



by Schneider Electric

Job Name: CUMMINS ARECIBO
Job Location: FRIDLEY MN

Square D Quotation #: 27086157
Quotation Revision #:
Sales Contact: CARY ANDERSON
Sales Contact Location: 382

Purchaser: CUMMINS POWER GENERATION
Purchaser PO #: 364618917-26

Customer: CUMMINS POWER GENERATION / ONAN
Customer PO #:

User: CUMMINS POWER GENERATION / ONAN
User Location:

Architect: CUMMINS POWER GENERATION / ONAN
Cons. Engineer:

Drawing Status: RECORD

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		ENGRAVED NAMEPLATES	T27086157-001-EP	1	-
		ELEVATION	F27086157-001-01	1	-
		TOP VIEW/FLOOR PLAN	F27086157-001-02	1	-
		GENERAL NOTES	F27086157-001-03	1	-
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		CONTROL SCHEMATIC	C27086157-001-01	1	-
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			C27086157-001-02	1	-
			C27086157-001-02	2	-
			C27086157-001-03	1	-
			C27086157-001-03	2	-
		DC BUS SCHEMATIC	C27086157-001-AL	1	-
		ELEMENTARY DIAGRAMS	E27086157-001-01	1	-
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		WIRING DIAGRAMS	W27086157-001-01	1	-
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			W27086157-001-03	1	A
			W27086157-001-04	1	-
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		BREAKER INTERNAL SCHEMATIC	R27086157-001-01	1	-

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SQUARE D FACTORY ORDER NUMBER: 27086157-001

<u>Equipment Designation</u>	<u>Equipment Type</u>	<u>Drawing Type</u>	<u>Drawing Number</u>	<u>Page</u>	<u>Revision Level</u>
		RATING NAMEPLATE	N27086157-001-01	1	-

Summary Bill of Material

Printed 08/06/10 12:10:14 by MSMD46

Find #	Part Number	Qty Per	Total Qty	Function	Supplier	Description	Rev
001	46008-695-01	2.00	2.00	LABEL	SQUARE D COMPANY	DOOR LABEL	
002	1342-004002	8.00	8.00	WIRE	SQUARE D COMPANY	CABLE, #4 Cu WIRE, BRAID.	
003	YA2CL4	16.00	16.00	LUG	BURNDY	LUG, CRIMP, #2 CU, (1) 3/8" HOLE, BROWN.	
004	9L11XPM006S	12.00	12.00	LA	GENERAL ELECTRIC	SURGE ARRESTER, STATION CLASS, TYPE XEP, 6KV, 5.1KV MCOV.	
005	PTG3160422FGC1	3.00	3.00	VT	INSTRUMENT TRANSFORMERS	VOLTAGE TRANSFORMER, 1 FUSE, 35:1 (4200:120V), 60kV BIL, 750VA, TYPE PTG-3, WITH 1E FUSE (FERRAZ-SHAWMUT #A500T1E1).	
006	785R201	24.00	24.00	CT	SQUARE D COMPANY	CURRENT TRANSFORMER, SINGLE RATIO, MODEL 785R, 200:5, C50.	1
007	780R102	6.00	6.00	CT	SQUARE D COMPANY	CURRENT TRANSFORMER, SINGLE RATIO, MODEL 780R, 1000:5, C100.	
008	KUXSC6S2093	10.00	10.00	SCTB	BUSSMANN	TERMINAL BLOCK, BUSSMANN, SHORTING TYPE, BINDER HEAD SCREW LUG (#10-32), 6 POINT, #18-#10 WIRE, 30A, 600V.	
009	9080LBA262101	2.00	2.00	TB	SQUARE D COMPANY	TERMINAL BLOCK, POWER DISTRIBUTION, ALUMINUM, 2 POLE, (1)-#14-2/0, (1)-#14-2/0 AL/CU.	
010	9080LBA262104	8.00	8.00	TB	SQUARE D COMPANY	TERMINAL BLOCK, POWER DISTRIBUTION, ALUMINUM, 2 POLE, 1-#14-2/0, 4-#14-4 AL/CU.	
011	BAF5	6.00	6.00	FU-5A	BUSSMANN	FUSE, ONE TIME, 5 AMPERES, 1.5", 250VAC.	
012	A500T1E1	3.00	3.00	FU	Ferraz	FUSE, CURRENT LIMITING, 1E, 5KV.	
013	LA250	12.00	12.00	LUG	CONNECTOR MFG INC.	LUG, SET SCREW, ALUMINUM, TYPE LA, 1 #6-250MCM CU/AL, 1 HOLE PAD.	
014	DLA350	2.00	2.00	LUG	CONNECTOR MFG INC.	LUG, SET SCREW, ALUMINUM, TYPE DLA, (2) #6-350 MCM AL/CU, 1 HOLE (1/2") PAD.	

Job Name:	CUMMINS ARECIBO	Engineer:	TDA
Order Qty:	1	Order:	017-27086157-001-00-01-E
Status:	SH	Doc Nbr:	T27086157-001-BM
Rev:	2	Catalog No:	Fully-Assembled MV MetalClad Swgr

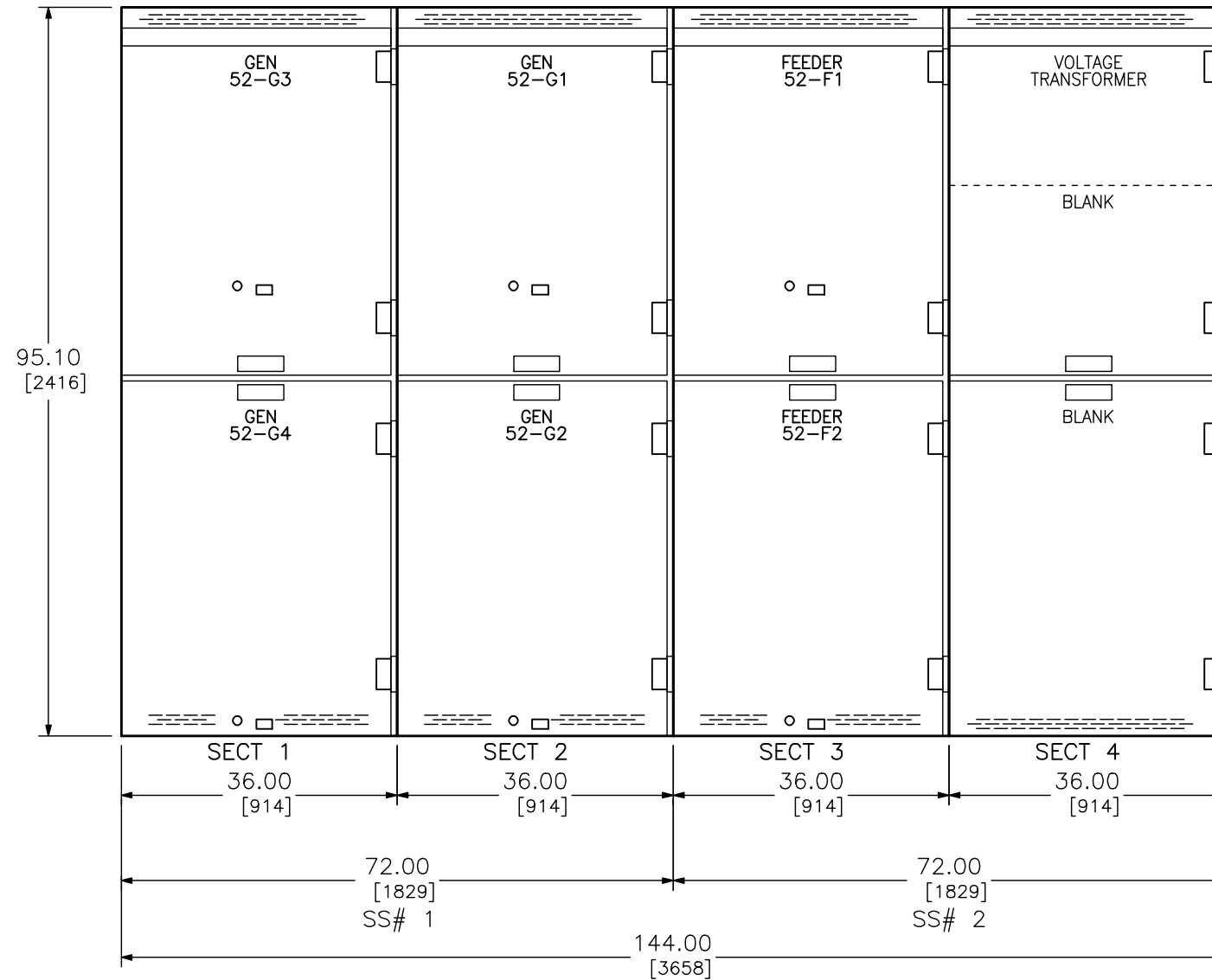
Summary Bill of Material

Printed 08/06/10 12:10:14 by MSMD46

Find #	Part Number	Qty Per	Total Qty	Function	Supplier	Description	Rev
015	46007-380-51	6.00	6.00	52S (5a&5b)	SQUARE D COMPANY	MOC (MECH. OPER. CONTACT) SW., 5a, 5b, MASTERCLAD SWGR., STATIONARY MTD., OPERATES IN TEST AND CONN.	
016	46007-381-51	6.00	6.00	52H (5a&5b)	SQUARE D COMPANY	TOC (TRUCK OPER. CONTACT) SWITCH, 5a, 5b, MASTERCLAD SWITCHGEAR, CELL MOUNTED.	
017	V5D3133Y000	6.00	6.00	52	SQUARE D COMPANY	CIRCUIT BREAKER, VR, VACUUM, 4.76KV, 40KA, 1200A, 125VDC CLOSE, 125VDC TRIP, MOC (VR-05025-12).	
018	46007-489-50	1.00	1.00	TEST JUMPER	SQUARE D COMPANY	TEST JUMPER, 14 FEET LONG FOR VR CIRCUIT BREAKERS.	
019	46007-382-50	1.00	1.00	RACK HNDL	SQUARE D COMPANY	CIRCUIT BREAKER RACKING HANDLE, MASTER CLAD SWITCHGEAR.	
020	46007-383-50	1.00	1.00	LIFT TRUCK	SQUARE D COMPANY	CIRCUIT BREAKER LIFT TRUCK, IN/OUTDOOR, MASTER CLAD SWGR.	
021	46008-880-50	1.00	1.00	CRTN PACK	SQUARE D COMPANY	CARTON PACKING, SER 5 INDOOR, CONSISTING OF: 6055-31 & 6055-30 MANUALS AND LOOSE PARTS TAG.	


Job Name:	CUMMINS ARECIBO	Engineer:	TDA
Order Qty:	1	Rev:	2
Status:	SH	Catalog No:	Fully-Assembled MV MetalClad Swgr
		Order:	017-27086157-001-00-01-E
		Doc Nbr:	T27086157-001-BM

REV	DESCRIPTION	BY	DATE						
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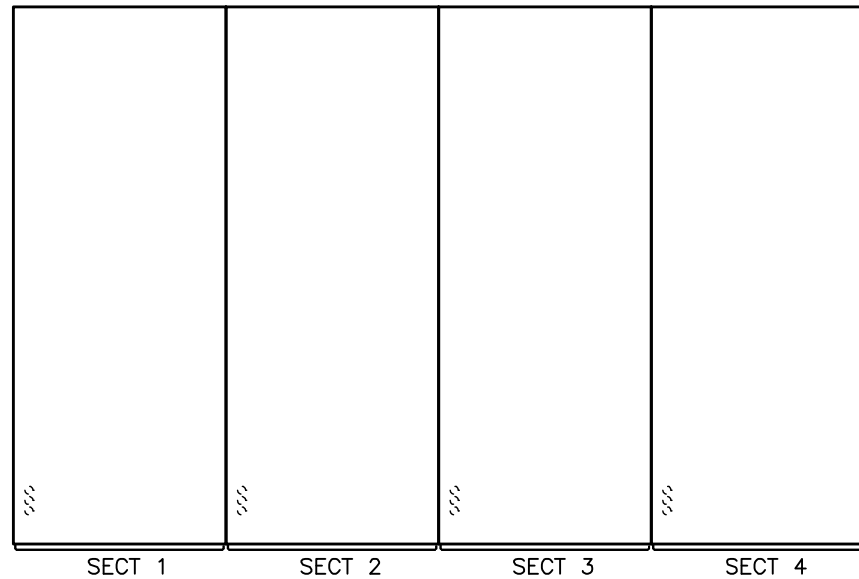


FRONT ELEVATION

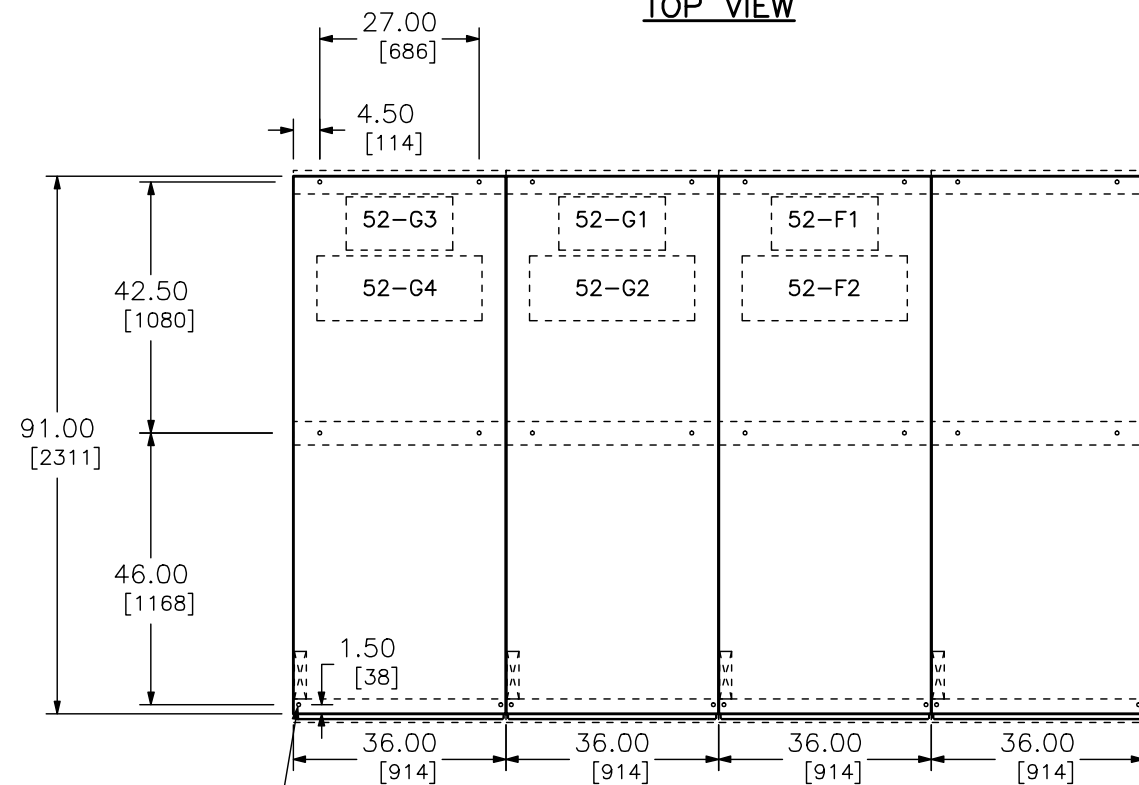
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MILLIMETERS

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JOB LOCATION: FRIDLEY MN	EQUIPMENT TYPE: MASTERCLAD SWITCHGEAR
DRAWN BY: TDA	DRAWING TYPE: ELEVATION
ENGR: TREVOR ADAMS	
DATE: MAY 12, 2010	
DRAWING STATUS: RECORD	DWG# F27086157-001-01 PG 1 OF 1 REV -

REV	DESCRIPTION	BY	DATE						
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TOP VIEW



FLOOR PLAN

(6) .75/[19] DIA MOUNTING HOLES
SEE DRAWING -51 FOR INSTALLATION-FOUNDATION REQUIREMENTS

DUAL DIMENSIONS: INCHES
MILLIMETERS

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	TOP VIEW/FLOOR PLAN
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	F27086157-001-02
		PG	1 OF 1
		REV	-

REV	DESCRIPTION	BY	DATE								
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GENERAL NOTES:

PRODUCT DESCRIPTION AND RATINGS:

POWER SYSTEM DATA:

4160 VOLTS, 3 PHASE, 3 WIRE WYE SOLIDLY GROUNDED
60 KV BIL, 60 HERTZ FREQUENCY

BUS SYSTEM DATA:

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

ENCLOSURE DATA:

TYPE 1 INDOOR CONSTRUCTION
ANSI #61 FINISH, PROCEDURES: ZINC PHOSPHATE WITH NON-CHROMIC SEAL,
RUST INHIBITED TREATMENT WITH BAKED POLYESTER COATING.
REAR ACCESS BY BOLTED PANELS
WHITE INTERIOR LOW VOLTAGE PANELS

HANDLING:

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

SWITCHGEAR SHIPPING WEIGHT WITH BREAKERS INSTALLED:

SHIPPING SPLIT 1 WEIGHT: 6500 LBS 2955 KG
SHIPPING SPLIT 2 WEIGHT: 5815 LBS 2643 KG

BREAKER WEIGHT:

1200A, 380 LBS 173KG

CODE STANDARDS:

ANSI, NEMA, UR

PRODUCT INFORMATION:

WIRING:

CONTROL WIRING IS # 14 AWG, TYPE SIS
CURRENT CIRCUIT WIRING IS # 10 AWG, TYPE SIS

WIRE LABELING:

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

TERMINATIONS:

INSULATED RING TYPE LUGS SHALL BE USED ON ALL LOW VOLTAGE SCREW/STUD TERMINALS.
TERMINAL BLOCKS ARE SCREW TYPE LUGS (TYPE GR6).
SQUARE D COMPRESSION BOX LUGS (TYPE 9080GR6) TERMINAL BLOCKS FOR ALL COMMUNICATIONS TERMINATIONS
WHEN REQUIRED.

BREAKER SPECIFICATION:

BREAKER TYPE IS SERIES 5 - VACUUM
BREAKER RATING: 4.76KV/40KA
CLOSE CONTROL POWER IS 125VDC BY CUSTOMER
TRIP CONTROL POWER IS 125VDC BY CUSTOMER
MOC & TOC PROVIDED

GENERAL OPTIONS:

TRACEABILITY LABEL REQUIRED

LIST OF MISC. ACCESSORIES:

SHORTING TERMINAL BLOCKS FOR ALL CT CIRCUITS
ALL FRONT DEVICE DOORS TO HAVE GROUNDING STRAPS.
LIFT TRUCK NEEDED FOR REMOVAL OF BREAKER FROM THE CELL.
BREAKER TEST JUMPER (14FT)


LIST OF MISC. STRUCTURE OPTIONS:

SPECIAL FEATURES-(OVERAL DIMENSIONS ARE SUBJECT TO CHANGE.)

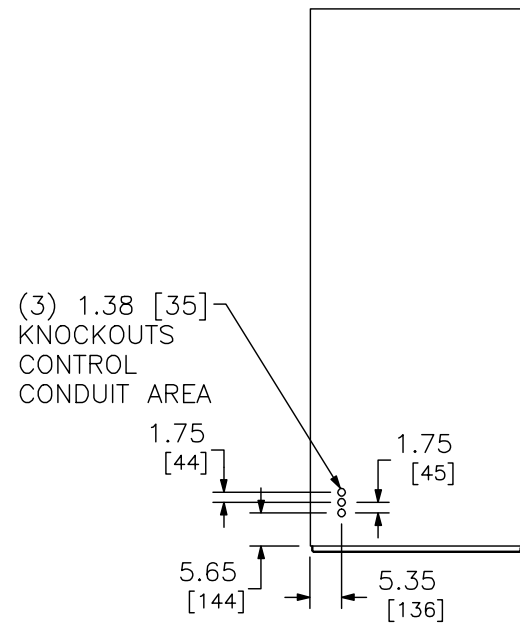
IF SPECIAL FEATURES ARE INCLUDED IN THIS BILL OF MATERIAL, THEY WILL NOT APPEAR ON THE
FRONT- ELEV OR ONE- LINE DRAWING AND MAY ALTER THE FINAL LAYOUT AND DIMENSIONS.

GENERAL RECORD

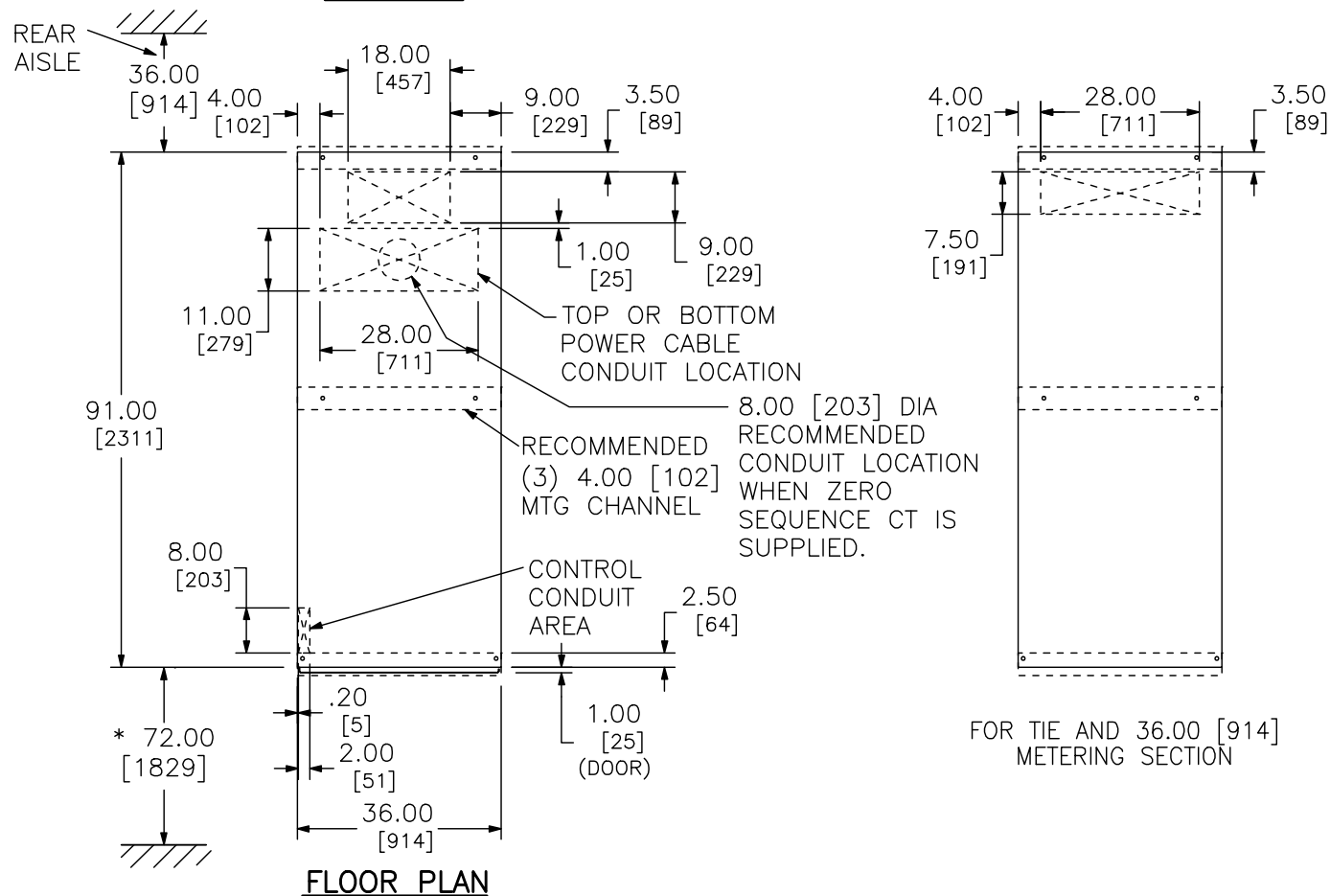
ONAN HEAVY DUTY SHIPPING PALLETS
CARTONPACK WARNING STICKERS FOR NON BREAKER DOORS
SPARE FUSES FOR VT
WELDMENT STUDS ON ALL DOORS
DO NOT PROVIDE BLACK STRIP ACROSS TOP OF THE DOOR
CARTONPACK WARNING STICKER ON INTERCONNECT PAN ON SECT 1

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	GENERAL NOTES
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	F27086157-001-03
		PG	1 OF 1
		REV	-

REV	DESCRIPTION	BY	DATE						
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TOP VIEW



FLOOR PLAN

INSTALLATION-FOUNDATION REQUIREMENTS

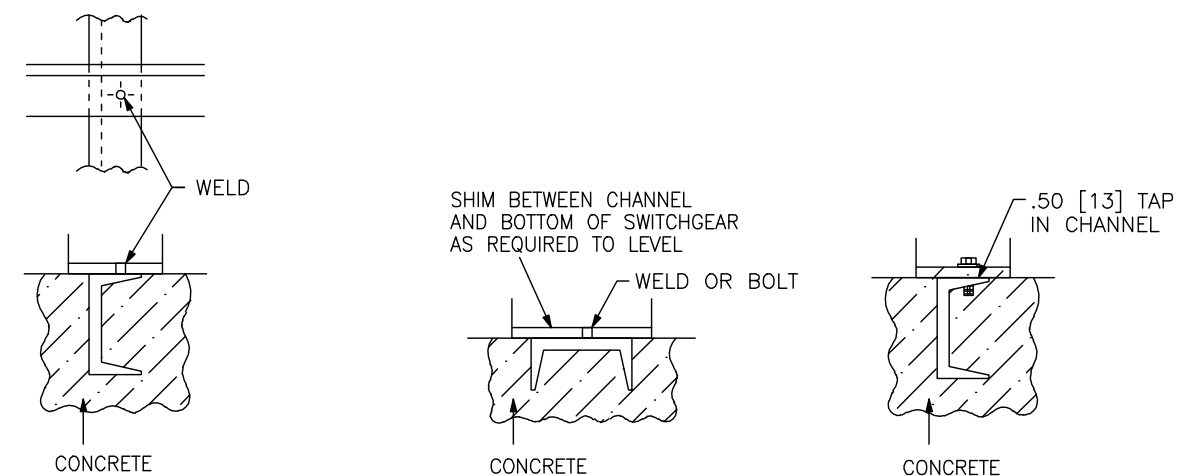
* WHEN LIFT TRUCK IS REQUIRED, RECOMMENDED 72.00 [1829] FRONT AISLE, 64.00 [1626] MINIMUM.

THE SWITCHGEAR MUST BE INSTALLED ON A FLAT, LEVEL SURFACE. SQUARE D RECOMMENDS INSTALLING THE SWITCHGEAR ON A CONCRETE PAD LEVELED TO .0625 IN ANY SQUARE YARD, WITH STEEL CHANNELS INSTALLED IN THE PAD FOR ANCHORING THE SWITCHGEAR.

POUR A 72.00 [1829] WIDE AISLE SPACE IN FRONT OF THE MOUNTING PAD, FLUSH WITH AND FINISHED WITH THE SAME TOLERANCE AS THE MOUNTING PAD. THIS LEVEL SURFACE IS NECESSARY FOR THE CIRCUIT BREAKER LIFT TRUCK AND FOR INSERTING THE CIRCUIT BREAKERS INTO THE BOTTOM COMPARTMENT.

A MINIMUM OF 36.00 [914] IS NECESSARY ON THE RIGHT END FACING THE FRONT OF THE LINE-UP. THIS SPACE IS NECESSARY FOR DOOR CLEARANCE WHEN REMOVING THE CIRCUIT BREAKERS.

RECOMMENDED BASE CHANNEL MOUNTING



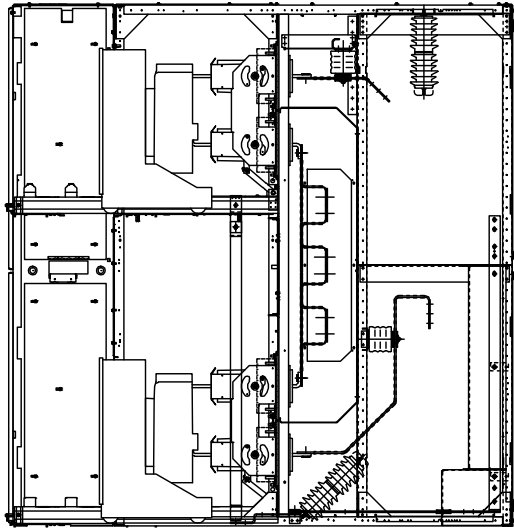
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MILLIMETERS

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	DETAIL VIEW
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	F27086157-001-51

REV	DESCRIPTION	BY	DATE								
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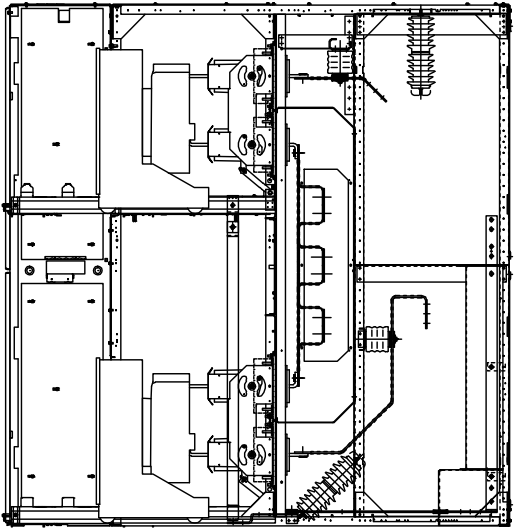
RIGHT SIDE SECTION VIEWS

SECT 1



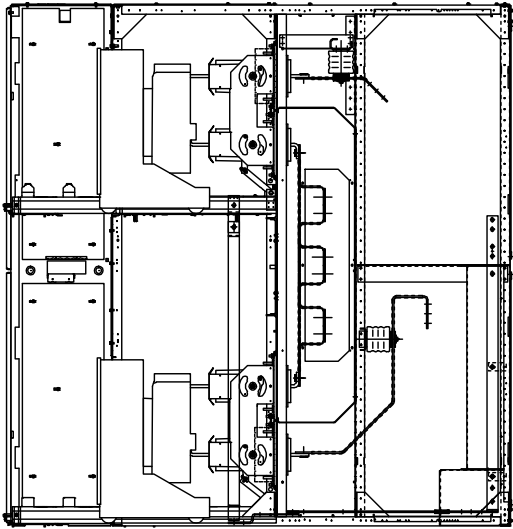
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SECT 2



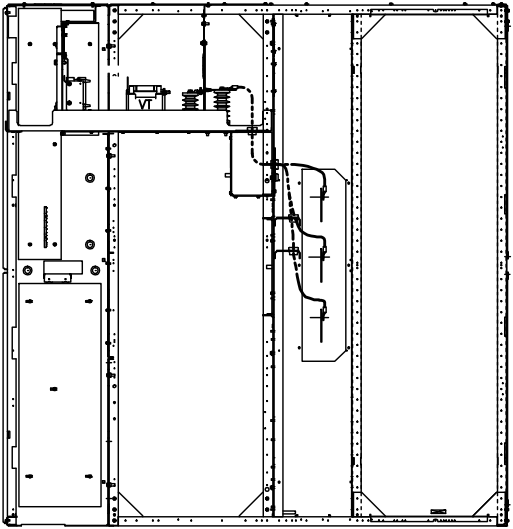
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SECT 3




A

SECT 4

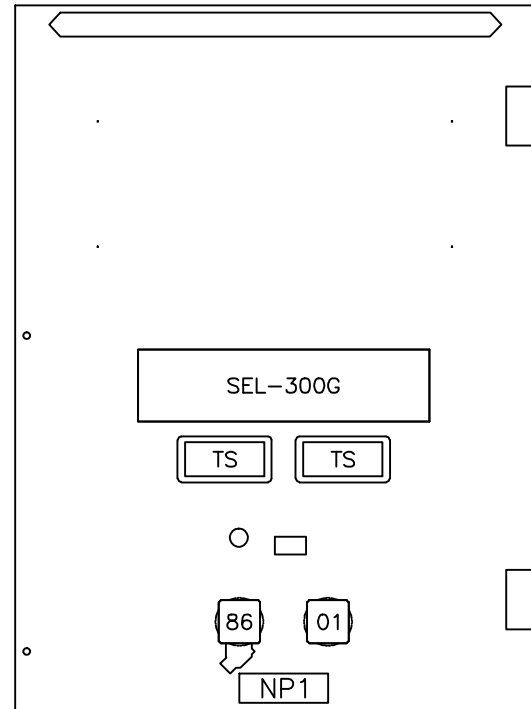


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		REV	-

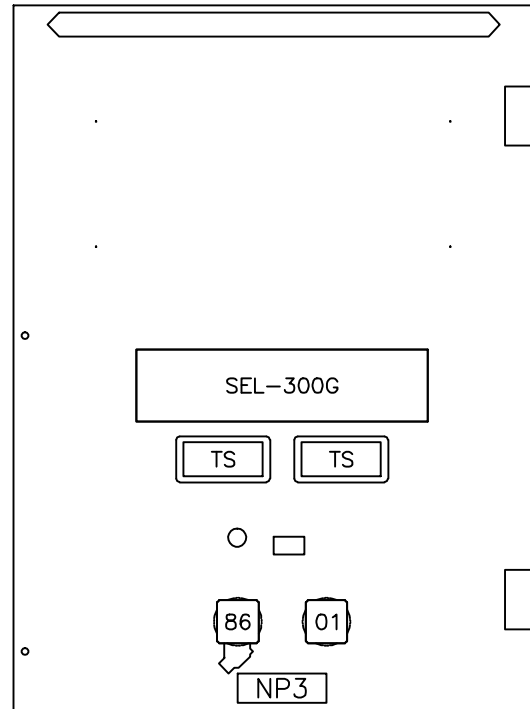
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SECT 1



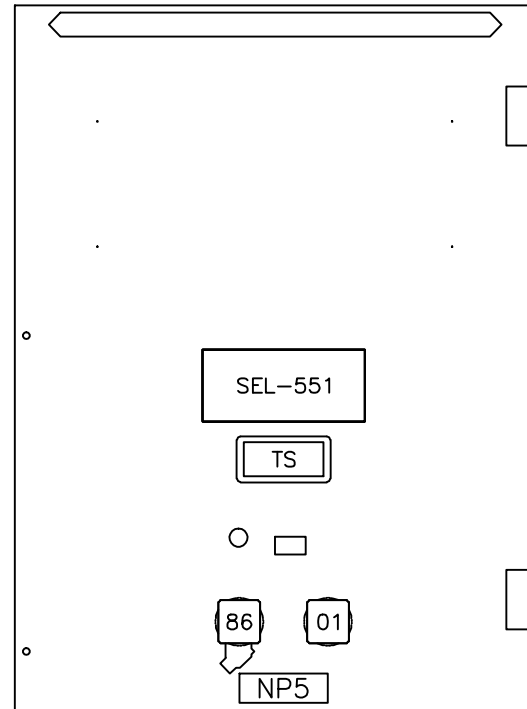
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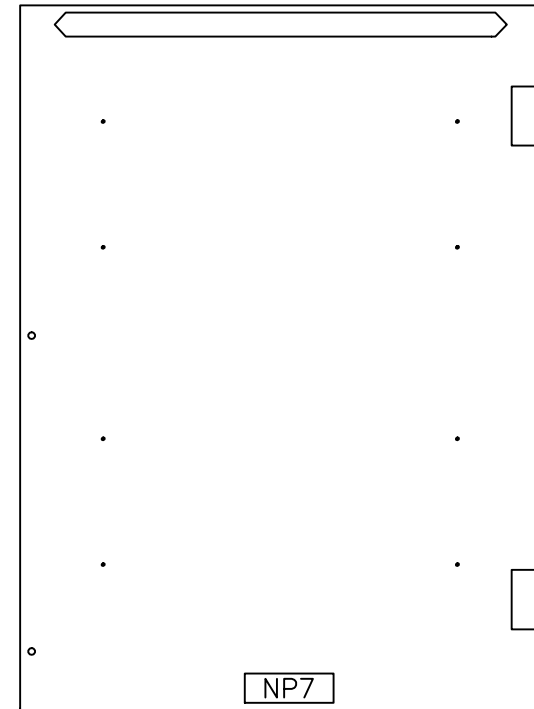
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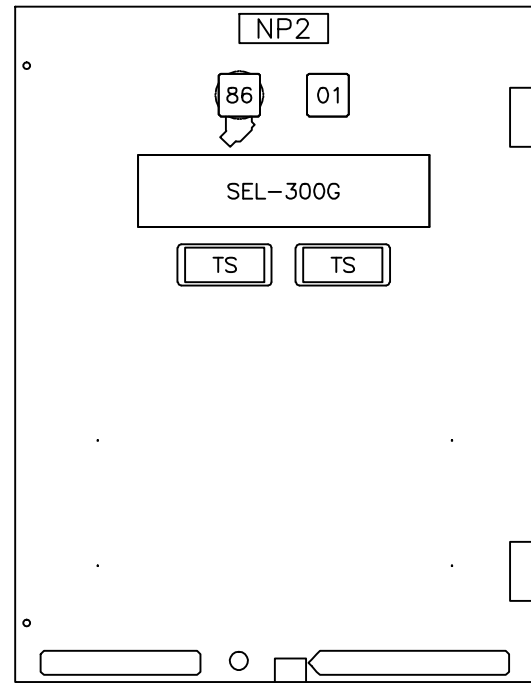


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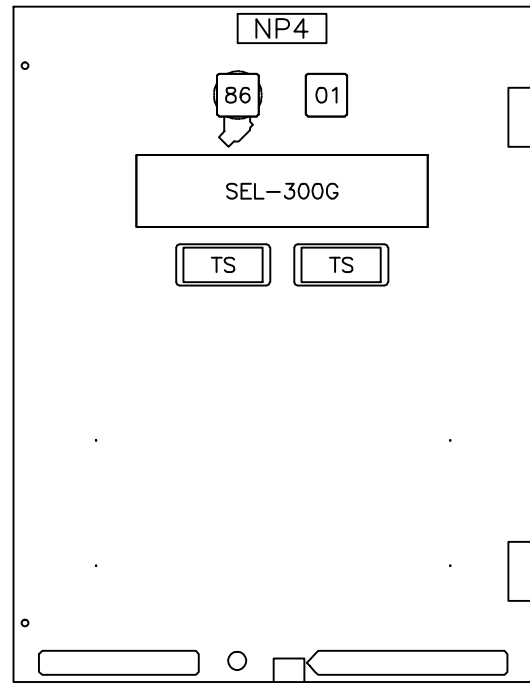
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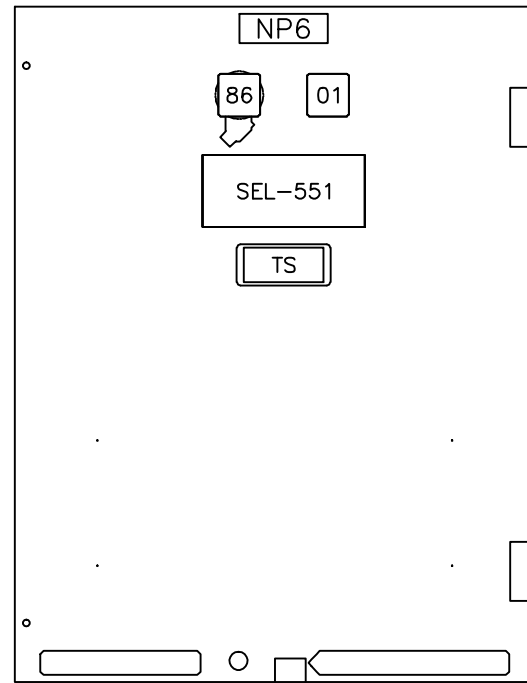
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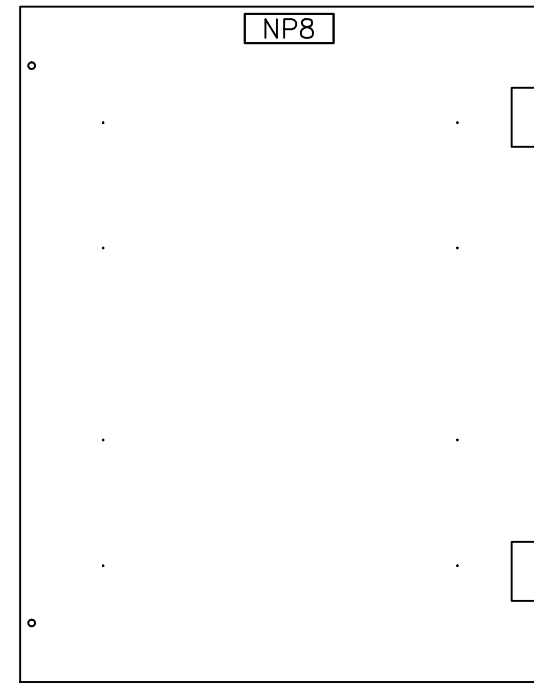
LOWER DOOR DETAIL DRS-00000-04718




LOWER DOOR DETAIL DRS-00000-04718



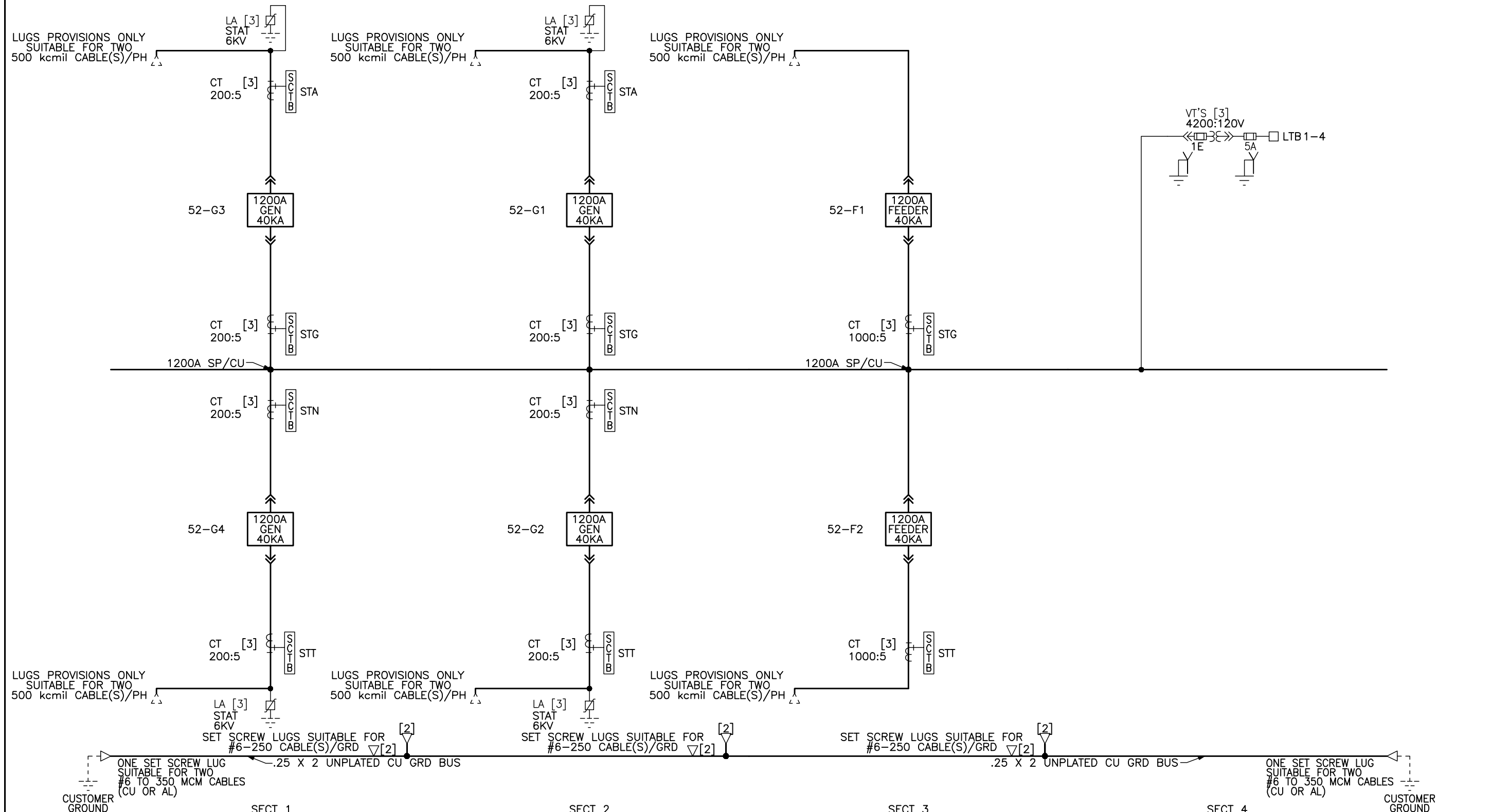
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LOWER DOOR DETAIL DRS-00000-00128

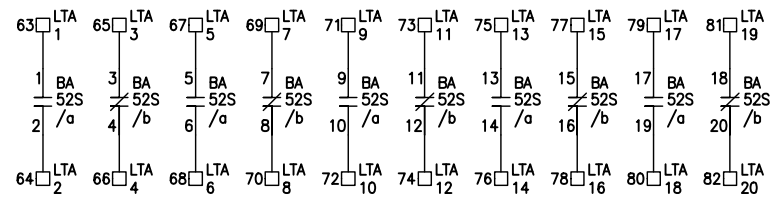
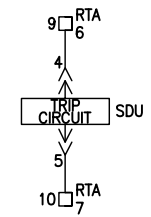
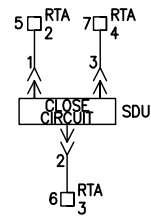
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JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	DOOR DETAIL VIEWS
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG# D27086157-001-01	PG 1 OF 1 REV -

REV	DESCRIPTION	BY	DATE						
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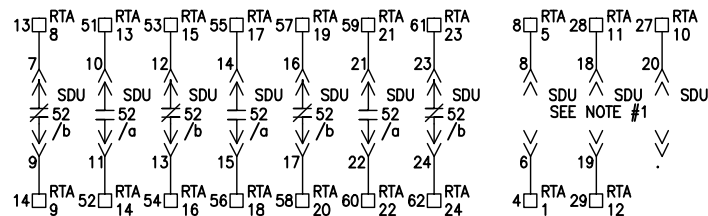


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JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	ONE LINE DIAGRAM
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	027086157-001-01

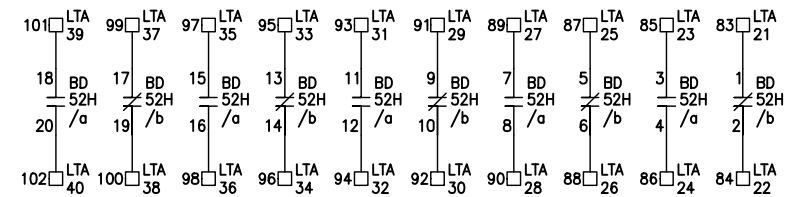
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STATIONARY SWITCH CONTACTS (MOC-10)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

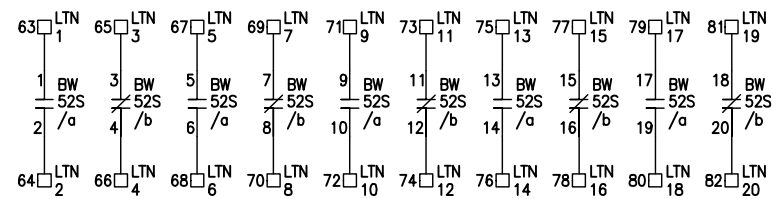
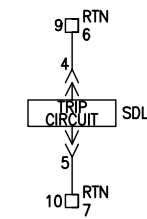
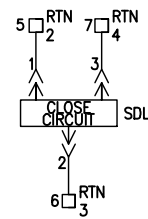


HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

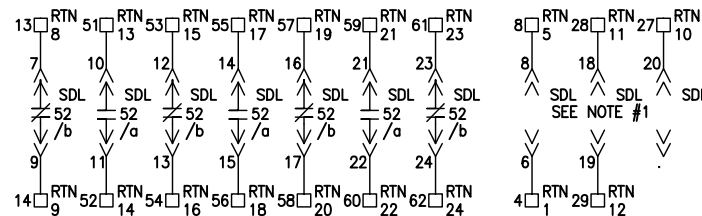
SECT 1 UPPER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-01

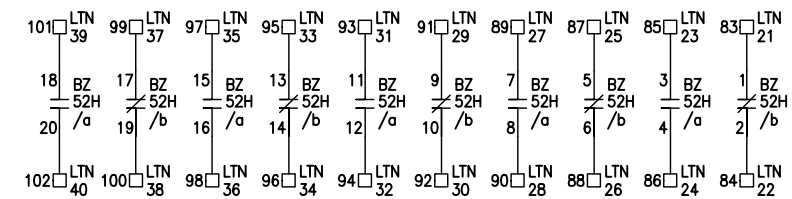
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STATIONARY SWITCH CONTACTS (MOC-10)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

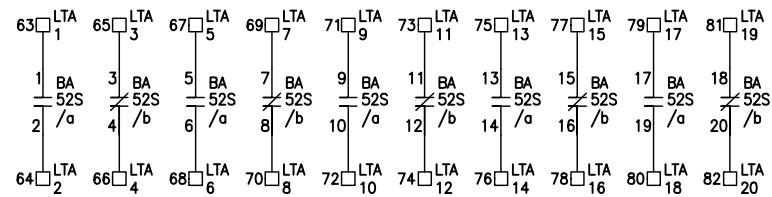
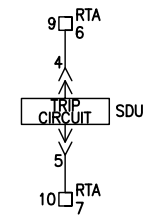
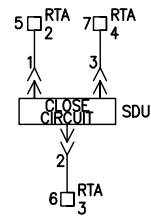


HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

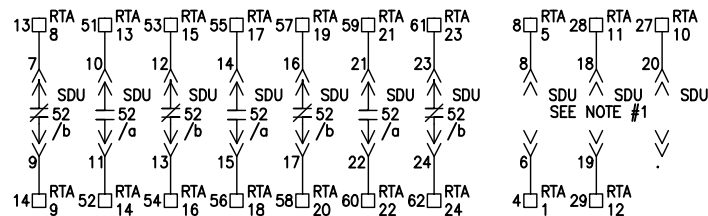
SECT 1 LOWER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-01

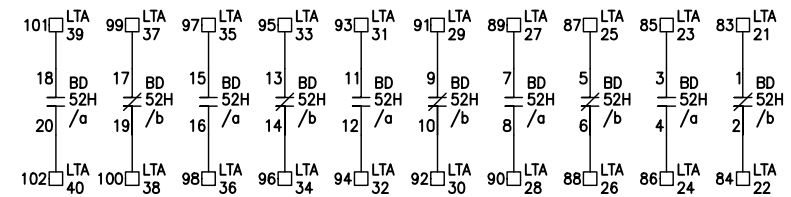
REV	DESCRIPTION	BY	DATE								
-	----	--	---/---/---	-	----	--	---/---/---	-	----	--	---/---/---



STATIONARY SWITCH CONTACTS (MOC-10)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

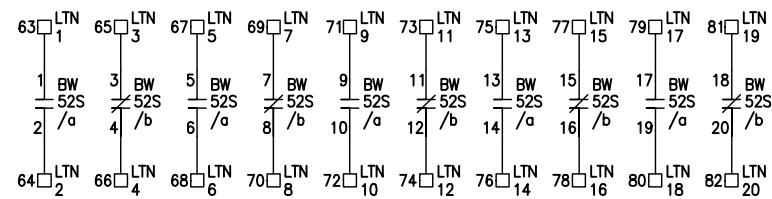
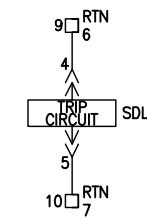
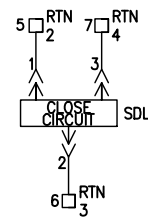


HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

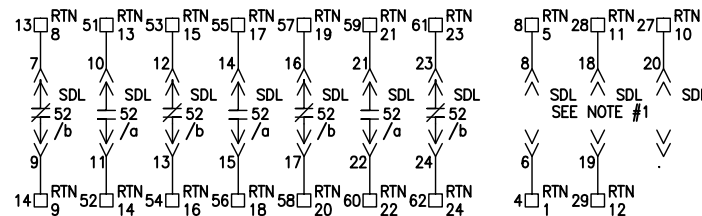
SECT 2 UPPER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-02

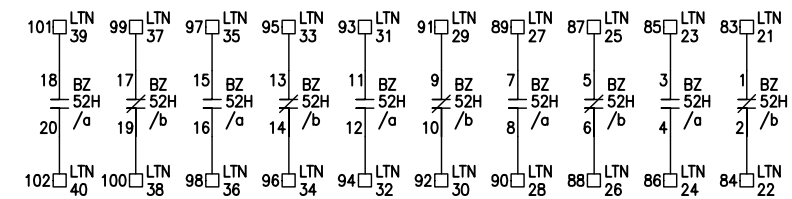
REV	DESCRIPTION	BY	DATE								
-	----	--	---/---/---	-	----	--	---/---/---	-	----	--	---/---/---



STATIONARY SWITCH CONTACTS (MOC-10)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

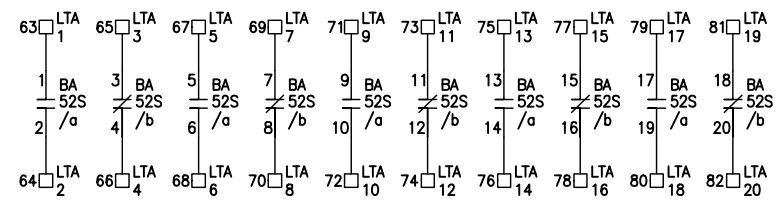
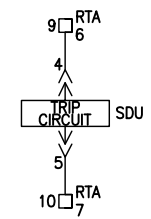
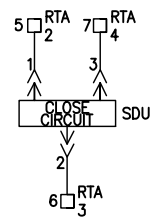


HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

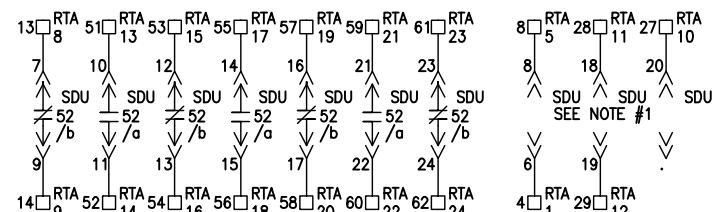
SECT 2 LOWER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-02

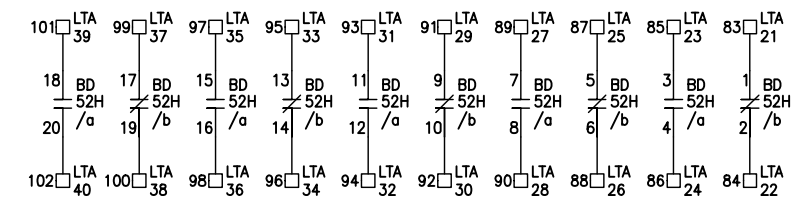
REV	DESCRIPTION	BY	DATE								
-	----	--	---/---/---	-	----	--	---/---/---	-	----	--	---/---/---



STATIONARY SWITCH CONTACTS (MOC-10)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

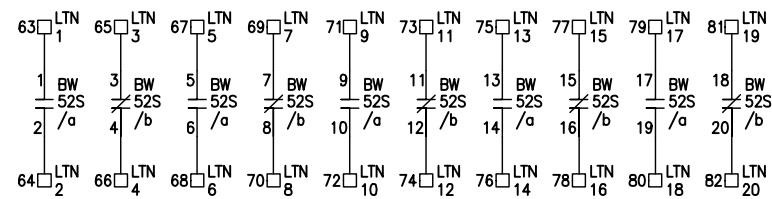
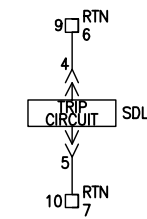
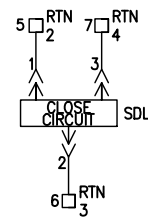


HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTA= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

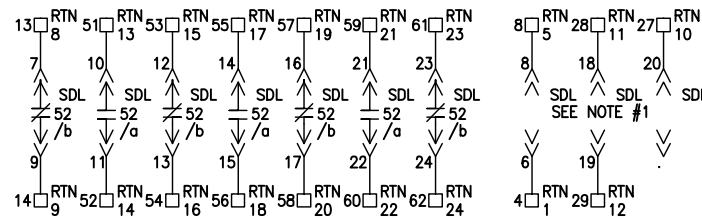
SECT 3 UPPER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-03

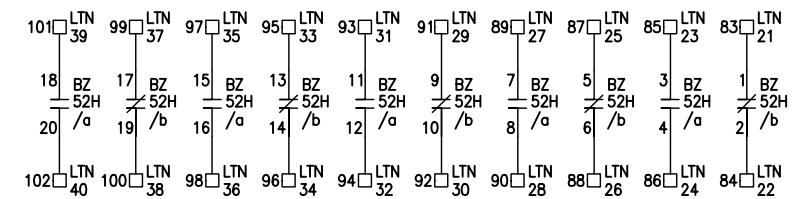
REV	DESCRIPTION	BY	DATE								
-	----	--	---/---/---	-	----	--	---/---/---	-	----	--	---/---/---



STATIONARY SWITCH CONTACTS (MOC-10)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK



AUXILIARY CONTACTS
 * = USED CONTACT
 NOTE 1 = OPTIONAL CIRCUITS NOT SUPPLIED WITH BREAKER

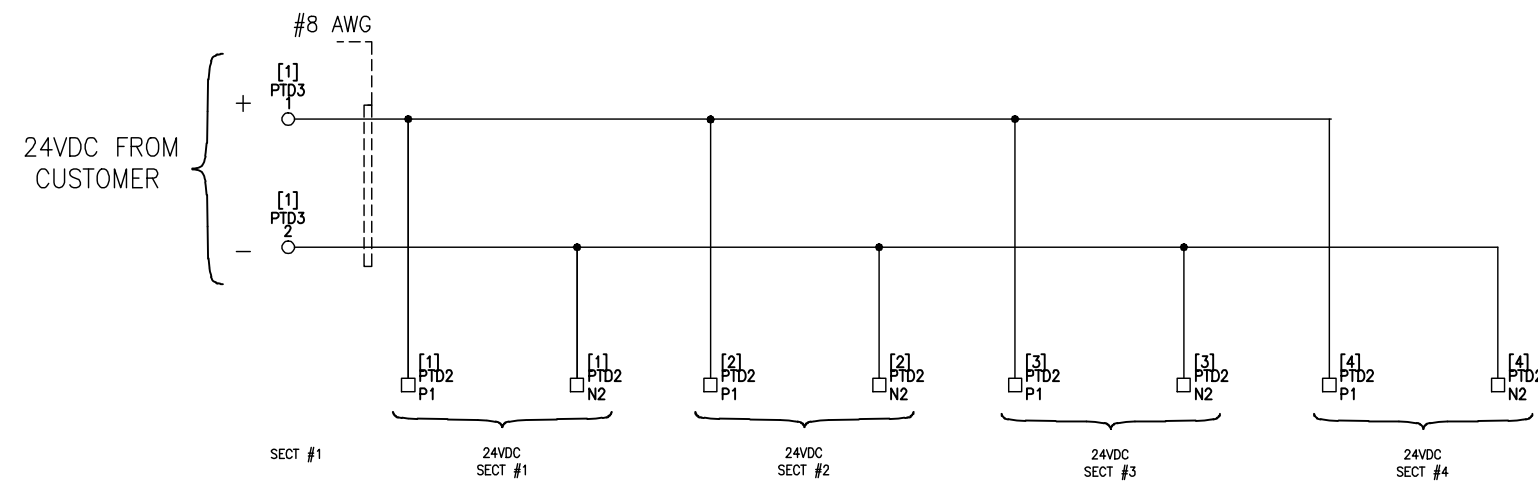
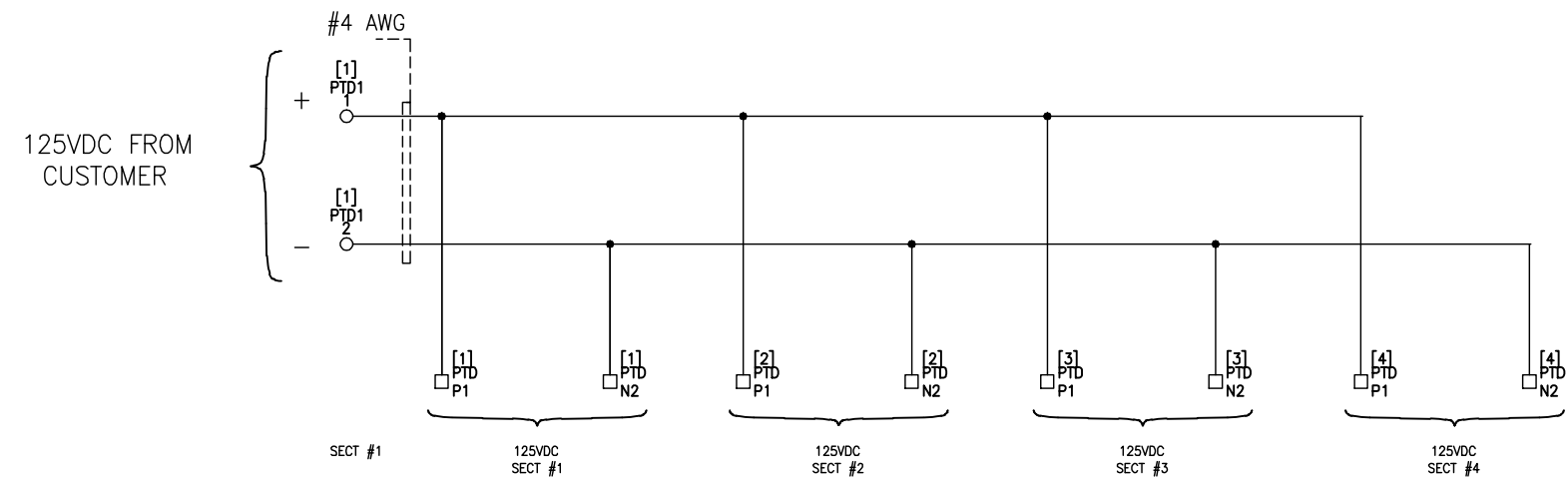



HOUSING SWITCH CONTACTS (TOC-10)
 (SHOWN WITH BREAKER IN TEST OR WITHDRAWN POSITION)
 LTN= SPARE CONTACT WIRED TO CUSTOMER TERMINAL BLOCK

SECT 3 LOWER

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	CONTROL SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-03
		PG2	OF2
		REV	-

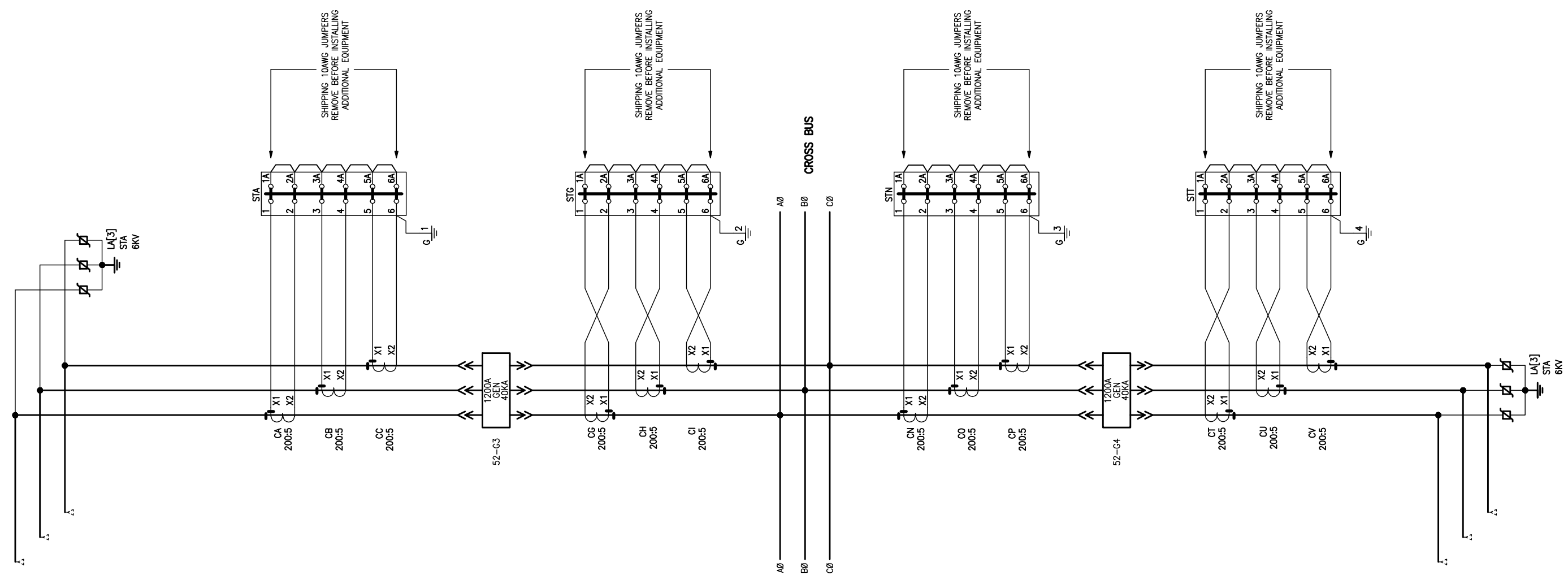
REV	DESCRIPTION	BY	DATE						
-	----	--	---/---/---	-	----	--	---/---/---	-	----



JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	DC BUS SCHEMATIC
ENGR:	TREVOR ADAMS		
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	C27086157-001-AL
		PG 1	OF 1
		REV	-

REV	DESCRIPTION	BY	DATE								
-	----	--	--/--/----	-	----	-	----	-	----	-	----

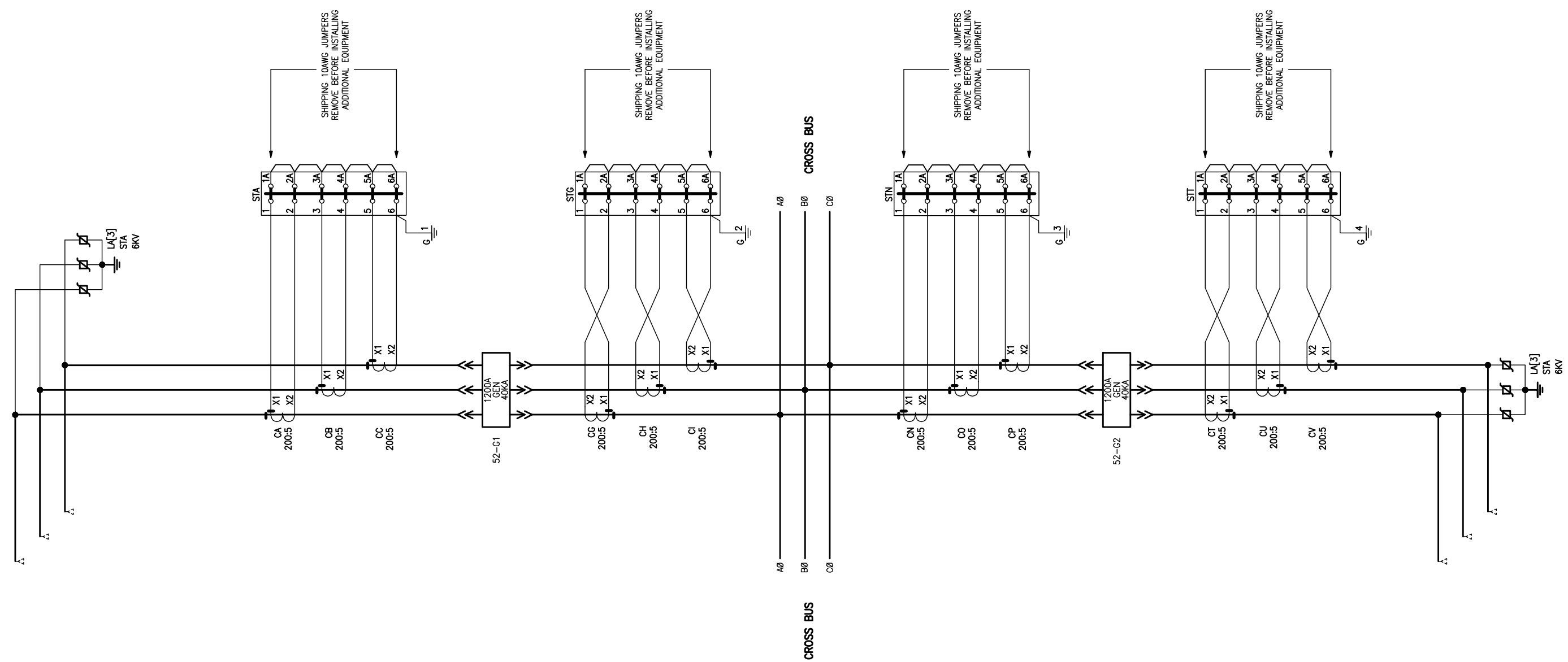
SECTION 1




JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	ELEMENTARY DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	E27086157-001-01
		PG 1	OF 1
		REV	---

REV	DESCRIPTION	BY	DATE							
-	----	--	--/--/----	-	----	-	----	-	----	-

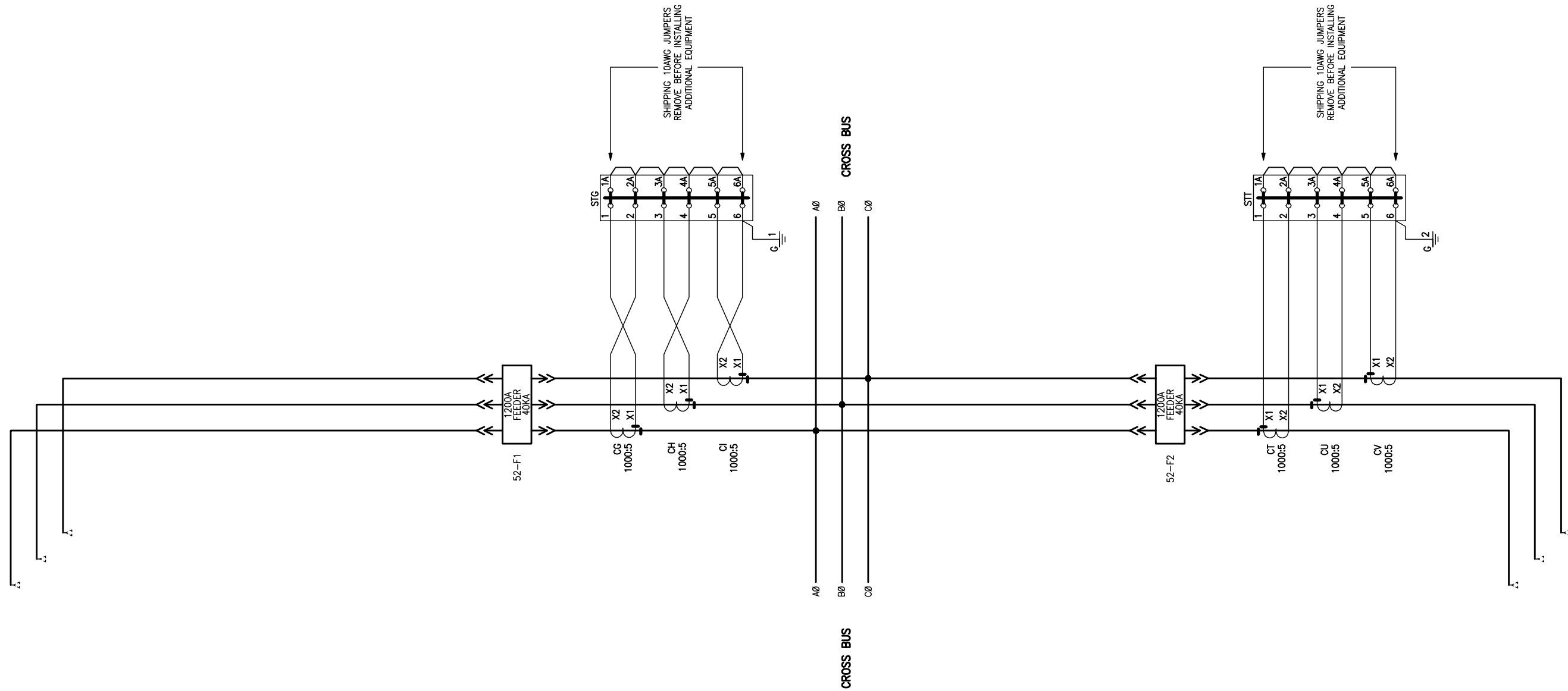
SECTION 2




JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	ELEMENTARY DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	E27086157-001-02
		PG 1	OF 1
		REV	--

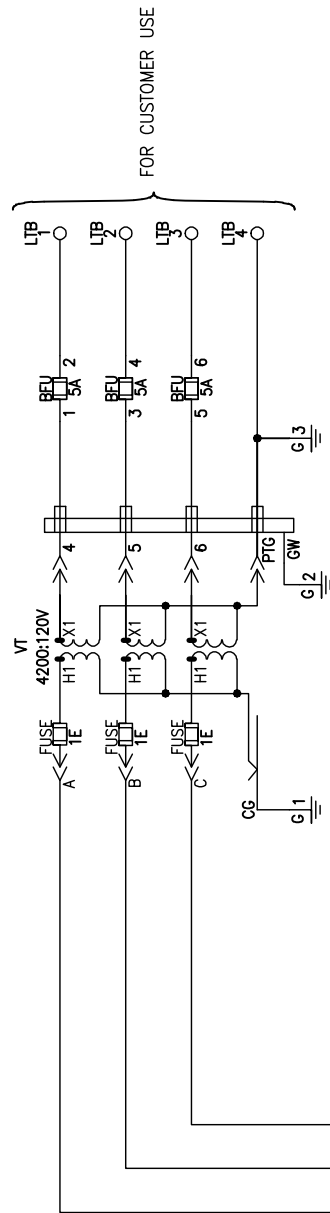
REV	DESCRIPTION	BY	DATE						
-	----	--	---/---/---	-	----	--	---/---/---	-	----

SECTION 3

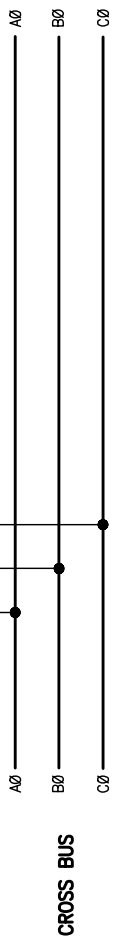


JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	ELEMENTARY DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	E27086157-001-03
		PG 1	OF 1
		REV	---


REV	DESCRIPTION	BY	DATE						
-	----	--	--/--/--	-	----	--	--/--/--	-	----
-	----	--	--/--/--	-	----	--	--/--/--	-	----



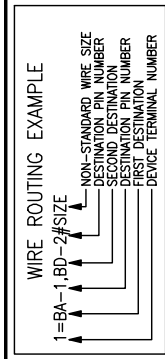
FOR CUSTOMER USE



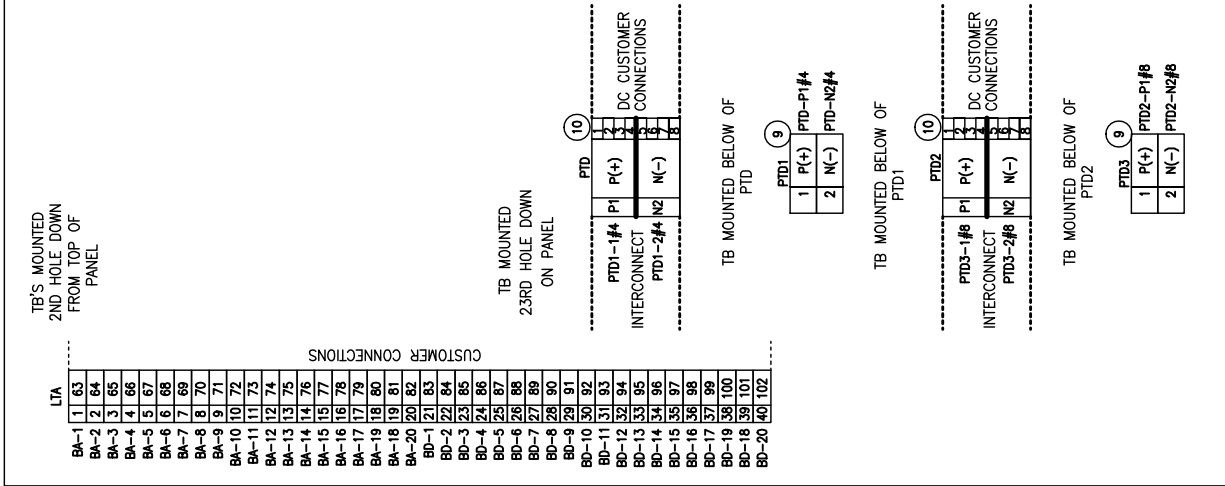
SECTION 4

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	ELEMENTARY DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	E27086157-001-04
		PG 1	OF 1
		REV	--

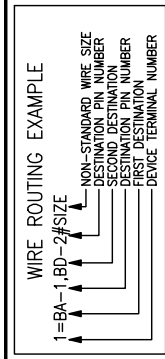
ITEM NUMBER-SEE ELECTRICAL BILL OF MATERIAL



REV	DESCRIPTION	BY	DATE
1			



REV	DESCRIPTION	BY	DATE
1			



LTA

BA-1	63
BA-2	64
BA-3	65
BA-4	66
BA-5	67
BA-6	68
BA-7	69
BA-8	70
BA-9	71
BA-10	72
BA-11	73
BA-12	74
BA-13	75
BA-14	76
BA-15	77
BA-16	78
BA-17	79
BA-18	80
BA-19	81
BA-20	82
BD-1	83
BD-2	84
BD-3	85
BD-4	86
BD-5	87
BD-6	88
BD-7	89
BD-8	90
BD-9	91
BD-10	92
BD-11	93
BD-12	94
BD-13	95
BD-14	96
BD-15	97
BD-16	98
BD-17	99
BD-18	100
BD-19	101
BD-20	102

TB'S MOUNTED 2ND HOLE DOWN FROM TOP OF PANEL

CUSTOMER CONNECTIONS

PTD

P1	P(+)
N2	N(-)

DC CUSTOMER CONNECTIONS

PTD

P1	P(+)
N2	N(-)

DC CUSTOMER CONNECTIONS

TB MOUNTED 23RD HOLE DOWN ON PANEL

PTD

P1	P(+)
N2	N(-)

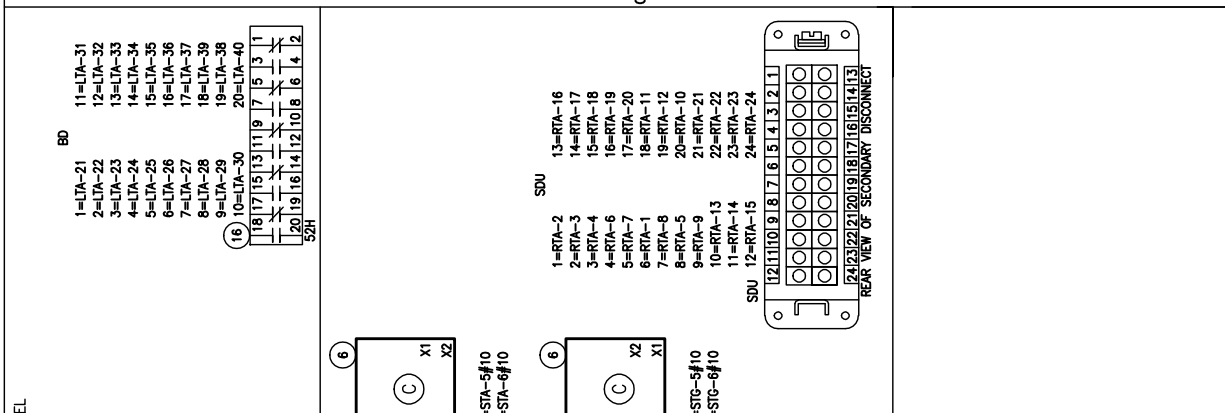
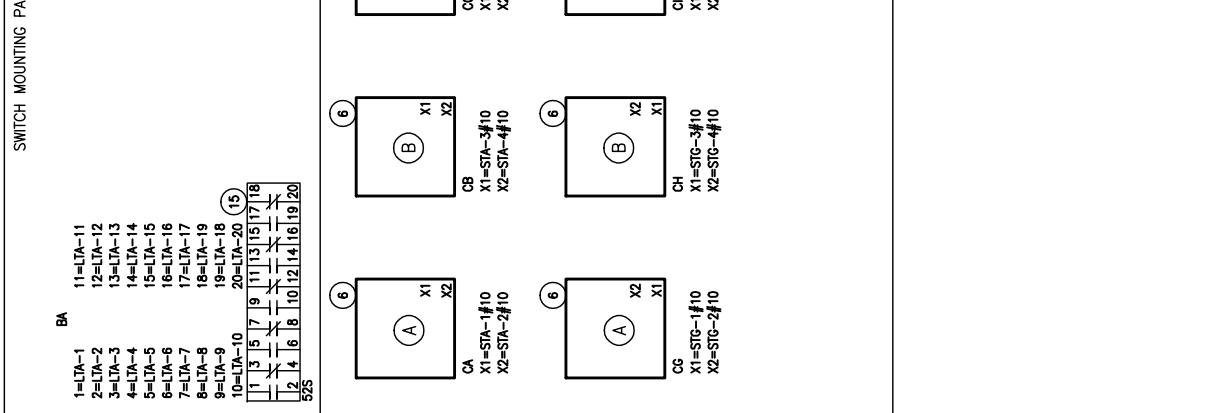
DC CUSTOMER CONNECTIONS

TB MOUNTED BELOW OF PTD

PTD

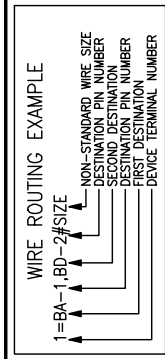
P1	P(+)
N2	N(-)

DC CUSTOMER CONNECTIONS



ITEM NUMBER-SEE ELECTRICAL BILL OF MATERIAL

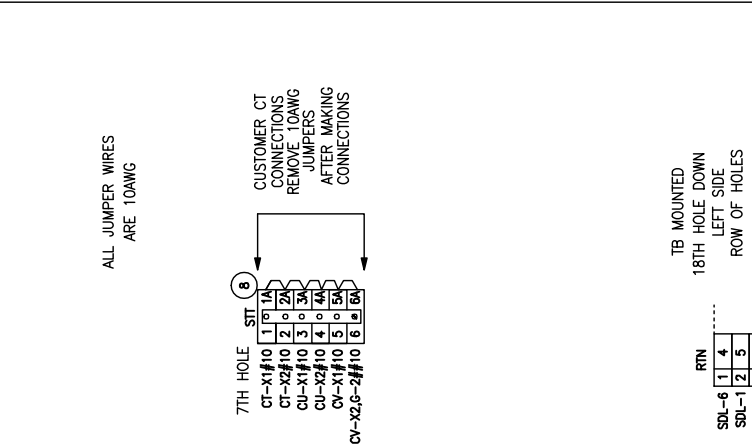
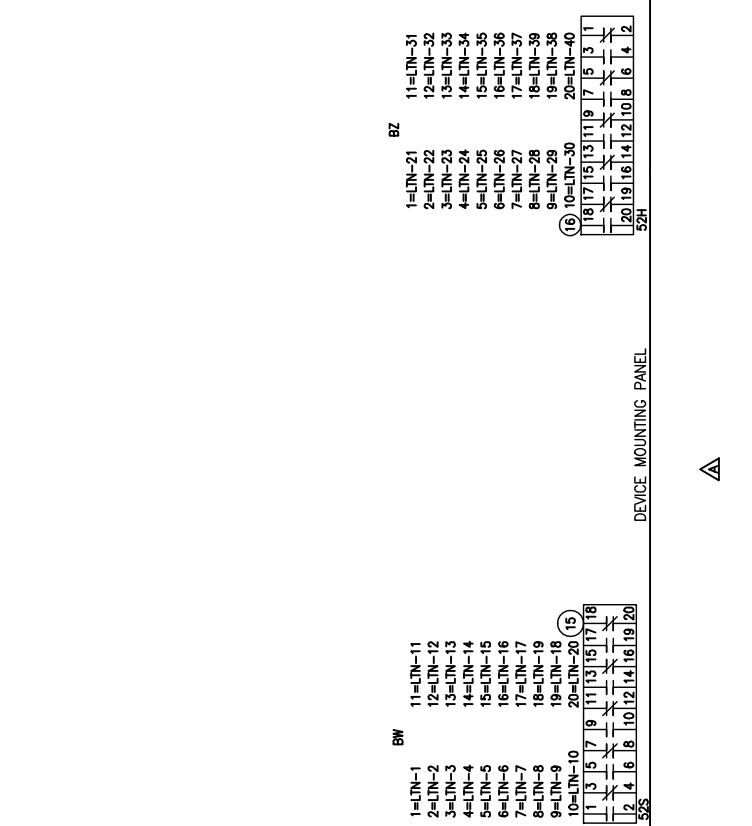
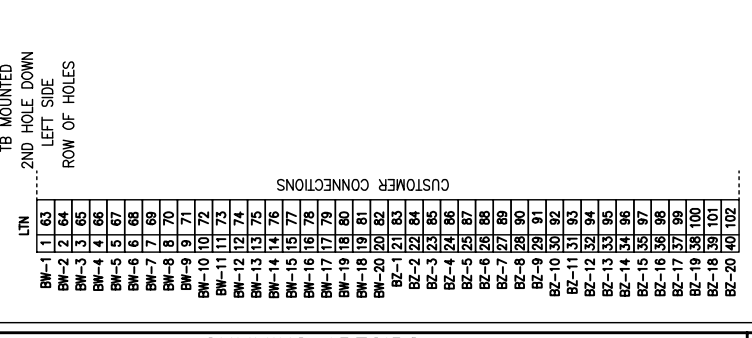
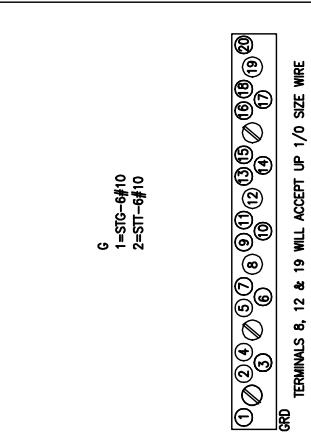
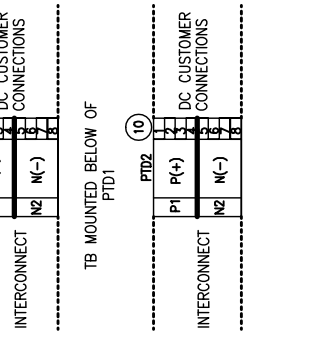
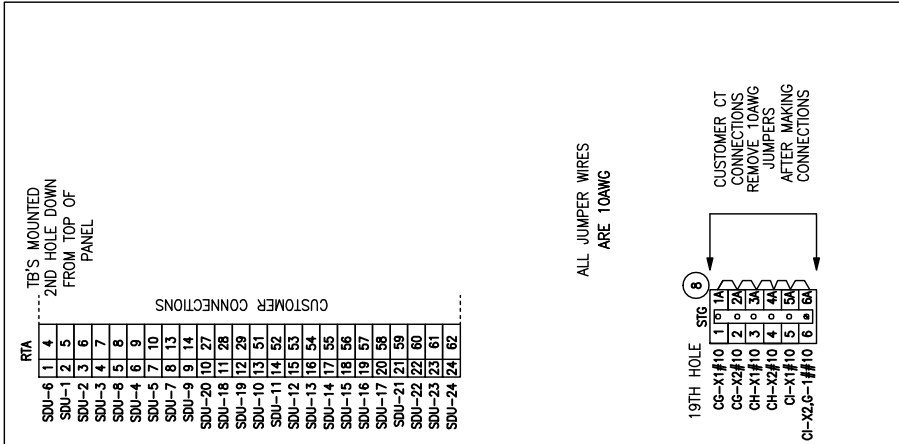
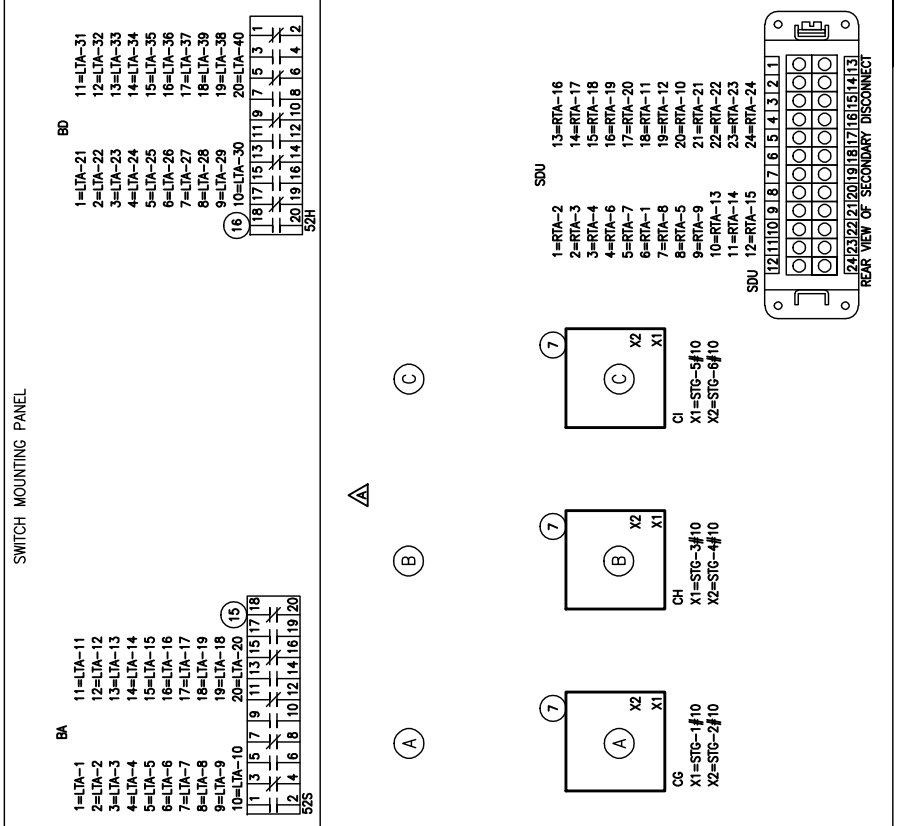
REV	DESCRIPTION	BY	DATE						
A	CHANGED CT FIND NUMBER	KQB	07/13/2010						



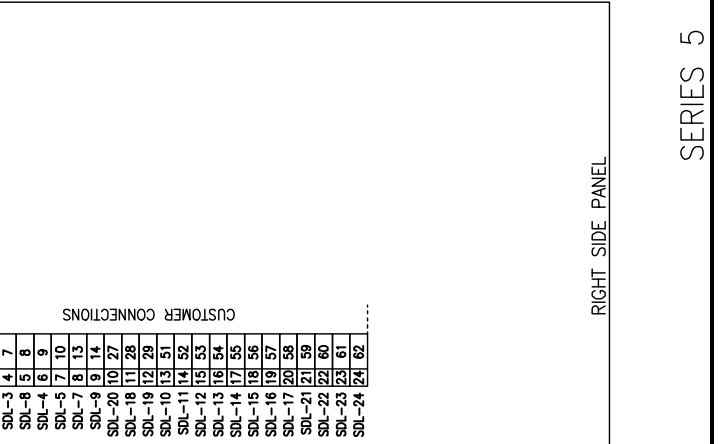
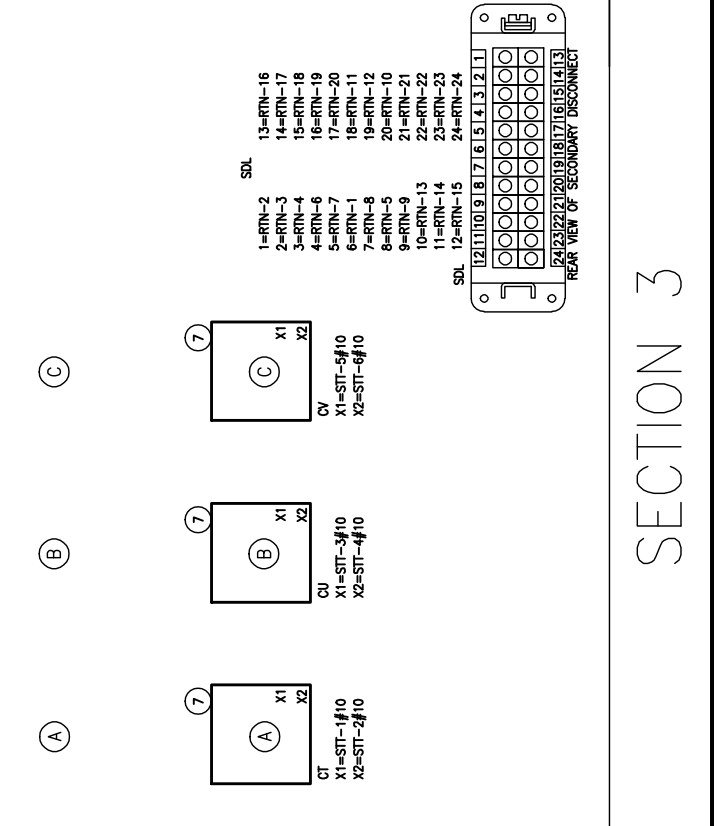
TB'S MOUNTED 2ND HOLE DOWN FROM TOP OF PANEL

LTA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
BA-1	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
BA-2	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102

CUSTOMER CONNECTIONS

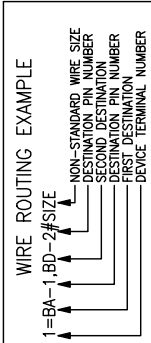


JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	WIRING DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	W27086157-001-03



SECTION 3

REV	DESCRIPTION	BY	DATE						
-									

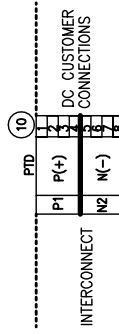


TB'S MOUNTED
2ND HOLE DOWN
FROM TOP OF
PANEL

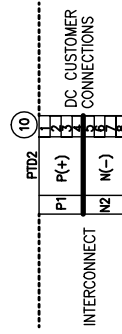
* - LTB ARE GC6

LTB	
1	1A BPU-2
2	2B BPU-4
3	3C BPU-6
4	4D VI-PTG
5	
6	
7	
8	

TB MOUNTED
23RD HOLE DOWN
ON PANEL

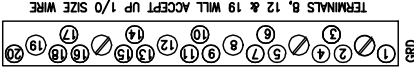
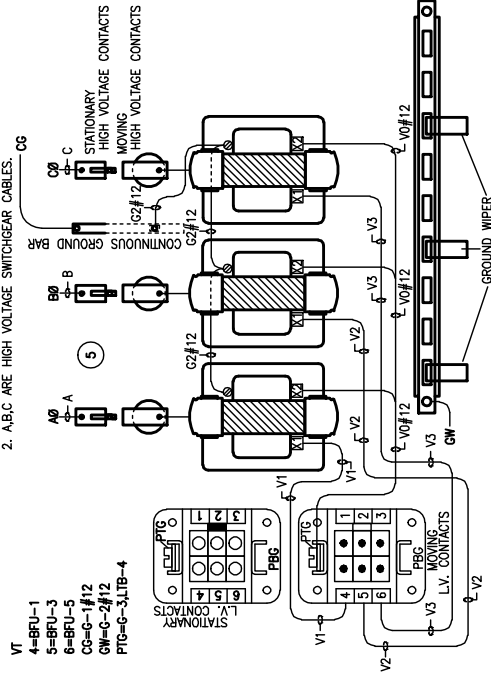


TB MOUNTED BELOW OF
PTD1

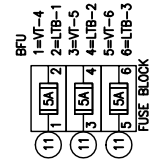


SWITCH MOUNTING PANEL

WIRING NOTE:
1. MAINTAIN PHASE TO GROUND CLEARANCES BETWEEN HIGH AND LOW VOLTAGE.
2. A.B.C ARE HIGH VOLTAGE SWITCHGEAR CABLES.



- 1=VT-CG#12
- 2=VT-CM#12
- 3=VT-PTG



- 1=VF-4
- 2=LTB-1
- 3=VF-5
- 4=LTB-2
- 5=VF-6
- 6=LTB-3

DEVICE MOUNTING PANEL

LEFT SIDE PANEL

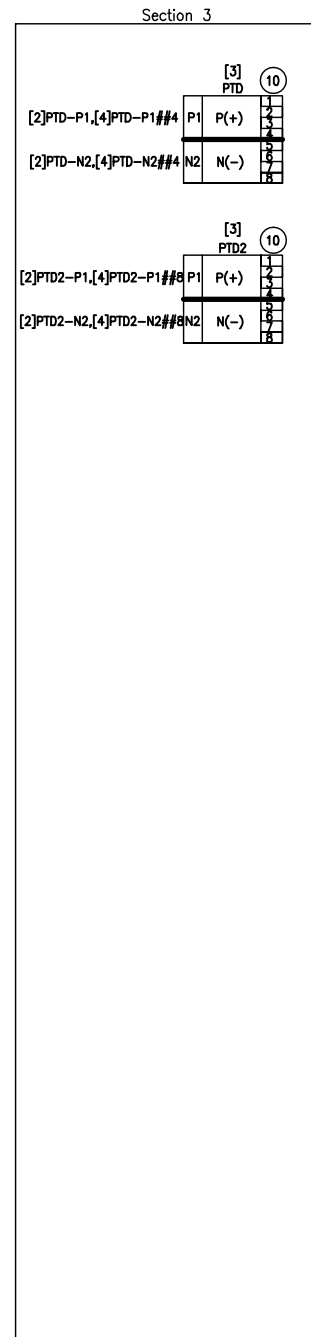
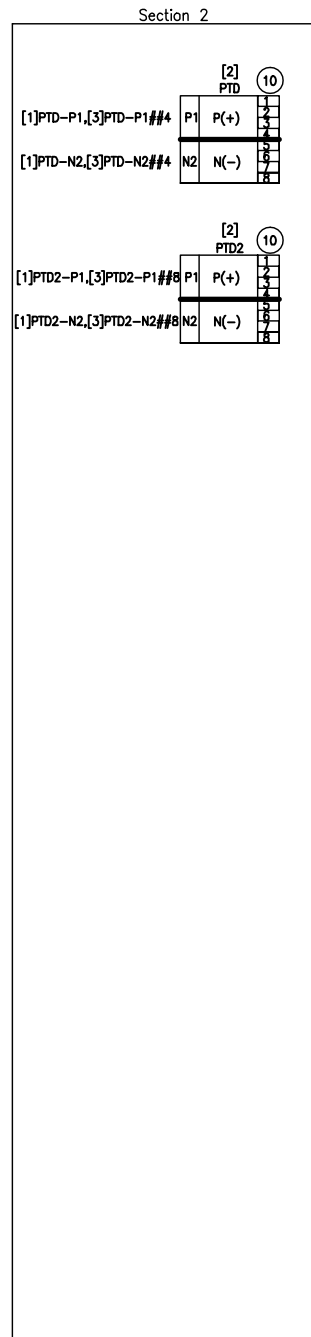
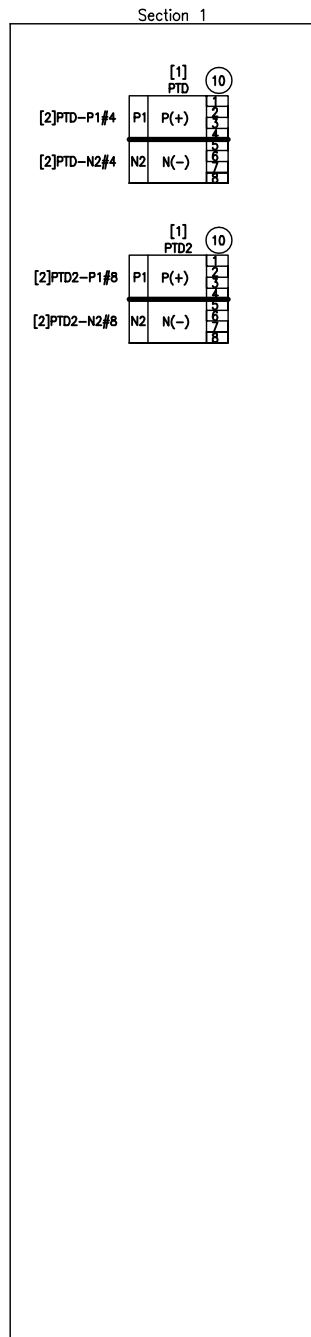
RIGHT SIDE PANEL

SECTION 4

SERIES 5

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	WIRING DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	W27086157-001-04

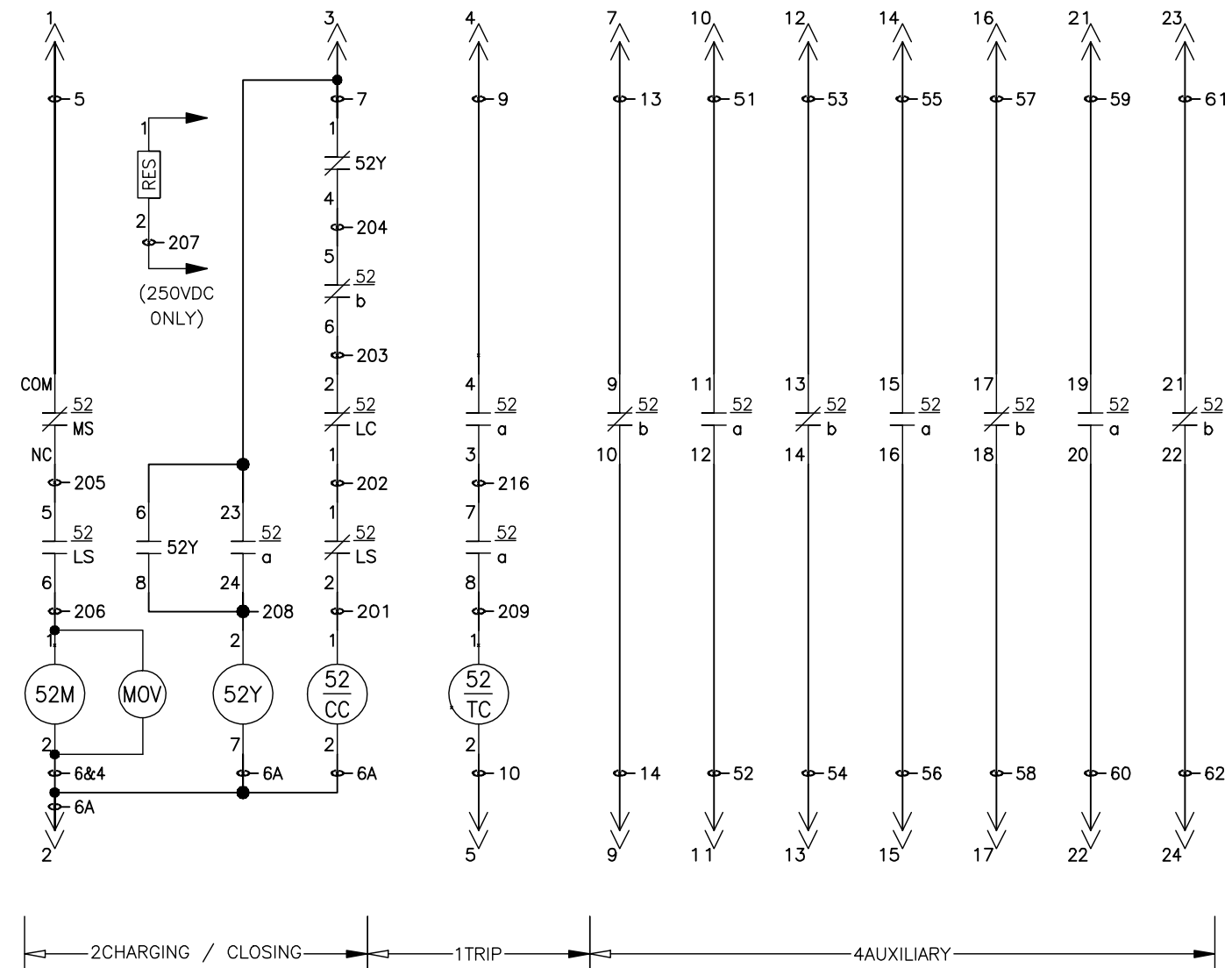
REV	DESCRIPTION	BY	DATE								
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INTERCONNECTION DIAGRAM

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	KAI BUI	DRAWING TYPE:	WIRING DIAGRAMS
ENGR:	TREVOR ADAMS		
DATE:	MAY 14, 2010		
DRAWING STATUS:	RECORD	DWG#	W27086157-001-IC
		PG 1	OF 1
		REV -	

REV	DESCRIPTION	BY	DATE						
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OPERATION OF BREAKER

1. THE BREAKER WILL CLOSE IF THE CLOSING SPRINGS HAVE BEEN CHARGED ELECTRICALLY OR MANUALLY. 52/MS ENSURES THAT THE CLOSING SPRINGS CAN ONLY BE CHARGED ELECTRICALLY WITH THE BREAKER IN THE CONNECTED AND TEST POSITIONS.
2. THE CLOSING CIRCUIT HAS CONTINUITY WHEN THE CLOSING SPRINGS ARE CHARGED AND THE BREAKER IS OPEN. APPLYING A CLOSE SIGNAL ENERGIZES THE CLOSE COIL, 52/CC. IT DISCHARGES THE CLOSING SPRINGS, CLOSING THE BREAKER AND CHARGING THE OPENING SPRINGS. WHEN THE BREAKER CLOSES, 52/a, 52/b AND 52/LS CHANGE STATE.
3. 52/a CLOSING ALLOWS CONTINUITY IN THE TRIP CIRCUIT AND PICKS UP THE ANTI-PUMP RELAY, 52Y. 52Y SEALS ITSELF IN, ENSURING THAT THE CLOSE SIGNAL MUST BE REMOVED AND REAPPLIED BEFORE THE BREAKER CAN BE CLOSED AGAIN. 52/b, 52/LS AND 52Y OPEN THE CLOSING CIRCUIT. 52/LS CHANGING STATE ALLOWS THE CLOSING SPRINGS TO BE CHARGED.
4. APPLYING A TRIP SIGNAL ENERGIZES THE TRIP COIL, 52/TC. IT DISCHARGES THE OPENING SPRINGS, OPENING THE BREAKER. WHEN THE BREAKER OPENS, 52/a AND 52/b CHANGE STATE.
5. SPARE 52/a AND 52/b CONTACTS INDICATE THE BREAKER STATE. 52/a CLOSURES WHEN THE BREAKER CLOSES. 52/b CLOSURES WHEN THE BREAKER OPENS.

LEGEND


- 52 CIRCUIT BREAKER
- 52M SPRING CHARGING MOTOR
- 52Y ANTI-PUMP RELAY
- 52/a AUX. SWITCH CONTACTS, OPEN WHEN BREAKER IS OPEN
- 52/b AUX. SWITCH CONTACTS, CLOSED WHEN BREAKER IS OPEN
- 52/CC CLOSE COIL
- 52/LC LATCH CHECK SWITCH
- 52/LS SPRING CHARGING MOTOR LIMIT SWITCH
- 52/MS MOTOR CUTOFF SWITCH
- 52/TC TRIP COIL
- RES RESISTOR (250VDC CLOSING ONLY)

NOTES:


1. BREAKER SHOWN IN THE OPEN STATE WITH CLOSING SPRINGS CHARGED.
2. WHERE WIRE NUMBERS CHANGE ON A WIRE, THERE ARE INTERVENING TERMINAL BLOCKS NOT SHOWN.
3. BREAKER WIRING DIAGRAM IS 46040-652.

JOB NAME: CUMMINS ARECIBO	EQUIPMENT DESIGNATION: A030R458
JOB LOCATION: FRIDLEY MN	EQUIPMENT TYPE: MASTERCLAD SWITCHGEAR
DRAWN BY: TDA	DRAWING TYPE: BREAKER INTERNAL SCHEMATIC
ENGR: TREVOR ADAMS	
DATE: MAY 12, 2010	
DRAWING STATUS: RECORD	DWG# R27086157-001-01

REV	DESCRIPTION	BY	DATE				
-	----	--	--/--/--	-	----	--	--/--/--

METALCLAD SWITCHGEAR	
SERIES <input type="text" value="5"/>	
FACTORY ORDER NO.	<input type="text" value="FO"/>
RATED MAXIMUM VOLTAGE	kV <input type="text" value="4.76"/>
IMPULSE WITHSTAND (BIL)	kV <input type="text" value="60"/>
FREQUENCY	HZ <input type="text" value="60"/>
CONTINUOUS CURRENT	A <input type="text" value="1200"/>
MAX SHORT CIRCUIT CUR.	KA SYM <input type="text" value="40"/>
 SQUARE D COMPANY SMYRNA, TN USA 46006-801-01	

SHIP LOOSE
ATTACH ONTO SECT 1 INTERCONNECT PAN.

JOB NAME:	CUMMINS ARECIBO	EQUIPMENT DESIGNATION:	A030R458
JOB LOCATION:	FRIDLEY MN	EQUIPMENT TYPE:	MASTERCLAD SWITCHGEAR
DRAWN BY:	TDA	DRAWING TYPE:	RATING NAMEPLATE
ENGR:	TREVOR ADAMS	 CUMMINS POWER GENERATION	
DATE:	MAY 12, 2010		
DRAWING STATUS:	RECORD	DWG#	N27086157-001-01
		PG	1 OF 1 REV -

Instruction Manuals

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Manual Quantity: 1

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Part Number	Description	Supplier
6055-30	INSTRUCTION BULLETIN, INDOOR SWITCHGEAR,4.76-15.0KV METAL-CLAD SWITCHGEAR.	SQUARE D COMPANY
6055-31	INSTRUCTION BULLETIN, TYPE VR VACUUM CIRCUIT BREAKER, 4.76 KV, 8.25KV, AND 15KV, 1200 A AND 2000 A UP TO 41KA.	SQUARE D COMPANY

Job Name:	CUMMINS ARECIBO		Engineer:	TDA	
Order Qty:	1	Rev:	2	Plant:	017
Status:	SH	Catalog No:	Fullv-Assembled MV MetalClad Swar	Order:	017-27086157-001-00-01-E