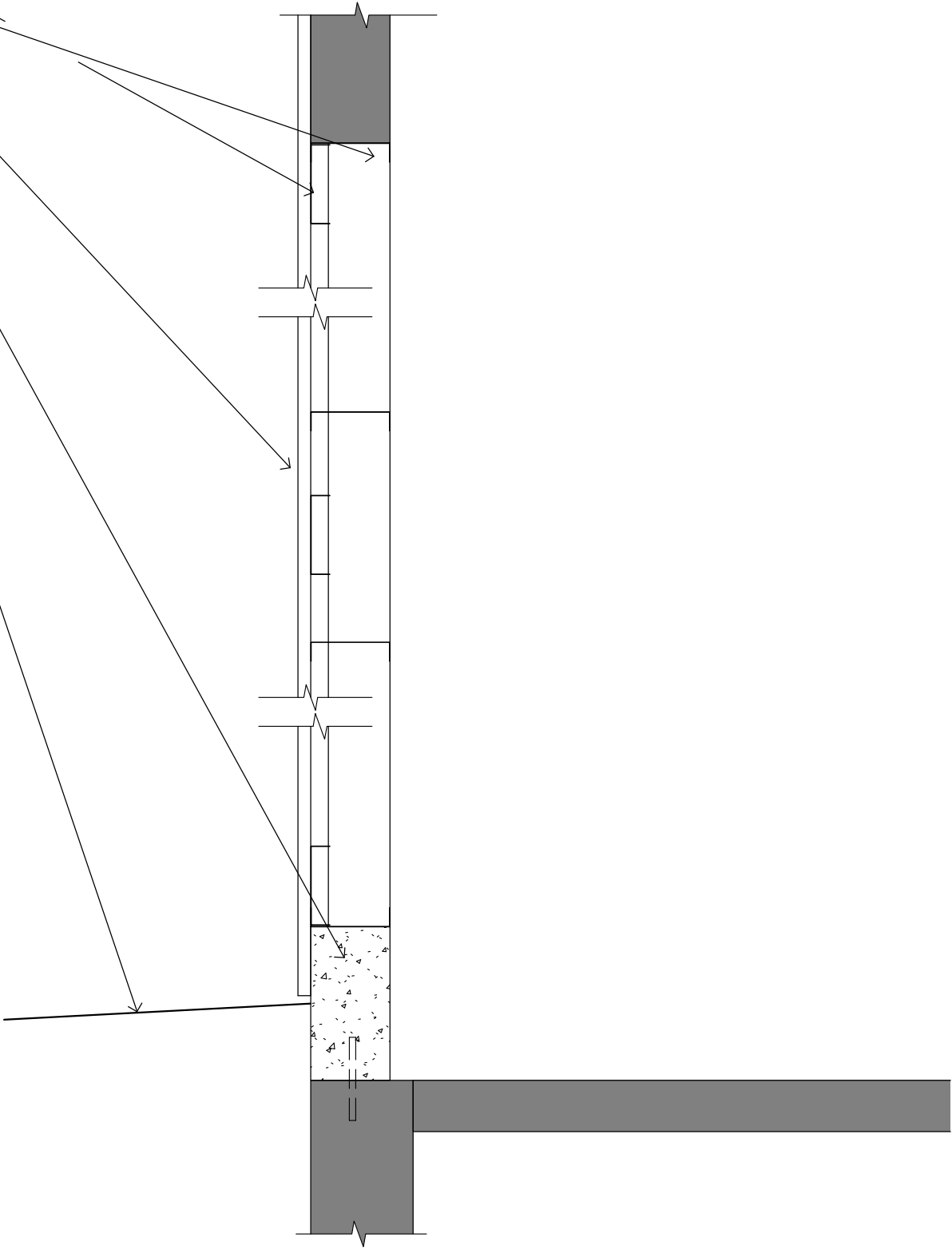
REMOVE EXISTING DOOR & HARDWARE

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NEW CORRUGATED METAL SIDING - TERMINATE BOTTOM W/ SILL FLASHING JUST ABOVE EXISTING GRADE (WHICH IS ABOVE EXISTING FLOOR AND SIDING LEVEL)

NEW CONCRETE CURB 6"W x 12"H x LENGTH OF SIDING REPAIR

ENSURE DRAINAGE AWAY FROM BUILDING



1 INFILL DETAIL W/ CONCRETE CURB
1" = 1'-0"

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SANFORD
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UPGRADES
LEAD, SOUTH DAKOTA

DOUBLE DOOR - INFILL

Y110

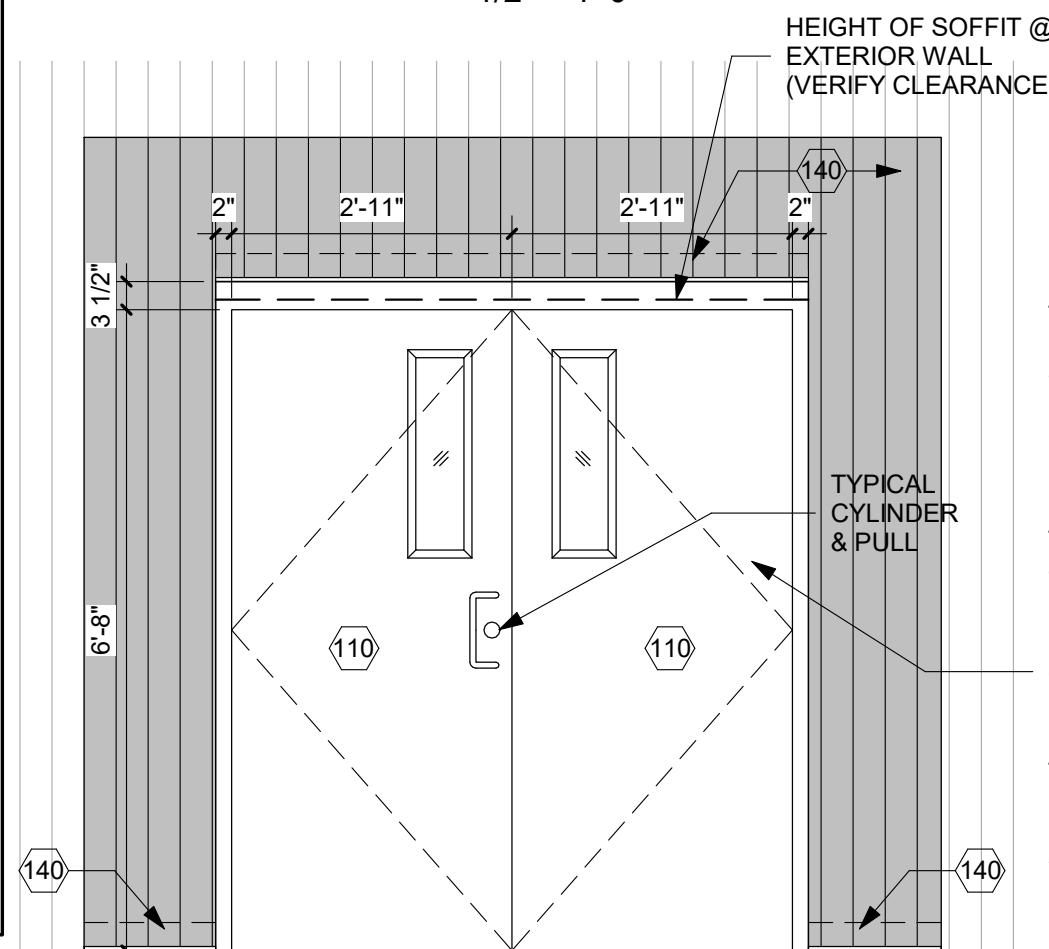
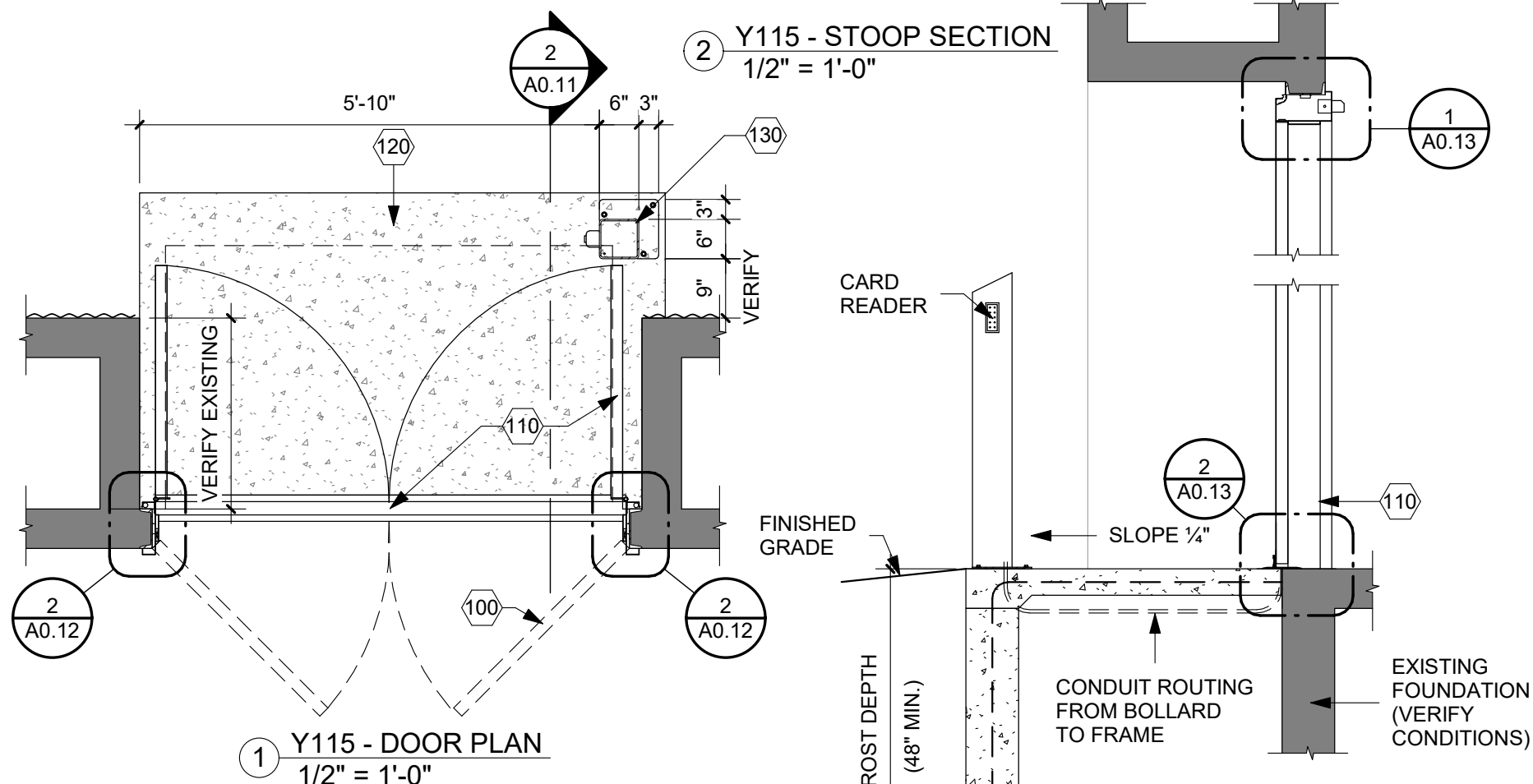


Y115 PHOTO

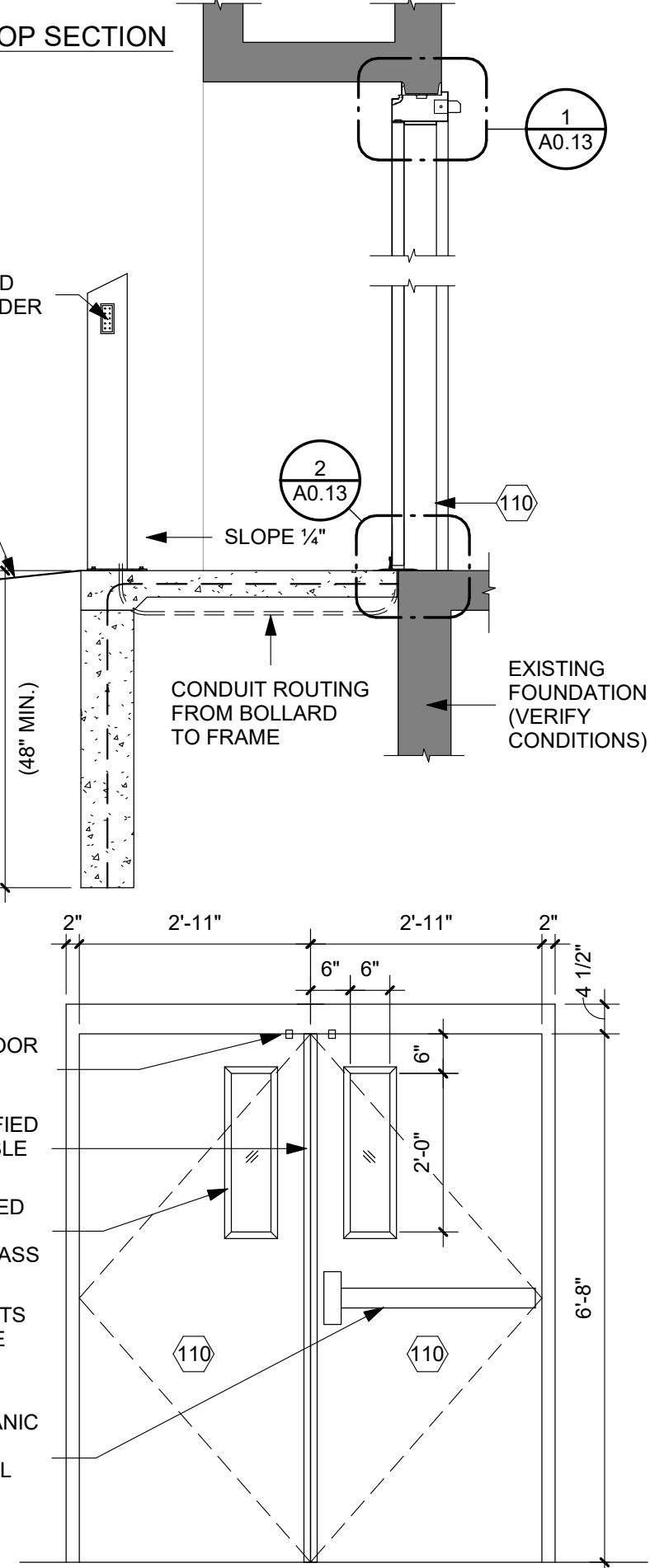
Y115 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

- 100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE
- 110 NEW DOOR/FRAME/HARDWARE
- 120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL
- 130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.
- 140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



- TYPICAL DOOR POSITION SWITCH
- ELECTRICIFIED REMOVEABLE MULLION
- 1" INSULATED TEMPERED SAFETY GLASS
- FLUSH BOLTS @ INACTIVE LEAF
- TYPICAL PANIC BAR & ELECTRICAL STRIKE



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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

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PROJECT NUMBER: 2019-035

SANFORD UNDERGROUND RESEARCH FACILITY

HEADFRAME SECURITY UPGRADES
LEAD, SOUTH DAKOTA

DOUBLE DOOR

Y115



Y120 PHOTO



Y120 PHOTO

RE-GRADE TO
ENSURE DRAINAGE

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

100 REMOVE EXISTING DOOR/HARDWARE. PREPARE
OPENING FOR NEW DOOR/FRAME/HARDWARE

110 NEW DOOR/FRAME/HARDWARE

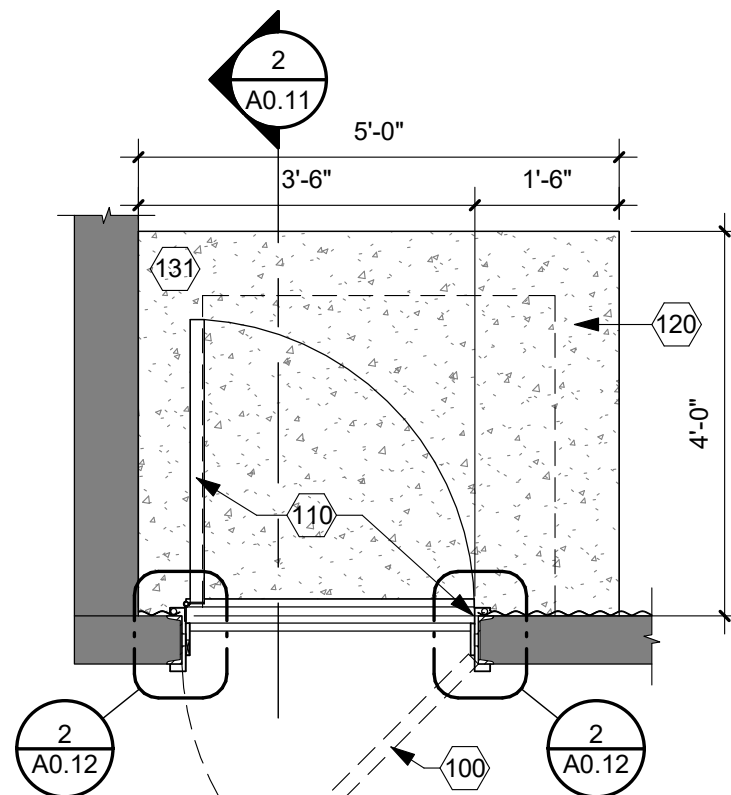
120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE
WALLS W/ #4 REINF. @ 16" O.C. EACH
WALL; DOWEL REINF. INTO EXISTING @
16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL

130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD
READER.

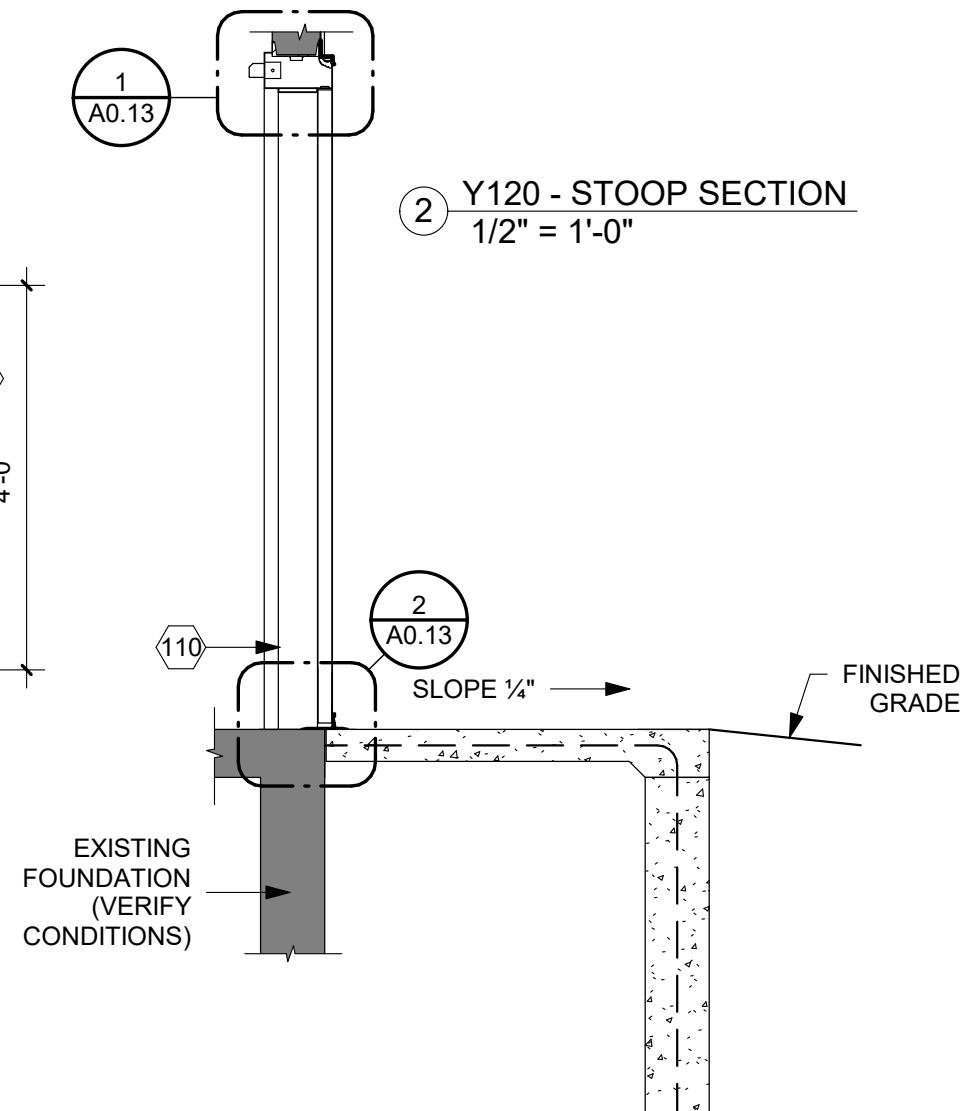
131 NO BOLLARD/CARD READER IN THIS LOCATION.

140 METAL SIDING REPAIR (= 60 S.F. APPROX PER
OPENING)

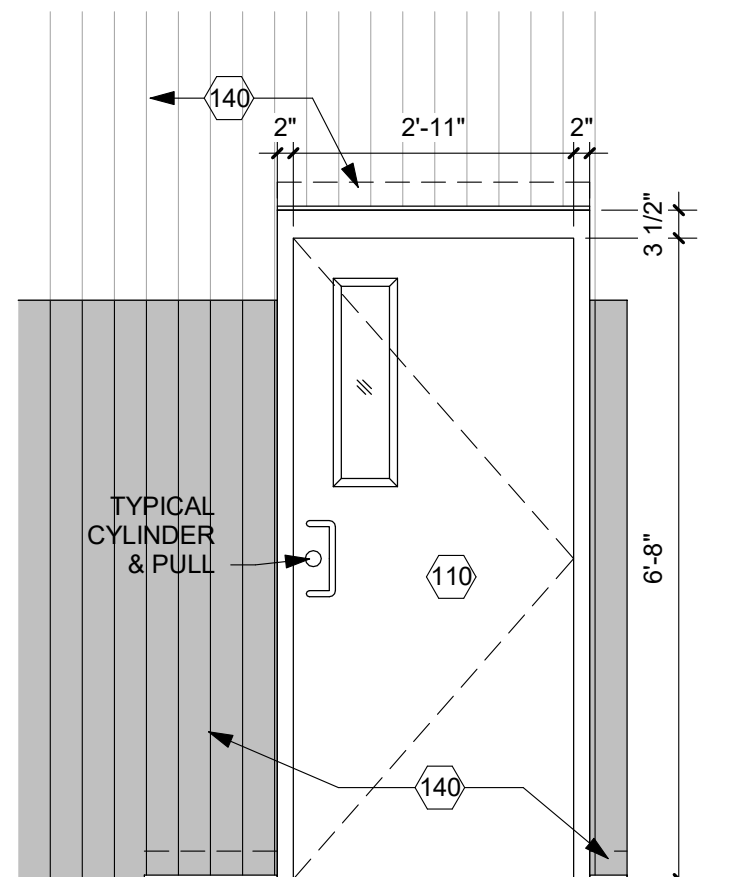
- REMOVE EXISTING METAL SIDING TO
FIRST LAP SEAM EITHER SIDE OF DOOR
AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL
BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED
SEAMS; USE SELF TAPPING/GASKETED
FASTENERS AS REQUIRED TO EXISTING
STRUCTURE.



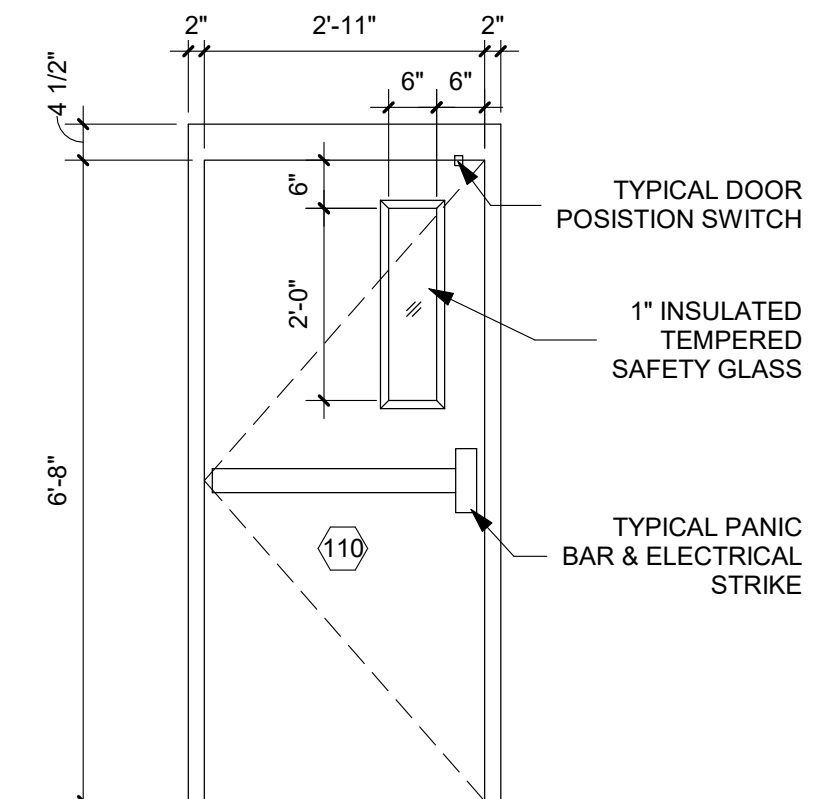
1 Y120 - DOOR PLAN
1/2" = 1'-0"



2 Y120 - STOOP SECTION
1/2" = 1'-0"



3 Y120 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



4 Y120 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"





Y130 PHOTO



Y130 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE

110 NEW DOOR/FRAME/HARDWARE

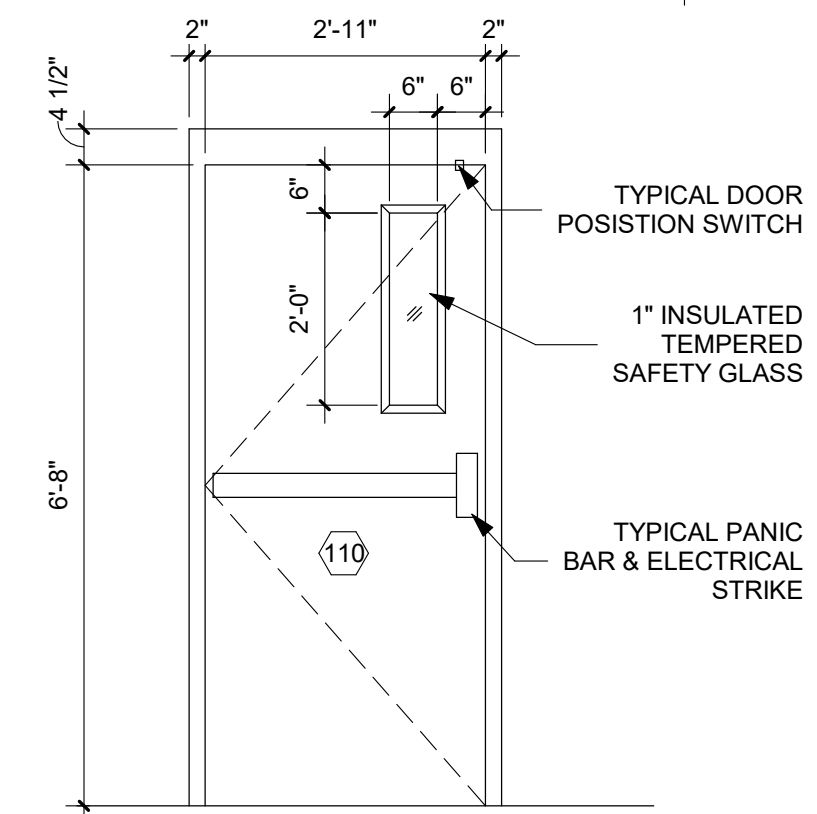
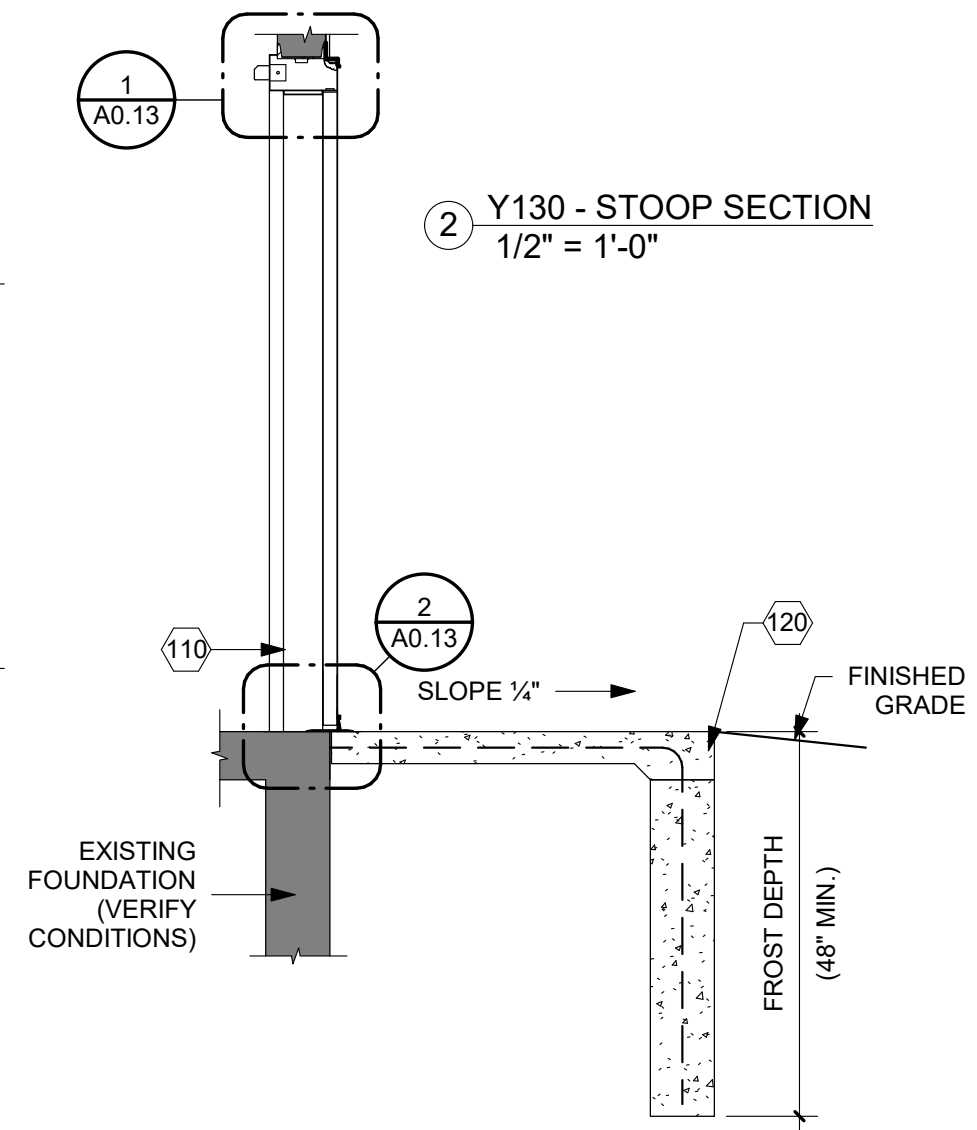
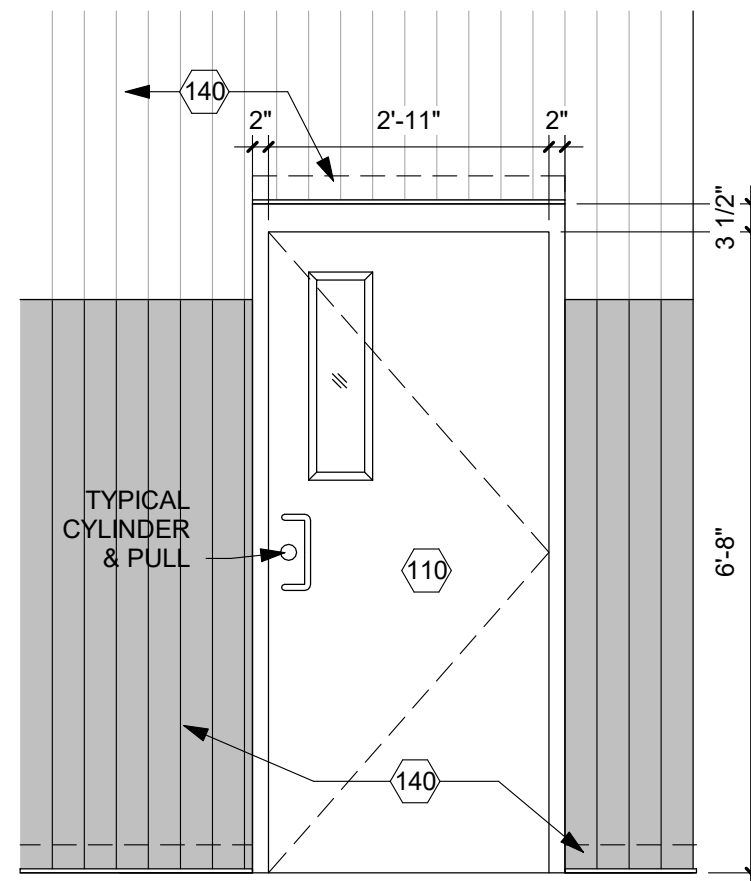
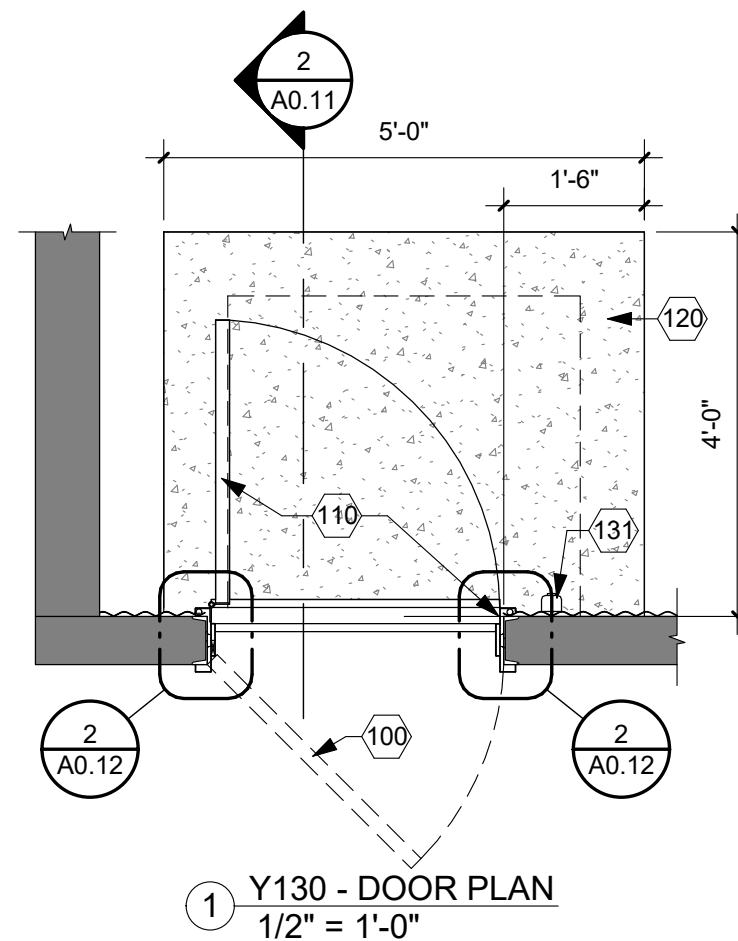
120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL

130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.

131 NO BOLLARD - CARD READER ATTACHED TO WALL

140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)

- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



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**COORDINATE HAZARDOUS
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WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



**SANFORD
UNDERGROUND
RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

SINGLE DOOR

Y130



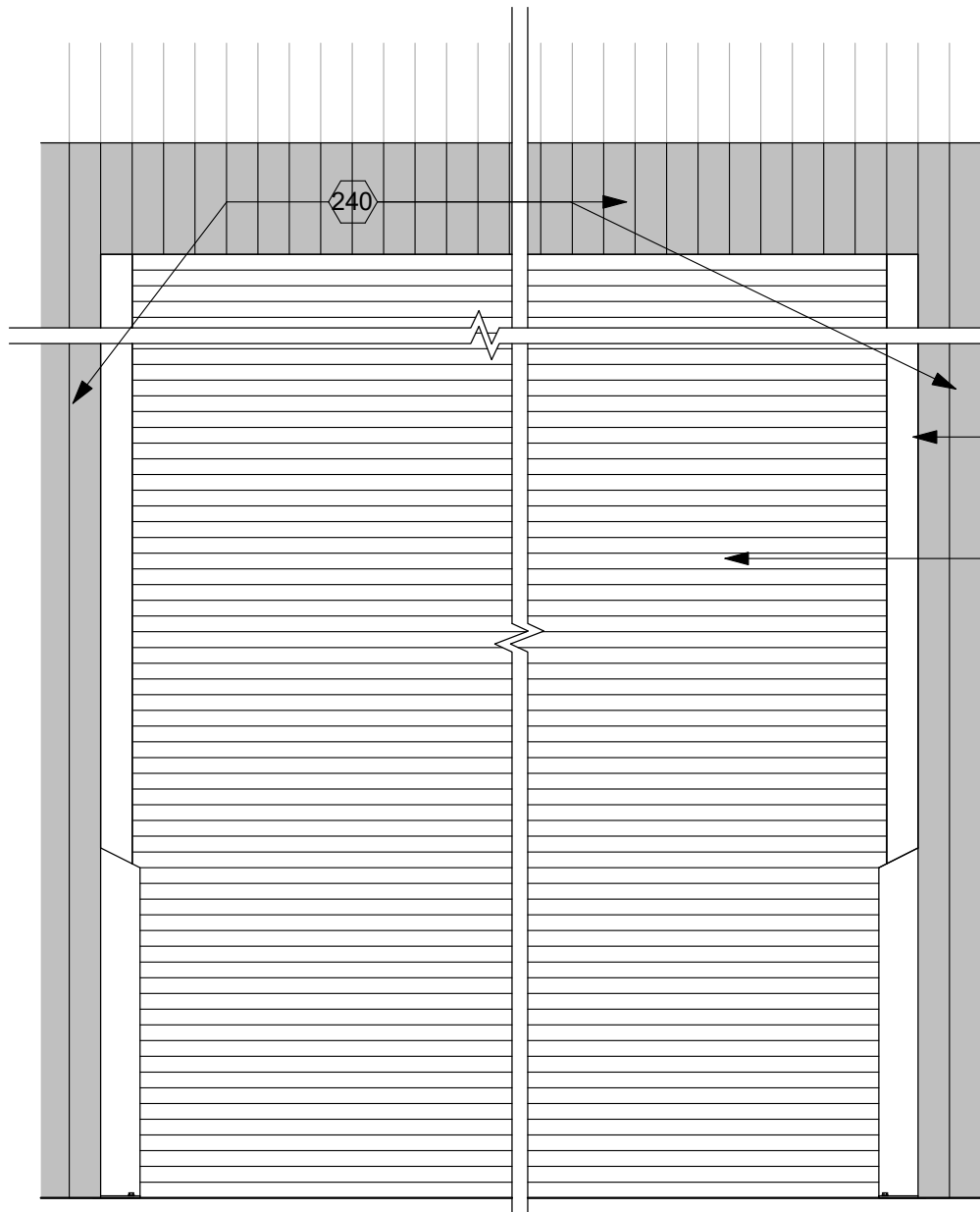
Y135 PHOTO



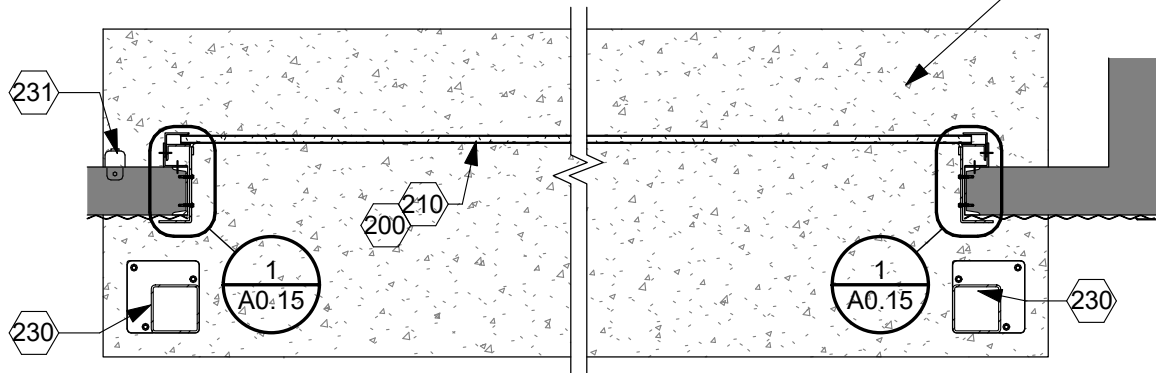
Y135 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

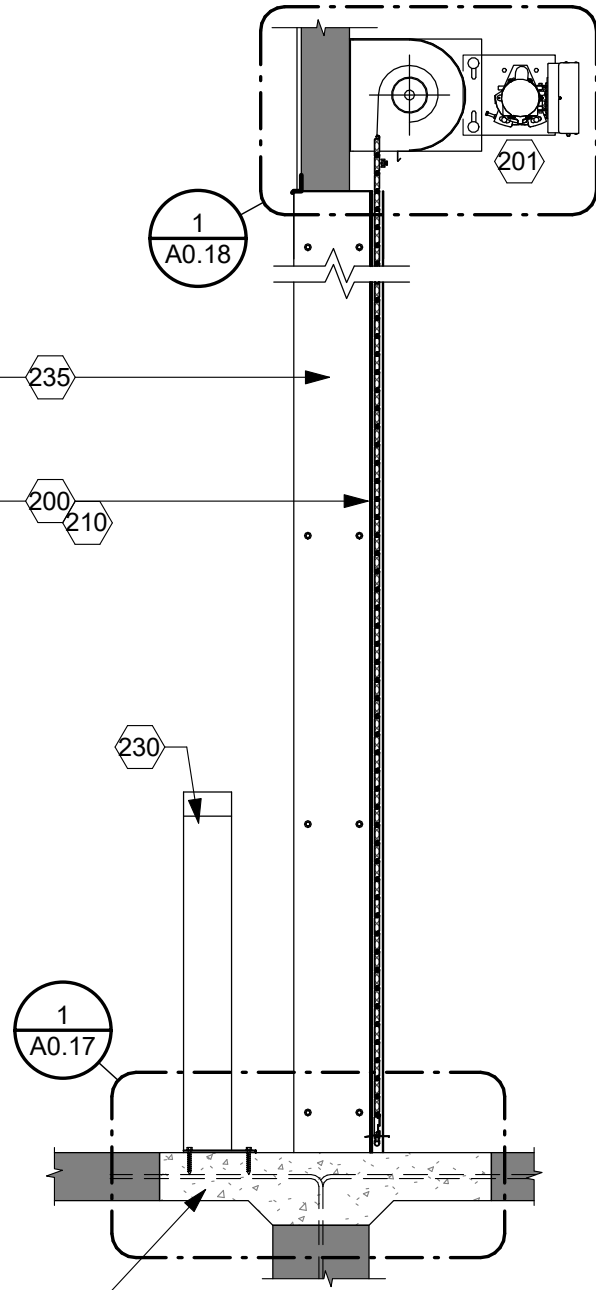
- 200 PREPARE OPENING FOR NEW OH COILING DOOR(S) REMOVE EXISTING OH COILING DOOR(S) & ACCESSORIES.
- 201 PIPING & CONDUIT UP HIGH NEAR HEAD VERIFY CLEARANCE IS ACCEPTABLE.
- NEW OH COILING DOOR & ACCESSORIES DETERMINE ALLOWABLE/MAXIMUM NEW DOOR SIZE CONFIRM STANDARD JAMB CONDITION - 1/A0.15 OR REDUCED JAMB CONDITION - 1/A0.16
- 220 CONCRETE APRON -
 - SAWCUT REMOVE EXISTING CONCRETE = 3'-6"W x OPENING LENGTH x 12" EACH END.
 - COORDINATE REMOVAL W/ EXISTING RAILS TO REMAIN.
 - NEW 6" CONCRETE APRON W/ #4 REINF. @ 18" O.C. EACH WAY AND DOWELED 8" INTO EXISTING SLABS & FOUNDATION
- 230 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR 3 BUTTON CONTROLLER.
- 231 3 BUTTON CONTROLLER MOUNTED TO WALL.
- 235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.



1 Y135 - OH DOOR ELEVATION
1/2" = 1'-0"



2 Y135 - OH DOOR PLAN
1/2" = 1'-0"



3 Y135 - OH DOOR PLAN
1/2" = 1'-0"

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SANFORD UNDERGROUND RESEARCH FACILITY

HEADFRAME SECURITY UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y135



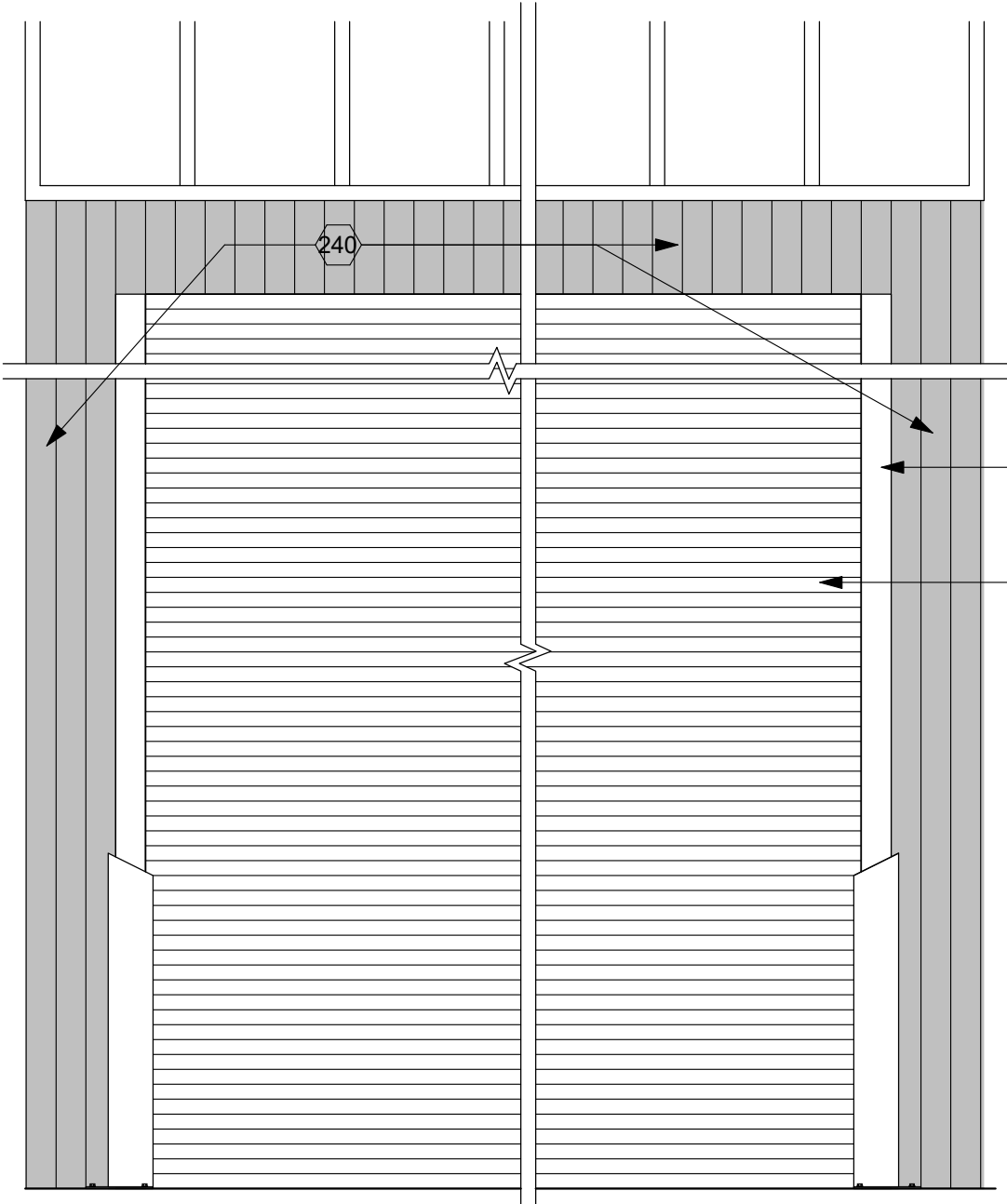
Y140 PHOTO



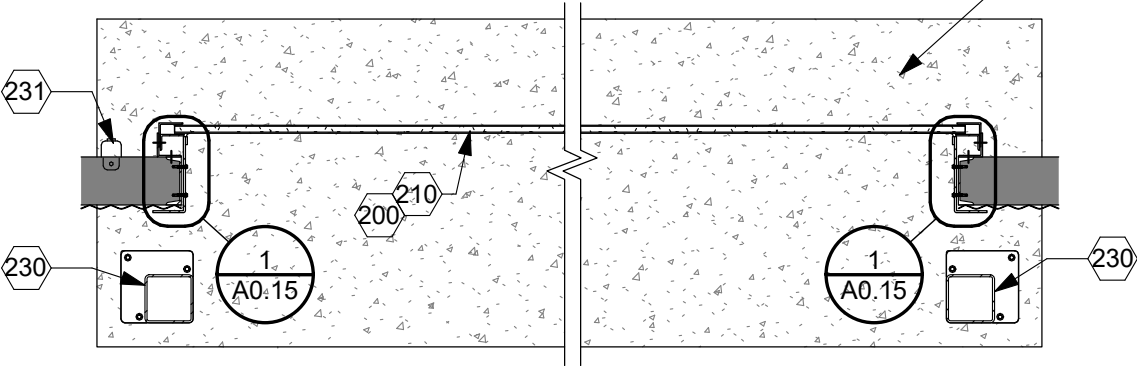
Y140 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

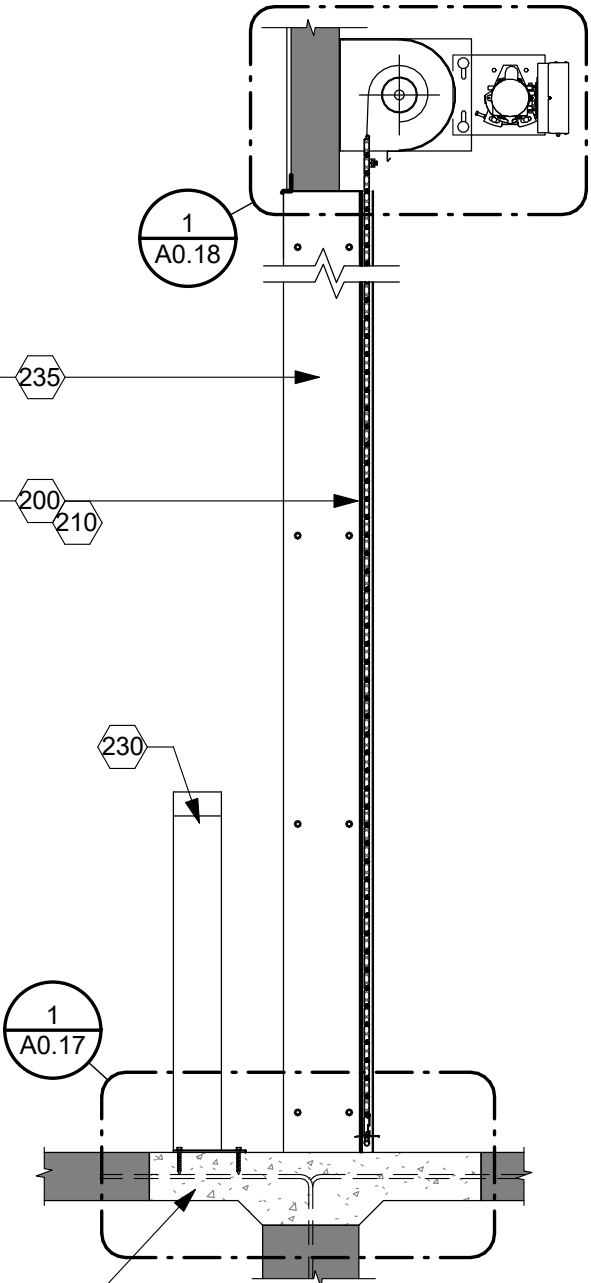
- 200 PREPARE OPENING FOR NEW OH COILING DOOR(S) REMOVE EXISTING OH COILING DOOR(S) & ACCESSORIES.
- 210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR SIZE CONFIRM STANDARD JAMB CONDITION - 1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16
- 220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE = 3'-6"W x OPENING LENGTH x 12" EACH END.
- COORDINATE REMOVAL W/ EXISTING RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF. @ 18" O.C. EACH WAY AND DOWELED 8" INTO EXISTING SLABS & FOUNDATION
- 230 BOLLARD
- HSS 6"x6"x $\frac{1}{4}$ " W/ 9"x9"x $\frac{1}{2}$ " BASEPLATE W/ (3) $\frac{1}{2}$ " $\varnothing$ x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON CONTROLLER.
- 231 3 BUTTON OPERATOR LOCATED ON WALL.
- 235 JAMB COVERS - $\frac{1}{4}$ " x 4" x VARIES BENT STEEL PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.



1 Y140 - OH DOOR ELEVATION
1/2" = 1'-0"



2 140 - OH DOOR PLAN
1/2" = 1'-0"



3 Y140 - OH DOOR PLAN
1/2" = 1'-0"

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**SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y140



Y145 PHOTO



Y145 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

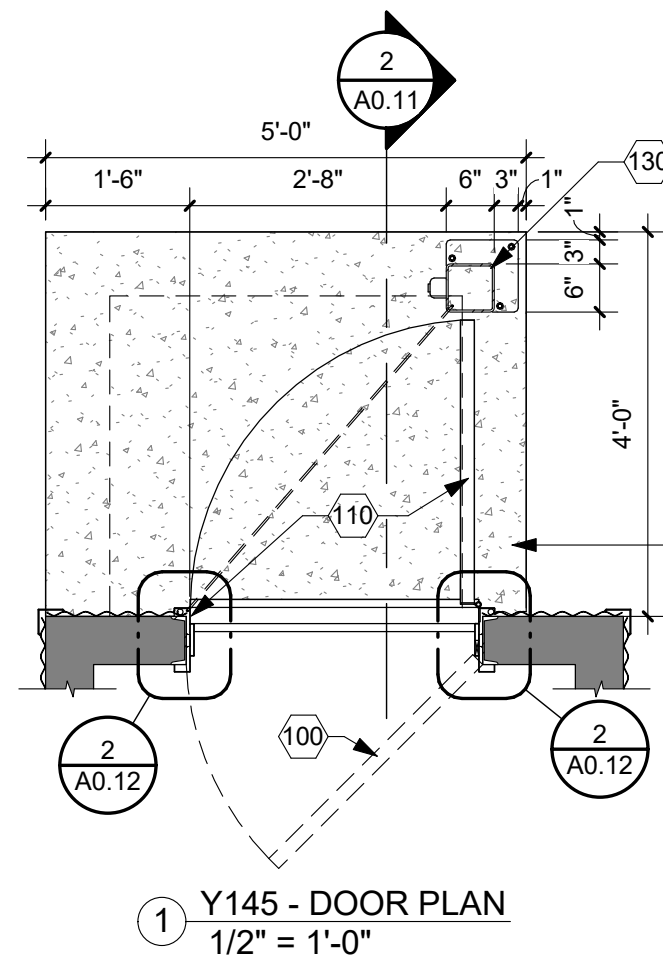
100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE

110 NEW DOOR/FRAME/HARDWARE

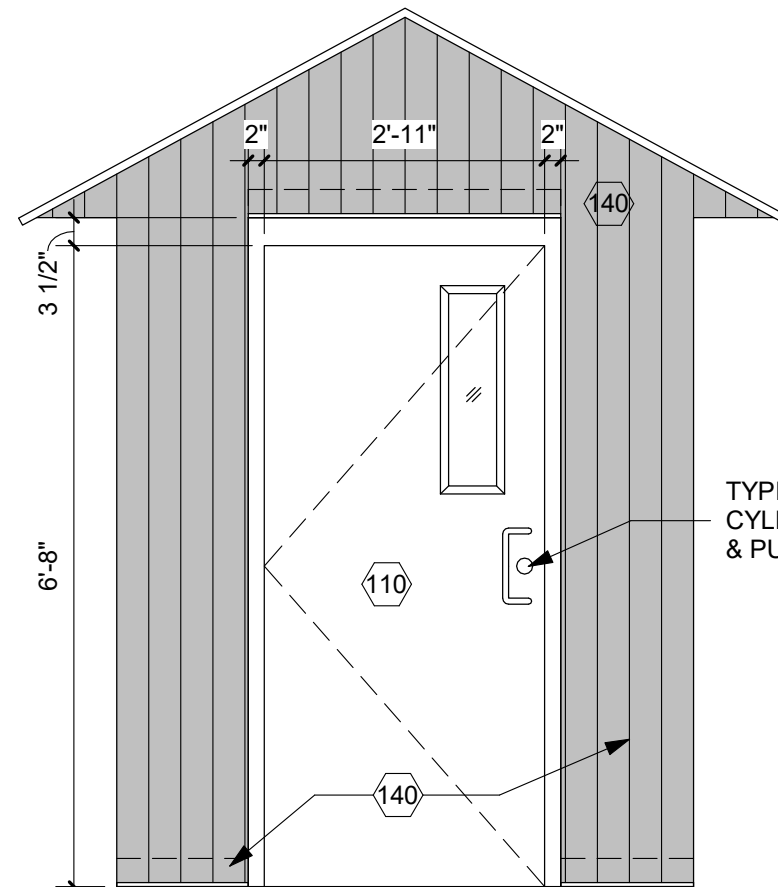
120 NEW CONCRETE STOOP
- 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
- 1/4" SLOPE/BROOM FINISH
- CLEAN ROCK FILL

130 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR CARD READER.

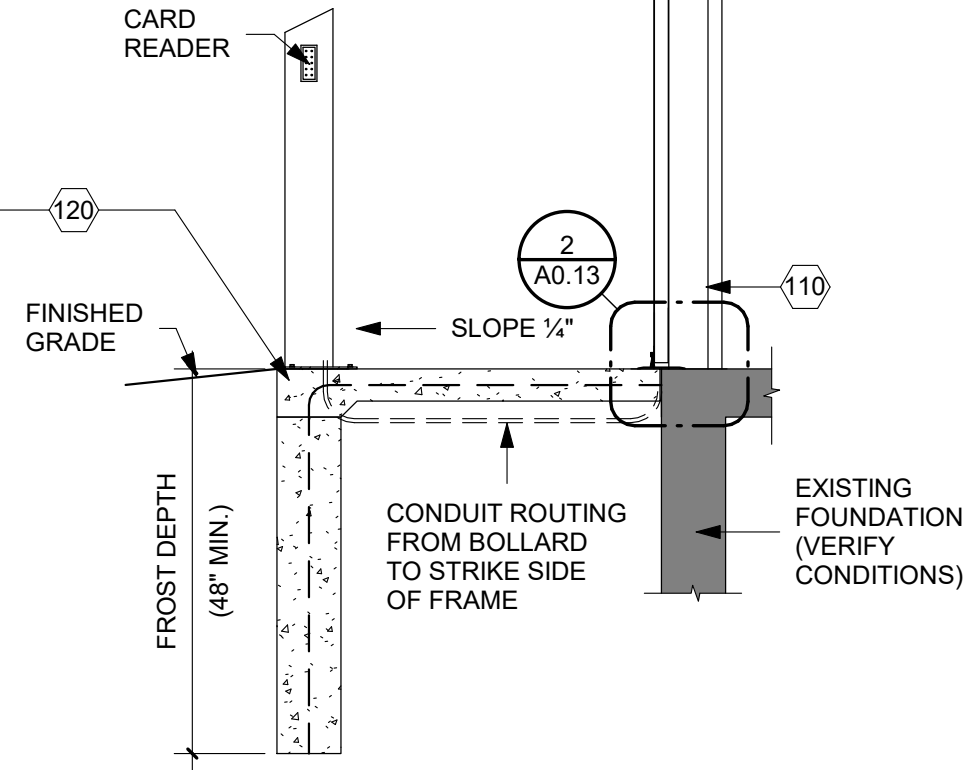
140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
- REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
- INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
- INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.



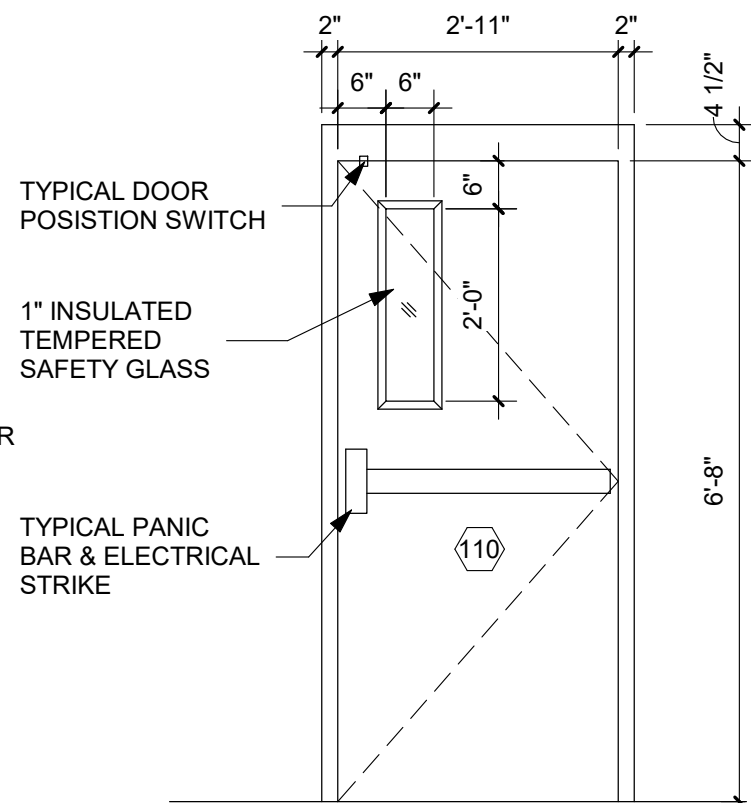
1 Y145 - DOOR PLAN
1/2" = 1'-0"



3 Y145 - DOOR ELEVATION - EXTERIOR
1/2" = 1'-0"



2 Y145 - STOOPT SECTION
1/2" = 1'-0"



4 Y145 - DOOR ELEVATION - INTERIOR
1/2" = 1'-0"





Y147 PHOTO

REMOVE DOOR & HARDWARE;
PREPARE OPENING TO BECOME
OPEN PASSAGE TO Y145

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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

PROFESSIONAL ARCHITECT
REG. NO. 5979
DONOVAN BROBERG
SOUTH DAKOTA
7-29-20

SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

SINGLE DOOR - REMOVE

Y147



Y150 PHOTO



Y150 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION 1/A0.16

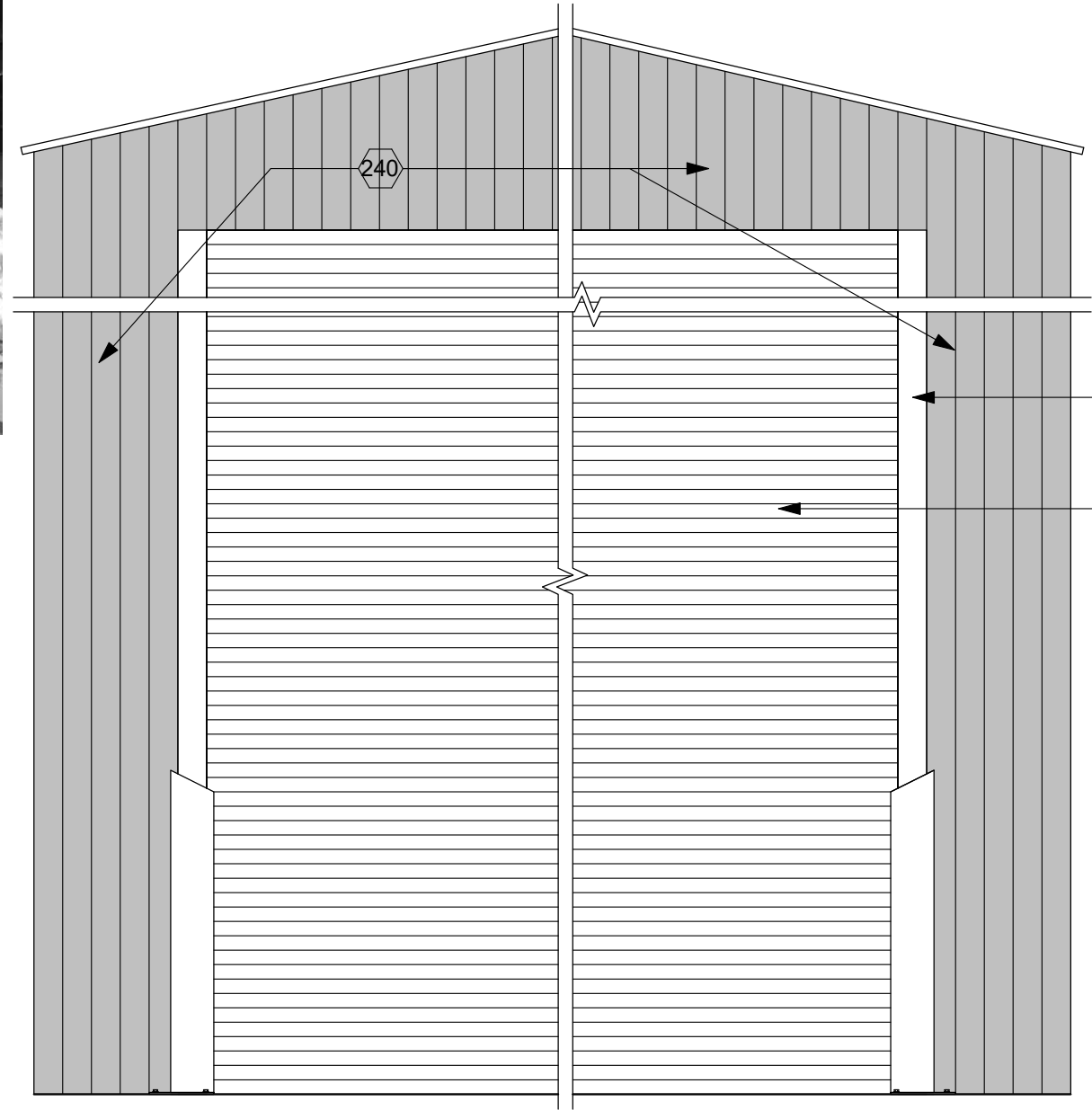
220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

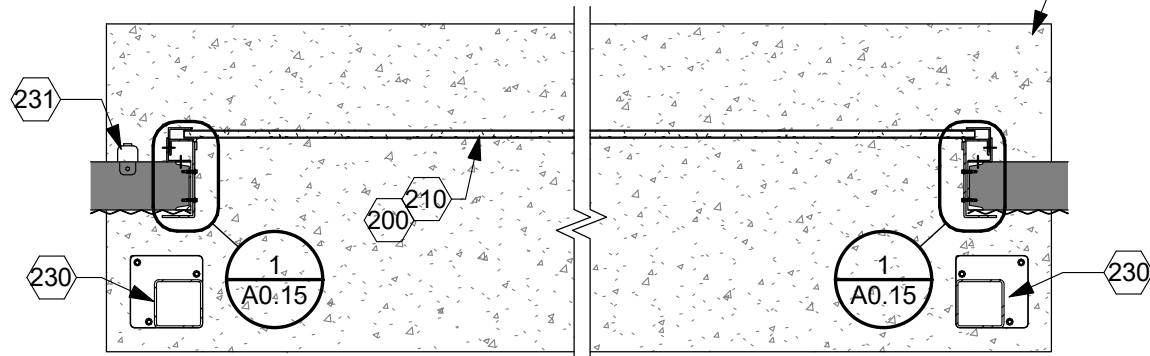
231 3 BUTTON CONTROLLER ATTACHED TO WALL.

235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

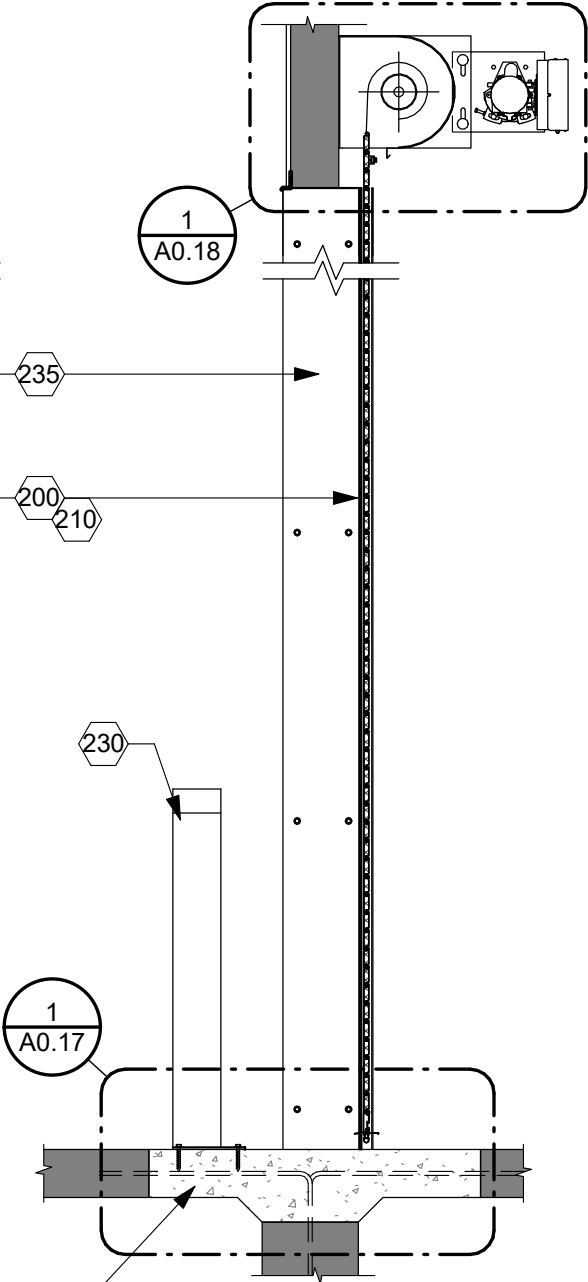
240 METAL SIDING - REPAIR AS REQUIRED.



1 Y150 - OH DOOR ELEVATION
1/2" = 1'-0"



2 Y150 - OH DOOR PLAN
1/2" = 1'-0"



3 Y150 - OH DOOR PLAN
1/2" = 1'-0"

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**COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.**

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



**SANFORD
UNDERGROUND
RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y150



MODIFY HASP HARDWARE
TO ACCEPT OWNER
PROVIDED PADLOCK

Y155 PHOTO

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COORDINATE HAZARDOUS MATERIALS ABATEMENT WITH SEPARATE OWNER PROVIDED DOCUMENTS DATED JULY 30TH, 2020.	
DATE: JULY 29, 2020	
PROJECT MANAGER: DONOVAN BROBERG	
PROJECT NUMBER: 2019-035	
PROFESSIONAL ARCHITECT REG. NO. 5979 DONOVAN BROBERG SOUTH DAKOTA 7-29-20	
SANFORD UNDERGROUND RESEARCH FACILITY HEADFRAME SECURITY UPGRADES LEAD, SOUTH DAKOTA	
DOUBLE DOOR	
Y155	



Y160 PHOTO



Y160 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

201

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15

211 OR REDUCED JAMB CONDITION 1/A0.16

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

221

230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

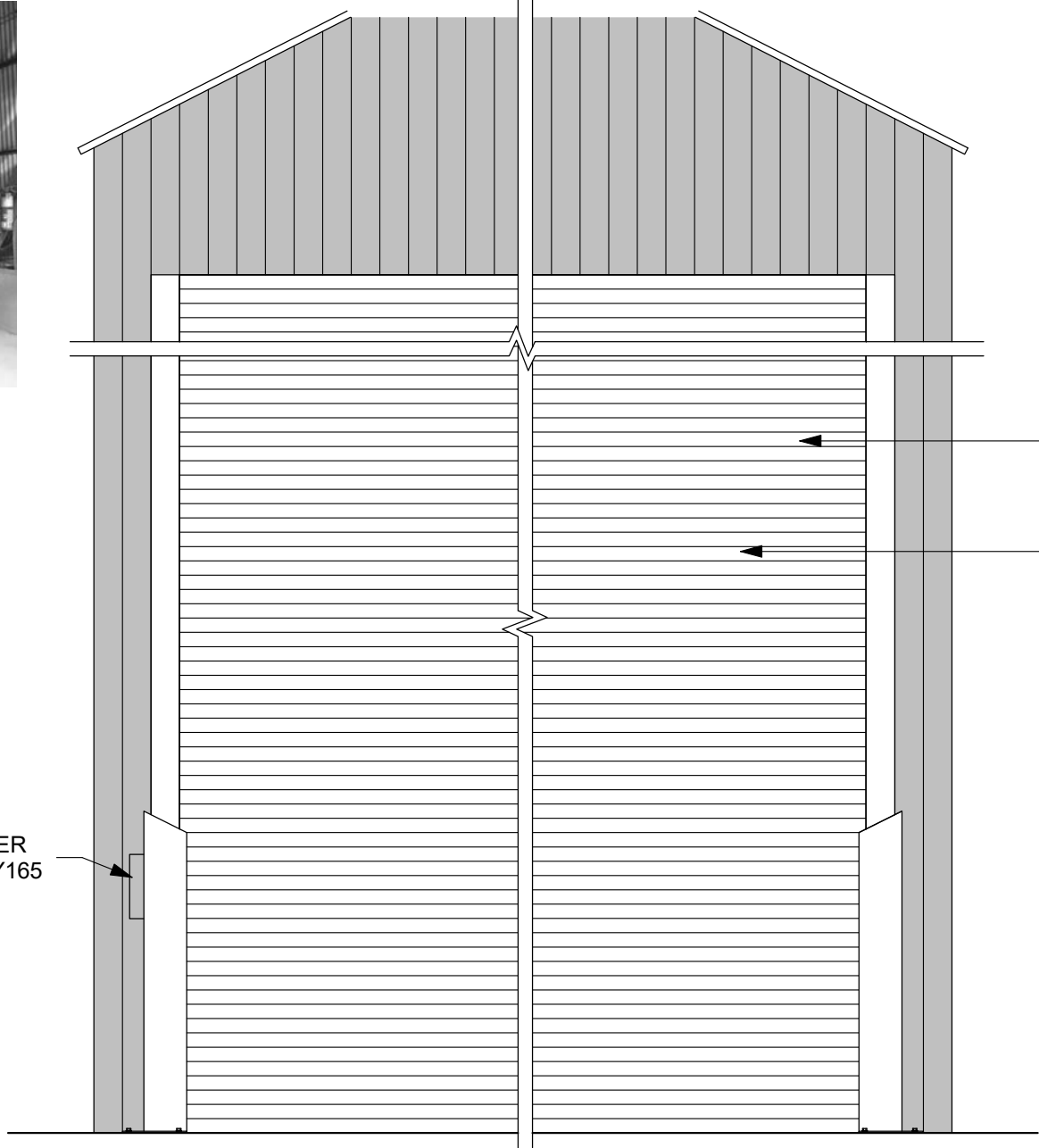
231

235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

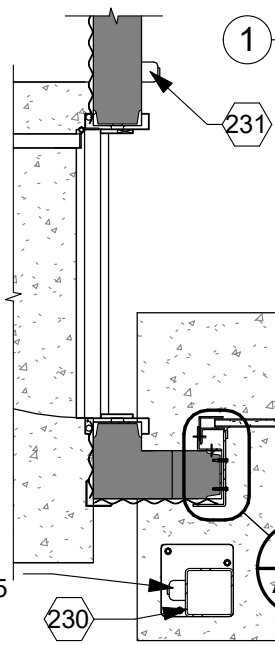
240 METAL SIDING - REPAIR AS REQUIRED.

241

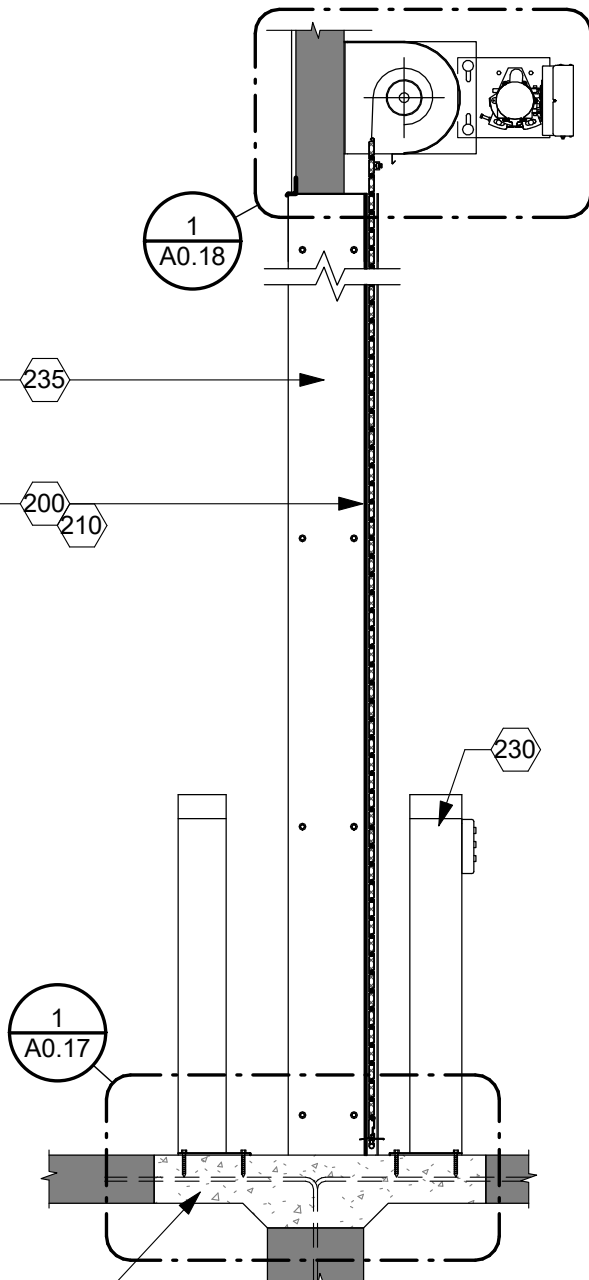
CARD READER
FOR DOOR Y165



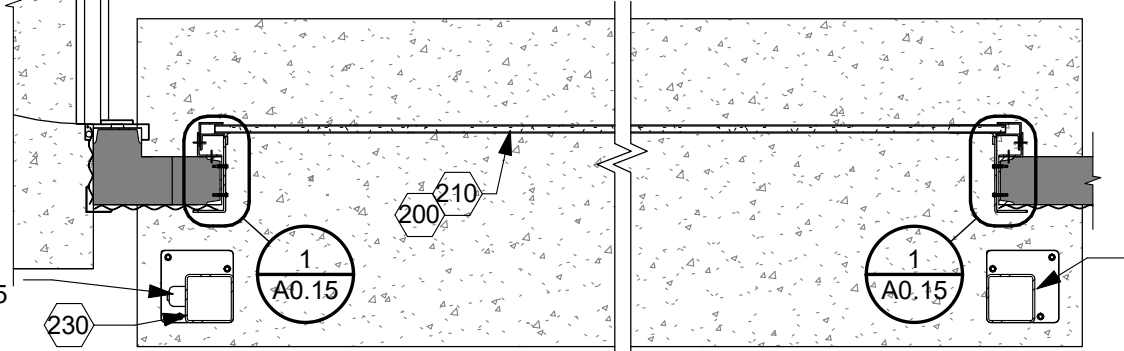
1 Y160 - OH DOOR ELEVATION
1/2" = 1'-0"



CARD READER
FOR DOOR Y165



3 R020 - OH DOOR PLAN
1/2" = 1'-0"



2 R020 - OH DOOR PLAN
1/2" = 1'-0"

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SANFORD
UNDERGROUND
RESEARCH FACILITY

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y160



Y165 PHOTO



Y165 PHOTO

SWINGING DOORS - PER TYPICAL DETAILS A4.30/A4.31/A4.32

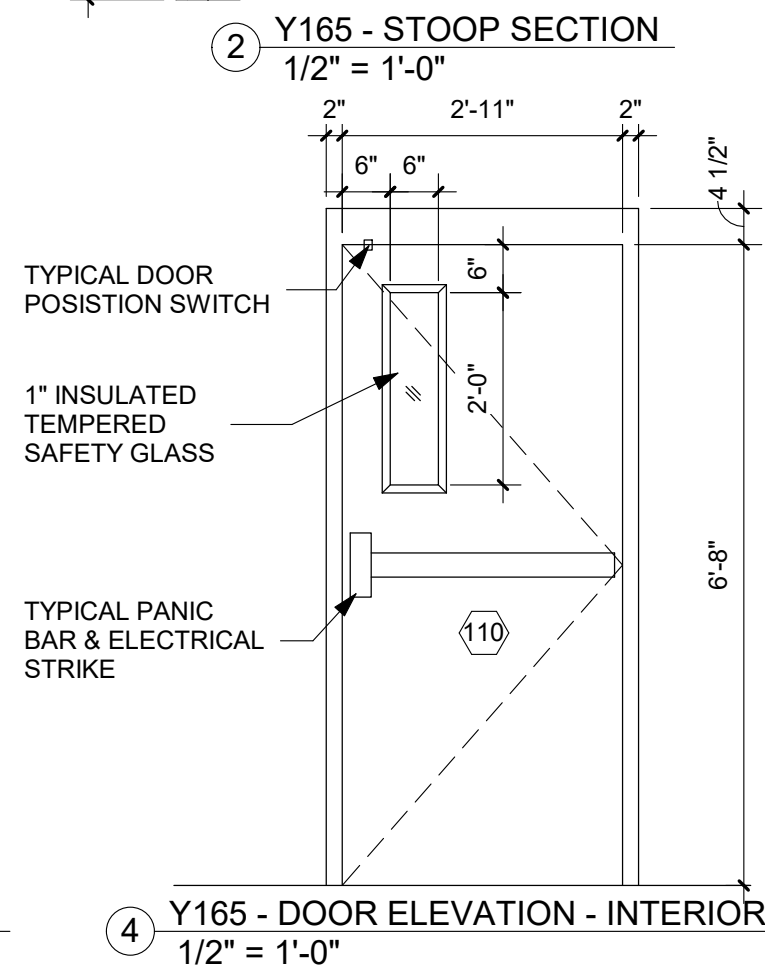
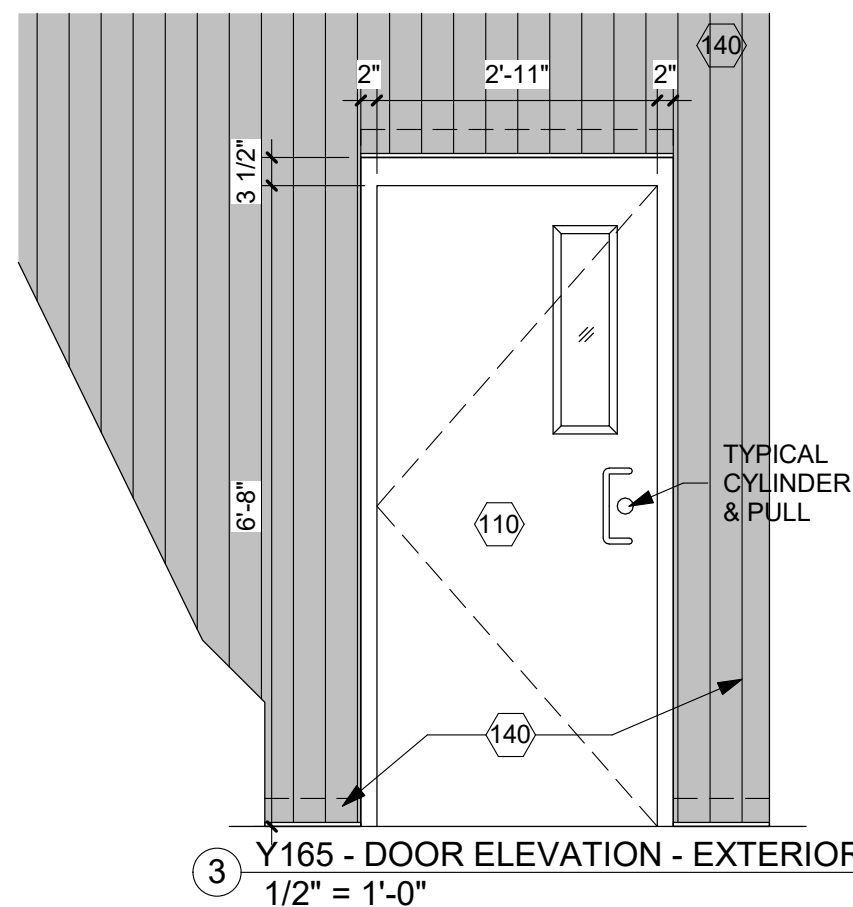
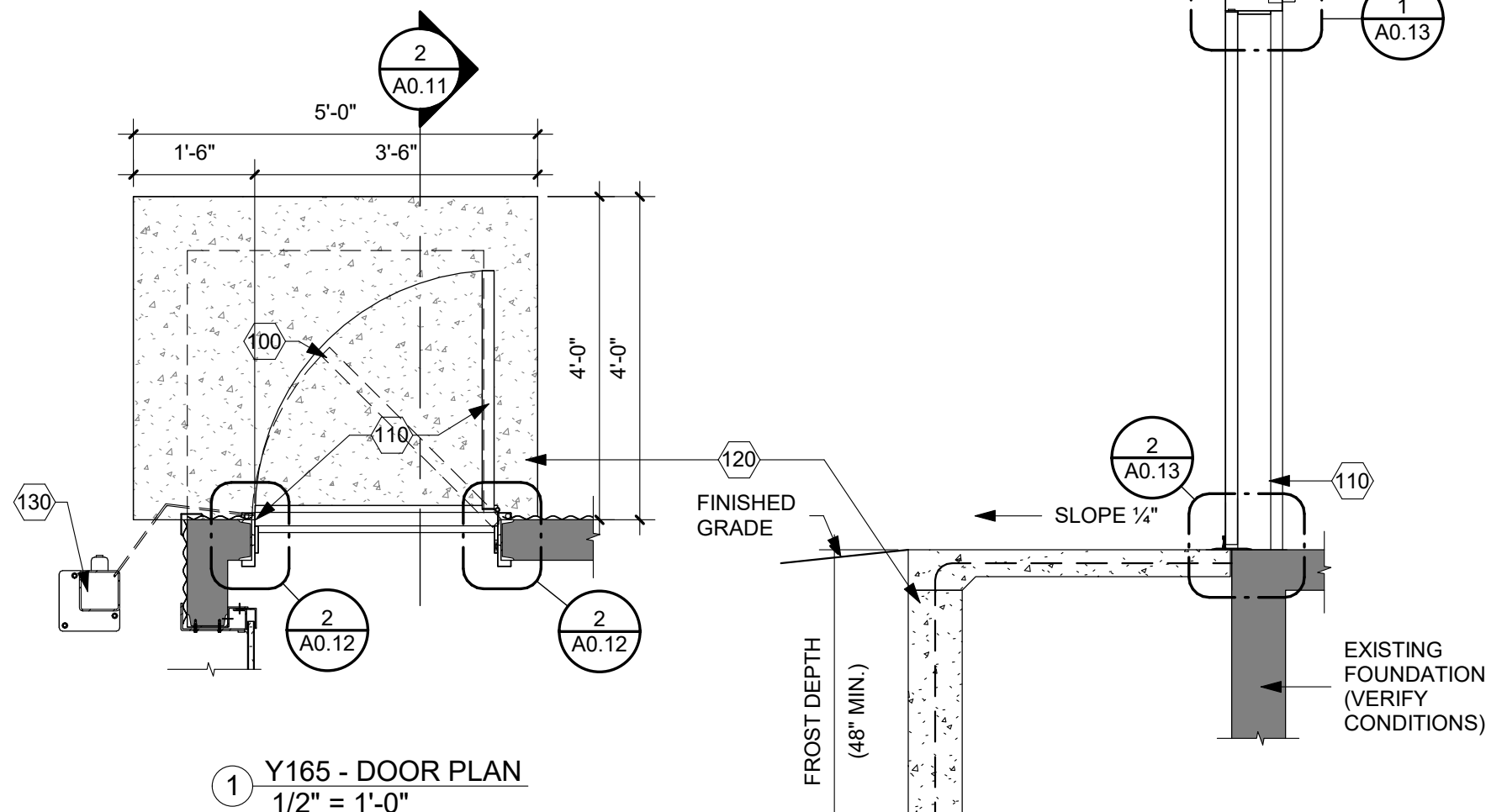
100 REMOVE EXISTING DOOR/HARDWARE. PREPARE OPENING FOR NEW DOOR/FRAME/HARDWARE

110 NEW DOOR/FRAME/HARDWARE

120 NEW CONCRETE STOOP
 - 4" CONCRETE SLAB & 8" CONCRETE WALLS W/ #4 REINF. @ 16" O.C. EACH WALL; DOWEL REINF. INTO EXISTING @ 16" O.C. x 8" DEEP.
 - 1/4" SLOPE/BROOM FINISH
 - CLEAN ROCK FILL

130 BOLLARD
 - HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/ (3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
 - POWDER COAT ASSEMBLY.
 - PROVIDE BOX/CONDUIT FOR CARD READER.

140 METAL SIDING REPAIR (= 60 S.F. APPROX PER OPENING)
 - REMOVE EXISTING METAL SIDING TO FIRST LAP SEAM EITHER SIDE OF DOOR AND ABOVE DOOR
 - INSTALL DRIP EDGE FLASHING AT ALL BOTTOM OF PANEL TERMINATIONS
 - INSTALL NEW MATCHING CORRUGATED SEAMS; USE SELF TAPPING/GASKETED FASTENERS AS REQUIRED TO EXISTING STRUCTURE.





Y170 PHOTO

Y170 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

200 PREPARE OPENING FOR NEW OH COILING
DOOR(S) REMOVE EXISTING OH COILING DOOR(S)
& ACCESSORIES.

210 NEW OH COILING DOOR & ACCESSORIES
DETERMINE ALLOWABLE/MAXIMUM NEW DOOR
SIZE CONFIRM STANDARD JAMB CONDITION -
1/A0.15
OR REDUCED JAMB CONDITION - 1/A0.16

220 CONCRETE APRON -
- SAWCUT REMOVE EXISTING CONCRETE
= 3'-6"W x OPENING LENGTH x 12" EACH
END.
- COORDINATE REMOVAL W/ EXISTING
RAILS TO REMAIN.
- NEW 6" CONCRETE APRON W/ #4 REINF.
@ 18" O.C. EACH WAY AND DOWELED 8"
INTO EXISTING SLABS & FOUNDATION

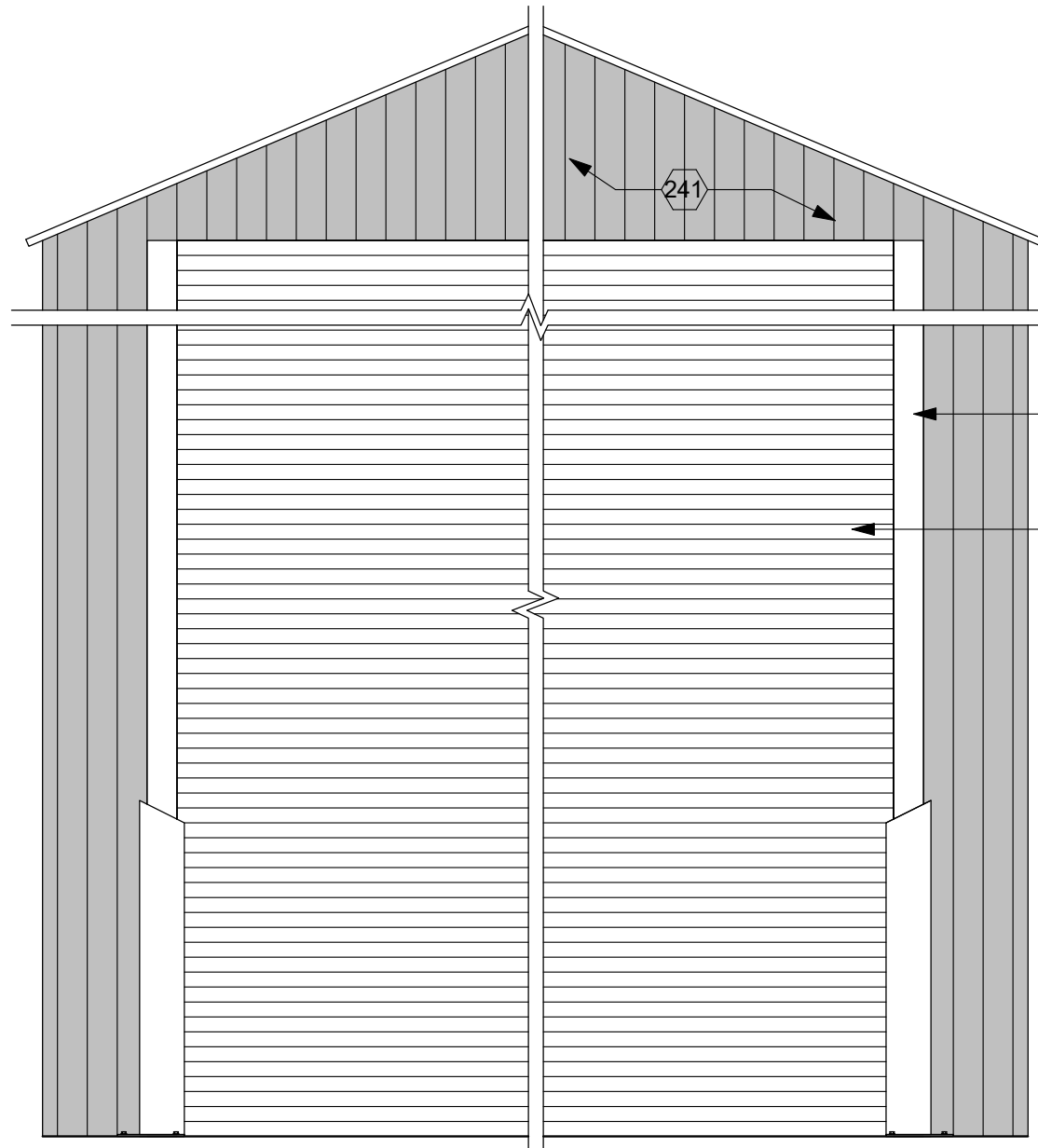
230 BOLLARD
- HSS 6"x6"x1/4" W/ 9"x9"x1/2" BASEPLATE W/
(3) 1/2" Ø x 6" ANCHORS INTO CONCRETE.
- POWDER COAT ASSEMBLY.
- PROVIDE BOX/CONDUIT FOR 3 BUTTON
CONTROLLER.

231 3 BUTTON CONTROLLER ATTACHED TO WALL.

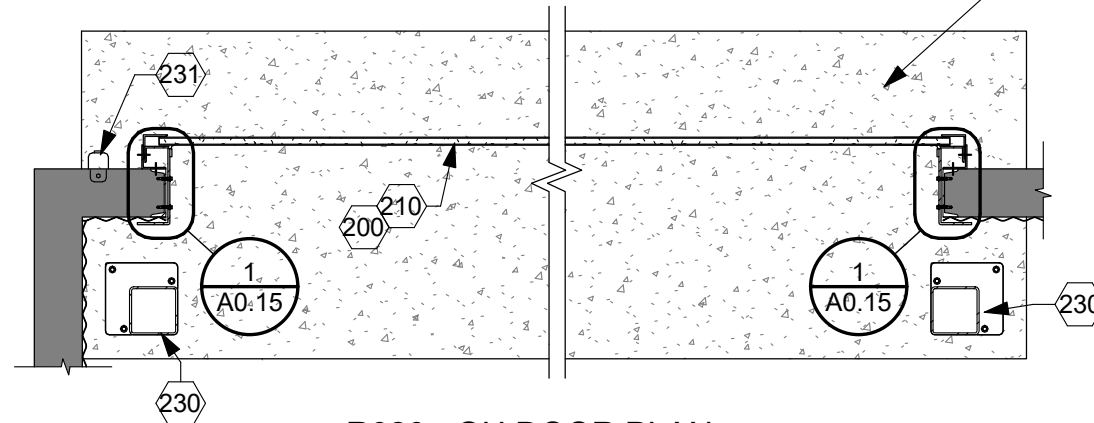
235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL
PLATE.

240 METAL SIDING - REPAIR AS REQUIRED.

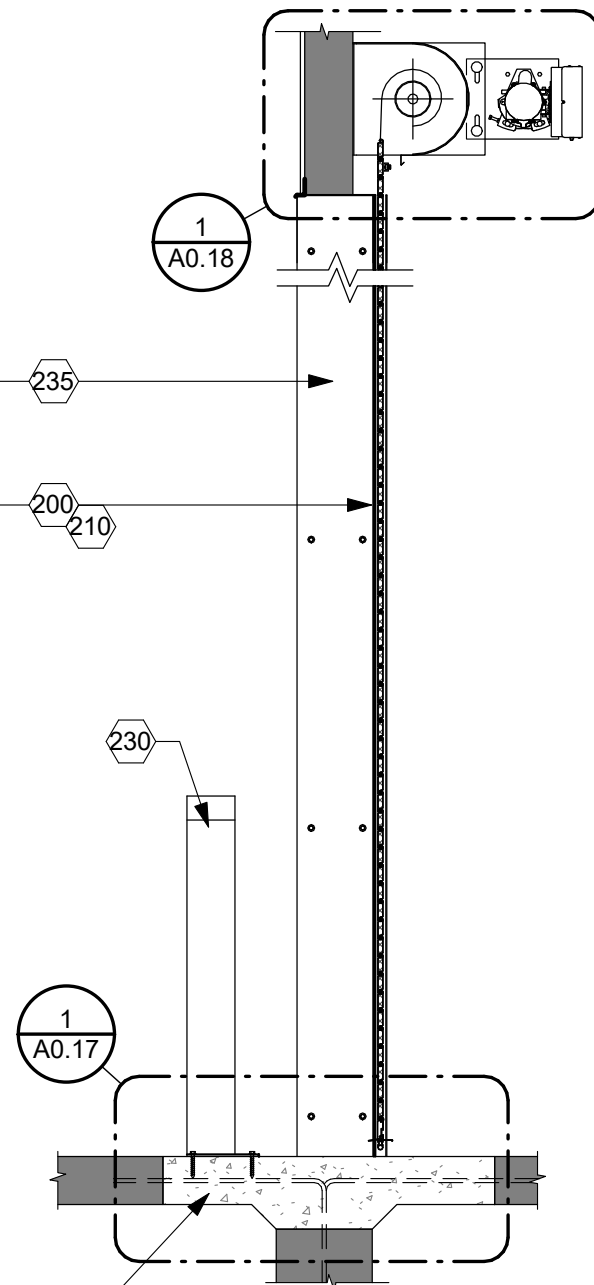
241 REPLACE SIDING AT ENTIRE NORTH FACE OF
DORMER



1 Y170 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R020 - OH DOOR PLAN
1/2" = 1'-0"



3 R020 - OH DOOR PLAN
1/2" = 1'-0"

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COORDINATE HAZARDOUS
MATERIALS ABATEMENT
WITH SEPARATE OWNER
PROVIDED DOCUMENTS
DATED JULY 30TH, 2020.

DATE: JULY 29, 2020

PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035



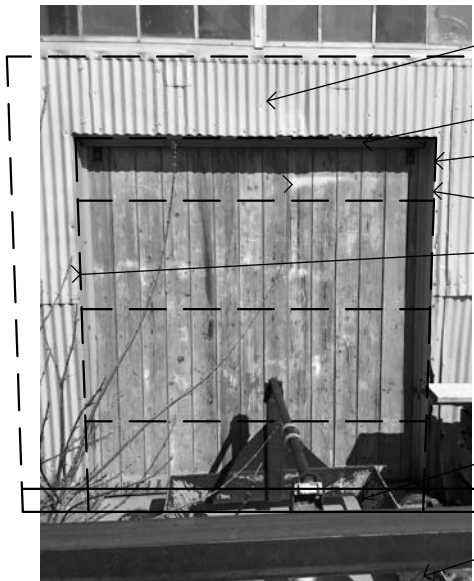
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UNDERGROUND
RESEARCH FACILITY**

HEADFRAME SECURITY
UPGRADES

LEAD, SOUTH DAKOTA

OVERHEAD DOOR

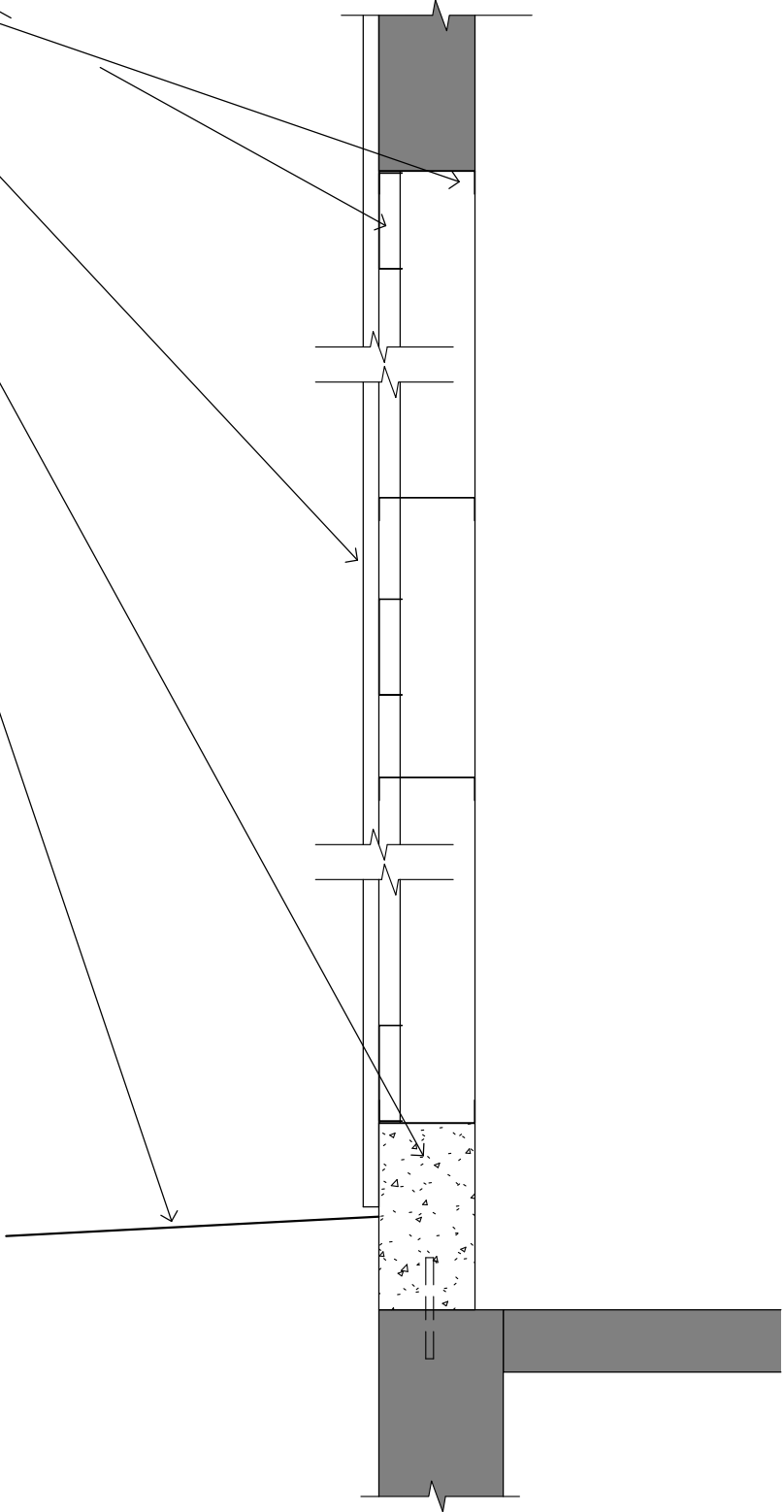
Y170



Y175 PHOTO

TYPICAL INFILL

- REMOVE EXISTING SIDING TO NEXT EXISTING LAP SEAM
- REMOVE EXISTING DOOR & HARDWARE
- NEW HORIZONTAL INFILL FRAMING (6"x18GA. METAL STUDS) @ 24" O.C. AND PERIMETER OF OF DOOR OPENING.
- NEW CORRUGATED METAL SIDING - TERMINATE BOTTOM W/ SILL FLASHING JUST ABOVE EXISTING GRADE (WHICH IS ABOVE EXISTING FLOOR AND SIDING LEVEL)
- NEW CONCRETE CURB 6"W x 12"H x LENGTH OF SIDING REPAIR
- ENSURE DRAINAGE AWAY FROM BUILDING



1 INFILL DETAIL W/ CONCRETE CURB
1" = 1'-0"

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SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

OVERHEAD DOOR - INFILL

Y175



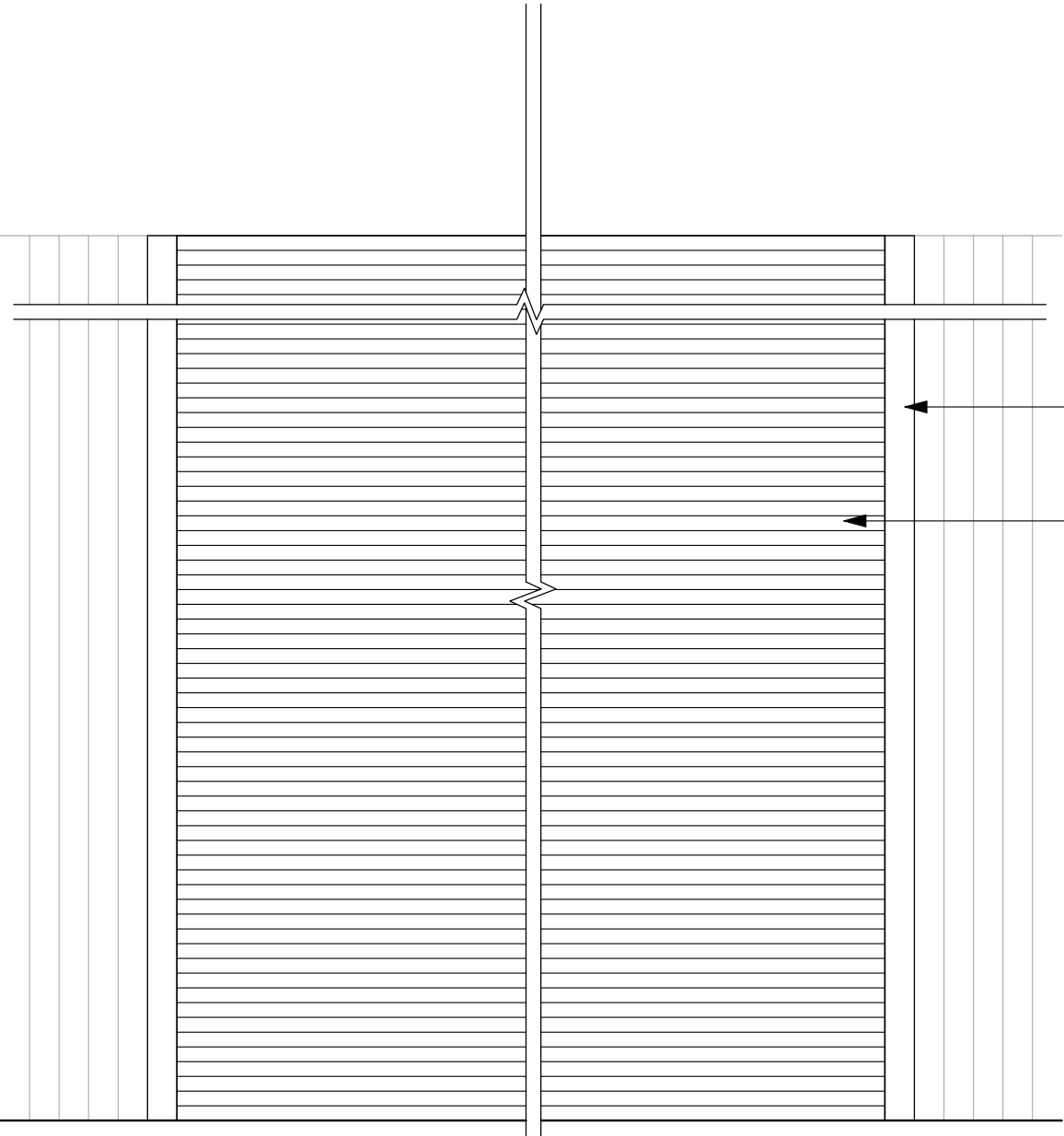
Y180 PHOTO



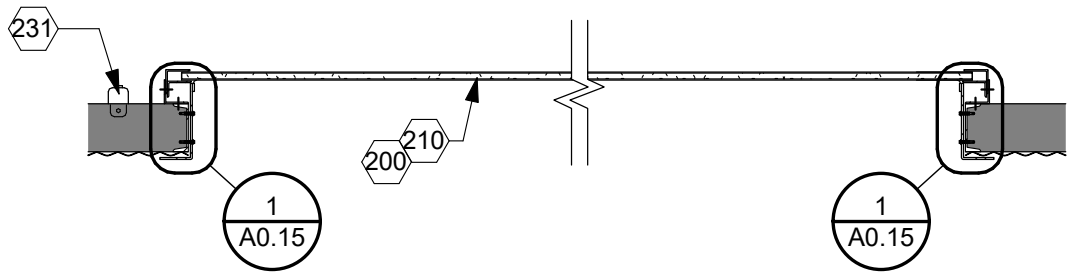
Y180 PHOTO

OH COILING DOORS - TYPICAL DETAILS ON
A0.33/A0.34/A0.35/A0.36

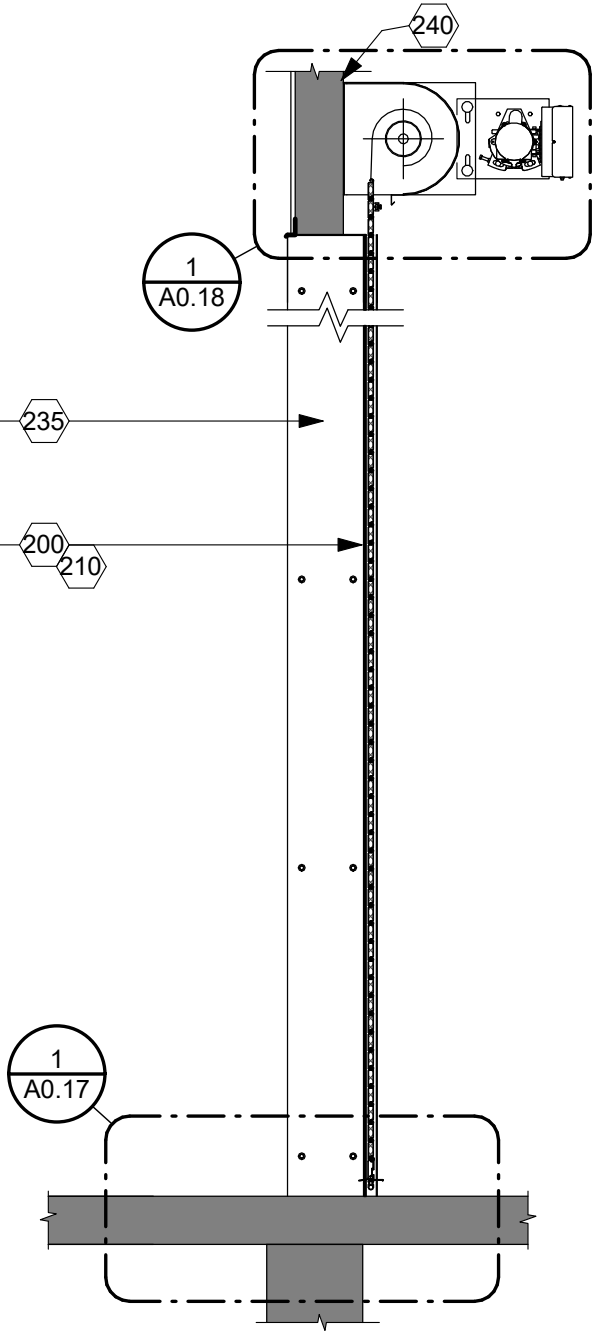
- 200 PREPARE OPENING FOR NEW OH COILING DOOR(S) REMOVE EXISTING OH COILING DOOR(S) & ACCESSORIES.
- 210 NEW OH COILING DOOR & ACCESSORIES DETERMINE ALLOWABLE/MAXIMUM NEW DOOR SIZE CONFIRM STANDARD JAMB CONDITION - 1/A0.15 OR REDUCED JAMB CONDITION - 1/A0.16
- 220 CONCRETE APRON -
 - SAWCUT REMOVE EXISTING CONCRETE = 3'-6"W x OPENING LENGTH x 12" EACH END.
 - COORDINATE REMOVAL W/ EXISTING RAILS TO REMAIN.
 - NEW 6" CONCRETE APRON W/ #4 REINF. @ 18" O.C. EACH WAY AND DOWELED 8" INTO EXISTING SLABS & FOUNDATION
- 221 NO NEW CONCRETE APRON AT Y180
- 230 NO BOLLARDS AT THIS LOCATION
- 231 3 BUTTON CONTROLLER ATTACHED TO WALL.
- 235 JAMB COVERS - 1/4" x 4" x VARIES BENT STEEL PLATE.
- 240 METAL SIDING - REPAIR AS REQUIRED.



1 Y180 - OH DOOR ELEVATION
1/2" = 1'-0"



2 R020 - OH DOOR PLAN
1/2" = 1'-0"



3 R020 - OH DOOR PLAN
1/2" = 1'-0"

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COORDINATE HAZARDOUS
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DATE: JULY 29, 2020

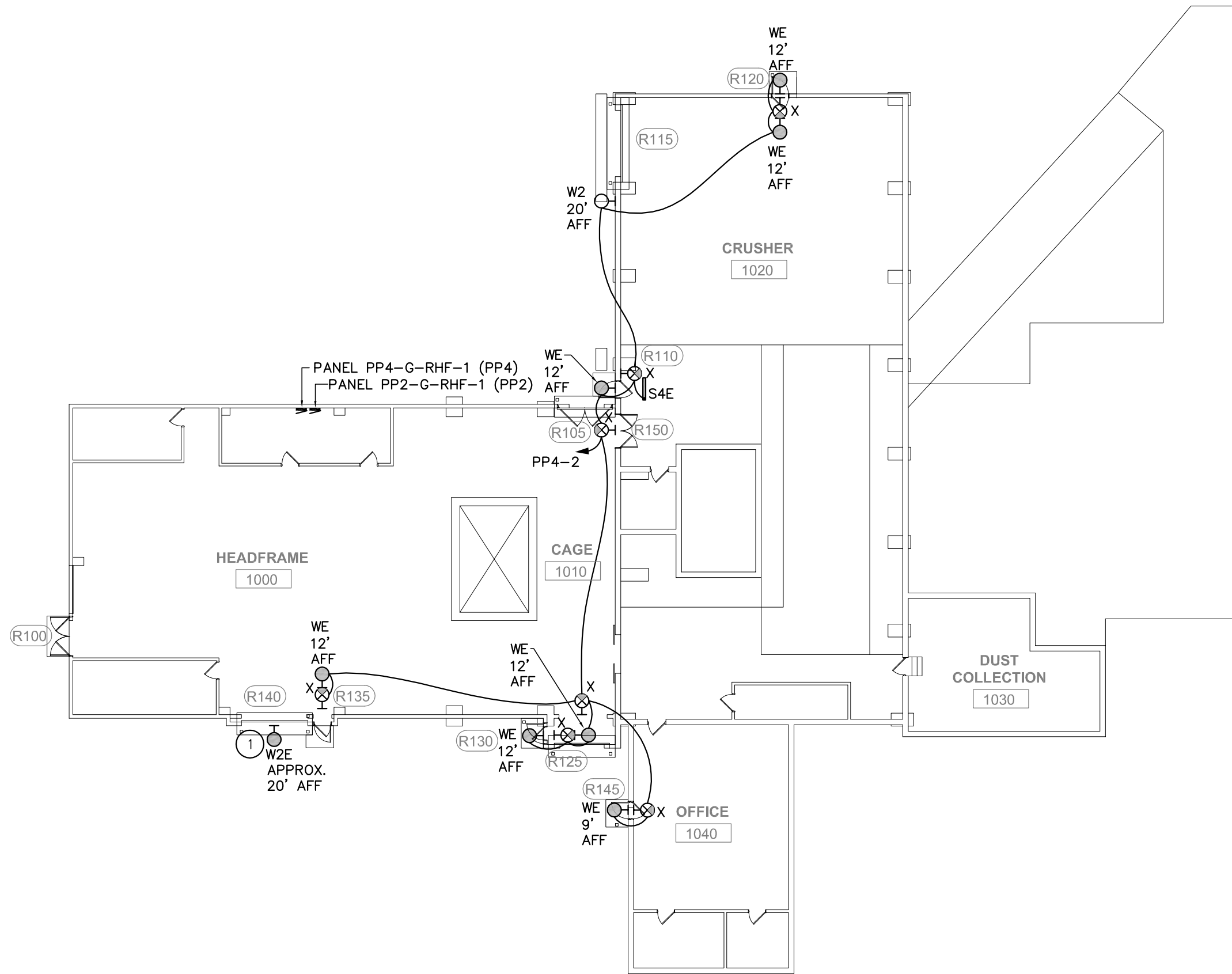
PROJECT MANAGER: DONOVAN BROBERG

PROJECT NUMBER: 2019-035

SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

OVERHEAD DOOR

Y180



1 ROSS HEADFRAME MAIN LEVEL LIGHTING PLAN
1" = 20'-0"

NORTH

MISCELLANEOUS ELECTRICAL NOTES:

- A. THE ELECTRICAL CONTRACTOR IS REQUIRED TO VISIT THE JOB SITE PRIOR TO BIDDING. THE HEADFRAME AREAS ARE VERY UNIQUE AND MUST BE SEEN IN ORDER TO UNDERSTAND THE CHALLENGES FOR INSTALLING ELECTRICAL WORK. THE HEADFRAMES ARE VERY TALL OPEN SPACES AND THE ONLY WAY TO GET TO GET CONDUIT AND WIRING FROM ONE SIDE TO THE OTHER, IN MOST INSTANCES IS TO GO AROUND THE PERIMETER WALLS.
- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.
- C. THE EXTERIOR OF BOTH HEADFRAMES IS A CORRUGATED TIN. CONTRACTOR WILL NEED TO PROVIDE ADDITIONAL BLOCKING TO MAKE A FLAT SURFACE FOR MOUNTING OF SURFACE MOUNTED LIGHT FIXTURES.

SPECIFIC ELECTRICAL NOTES: #

- 1. CONTRACTOR TO DEMO EXISTING LIGHT FIXTURE AT THIS LOCATION AND REPLACE WITH FIXTURE INDICATED. THE EXISTING FIXTURE IS MOUNTED ON A PIECE OF RIGID CONDUIT. THIS CONDUIT WILL NEED TO BE REMOVED AND A NEW J-BOX MOUNTED ON THE SURFACE OF THE CORRUGATED TIN TO MOUNT THE NEW LIGHT FIXTURE TO. CONTRACTOR TO CONFIRM VOLTAGE AT EXISTING FIXTURE PRIOR TO ORDERING NEW FIXTURE AND ORDER NEW FIXTURE TO MATCH EXISTING VOLTAGE. CONTRACTOR TO PROVIDE NECESSARY MODIFICATIONS TO EXISTING JUNCTION BOX; CONDUIT AND CONDUCTORS FOR INSTALLATION OF NEW FIXTURE. ENSURE ANY PENETRATIONS OF EXISTING WALL FROM EXISTING INSTALLATION ARE SEALED.



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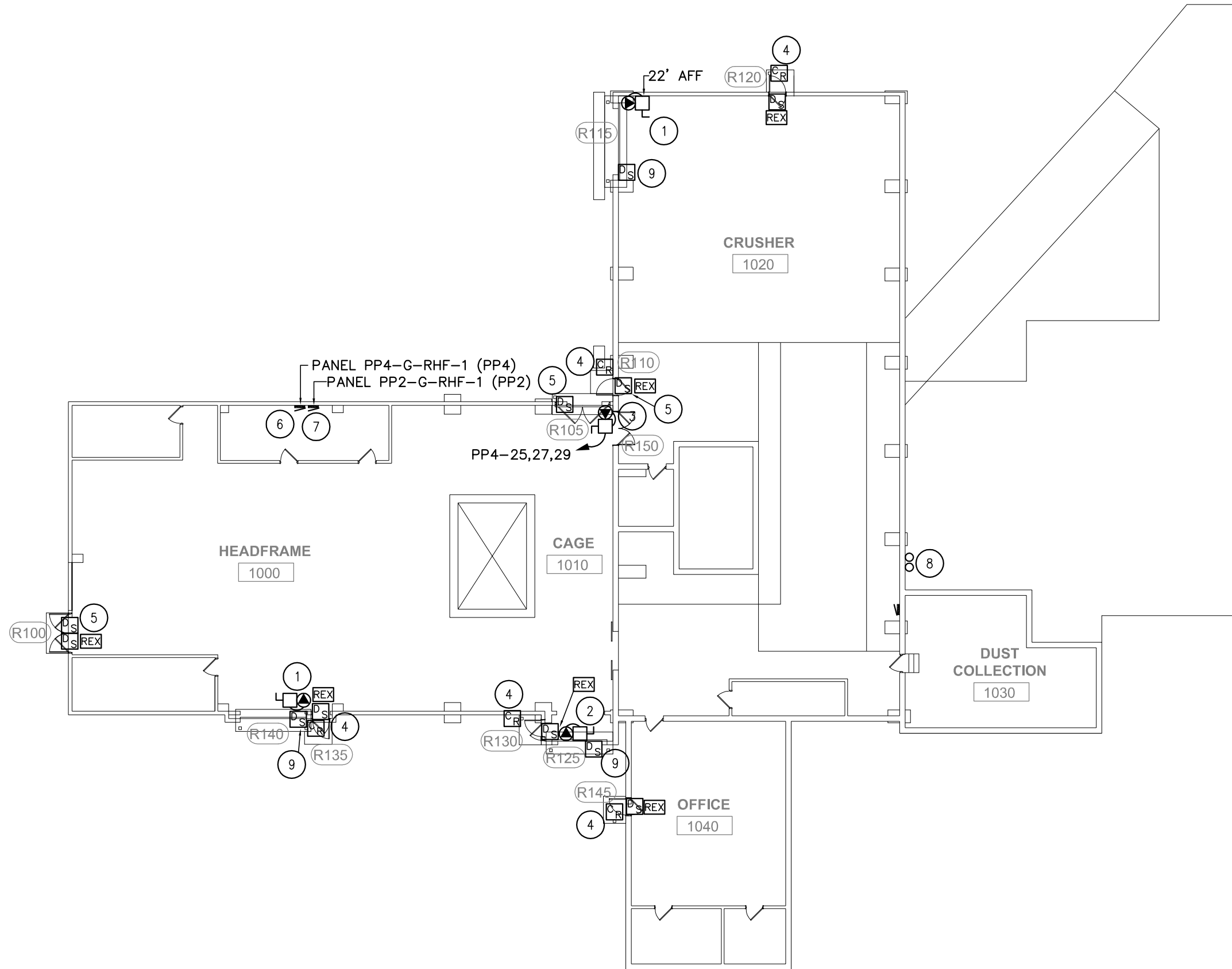
PROJECT MANAGER: MRS

PROJECT NUMBER: BR19050

SANFORD UNDERGROUND RESEARCH FACILITY
HEADFRAME SECURITY UPGRADES
LEAD, SOUTH DAKOTA

ROSS MAIN LEVEL LIGHTING PLAN

E0.01



1 ROSS HEADFRAME MAIN LEVEL POWER & SIGNAL PLAN
1" = 20'-0"

NORTH



MISCELLANEOUS ELECTRICAL NOTES:

- A. THE ELECTRICAL CONTRACTOR IS REQUIRED TO VISIT THE JOB SITE PRIOR TO BIDDING. THE HEADFRAME AREAS ARE VERY UNIQUE AND MUST BE SEEN IN ORDER TO UNDERSTAND THE CHALLENGES FOR INSTALLING ELECTRICAL WORK. THE HEADFRAMES ARE VERY TALL OPEN SPACES AND THE ONLY WAY TO GET TO GET CONDUIT AND WIRING FROM ONE SIDE TO THE OTHER, IN MOST INSTANCES IS TO GO AROUND THE PERIMETER WALLS.
- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.
- C. THE EXISTING POWER WITHIN THE ROSS HEADFRAME IS 480V/3–PHASE. WHERE OH DOORS HAVE EXISTING POWER, THEY ARE FED BY 480V/3–PHASE. THE ONLY EXCEPTION TO THIS IS DOOR R125 WHICH IS FED FROM A 208V/3–PHASE CIRCUIT. ALL EXISTING OVERHEAD DOORS, THAT HAVE POWER NOW, WILL REMAIN BEING FED BY THE CIRCUIT AND VOLTAGE CURRENTLY FEEDING THEM. ALL NEW OH DOORS BEING INSTALLED, WHERE THERE WAS NOT POWER PREVIOUSLY, WILL BE 480V/3–PHASE.

SPECIFIC ELECTRICAL NOTES: #

1. THIS EXISTING OVERHEAD COILING DOOR; ELECTRIC OPERATOR; AND CONTROL UNIT ARE BEING REMOVED AND REPLACED. THE ELECTRICAL CONTRACTOR WILL NEED TO ASSIST WITH REMOVAL OF POWER FROM THE OPERATOR; DEMOLITION OF THE EXISTING DISCONNECT AND REMOVAL OF THE EXISTING CONTROL STATION. THE ELECTRICAL CONTRACTOR WILL THEN NEED TO REPLACE THE EXISTING DISCONNECT WITH NEW FUSED DISCONNECT 30A/3P; EXTEND POWER FROM THE DISCONNECT TO THE OPERATOR; INSTALL NEW CONTROL UNIT; INSTALL NEW INFRARED SAFETY SENSOR AND INSTALL DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUIT AND WIRE TO THE EXTENT POSSIBLE AS LONG AS THE INSTALLATION IS CODE COMPLIANT. ANY ADDITIONAL STRAPPING OF CONDUIT OR REPLACEMENT OF CONDUIT NEEDS TO BE PART OF THE CONTRACTORS BID.
2. THIS DOOR OPENING HAS TWO EXISTING OVERHEAD COILING DOORS; ELECTRIC OPERATORS; AND CONTROL UNITS THAT ARE BEING REMOVED AND REPLACED. THERE IS ONE EXISTING ELECTRIC OPERATOR THAT IS EXTERIOR MOUNTED AND ONE ELECTRIC OPERATOR AND DISCONNECT INTERIOR MOUNTED. THE NEW DOOR WILL BE INTERIOR TO THE BUILDING. THE ELECTRICAL CONTRACTOR WILL NEED TO ASSIST WITH REMOVAL OF POWER FROM THE EXISTING OPERATORS; DEMOLITION OF THE EXISTING DISCONNECTS AND REMOVAL OF THE EXISTING CONTROL STATIONS. THE ELECTRICAL CONTRACTOR WILL THEN NEED TO REPLACE THE EXISTING DISCONNECT WITH NEW FUSED DISCONNECT

30A/3P; EXTEND POWER FROM THE DISCONNECT TO THE OPERATOR; INSTALL NEW CONTROL UNIT; INSTALL NEW INFRARED SAFETY SENSOR AND INSTALL DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUIT AND WIRE TO THE EXTENT POSSIBLE AS LONG AS THE INSTALLATION IS CODE COMPLIANT. ANY ADDITIONAL STRAPPING OF CONDUIT OR REPLACEMENT OF CONDUIT NEEDS TO BE PART OF THE CONTRACTORS BID.

3. THESE EXISTING SWING DOORS ARE BEING REMOVED AND REPLACED WITH AN OVERHEAD COILING DOOR WITH ELECTRIC OPERATOR; CONTROL UNIT; AND INFRARED SAFETY SENSOR. THE ELECTRICAL CONTRACTOR WILL NEED TO PROVIDE NEW POWER THROUGH A NEW 30A/3P FUSED DISCONNECT TO THE NEW OPERATOR. THE ELECTRICAL CONTRACTOR WILL ALSO NEED TO INSTALL NEW CONTROL UNIT; INFRARED SAFETY SENSOR; AND DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR.
4. PROVIDE NEW CARD READER; REQUEST TO EXIT (REX) DEVICE AND DOOR POSITION SWITCH FOR THIS DOOR THAT ARE PART OF THE NEW SECURITY SYSTEM.
5. PROVIDE NEW DOOR POSITION SWITCH(ES) AND REQUEST TO EXIT (REX) DEVICE FOR THIS DOOR OPENING THAT IS PART OF THE NEW SECURITY SYSTEM.
6. EXISTING PANELBOARD IS A 400A MLO 480Y/277V/3PH/4W EATON CATALOG P3D400LT42CH3R THAT IS FULLY RATED AT 50KAIC. CONTRACTOR TO PROVIDE TWO NEW 20A/3P HFD BREAKERS TO FEED NEW OVERHEAD DOORS AND ONE NEW 20A/1P HFD BREAKER TO FEED NEW LIGHT FIXTURES.
7. EXISTING PANELBOARD IS A 400A MLO 208Y/120V/3PH/4W EATON. CONTRACTOR TO UTILIZE SPARE BREAKERS IN SPACES NOTED TO BE USED ON PLANS. USE ONE 20A/1P CIRCUIT BREAKER TO PROVIDE POWER TO POWER SUPPLIES FOR POWER TO ELECTRONIC HARDWARE. ONE POWER SUPPLY TO BE INSTALLED WITHIN THIS SAME ROOM AND SECOND POWER SUPPLY TO BE INSTALLED IN LOWER LEVEL. EXTEND POWER FROM THESE POWER SUPPLIES TO RESPECTIVE ELECTRONIC HARDWARE AT DOORS AT EACH LEVEL.
8. CONTRACTOR MAY PENETRATE THROUGH EXTERIOR WALL AND RUN EXPOSED IMC OR GRC CONDUITS DOWN EXTERIOR WALL TO LOWER LEVEL FOR LOW VOLTAGE DOOR SECURITY CABLES AND POWER SUPPLY FOR LOWER LEVEL ELECTRONIC DOOR HARDWARE.
9. PROVIDE NEW DOOR POSITION SWITCH(ES) FOR THIS DOOR OPENING THAT IS PART OF THE NEW SECURITY SYSTEM.



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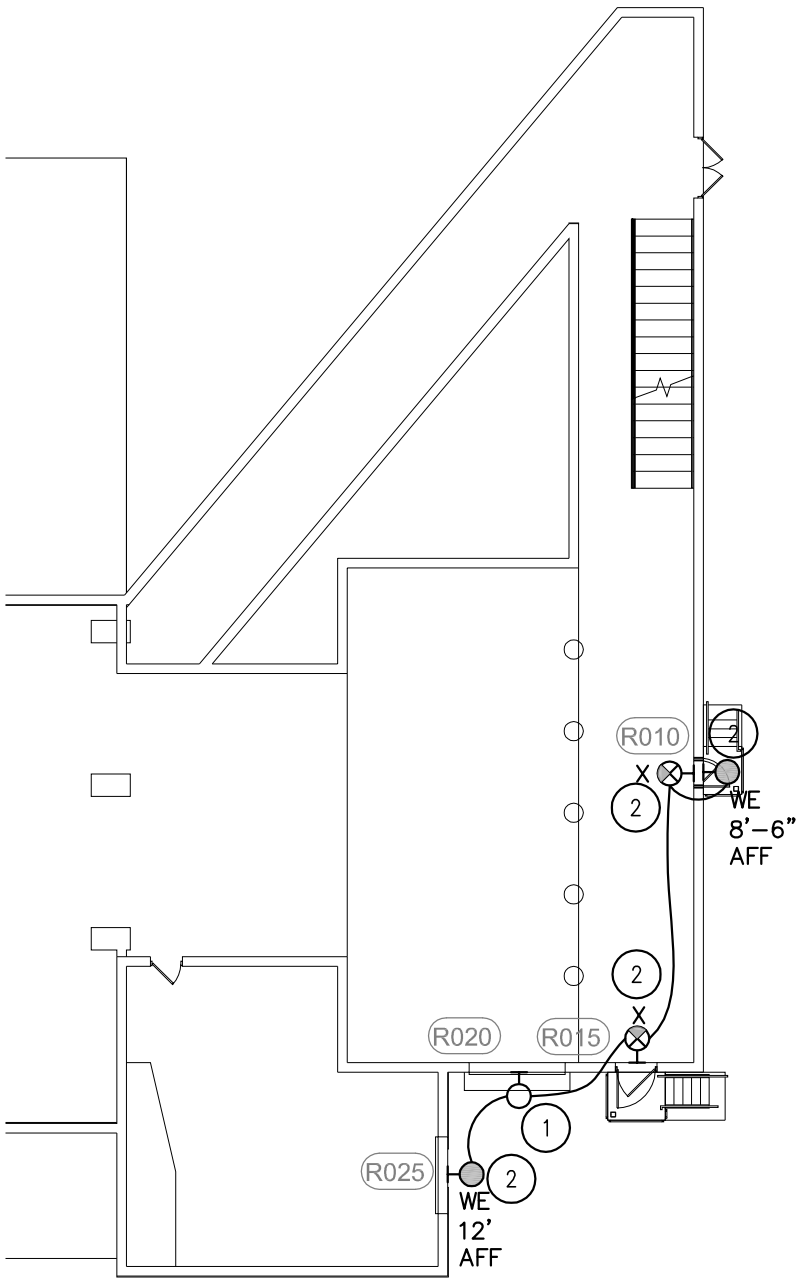
PROJECT MANAGER: MRS

PROJECT NUMBER: BR19050

SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

ROSS MAIN LEVEL
POWER & SIGNAL NOTES

E0.02B



1 ROSS HEADFRAME LOWER LEVEL LIGHTING PLAN
1" = 20'-0"

NORTH

MISCELLANEOUS ELECTRICAL NOTES:

- A. THE ELECTRICAL CONTRACTOR IS REQUIRED TO VISIT THE JOB SITE PRIOR TO BIDDING. THE HEADFRAME AREAS ARE VERY UNIQUE AND MUST BE SEEN IN ORDER TO UNDERSTAND THE CHALLENGES FOR INSTALLING ELECTRICAL WORK. THE HEADFRAMES ARE VERY TALL OPEN SPACES AND THE ONLY WAY TO GET TO GET CONDUIT AND WIRING FROM ONE SIDE TO THE OTHER, IN MOST INSTANCES IS TO GO AROUND THE PERIMETER WALLS.
- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.
- C. THE EXTERIOR OF BOTH HEADFRAMES IS A CORRUGATED TIN. CONTRACTOR WILL NEED TO PROVIDE ADDITIONAL BLOCKING TO MAKE A FLAT SURFACE FOR MOUNTING OF SURFACE MOUNTED LIGHT FIXTURES.

SPECIFIC ELECTRICAL NOTES: #

- 1. CONTRACTOR TO DEMO EXISTING LIGHT FIXTURE AT THIS LOCATION. THE EXITING FIXTURE IS MOUNTED ON A PIECE OF RIGID CONDUIT. THIS CONDUIT WILL NEED TO BE REMOVED. CONTRACTOR TO PROVIDE NECESSARY MODIFICATIONS TO EXISTING JUNCTION BOX; CONDUIT AND CONDUCTORS FOR EXTENSION OF EXISTING CIRCUIT TO NEW FIXTURES. ENSURE ANY PENETRATIONS OF EXISTING WALL FROM EXISTING FIXTURE INSTALLATION ARE SEALED.
- 2. CONNECT NEW LIGHT FIXTURES TO EXISTING CIRCUIT THAT FED ITEM 1 ABOVE. CONTRACTOR TO CONFIRM VOLTAGE AT EXISTING FIXTURE PRIOR TO ORDERING NEW FIXTURES AND ORDER NEW FIXTURES TO MATCH EXISTING VOLTAGE.



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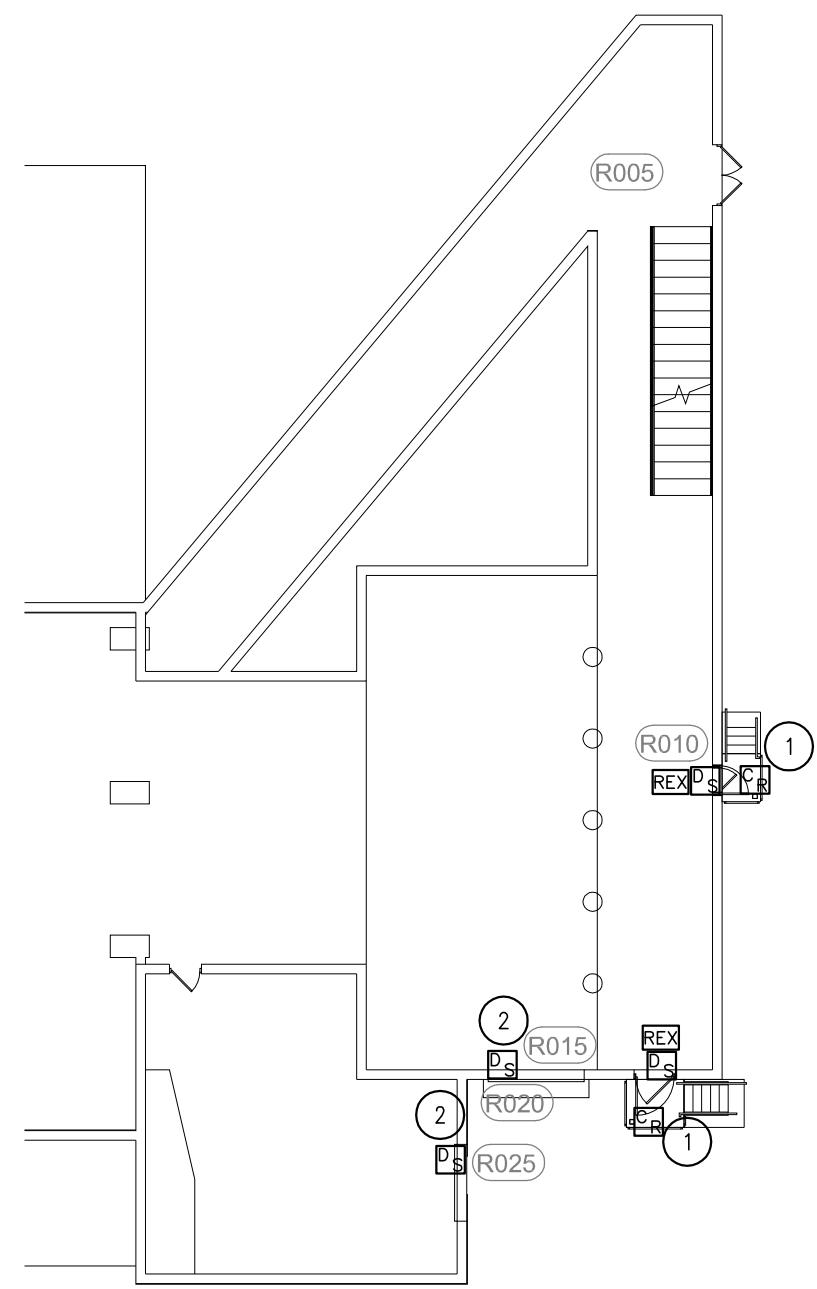
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**SANFORD
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

ROSS LOWER LEVEL
LIGHTING PLAN

E0.03



1 ROSS HEADFRAME LOWER LEVEL POWER & SIGNAL PLAN
1" = 20'-0"

NORTH



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SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

ROSS LOWER LEVEL
POWER & SIGNAL PLAN

E0.04A

MISCELLANEOUS ELECTRICAL NOTES:

- A. THE ELECTRICAL CONTRACTOR IS REQUIRED TO VISIT THE JOB SITE PRIOR TO BIDDING. THE HEADFRAME AREAS ARE VERY UNIQUE AND MUST BE SEEN IN ORDER TO UNDERSTAND THE CHALLENGES FOR INSTALLING ELECTRICAL WORK. THE HEADFRAMES ARE VERY TALL OPEN SPACES AND THE ONLY WAY TO GET TO GET CONDUIT AND WIRING FROM ONE SIDE TO THE OTHER, IN MOST INSTANCES IS TO GO AROUND THE PERIMETER WALLS.
- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.
- C. THE EXISTING POWER WITHIN THE ROSS HEADFRAME IS 480V/3-PHASE. WHERE OH DOORS HAVE EXISTING POWER, THEY ARE FED BY 480V/3-PHASE. THE ONLY EXCEPTION TO THIS IS DOOR R125 WHICH IS FED FROM A 208V/3-PHASE CIRCUIT. ALL EXISTING OVERHEAD DOORS, THAT HAVE POWER NOW, WILL REMAIN BEING FED BY THE CIRCUIT AND VOLTAGE CURRENTLY FEEDING THEM. ALL NEW OH DOORS BEING INSTALLED, WHERE THERE WAS NOT POWER PREVIOUSLY, WILL BE 480V/3-PHASE.

SPECIFIC ELECTRICAL NOTES: #

1. PROVIDE NEW CARD READER; REQUEST TO EXIT (REX) DEVICE AND DOOR POSITION SWITCH FOR THIS DOOR THAT ARE PART OF THE NEW SECURITY SYSTEM. PROVIDE POWER SUPPLY FOR ELECTRONIC DOOR HARDWARE.
2. PROVIDE NEW DOOR POSITION SWITCH(ES) FOR THIS DOOR OPENING THAT IS PART OF THE NEW SECURITY SYSTEM.



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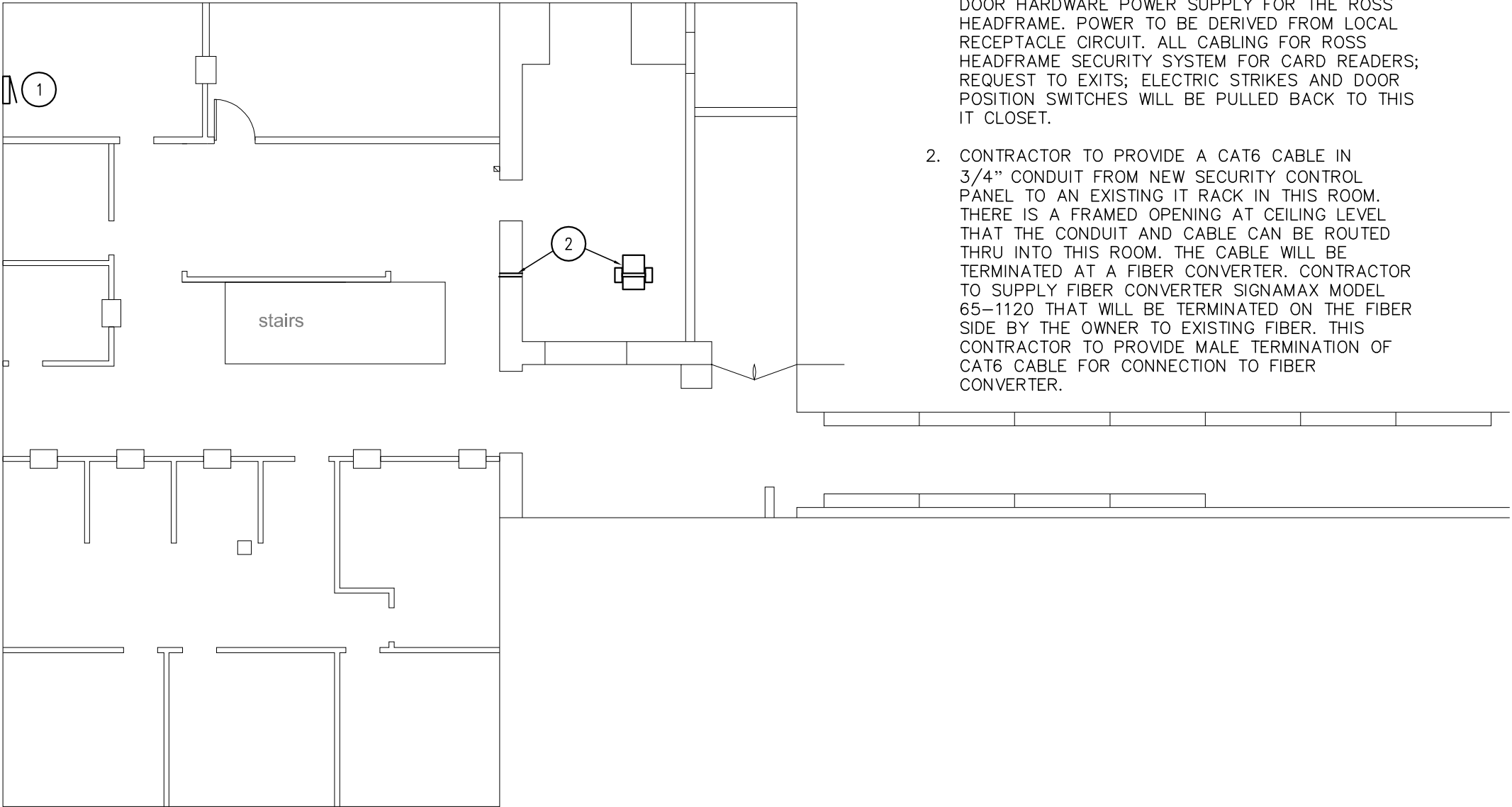
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UPGRADES
LEAD, SOUTH DAKOTA

ROSS LOWER LEVEL
POWER & SIGNAL NOTES

E0.04B



MISCELLANEOUS ELECTRICAL NOTES:

- A. ALL WORK WITHIN THE EXISTING IT CLOSET WILL NEED TO BE COORDINATED WITH OWNER’S IT PERSONNEL.

SPECIFIC ELECTRICAL NOTES: (#)

1. LOCATION FOR NEW SECURITY CONTROL PANEL AND DOOR HARDWARE POWER SUPPLY FOR THE ROSS HEADFRAME. POWER TO BE DERIVED FROM LOCAL RECEPTACLE CIRCUIT. ALL CABLING FOR ROSS HEADFRAME SECURITY SYSTEM FOR CARD READERS; REQUEST TO EXITS; ELECTRIC STRIKES AND DOOR POSITION SWITCHES WILL BE PULLED BACK TO THIS IT CLOSET.
2. CONTRACTOR TO PROVIDE A CAT6 CABLE IN 3/4” CONDUIT FROM NEW SECURITY CONTROL PANEL TO AN EXISTING IT RACK IN THIS ROOM. THERE IS A FRAMED OPENING AT CEILING LEVEL THAT THE CONDUIT AND CABLE CAN BE ROUTED THRU INTO THIS ROOM. THE CABLE WILL BE TERMINATED AT A FIBER CONVERTER. CONTRACTOR TO SUPPLY FIBER CONVERTER SIGNAMAX MODEL 65-1120 THAT WILL BE TERMINATED ON THE FIBER SIDE BY THE OWNER TO EXISTING FIBER. THIS CONTRACTOR TO PROVIDE MALE TERMINATION OF CAT6 CABLE FOR CONNECTION TO FIBER CONVERTER.

① ROSS DRY LOWER LEVEL POWER & SIGNAL PLAN
1" = 10'-0"



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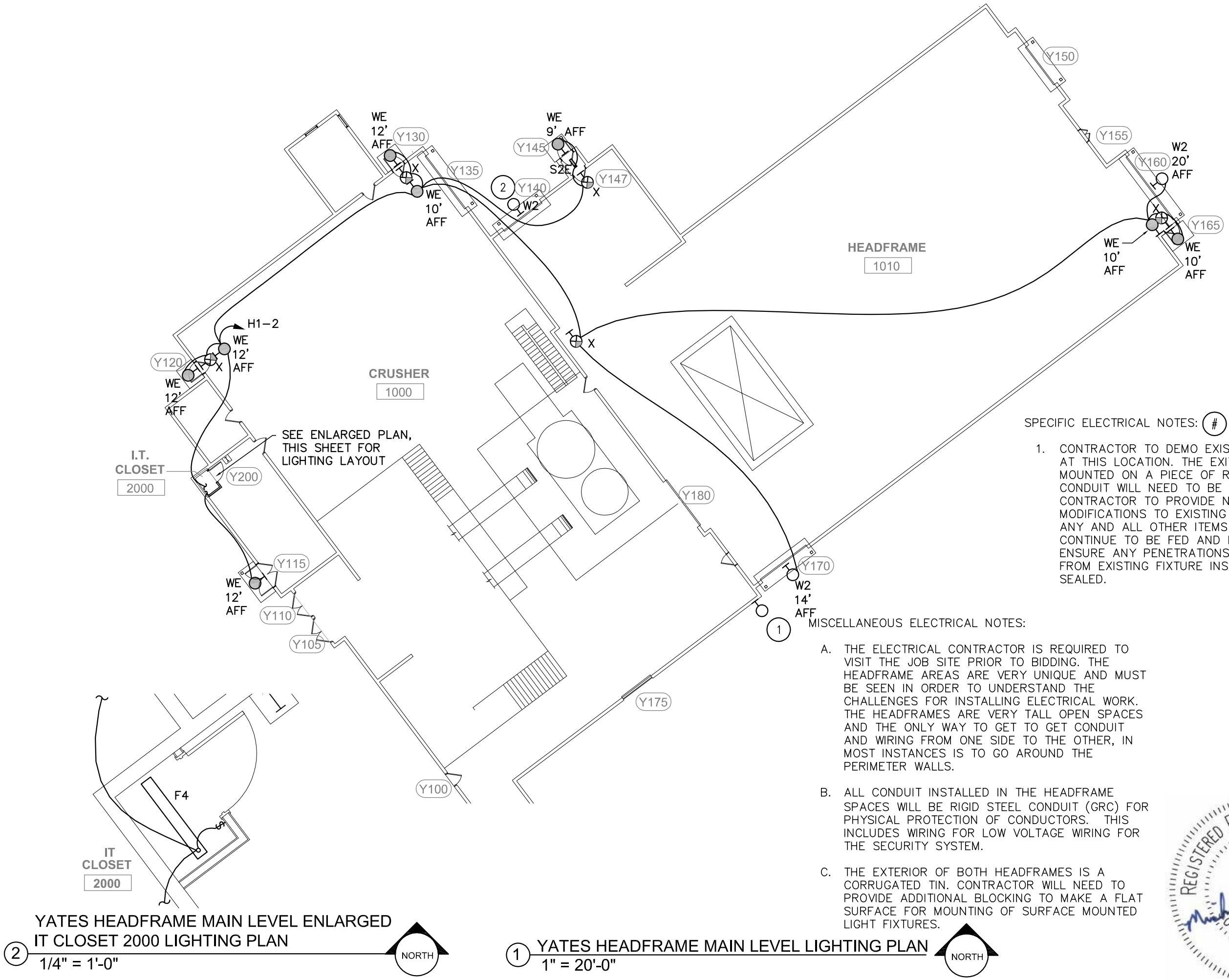
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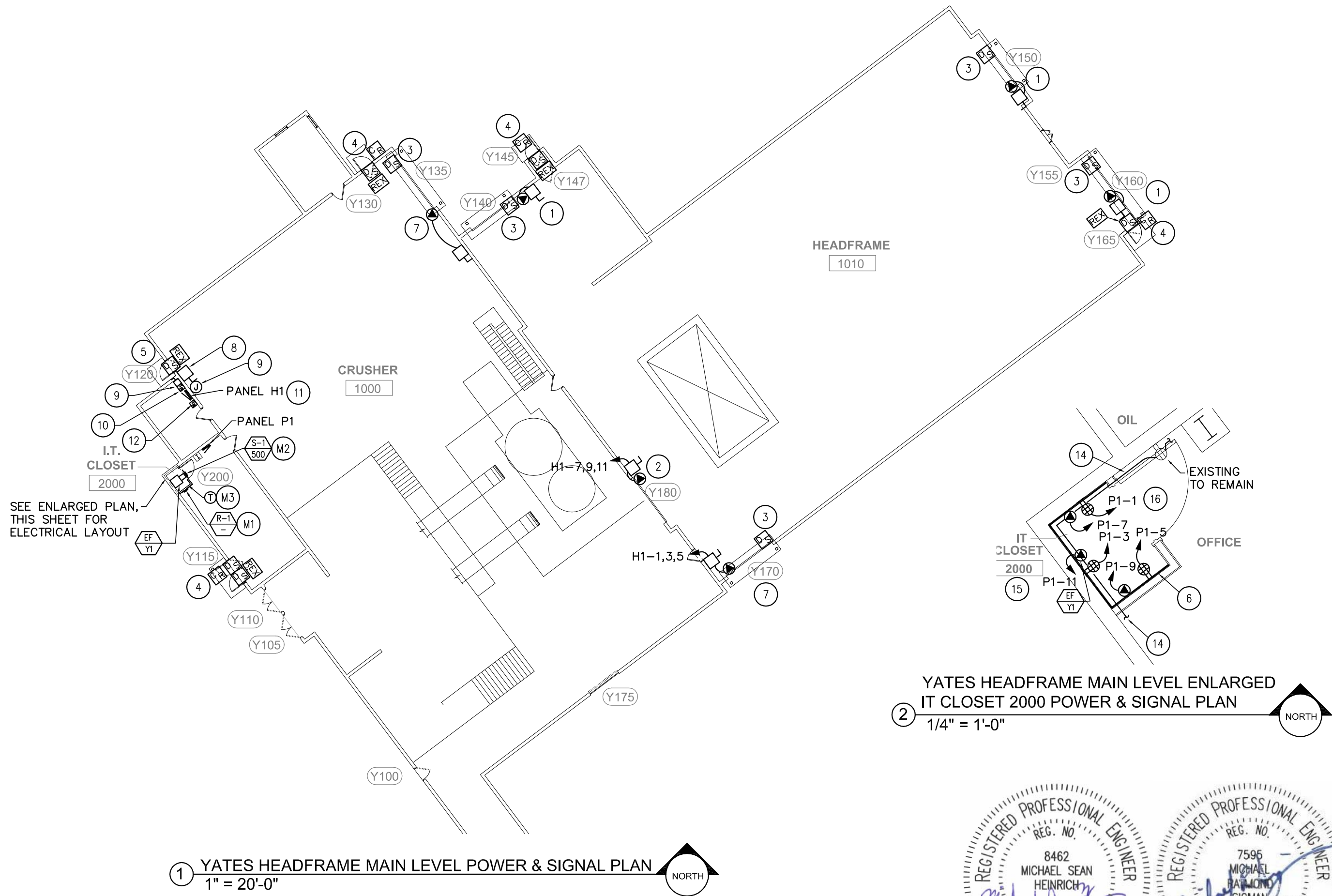
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HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

ROSS DRY LOWER LEVEL
POWER & SIGNAL PLAN

E0.05





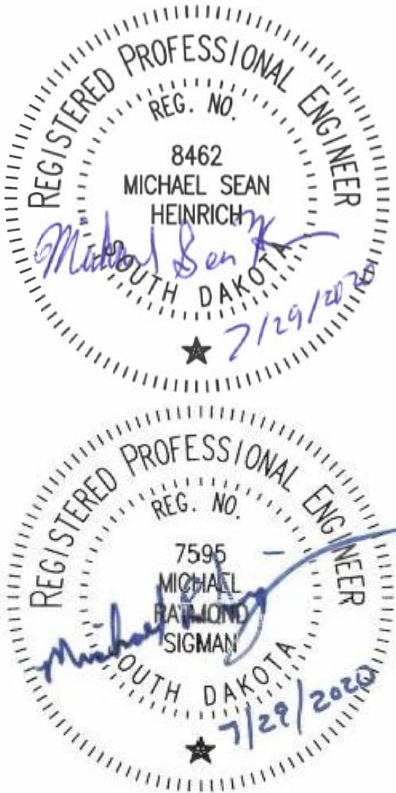
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- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.
- C. THE EXISTING POWER WITHIN THE YATES HEADFRAME IS A 480V/3–PHASE DELTA SYSTEM. THEREFOR ALL REUSED CONNECTIONS FOR ITEMS SUCH AS OVERHEAD DOOR OPERATOR POWER WILL NEED TO BE BASED ON THIS CONFIGURATION.

SPECIFIC ELECTRICAL NOTES:

- #
1. THIS EXISTING OVERHEAD COILING DOOR; ELECTRIC OPERATOR; AND CONTROL UNIT ARE BEING REMOVED AND REPLACED. THE ELECTRICAL CONTRACTOR WILL NEED TO ASSIST WITH REMOVAL OF POWER FROM THE OPERATOR; DEMOLITION OF THE EXISTING DISCONNECT AND REMOVAL OF THE EXISTING CONTROL STATION. THE ELECTRICAL CONTRACTOR WILL THEN NEED TO REPLACE THE EXISTING DISCONNECT WITH NEW FUSED DISCONNECT 30A/3P; EXTEND POWER FROM THE DISCONNECT TO THE OPERATOR; INSTALL NEW CONTROL UNIT; INSTALL NEW INFRARED SAFETY SENSOR AND INSTALL DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUIT AND WIRE TO THE EXTENT POSSIBLE AS LONG AS THE INSTALLATION IS CODE COMPLIANT. ANY ADDITIONAL STRAPPING OF CONDUIT OR REPLACEMENT OF CONDUIT NEEDS TO BE PART OF THE CONTRACTORS BID.
2. THIS EXISTING MANUAL OVERHEAD COILING DOOR IS BEING REMOVED AND REPLACED WITH AN OVERHEAD COILING DOOR WITH ELECTRIC OPERATOR; CONTROL UNIT; AND INFRARED SAFETY SENSOR. THE ELECTRICAL CONTRACTOR WILL NEED TO PROVIDE NEW POWER THROUGH A NEW 30A/2P FUSED DISCONNECT TO THE NEW OPERATOR. THE ELECTRICAL CONTRACTOR WILL ALSO NEED TO INSTALL NEW CONTROL UNIT; INFRARED SAFETY SENSOR; AND DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR.
3. PROVIDE NEW DOOR POSITION SWITCH(ES) FOR THIS DOOR OPENING THAT IS PART OF THE NEW SECURITY SYSTEM.
4. PROVIDE NEW CARD READER; REQUEST TO EXIT (REX) DEVICE AND DOOR POSITION SWITCH FOR THIS DOOR THAT ARE PART OF THE NEW SECURITY SYSTEM.
5. PROVIDE NEW DOOR POSITION SWITCH(ES) AND REQUEST TO EXIT (REX) DEVICE FOR THIS DOOR OPENING THAT IS PART OF THE NEW SECURITY SYSTEM.
6. CONTRACTOR TO LINE THREE WALLS OF NEW IT CLOSET WITH 3/4” PLYWOOD FROM FLOOR TO HEIGHT OF 8’. PLYWOOD SHALL BE PAINTED BOTH SIDES WITH TWO COATS OF GREY FIRE RETARDANT PAINT.
7. THIS DOOR OPENING HAS AN EXISTING OVERHEAD COILING DOOR WITH EXTERIOR MOUNTED ELECTRIC OPERATOR; DISCONNECT AND CONTROL UNIT THAT ARE BEING REMOVED. THE NEW DOOR AND OPERATOR WILL BE MOUNTED INTERIOR TO THE BUILDING. THE ELECTRICAL CONTRACTOR WILL NEED TO ASSIST WITH REMOVAL OF POWER FROM THE EXISTING OPERATOR; DEMOLITION OF THE EXISTING DISCONNECT AND REMOVAL OF THE EXISTING CONTROL

- STATION. THE ELECTRICAL CONTRACTOR WILL THEN NEED TO PROVIDE NEW FUSED DISCONNECT 30A/3P; EXTEND POWER FROM THE DISCONNECT TO THE OPERATOR; INSTALL NEW CONTROL UNIT; INSTALL NEW INFRARED SAFETY SENSOR AND INSTALL DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUIT AND WIRE TO THE EXTENT POSSIBLE AS LONG AS THE INSTALLATION IS CODE COMPLIANT. ANY ADDITIONAL STRAPPING OF CONDUIT OR REPLACEMENT OF CONDUIT NEEDS TO BE PART OF THE CONTRACTORS BID.
8. EXISTING WELDING 200A/3P DISCONNECT FUSED AT 150A TO BE DEMOLISHED.
9. EXISTING JUNCTION BOX FEEDING WELDING DISCONNECT. CONTRACTOR TO INTERCEPT EXISTING FEEDERS AT THIS POINT AND EXTEND 3–#1/0 & 1–#6 GND CU INTO NEW 200A/3P/NEMA 1 FUSED DISCONNECT IN OIL ROOM. FUSE AT 150A.
10. CONTRACTOR TO PROVIDE NEW 112.5KVA DRY TYPE TRANSFORMER WITH 480V/3PH DELTA PRIMARY AND 277/480V/3PH/4WIRE SECONDARY. LABEL AS TR1. PROVIDE NEW GROUNDING ELECTRODE SYSTEM AND TIE TO EXISTING GROUNDING ELECTRODE SYSTEM.
11. FROM SECONDARY OF TR1 PROVIDE 4–#1/0 & 1–#6 GND CU TO NEW PANEL H1.
12. PROVIDE FEEDER FROM H1 TO NEW 45KVA DRY TYPE TRANSFORMER WITH 480V PRIMARY AND 120/208V/3PH/4W SECONDARY. LABEL AS TR2.
13. FROM SECONDARY OF TR2 PROVIDE 4–#2 & 1–#6 GND CU TO NEW PANEL P1.
14. THERE IS AN EXITING SURFACE MOUNTED CONDUIT THAT WRAPS AROUND THE PERIMETER WALL THAT WILL NEED TO BE REROUTED AROUND THE NEW IT CLOSET SO THE ROOM CAN BE BUILT. CONTRACTOR TO PROVIDE NEW CONDUIT, JUNCTION BOXES AND WIRING NECESSARY FOR THIS REROUTING.
15. THERE IS AN EXISTING LIGHT FIXTURE THAT WILL NEED TO BE DEMOED ALONG WITH SOME EXISTING CONDUIT SO THAT THE NEW IT CLOSET CAN BE BUILT. CONTRACTOR TO ENSURE ALL ITEMS THAT ARE TO REMAIN ON THIS CIRCUIT CONTINUE TO HAVE POWER AND OPERATE.
16. THE NEW SECURITY CONTROL PANEL AND DOOR HARDWARE POWER SUPPLY FOR THE YATES HEADFRAME TO BE INSTALLED IN THIS ROOM. ALL CABLING FOR YATES HEADFRAME SECURITY SYSTEM FOR CARD READERS; REQUEST TO EXITS; ELECTRIC STRIKES AND DOOR POSITION SWITCHES WILL BE PULLED BACK TO THIS IT CLOSET. OWNER WILL EXTEND NECESSARY FIBER TO THIS CLOSET. CONTRACTOR TO PROVIDE A CAT6 CABLE FROM NEW SECURITY CONTROL PANEL TO A FIBER CONVERTER. CONTRACTOR TO SUPPLY FIBER CONVERTER SIGNAMAX MODEL 65–1120 THAT WILL BE TERMINATED ON THE FIBER SIDE BY THE OWNER. THIS CONTRACTOR TO PROVIDE MALE TERMINATION OF CAT6 CABLE FOR CONNECTION TO FIBER CONVERTER.
- GENERAL MECHANICAL NOTES: #
- MA. COORDINATE LOCATION OF PIPING AND EQUIPMENT WITH STRUCTURE AND OTHER TRADES.
- SPECIFIC MECHANICAL NOTES:
- M1. INSTALL REGISTER 6” ABOVE FINISHED FLOOR.
- M2. INSTALL DIFFUSER ABOVE DOOR.
- M3. PROVIDING COOLING ONLY THERMOSTAT TO CONTROL EXHAUST FAN. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.



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SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

YATES MAIN LEVEL
POWER & SIGNAL NOTES

ME0.07B

[illegible]

- NOTES: 1. SELECTED AT 3200 FT ELEVATION.
2. PROVIDE WITH STANDARD PREWIRED DISCONNECT, THERMAL OVERLOAD, ECM MOTOR WITH 0-10V INPUT.
3. PROVIDE WITH RUBBER ISOLATORS.
4. PROVIDE WITH LINE VOLTAGE THERMOSTAT. SET LOW BALANCE AT 200 CFM AND 500 CFM WHEN ACTIVATED BY COOLING ONLY THERMOSTAT.

[illegible]

- NOTES: 1. PROVIDE WITH 2" FILTER FRAME.
2. THROW AT 22 DEGREES

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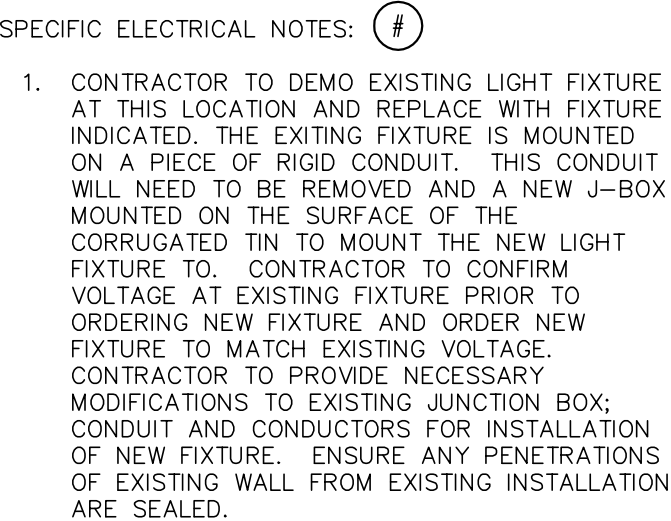
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LEAD, SOUTH DAKOTA

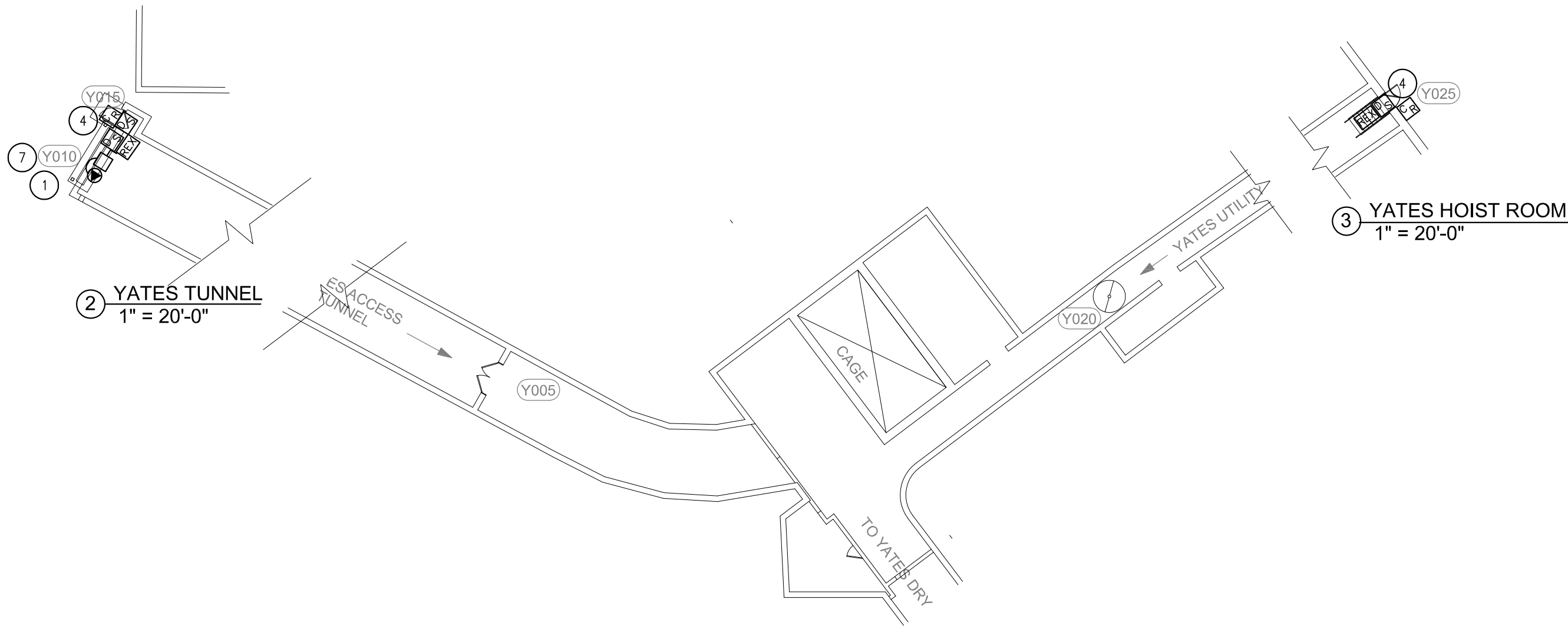
MECHANICAL SCHEDULES

ME0.07C



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① YATES HEADFRAME LOWER LEVEL POWER & SIGNAL PLAN
1" = 20'-0"

NORTH



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RAPID CITY, SD ■ SIOUX FALLS, SD ■ CASPER, WY ■ CEDAR RAPIDS, IA

DATE: JULY 29, 2020

PROJECT MANAGER: MRS

PROJECT NUMBER: BR19050

SANFORD
UNDERGROUND
RESEARCH FACILITY
HEADFRAME SECURITY
UPGRADES
LEAD, SOUTH DAKOTA

YATES LOWER LEVEL
POWER & SIGNAL PLAN

E0.09A

MISCELLANEOUS ELECTRICAL NOTES:

- A. THE ELECTRICAL CONTRACTOR IS REQUIRED TO VISIT THE JOB SITE PRIOR TO BIDDING. THE HEADFRAME AREAS ARE VERY UNIQUE AND MUST BE SEEN IN ORDER TO UNDERSTAND THE CHALLENGES FOR INSTALLING ELECTRICAL WORK. THE HEADFRAMES ARE VERY TALL OPEN SPACES AND THE ONLY WAY TO GET TO GET CONDUIT AND WIRING FROM ONE SIDE TO THE OTHER, IN MOST INSTANCES IS TO GO AROUND THE PERIMETER WALLS.
- B. ALL CONDUIT INSTALLED IN THE HEADFRAME SPACES WILL BE RIGID STEEL CONDUIT (GRC) FOR PHYSICAL PROTECTION OF CONDUCTORS. THIS INCLUDES WIRING FOR LOW VOLTAGE WIRING FOR THE SECURITY SYSTEM.

SPECIFIC ELECTRICAL NOTES: #

1. THE ELECTRICAL CONTRACTOR TO CONFIRM VOLTAGE OF EXISTING POWER TO EXISTING OH DOOR OPERATOR PRIOR TO THE SUBMITTAL BEING MADE FROM THE GENERAL CONTRACTOR FOR THE NEW OH DOOR OPERATOR. THE ELECTRICAL CONTRACTOR TO ENSURE THAT THE NEW OH DOOR OPERATOR IS ORDERED WITH THE CORRECT VOLTAGE FOR OPERATION.
2. NOT USED.
3. NOT USED.
4. PROVIDE NEW CARD READER; REQUEST TO EXIT (REX) DEVICE AND DOOR POSITION SWITCH FOR THIS DOOR THAT ARE PART OF THE NEW SECURITY SYSTEM.
5. NOT USED.
6. NOT USED.
7. THIS EXISTING OVERHEAD COILING DOOR; ELECTRIC OPERATOR; AND CONTROL UNIT ARE BEING REMOVED AND REPLACED. THE EXISTING ELECTRIC OPERATOR AND DISCONNECT ARE EXTERIOR MOUNTED BUT NEW WILL BE INTERIOR TO THE BUILDING. THE ELECTRICAL CONTRACTOR WILL NEED TO ASSIST WITH REMOVAL OF POWER FROM THE EXISTING OPERATOR; DEMOLITION OF THE EXISTING DISCONNECT AND REMOVAL OF THE EXISTING CONTROL STATION. THE ELECTRICAL CONTRACTOR WILL THEN NEED TO REPLACE THE EXISTING DISCONNECT WITH NEW FUSED DISCONNECT 30A/3P TO BE LOCATED INSIDE; EXTEND POWER FROM THE NEW DISCONNECT TO THE NEW OPERATOR; INSTALL NEW CONTROL UNIT; INSTALL NEW INFRARED SAFETY SENSOR AND INSTALL DOOR POSITION SWITCH THAT IS PART OF NEW SECURITY SYSTEM. PROVIDE FUSES PER THE NAMEPLATE DATA OF THE DOOR OPERATOR. THE ELECTRICAL CONTRACTOR MAY REUSE EXISTING CONDUIT AND WIRE TO THE EXTENT POSSIBLE AS LONG AS THE INSTALLATION IS CODE COMPLIANT. ANY ADDITIONAL STRAPPING OF CONDUIT OR REPLACEMENT OF CONDUIT NEEDS TO BE PART OF THE CONTRACTORS BID.



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1. CONTRACTOR WILL INSTALL NEW SECURITY MANAGEMENT SYSTEM (SMS) SERVER IN THIS EXISTING RACK. THE CONTRACTOR TO PROVIDE CAT6 CONNECTION OF THE SERVER TO THE FIBER SYSTEM BRINGING THE DATA FROM THE CONTROLLERS FROM THE YATES AND ROSS HEADFRAMES AS WELL AS MAKING CONNECTION TO THE OWNERS INTRANET SYSTEM. THESE CONNECTIONS WILL BE COORDINATED AND DIRECTED BY THE OWNER'S IT PERSONNEL.



LIGHTING FIXTURE SCHEDULE									
FIXT TYPE LTR	FIXTURE DATA			LIGHT SOURCE DATA				REMARKS	ADDITIONAL MANUFACTURERS
	MANUFACTURER'S DESIGNATION	CATALOG NUMBER	MOUNTING	TYPE	LUMENS	LPW	INPUT WATTS		
S2E	LITHONIA	FEM-L24-3000LM-LPAFL-MD-277-GZ10-40K-80CRI-E10WMCP-CNP164CWWL-SBOR10 P	SURFACE	LED	3246	163	19.9	NOTES 1, 2	
S4E	LITHONIA	FEM-L48-4000LM-LPAFL-MD-277-GZ10-40K-80CRI-E10WMCP-CNP164CWWL-SBOR10 P	SURFACE	LED	4009	168	23.8	NOTES 1, 2	
F4	LITHONIA	ZLID-L48-5000LM-FST-MVOLT-40K-80CRI-LBOZU-WH	SURFACE	LED	5541	135	41	NOTES 1, 2	
W	LITHONIA	DSXW1 LED-20C-350-50K-T4M-277-BBX-PIR-DNAXD	WALL	LED	2922	127	23	NOTE 1, 4	
WE	LITHONIA	DSXW1 LED-20C-350-50K-T4M-277-PIR-ELCW-DNAXD	WALL	LED	2922	127	23	NOTE 1, 4	
W2	LITHONIA	DSXW1 LED-20C-700-50K-T4M-277-BBX-PIRH-DNAXD	WALL	LED	5376	117	46	NOTE 1, 4	
W2E	LITHONIA	DSXW1 LED-20C-700-50K-T4M-277-BBX-PIRH-ELCW-DNAXD	WALL	LED	5376	117	46	NOTE 1, 4	
X	LITHONIA	LQM-S-W-3-R-120/277-EL N-SD	UNIVERSAL	LED	-	-	0.69	NOTE 3	

NOTES:

1. FIXTURES SUBMITTED FOR PRIOR APPROVAL CANNOT BE MORE THAN 5% LESS EFFICIENT AND MUST HAVE A LUMEN MAINTENANCE NOT LESS THAN 5% LESS THAN THE FIXTURE SPECIFIED.
2. FIXTURE MAYBE SURFACE MOUNTED IN ROOMS WITH HARD CEILINGS OR CHAIN HUNG IN ROOMS WITHOUT CEILINGS. CONTRACTOR TO PROVIDE APPROPRIATE HARDWARE FOR MOUNTING.
3. PROVIDE SINGLE OR DOUBLE SIDED WITH ARROWS AS SHOWN ON PLANS. PROVIDE UNVERSAL MOUNTING.
4. WHERE CALLED OUT TO CONNECT TO AN EXISTING CIRCUIT CONTRACTOR TO CONFIRM VOLTAGE PRIOR TO ORDERING FIXTURE.

PANEL H1		VOLTS: 277/ 480		PHASE: 3		WIRE: 4		MAIN CAP. 200		AMPERES				
		AIC RATING	42,000											
		MOUNTING: SURFACE		FEEDER SIZE:								MAIN CONNECTION: 150A MCB		
CCT NO	ITEM FED	LOAD WATTS	WIRE SIZE	CIRCUIT BREAKER			NEUTRAL	CIRCUIT BREAKER			WIRE SIZE	LOAD WATTS	ITEM FED	CCT NO
				AMPS	POLES	FRAME		FRAME	POLES	AMPS				
1	OH DOOR Y170	1,660	10	20	3	42K	A	42K	1	20	10	340	EXIT & EGRESS LTG	2
3	-	1,660	10	-	-	42K	B	42K	1	20	-	-	SPARE	4
5	-	1,660	10	-	-	42K	C	42K	1	20	-	-	SPARE	6
7	OH DOOR Y180	1,660	10	20	3	42K	A	42K	1	20	-	-	SPARE	8
9	-	1,660	10	-	-	42K	B	42K	1	20	-	-	SPARE	10
11	-	1,660	10	-	-	42K	C	42K	1	20	-	-	SPARE	12
13	SPARE	-	-	20	3	42K	A	42K	-	-	-	-	SPACE	14
15	-	-	-	-	-	42K	B	42K	-	-	-	-	SPACE	16
17	-	-	-	-	-	42K	C	42K	-	-	-	-	SPACE	18
19	SPARE	-	-	20	3	42K	A	42K	-	-	-	-	SPACE	20
21	-	-	-	-	-	42K	B	42K	-	-	-	-	SPACE	22
23	-	-	-	-	-	42K	C	42K	-	-	-	-	SPACE	24
25	SPARE	-	-	20	3	42K	A	42K	-	-	-	-	SPACE	26
27	-	-	-	-	-	42K	B	42K	-	-	-	-	SPACE	28
29	-	-	-	-	-	42K	C	42K	-	-	-	-	SPACE	30
31	SPACE	-	-	-	-	42K	A	42K	-	-	-	-	SPACE	32
33	SPACE	-	-	-	-	42K	B	42K	-	-	-	-	SPACE	34
35	SPACE	-	-	-	-	42K	C	42K	-	-	-	-	SPACE	36
37	SPACE	-	-	-	-	42K	A	42K	3	50	6		TR 2	38
39	SPACE	-	-	-	-	42K	B	42K	-	-	6		-	40
41	SPACE	-	-	-	-	42K	C	42K	-	-	6		-	42
NOTES 1. PROVIDE WITH INTEGRAL SURGE PROTECTIVE DEVICE PER SPECIFICATION 264300.													APPROXIMATE CONNECTED LOAD	
													A 3,660 WATTS	
													B 3,320 WATTS	
													C 3,320 WATTS	



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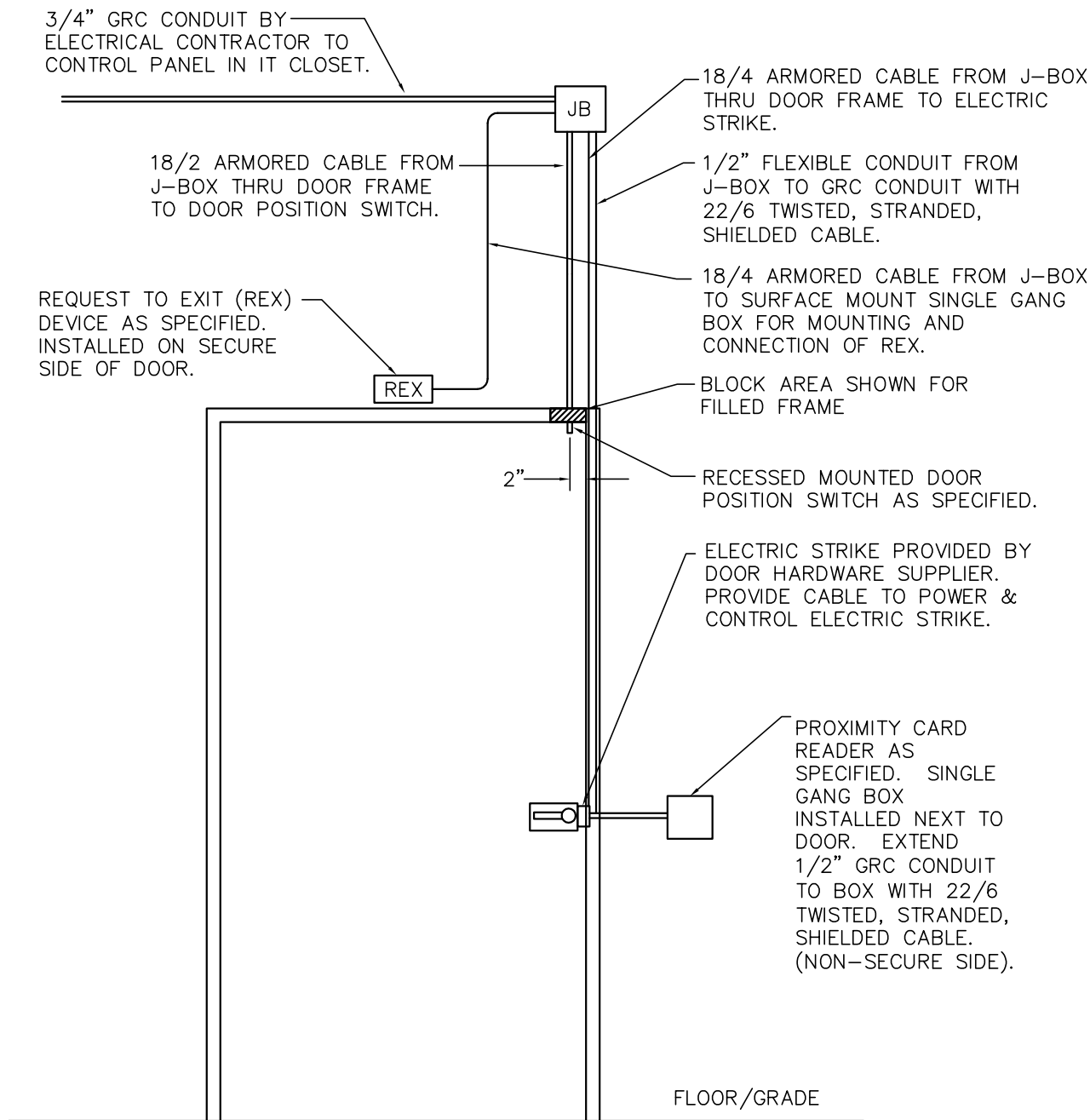
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LEAD, SOUTH DAKOTA

ELECTRICAL SCHEDULES

E0.11

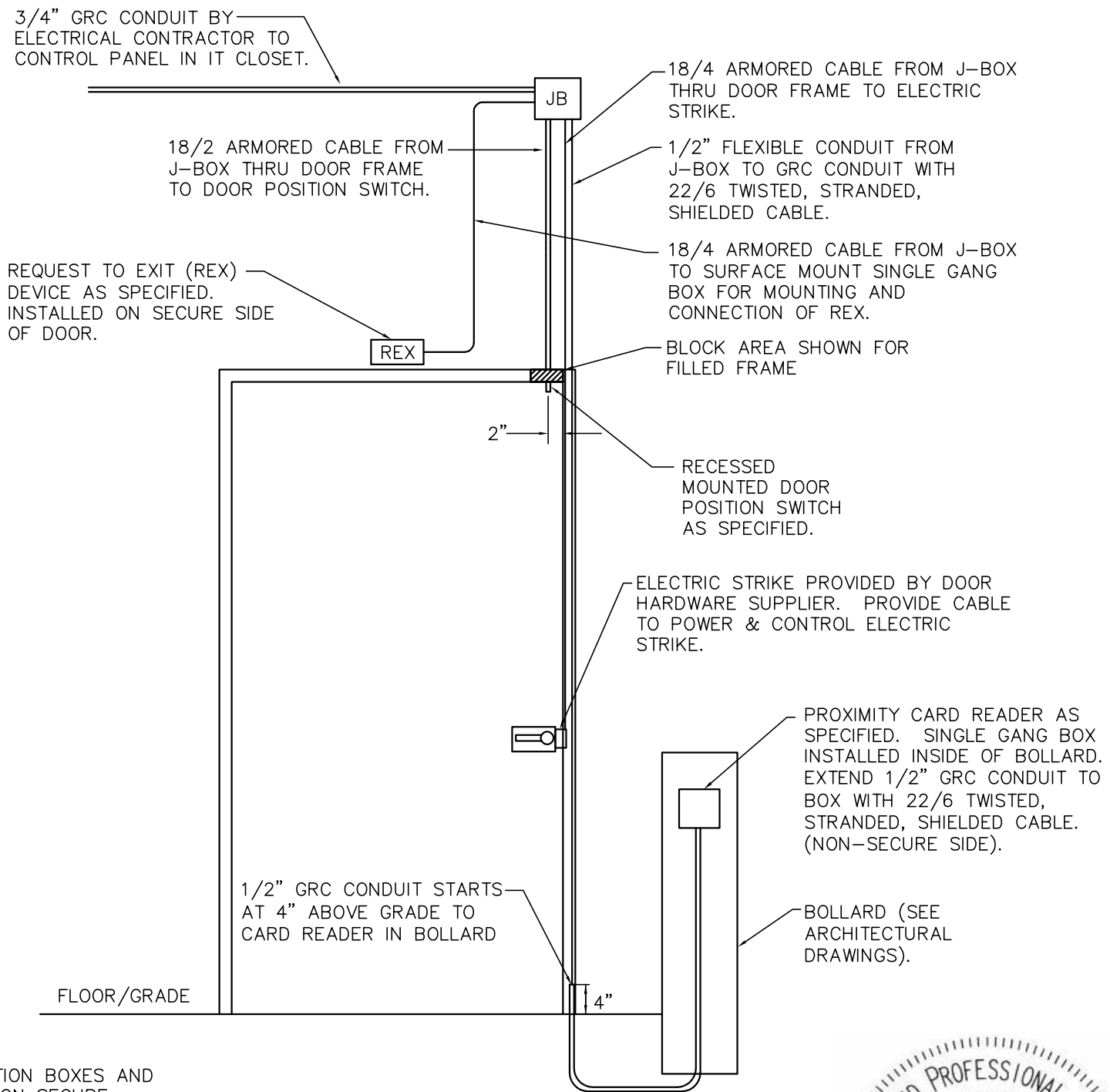


DOOR DETAIL - NON -SECURE SIDE
SE-05A

ALL WIRING TO BE YELLOW CASING

NOTES:

1. ALL CONDUITS, JUNCTION BOXES AND CABLES INSTALLED ON SECURE SIDE OF DOOR.
2. REX TO BE MOUNTED ABOVE FRAME WHERE SPACE ALLOWS. WHEN THERE IS NOT ENOUGH SPACE TO MOUNT ABOVE FRAME, REX WILL BE MOUNTED TO THE FRAME ITSELF.



DOOR DETAIL - NON -SECURE SIDE
SE-05B

ALL WIRING TO BE YELLOW CASING



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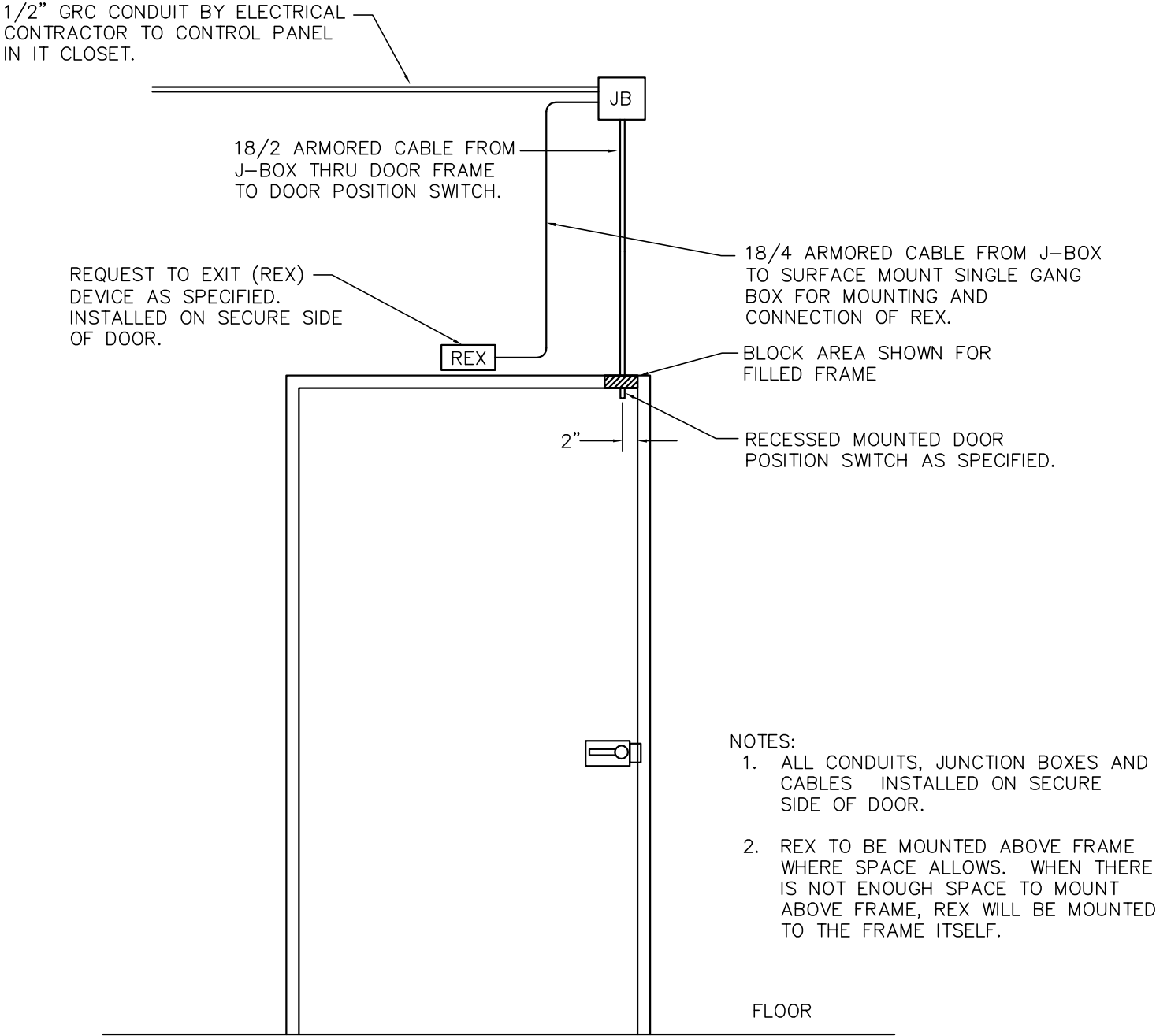
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HEADFRAME SECURITY UPGRADES

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ELECTRICAL DETAILS

E0.13



DOOR DETAIL - NON -SECURE SIDE

SE-05C

ALL WIRING TO BE YELLOW CASING



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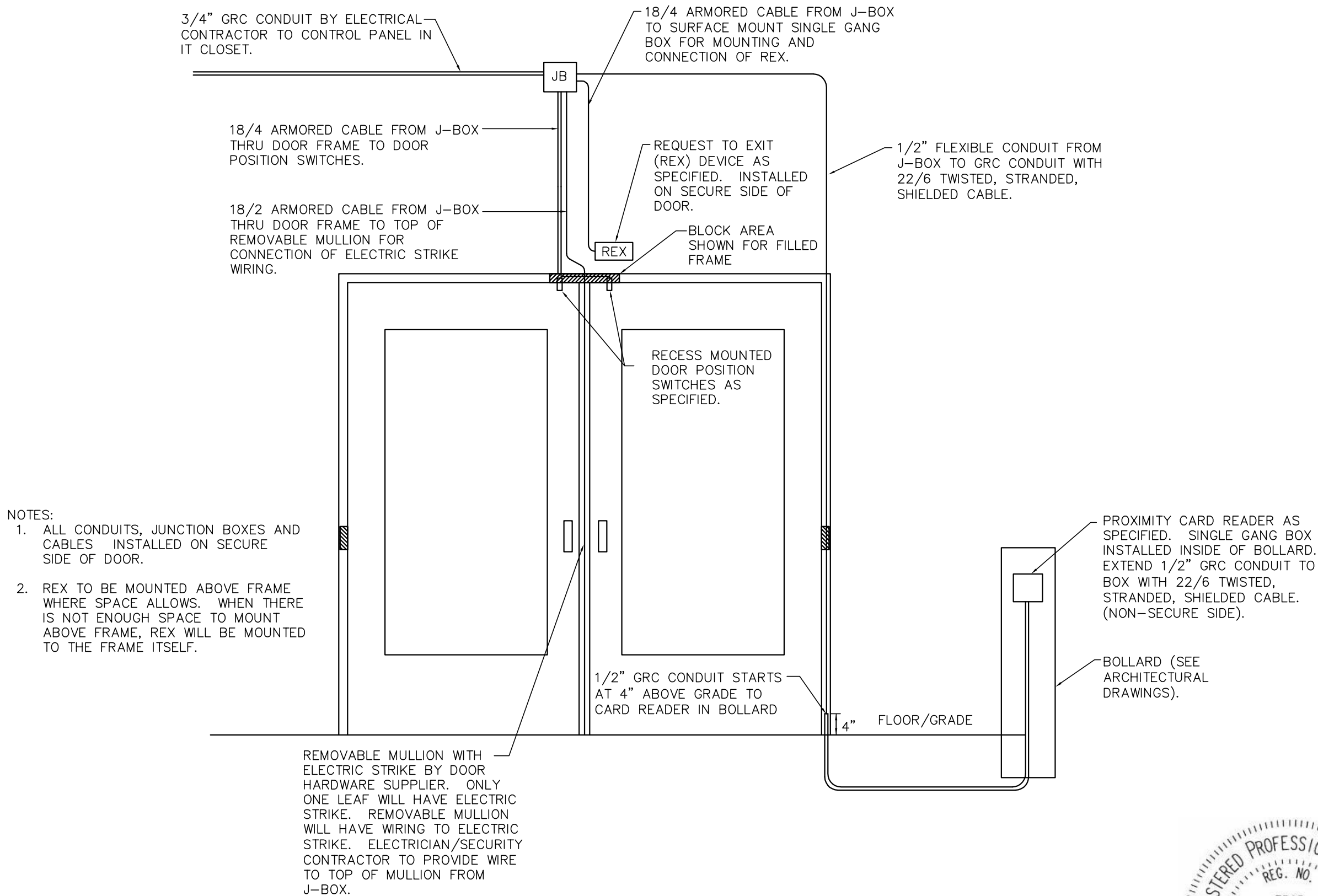
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E0.14



DOOR DETAIL - NON -SECURE SIDE
SE-10
ALL WIRING TO BE YELLOW CASING



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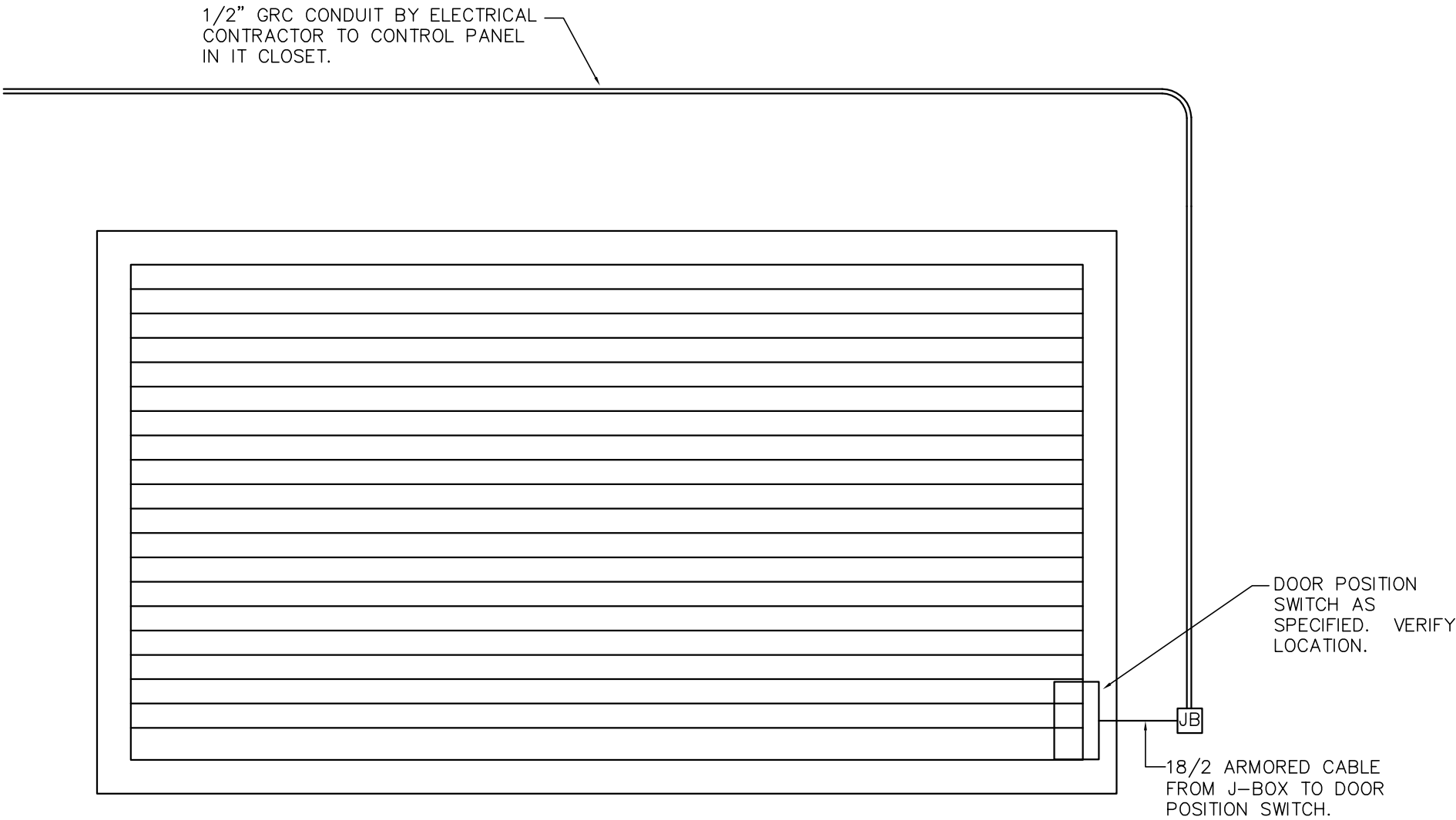
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ELECTRICAL DETAILS

E0.15



MAGNETIC DOOR POSTION SWITCH - SECURE SIDE

SE-12

ALL WIRING TO BE YELLOW CASING



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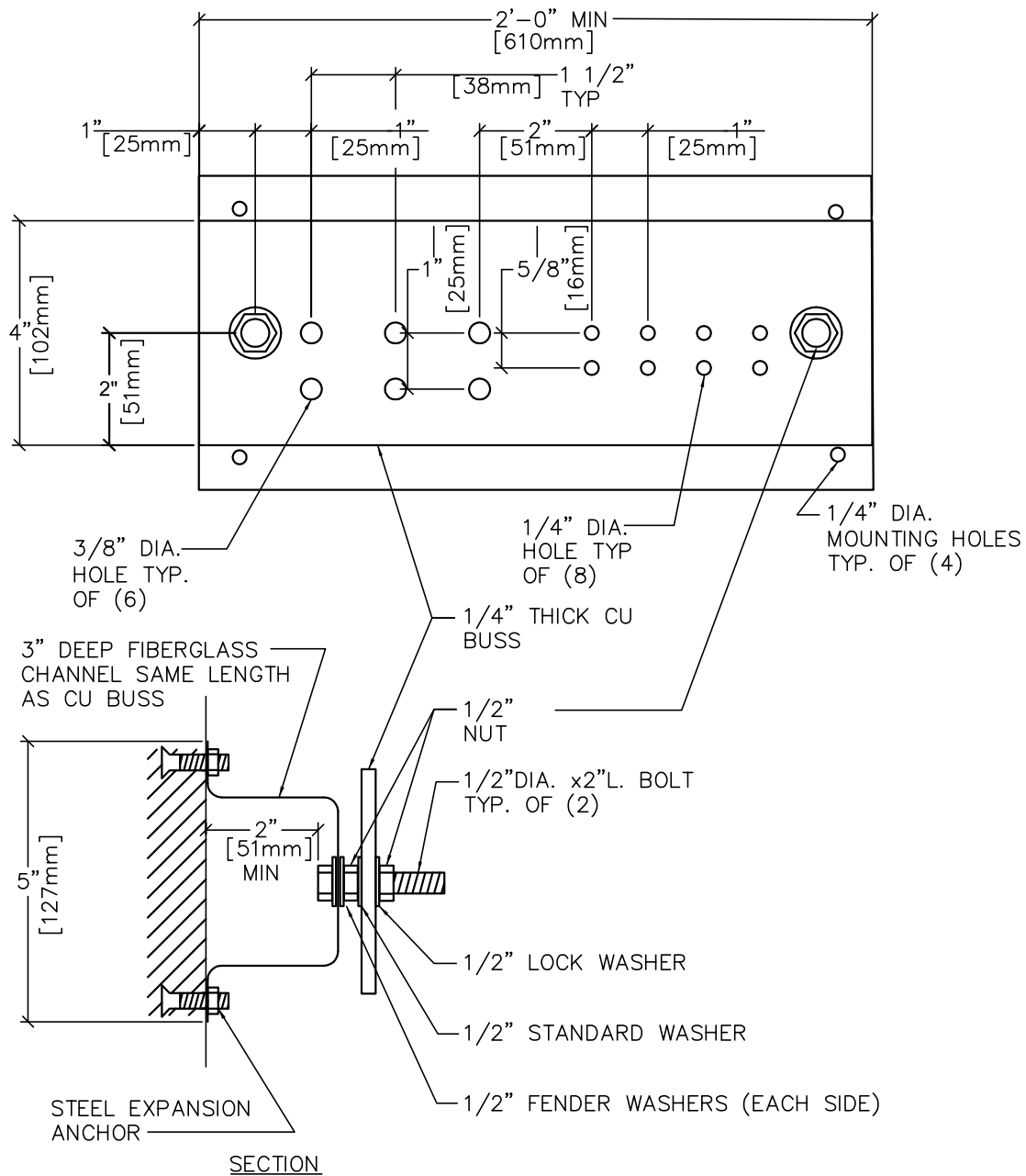
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ELECTRICAL DETAILS

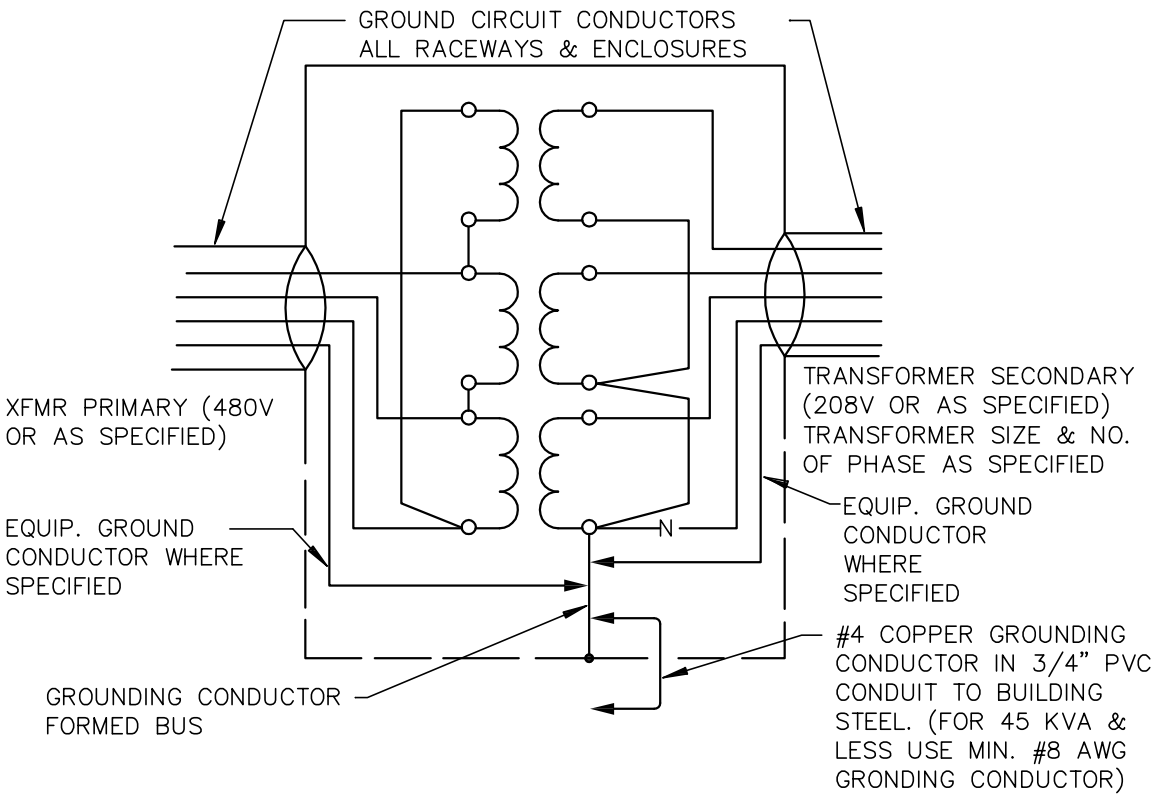
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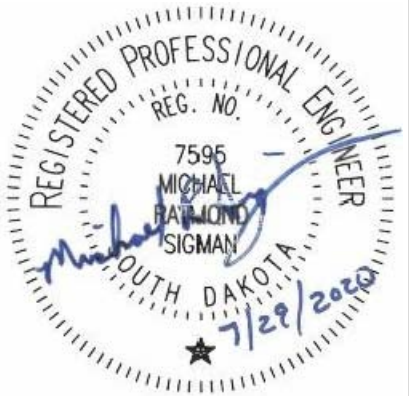
GENERAL NOTES

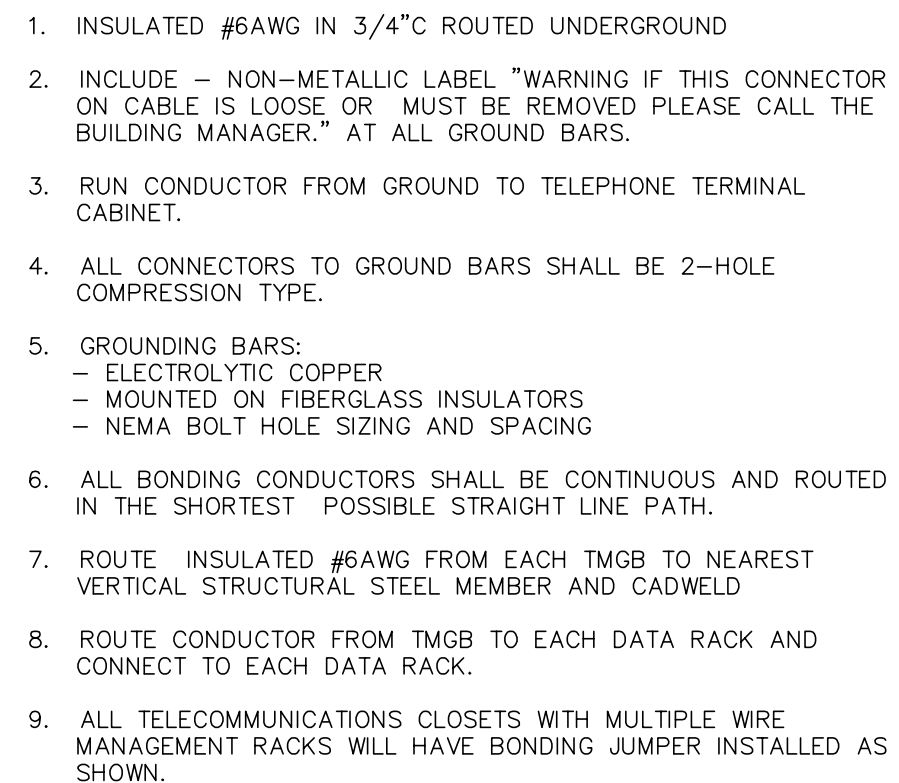
1. ALL HARDWARE SHOWN SHALL BE STAINLESS STEEL.
2. PROVIDE 1 MOUNTING POINT PER 12" OF BAR LENGTH.
3. HOLES MAY BE ADDED IF REQUIRED.

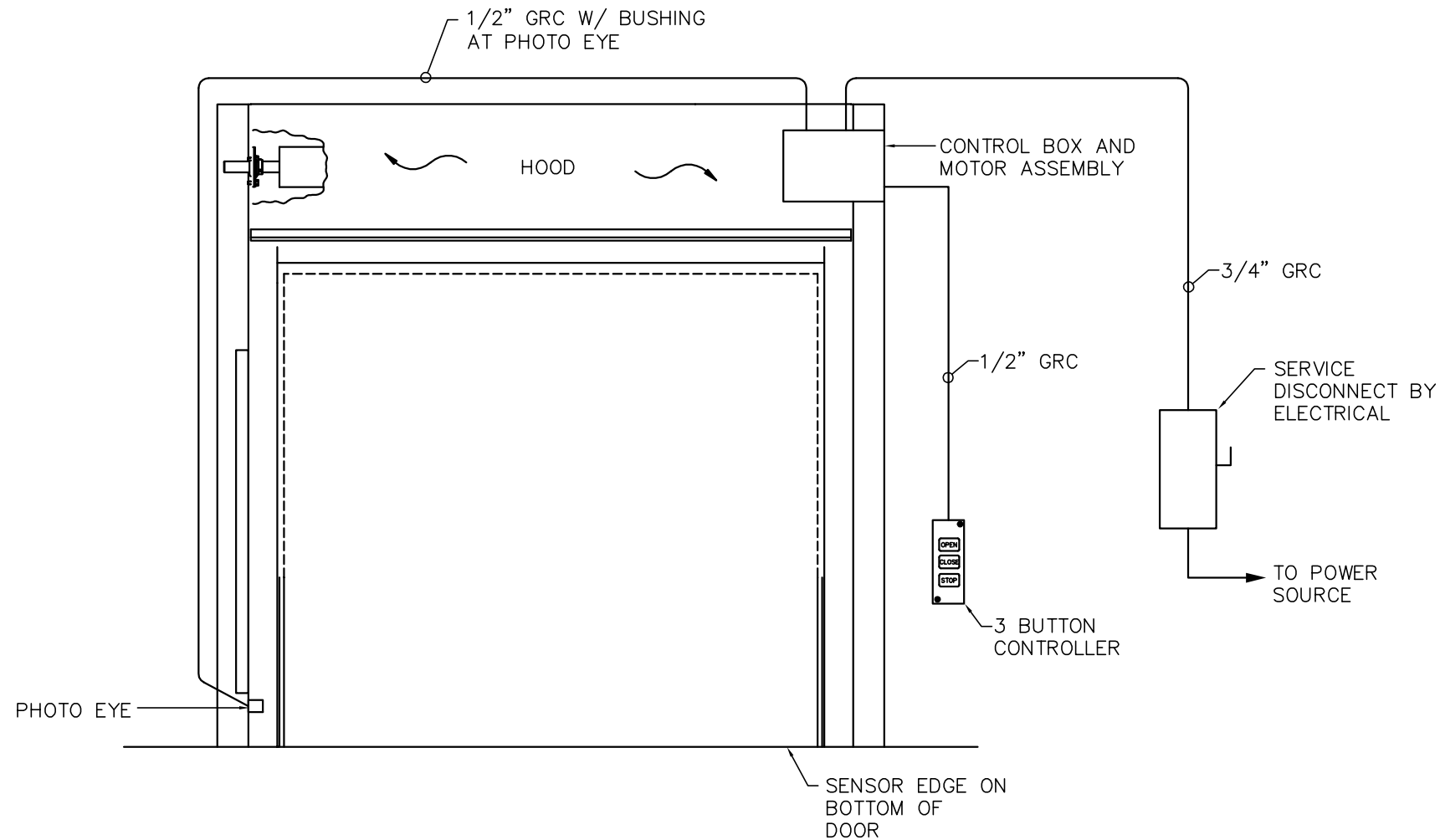
IT MAIN GROUND BAR DETAIL NO SCALE



SUB-DISTRIBUTION ELECTRICAL SYSTEMS GROUNDING NO SCALE







TYPICAL DOOR CONFIGURATION
NO SCALE



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ELECTRICAL DETAILS

E0.19