

Construction Type - LIGHT WEIGHT

OPTION	DESCRIPTION	QTY	NOTES	SPECIAL INSTRUCTIONS
IIB R9	CONSTRUCTION OPTIONS Class IIB Non-combustible "Carlisle" Single Ply Roof 12x16 shelter with Gen room			1 CABLE TIES MAY BE USED INSIDE POWER PANELS, WIREWAYS, AND ENCLOSURES AS LONG AS ENDS ARE PROPERLY CUT USING AN APPROVED TOOL. ALL CUSTOMER ACCESSABLE WIRE TIES, INCLUDING THE HALO GROUND SUPPORTS, MUST BE TIED USING WAX CORD.
	GENERAL EQUIPMENT ROOM OPTIONS			
GER2	Additional Rectifier Drop	2		2 RESERVED
GER3	Fiberglass Door Canopy (48"x36")	1	Size per shelter drawing	
GER4	Telco Board	1		
GER5	one (1) 6-foot fiberglass step ladder	1		
GER6	First Aid Kit	1		
GER7	One (1) 10# CO2 Type BC wall mounted fire extinguisher	2		3 RESERVED
	GENERATOR OPTIONS			
GEN1	Fiberglass Door Canopy (48"x36")	1	Generac - 48 kW - Diesel	
GEN2	Diesel Generator Installation including Remote Fuel Fill System	1		4 RESERVED
GEN4	Generator Room 2kW Wall Heater with Timer	1		
	HVAC OPTIONS			
HVAC13	Marvair AVPA60ACA050CU 100% Full Flow Economizer	2	Use BL260 Ckt Bkr	
HVAC14	Marvair S/07846 Commstat 4 HVAC WPU Controller	1		5 RESERVED
	ILC PANEL OPTIONS			
ILC1	Generac 120/240V, 1P, w/2 Category C TVSS, ATS, 42 Bkr Panel 30 Amp Rectifier Drops	1 8	Use BL230 Ckt Bkr, 10 AWG	6 RESERVED
	ILC INSTALLATION OPTIONS			
ILC11	With ATS and TVSS (Equip Room Only)	1		
	DOOR LOCK OPTIONS			
	Install Standard Dead Bolt and Handle Set			7 RESERVED
	H2 DETECTOR AND VENT FAN OPTIONS			
H2D1	Continuous Vent Fan System (25cfm exhaust fan)	1		
	EQUIPMENT INSTALLATION OPTIONS			8 RESERVED
	EXTERIOR FINISHES			
	Steni - Sunset			
	WGE LOCATION			9 RESERVED
	Location B			
				10 RESERVED
				11 RESERVED
				12 REFERENCE DRAWING 272011 - PROVIDE, PER WORK ORDER, PART NUMBER 265053-1 - PLATE, STRAIGHT, GALV, 1/2X10X12 FOR SHELTER TIE DOWN. SEE WORK ORDER FOR QUANTITY REQUIRED.

SITE SPECIFIC INFORMATION
 ATTLEBORO EAST, MA
 RICHARDSON AVE.
 ATTLEBORO, MA 02703

**VERIZON WIRELESS
 PRODUCTION CONFIGURATION
 CONTROL SHEET**

REVISIONS			
REV	DESCRIPTION	DATE	APPVD

AS BUILT
RELEASED
 NOV 03 2013
 VFP, INC.
 ENGINEERING

VFP, INC.

CORPORATE OFFICE
 1701 Midland Rd.
 Salem, VA 24153
 540-977-0500

MANUFACTURING FACILITY
 402 Industrial Park
 Duffield, VA 24244
 276-431-4000

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DEPT	REP	APPROVAL	DATE
ENGG	TC	<i>[Signature]</i>	11/5/13
MKTG	PM		

JOB NUMBER	130451-2933
SALES ORDER	26499
CUSTOMER	Verizon Wireless NNE
PART NUMBER	204524-002
SERIAL NUMBER	V115437

**11'6" X 26' X 9' Lightweight Metal
 shelter**

STATE INFORMATION

VFP, INCORPORATED

SHELTER MODEL VL1216-4

VERIZON NUMBER Vz12.16-4L

11'6" x 26'0" x 9'0"

LIGHTWEIGHT W/GENERATOR ROOM

IBC CODE SECTION 1603 DESIGN LOADS

- 1.1 FLOOR LIVE LOAD = 150PSF
- 1.2 ROOF LIVE LOAD = 105PSF
- 1.3 ROOF SNOW LOAD WITH A GROUND SNOW LOAD OF 100PSF
 - 1) FLAT-ROOF SNOW LOAD = 100PSF
 - 2) SNOW EXPOSURE FACTOR = 1.0
 - 3) SNOW IMPORTANCE FACTOR = 1.2
 - 4) THERMAL FACTOR = 1.0
- 1.4 WIND LOAD
 - 1) BASIC WIND SPEED = 130MPH
 - 2) WIND IMPORTANCE FACTOR = 1.0 & OCCUPANCY CATEGORY I
 - 3) WIND EXPOSURE = 'C'
 - 4) INTERNAL PRESSURE COEFFICIENT = +/- 0.55
 - 5) COMPONENTS AND CLADDING = N/A
- 1.5 EARTHQUAKE DESIGN DATA FOR LIGHTWEIGHT SHELTERS
 - 1) SEISMIC IMPORTANCE FACTOR = 1.0 & OCCUPANCY CATEGORY I
 - 2) MAPPED SPECTRAL RESPONSE ACCELERATIONS, SS = 1.85, S1 = 0.10
 - 3) SITE CLASS = 'D'
 - 4) SPECTRAL RESPONSE COEFFICIENTS SDS = 1.24, SD1 = 0.19
 - 5) SEISMIC DESIGN CATEGORY = D
 - 6) BASIC SEISMIC-FORCE RESISTING SYSTEM = (LIGHT FRAME WALLS WITH SHEET STEEL SHEAR PANELS)
 - 7) DESIGN BASE SHEAR
 - a) 36' = 1.4 KIPS
 - b) 34' = 1.3 KIPS
 - c) 32' = 1.2 KIPS
 - d) 26' = 1.0 KIPS
 - e) 15' = 0.7 KIPS
 - 8) SEISMIC RESPONSE COEFFICIENT, CS = 0.19
 - 9) RESPONSE MODIFICATION FACTOR, R = 6.5
 - 10) ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE

OVERALL AREA OF THIS BUILDING = 299 SQ. FT.
 OVERALL HEIGHT OF THIS BUILDING = 125 IN.
 THIS BUILDING IS NOT SPRINKLED.
 ALL GLAZING TO MEET ANSI 97.1 WITH
 CPSC 16 CFR PART 1201 REQUIREMENTS.
 ALL DOORS MINIMUM 90 MINUTE FIRE RATING.

Code Classification	Occy	Constr
SBC - SBCCI	S2	VI (u)
NBC - BOCA	S2	VB
UBC - ICBO	S2	V (n)
IBC - INTERNATIONAL BUILDING CODE	S2	2B OPTION

Allowable Stresses	
uniform floor load (while lifting)	125psf
uniform floor load (on foundation)	150psf
uniform roof live load	105psf
wind load (including sliding and overturning moments)	130mph
seismic	CAT. 'D'
fire rated wall	1 hour (2 hour option)
estimated shipping weight	36,000 LBS.

FIELD NOTES:

- A. ALLOWABLE STRESSES CALCULATED USING THE RECOMMENDED FOUNDATION WHILE ANCHORED WITH VFP-DESIGNED HARDWARE.
- B. ACTUAL FOUNDATION CONCRETE AND STEEL DESIGN BY OTHERS BASED ON LOCAL SOIL CONDITIONS, SUBJECT TO LOCAL CODES.

INDEX OF DRAWINGS

DRAWING	DESCRIPTION
204524-001, SHEET 1	TITLE, ALLOWABLE STRESSES, REV STATUS
204524-001, SHEET 2	-001 BASE MODEL INDEX
204524-001, SHEET 3	PANEL SCHEDULE/ONE LINE
204524-001, SHEET 4	EXTERIOR ELEVATIONS
204524-001, SHEET 5	BILL OF MATERIAL
204524-001, SHEET 6	OPTION MATRIX
204524-001, SHEET 7	OPTION MATRIX
204524-001, SHEET 8	INTERIOR FOLDOUT
204524-001, SHEET 9	INTERIOR WALL LAYOUT
204524-001, SHEET 10	REFLECTED CEILING, LEGEND
204524-001, SHEET 11	INTERIOR GROUNDING
204524-001, SHEET 12	CONSTRUCTION DETAILS
204524-001, SHEET S1	LONG WALL PANEL LAYOUT
204524-001, SHEET S2	SHORT WALL PANEL LAYOUT
204524-001, SHEET S3	ROOF FRAMING LAYOUT
204524-001, SHEET S4	STANDING SEAM ROOF
204524-002, SHEET 13	-002 BASE MODEL MIRRORED INDEX
204524-002, SHEET 14	PANEL SCHEDULE/ONE LINE
204524-002, SHEET 15	EXTERIOR ELEVATIONS
204524-002, SHEET 16	BILL OF MATERIAL
204524-002, SHEET 17	OPTION MATRIX
204524-002, SHEET 18	OPTION MATRIX
204524-002, SHEET 19	INTERIOR FOLDOUT
204524-002, SHEET 20	INTERIOR WALL LAYOUT
204524-002, SHEET 21	REFLECTED CEILING, LEGEND
204524-002, SHEET 22	INTERIOR GROUNDING
204524-002, SHEET 23	CONSTRUCTION DETAILS
204524-002, SHEET S5	LONG WALL PANEL LAYOUT
204524-002, SHEET S6	SHORT WALL PANEL LAYOUT
204524-002, SHEET S7	ROOF FRAMING LAYOUT
204524-002, SHEET S8	STANDING SEAM ROOF
204524, SHEET F1	FLOOR CASTING
204524, SHEET F2	8" THICK FLOOR DETAILS
204524, SHEET S9	2HR ROOF FRAMING LAYOUT
204524, SHEET S10	2HR STANDING SEAM ROOF
204524, SHEET S11	KYNAR STANDING SEAM ROOF

101116, GENERAL NOTES

-002	MIRROR IMAGE	13-23, F1-F2, S5-S8
-001	AS SHOWN	2-12, F1-F2, S1-S4
DASH	DESCRIPTION	SHEETS

PART NUMBER	
D	D
S11	S10
S9	S8
S7	S6
S5	S4
S3	S2
S1	F2
F1	23
22	21
20	19
18	17
16	15
14	13
12	11
10	9
8	7
6	5
4	3
2	1

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TKL	5/30/13	B
UPDATED PRINTS			
TJC	TKL	6/11/13	C
UPDATED SPLIT PANS			
SAG	TKL	8/05/13	D
ADDED KYNAR STANDING SEAM ROOF			

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DRAWN BY	T.CARICO	DATE	9/28/12
CHECKED BY	W.E. CULLOP	DATE	2/11/13
CHECKED BY	W.J. BLANKENSHIP	DATE	2/15/13
DRAWING NOT TO SCALE			
SIZE	B	CAGE NO	53223
REV	D		
PLOT SCALE	1/4"=1'0"	MODEL	VL1216-4
TITLE	11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER TITLE SHEET		
DRAWING NO.	204524		
SHEET	1 of 23		

VFP, INCORPORATED
 SHELTER MODEL VL1216-4
 VERIZON NUMBER Vz12.16-4ML
 11'6" x 26'0" x 9'0" BASE MODEL
 OPTION MIRRORED LIGHTWEIGHT W/GENERATOR ROOM

NOTES

- 13-1. REFER TO DWG. 101116 FOR GENERAL NOTES.
- 13-2. INSTALL HALO GROUND AS SHOWN ON SHEETS 20 & 22.
- 13-3. NON-STRUCTURAL ITEMS AS MAY BE SPECIFIED BY THE CUSTOMER, SUCH AS, BUT NOT LIMITED TO, INTERIOR AND EXTERIOR FINISH COLORS, ACCESSORIES, REVERSE DOOR SWING, AND SIMILAR ITEMS WILL BE SPECIFIED ON THE PRODUCTION CONFIGURATION CONTROL SHEET FOR EACH JOB.
- 13-4. REFER TO SPECIFIC PAGES FOR ADDITIONAL NOTES.
- 13-5. STATE SUBMITTAL INFORMATION TO BE COMPLETED AS REQ'D FOR APPROVAL.
- 13-6. SEE PRODUCTION CONFIGURATION SHEET FOR OPTIONS AND SPECIAL INSTRUCTIONS.

BASE MODEL OPTION MIRRORED-002

INDEX OF DRAWINGS	
DRAWING	DESCRIPTION
204524-002, SHEET 13	INDEX SHEET
204524-002, SHEET 14	PANEL SCHEDULE/ONE LINE
204524-002, SHEET 15	EXTERIOR ELEVATIONS
204524-002, SHEET 16	BILL OF MATERIAL
204524-002, SHEET 17	OPTION MATRIX
204524-002, SHEET 18	OPTION MATRIX
204524-002, SHEET 19	INTERIOR FOLDOUT
204524-002, SHEET 20	INTERIOR WALL LAYOUT
204524-002, SHEET 21	REFLECTED CEILING, LEGEND
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204524, SHEET F1	FLOOR CASTING
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204524-002, SHEET S7	ROOF FRAMING LAYOUT
204504-002, SHEET S8	STANDING SEAM ROOF
101116, GENERAL NOTES	

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	<i>[Signature]</i>	4/15/13	A

UPDATED PRINTS

AS BUILT

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CHECKED BY W.E. GULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53225
REV A	
PLAT SCALE 1/4"=1'0"	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER INDEX SHEET	
DRAWING NO. 204524	
SHEET 13 of 23	

ILC (INTEGRATED LOAD CENTER) 200A, 14-1, 1Ø/3W, 60Hz, M.BKR

LOAD	VOLT AMPERES (WATTS)		WIRE	BREAKER	TRIP	CIRCUIT	BREAKER	WIRE	VOLT AMPERES (WATTS)		LOAD	
	A	B							A	B		
* RECTIFIER #1	1400		-	2	RECT	1	HVAC	-		3336	ACH1	
* RECTIFIER #2	1400	1400	-	2	RECT	5	HVAC	-		3336	ACH2	
* RECTIFIER #3	1400		-	2	RECT	9	HVAC	-			ACH3	
* RECTIFIER #4	1400	1400	-	2	RECT	13	HVAC	-			FUTURE	
* RECTIFIER #5	1400	1400	-	2	RECT	17	HVAC	-			ACH4	
* RECTIFIER #6	1400		-	2	RECT	21	HVAC	-		1252	INTERIOR LIGHTS/LM	
* RECTIFIER #7			-	2	RECT	25	HVAC	-		109	EXTERIOR LIGHTS	
* RECTIFIER #8			-	2	RECT	29	HVAC	-		100	GEN ROOM LOUVERS	
SPARE			-	2	RECT	33	HVAC	-			HYDROGEN DETECTOR/FAN OPTION	
AIRSYS CONTROLLER OPTION	60		12	2	20	37	15**	1	12		CORD REEL & RCPT	
EXTERIOR GFCI RECEPTACLE	180		12	1	20	41	15**	1	12		GEN. ROOM HEATER/TIMER OPTION	
VOLT AMPERES PER PHASE		8640	8460							8576	7141	VOLT AMPERES PER PHASE
* ASSUMED LOADS						17216	15601					TOTAL VOLT AMPERES
** MAY NEED TO CHANGE DUE TO GENERATOR TYPE						143	130					TOTAL AMPS PER PHASE
20A FOR GENERAC GENERATOR						179						AMPERES x 125%
PLACE CIRCUIT DIRECTORY IN PLASTIC SLEEVE						197						x 110% FOR MAIN
& AFFIX TO INSIDE OF ILC PANEL												

NOTES:

14-1 120/208VAC OR 120/240VAC VOLTAGE OPTIONS FOR ILC.

14-2 FOR GENERATOR ALARM WIRING REFER TO DRAWINGS:
 473250 - MTU GAS GENERATOR
 473252 - GENERAC DIESEL
 473251 - GENERAC GAS
 473253 - MTU DIESEL

ALARM	WIRE	TERMINAL
DOOR INTRUSION #1 3/22 SOL	DA1-NC	RED - 1
	DA1-C	WHT - 2
DOOR INTRUSION #2 3/22 SOL	DA2-NC	RED - 3
	DA2-C	WHT - 4
SMOKE ALARM 3/22 SOL	D1-NC	RED - 5
	D1-C	WHT - 6
HIGH TEMP ALARM 3/22 SOL	HTA-NC	RED - 7
	HTA-C	WHT - 8
LOW TEMP ALARM 3/22 SOL	LTA-NC	RED - 9
	LTA-C	WHT - 10
SURGE ARRESTOR-GENSET AC POWER 3/22 SOL	SA1-NC	RED - 11
	SA1-C	WHT - 12
SURGE ARRESTOR-COMMERCIAL AC POWER 3/22 SOL	SA2-NC	RED - 13
	SA2-C	WHT - 14
UTILITY POWER FAIL 3/22 SOL	PFA-NC	RED - 15
	PFA-C	WHT - 16
HVAC LOCKOUT #1 FAIL 3/22 SOL	HFA1-NC	RED - 17
	HFA1-C	WHT - 18
HVAC LOCKOUT #2 FAIL 3/22 SOL	HFA2-NC	RED - 19
	HFA2-C	WHT - 20
FUTURE HVAC #3 FAIL 3/22 SOL	HFA3-NC	RED - 21
	HFA3-C	WHT - 22
FUTURE HVAC #4 FAIL 3/22 SOL	HFA4-NC	RED - 23
	HFA4-C	WHT - 24
HVAC #1 & #2 DIRTY FILTER 3/22 SOL	HDF1-NC	RED - 25
	HDF1-C	WHT - 26
		WHT - 27
		WHT - 28
HVAC #3 & #4 DIRTY FILTER 3/22 SOL	HDF3-NC	RED - 29
	HDF3-C	WHT - 30
		WHT - 31
		WHT - 32
RECTIFIER FAILURE 3/22 SOL	RF1-NC	RED - 33
	RF1-C	WHT - 34
MULTIPLE RECTIFIER FAILURE 3/22 SOL	MRF1-NC	RED - 35
	MRF1-C	WHT - 36
BATTERY DISCHARGE 3/22 SOL	BD1-NC	RED - 37
	BD1-C	WHT - 38
HVAC ECONOMIZER FAILURE 3/22 SOL	HEF1-NC	RED - 39
	HEF1-C	WHT - 40
		WHT - 41
		WHT - 49
		WHT - 50

ALARM	WIRE	TERMINAL
EMERG. GENERATOR POWER (LOCATED IN XFER SW. IN PP1) 3/22 SOL	GP1-NC	RED - 1
	GP1-C	WHT - 2
GENERATOR RUN 3/22 SOL	GR1-NC	RED - 3
	GR1-C	WHT - 4
GENERATOR RUN 3/22 SOL	GR2-NC	RED - 5
	GR2-C	WHT - 6
GENERATOR OVERCRANK 3/22 SOL	GOC-NC	RED - 7
	GOC-C	WHT - 8
GENERATOR OVERSPEED 3/22 SOL	GOS-NC	RED - 9
	GOS-C	WHT - 10
GEN LOW OIL PRESSURE 3/22 SOL	GLOP-NC	RED - 11
	GLOP-C	WHT - 12
GEN HIGH WATER TEMP 3/22 SOL	GHWT-NC	RED - 13
	GHWT-C	WHT - 14
GENERATOR LOW FUEL 3/22 SOL	GLF-NC	RED - 15
	GLF-C	WHT - 16
GEN RPM SENSOR LOSS 3/22 SOL	GRSL-NC	RED - 17
	GRSL-C	WHT - 18
GEN BATT CHARGER FAILURE 3/22 SOL	GBCF-NC	RED - 19
	GBCF-C	WHT - 20
GEN LOW BATT VOLTAGE 3/22 SOL	GLBV-NC	RED - 21
	GLBV-C	WHT - 22
GEN LOUVER NOT OPEN 3/22 SOL	GLNO-NC	RED - 23
	GLNO-C	WHT - 24
OVER/UNDER BATT. VOLTAGE 3/22 SOL	OUBV-NC	RED - 25
	OUBV-C	WHT - 26
HYDROGEN DETECTOR ALARM 3/22 SOL	HDA-NC	RED - 27
	HDA-C	WHT - 28
VESDA ECO HYDROGEN DETECTOR 3/22 SOL	VEHD-NC	RED - 29
	VEHD-C	WHT - 30
VESDA VLF-500 SMOKE DETECTOR FAULT ALARM 3/22 SOL	VSDF-NC	RED - 31
	VSDF-C	WHT - 32
VESDA VLF-500 SMOKE DETECTOR ACTION ALARM 3/22 SOL	VSDA-NC	RED - 33
	VSDA-C	WHT - 34
VESDA VLF-500 SMOKE DETECTOR FIRE ALARM 3/22 SOL	VSDF-NC	RED - 35
	VSDF-C	WHT - 36
LP/NATURAL GAS DETECTOR ALARM 3/22 SOL	****-NC	RED - 37
	****-C	WHT - 38

TERMINAL BOARD DETAIL

(SHOWN TO OPEN ON ALARM)
 (SHOWN IN A DENERGIZED STATE)
 GENERATOR INFO IS SHOWN FOR CUSTOMER USE ONLY.

REFER TO GENERATOR WIRING SUPPORT DIAGRAMS FOR ACTUAL AVAILABLE ALARMS 14-2

REFER TO HVAC WIRING SUPPORT DIAGRAMS FOR ACTUAL AVAILABLE ALARMS

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A

UPDATED PRINTS

TJC	JPL	5/29/13	B
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UPDATED SCHEDULE, ADD NOTE

AS BUILT

ENCLOSURE

REC'D B 2013

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PE LICENSING

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 PE LICENSE: STATE OF VA

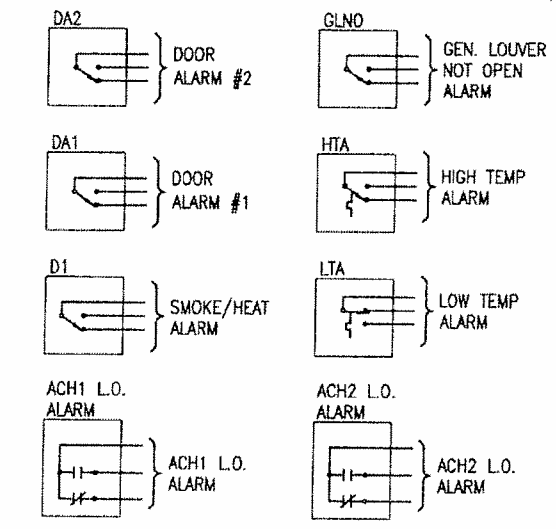
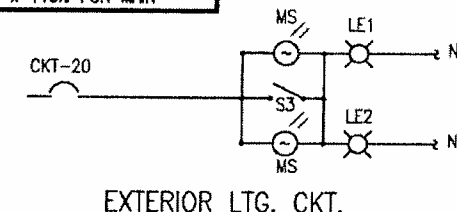
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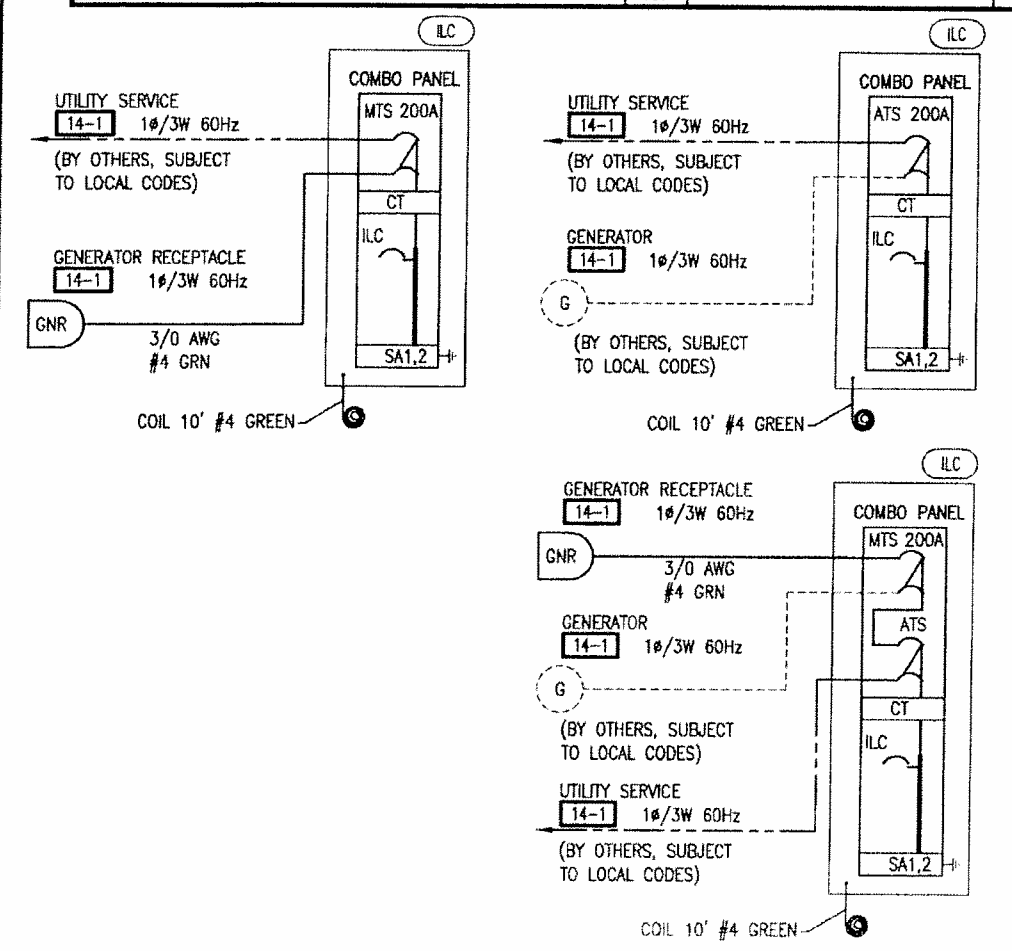
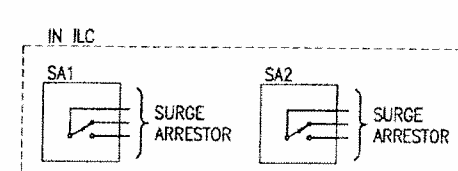
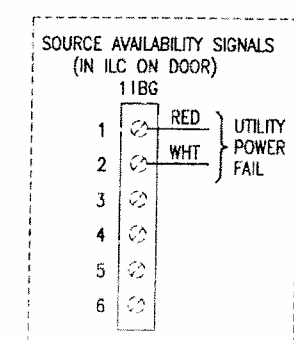
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DRAWN BY T. CARICO	DATE 9/28/12
CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV B	
PLOT SCALE 1/4"=1'-0"	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER PANEL SCHED/ONE-LINE	
DRAWING NO. 204524	
SHEET 14 of 23	



N.O. BLK
 C. WHT
 N.C. RED

USE 3/22 AWG SOL WIRE



OPTIONAL ONE-LINE WIRING DIAGRAMS

ALARM WIRE COLOR CODE

NOTES: 15-1. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

15-2 ONLY ONE CABLE ENTRY PORT LOCATION WILL BE USED AS CUSTOMER SPECIFIED. **B**

15-3 BUILDING I.D. PLATE

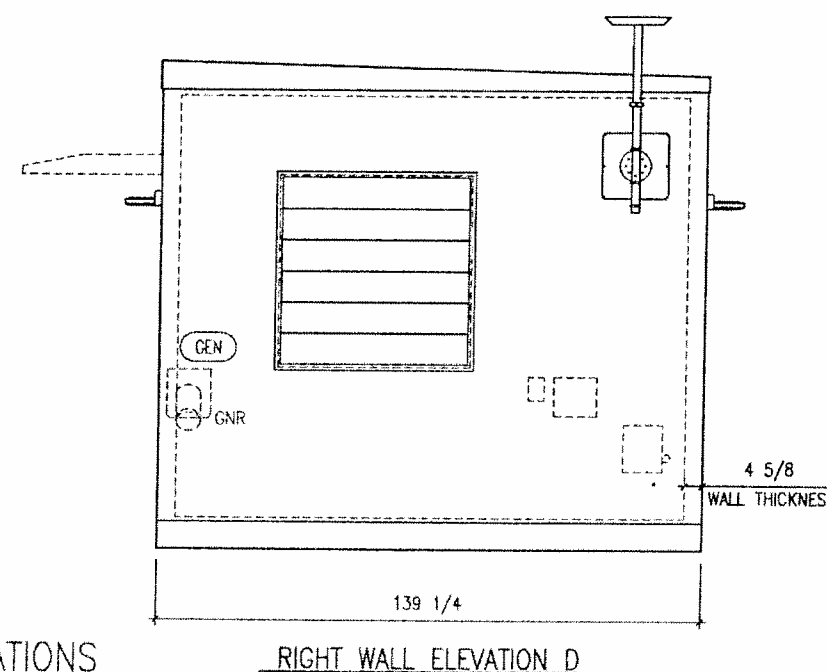
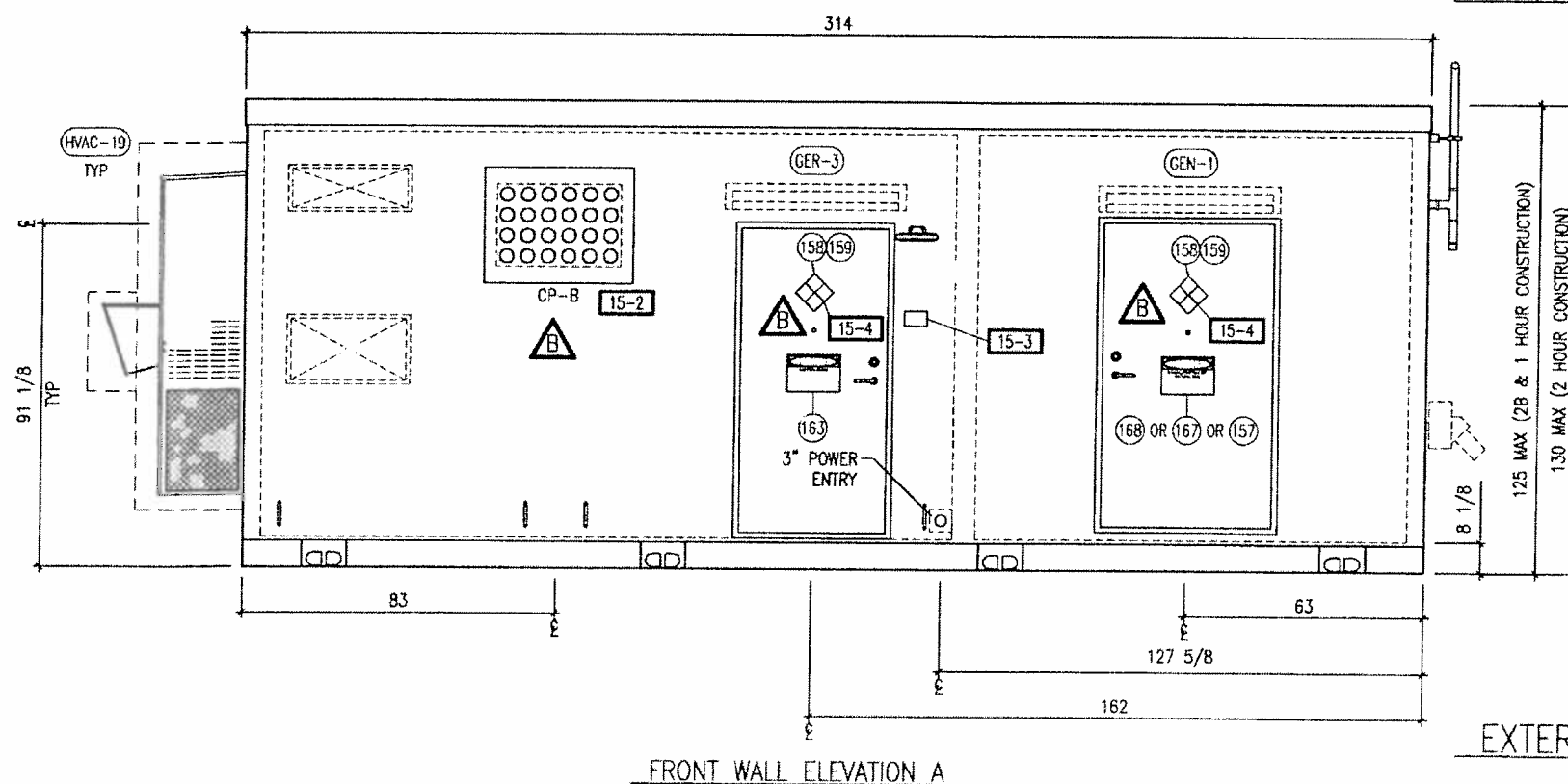
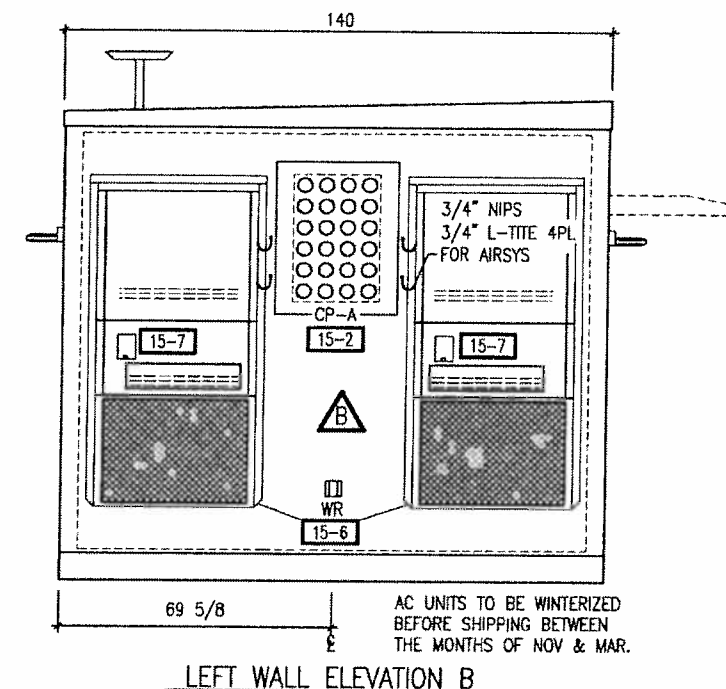
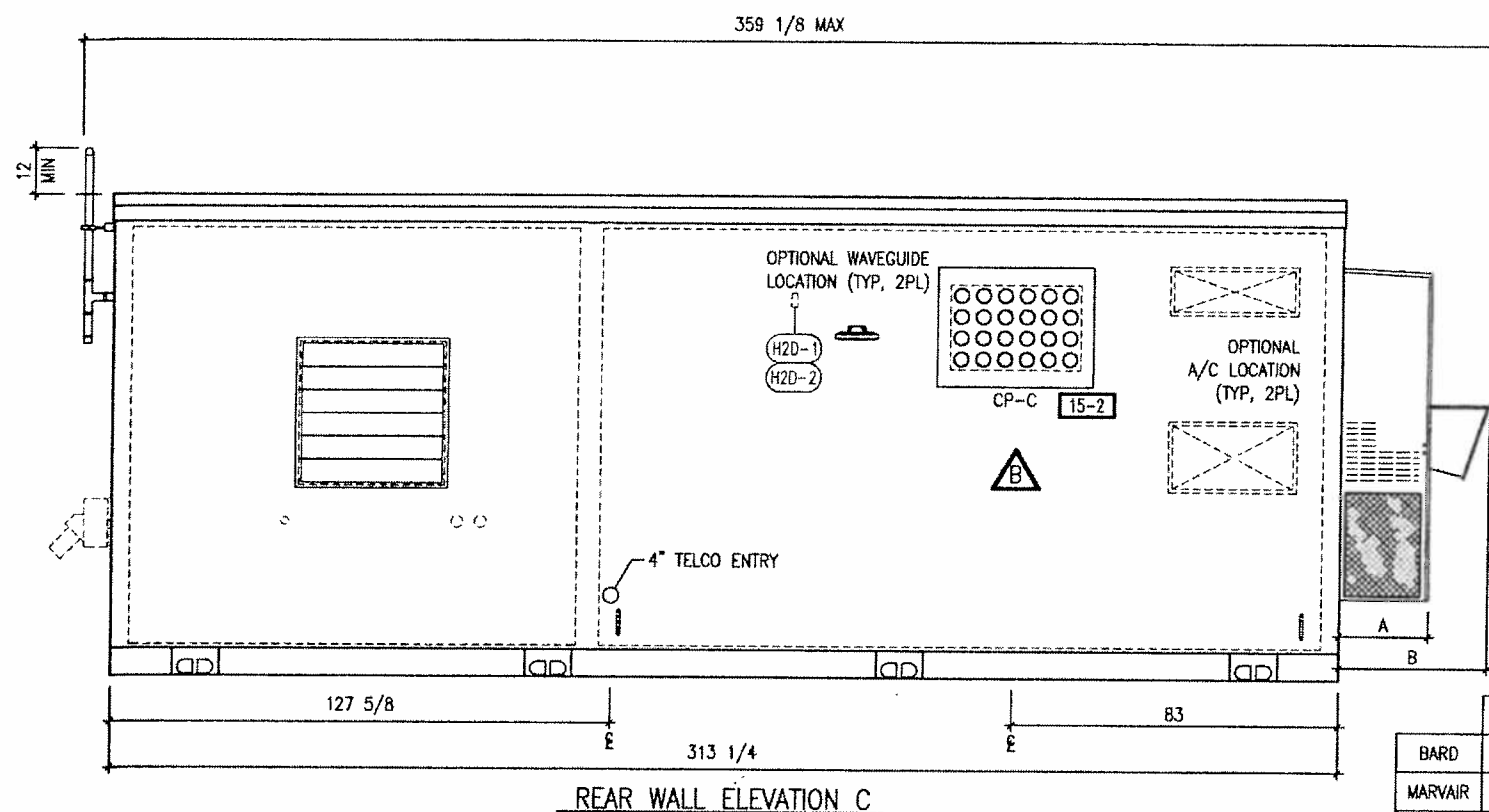
15-4 SEE SHEET 473210 FOR PROPER GENERATOR & BATTERY HAZMAT SIGN LAYOUT.

15-5. *SEE DWG 473220 FOR CABLE LADDER/GROUNDING DETAILS.

15-6 ATTACH A/C'S WITH TAMPER PROOF HARDWARE. ANY FLEXIBLE CONDUIT VISIBLE FROM OUTSIDE MUST BE LIQUIDTITE. **B**

15-7 INSTALL AIRSYS "COMPRESSOR SUPPORT BRACKET" REMOVAL LABELS OVER THE CIRCUIT BREAKER PANEL COVER LOCATED ON THE OUTSIDE OF EACH UNIT. THE AIR CONDITIONER CIRCUIT BREAKERS WILL BE SHIPPED IN THE OFF POSITION.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	(T)	5/14/13	B
UPDATED PRINTS			



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ENGINEERING

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DRAWN BY T. CARICO	DATE 9/28/12
CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV B	
PLOT SCALE 1/4"=1'-0"	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER EXTERIOR ELEVATIONS	
DRAWING NO. 204524	
SHEET 15 of 23	

CONSTRUCTION OPTIONS

OPT	VERIZON DESIGNATION	DRAWING	ITEM	PART NUMBER	QTY	UM
2B	NON-COMBUSTIBLE CONSTRUCTION					
2HR	VZ-COHC-2HR-LVL4-WALLS					
BUL	VZB.20LEVELJBR-LW					

ROOF OPTIONS

OPT	VERIZON DESIGNATION	DRAWING	ITEM	PART NUMBER	QTY	UM	
R-1	VZ12.20-KYNAR-SSMR-CON	473275	200	STARTER COMMON PANEL	1	EA	
			201	STANDARD PANEL 20'	11	EA	
			202	END COMMON PANEL	1	EA	
			203	END CAP (RIGHT)	1	EA	
			204	END CAP (LEFT)	1	EA	
205	FLASHING 5'X20'	5	EA				
R-2	VZ12.30-KYNAR-SSMR-CON	473275	200	STARTER COMMON PANEL	1	EA	
			201	STANDARD PANEL 20'	17	EA	
			202	END COMMON PANEL	1	EA	
			203	END CAP (RIGHT)	1	EA	
			204	END CAP (LEFT)	1	EA	
205	FLASHING 5'X20'	7	EA				
R-3	VZ12.16-KYNAR-SSMR-CON	473275	200	STARTER COMMON PANEL	1	EA	
			201	STANDARD PANEL 20'	9	EA	
			202	END COMMON PANEL	1	EA	
			203	END CAP (RIGHT)	1	EA	
			204	END CAP (LEFT)	1	EA	
205	FLASHING 5'X20'	5	EA				
R-4	VZ12.26-KYNAR-SSMR-CON	473275	200	STARTER COMMON PANEL	1	EA	
			201	STANDARD PANEL 20'	14	EA	
			202	END COMMON PANEL	1	EA	
			203	END CAP (RIGHT)	1	EA	
			204	END CAP (LEFT)	1	EA	
205	FLASHING 5'X20'	7	EA				
R-5	VZB.20-KYNAR-SSMR-CON	473275	200	STARTER COMMON PANEL	1	EA	
			201	STANDARD PANEL 20'	11	EA	
			202	END COMMON PANEL	1	EA	
			203	END CAP (RIGHT)	1	EA	
			204	END CAP (LEFT)	1	EA	
205	FLASHING 5'X20'	5	EA				
R-6	VZ12.20-EPDM-CON	473270				1	KT
R-7	VZ12.30-EPDM-CON	473270		PER SHELTER DRAWING		1	KT
R-8	VZ12.16-EPDM-CON	473270		PER SHELTER DRAWING		1	KT
R-9	VZ12.26-EPDM-CON	473270		PER SHELTER DRAWING		1	KT
R-10	VZB.20-EPDM-CON	473270		PER SHELTER DRAWING		1	KT

GENERAL EQUIPMENT ROOM OPTIONS

OPT	VERIZON DESIGNATION	DRAWING	ITEM	PART NUMBER	QTY	UM
GER-1	VZ-24X36-DRAWINGS	N/A	N/A	N/A	N/A	N/A
GER-2	VZ-RECT-DRDP	N/A	N/A	N/A	N/A	N/A
GER-3	VZ-F/G-AWNING-48X36	301471	N/A	301471-148	1	EA
GER-4	VZ-TELCBRD	162408	N/A	162408-075	1	EA
GER-5	VZ-LADDER-6'-SHIP LOOSE	178121	N/A	178121-004	1	EA
GER-6	VZ-FAK-SHIP LOOSE	195001	N/A	195001-005	1	EA
GER-7	VZ-FE 10# CO2-SHIP LOOSE	195005	N/A	195005-001	1	EA
GER-8	VZ-STEPSTOOL-SHIP LOOSE	N/A	N/A	178121-005	1	EA
GER-9	VZ-CORKBRD-SHIP LOOSE	N/A	N/A	178096-004	1	EA
GER-10	VZ-18" CABLETRAY OPTION	N/A	N/A	350248-018	AR	EA

GENERATOR OPTIONS

OPT	VERIZON DESIGNATION	DRAWING	ITEM	ITEM/PART NUMBER	QTY	UM
GEN-1	VZ-F/G-AWNING-48X36	301471	N/A	301471-148	1	EA
GEN-2	VZ-DSL-GEN-INSTALL	473252	GENERAC	WIRING	1	EA
		473260/473261	GENERAC	PIPING	1	EA
		473253	KATOLIGHT	WIRING	1	EA
473260/473261	KATOLIGHT	PIPING	1	EA		
GEN-3	VZ-HG/LP-GEN-INSTALL	473251	GENERAC	WIRING	1	EA
		473250	KATOLIGHT	WIRING	1	EA
		473262	PROPANE	PIPING	1	EA
		473263	NATURAL GAS	PIPING	1	EA
GEN-4	VZ-HEATER-GENRM	N/A	HEATER	CB0 2004 C460M	1	EA
GEN-5	VZ-VOL BARS-GENRM	301342		PER SHELTER DRAWING	1	EA
GEN-6	VZ-SOUNDATTN-LOWERS-GENRM	N/A	INTAKE	PER SHELTER DRAWING	1	EA
			EXHAUST	PER SHELTER DRAWING	1	EA
			LOUVER MOTOR	PER SHELTER DRAWING	1	EA
GEN-7	VZ-ENAMCOAT-LOWERS-GENRM	N/A	INTAKE	PER SHELTER DRAWING	1	EA
			EXHAUST	PER SHELTER DRAWING	1	EA
			LOUVER MOTOR	PER SHELTER DRAWING	1	EA
GEN-8	VZ-MDC-LOWERS-GENRM	N/A	INTAKE	PER SHELTER DRAWING	1	EA
			EXHAUST	PER SHELTER DRAWING	1	EA
			LOUVER MOTOR	PER SHELTER DRAWING	1	EA
GEN-9	VZ-GENINSTALL-OUTDOOR	TBD			1	EA
GEN-10	VZ-FENCE/GATES-PATIO	TBD			1	EA



HVAC OPTIONS

OPT	VERIZON DESIGNATION	ITEM	PART NUMBER
HVAC-1	H42A1-A05WPXXXJ(RT)	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-2	H42L1-A05WPXXXJ(LFT)	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-3	H48A1-A05WPXXXJ(RT)	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-4	H48L1-A05WPXXXJ(LFT)	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-5	H60A1-A05WPXXXJ(RT)	CKT BREAKER	BL260 (ILC 1,3,5,7) / Q0B260 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-6	H60L1-A05WPXXXJ(LFT)	CKT BREAKER	BL260 (ILC 1,3,5,7) / Q0B260 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-7	MY4000B	BARO CONTROLLER	WIRING DRAWING 473200
HVAC-8	VZ-RTS-BARD	BARO SENSOR	8612-023
		BOX, 2-1/8 X 4, 1/2 KO	
		COVER, 2-1/8, BLK	350004-001
HVAC-9	AVPA42ACAD50CU-A2-100-VAR	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-11	AVPA48ACAD50CU-A2-100-VAR	CKT BREAKER	BL250 (ILC 1,3,5,7) / Q0B250 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-13	AVPA60ACAD50CU-A2-100-VAR	CKT BREAKER	BL260 (ILC 1,3,5,7) / Q0B260 (ILC 2,4,6,8,9)w/#BAWG
		GRILL-SUPPLY	DAHV-30X10TB
		GRILL-RETURN	DARH-30X16TB
		SLEEVE-SUPPLY	265255-008
		SLEEVE-RETURN	265255-015
HVAC-14	S/07846	MARVAIR CONTROLLER	WIRING DRAWING 473202
HVAC-15	4070141100	CKT BREAKER	BL235 (ILC 1,3,5,7) / Q0B235 (ILC 2,4,6,8,9)w/#BAWG
		SLEEVE-SUPPLY	265255-016
HVAC-16	4070132100	SLEEVE-RETURN	265255-017
		CKT BREAKER	BL235 (ILC 1,3,5,7) / Q0B235 (ILC 2,4,6,8,9)w/#BAWG
HVAC-17	4070141400	SLEEVE-SUPPLY	265255-018
		SLEEVE-RETURN	265255-019
		CKT BREAKER	BL240 (ILC 1,3,5,7) / Q0B240 (ILC 2,4,6,8,9)w/#BAWG
HVAC-18	2040303110	SLEEVE-SUPPLY	265255-020
		SLEEVE-RETURN	265255-021
HVAC-19	VZ-A/C CAGE	AIRSYS CONTROLLER	WIRING DRAWING 473201
		CKT BREAKER	BL220 (ILC 1,3,5,7) / Q0B220 (ILC 2,4,6,8,9) 12 AWG

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TR	5/14/13	B
UPDATED PRINTS			

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ENGINEERING

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CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13

DRAWING NOT TO SCALE		
SIZE B	CAGE NO 53223	REV B
PLOT SCALE 1/4"=1'0"	MODEL VL1216-4	

TITLE
11'6" x 26'0" x 9'0"
LIGHTWEIGHT SHELTER
OPTION MATRIX

DRAWING NO.
204524

SHEET
17 of 23

ILC OPTIONS		
OPT	VERIZON DESIGNATION	DESCRIPTION
ILC-1	004877	GENERAC, 120/240VAC, 1PH, ATS
ILC-2	AA300-1-458-2-6M	INTERSECT, 120/240VAC, 1PH, ATS
ILC-3	004893	GENERAC, 120/208VAC, 1PH, ATS
ILC-4	AA300-1-A-458-2-6M	INTERSECT, 120/208VAC, 1PH, ATS
ILC-5	004896	GENERAC, 120/240VAC, 1PH, MTS
ILC-6	AM300M-1-458-2-6M	INTERSECT, 120/240VAC, 1PH, MTS
ILC-7	004898	GENERAC, 120/208VAC, 1PH, MTS
ILC-8	AM300M-1-A-458-2-6M	INTERSECT, 120/208VAC, 1PH, MTS
ILC-9	AA1220042-35	INTERSECT, 120/208VAC, 1PH, MTS
ILC-10	VZ-ILC-INSTALL-ATS	
ILC-11	VZ-ILC-INSTALL-MTS	
ILC-12	VZ-ILC-INSTALL-ATS/MTS	

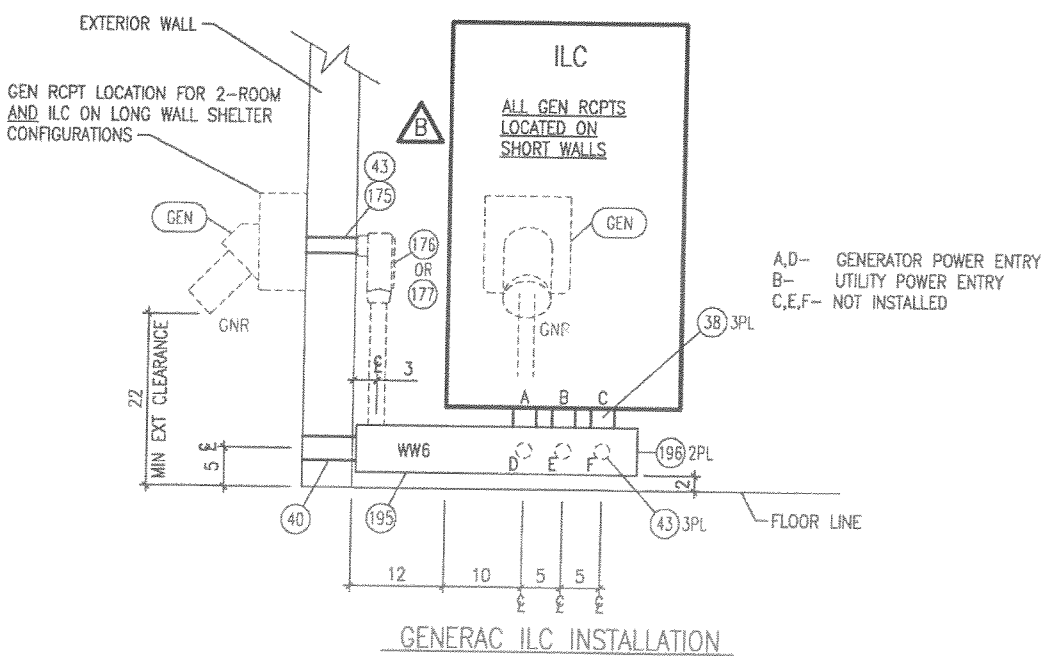
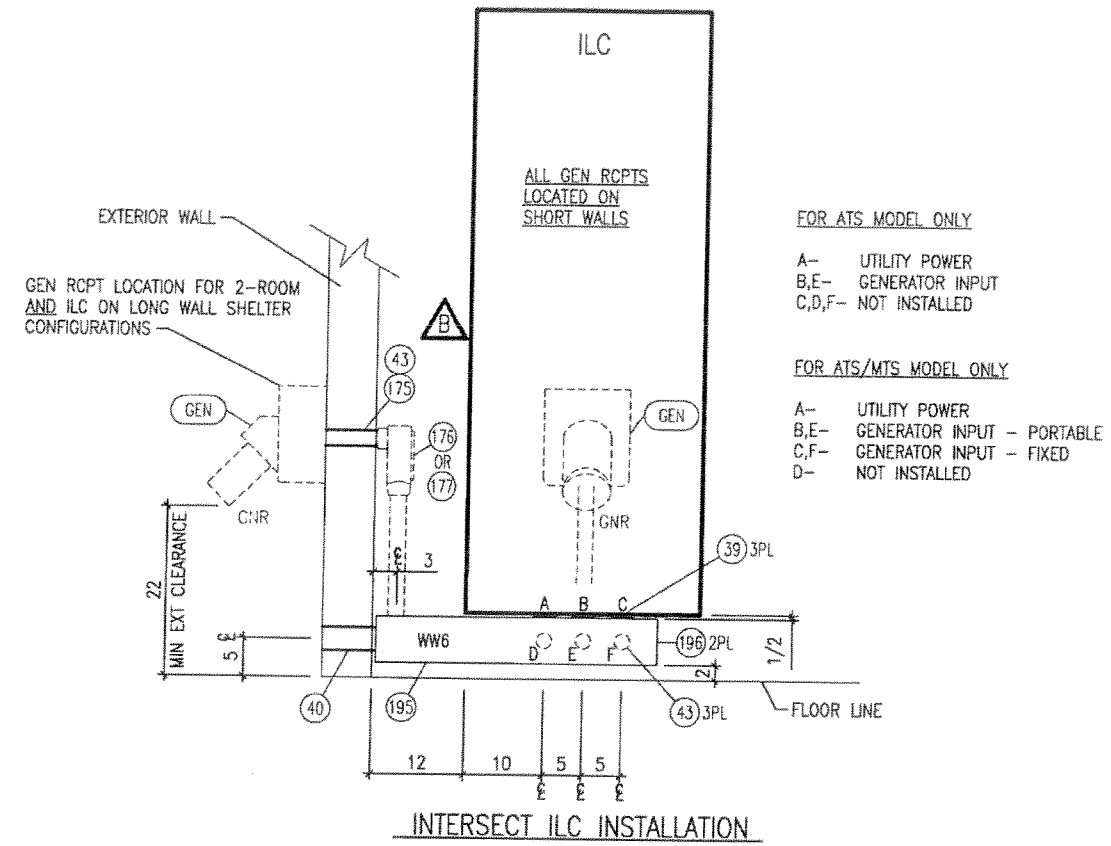
RECTIFIER DROP OPTIONS			
OPT	VERIZON DESIGNATION	OPTION ILC 2,4,6,8,9	OPTION ILC 1,3,5,7
RECT-1	DC RECTIFIER FEED INFO - 20A	(B) QOB220 W/#12AWG	(B) BL220 W/#12AWG
RECT-2	DC RECTIFIER FEED INFO - 30A	(B) QOB230 W/#10AWG	(B) BL230 W/#8AWG
RECT-3	DC RECTIFIER FEED INFO - 40A	(B) QOB240 W/#8AWG	(B) BL240 W/#8AWG

DOOR LOCKING OPTIONS		
OPT	VERIZON DESIGNATION	
DLO-1	002077	
DLO-2	002078	
DLO-3	002074	
DLO-4	002075	
DLO-5	7209VZWKIT	
DLO-6	7201VZWKIT	
DLO-7	7200NDVZWKIT	
DLO-8	7201NDVZWKIT	
DLO-9	7204VZWKIT	
DLO-10	7200NDVZWKIT	
DLO-11	7205NDVZWKIT-PG-INSTALL	

HYDROGEN DETECTOR AND FAN OPTIONS		
OPT	VERIZON DESIGNATION	
H2D-1	VZ-FANSYS-25 CFM (165346-001)	FAN ONLY
H2D-2	VZ-FANSYS-25 CFM (HGDI-DR-DC)	HYDROGEN DETECTOR W/ FAN
H2D-3	VZN-XTRALSYS-25 CFM	

EQUIPMENT INSTALLATION		
OPT	VERIZON DESIGNATION	
EQ-1	VZ-BYINSTALL-2VOLT	
EQ-2	VZ-DCPWR-INSTALL	
EQ-3	VZ-FIBER/TELCO-INSTALL	
EQ-4	VZ-CDMA RADIO-INSTALL	
EQ-5	VZ-LTE RADIO-INSTALL	
EQ-6	VZ-AUX FRAME-INSTALL	

EXTERIOR FINISH		
OPT	VERIZON DESIGNATION	
EF1	VZB.20-STENI-LW	
EF2	VZ12.16-STENI-LW	
EF3	VZ12.26-STENI-LW	
EF4	VZ12.20-STENI-LW	
EF5	VZ12.30-STENI-LW	
EF6	VZB.20-ATAS-LW	
EF7	VZ12.16-ATAS-LW	
EF8	VZ12.26-ATAS-LW	
EF9	VZ12.20-ATAS-LW	
EF10	VZ12.30-ATAS-LW	



REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TJK	5/29/13	B

165346-001 WAS 1TDP3

AS BUILT

RELEASED

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REV	B		
PLOT SCALE	1/4"=1'0"	MODEL	VL1216-4
TITLE	11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER OPTION MATRIX		
DRAWING NO.	204524		
SHEET	18 of 23		

NOTES:

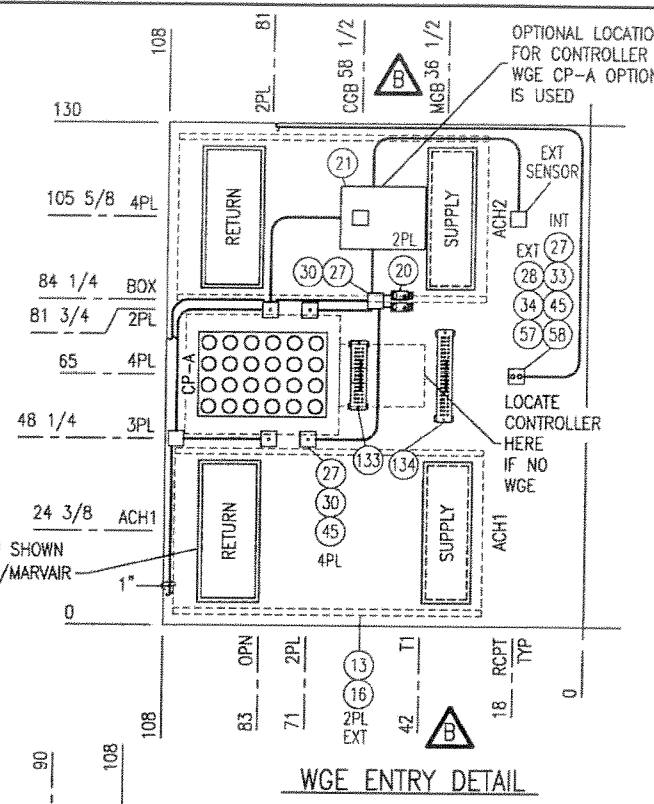
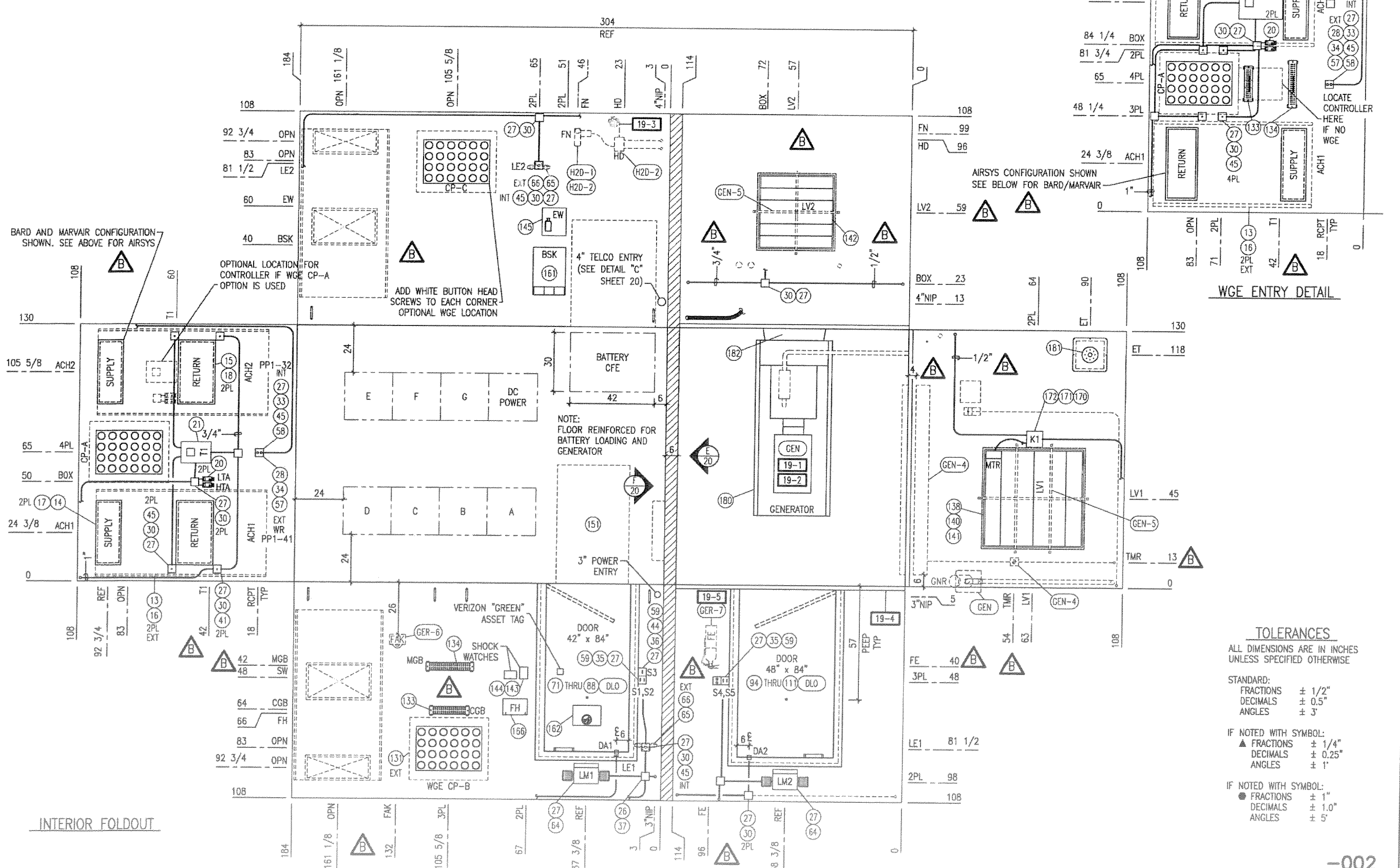
19-1 FOR GENERATOR WIRING REFER TO DRAWINGS:
 473250 - MTU GAS GENERATOR 473251 - GENERAC GAS
 473252 - GENERAC DIESEL 473253 - MTU DIESEL

19-3 COIL 20' #12AWG FOR 24V POWER SUPPLY FOR HYDROGEN DETECTOR OPTION.

19-4 SEE SHEET 473264 FOR ADDITIONAL INFORMATION ON THE TRACTION-N-MORE FLOOR SYSTEM.

19-5 FIRE EXTINGUISHER IS REQUIRED FOR ALL GENERATORS INSTALLED. IF GENERATOR IS NOT INSTALLED FIRE EXTINGUISHER IS AN OPTION.

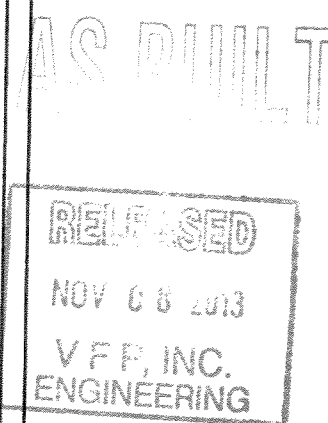
19-2 FOR GENERATOR PIPING REFER TO DRAWINGS:
 473260 - DIESEL STANDARD INSTALLATION 473261 - DIESEL MIRROR INSTALLATION
 473262 - LP INSTALLATION 473263 - NG INSTALLATION



WGE ENTRY DETAIL

INTERIOR FOLDOUT

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TJC	5/29/13	B
MOVE T1, MGB, ADD BARD SENSOR DEL. DESK, DIMENSION OPTIONS			



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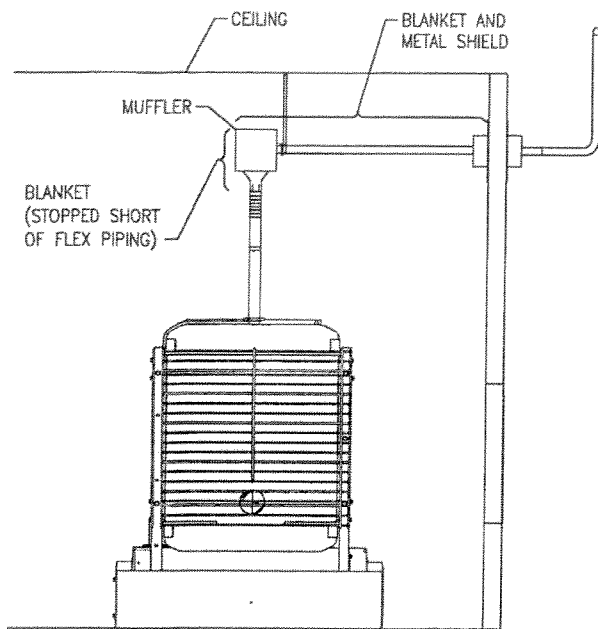
TOLERANCES
 ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE

STANDARD:
 FRACTIONS ± 1/2"
 DECIMALS ± 0.5"
 ANGLES ± 3°

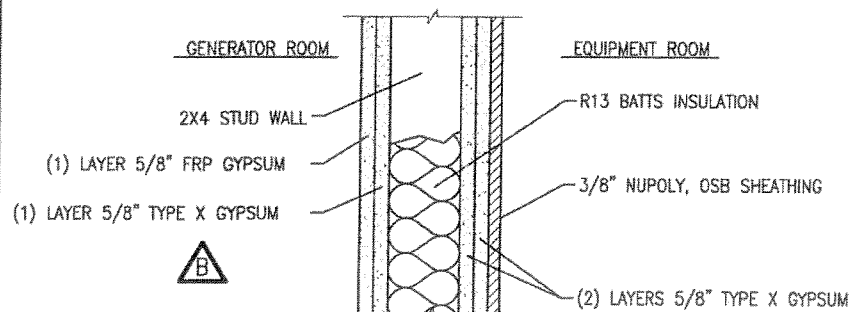
IF NOTED WITH SYMBOL:
 ▲ FRACTIONS ± 1/4"
 ● DECIMALS ± 0.25"
 ANGLS ± 1°

IF NOTED WITH SYMBOL:
 ● FRACTIONS ± 1"
 ● DECIMALS ± 1.0"
 ANGLS ± 5°

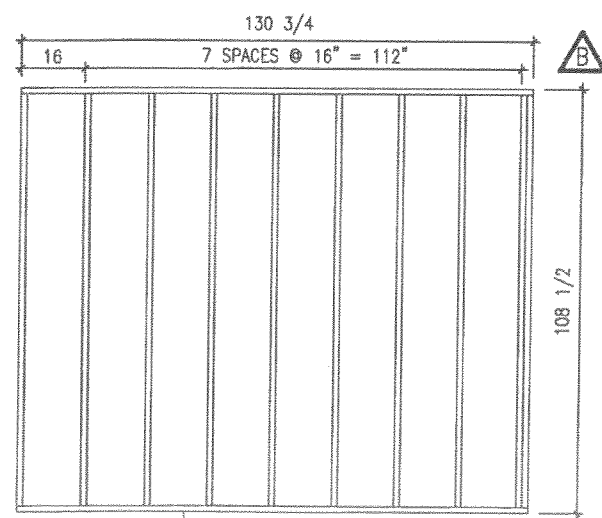
DRAWN BY T.CARIGO	DATE 9/28/12
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TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER INTERIOR FOLDOUT	
DRAWING NO. 204524	
SHEET 19 of 23	



GENERATOR EXHAUST DETAIL (TYP)

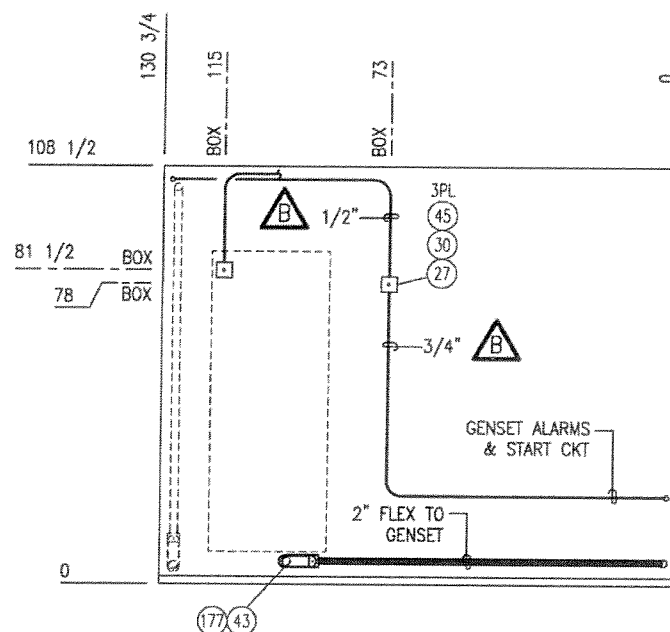


INTERIOR WALL PARTITION

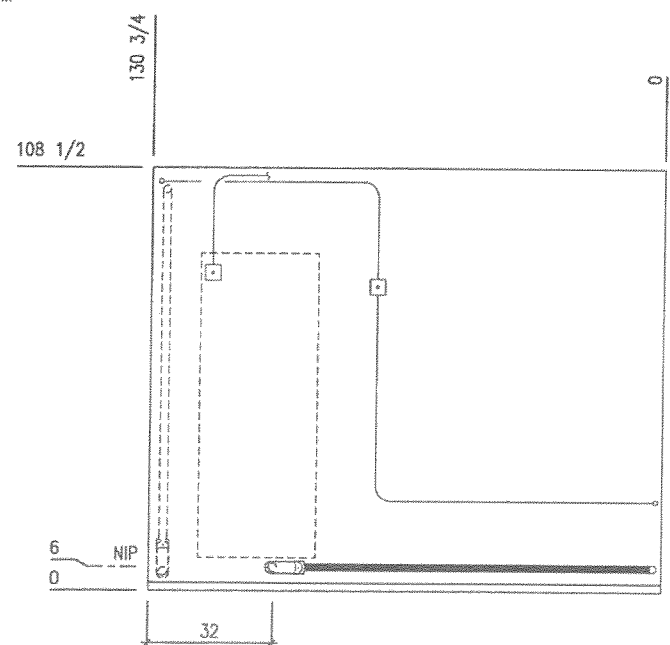


INTERIOR WALL FRAMING

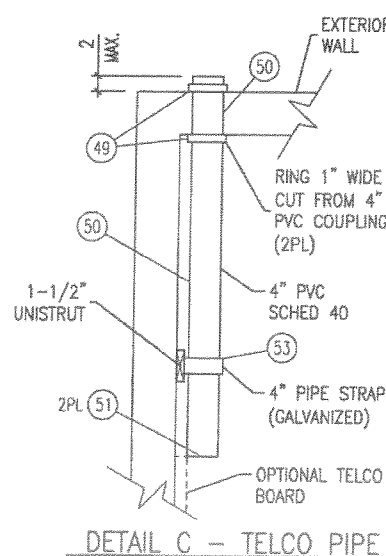
adjust as needed for fire rating construction



INTERIOR WALL 'E' - ELECTRICAL
GENERATOR ROOM



INTERIOR WALL 'E' - GROUNDING
GENERATOR ROOM



DETAIL C - TELCO PIPE

TOLERANCES
ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE

STANDARD:
FRACTIONS ± 1/2"
DECIMALS ± 0.5"
ANGLES ± 3°

IF NOTED WITH SYMBOL:
▲ FRACTIONS ± 1/4"
● DECIMALS ± 0.25"
◊ ANGLES ± 1°

IF NOTED WITH SYMBOL:
● FRACTIONS ± 1"
● DECIMALS ± 1.0"
◊ ANGLES ± 5°

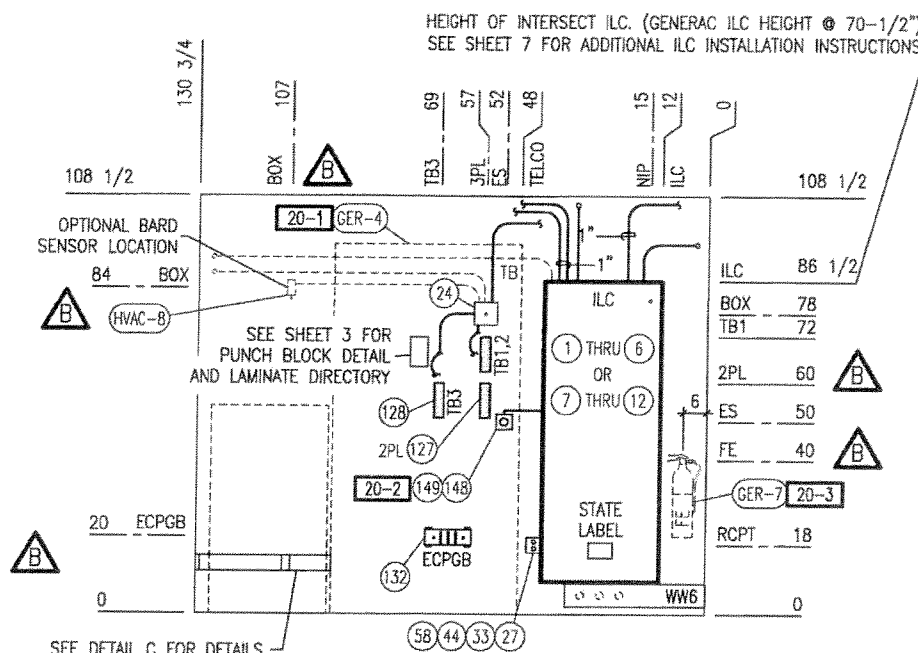
NOTES:

20-1 48" x 96" TELCO BOARD WITH BLACK #500 FIRE RETARDANT PAINT. CUT TELCO BOARD TO 36" x 96" WHEN DOOR IS LOCATED ON SHORT WALLS.

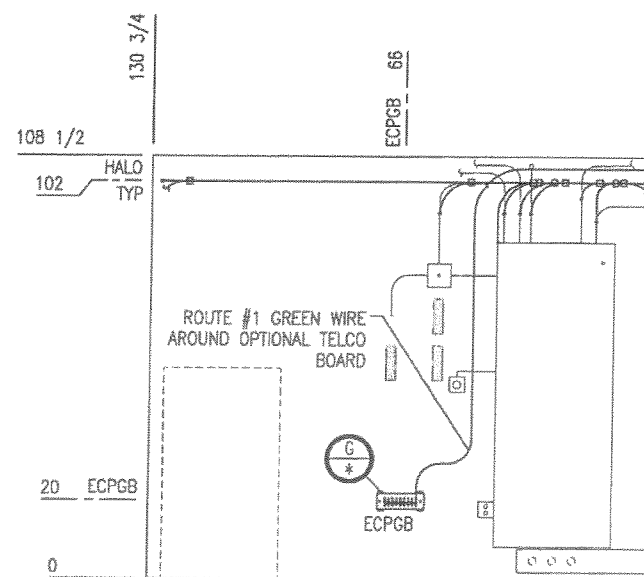
20-2 SEE SHEET 473253 FOR EMERGENCY STOP SWITCH WIRING.

20-3 FIRE EXTINGUISHER IS REQUIRED FOR ALL GENERATORS INSTALLED. IF GENERATOR IS NOT INSTALLED FIRE EXTINGUISHER IS AN OPTION.

20-4 *SEE DWG 473220 FOR CABLE LADDER/GROUNDING DETAILS

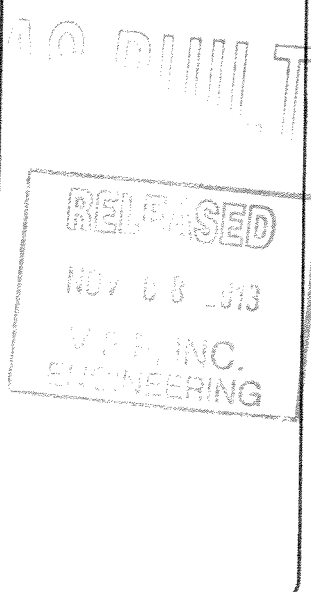


INTERIOR WALL 'F' - ELECTRICAL
EQUIPMENT ROOM



INTERIOR WALL 'F' - GROUNDING
EQUIPMENT ROOM

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TJK	5/29/13	B
ADD TB3			



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CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13

DRAWING NOT TO SCALE	
SIZE B	REV B
CADE NO 53223	

PLOT SCALE
1/4"=1'0"
MODEL
VL1216-4
TITLE
11'6" x 26'0" x 9'0"
LIGHTWEIGHT SHELTER
INTERIOR WALL LAYOUT

DRAWING NO.
204524
SHEET
20 of 23

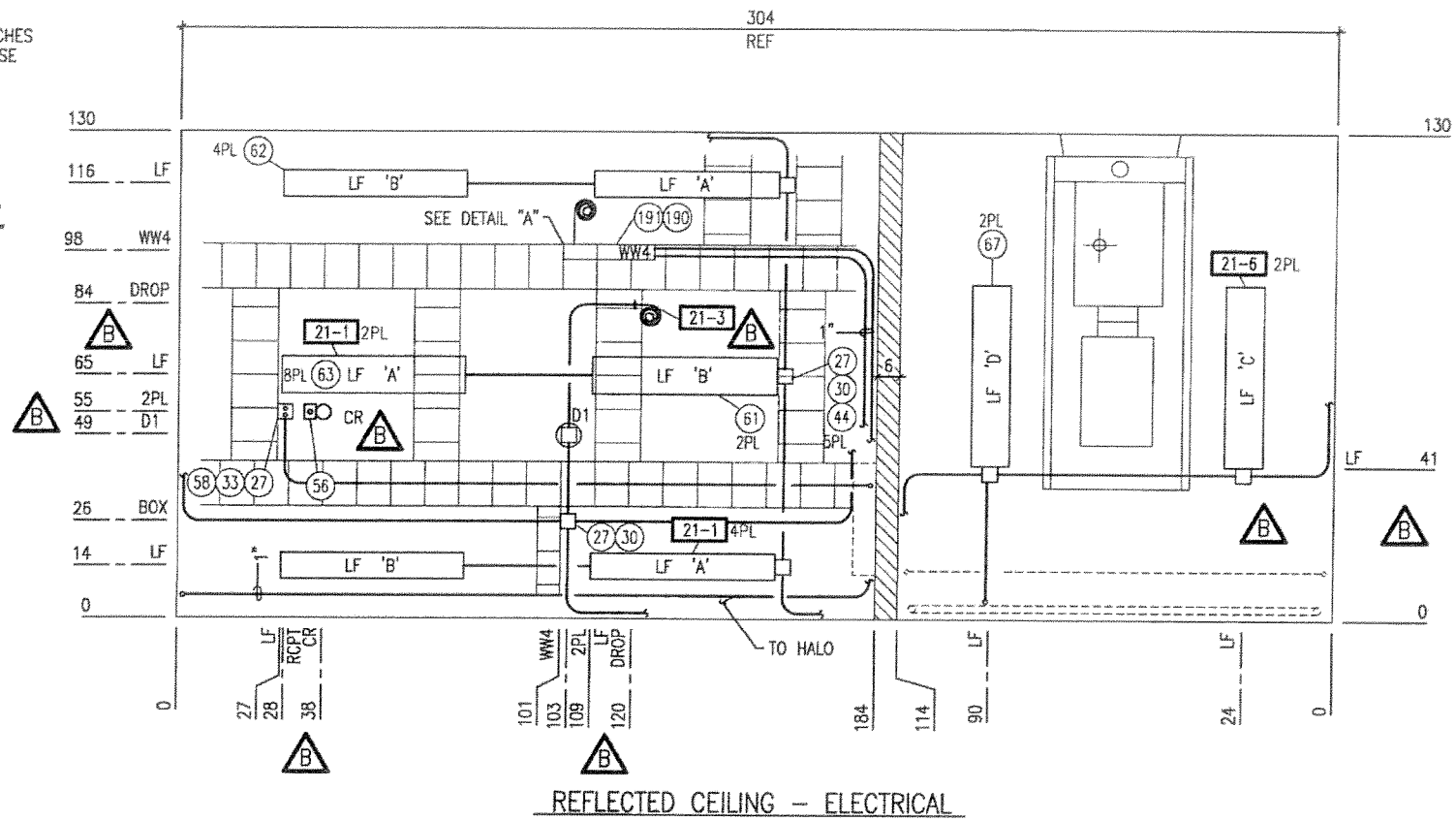
TOLERANCES

ALL DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE

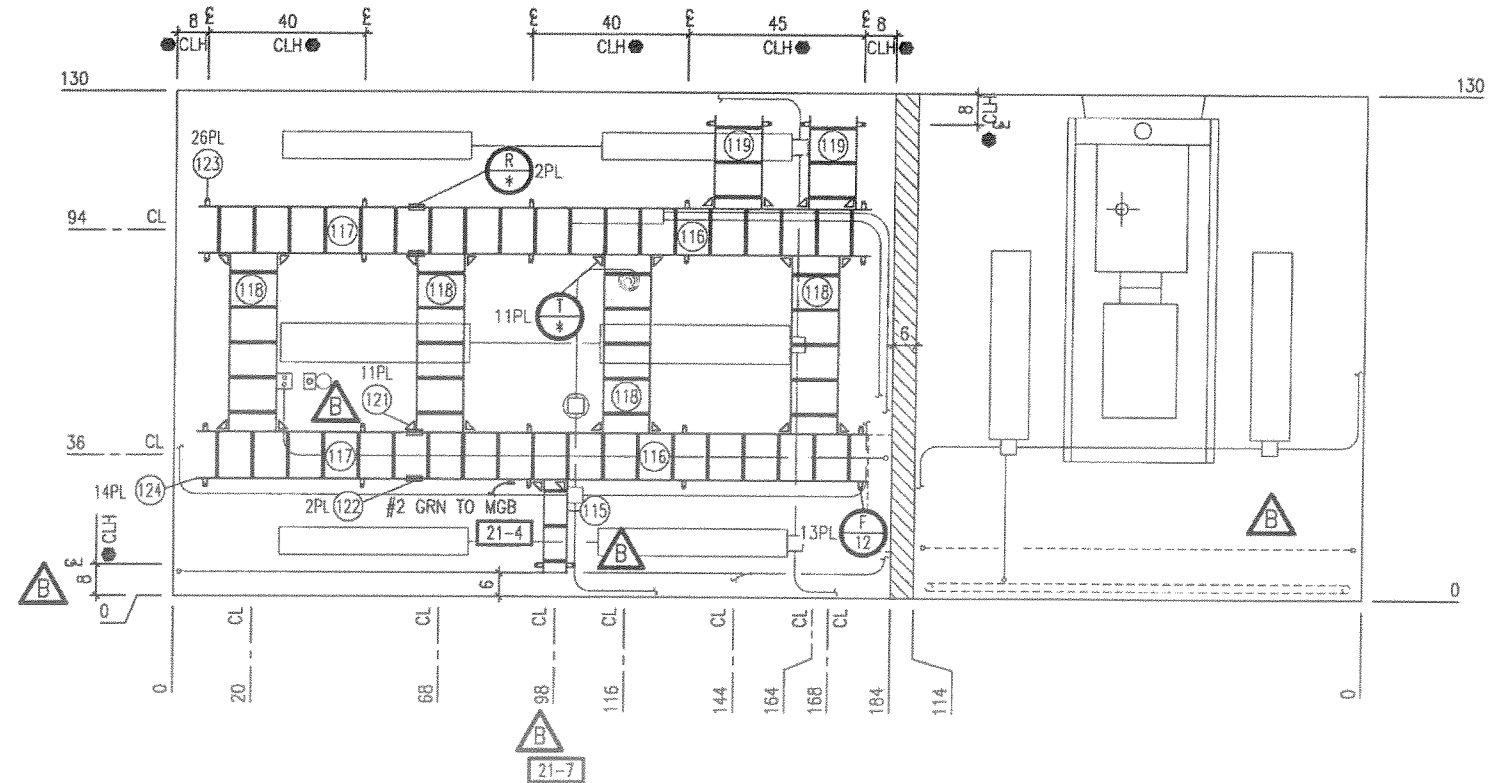
STANDARD:
FRACTIONS ± 1/2"
DECIMALS ± 0.5"
ANGLES ± 3°

IF NOTED WITH SYMBOL:
▲ FRACTIONS ± 1/4"
DECIMALS ± 0.25"
ANGLES ± 1°

IF NOTED WITH SYMBOL:
● FRACTIONS ± 1"
DECIMALS ± 1.0"
ANGLES ± 5°



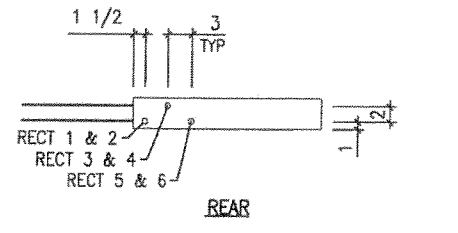
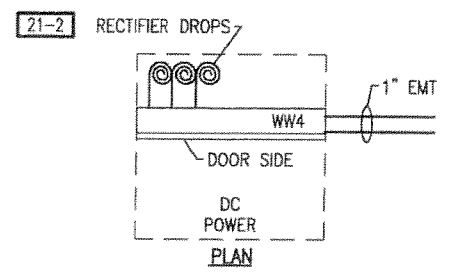
REFLECTED CEILING - ELECTRICAL



REFLECTED CEILING - CABLE LADDER

LEGEND

- ACH1,2 - AIR CONDITIONER W/HEAT #1,2
- BSK - BATTERY SAFETY KIT
- CFE - CUSTOMER FURNISHED EQUIPMENT
- CGB - COAXIAL GROUND BAR
- CIE - CUSTOMER INSTALLED EQUIPMENT
- CL - CABLE LADDER
- CLH - CABLE LADDER HANGER
- CKT - CIRCUIT BREAKER
- CR - CORD REEL
- D1 - SMOKE DETECTOR
- DA1/2 - DOOR ALARM
- DSK - LAP TOP FOLDING DESK
- ECPGB - ENTRANCE CABLE PROTECTOR GROUND BAR
- ES - EMERGENCY GENERATOR STOP BUTTON
- ET - EXHAUST THIMBLE
- EW - EYEWASH STATION
- EXT - EXTERIOR
- FH - FILE HOLDER
- FN - FAN
- HD - HYDROGEN DETECTOR
- HTR - HEATER (BASEBOARD)
- HTA - HIGH TEMP ALARM (SET @ 85')
- ILC - INTEGRATED LOAD CENTER
- INT - INTERIOR
- LE1,2 - EXTERIOR LIGHTS 1&2
- LF - LIGHT FLUORESCENT
- LM1,2 - EMERGENCY LIGHT/EXIT 1&2
- LTA - LOW TEMP ALARM (SET @ 50')
- LV1 - GENERATOR INTAKE
- LV2 - GENERATOR EXHAUST
- MGB - MAIN GROUND BAR
- NIP - NIPPLE
- OPN - OPENING
- PL - PLACES
- RCPT - RECEPTACLE
- REF - REFERENCE
- S1 - SWITCH #1 (INTERIOR 'A')
- S2 - SWITCH #2 (INTERIOR 'B')
- S3 - SWITCH #3 (EXTERIOR LIGHT)
- S4 - SWITCH #4 (INTERIOR 'C')
- S5 - SWITCH #5 (INTERIOR 'D')
- SW - SHOCK WATCH
- S/L - SHIPLOOSE
- T1 - THERMOSTAT (LEAD/LAG) (SET @ 72')
- TB1,2,3 - TERMINAL BLOCKS 1,2&3
- TYP - TYPICAL
- WGE - WAVEGUIDE ENTRY
- WR - RCPT., WEATHER RESISTANT
- - RCPT., DUPLEX
- - JUNCTION BOX, 4 x 4
- - JUNCTION BOX, 6 x 6
- (n) - REF PART LIST ITEM NUMBER
- (n) - OPTION ITEM
- (n) - NOTE ITEM
- ▲ - REV DELTA



RECTIFIER WIREWAY DROPS

NOTES:

- 21-1 (3) CENTER FIXTURES 2 BULB, (6) OUTER FIXTURES 1 BULB
- 21-2 (3) RECTIFIER DROPS (2) CIRCUITS PER DROP (TOTAL 6) COIL 8' OF 1" LIQUIDTITE WITH RIGHT ANGLE CONNECTOR ATTACHED & 12" OF WIRE PAST END.
- 21-3 COIL & TAG 10' OF 1/2" LIQUIDTITE WITH 1' OF #12AWG PAST END FOR 24V POWER SUPPLY
- 21-4 RELOCATE #2 CL GND TO NEAREST MGB LOCATION
- 21-5 *SEE DWG 473220 FOR CABLE LADDER/GROUNDING DETAILS
- 21-6 GENERATOR ROOM FIXTURES 2 BULB
- 21-7 INSTALL 6" CABLE LADDER AT WAVEGUIDE LOCATION

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	KPL	5/29/13	B
CHANGE CORD REEL, ADD 6" CL MOVE SMOKE DETECTOR COIL			

AS BUILT

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CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV B	
PLOT SCALE 1/4"=1'0"	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER REFLECTED CEILING	
DRAWING NO. 204524	
SHEET 21 of 23	

TOLERANCES

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE

STANDARD:

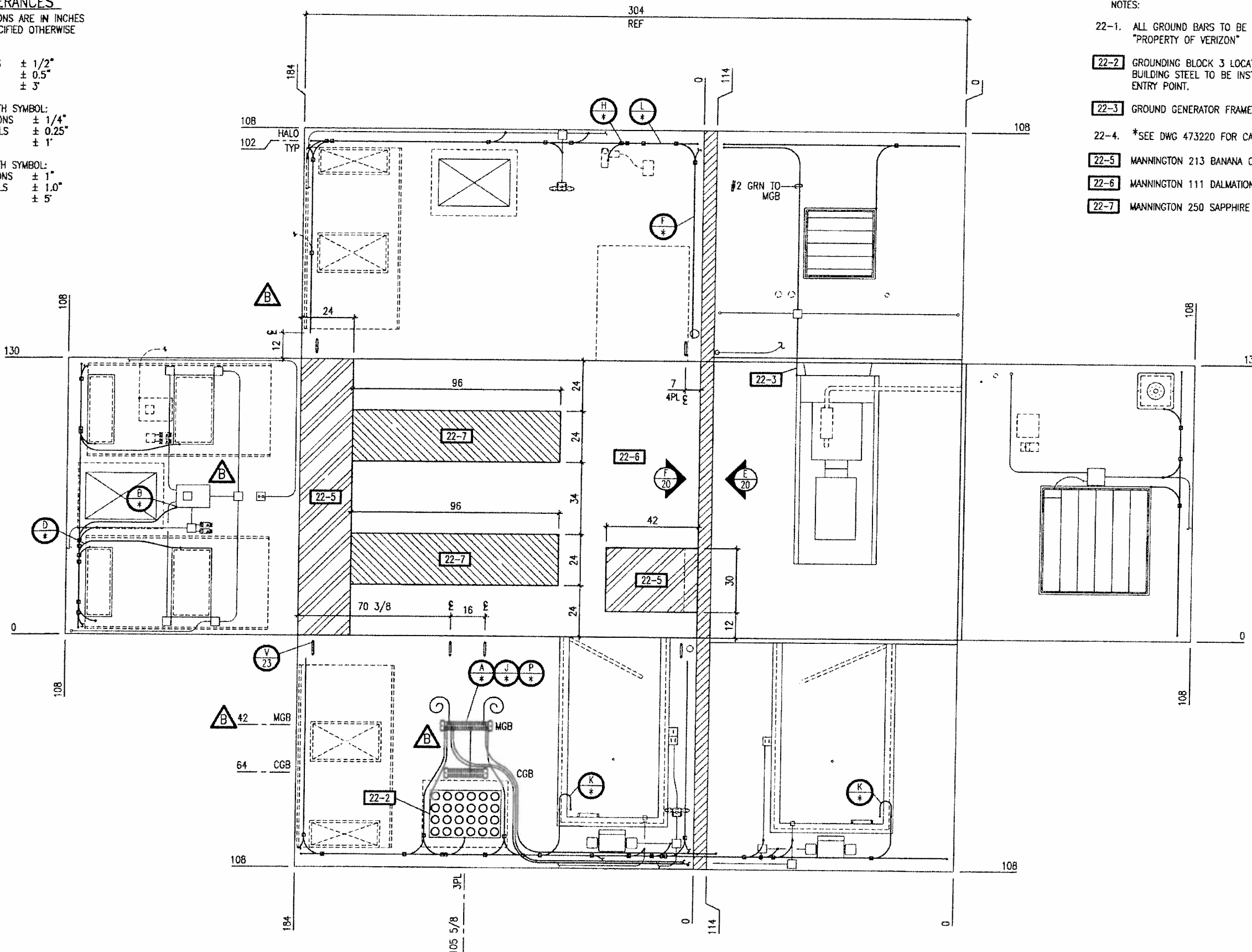
- FRACTIONS ± 1/2"
- DECIMALS ± 0.5"
- ANGLES ± 3°

IF NOTED WITH SYMBOL:

- ▲ FRACTIONS ± 1/4"
- DECIMALS ± 0.25"
- ANGLES ± 1°

IF NOTED WITH SYMBOL:

- FRACTIONS ± 1"
- DECIMALS ± 1.0"
- ANGLES ± 5°



- NOTES:**
- 22-1. ALL GROUND BARS TO BE STAMPED WITH THE FOLLOWING: "PROPERTY OF VERIZON"
 - 22-2. GROUNDING BLOCK 3 LOCATIONS. ONLY ONE GROUND FOR BUILDING STEEL TO BE INSTALLED AT SELECTED WAVEGUIDE ENTRY POINT.
 - 22-3. GROUND GENERATOR FRAME AT MGB.
 - 22-4. *SEE DWG 473220 FOR CABLE LADDER/GROUNDING DETAILS
 - 22-5. MANNINGTON 213 BANANA CREAM VINYL 12x12 TILE.
 - 22-6. MANNINGTON 111 DALMATIAN GRAY VINYL 12x12 TILE.
 - 22-7. MANNINGTON 250 SAPPHIRE VINYL 12x12 TILE.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	TH	5/29/13	B
HALO DROPS AT 12"			

NOT BUILT

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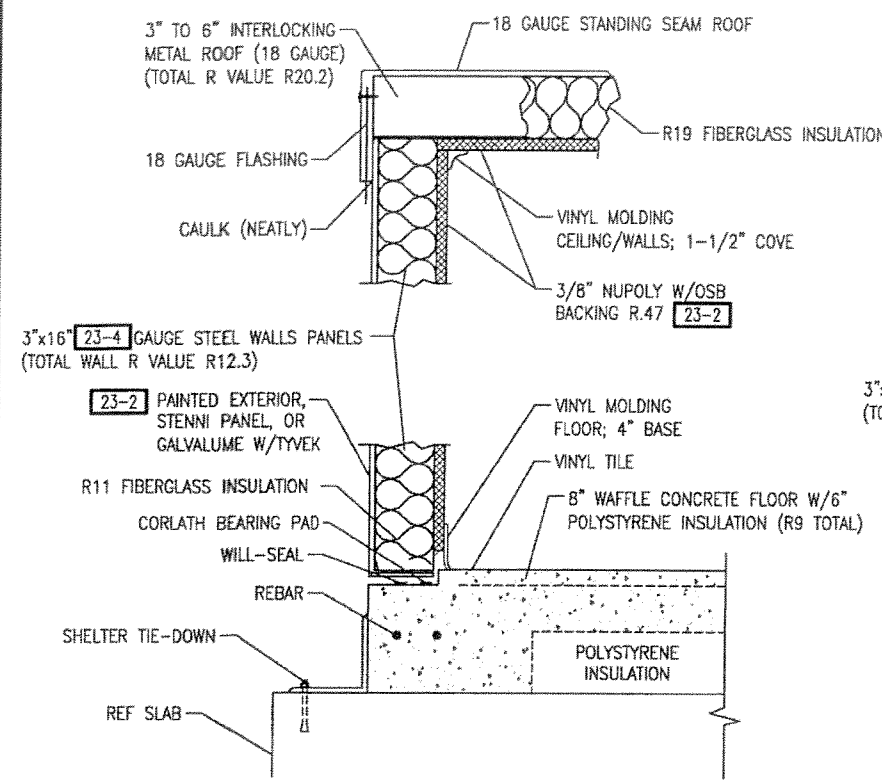
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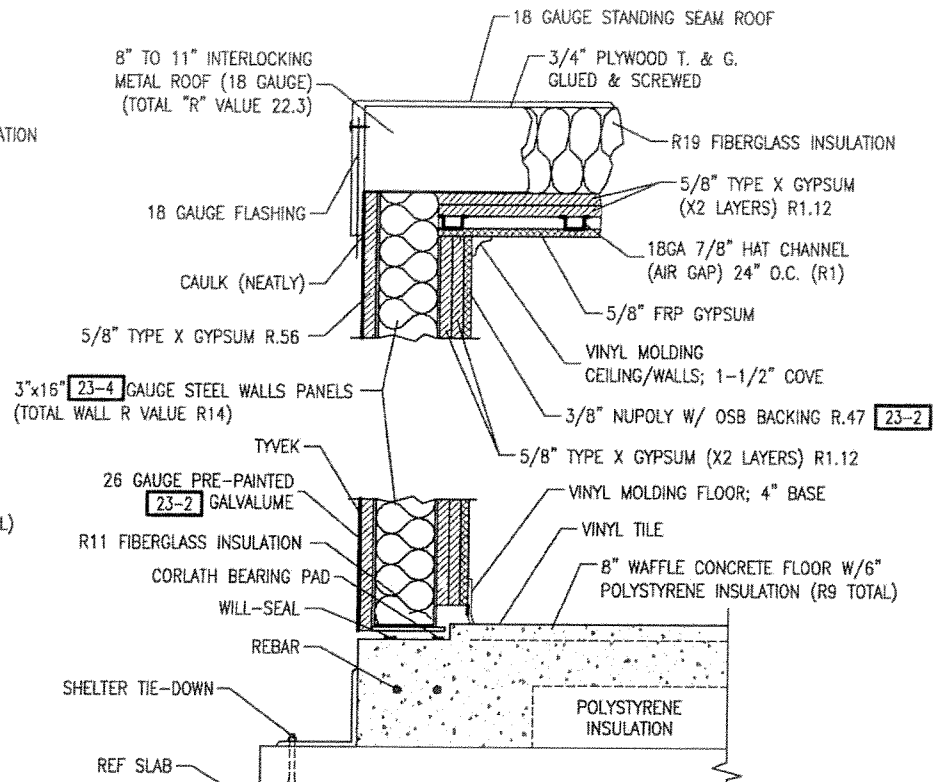
DRAWN BY T.CARICO	DATE 8/28/12
CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV B	
PLOT SCALE 1/4"=1'0"	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER INTERIOR GROUNDING	
DRAWING NO. 204524	
SHEET 22 OF 23	

INTERIOR GROUNDING

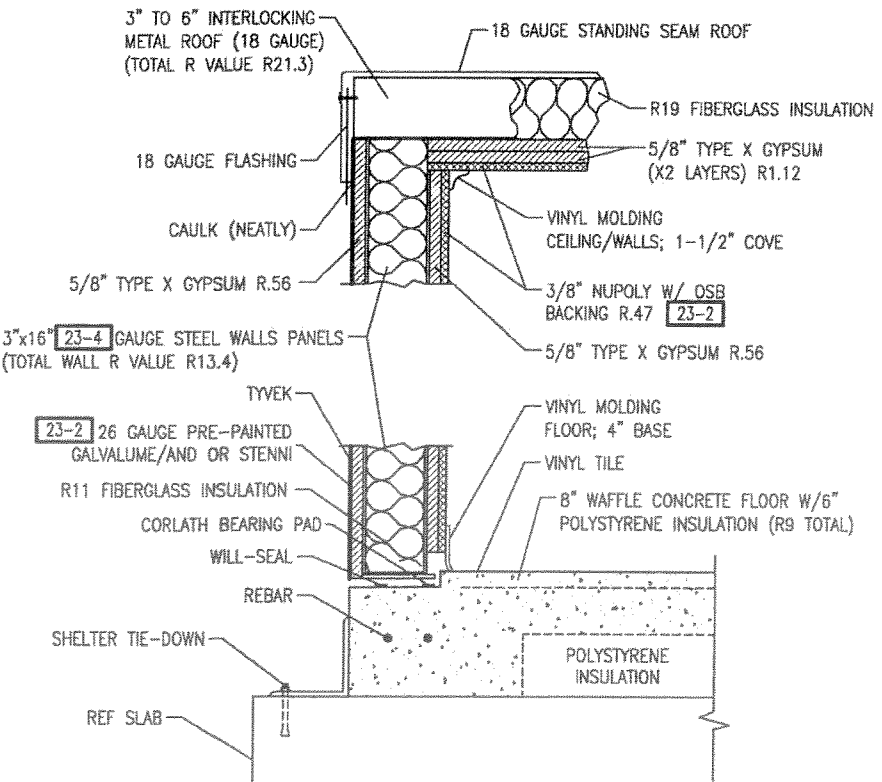
NOTE: ALL GROUND BARS TO BE STAMPED WITH THE FOLLOWING: "PROPERTY OF VERIZON"



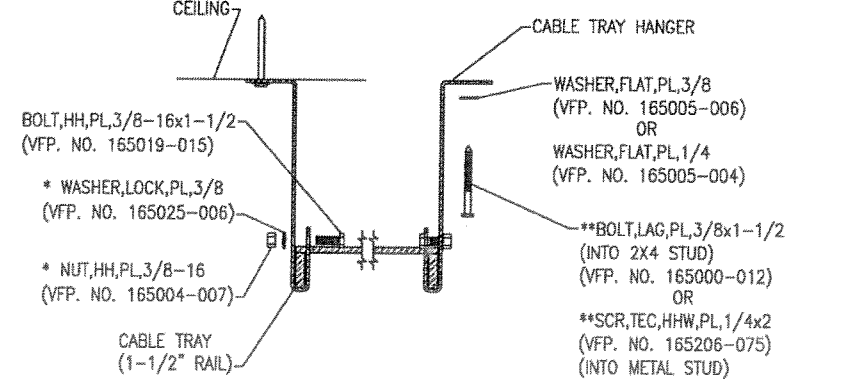
C BUILDING CONSTRUCTION (TYPE 2B CONSTRUCTION)
elevation cut-away PER TABLE 721.1(3) IBC
(INTERIOR HEIGHT +5/8")



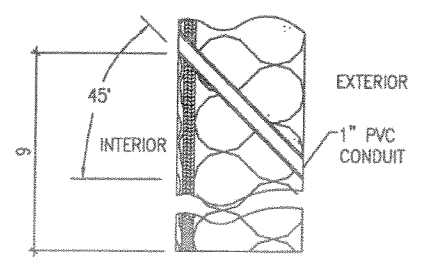
C2 BUILDING CONSTRUCTION (2 HOUR FIRE RATED)
elevation cut-away PER TABLE 721.1(3) IBC
(INTERIOR HEIGHT -2-1/2")



C1 BUILDING CONSTRUCTION (1 HOUR FIRE RATED)
elevation cut-away PER TABLE 721.1(3) IBC
(INTERIOR HEIGHT -5/8")



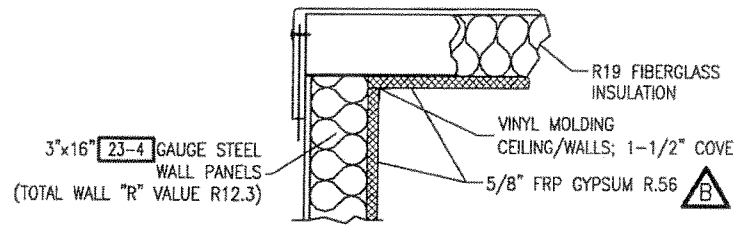
F CABLE LADDER INSTALLATION
*(TAPPED HANGERS DO NOT REQUIRE THESE ITEMS)
**(IF AND STUD CANNOT BE HIT USE, BOLT, LAG, PLATED, 3/8X1-1/2 (VFP. NO. 165000-012)



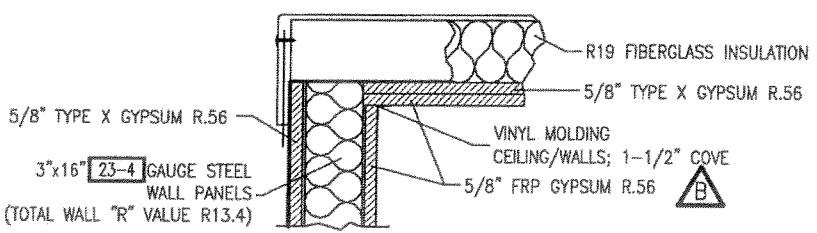
V PVC NIPPLE INSTALLATION

NOTES:
23-1. REFER TO FASTENING SCHEDULE DRAWING #101773.
23-2. REFER TO PRODUCTION CONFIGURATION CONTROL SHEET FOR EXTERIOR AND INTERIOR FINISH OF BUILDING. REFER TO DETAIL C THIS PAGE FOR FLOOR COVERING.
23-3. REFER TO INTERIOR LAYOUT SHEETS BEFORE ROUTING INTERIOR SHEATHING FOR MISCELLANEOUS OPENINGS.
23-4. 3"x16" 18ga GAUGE STEEL WALLS PANELS

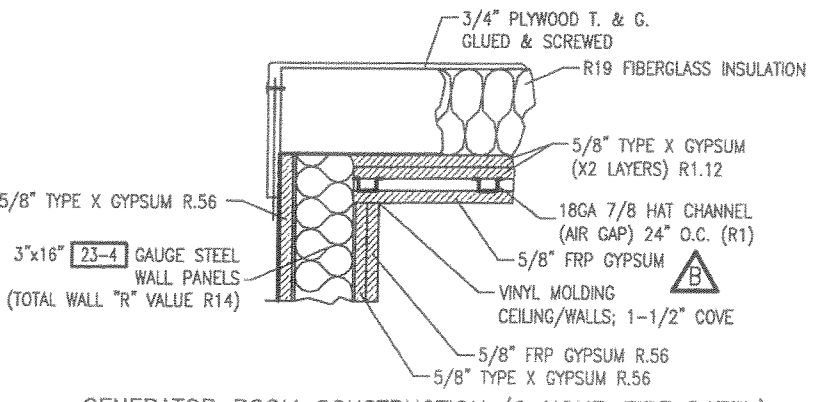
OR
3" DEEP x 14GA PANS (GALVANEAL ONLY) IF LEVEL 2 BULLET RES. IS TAKEN PER PCCS
BUL



D GENERATOR ROOM CONSTRUCTION (TYPE 2B)
(TAPE & PLASTER ALL JOINTS & PAINT WITH WHITE TAMMSCOAT)



D1 GENERATOR ROOM CONSTRUCTION (1 HOUR FIRE RATED)
(TAPE & PLASTER ALL JOINTS & PAINT WITH WHITE TAMMSCOAT)



D2 GENERATOR ROOM CONSTRUCTION (2 HOUR FIRE RATED)
(TAPE & PLASTER ALL JOINTS & PAINT WITH WHITE TAMMSCOAT)

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	4/15/13	A
UPDATED PRINTS			
TJC	THL	5/29/13	B
UPDATED MOLDING, GYPSUM			

AS BUILT

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ENGINEERING

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ROANOKE, VIRGINIA 24019
PE LICENSE: STATE OF

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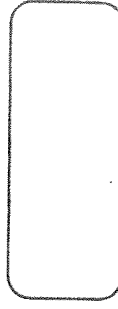
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(276)431-4000 (276)431-1756 fax
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CHECKED BY W.E. CULLOP	DATE 2/11/13
CHECKED BY W.J. BLANKENSHIP	DATE 2/15/13
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV B	MODEL VL1216-4
TITLE 11'6" x 26'0" x 9'0" LIGHTWEIGHT SHELTER CONSTRUCTION DETAILS	
DRAWING NO. 204524	
SHEET 23 OF 23	

1. PERFORM ALL ELECTRICAL WORK TO THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, NFPA-70.
2. SEAL ALL CONDUIT NIPPLES PENETRATING EXTERIOR WALLS (e.g. RECEPTACLE, DISCONNECTS, POWER ENTRIES) WITH URETHANE CAULK.
3. USE #10 x 1" SLOTTED HHW STAINLESS SHEET METAL SCREW ON LIGHT WEIGHT SHELTERS AND CONTAINERS OR 1/4" x 1-1/4" TAP-CONS FOR CONCRETE SHELTERS FOR MOUNTING SMALL EXTERIOR ITEMS ON THE SHELTER. THIS WOULD APPLY TO ITEMS UP TO APPROX. 40 POUNDS. (LIGHTS, LOUVERS, SHIPPING COVERS, ETC.) SHELTERS WITH EXTERIOR SIDING OR FINISHES MAY REQUIRE LONGER FASTENERS. UNLESS OTHERWISE NOTED ON SPECIFIC SHELTER DRAWINGS.
4. USE #10 x 1" SLOTTED HH WOOD SCREWS ON LIGHT WEIGHT SHELTERS, CONTAINERS AND CONCRETE SHELTERS FOR MOUNTING SMALL INTERIOR ITEMS IN THE SHELTER. THIS WOULD APPLY TO ITEMS UP TO APPROX. 40 POUNDS. (LIGHTS, FANS, JUNCTIONS BOXES, ETC.) SHELTERS WITH THICKER OR SPECIAL INTERIOR SHEATHING MAY REQUIRE LONGER FASTENERS. UNLESS OTHERWISE NOTED ON SPECIFIC SHELTER DRAWINGS.
5. USE 1/4" x 1-1/2" HHW TEK SHEET METAL SCREW ON LIGHT WEIGHT SHELTERS AND CONTAINERS OR 1/4" x 3" TAP-CONS FOR CONCRETE SHELTERS FOR MOUNTING LARGE EXTERIOR ITEMS IN THE SHELTER. THIS WOULD APPLY TO ITEMS OVER APPROX. 40 POUNDS. (DISCONNECT SWITCHES, ETC.) SHELTERS WITH EXTERIOR SIDING OR FINISHES MAY REQUIRE LONGER FASTENERS. UNLESS OTHERWISE NOTED ON SPECIFIC SHELTER DRAWINGS.
6. USE 3/8" x 1-1/2" HH LAG BOLTS ON LIGHT WEIGHT SHELTERS, CONTAINERS AND CONCRETE SHELTERS FOR MOUNTING LARGE INTERIOR ITEMS IN THE SHELTER. THIS WOULD APPLY TO ITEMS OVER 40 POUNDS. (LARGE PANELS, CABLE LADDER HANGERS, DISCONNECT SWITCHES, ETC.) SHELTERS WITH THICKER OR SPECIAL INTERIOR SHEATHING MAY REQUIRE LONGER FASTENERS. THESE LAGS BOLTS REQUIRE A 1/4" PILOT TO BE DRILLED BEFORE INSTALLING THE LAG BOLT. UNLESS SPECIFIED ON SPECIFIC SHELTER DRAWINGS. SPECIAL CONSTRUCTIONS MAY REQUIRE SPECIAL FASTENING SCHEDULES.
7. USE 1/2" EMT CONDUIT ON WALLS, UNLESS NOTED.
8. USE 1/2" EMT CONDUIT ON CEILING, UNLESS NOTED.
9. INSTALL CONNECTORS AT EACH END OF EMT CONDUIT (EXCEPT CONDUIT CONTAINING ELECTRODE GROUND WIRE); INSTALL LT CONNECTORS AT EACH END OF LT CONDUIT; INSTALL BUSHINGS ON CONDUITS 1 1/4" AND LARGER.
10. USE LOCKNUTS AND BUSHINGS AT EACH END OF RIGID NIPPLES, UNLESS NOTED.

11. ASSUME ADJACENT PIECES OF EQUIPMENT THAT ARE NOT DIMENSIONED TO BE 2" APART.
12. USE WIRE AND CABLE WITH 600 VOLTS AC, THHN/THWN INSULATION, UNLESS NOTED.
13. GROUND ALL ELECTRICAL ENCLOSURES WITH:
 - A) #12 GROUND WIRE FOR CIRCUITS OF 20 AMPS OR LESS.
 - B) #10 GROUND WIRE FOR CIRCUITS OF 21 AMPS TO 60 AMPS.
 - C) #8 GROUND WIRE FOR CIRCUITS OF 61 AMPS TO 100 AMPS.
14. FOR WIRING, CONFORM TO:
 - A) SOLID COPPER FOR #10 AWG AND SMALLER.
 - B) STRANDED COPPER FOR #8 AWG AND LARGER.
 - C) #18 AWG STRANDED COPPER FOR CONTROL WIRING.
 - D) NON-SHIELDED 3C #22 SOLID COPPER FOR ALARM WIRING, UNLESS NOTED.
15. SEAL WALL-MOUNTED AIR CONDITIONER FRESH AIR INTAKE FLAP WITH URETHANE CAULK FOR BUILDINGS EQUIPPED WITH FIRE-SUPPRESSION AGENT.
16. SEAL AIRTIGHT ALL CONDUIT NIPPLES ON THE INTERIOR ORIFICE AFTER WIRING IS COMPLETED FOR BUILDINGS EQUIPPED WITH FIRE-SUPPRESSION AGENT.
17. INSTALL I.D. PLATES PER LEGEND REFERENCING, UNLESS NOTED.
18. COMPLY WITH APPLICABLE ENERGY EFFICIENCY REQUIREMENTS OF LOUVERS, ETC.
19. COMPLY WITH ANSI Z97.1 FOR GLASS & GLAZING.
20. CONFORM TO APPLICABLE REQUIREMENTS OF THE MODEL CODE OF THE STATE OF BUILDING DESTINATION.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
WEC	SRS	3/29/06	T
UPDATED FASTENING			
FPW	SRS	05/04/07	U
UPDATES			
SFB	SRS	06/19/08	W
UPDATE GEN. NOTES			
SFB	SRS	07/17/08	X
UPDATE GEN. NOTES			
SFB	SRS	09/25/08	Y
UPDATE NOTE 12			



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DRAWN BY	DATE	03-13-87
JRL	DATE	03-13-87
CHECKED BY	DATE	03-13-87
JRL	DATE	03-13-87
CHECKED BY	DATE	03-13-87
S. R. SHIMAT	DATE	03-13-87
DO NOT SCALE DRAWING		
SHEET	DATE NO	REV
A	53223	Y
SCALE	1/4"=1'-0"	MODEL
TITLE		
GENERAL NOTES		
DRAWING NO.	101116	
SHEET	1 of 1	

AS BUILT



BUILDING ELEMENT

WALL "C" PAN TO
WALL "C" PAN CONNECTION

ROOF "C" PAN TO ROOF
"C" PAN CONNECTION

WALL PANEL TO WALL
PANEL CONNECTION

WALL PANEL TO ROOF
PANEL CONNECTION

TRACK TO
WALL PANEL & ROOF PANEL
(SEE NOTE #1)

18GA BLOCKING
ATTACHMENT TO CPAN

CONCRETE SKID
WALL PANEL TO CONCRETE
SKID CONNECTION

SKID FLOOR
WALL PANEL TO SKID/
FLOOR CONNECTION

FASTENER SIZE & TYPE

LOCKING PANS, TEK SCREW, WAFFER HEAD #8 X 3/4"

LOCKING PANS, TEK SCREW, WAFFER HEAD #8 X 3/4"

WELD ONLY

WELD ONLY

TEK SCREW, WAFFER HEAD #8 X 3/4"

TEK SCREW, WAFFER HEAD #8 X 3/4"

WELD ONLY

WELD ONLY

FASTENER SPACING

6" FROM ENDS, THEN 24" O.C.

6" FROM ENDS, THEN 24" O.C.

1" FILLET WELD @ 24" O.C.

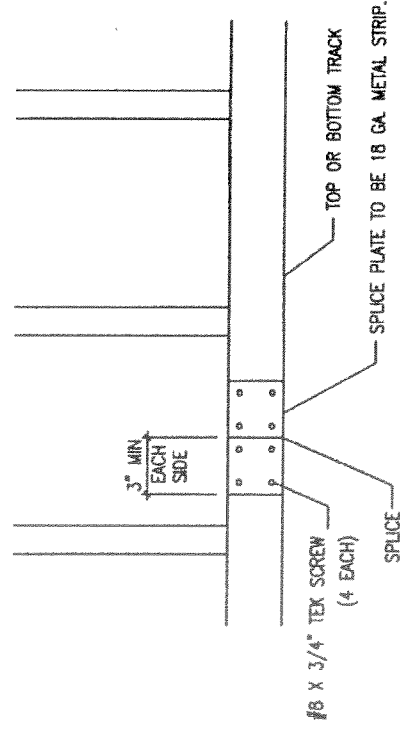
1" FILLET WELD @ EVERY ROOF SEAM

AT EACH PANEL SEAM

24" O.C. MAX

1" FILLET WELD @ 16" O.C.

1" FILLET WELD @ 16" O.C.



SPLICE DETAIL AT TRACK

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JMR	SRS	08/04/08	E
UPDATE FASTENING SCHEDULE			
TJC	WEC	3/19/12	F
UPDATE FASTENING SCHEDULE			
TJC	WEC	3/26/12	G
UPDATE FASTENING SCHEDULE			
BJR	WEC	7/9/13	H
UPDATE SHEET 2			

VFP, INC.

CORPORATE OFFICE
1701 Midland Road
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(540)977-0500 (540)977-5555 fax

MANUFACTURING FACILITY
402 Industrial Park Road
Duffield, Virginia 24244
(276)431-4000 (276)431-1756 fax

DRAWN BY	T.A. SCOTT/T.T. WILLIAMSON	DATE	12/30/03
CHECKED BY	W.J. WILKINSON	DATE	1/30/04
CHECKED BY	S.B. SHIMMATE	DATE	1/30/04
DO NOT SCALE DRAWING			
SIZE	A	CHG. NO.	53223
SCALE	1/4"=1'-0"	MODEL	H
TITLE			
FASTENING SCHEDULE FOR LIGHTWEIGHT SHELTERS			
DRAWING NO. 101773			
SHEET 1 OF 2			

BUILDING ELEMENT

EXTERIOR FINISH
STENNI

INTERIOR TRIM
CORNER MOLD

T-TRIM

INTERIOR FINISH-WALLS
MIN. 7/16" NON-STRUCTURAL SHEATHING

1/2" or 5/8" GYPSUM/FRP (SECOND LAYER)

5/8" or 3/4" GYPSUM (FIRST LAYER)

INTERIOR FINISH-CEILING

MIN. 7/16" NON-STRUCTURAL SHEATHING

1/2" or 5/8" GYPSUM/FRP (SECOND LAYER)

5/8" or 3/4" GYPSUM (FIRST LAYER)

INTERIOR PARTITION WALL

PARTITION WALL TO WALL PANEL

STANDING SEAM ROOF

FASTENER SIZE & TYPE

TEK SCREW, #6 x 1-5/8" DW.BH. (COLOR AS REQUIRED) PART # 160051-063

SCREW, #8 x 1/2" (PAINT WHITE) PART # 165237-023

SILICONE

TEK SCREW, BH, #8 x 1-5/8" QUICK DRIVE

TEK SCREW, #8 x 3" DW.BH. PART # 165206-085

TEK SCREW, BH, #8 x 1-5/8" QUICK DRIVE

TEK SCREW, BH, #8 x 1-5/8" QUICK DRIVE

TEK SCREW, #8 x 3" DW.BH. PART # 165206-085

TEK SCREW, BH, #8 x 1-5/8" QUICK DRIVE

TEK SCREW, #8 x 2-1/2" BH.PL. PART # 8N050UKL2

TEK SCREW, #8 x 3/4"

FASTENER SPACING

6" O.C. @ PERIMETER
12" O.C. @ INTERMEDIATE

12" O.C.
(SILICONE ALL GAPS 1/8" OR GREATER)
SILICONE GAP & APPLY T-TRIM
(SILICONE ALL GAPS 1/8" OR GREATER)

12" O.C. @ PERIMETER

12" O.C. @ PERIMETER
16" O.C. INTERMEDIATE

12" O.C. @ PERIMETER

12" O.C. @ PERIMETER

16" SCREW PATTERN NOT MORE THAN 24" APART

12" O.C. @ PERIMETER

16" SCREW PATTERN NOT MORE THAN 24" APART

12" O.C. @ PERIMETER

16" O.C.

8" O.C. @ PERIMETER AND AT THE WIND STAY CLIP AS SHOWN ON THE DRAWING

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JMR	SRS	08/04/08	E
UPDATE FASTENING SCHEDULE			
TJC	WEC	3/19/12	F
UPDATE FASTENING SCHEDULE			
TJC	WEC	3/26/12	G
UPDATE FASTENING SCHEDULE			
BJR	WEC	7/9/13	H
ADD STANDING SEAM SECTION			

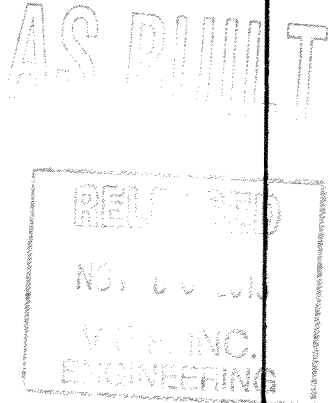
VFP, INC.

CORPORATE OFFICE
1701 Midland Road
Salem, Virginia 24153-6424
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MANUFACTURING FACILITY
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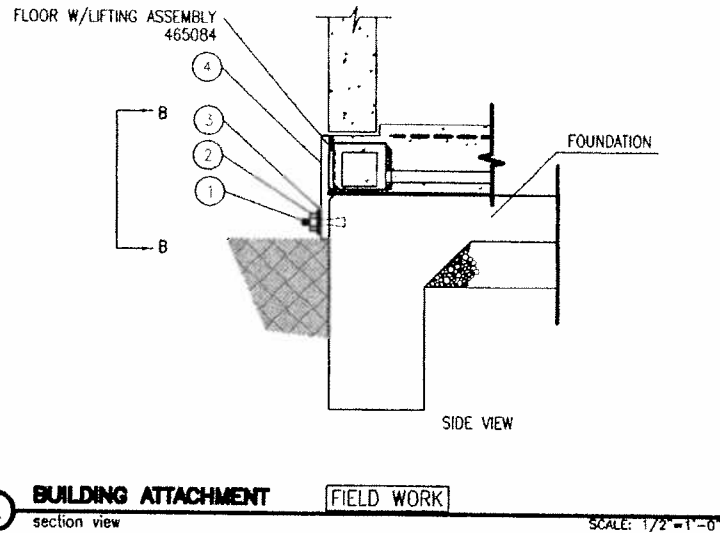
DRAWN BY	T.A. SCOTT/T.T. WILLIAMSON	DATE	12/31/03
CHECKED BY	W.J. WILKINSON	DATE	1/30/04
CHECKED BY	S.B. SHIMMATE	DATE	1/30/04
DO NOT SCALE DRAWING			
SIZE	A	CHG. NO.	53223
SCALE	1/4"=1'-0"	MODEL	H
TITLE			
FASTENING SCHEDULE FOR LIGHTWEIGHT SHELTERS			
DRAWING NO. 101773			
SHEET 2 OF 2			

NOTE:
1. ADD AN ADDITIONAL 4 SCREWS (MIN.) AT EACH LIFT POINT IN THE TRACK.

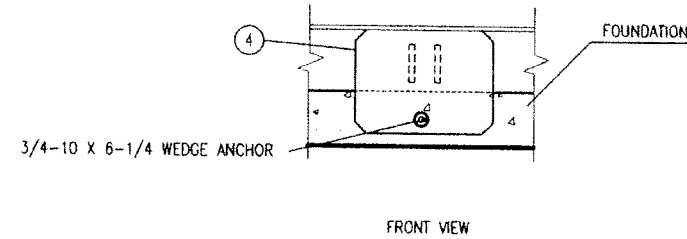


NOTES:

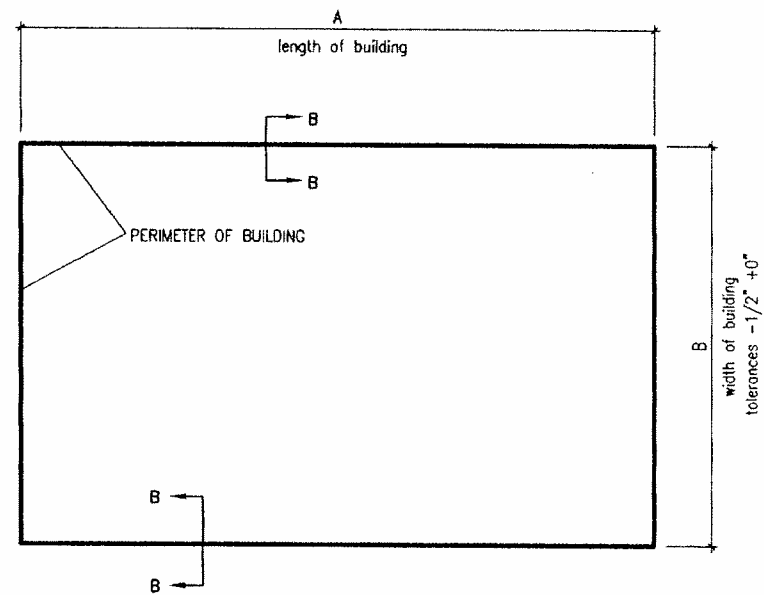
1. GENERAL
 - 1.1 All dimensions are specified in inches unless otherwise noted.
 - 1.2 Design and installation of foundation by local engineer or architect. This is only a suggested foundation plan.
 - 1.3 Foundation is designed for 2000 psf bearing. However, it is the customer's responsibility to verify the adequacy of the foundation from soil boring data.
 - 1.4 Slab type foundation is not recommended for areas with extreme frost conditions or where high water tables are present. These conditions could cause differential settlements in the soil beneath the foundation resulting in structural cracks.
 - 1.5 Perimeter footing must be a minimum foundation depth of 24" or per local frost line on undisturbed soil.
 - 1.6 Locate wedge anchors after shelter is located on slab to correctly align with installed anchor plate. Do not install wedge anchor before setting shelter on foundation.
2. MATERIAL
 - 2.1 Concrete shall have a minimum compressive strength of 3000 psi @ 28 days and shall be installed in accordance with the ACI-318 Building Code requirements for Reinforced Concrete.
 - 2.2 Reinforcing bars shall conform to ASTM-A65 grade 60 specifications and be detailed in accordance with ACI-318
 - 2.3 Test cylinders shall be molded and laboratory cured in accordance with ASTM C31. Three cylinders shall be taken for each day's concrete placement. Cylinders shall be tested in accordance with ASTM C39.
3. TOLERANCES
 - 3.1 Tops of concrete foundation must be within 0.02" per foot of elevation specified by the customer.



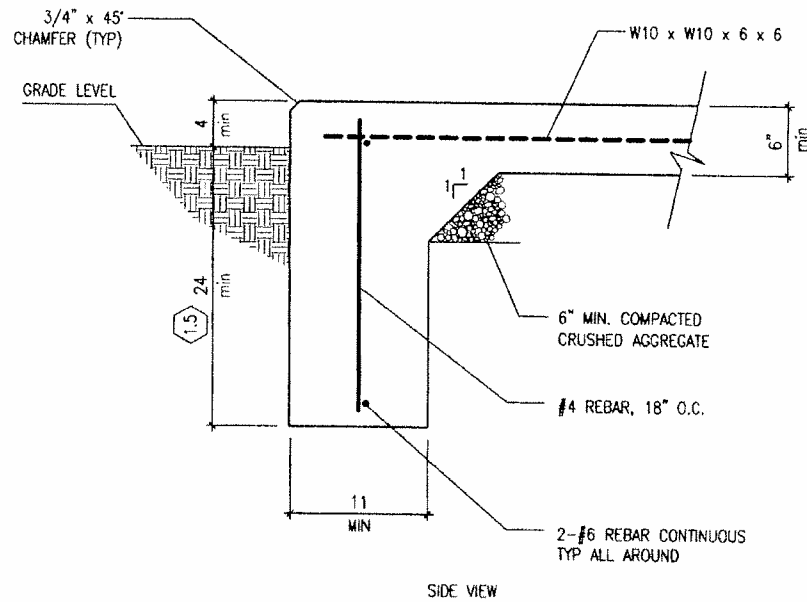
A BUILDING ATTACHMENT section view **FIELD WORK** SCALE: 1/2"=1'-0"



B TIE DOWN PLATE front view **FIELD WORK** SCALE: 3"=1'-0"



C FOUNDATION PLAN foundation plan view **FIELD WORK** SCALE: 1/4"=1'-0"



D CONTINUOUS PERIMETER FOOTING section view **FIELD WORK** SCALE: 3"=1'-0"

272011-096 36
 WIDTH IN INCHES
 LENGTH IN FEET

QTY.	UNIT OF MEASURE	PART NO.	DESCRIPTION	ITEM NO.
8	4	EA	265053-1 PLATE, 9 x 12 x 1/2	4
8	4	EA	165005-009 FLAT WASHER, 3/4	3
8	4	EA	165032-002 HEX NUT, 3/4-10	2
8	4	EA	JA464 WEDGE ANCHOR, 3/4-10 x 6 1/4	1

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
SRS	SRS	11/04/99	A
UPDATED TIE DOWN INFORMATION.			
FPW	W.J.B.	03/01/02	B
UPDATED STANDARDS.			

AS BUILT
REVISIONS
 11/04/99
 W.J.B.
 INC.
 03/01/02

VFP, INC.

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 176 EastPark Drive
 Roanoke, Virginia 24019
 (540)977-0500 (540)977-5555 fax

CONCRETE SHELTERS (PLANT #2)
 4954 Industrial Park
 Duffield, Virginia 24244
 (276)431-4000 (276)431-4220 fax

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DRAWN BY	B.A. BOTKIN	DATE	02/24/98
CHECKED BY	S. SHUMATE	DATE	02/24/98
APPROVED BY	S. SHUMATE	DATE RELEASED	06/25/98

DO NOT SCALE DRAWING			
SIZE	CAGE NO.	REV	MODEL
B	53223	B	-

TITLE
 SLAB FOUNDATION
 GENERAL USE
 FLAT PLATE TIE-DOWN

DRAWING NO. 272011
 SHEET 1 OF 1

VFP Technical Bulletin for Concrete Shelters on Concrete Skid Floor

Sitework – placement for shelters 24 feet and longer

You will need:

- ① – [4 ea] Lifting slings, sized per the weight and height of the shelter.
- ② – [4 ea] Lifting slings, sized per the weight and height of the shelter.
- ③ – [4 ea] Snatch blocks to level the weight on slings (#2) shown in figure 2 at right.
- ④ – [2 ea] Spreader beams a minimum of 12" wider than the shelter roof. Sized per the weight of the shelter.
- ⑤ – [8 ea] Shackle (horseshoe type) sized per the weight of the shelter.
- ⑥ – [4 ea] Lifting slings, sized per the weight and height of the shelter.

CAUTION! FOR PERSONAL SAFETY, USE ONLY OSHA RATED RIGGING AND HARDWARE

1 SHACKLE ATTACHMENT

- a. – Locate the eight (8) lifting points in the shelter base frame; four under each longwall.
- b. – Bolt lifting eyes to shelter using supplied hardware. See drawing in next column.
- c. – Loop shackle through each lifting eye.

CAUTION! THE FOLLOWING INSTRUCTIONS ARE FOR EXPERIENCED RIGGERS ONLY; ALL OTHERS STAND CLEAR OF CRANE OPERATIONS TO AVOID INJURY OR DEATH

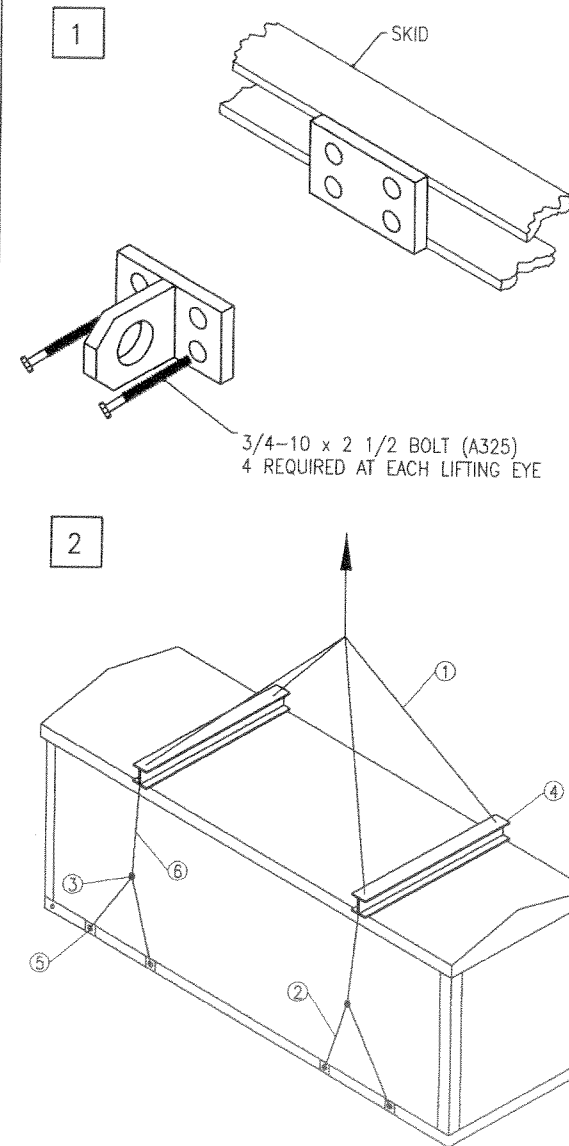
2 RIGGING

CAUTION! VERIFY SHELTER WEIGHT AND SAFE WORKING LOADS OF HARDWARE AND RIGGING BEFORE PROCEEDING.

- a. – Configure rigging vertically to lateral spreader bars as shown in figure 2 at right. Spreader beams must be wider than roof.
- b. – Lift shelter a few inches and make sure it is picking level. If not, lower and adjust rigging as needed to pick shelter as level as possible.
- c. – Carefully lower onto foundation, ensuring that all four corners are level and shelter sets squarely and is center on foundation.
- d. – See Technical Bulletin "sitework- angle plate tie-down"; step "1" before going to step "e".
- e. – Disconnect rigging, remove shackles.

NOTE

Any rigging other than that listed and shown above must be approved by VFP, INC. Engineering Department prior to lifting of shelter or contractor accepts all responsibility.



VFP Technical Bulletin for Concrete Shelters

Sitework – straight plate tie-down for shelters 24 feet and longer

In packing (inside shelter), find....

- [4 ea] 101358-001 straight anchor plate
- [32 ea] 3/4 x 10 x 2 1/2 bolts (A325)
- [4 ea] 3/4 x 6 1/4 wedge anchor
- [32 ea] hex head nuts, 3/4-10
- [32 ea] flat washer, 3/4
- [8 ea] lifting eyes

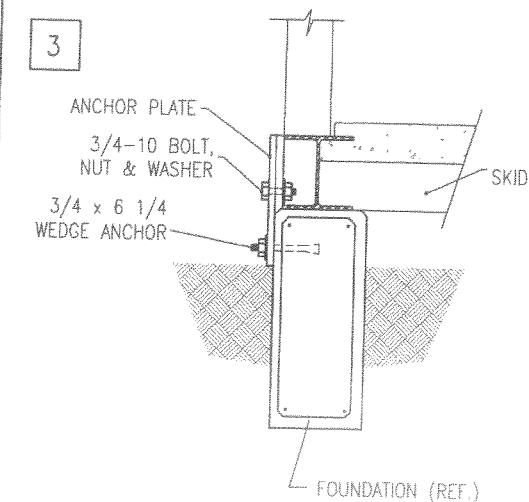
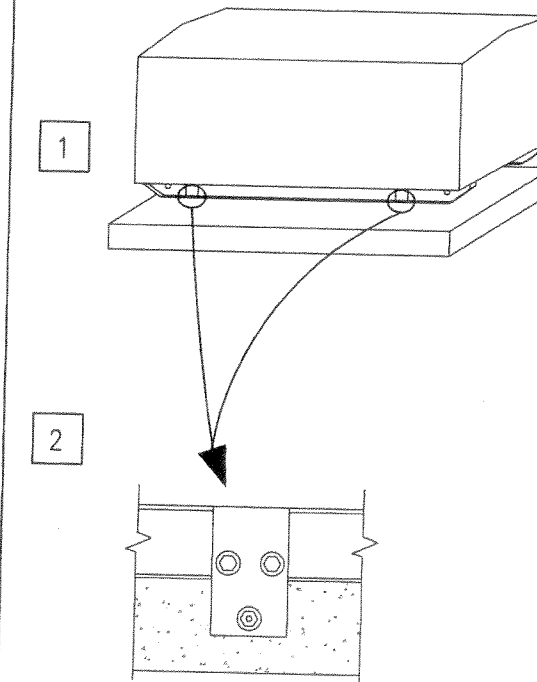
CAUTION! MAKE SURE SHELTER IS CENTERED IN BOTH DIRECTIONS ON FOUNDATION

1 SETTING OF SHELTER (CONT.)

- a. – Shelter should be in place per Technical Bulletin "sitework-shelter placement". If gaps, 1/4" or more, are showing in an area 2 feet wide and longer. Then mark the area, pick the shelter up a few inches and place shims at 12" O.C.
- b. – If the shelter sits flush or after shimming, disconnect the rigging and remove the shackles.

2 STRAIGHT PLATE INSTALLATION

- a. Shelter should be in place [see technical bulletin: Sitework – shelter placement to left]
- b. Locate the four (4) lifting lugs in the shelter base frame; two under each longwall.
- c. Remove lifting lug and hardware and store for possible future use.
- d. Place 101358-001 anchor plate over lift plates (located on shelter base frame). Bolt plates together with 3/4" hardware (provided). Mark holes and drill for anchors. Install wedge anchors, flat washers, and nuts.
- e. Set anchor with hard hit on end with hammer.
- f. Tighten down washer and nut on each of the anchors, tightening nut 3-5 turns past hand tight.
- g. Repeat step 3 for each of the other anchor assemblies.



REVISIONS			
CHG. BY	APPR. BY	DATE	REV
KHH	VFC	9/22/08	A

AS BUILT

RELEASED

NOV 08 2013

VFP, INC.
ENGINEERING

VFP, INC.

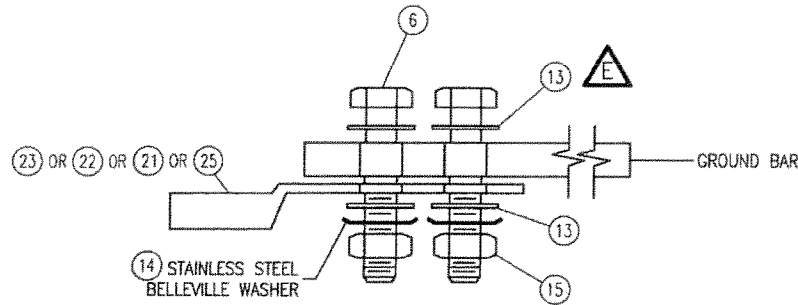
CORPORATE OFFICE
2840 Electric Road Suite A-201
Roanoke, Virginia 24018-3544
(540)977-0500 (540)977-5555 fax

MANUFACTURING FACILITY
402 Industrial Park Road
Duffield, Virginia 24244
(276)431-4000 (276)431-1756 fax
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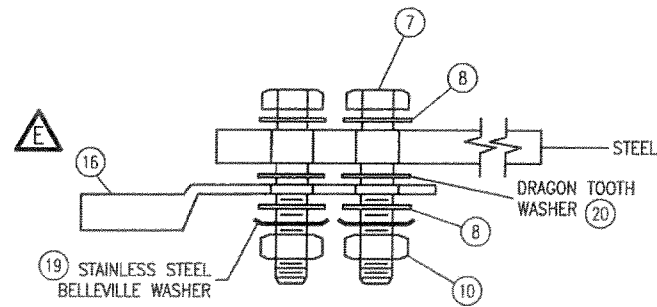
DRAWN BY T. WILLIAMSON	DATE 9/18/08
CHECKED BY S. SHUMATE	DATE 9/18/08
DO NOT SCALE DRAWING	
SIZE B	CAGE NO 53223
SCALE 1/4"=1'0"	MODEL -
TITLE SETUP INSTRUCTIONS FOR CONC SHEL W/CONC SKID 24FT UP/STRAIGHT PLATE	
DRAWING NO. 277052	
SHEET 1 OF 1	

GENERAL NOTES:

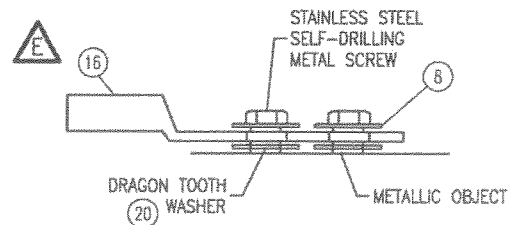
1. ANY DETAILS NOT REFERENCED ON SHELTER DRAWINGS WILL BE PRESUMED NOT REQUIRED.
2. GROUND ALL CONDUIT WITHIN 1' OF HALO GROUND EVERY 15'. GROUND ALL CONDUIT WITHIN 6' OF HALO GROUND EVERY 30'.
3. DO NOT USE CABLE TIES ANYWHERE IN THE BUILDING. ALL WIRING BUNDLES, HALO GROUND, ETC., MUST BE LACED WITH WAXED LACING CORD.



(E) (A) SINGLE CONNECTOR AT GROUND BARS



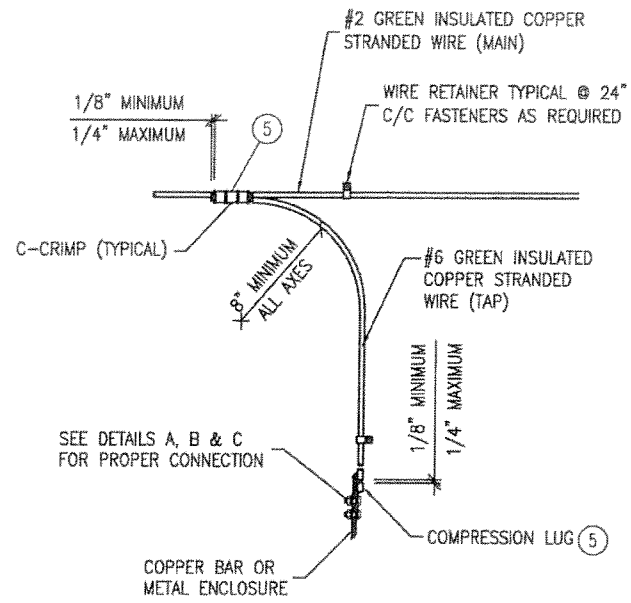
(E) (B) SINGLE CONNECTOR AT STEEL OBJECTS



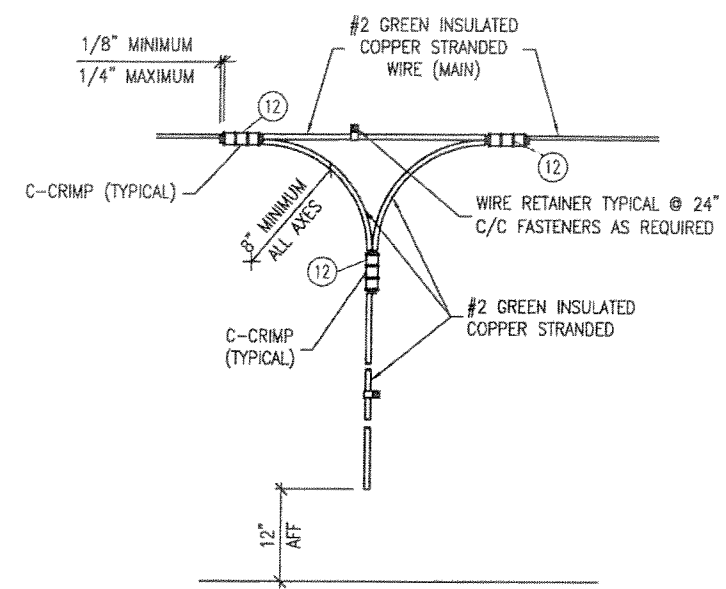
NOTES

1. ALL INDOOR AND OUTDOOR POWER AND GROUNDING CONNECTIONS EXCEPT ALUMINUM SHALL BE PROTECTED AGAINST CORROSION BY A THIN COATING OF "NO-OX-ID" ANTI-OXIDATION COMPOUND.
2. PETROX GREASE OR AN APPROVED EQUAL SHALL BE USED FOR ALUMINUM CONNECTIONS.

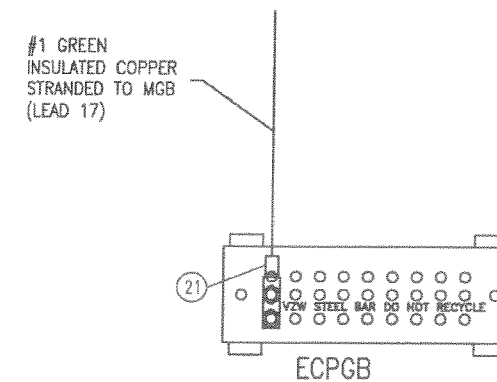
(E) (C) SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



(D) HALO GROUND DROP



(E) (F) HALO GROUND CORNER DROP



(E) (G) ECPGB CONNECTIONS

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
TJS	WEC	02/19/13	C
UPDATE SHEET 2			
TKL	WEC	02/20/13	D
UPDATE SHEET 2			
TJS	WEC	05/30/13	E
UPDATE DETAILS A & F, DELETED DETAIL E			

AS BUILT

RELEASED

NOV 08 2013

VFP, INC. ENGINEERING

VFP, INC.

CORPORATE OFFICE
 1701 Midland Road
 Salem, Virginia 24153-6424
 (540)977-0500 (540)977-5555 fax

MANUFACTURING FACILITY
 402 Industrial Park Road
 Duffield, Virginia 24244
 (276)431-4000 (276)431-1756 fax

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DRAWN BY J. SHOEMAKER	DATE 09/28/12
CHECKED BY W.E.CULLOP	DATE 10/05/12
CHECKED BY W.E.CULLOP	DATE 10/05/12

DRAWING NOT TO SCALE		
SIZE B	CAGE NO 53223	REV E
PLOT SCALE 1/4"=1'0"	MODEL	-

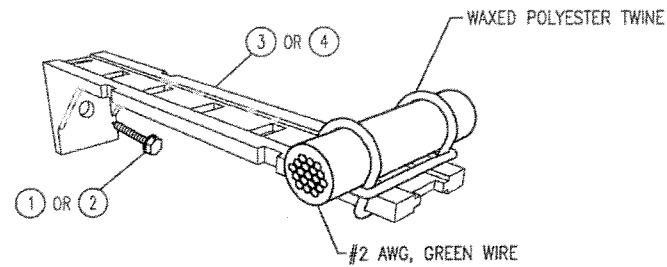
TITLE
VERIZON STANDARD GROUNDING DETAILS

DRAWING NO. 473220
SHEET 1 of 3

E	E	E	REVISION
3	2	1	SHEET
			REV. STATUS OF SHEETS

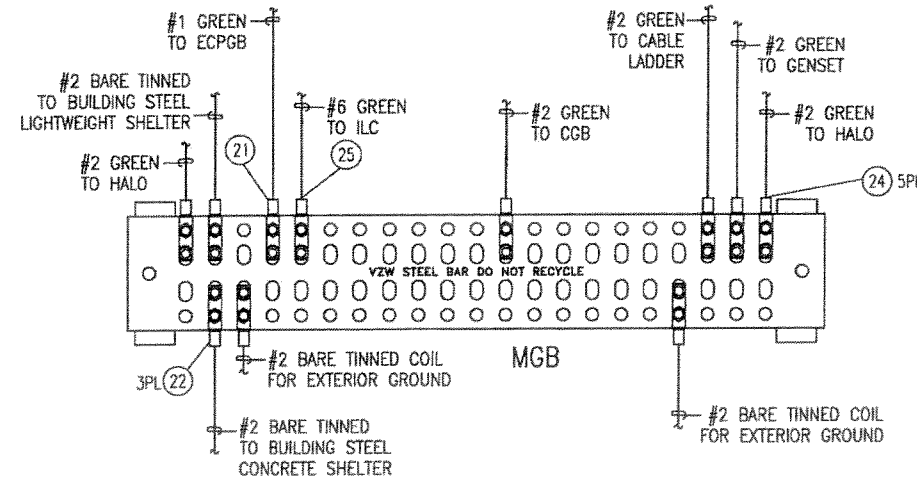
GENERAL NOTES:

1. ANY DETAILS NOT REFERENCED ON SHELTER DRAWINGS WILL BE PRESUMED NOT REQUIRED.
2. DO NOT USE CABLE TIES ANYWHERE IN THE BUILDING. ALL WIRING BUNDLES, HALO GROUND, ETC., MUST BE LACED WITH WAXED LACING CORD.

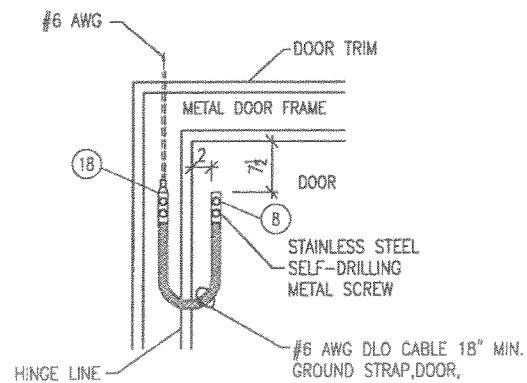


H HALO GROUND INSTALLATION

SCREW TO WALL @ 16" O.C. MAX

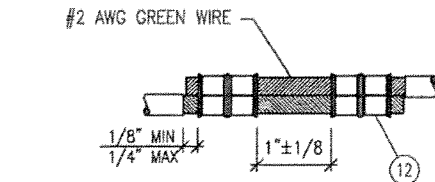


J MASTER GROUND BAR DETAIL

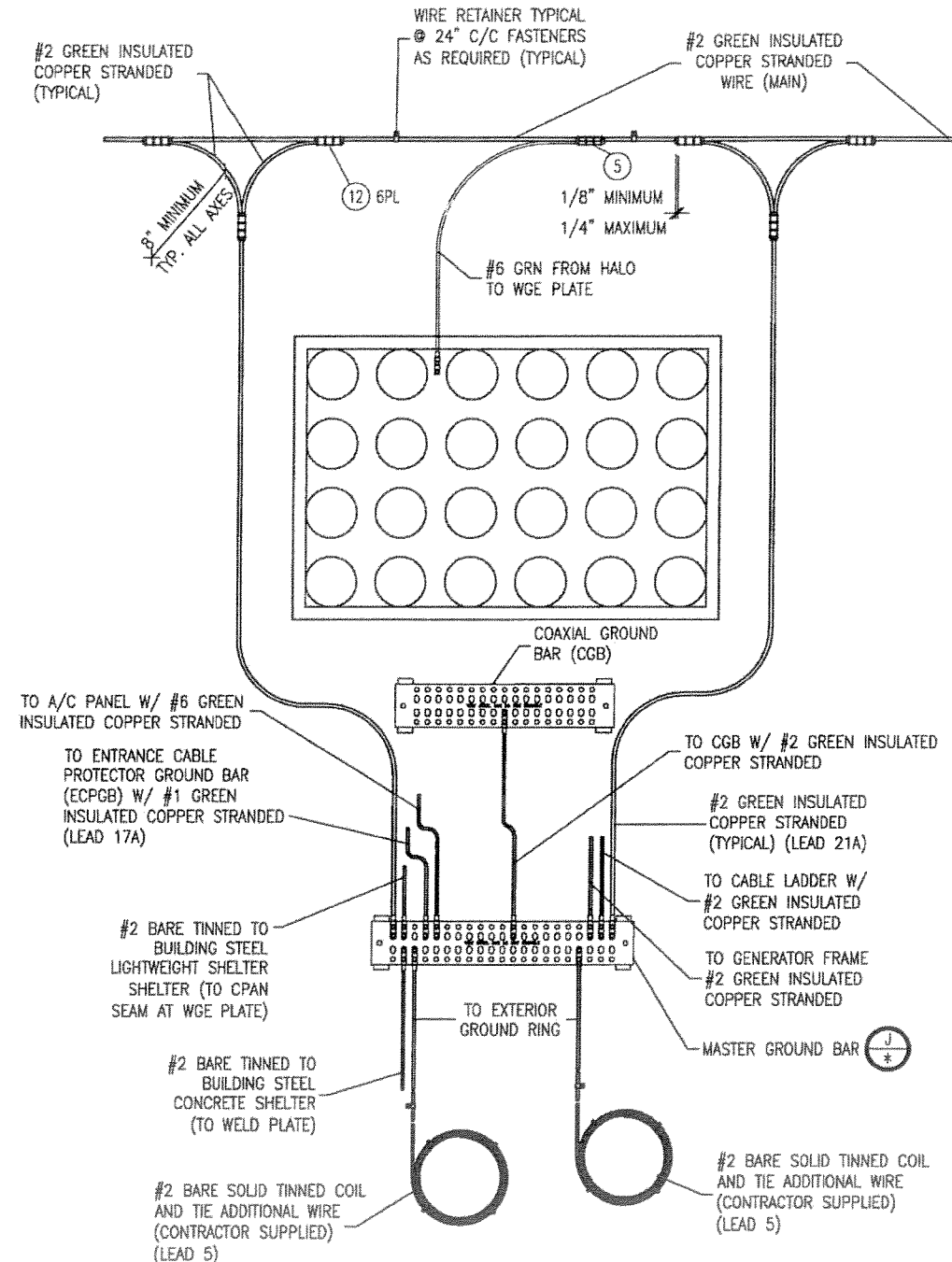


K DOOR BONDING STRAP

INSTALL ON EXTERIOR DOORS



L HALO SPLICE



P MASTER GROUND BAR (MGB) CONNECTIONS

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
TJS	WEC	02/19/13	C
UPDATE DETAIL H			
TKL	WEC	02/20/13	D
ADD GENERATOR GROUND			
TJS	WEC	05/30/13	E
UPDATE DETAILS J, K & P			

AS BUILT

RELEASED

NOV 6 8 2013

VFP, INC. ENGINEERING

VFP, INC.

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Salem, Virginia 24153-6424
(540)977-0500 (540)977-5555 fax

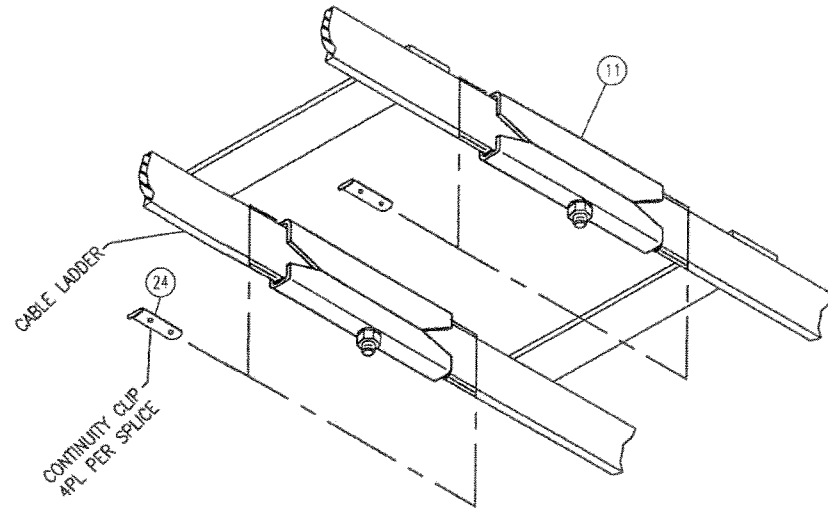
MANUFACTURING FACILITY
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Duffield, Virginia 24244
(276)431-4000 (276)431-1756 fax

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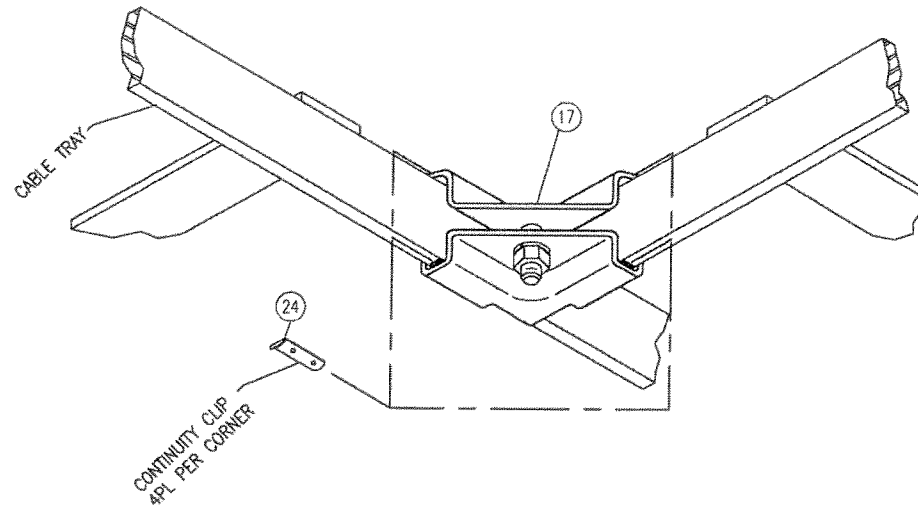
DRAWN BY J. SHOEMAKER	DATE 09/28/12
CHECKED BY W.E.CULLOP	DATE 10/05/12
CHECKED BY W.E.CULLOP	DATE 10/05/12
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
REV E	
PLOT SCALE 1/4" = 1'0"	MODEL -
TITLE VERIZON STANDARD GROUNDING DETAILS	
DRAWING NO. 473220	
SHEET 2 OF 3	

GENERAL NOTES:

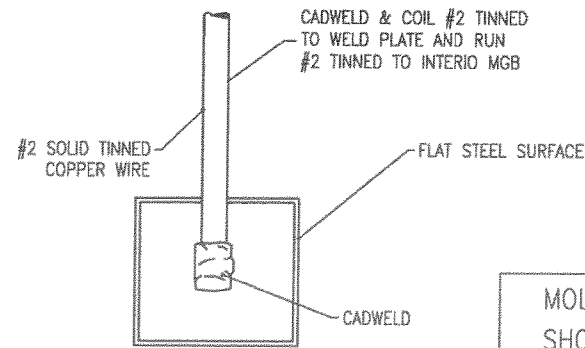
1. ANY DETAILS NOT REFERENCED ON SHELTER DRAWINGS WILL BE PRESUMED NOT REQUIRED.
2. DO NOT USE CABLE TIES ANYWHERE IN THE BUILDING. ALL WIRING BUNDLES, HALO GROUND, ETC., MUST BE LACED WITH WAXED LACING CORD.



R CABLE LADDER BOND
(STANDARD 1-1/2" RAIL)



T CABLE LADDER BOND
(STANDARD 1-1/2" RAIL)



W CADWELD #2 SOLID (TINNED) TO FLAT STEEL SURFACE
CONCRETE SHELTER BUILDING STEEL

QTY	U/M	PART NO.	DESCRIPTION	ITEM
AR	EA	LCC6-38DW-L	LUG, #6, (2) 3/8H, CRIMP, CU, LONG BARREL	25
AR	EA	350065-001	CLIP, CONTINUITY, GROUND, CABL, TRAY, SPLICE	24
AR	EA	LCC2-38DW-Q	LUG, #2, (2) 3/8H, CRIMP, CU, BARREL W/ WINDOW	23
AR	EA	EM2522DH.875.625.437	LUG, THRD, #2 SOL, (2) 7/16, 5/8-7/8 C-C	22
AR	EA	LCC1-38DW-E	LUG, #1, (2) 3/8H, CRIMP, 1C-C, WINDOW	21
AR	EA	FPW14	WASHER, DRAGON TOOTH, 1/4H	20
AR	EA	165027-001	WASHER, DISC SPRING, SS, 1/4" BELLEVILLE	19
AR	EA	LCDX6-14A-L	LUG, #6, DLO, (2) 1/4H, CRIMP, CU	18
AR	EA	350063-001	CABLE TRAY CORNERS, 2PR	17
AR	EA	LCC6-14AW-L	LUG, #6, (2) 1/4H, CRIMP, CU, LONG BARREL	16
AR	EA	165004-115	NUT, HEX, SS, 3/8"	15
AR	EA	165027-002	WASHER, DISC SPRING, SS, 3/8", BELLEVILLE	14
AR	EA	165005-106	WASHER, FLAT, SS, 3/8"	13
AR	EA	355028-003	LUG, C-TAP, SMALL, ORANGE, 2M, 2-3B	12
AR	EA	350062-001	CABLE TRAY SPLICERS 2PR	11
AR	EA	165004-105	NUT, HH, SS, 1/4-20	10
AR	EA	165025-104	WASHER, LOCK, SS, 1/4"	9
AR	EA	165005-104	WASHER, FLAT, SS, 1/4"	8
AR	EA	165019-102	BOLT, HH, SS, 1/4-20 x 3/4"	7
AR	EA	165019-110	BOLT, HH, SS, 3/8-16 x 1-1/4"	6
AR	EA	355028-002	LUG, C-TAP, SMALL, PINK, 2M, 6-12B	5
AR	EA	165260-001	BRACKET, STANDOFF, CABLE TIE, 1.75	4
AR	EA	165260-003	BRACKET, STANDOFF, CABLE TIE, 4.65	3
AR	EA	10N100UH-WZ	#10 x 1 HEX WASHER TEK SCREW ZP	2
AR	EA	10N100TVWZ	#10 x 1 HEX WASHER SLOTTED PIERCE PT ZP	1
QTY	U/M	PART NO.	DESCRIPTION	ITEM

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
TKL	WEC	02/15/13	A
UPDATE		UPDATE	
TKL	WEC	02/18/13	B
UPDATE DOOR HARDWARE			
TJS	TKL	05/30/13	E
UPDATE ITEMS# 14 & 15, ADDED ITEMS# 6 & 7, DELETED ITEM# 16, DELETED DETAIL S			

AS BUILT

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NOV 08 2013
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ENGINEERING

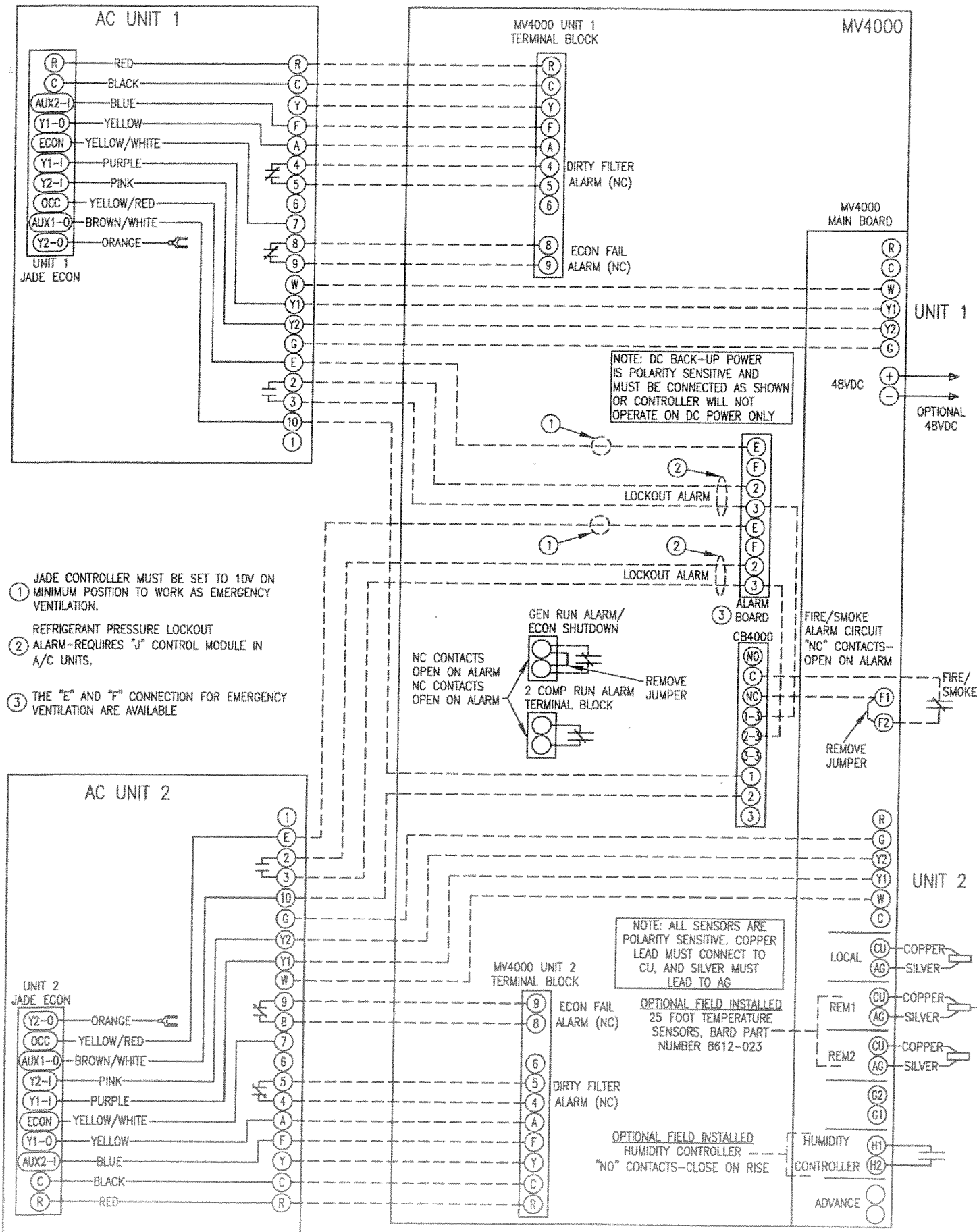
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DRAWN BY J. SHOEMAKER	DATE 09/28/12
CHECKED BY W.E.CULLOP	DATE 10/05/12
CHECKED BY W.E.CULLOP	DATE 10/05/12
DRAWING NOT TO SCALE	
SIZE B	CAGE NO 53223
PLOT SCALE 1/4"=1'0"	MODEL -
TITLE VERIZON STANDARD GROUNDING DETAILS	
DRAWING NO. 473220	
SHEET 3 OF 3	



- ① JADE CONTROLLER MUST BE SET TO 10V ON MINIMUM POSITION TO WORK AS EMERGENCY VENTILATION.
- ② REFRIGERANT PRESSURE LOCKOUT ALARM-REQUIRES "J" CONTROL MODULE IN A/C UNITS.
- ③ THE "E" AND "F" CONNECTION FOR EMERGENCY VENTILATION ARE AVAILABLE

NOTE: DC BACK-UP POWER IS POLARITY SENSITIVE AND MUST BE CONNECTED AS SHOWN OR CONTROLLER WILL NOT OPERATE ON DC POWER ONLY

NOTE: ALL SENSORS ARE POLARITY SENSITIVE. COPPER LEAD MUST CONNECT TO CU, AND SILVER MUST LEAD TO AG

OPTIONAL FIELD INSTALLED 25 FOOT TEMPERATURE SENSORS, BARD PART NUMBER 8612-023

OPTIONAL FIELD INSTALLED HUMIDITY CONTROLLER "NO" CONTACTS-CLOSE ON RISE

NOTES

1. ALL ELECTRICAL WORK TO COMPLY WITH THE LATEST REVISION OF THE N.E.C.
2. ALL CONTROL WIRING TO BE #18 AWG STRANDED UNLESS NOTED OTHERWISE.
3. WHERE HVAC SHUTDOWN IS REQUIRED BY BUILDING DRAWINGS, BREAK 'R' LEAD AT SECONDARY OF XFMR IN ACH UNITS AS SHOWN. SEE BUILDING DRAWING FOR ACTUAL WIRING OF THE HVAC SHUTDOWN RELAY. (DETAIL ON THIS DRAWING IS INCOMPLETE). SHUTDOWN RELAY SHALL BE SPECIFIED ON JOB PART LIST.
4. ACH UNIT POWER MUST BE IN PHASE BEFORE MAKING LOW VOLTAGE CONNECTIONS.
5. REMOVE GROUND STRAP (IF EXISTS) FROM ACH COMMON (XFMR SECONDARY) TO CHASSIS OR EQUIPMENT GROUND.
6. REMOVE JUMPER FOR COMP DISABLE FEATURE.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS		5/1/13	A

UPDATE PRINT

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DRAWN BY V.S. SHUPE	DATE 9/28/12
CHECKED BY W.J. BLANKENSHIP	DATE 12/3/12
APPROVED BY	DATE RELEASED

DO NOT SCALE DRAWING		
SIZE B	CAGE NO 53223	REV A
SCALE 1/4"=1'-0"	MODEL	

TITLE
MV4000-BC W/H-A SERIES & ECONOMIZER HVAC CONTROL WIRING

DRAWING NO.
473200

SHEET
1 of 1

QTY. REQ'D.	CAGE NO.	PART OR IDENTIFYING NO.	DESCRIPTION OR NOMENCLATURE	ITEM NO.
1		MV4000	THERMOSTAT, LEAD/LAG, BARD	1

PARTS LIST

NOTES

1. ALL PIPING NPT BLACK UNLESS OTHERWISE NOTED.
2. ALL PIPING SEALED APPROPRIATELY FOR CHEMICAL AND HEAT EXPOSURE.
3. ALL PIPES SUPPORTED BY HANGERS AS NECESSARY.
4. ALL FUEL FILL AND VENT PIPING SHALL BE FULLY INSTALLED AND PRESSURE TESTED TO MEET THE GENERATOR MANUFACTURE SPECIFICATIONS PRIOR TO SHIPPING. ONLY THE THREE EXTERIOR VENT EXTENSIONS ARE EXCLUDED.
5. VENT PIPES SHALL BE CAPPED AND SEALED FOR SHIPPING.
6. VENT PIPE CAPS SHALL BE TAGGED "DO NOT REMOVE CAP UNTIL PIPING IS TESTED ON SITE"

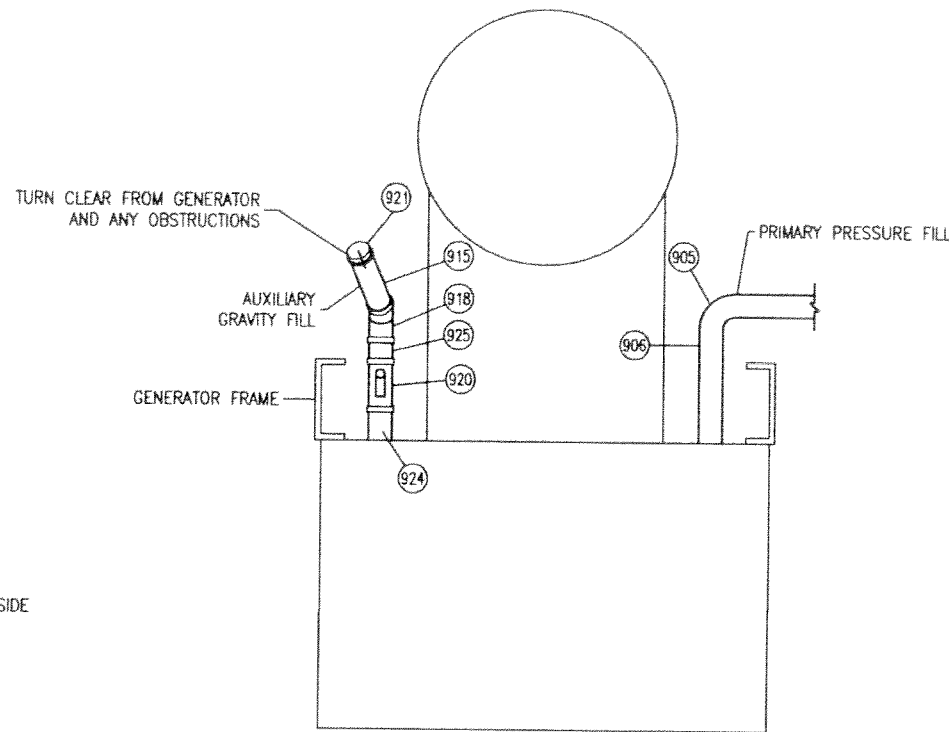
TOLERANCES

ALL DIMENSIONS ARE IN INCHES UNLESS SPECIFIED OTHERWISE

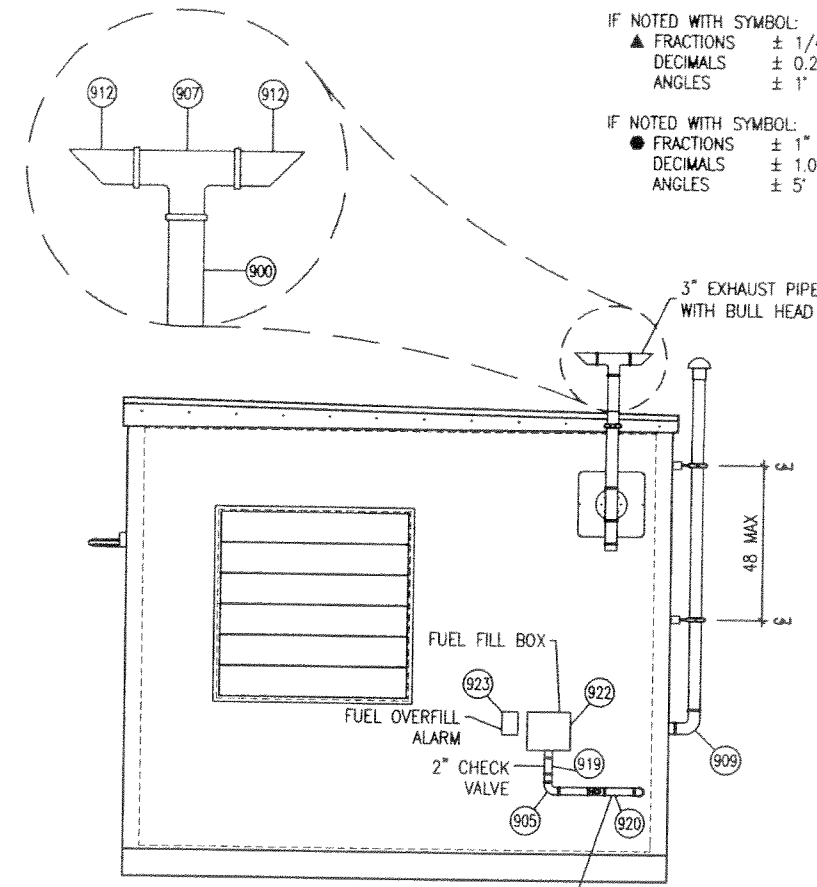
STANDARD:
 FRACTIONS ± 1/2"
 DECIMALS ± 0.25"
 ANGLES ± 3°

IF NOTED WITH SYMBOL:
 ▲ FRACTIONS ± 1/4"
 DECIMALS ± 0.25"
 ANGLES ± 1°

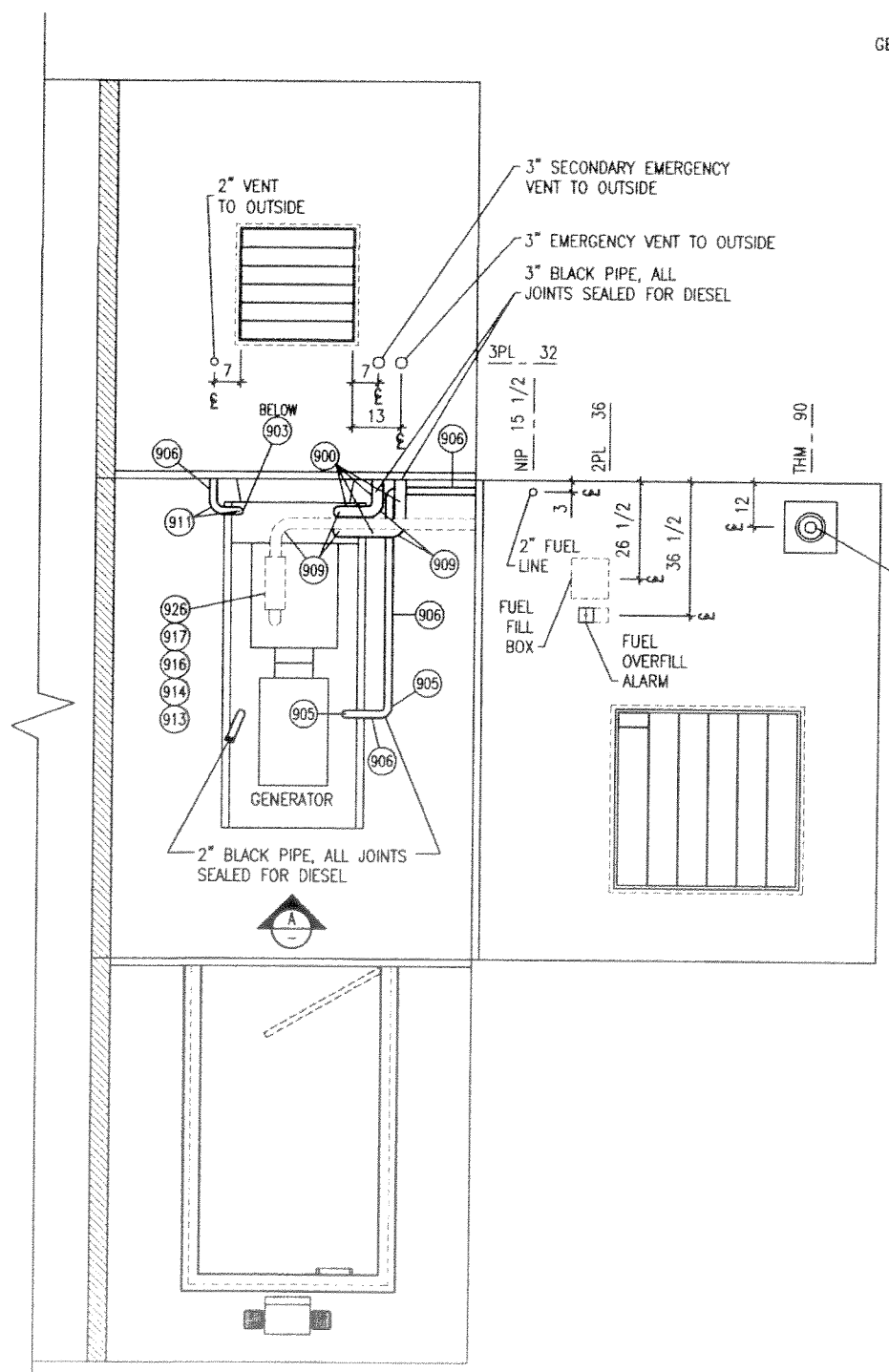
IF NOTED WITH SYMBOL:
 ● FRACTIONS ± 1"
 DECIMALS ± 1.0"
 ANGLES ± 5°



A FILL CONNECTION DETAIL

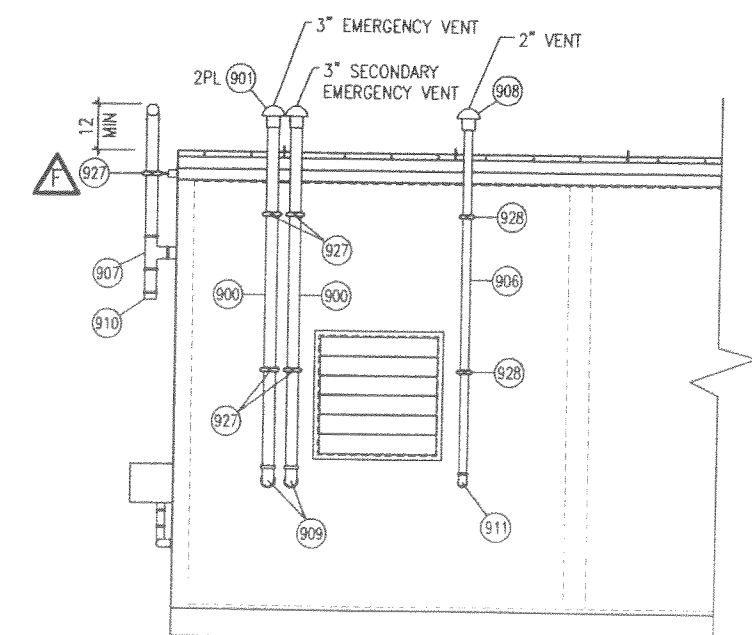


RIGHT WALL ELEVATION D



INTERIOR FOLDOUT

QTY	U/M	PART NO.	DESCRIPTION	ITEM
2	EA	360007-200	MTLFRMG,PIPE CL,2	928
5	EA	360007-300	MTLFRMG,PIPE CL,3	927
2	EA	365126-300	COUPLING,150# BLK,3	926
1	EA	365132-201	NIPPLE,150# BLK,2xCLOSE	925
1	EA	365132-205	NIPPLE,150# BLK,2x4	924
1	EA	GENERATOR MANUF.	GENERATOR OVERFILL ALARM	923
1	EA	GENERATOR MANUF.	GENERATOR FILL BOX	922
1	EA	307-0100AC	CAP,2\"/>	



REAR WALL ELEVATION C

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
JAS	WEC	2/28/13	A
ADDED FILL CONNECTION DETAIL			
JAS	WEC	2/28/13	B
FIXED BOM & DETAIL			
TJC	WEC	3/1/13	C
FIXED BOM & DETAIL			
JAS	WEC	3/14/13	D
FIXED BOM & DETAIL			
JAS	WEC	5/31/13	E
FIXED BOM & DETAILS			
JAS	WEC	10/17/13	F
ADDED ITEM # FOR EXHAUST PIPE BRACE, AND CHANGED QTY #927			

AS BUILT

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WILLIAM J. BLANKENSHIP, PE
 3531 PETERS CREEK RD NW #302
 ROANOKE, VIRGINIA 24019
 PE LICENSE: STATE OF VA

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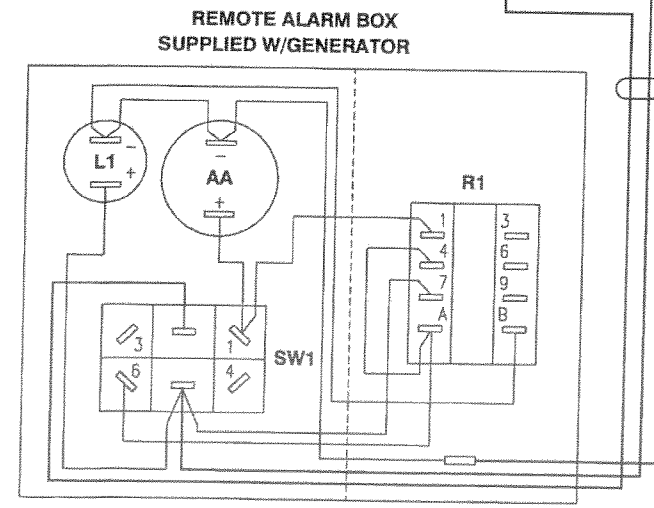
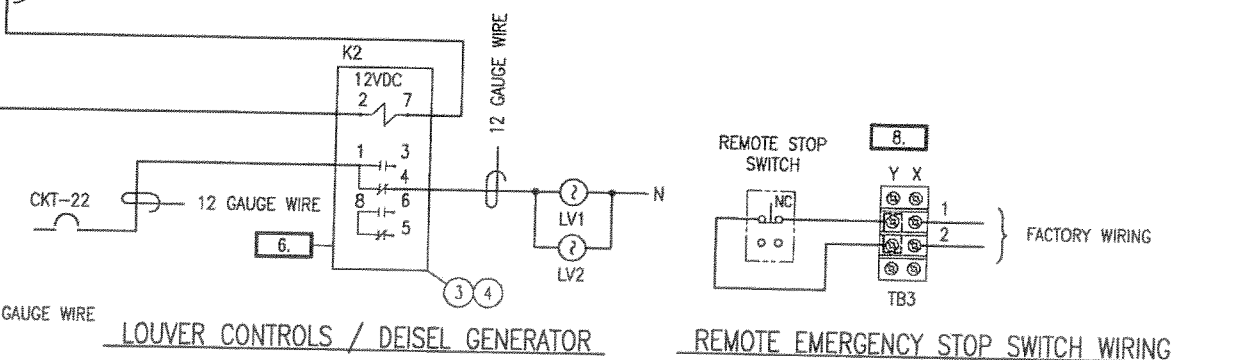
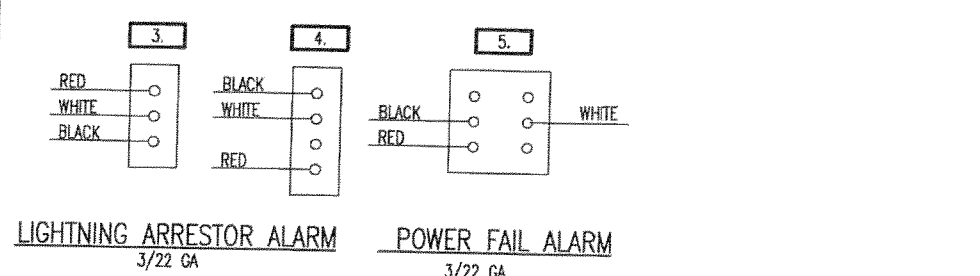
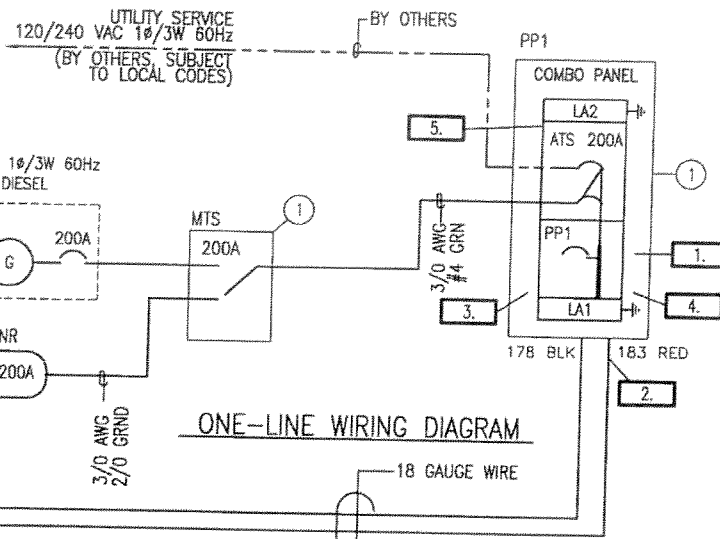
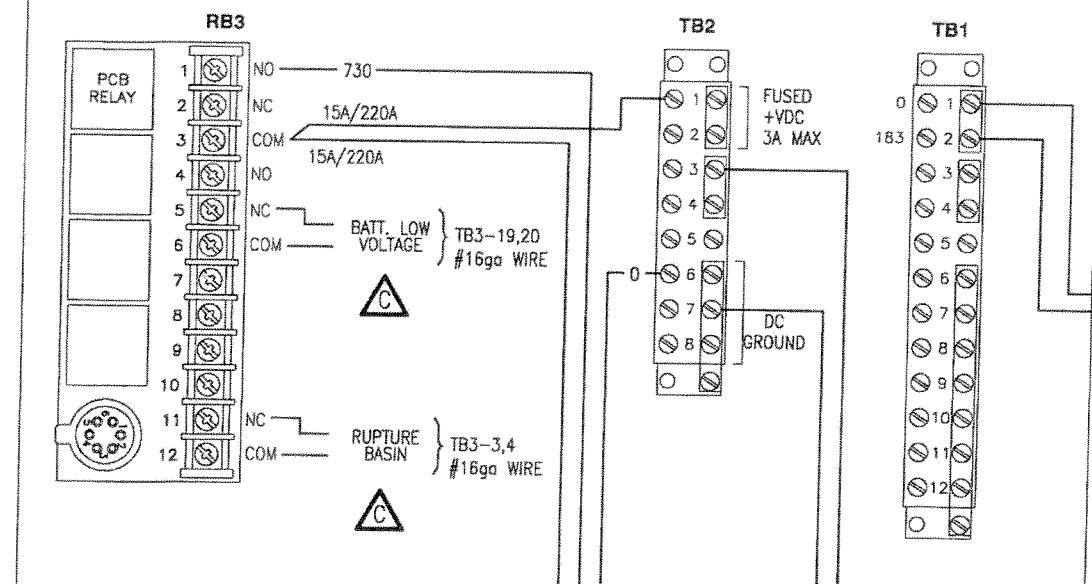
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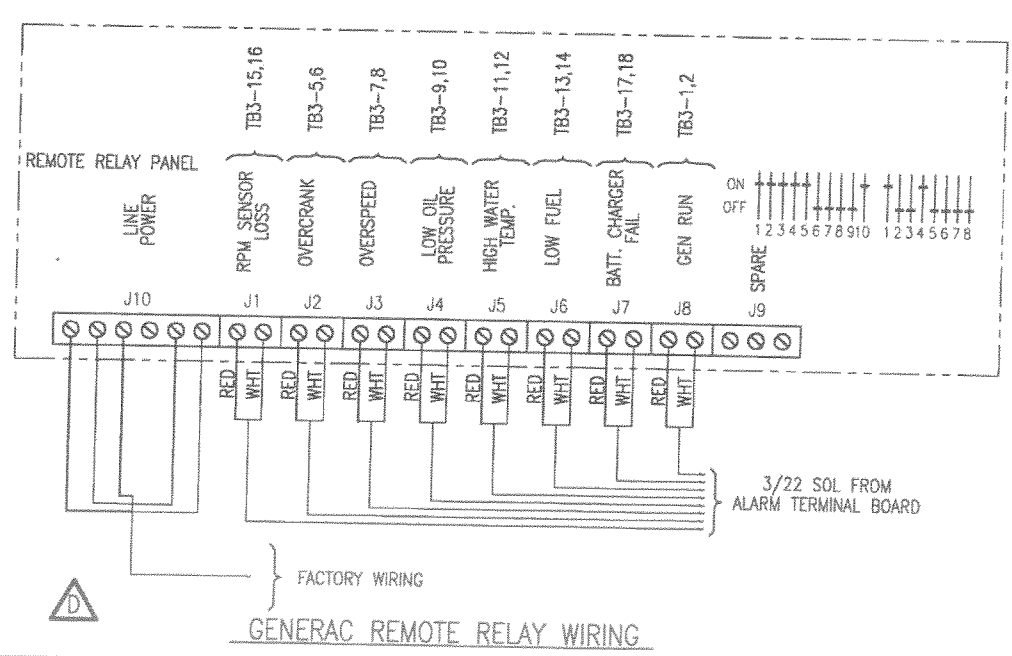
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DRAWN BY BROOKSTOOL	DATE 9/28/12
CHECKED BY W.J. BLANKENSHIP	DATE 10/3/12
DRAWING NOT TO SCALE	
SIZE B	CAGE NO. 53223
REV F	
PLOT SCALE 1/4"=1'0"	
TITLE GENERATOR PIPING FOR DIESEL GENSETS MIRROR	
DRAWING NO. 473261	
SHEET 1 OF 1	

LOW VOLTAGE CUSTOMER CONNECTION BOX ON GENERATOR



HIGH FUEL LEVEL REMOTE ALARM BOX (MOUNTED EXTERIOR)



GENERAC REMOTE RELAY WIRING

NOTES

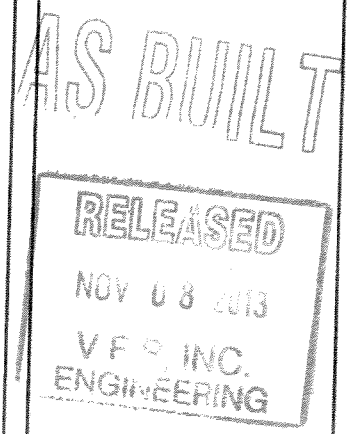
1. ILC NOT IN AUTO, CONNECT ALARMS TO TWO CENTER PINS LOCATED IN PP1.
2. REMOTE START 183 - RED, 178 - BLACK LOCATED IN PP1.
3. LIGHTNING ARRESTOR ALARMS RED, WHITE, BLACK LOCATED IN PP1.
4. LIGHTNING ARRESTOR ALARMS BLACK, WHITE, RED LOCATED IN PP1.
5. POWER FAIL ALARM LOCATED IN PP1
6. K2 LOCATED IN 4x4 ON WALL NEXT TO INTAKE LOUVER
7. LOCATED ON GENERATOR
8. TERMINAL STRIP Y-X IS LOCATED IN LOW VOLTAGE CUSTOMER CONNECTION BOX NEAR TB2. REMOVE FACTORY JUMPER BETWEEN Y1-Y2 AND DISCARD. CONNECT NC CONTACTS OF REMOTE STOP SWITCH TO Y1&Y2.

		TB3	
GENERATOR RUN	{ GR1-NC RED	①	①
16ga STRANDED	{ GR1-C WHT	②	②
TB2-3,4			
GENERATOR RUPTURE BASIN	{ GRB-NC RED	③	③
16ga STRANDED	{ GRB-C WHT	④	④
TB2-39,40			
GENERATOR OVERCRANK	{ GOC-NC RED	⑤	⑤
16ga STRANDED	{ GOC-C WHT	⑥	⑥
TB2-7,8			
GENERATOR OVERSPEED	{ GOS-NC RED	⑦	⑦
16ga STRANDED	{ GOS-C WHT	⑧	⑧
TB2-9,10			
GEN LOW OIL PRESSURE	{ GLOP-NC RED	⑨	⑨
16ga STRANDED	{ GLOP-C WHT	⑩	⑩
TB2-11,12			
GEN HIGH WATER TEMP	{ GHWT-NC RED	⑪	⑪
16ga STRANDED	{ GHWT-C WHT	⑫	⑫
TB2-13,14			
GENERATOR LOW FUEL	{ GLF-NC RED	⑬	⑬
16ga STRANDED	{ GLF-C WHT	⑭	⑭
TB2-15,16			
GEN RPM SENSOR LOSS	{ GRSL-NC RED	⑮	⑮
16ga STRANDED	{ GRSL-C WHT	⑯	⑯
TB2-17,18			
GEN BATT CHARGER FAILURE	{ GBCF-NC RED	⑰	⑰
16ga STRANDED	{ GBCF-C WHT	⑱	⑱
TB2-19,20			
GEN LOW BATT VOLTAGE	{ GLBV-NC RED	⑲	⑲
16ga STRANDED	{ GLBV-C WHT	⑳	⑳
TB2-21,22			

TERMINAL STRIP
RUN 3/22 SOL FROM TB3 TO TB2

QTY	U/M	PART NO.	DESCRIPTION	ITEM
1	EA	5X852	SOCKET, RELAY, 8 PIN	4
1	EA	355039-012	RELAY, 10A, DPDT, 12VDC	3
1	EA	DT224UGK	SWITCH, DPDT, 200A, NF, 250V	2
1	EA	156500-1	INTRG LD CNTR, 200A, 1Ø/3W, MB, 2-TVSS	1

REVISIONS				
CHG. BY	APPR. BY	DATE	REV	
TJS	WEC	04/09/13	A	
UPDATE DETAILS				
TJC	WEC	05/23/13	B	
ADD TB3				
TJS		07/24/13	C	
UPDATE DETAILS				



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DRAWN BY	TJM CARICO	DATE	09/28/12
CHECKED BY	W.J.BLANKENSHIP	DATE	12/03/12
DO NOT SCALE DRAWING			
SIZE	B	CAGE NO	53223
SCALE	1/4"=1'0"	MODEL	
TITLE			
GENERAC DIESEL GENERATOR WIRING DIAGRAM			
DRAWING NO. 473252			
SHEET 1 of 1			