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POWER SECTION GENERAL NOTES:

POWER SYSTEM DATA:

MAXIMUM DESIGN VOLTAGE 4.76KV
SYSTEM OPERATING VOLTAGE 4.16KV
3 PHASE, 3 WIRE, SOLIDLY GROUNDED
60 KV BIL, 60 HERTZ FREQUENCY

BUS SYSTEM DATA:

1200 AMPERES, SILVER PLATED COPPER, EPOXY INSULATED
50 KA RMS SYMMETRICAL BUS BRACING
EPOXY STAND-OFF INSULATORS
GLASS POLYESTER BETWEEN SECTION BUS BARRIER
BREAKER BUSHINGS IN CELL ARE POLYESTER
BARE COPPER GROUND BUS

ENCLOSURE DATA:

NEMA 1 INDOOR CONSTRUCTION
EXTERIOR COLOR: ANSI #61 GREY
REAR ACCESS BY BOLTED PANELS
WHITE INTERIOR LOW VOLTAGE PANELS
COMPRESSION LUGS PROVIDED

HANDLING:

SWITCHGEAR SECTIONS ARE FURNISHED WITH FOUR
LIFTING LUGS AND ARE SHIPPED ON SKIDS.
ROLLERS SHALL ONLY BE USED WITH SKID IN PLACE.

CODE STANDARDS:

ANSI, NEMA, UL FILE # E212682

BREAKER WEIGHT:

1200A, 380 LBS 173 KG

SHIPPING WEIGHT WITH BREAKERS INSTALLED:

SHIPPING SPLIT 1: 6200 LBS 2818 KG
SHIPPING SPLIT 2: 5515 LBS 2507 KG

WIRING:

CONTROL WIRING IS #14 AWG, TYPE SIS
CURRENT CIRCUIT WIRING IS #12 AWG, TYPE SIS

WIRE LABELING:

WIRES SHALL BE LABELED WITH
DESTINATION MARKING. (POINT TO POINT)

TERMINATIONS:

INSULATED RING TYPE LUGS SHALL BE USED
(WHERE APPLICABLE) ON ALL LOW VOLTAGE
SCREW/STUD TERMINALS.

BREAKER SPECIFICATION:

BREAKER TYPE IS SERIES 5-VACUUM
BREAKER KV/KA/MVA: 4.76/40/250
CLOSE CONTROL POWER IS 125VDC
TRIP CONTROL POWER IS 125VDC
MOC PROVISIONS

OPTIONS/ACCESSORIES:

CHARGING HANDLE FOR EACH BREAKER MECHANISM
PORTABLE BREAKER LIFTING DEVICE
ONE SET OF SPARE PT & CPT FUSES
BREAKER TEST JUMPER WITH 14FT. CABLE
LIGHTNING ARRESTORS 6KV

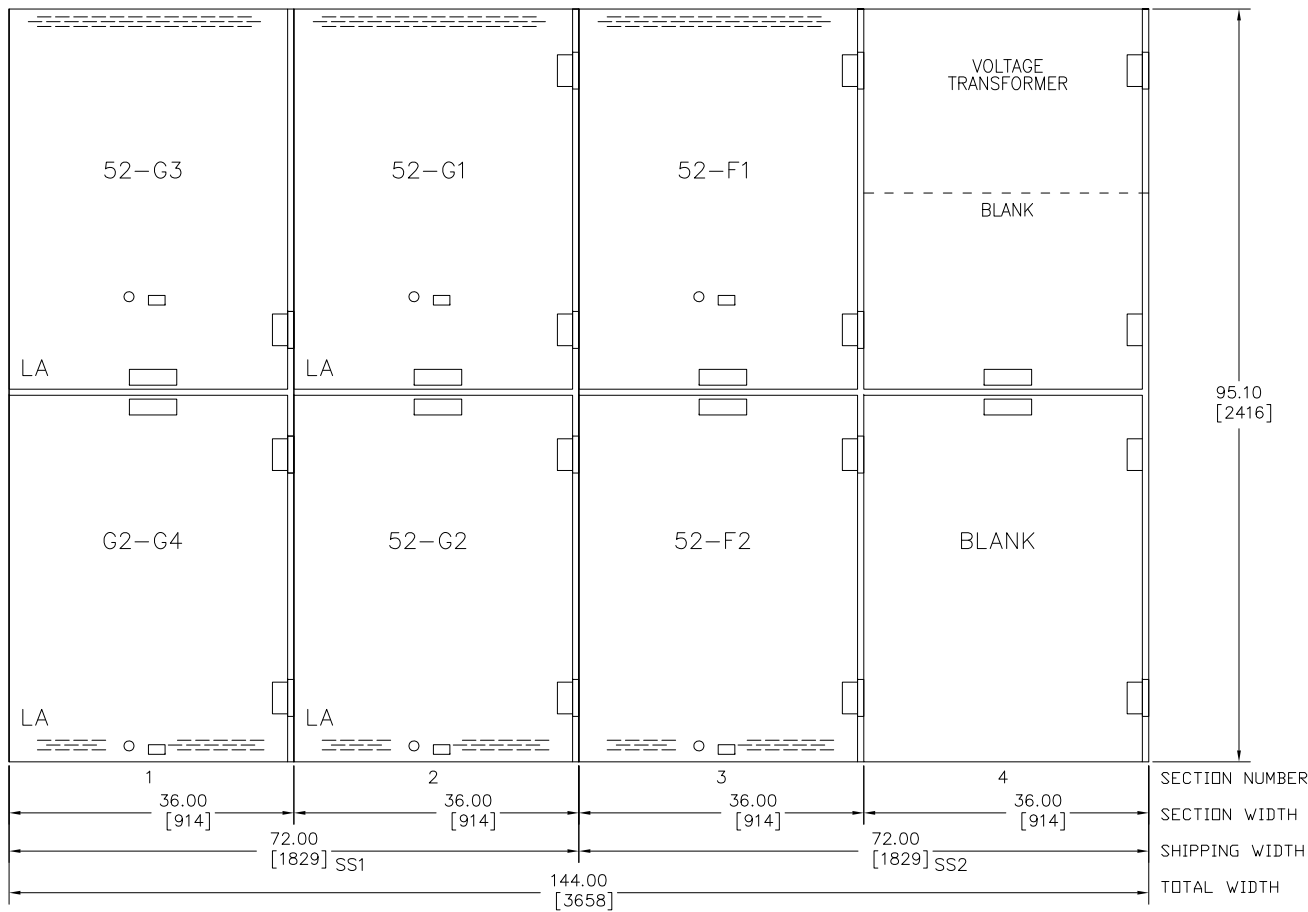
DIGITAL MASTER CONTROL GENERAL NOTES:

SECTION LABELED AS UL891
ALLOW 36.00" MINIMUM FOR FRONT ACCESS DOOR SWING.
INDOOR NEMA 1 STYLE ENCLOSURE.
SHIPPING SPLIT 3: 1000 LBS 454 KG

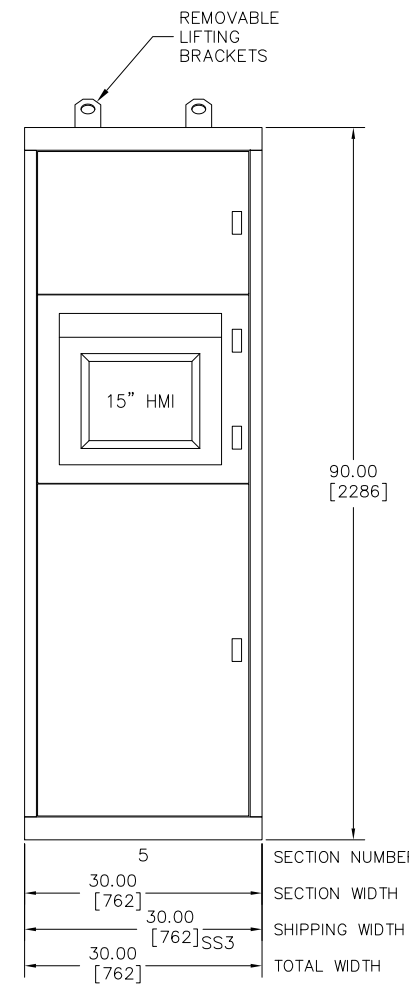
POWER CIRCUIT BREAKER SCHEDULE table with columns: DESIGNATION, MANUFACTURER & TYPE, FRAME, OPR/MTG, COMPRESSION LUGS QTY. PER PHASE

LEGEND:
G# GENERATOR BREAKER
F# FEEDER BREAKER
DO DRAW-OUT
EO ELECTRICALLY OPERATED

NOTE:
CABLE SCHEDULE TO BE
SUPPLIED BY CUSTOMER.



FRONT ELEVATION
POWER SECTION



FRONT ELEVATION
DIGITAL MASTER CONTROL

Revision table with columns: PC NO., LTR NO., REVISION, ZONE, DRA, CHK, APRV, DATE

PROJECT: ARECIBO OBSERVATORY SWITCHGEAR
DISTRIBUTOR: CUMMINS CARIBBEAN 7071681

Technical drawing header containing project details, drawing title (SWITCHGEAR OUTLINE), drawing number (A030S863), and company information (CUMMINS POWER GENERATION).

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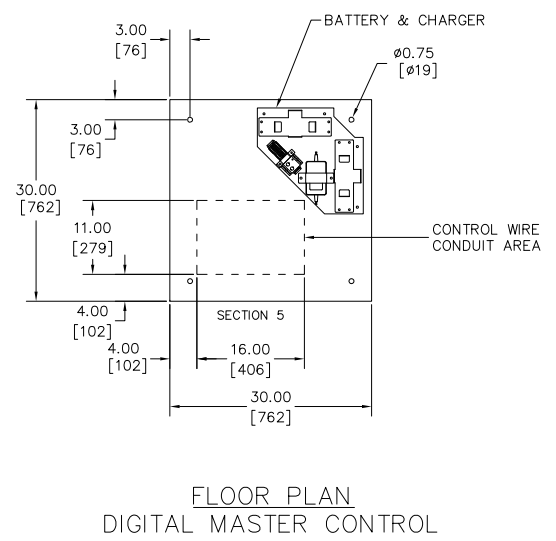
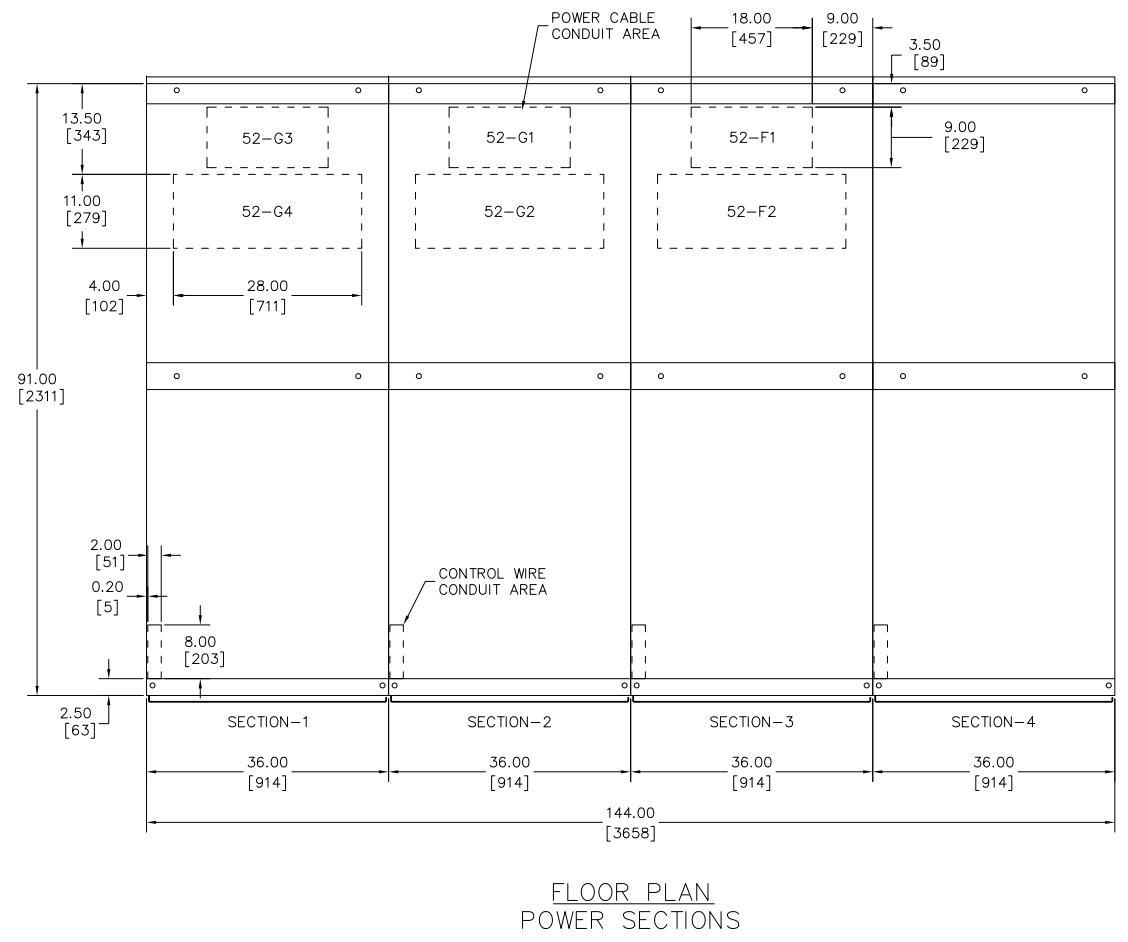
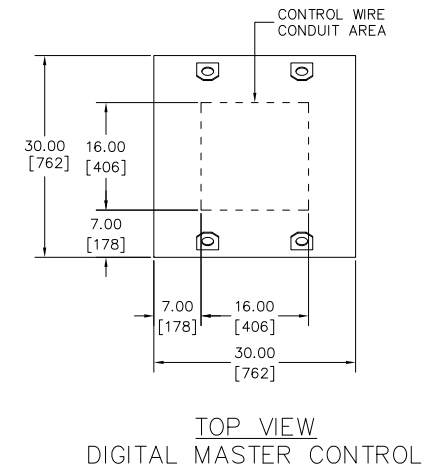
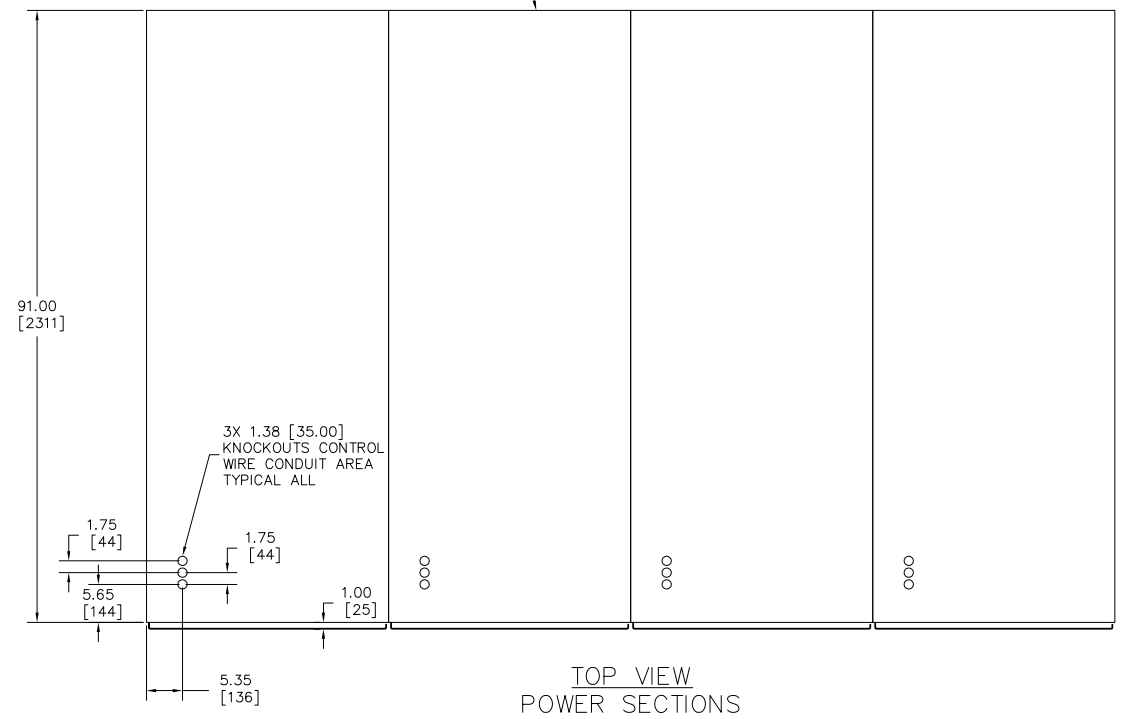
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REAR ACCESS REQUIRED  
ACCESS BY BOLTED PANELS



PC NO.	LTR NO.	REVISION	ZONE	DRA	CHKR	APRV	DATE	PC NO.	LTR NO.	REVISION	ZONE	DRA	CHKR	APRV	DATE
								PC104235	A	1					08/25/10
PRODUCTION RELEASE, AS-BUILT															

PROJECT:  
ARECIBO OBSERVATORY SWITCHGEAR

DISTRIBUTOR:  
CUMMINS CARIBBEAN  
7071681

DO NOT SCALE PRINT		SM TO	PART NO.	DWG SIZE	DESCRIPTION OF MATERIAL	REF DES
CORIED FROM	THREE ANGLE PROJECTION	NAME	C. KINNEY			
ANG TOL	DRAWN TO SCALE OF	DATE	02/17/10			
THIS DOCUMENT IS THE PROPERTY OF CUMMINS POWER GENERATION. IT CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION WHICH MUST NOT BE REPRODUCED, COPIED OR DISCLOSED TO ANY OTHER PERSON WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF CUMMINS POWER GENERATION OR ITS REPRESENTATIVE.		CHKR	V. SIVAN			
		DATE	02/17/10			
		APPROVED	K. TWUMASI			
		DATE	02/17/10			
AUTOCAD DWG		FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ANSI Y14.5M-1982	MODEL FIRST USED ON	PCIL2004R-772F	SITE CODE	PGA
			CUMMINS POWER GENERATION	1400 73rd AVE NE MINNEAPOLIS, MN 55432		
			TITLE		SWITCHGEAR OUTLINE	
			DWG NO.	A030S863	SHEET	2 of 4
					DWG SIZE	D

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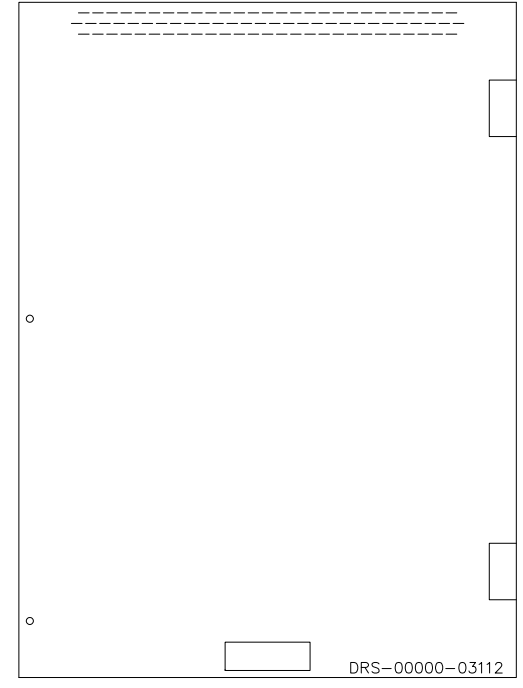
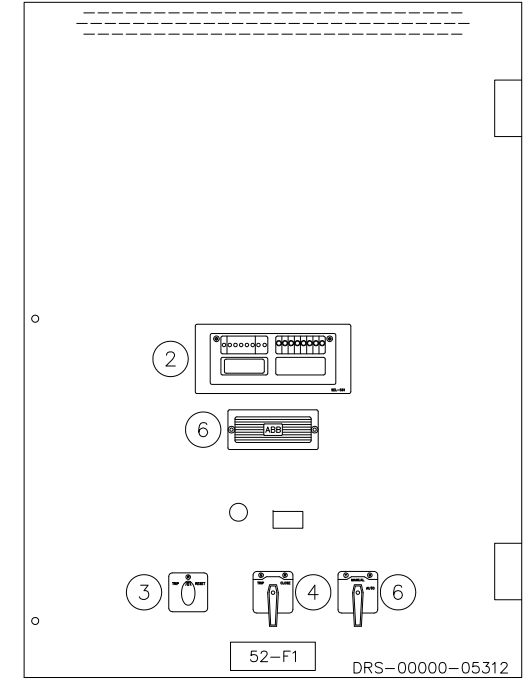
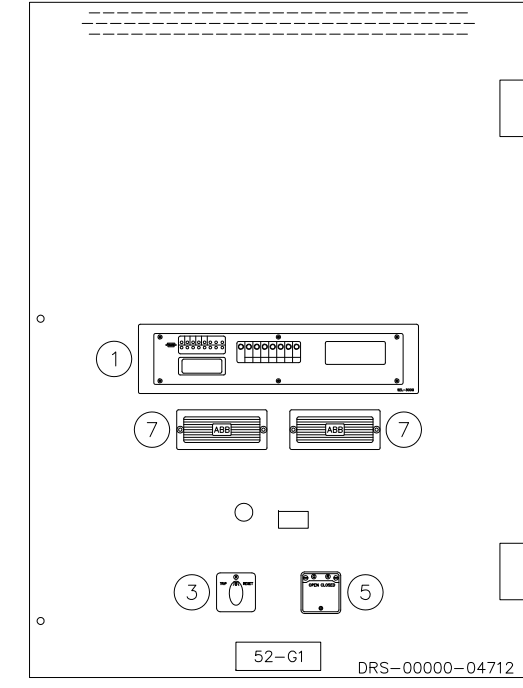
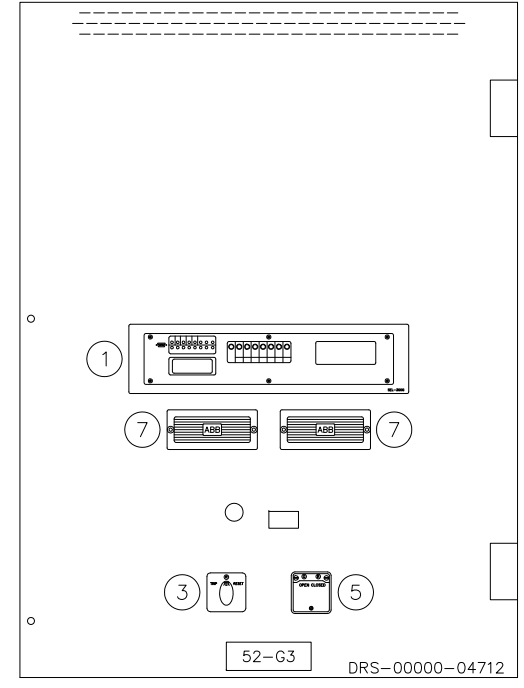
SECTION 1

SECTION 2

SECTION 3

SECTION 4

COMPONENT DETAIL



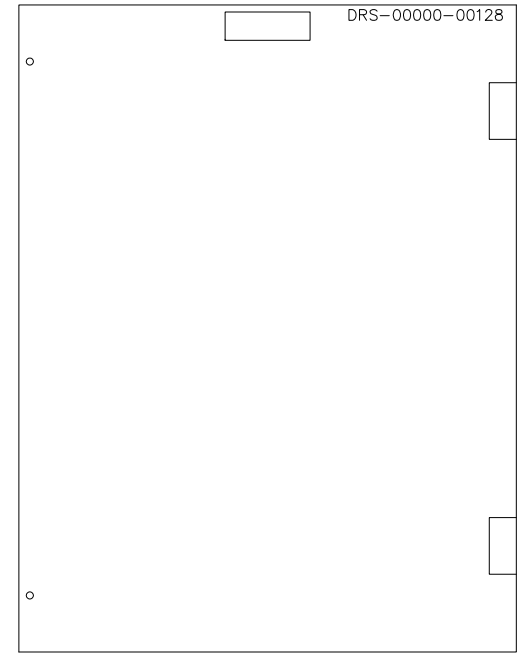
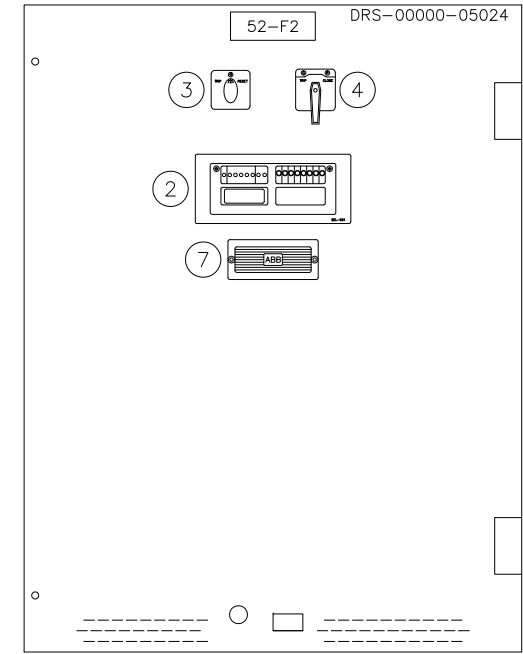
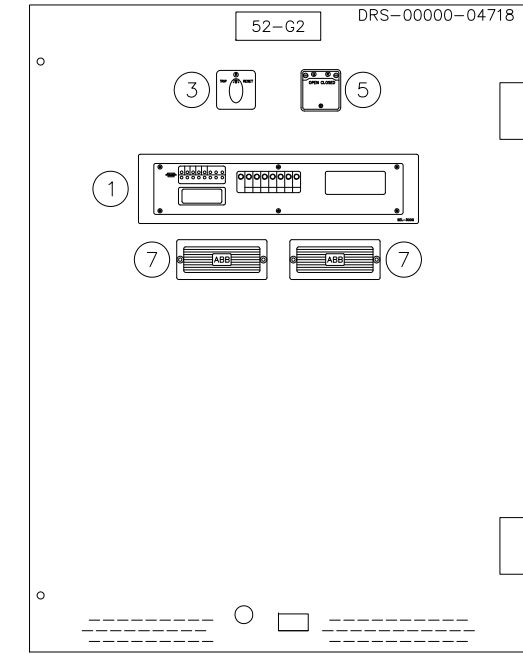
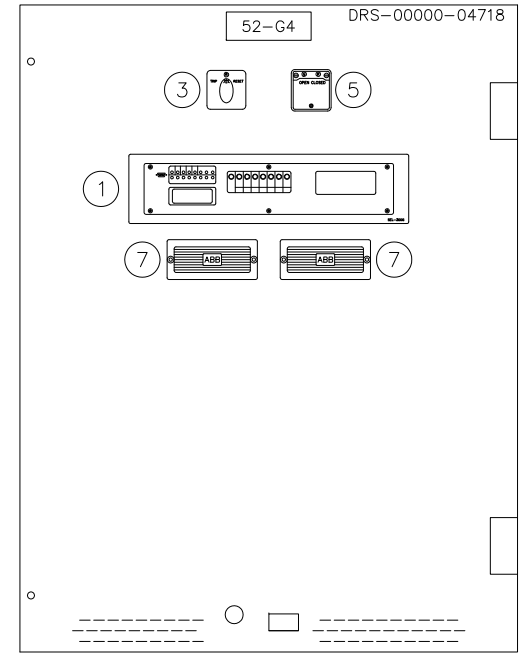
- ① SEL-300G RELAY
- ② SEL-551 RELAY
- ③ LOCK OUT RELAY
- ④ BREAKER CONTROL SWITCH WITH POSITION INDICATION
- ⑤ BREAKER POSITION INDICATION
- ⑥ SYSTEM AUTO/MANUAL SWITCH
- ⑦ TEST SWITCH

UPPER DOOR DETAIL

UPPER DOOR DETAIL

UPPER DOOR DETAIL

UPPER DOOR DETAIL



LOWER DOOR DETAIL

LOWER DOOR DETAIL

LOWER DOOR DETAIL

LOWER DOOR DETAIL

PC NO.	LTR NO.	REVISION	ZONE	DRA	CHKR	APRV	DATE	PC NO.	LTR NO.	REVISION	ZONE	DRA	CHKR	APRV	DATE	
								PC104235	A	1					08/25/10	
PRODUCTION RELEASE, AS-BUILT																

PROJECT:  
ARECIBO OBSERVATORY SWITCHGEAR

DISTRIBUTOR:  
CUMMINS CARIBBEAN  
7071681

DO NOT SCALE PRINT		SM TO	PART NO.	DWG SIZE	DESCRIPTION OF MATERIAL	REF
COPIED FROM	THREE ANGLE PROJECTION	DR	C. KINNEY	02/17/10	CUMMINS POWER GENERATION	
ANG TOL	DRAWN TO SCALE OF	CHKR	V. SIVAN	02/17/10	TITLE	
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AUTOCAD DWG		FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ANSI Y14.5M-1982	MODEL FIRST USED ON	PGA	A030S863	SHEET 3 OF 4

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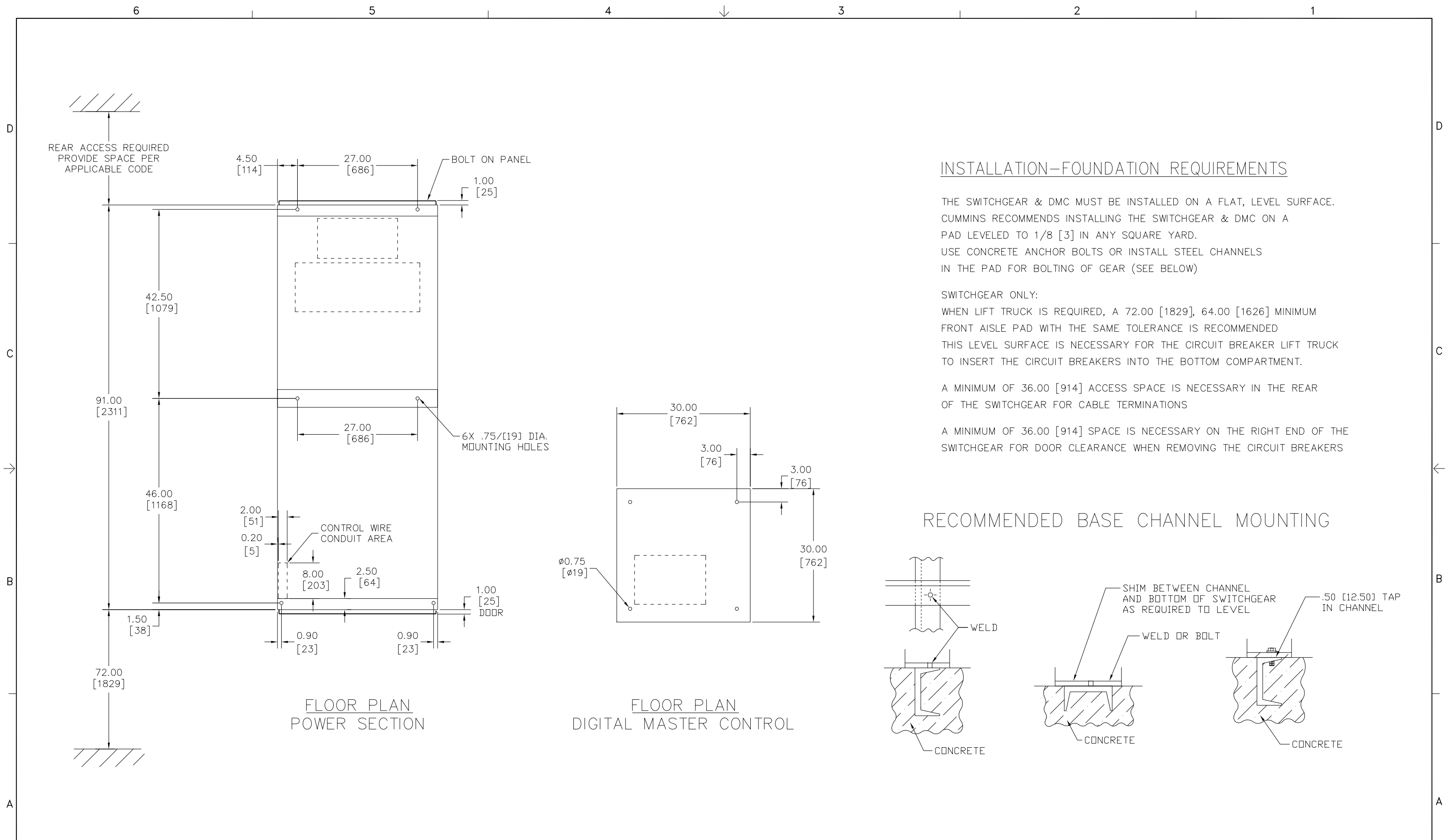
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### INSTALLATION-FOUNDATION REQUIREMENTS

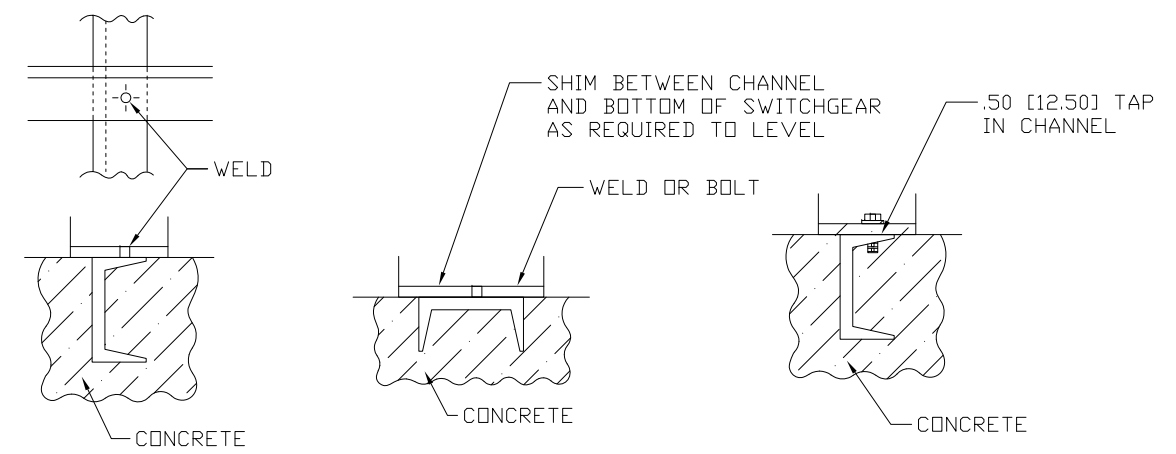
THE SWITCHGEAR & DMC MUST BE INSTALLED ON A FLAT, LEVEL SURFACE. CUMMINS RECOMMENDS INSTALLING THE SWITCHGEAR & DMC ON A PAD LEVELED TO 1/8 [3] IN ANY SQUARE YARD. USE CONCRETE ANCHOR BOLTS OR INSTALL STEEL CHANNELS IN THE PAD FOR BOLTING OF GEAR (SEE BELOW)

SWITCHGEAR ONLY:  
WHEN LIFT TRUCK IS REQUIRED, A 72.00 [1829], 64.00 [1626] MINIMUM FRONT AISLE PAD WITH THE SAME TOLERANCE IS RECOMMENDED THIS LEVEL SURFACE IS NECESSARY FOR THE CIRCUIT BREAKER LIFT TRUCK TO INSERT THE CIRCUIT BREAKERS INTO THE BOTTOM COMPARTMENT.

A MINIMUM OF 36.00 [914] ACCESS SPACE IS NECESSARY IN THE REAR OF THE SWITCHGEAR FOR CABLE TERMINATIONS

A MINIMUM OF 36.00 [914] SPACE IS NECESSARY ON THE RIGHT END OF THE SWITCHGEAR FOR DOOR CLEARANCE WHEN REMOVING THE CIRCUIT BREAKERS

### RECOMMENDED BASE CHANNEL MOUNTING



FLOOR PLAN  
POWER SECTION

FLOOR PLAN  
DIGITAL MASTER CONTROL

PROJECT: ARECIBO OBSERVATORY SWITCHGEAR										PART NO.		DESCRIPTION OF MATERIAL		REF DES	
DISTRIBUTOR: CUMMINS CARIBBEAN 7071681										NAME: C. KINNEY		DATE: 02/17/10		CUMMINS POWER GENERATION	
PC104235 A 1 PRODUCTION RELEASE, AS-BUILT										MFG: V. SIVAN		DATE: 02/17/10		TITLE: SWITCHGEAR OUTLINE	
PC104235 A 1 PRODUCTION RELEASE, AS-BUILT										APPROVED: K. TWUMASI		DATE: 02/17/10		SITE CODE: PGA	
AUTOCAD DWG										MODEL FIRST USED ON: PCIL2004R-772F		DWG NO.: A030S863		SHEET: 4 of 4	