

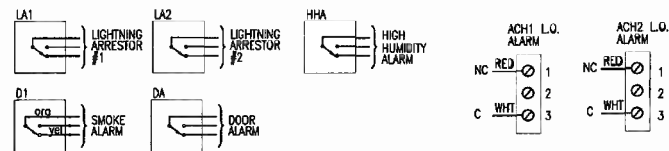
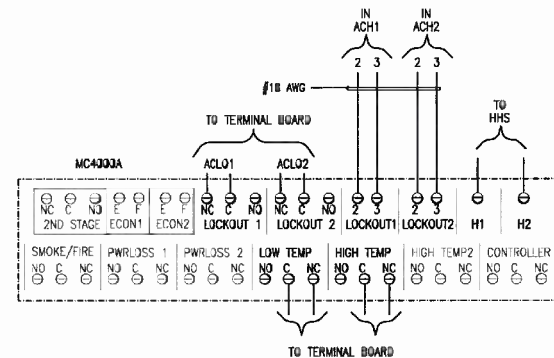
DRAWN BY S.O. SMITH		DATE 5/31/12
CHECKED BY MIKE STUMP		DATE 6/12/12
CHECKED BY MIKE STUMP		DATE 6/12/12
DRAWING NOT TO SCALE		
SIZE B	CAGE NO 53223	REV A
PLOT SCALE 1/4"=1'-0"	MODEL 4401	
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER TITLE SHEET		
DRAWING NO. 204401		
SHEET 1 OF 10		

PP1 UTILITY															200A, 120/240VAC, 1Ø/3W, 60Hz, M.BKR															PP2 TECH															200A, 120/240VAC, 1Ø/3W, 60Hz, M.BKR														
LOAD	VOLT AMPERES (WATTS)		WIRE	BREAKER		TRIP	P	TRIP	P	TRIP	P	TRIP	P	TRIP	LOAD	VOLT AMPERES (WATTS)		WIRE	BREAKER		TRIP	P	TRIP	P	TRIP	P	TRIP	LOAD																															
	A	B		A	B											A	B		A	B									A	B	A	B	A	B																									
	1	2		1	2											1	2		1	2									1	2	1	2	1	2	1	2																							
LIGHTNING ARRESTOR LA2	60		4	2	60	1		2	15	2	12	120			POWER FAIL RELAY			12	1	20	1		2	20	1	12	180			RECEPTACLE #10																													
ACH1	3600		10	2	30	5		6	30	2	10	3600			ACH2			12	1	20	5		6	20	1	12		180			RECEPTACLE #11																												
		3600										3600																			RECEPTACLE #12																												
SPARE	-		-	1	20	9		10	20	1	12	1260			RECEPTACLES - INT/EXT			12	1	20	7		8	20	1	12		180			RECEPTACLE #13																												
SMOKE DETECTOR		60	12	1	20	11		12	20	1	12			776	RECEPTACLES - INT/EXT/EMER			12	1	20	9		10	20	1	12		180			RECEPTACLE #14																												
* UPS	1620		6	2	60	13		14	20	1	-	-			SPARE			12	1	20	11		12	20	1	12		180			RECEPTACLE #15																												
		1440						16	20	1	-	-			SPARE			12	1	20	13		14	20	1	12		180			RECEPTACLE #16																												
SPARE	-		-	1	20	17		18	20	1	-	-			SPARE			12	1	20	15		16	20	1	12		180			RECEPTACLE #17																												
BLANK			-	-	-	19		20	-	-	-	-			SPARE			12	1	20	17		18	20	1	-	-	-	-	-	SPARE																												
			-	-	-	21		22	-	-	-	-			BLANK			-	1	20	19		20	20	1	-	-	-	-	-	SPARE																												
			-	-	-	23		24	-	-	-	-						-	1	20	21		22	20	1	-	-	-	-	-	SPARE																												
			-	-	-	25		26	-	-	-	-						-	-	-	23		24	-	-	-	-	-	-	-	BLANK																												
			-	-	-	27		28	-	-	-	-						-	-	-	25		26	-	-	-	-	-	-	-																													
BLANK	-		-	-	-	29		30	-	-	-	-			BLANK			-	-	-	27		28	-	-	-	-	-	-	-																													
VOLT AMPERES PER PHASE		5280	5160											4980	4496	VOLT AMPERES PER PHASE		VOLT AMPERES PER PHASE	900	720											720	720	VOLT AMPERES PER PHASE																										
* ESTIMATED LOADS												10260	9656											TOTAL VOLT AMPERES												1820	1440											TOTAL VOLT AMPERES											
												86	80											TOTAL AMPS PER PHASE												14	12											TOTAL AMPS PER PHASE											
												108												AMPS x125%												18												AMPS x125%											
												119												x 110% for MAIN												20												x 110% for MAIN											

POWER FAIL ALARM 3/22 SOL	{	PFA - NC	RED	1	---
		PFA - C	WHT	2	---
HVAC 1 LOCKOUT 3/22 SOL	{	ACLO1 - NC	RED	3	---
		ACLO1 - C	WHT	4	---
HVAC 2 LOCKOUT 3/22 SOL	{	ACLO2 - NC	RED	5	---
		ACLO2 - C	WHT	6	---
LOW TEMP ALARM 3/22 SOL	{	LTA - NC	RED	7	---
		LTA - C	WHT	8	---
HIGH TEMP ALARM 3/22 SOL	{	HTA - NC	RED	9	---
		HTA - C	WHT	10	---
HIGH HUMIDITY ALARM 3/22 SOL	{	HHA - NC	RED	11	---
		HHA - C	WHT	12	---
DOOR ALARM 3/22 SOL	{	DA - NC	RED	13	---
		DA - C	WHT	14	---
SMOKE DETECTOR 3/22 SOL	{	D1 - NC	RED	15	---
		D1 - C	WHT	16	---
LIGHTNING ARRESTOR 1 3/22 SOL	{	LA1 - NC	RED	17	---
		LA1 - C	WHT	18	---
LIGHTNING ARRESTOR 2 3/22 SOL	{	LA2 - NC	RED	19	---
		LA2 - C	WHT	20	---
				21	---
				22	---
				23	---
				24	---
				25	---
				26	---
				27	---
				28	---
				29	---
				30	---
				31	---
				32	---
				33	---
				34	---
				35	---
				36	---
				37	---
UPS ON-LINE 3/22 SOL	{	UPS - NC	RED	38	---
		UPS - C	WHT	39	---
UPS BYPASS 3/22 SOL	{	UPS - NC	RED	40	---
		UPS - C	WHT	41	---
UPS POWER FAIL 3/22 SOL	{	UPS - NC	RED	42	---
		UPS - C	WHT	43	---
UPS FAIL 3/22 SOL	{	UPS - NC	RED	44	---
		UPS - C	WHT	45	---
UPS LOW BATTERY 3/22 SOL	{	UPS - NC	RED	46	---
		UPS - C	WHT	47	---
UPS SUMMARY 3/22 SOL	{	UPS - NC	RED	48	---
		UPS - C	WHT	49	---
				50	---

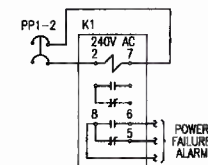
TB1

TERMINAL BOARD DETAIL
ALARM CONTACTS ARE SHOWN
IN A DE-ENERGIZED STATE



N.O. → BLK
C. → WHT
N.C. → RED
USE 3/22 AWG SOL WIRE

ALARM WIRE COLOR CODE



PFA WIRING DIAGRAM

REVISIONS			
CHG. BY	APPR. BY	DATE	REV

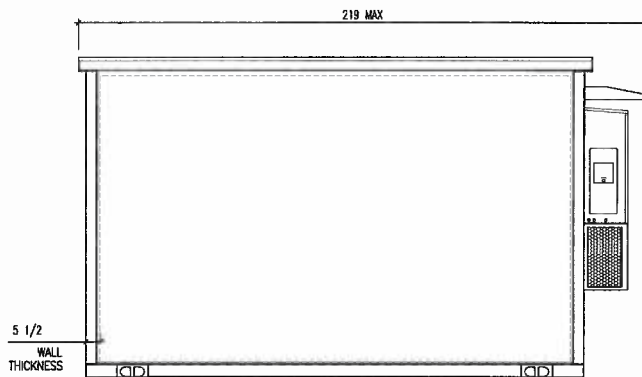
VFP, INC.

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1701 Midland Road
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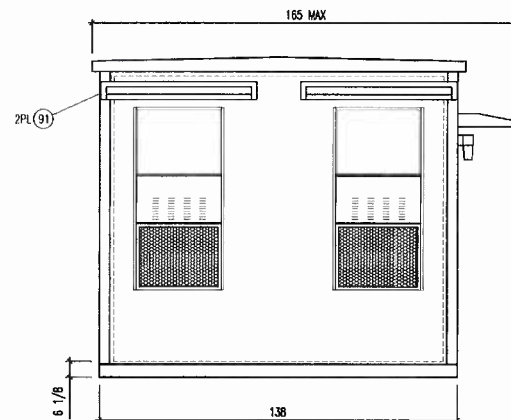
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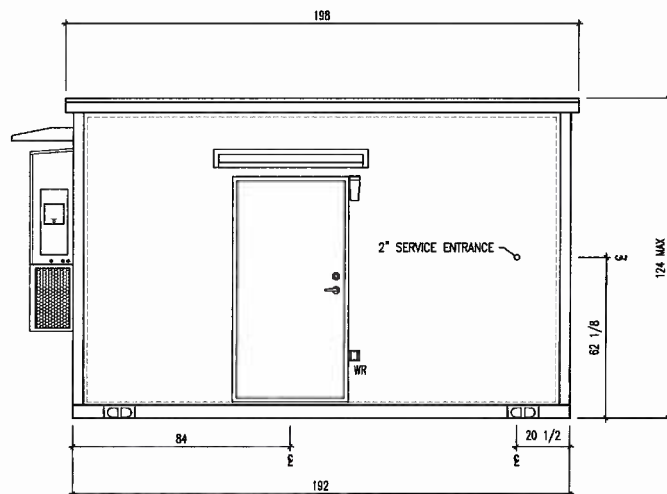
DRAWN BY S.G. SMITH	DATE 5/31/12
CHECKED BY <i>[Signature]</i>	DATE 6/16/12
DO NOT SCALE DRAWING	
SIZE B	DWG NO 53223
SCALE 1/4"=1'0"	REV 4401
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER ALARMS/TERMINAL BOARD	
DRAWING NO. 204401	
SHEET 3 of 10	



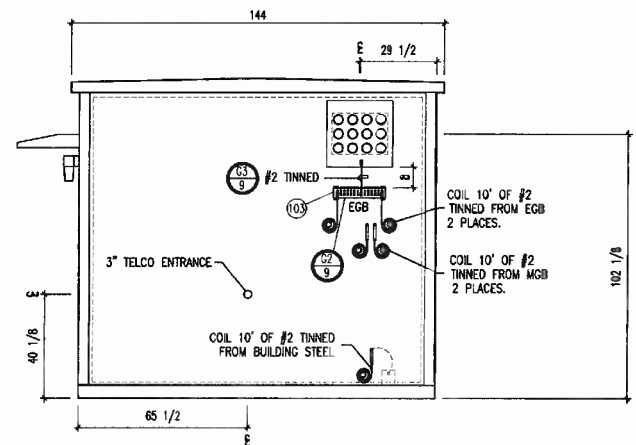
REAR WALL ELEVATION C



LEFT WALL ELEVATION B



FRONT WALL ELEVATION A



RIGHT WALL ELEVATION D

EXTERIOR ELEVATIONS

1. ELECTRICAL DIMENSIONS SHOWN ARE APPROXIMATE.
2. THE MEASUREMENTS MAY BE SLIGHTLY DIFFERENT TO CORRECTLY INSTALLED RIGID NIPPLES.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV

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DESIGNED BY S.O. SMITH	DATE 5/31/12
CHECKED BY <i>[Signature]</i>	DATE <i>[Signature]</i>
CHECKED BY <i>[Signature]</i>	DATE <i>[Signature]</i>
DO NOT SCALE DRAWING	
SIZE B	GAGE NO 53223
SCALE 1/4"=1'-0"	REV 4401
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER EXTERIOR ELEVATIONS	
DRAWING NO. 204401	
SHEET 4 OF 10	

ALL DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE

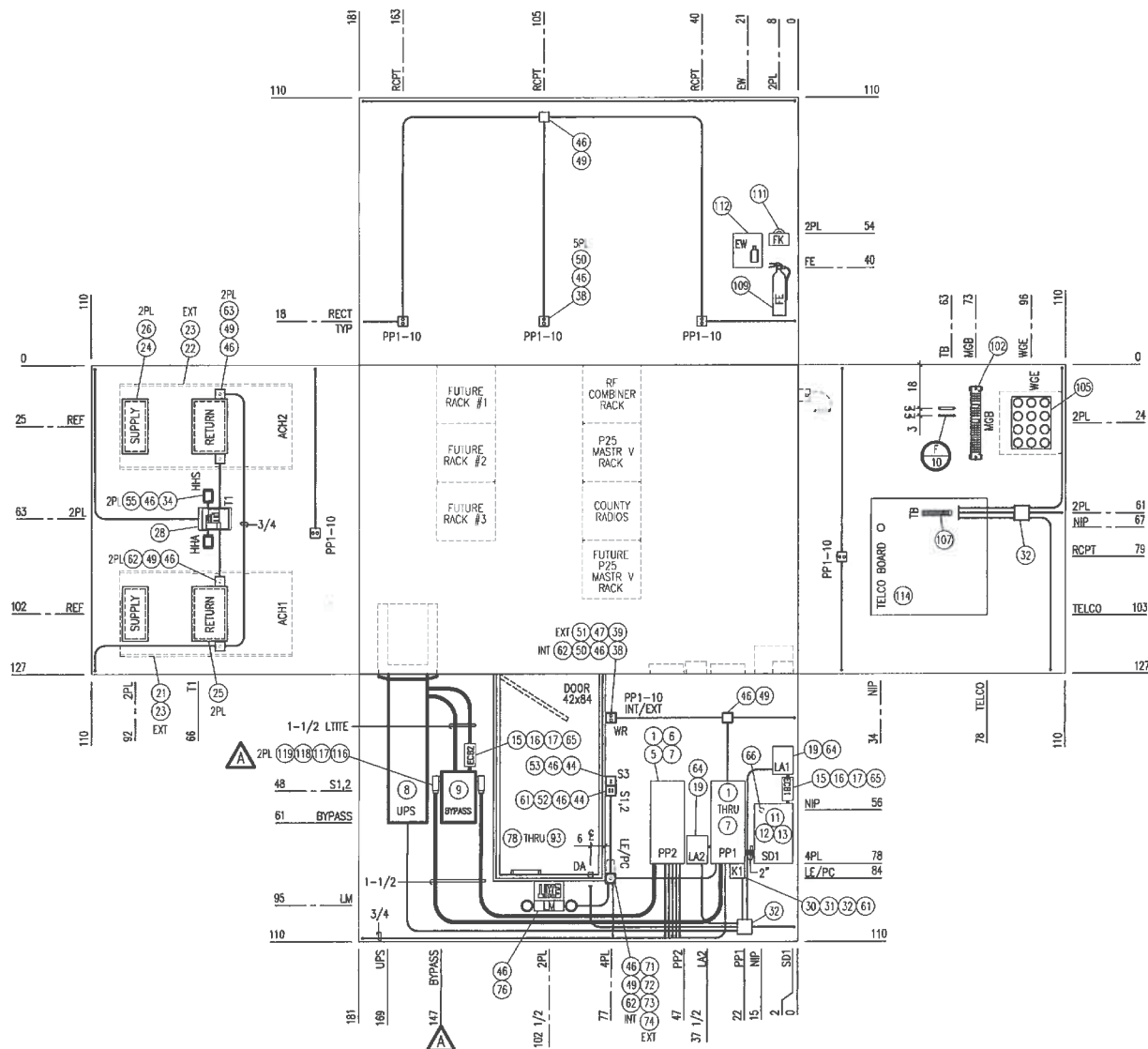
STANDARD:
FRACTIONS $\pm 1/2''$
DECIMALS $\pm 0.5''$
ANGLES $\pm 3^\circ$

IF NOTED WITH SYMBOL:

▲ FRACTIONS	$\pm 1/4^{\circ}$
DECIMALS	$\pm 0.25^{\circ}$
ANGLES	$\pm 1^{\circ}$

IF NOTED WITH SYMBOL:

FRACTIONS	$\pm 1^\circ$
DECIMALS	$\pm 1.0^\circ$
ANGLES	$\pm 5'$



ALL CONDUIT FITTINGS SHALL BE COMPRESSION TYPE.

REVISIONS			
CHG. BY	APPR. BY	DATE	REV
SGS	<i>KEC</i>	7/23/12	A
ADDED ITEM #'s 116--119 MOVED BYPASS SWITCH			

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CHECKED BY MIKE STUMP		DATE 8/12/12
CHECKED BY MIKE STUMP		DATE 8/12/12
DRAWING NOT TO SCALE		
SIZE B	CAGE NO B3223	REV A
PLOT SCALE 1/4"=1'0"	MODEL 4401	
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER INTERIOR LAYOUT		
DRAWING NO. 204401		
SHEET 5 OF 10		

INTERIOR FOLDOUT

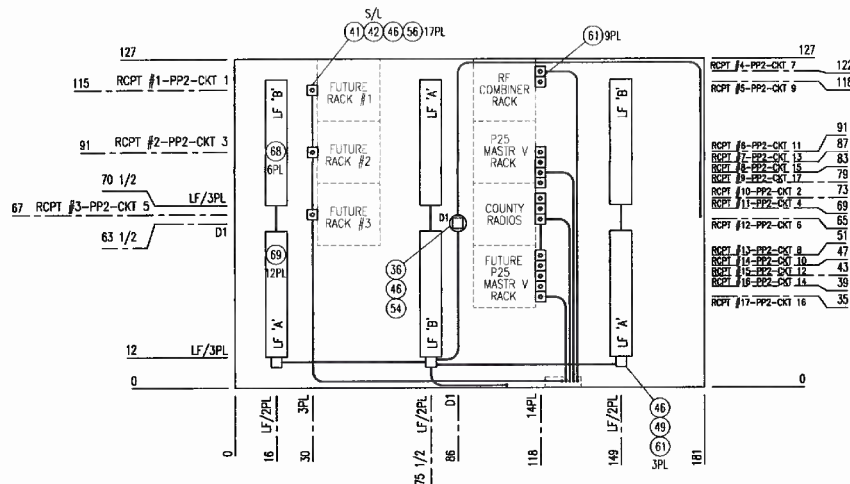
TOLERANCES

ALL DIMENSIONS ARE IN INCHES
UNLESS SPECIFIED OTHERWISE

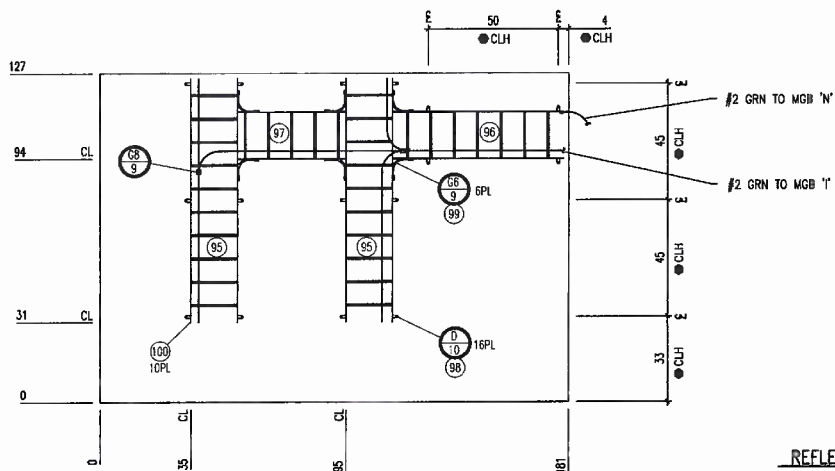
STANDARD:
FRACTIONS ± 1/2"
DECIMALS ± 0.5"
ANGLES ± 3°

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

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



REFLECTIVE CEILING - ELECTRICAL



REFLECTIVE CEILING - CABLE TRAY

GENERAL NOTES:

a ALL CONDUIT FITTINGS SHALL BE COMPRESSION TYPE.

b COVER/INSULATE ALL C-TAPS WITH BUTTER TAPE OR PLASTIC SNAP COVERS.

LEGEND

- ACH1 - AIR CONDITIONER/HEAT #1
- ACH2 - AIR CONDITIONER/HEAT #2
- CFE - CUSTOMER FURNISHED EQUIPMENT
- CIE - CUSTOMER INSTALLED EQUIPMENT
- CL - CABLE LADDER
- CLH - CABLE LADDER HANGER
- CKT - CIRCUIT BREAKER
- D1 - SMOKE DETECTOR
- DA - DOOR ALARM
- ECB1,2 - ENCLOSED CIRCUIT BREAKER
- EXT - EXTERIOR
- EGR - EXTERIOR GROUND BAR
- EW - EYE WASH STATION
- FE - FIRE EXTINGUISHER
- FX - FIRST AID KIT
- HHA - HIGH HUMIDITY ALARM (SET @ 80%)
- HHS - HIGH HUMIDITY SENSOR (SET @ 80%)
- INT - INTERIOR
- K1 - POWER FAIL ALARM RELAY
- LA1,2 - LIGHTNING ARRESTORS
- LE - LIGHT EXTERIOR
- LF - LIGHT FLUORESCENT
- LM - EMERGENCY/EXIT LIGHT
- MB - TELCO MOUNTING BOARD
- MGB - MAIN GROUND BAR
- NIP - NIPPLE
- PC - PHOTO CELL
- PFA - POWER FAIL ALARM
- PL - PLACES
- PP1 - POWER PANEL #1 (UTILITY)
- PP2 - POWER PANEL #2 (TECH)
- RCPT - RECEPTACLE
- S1 - SWITCH #1 (INTERIOR "A")
- S2 - SWITCH #2 (INTERIOR "B")
- S3 - SWITCH #3 (EXTERIOR)
- SD - SAFETY DISCONNECT
- TI - THERMOSTAT (SET @ 72°)(LEAD/LAG)
- TB - TERMINAL BOARD
- TYP - TYPICAL
- UPS - UNINTERRUPTIBLE POWER SUPPLY
- WGE - WAVE GUIDE ENTRY
- WR - WEATHER RESISTANT RECEPTACLE
- DB - DB, DUPLEX
- JB - JUNCTION BOX, 4 X 4
- JB - JUNCTION BOX, 6 X 6
- REF - REF PART LIST ITEM NUMBER
- REF - REF DWG NOTE
- REVISION - REVISION

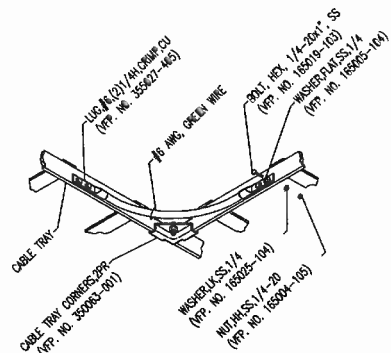
REVISIONS			
CHG. BY	APPR. BY	DATE	REV

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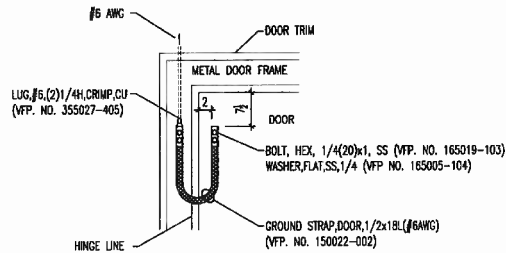
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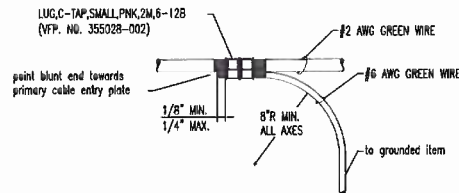
DRAWN BY S.G. SMITH		DATE 5/31/12	
CHECKED BY M. Smith		DATE 6/12/12	
DRAWING NOT TO SCALE			
SIZE 8	CAGE NO 53223	REV -	
PLOT SCALE 1/4"=1'-0"		MODEL 4401	
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER REFLECTIVE CEILING			
DRAWING NO. 204401			
SHEET 7 of 10			



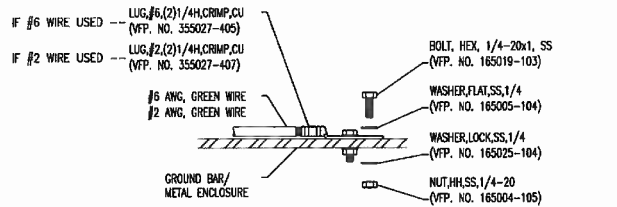
G6 CABLE LADDER BOND



G5 DOOR BONDING STRAP



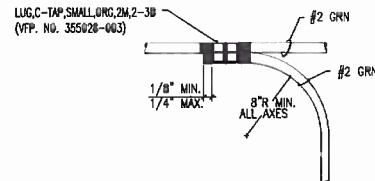
G7 HALO TAP



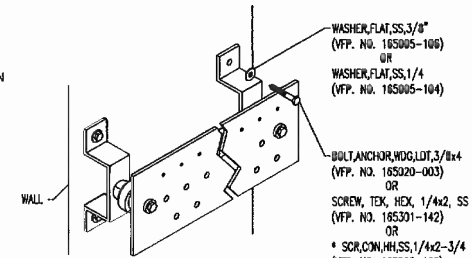
Installation Notes

- select bolt length to provide a minimum of two exposed threads.
- burnish mounting surface to remove point in the area of lug contact.
- apply anti-oxidant compound to mating surface of lug and wipe clean excess compound.
- use solid copper wire and mechanical 2-hole lug for all exterior grounding.
- Stainless hardware only.

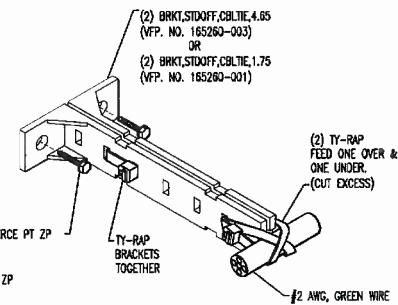
G3 GROUNDING CONNECTION



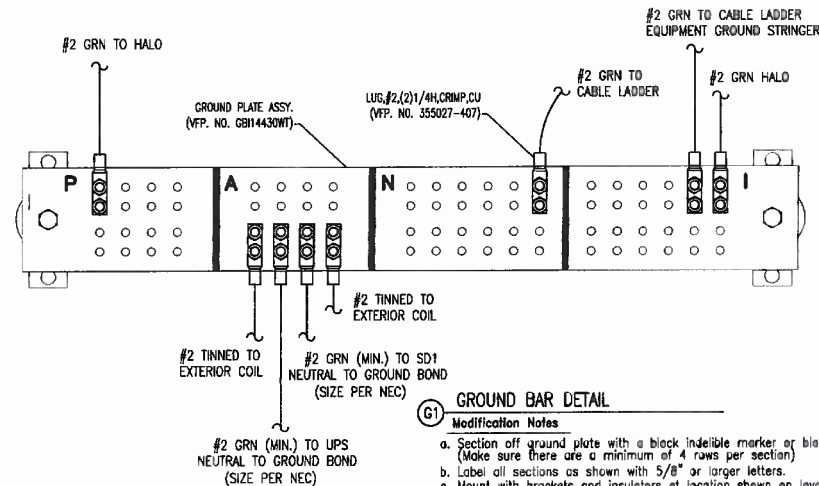
G8 CABLE LADDER GROUND TAP



G2 GROUND BAR INSTALLATION



G4 HALO GROUND INSTALLATION
screw to interior wall @ 24" O.C., typ



G1 GROUND BAR DETAIL

Modification Notes

- Section off ground plate with a black indelible marker or black tape. (Make sure there are a minimum of 4 rows per section)
- Label all sections as shown with 5/8" or larger letters.
- Mount with brackets and insulators at location shown on layout.

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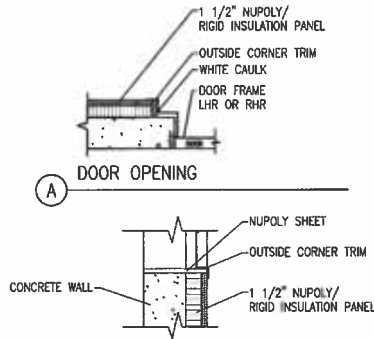
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DESIGN BY S.G. SMITH	DATE 5/31/12
CHECKED BY M. [Signature]	DATE 6/14/12
CHECKED BY	DATE
DO NOT SCALE DRAWING	
B	CAGE NO. 53225
1/4"=1'0"	MODEL 4401
11'6"x 16'0"x 9'2" CONCRETE SHELTER GROUNDING DETAILS	
DRAWING NO. 204401	
9 of 10	

Finishing Notes

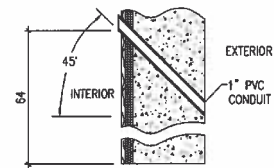
- Refer to Fastening Schedule Drawing #101562.
- Refer to manufacturing work order for exterior and interior finish of building. Refer to detail C this page for floor covering.
- Refer to interior layout sheets before routing interior sheathing for miscellaneous openings.



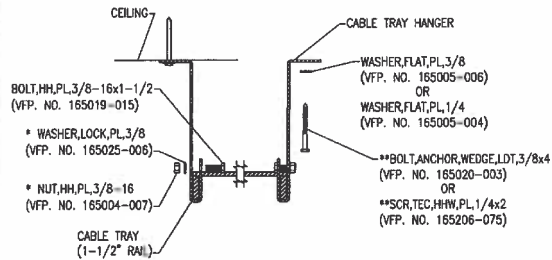
A



B



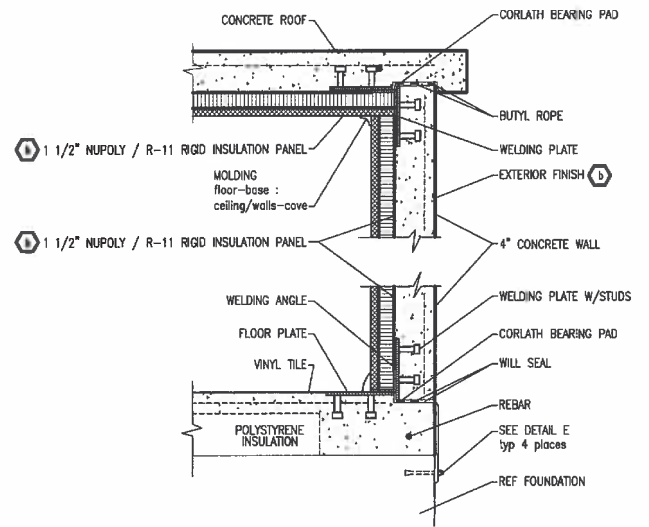
F



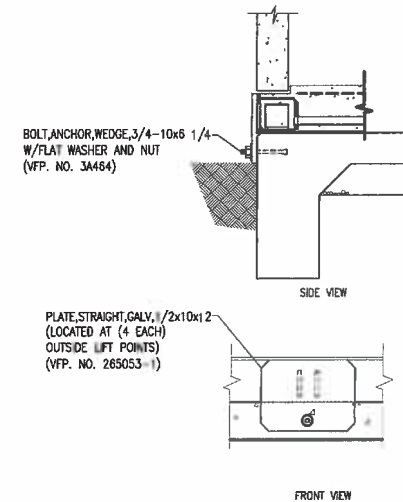
D

CABLE LADDER INSTALLATION

- *(TAPPED HANGERS DO NOT REQUIRE THESE ITEMS)
- *(IF METAL OR CONCRETE CAN NOT BE HIT USE BOLT, LAG, PL, 3/8x1-1/2 (VFP. NO. 165000-012)



C BUILDING CONSTRUCTION
elevation cut-away



E BUILDING ATTACHMENT
elevation cut away - from detail c

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DESIGNED BY S.G. SMITH	DATE 9/31/12
CHECKED BY <i>[Signature]</i>	DATE <i>[Signature]</i>
DRAWING NOT TO SCALE	
SIZE B	CHG. NO. 53223
PLAT. SCALE 1/4"=1'-0"	MODEL 4401
TITLE 11'6" x 16'0" x 9'2" CONCRETE SHELTER CONSTRUCTION DETAILS	
DRAWING NO. 204401	
SHEET 10 of 10	