



# Oregon

Kate Brown, Governor

Department of Consumer and Business Services  
Building Codes Division  
1535 Edgewater Street NW  
P.O. Box 14470  
Salem, OR 97309-0404  
503-378-4133  
Fax: 503-378-2322  
oregon.gov/bcd

## NOTICE OF PLAN REVIEW

OR Plan number:	M410-18-6010D	Date received:	3/16/18
Valuation:	\$6,454.08	Date reviewed:	4/03/2018
Fee received:	\$276.09	<b>Expiration date:</b>	<b>4/03/2019</b>
Manufacturer:	THERMO BOND BUILDINGS LLC		
First user:	CLACKAMAS COUNTY		
Design Professional:	JEFFREY R. WALTON JR		
Destination:	EAGLE CREEK, OREGON		
Description:	12' X 24' X 9'		

### DESIGN CRITERIA:

Occupancy:	S-2	Type of construction:	V-B
Floor area:	288	Number of stories:	1
Roof live load:	200	Floor live load:	300
Wind:	200	Exposure:	C
Seismic zone:	D	Risk category:	<b>IV</b>
Occupant load:	1	Sprinklers:	N/A
Plumbing:	N/A	Alarm(s):	N/A
NLEA required?	N/A		

Unit(s) reviewed for conformity, when applicable, with the **2014 Oregon Energy Efficiency Specialty Code (OEESC)**, **2014 Oregon Structural Specialty Code (OSSC)**, **2014 Oregon Mechanical Specialty Code (OMSC)**, **2017 Oregon Plumbing Specialty Code (OSPSC)**, **2017 Oregon Electrical Specialty Code (OESC)** and other related rules and regulations, as applicable.

Where plans reference IBC, or similar reports in lieu of specifics, two (2) copies of those reports shall be submitted with the plans for approval and be provided to the field inspector upon request. Inspection will not be completed and a re-inspection required if current copies of the referenced documents are not available to the inspector as requested.

This plan review does not cover the design of the foundation, marriage of multiple component structures, connecting the building to its foundation, or exterior stairs and ramps.

Care shall be exercised by the authority having site jurisdiction that the requirements of Table 602 and the appropriate portions of Sections 705.8, 705.8.5, 705.8.6 of the OSSC are considered in setting the structure on the property.

**No modification to this structure shall be commenced without the approval of the design engineer, the local building official and the Prefabricated Structures Section of the Building Codes Division. Electrical and Plumbing alterations, Occupancy change of use requires separate permits and inspections.**

**Foundation systems, marriage connections of multiple component units, site work done outside of the confines of the structure (plumbing, electrical, gas piping, sprinkler underground installations including connections to the building, porches, stairs, patio covers etc. and utility connections) are the responsibility of the local building department having site jurisdiction. See OAR 918-674-0015 (5). Notification to Local Enforcement Agencies, (NLEA) are for incomplete structures only. OAR 918-674-0055 (7).**

Design Master Plans are valid for 12 MONTHS following the date of approval subject to the following: During a code change year, the plans may expire prior to the plan expiration date indicated if a new code document is adopted by Oregon or other affected State(s). In such case, complete resubmittal including an application and updated plans may be required.

OAR 918-674-0015

(2) Authority. Any prefabricated structure approved by the Division or a certified third-party agency and bearing an Oregon insignia of compliance shall be considered in compliance with all appropriate construction laws, codes and regulations within the State of Oregon and shall be acceptable to the local authority having jurisdiction in all Oregon municipalities.

(3) No local authority having jurisdiction shall cause closed construction to be open for inspection on a prefabricated structure or component bearing an Oregon insignia of compliance.

REFER TO APPROVED PLANS FOR NOTES PERTINENT TO THIS PARTICULAR PROJECT.

FOR ELECTRICAL INSPECTIONS CALL (503) 378-3080 or 373-1315.

**INSPECTIONS REQUIRED: COVER: QC FINAL: XX ON SITE : XX  
OTHER: Prior to shipping a structure that requires further inspections it is the responsibility of the manufacturer to notify the Division and the local jurisdiction when the unit ships and where the structure will be placed. Inspection request shall be at least 48 hours in advance for site final inspections. (918-674-0055 (1) (d) (e)). This may be accomplished by fax or phone.**

**Local jurisdiction contact information may be obtained at the following web site;**  
<http://www.cbs.state.or.us/external/bcd/jurisdictions.html>

Submitted plans are acceptable subject to the following:

**NOTE: The following list of items are standard plan review comments made in an effort to be of assistance to the manufacturer. The items listed below are not meant to imply that these plans do not comply with code requirements. The field inspector will verify code compliance during the inspection at the manufacturer's facility, or on site.**

1. In accordance with OSSC 1008.1.9.3 item 2, the main door or doors serving a Group S, Division 2 Occupancy are permitted to be equipped with key-operated locking devices from the egress side provided a readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. **Informational**
2. This building is NOT required to be accessible to and usable by persons with disabilities. OSSC 1103. Regarding floors or portions of floors of affected buildings not customarily occupied. Informational
3. Prefabricated structures and components shall bear an Oregon insignia of compliance issued by the Pre-fab Program of Building Codes Division. ORS 455.010. Prefabricated structures and factory assembled components are units not entirely open for visual inspection of equipment systems or structure after being shipped to the installation site including wall panels. i.e. prefab walk-in coolers, control rooms etc. The Oregon Insignia of

Compliance shall be located on an accessible exterior wall prior to leaving the facility. REF., OAR 918-674-0130 (1)

4. All structures built from approved plans for installation in Oregon shall be constructed in strict accordance with the Design Criteria, methods, materials and the approved Oregon Compliance Control Procedures for in-plant manufacturing.
5. Materials and their quantities stored in this structure shall not exceed the limits of OSSC 413 for combustible storage or 414 for hazardous materials &/or Oregon Fire Code as applicable.
6. There shall be a floor or landing on each side of a door. When access for persons with disabilities is required by OSSC Chapter 11, the floor or landing shall not be more than 1/2 inch lower than the threshold of the doorway. REF: OSSC, Section 1008.1.6, 1008.1.7 and 1109.9.5.
7. The typical flame-spread of interior wall and ceiling finishes in a nonsprinklered building are to be a maximum of 200:
8. HVAC units shall be installed in accordance with the manufacturer's listed installation instructions. Provide instructions with unit when shipped. OMSC 304.1.
9. All members shall be framed, anchored, tied and braced so as to develop the strength and rigidity necessary for the purpose for which they are used.
10. Plans, specifications, and other requested data shall be provided to the local building official for his inspection of the foundation system, utility connections, and the "marriage" of multiple component structures. Other site work performed on the unit itself (other than the above-mentioned) will require an incomplete systems agreement (NLEA). REF: OAR 918-674.
11. All plumbing, wiring, heating, and structural work below the level of the modular unit (bottom of floor joists), shall be site-permitted and site-inspected. REF: OAR 918-674.

### **STATIONARY STORAGE BATTERY SYSTEMS**

**Note:** IF this unit contains over 50gal of electrolyte the following code sections apply.

- 608.1 Scope.** Stationary storage battery systems having an electrolyte capacity of more than 50 gallons (189 L) for flooded lead-acid, nickel cadmium and VRLA, or 1,000 pounds (454 kg) for lithium-ion and lithium metal polymer, used for facility standby power, emergency power or uninterrupted power supplies shall comply with this section and Table 608.1.
- 608.2 Safety caps.** Safety caps for stationary storage battery systems shall comply with Sections 608.2.1 and 608.2.2.
- 608.2.1 Nonrecombinant batteries.** Vented lead-acid, nickel-cadmium or other types of nonrecombinant batteries shall be provided with safety venting caps.
- 608.2.2 Recombinant batteries.** VRLA batteries shall be equipped with self-resealing flame-arresting safety vents.
- 608.3 Thermal runaway.** VRLA and lithium metal polymer battery systems shall be provided with a *listed* device or other *approved* method to preclude, detect and control thermal runaway.
- 608.4 Room design and construction.** Enclosure of stationary battery systems shall comply with the *International Building Code*. Battery systems shall be allowed to be in the same room with the equipment they support.
- 608.4.1 Separate rooms.** When stationary batteries are installed in a separate equipment room accessible only to authorized personnel, they shall be permitted to be installed on an open rack for ease of maintenance.
- 608.4.2 Occupied work centers.** When a system of VRLA, lithium-ion, or other type of sealed, nonventing batteries is situated in an occupied work center, it shall be allowed to be housed in a noncombustible cabinet or other enclosure to prevent access by unauthorized personnel.
- 608.4.3 Cabinets.** When stationary batteries are contained in cabinets in occupied work centers, the cabinet enclosures shall be located within 10 feet (3048 mm) of the equipment that they support.
- 608.5 Spill control and neutralization.** An *approved* method and materials for the control and neutralization of a spill of electrolyte shall be provided in areas containing lead-acid, nickel-cadmium or other types of batteries with free-flowing liquid electrolyte. For purposes of this paragraph, a "spill" is defined as any unintentional release of electrolyte.
- Exception:** VRLA, lithium-ion, lithium metal polymer or other types of sealed batteries with immobilized electrolyte shall not require spill control.
- 608.5.1 Nonrecombinant battery neutralization.** For battery systems containing lead acid, nickel cadmium or other types of batteries with free-flowing electrolyte, the method and materials shall be capable of neutralizing a spill of the total capacity from the largest cell or block to a pH between 5.0 and 9.0.
- 608.5.2 Recombinant battery neutralization.** For VRLA or other types of sealed batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest cell or block in the room to a pH between 5.0 and 9.0.
- Exception:** Lithium-ion and lithium metal polymer batteries shall not require neutralization.

**608.6 Ventilation.** Ventilation of stationary storage battery systems shall comply with Sections 608.6.1 and 608.6.2.

**608.6.1 Room ventilation.** Ventilation shall be provided in accordance with the *International Mechanical Code* and the following:

1. For flooded lead-acid, flooded Ni-Cad and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 ft<sup>3</sup>/min/ft<sup>2</sup>) [0.0051 m<sup>3</sup>/s × m<sup>2</sup>] of floor area of the room.

**Exception:** Lithium-ion and lithium metal polymer batteries shall not require ventilation.

**608.6.2 Cabinet ventilation.** When VRLA batteries are installed inside a cabinet, the cabinet shall be *approved* for use in occupied spaces and shall be mechanically or naturally vented by one of the following methods:

1. The cabinet ventilation shall limit the maximum concentration of hydrogen to 1 percent of the total volume of the cabinet during the worst-case event of simultaneous “boost” charging of all the batteries in the cabinet; or
2. When calculations are not available to substantiate the ventilation rate, continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [1 ft<sup>3</sup>/min/ft<sup>2</sup> or 0.0051 m<sup>3</sup>/(s ⊕m<sup>2</sup>)] of floor area covered by the cabinet. The room in which the cabinet is installed shall also be ventilated as required in Section 608.6.1.

**608.6.3 Supervision.** Mechanical ventilation systems where required by Sections 608.6.1 and 608.6.2 shall be supervised by an *approved* central, proprietary or remote station service or shall initiate an audible and visual signal at a constantly attended on-site location.

**608.7 Signage.** Signs shall comply with Sections 608.7.1 and 608.7.2.

**608.7.1 Equipment room and building signage.** Doors into electrical equipment rooms or buildings containing stationary battery systems shall be provided with *approved* signs. The signs shall state that:

1. The room contains energized battery systems.
2. The room contains energized electrical circuits.
3. The battery electrolyte solutions, where present, are *corrosive* liquids.

**608.7.2 Cabinet signage.** Cabinets shall have exterior labels that identify the manufacturer and model number of the system and electrical rating (voltage and current) of the contained battery system. There shall be signs within the cabinet that indicate the relevant electrical, chemical and fire hazards.

**608.8 Seismic protection.** The battery systems shall be seismically braced in accordance with the International Building Code.

**608.9 Smoke detection.** An approved automatic smoke detection system shall be installed in accordance with Section 907.2 in rooms containing stationary battery systems.

The plans are approved subject to the items noted above and the approval of the authority having jurisdiction including but not limited to **DEQ, Planning and Zoning**.

Reviewed by: \_\_\_\_\_



Wayne Parker  
Plans Examiner II  
State of Oregon

M410-18-6010D

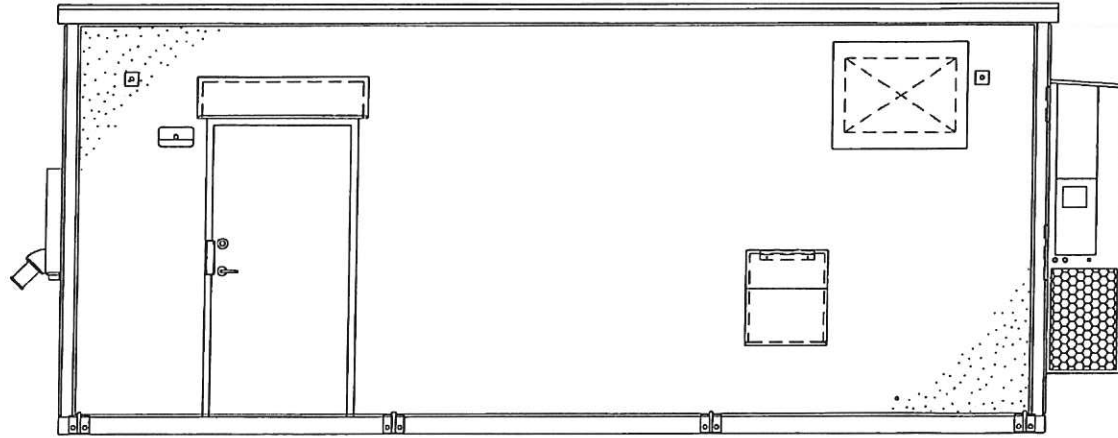
# WCCCA-9-1-1 12'-0" X 24'-0" SHELTER

**RECEIVED**  
MAR 16 2018  
BY: .....

Oregon Building Codes Division  
Plan Review for Code Compliance  
**Plan: APPROVED**

APR 03 2018

Plan Reviewed By: *[Signature]*  
This Plan approval does not authorize any omission or deviation from requirements of any state or federal laws, rules or regulations or any local ordinances. This approved plan is not a building permit.



DRAWING INDEX							
SHEET	DESCRIPTION	REV 1	REV 2	REV 3	REV 4	REV 5	REV 6
C1	COVER SHEET						
C2	MATERIALS LIST						
A1	FLOOR PLAN						
A2	ELEVATIONS						
A3	FOUNDATION						
E1	ELECTRICAL SCHEMATIC						
E2	GROUNDING LAYOUT						
E2.1	GROUNDING DETAILS						
E4	ELECTRICAL DIMENSIONS						
S1	FLOOR CASTINGS						
S2	WALL CASTINGS						
S2.1	WALL CASTINGS DETAILS						
S3	ROOF CASTINGS						
S4	CROSS SECTION						
T1	TRANSPORT CONNECTIONS						
T2	INSTALL DETAILS						

RELEASE DATES			
STATUS	RELEASED TO	BY	DATE

P=PROGRESS F=FINAL R=REVISED PR=PRODUCTION C=CUSTOMER S=STATE/DIHO PARTY

REVISIONS			
REV	DESCRIPTION	BY	DATE
1	DOWNSIIZED FAN AND REMOVED LOUVER	JNW	3/6/2018
2	ADDED LOUVER	JNW	3/7/2018
3			
4			
5			
6			
7			

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**THERMOBOND BUILDINGS**  
58120 County Road 3  
Elkhart, IN 46517  
805-356-0080  
www.thermobond.com

WCCCA-9-1-1  
12'-0" X 24'-0" SHELTER  
COVER

Communication Shelter  
DRAWING NUMBER:  
**AGB9871**

PROJECT NAME:  
Communication Shelter  
DRAWING NUMBER:  
AGB9871

DRAWN: J. Wagner  
REVISED: NONE  
SCALE: NONE  
SHEET: C1

**OREGON**

OCCUPANT LOAD: 1  
CONSTRUCTION TYPE: VB  
USE GROUP: S2

CODES:  
2014 OREGON STRUCTURAL SPECIALTY CODE  
2014 OREGON MECHANICAL SPECIALTY CODE  
2014 OREGON ELECTRICAL SPECIALTY CODE  
2014 OREGON ENERGY EFFICIENCY SPECIALTY CODE  
2014 OREGON ESSENTIAL FACILITY CODE

TO BE BUILT AT THE: THERMOBOND  
ELKHART PLANT  
58140 COUNTY ROAD 3  
ELKHART, IN 46517  
PHONE: (574) 295-1214

Kevin M. Finn, P.E., Inc.  
Jeffrey R. Walton, P.E.  
815 Waterbury Park Dr.  
Elkhart, IN 46517  
OR Lic. # 84106PE

REGISTERED PROFESSIONAL ENGINEER STAMPS AND SEALS  
84106  
*[Signature]*  
OREGON  
MAR. 9. 2010  
JEFFREY R. WALTON, JR.  
EXPIRES JUNE 30, 2018

**SPECIAL CONDITIONS / LIMITATIONS**

- THIS STRUCTURE IS NOT DESIGNED FOR INSTALLATION IN A FLOOD HAZARD AREA.
- THIS STRUCTURE IS NOT DESIGNED FOR HUMAN OCCUPANCY EXCEPT FOR SHORT TIME PERIODS FOR EQUIPMENT MAINTENANCE.
- THERMOBOND WILL NOT BE RESPONSIBLE FOR INSTALLATION OF ANY SPRINKLER SYSTEM, WHICH MAY BE REQUIRED BY LOCAL BUILDING OFFICIAL ASSOCIATED WITH THIS BUILDING.
- THERMOBOND WILL NOT BE RESPONSIBLE FOR ANY ANTENNA INSTALLATION ASSOCIATED WITH THIS BUILDING.
- THIS BUILDING SHALL NOT BE LOCATED AT A SITE THAT EXCEEDS THE LISTED DESIGN LOADS.
- FOR SITE INSTALLED BATTERIES AN EXHAUST FAN W/ A HYDROGEN LIMIT SWITCH THAT LIMITS THE HYDROGEN TO 1% OF THE TOTAL VOLUME OF THE ROOM MUST BE INSTALLED.
- HYDROGEN EXHAUST FAN WILL ALSO CYCLE ONE TIME PER HOUR FOR 5 MINUTES TO INSURE ONE COMPLETE INTERIOR AIR EXCHANGE PER HOUR.

DESIGN LOADS	WIND DESIGN	SHIPPING INFORMATION:	SEISMIC DESIGN:
OCCUPANCY TYPE (RISK CAT.): IV FLOOR LIVE LOAD: 300 psf ROOF LIVE LOAD: 200 psf	WIND SPEED: 200 MPH 3 SECOND GUST EXPOSURE: C alpha = 3/11 Gcpi = ± 0.18 (PER ASCE 7)	SHIPPING HEIGHT: 10'-4 1/8" SHIPPING WIDTH: 12'-0" SHIPPING LENGTH: 24'-0" SHIPPING WEIGHT: 64,500 LBS	BUILDING DEAD LOAD: 64,500 LBS BUILDING FOOT PRINT: 288 SQ. FT. SEISMIC DESIGN CATEGORY: D BASIC SEISMIC-FORCE-RESISTING SYSTEM: INTERMEDIATE PRE-CAST WALL ANALYSIS PROCEDURE: ELF ASSUMED SITE CLASS: D DESIGN SPECTRAL RESPONSE ACCELERATION: S <sub>1</sub> = 1.25 S <sub>2</sub> = 0.75 SITE COEFFICIENTS: F <sub>a</sub> = 1.0 F <sub>v</sub> = 1.5 DESIGN BASE SHEAR: V = CSW = (0.313) (68,200) = 21,320 LBS W = ESTIMATED WEIGHT WITH EQUIPMENT AND SNOW I <sub>e</sub> = 1.5
$P_f = (0.2) * (C_e) * (I) * (C_t) * (P_g)$ EXPOSURE FACTOR: C <sub>e</sub> = 1.0 IMPORTANCE FACTOR: I <sub>s</sub> = 1.20 THERMAL FACTOR: C <sub>t</sub> = 1.2 GROUND SNOW LOAD: P <sub>g</sub> = 60			

MATERIALS LIST							
ITEM	QTY	UM	DESCRIPTION	MANUFACTURER	MFR PART NUMBER	TBB PART NUMBER	NOTE
1	1	EA	3470 LHOS FRAME - UL 752 LEVEL 4 BALLISTIC	TELL			4
1	1	EA	3470 DOOR - MORTISE PREP - UL 752 LEVEL 4 BALLISTIC	TELL			4
1	1	EA	HYDRAULIC DOOR CLOSER	TELL		099-1296	7
1	1	EA	CONTINUOUS HINGE	TELL			7
1	1	EA	PAINT 3/4 X 7/0 DOOR/FRAME TELECOM BROWN	TELL		099-0995	7
1	1	EA	MAGNETIC WEATHER STRIPPING 4884	PEMCO	2815CM	099-0845	7
1	1	EA	48" THRESHOLD	PEMCO	272A48	099-1293	7
1	1	EA	48" DOOR SHOE	PEMCO	2221APK	099-0875	7
1	1	EA	ANTI-PICK PLATE	LATCHGUARD	LG120	099-1294	7
1	1	EA	CONSTRUCTION CORE	TELL		099-0870	7
1	1	EA	MORTISE LOCKSET WITH LEVER AND DEADBOLT	BEST	M713-8201-01-SC 260	099-1095	7
1	1	EA	3670 DOOR CANOPY - HEAVY DUTY	B&T		199-0350-TELCOM	2,4
2	1	EA	3 TON HVAC W/SKW HEAT & ECONOMIZER-RIGHT	BARO	WA3S3-A05WPXXXJ	899-0598	8
3	1	EA	3 TON HVAC W/SKW HEAT & ECONOMIZER-LEFT	BARO	WL3S3-A05WPXXXJ	899-0598-L	8
4	2	EA	RETURN & SUPPLY GRILLES	BARO	RG-5 & SG-5	899-0008 & 899-0007	8
5	1	EA	HVAC CONTROLLER	BARO	MC4002-BC	100-0109	8,12
6	1	EA	200A METER MAIN	MILBANK	J224M1B/22	200-0931	8
7	1	EA	200A ATS	THOMSON-MARATHON	TS-870	025-1028	8,12
8	1	EA	200A MTS	SQUARE D	82344N	200-0923	8,12
9	1	EA	200A GENERATOR RECEPTACLE	HUBBELL	HBL4200RS2W & MB2004W	025-1029 & 025-1030	8
10	1	EA	200A LOAD CENTER, 1φ/3W	SQUARE D	00142M200	200-0157	8,12
11	1	EA	LOAD CENTER COVER	SQUARE D	00C42US	200-0922	8
12	1	EA	GROUND BAR	SQUARE D	PK23GTA	700-0018	8
13	1	EA	CKT BKR, 2/60A	SQUARE D	00260	200-0066	8
14	2	EA	CKT BKR, 2/35A	SQUARE D	00235	200-0062	8
15	6	EA	CKT BKR, 2/30A	SQUARE D	00230	200-0060	8
16	1	EA	CKT BKR, 2/20A	SQUARE D	00220	200-0058	8
17	22	EA	CKT BKR, 1/20A	SQUARE D	00120	200-0052	8
18	1	EA	SURGE ARRESTOR, TYPE 1 - SAD/MOV, 120/240, 1φ/3W	TRANSECTOR	DSAPEXIMAX808	100-0087	8,12
19	10	EA	TWST-LOCK DUPLEX RECEPTACLE, 15A 120V	LEWTON	4550	800-0043	7,12
20	12	EA	QUADPLEX RECEPTACLE	LEWTON	(2) CR20-1	(2) 800-0031	7,12
21	1	EA	WEATHERPROOF GFCI RECEPTACLE	PASS & SEYMOUR	2095TRWRI	800-0034	8
22	3	EA	SINGLE POLE SWITCH	LEWTON	CS120-21	800-0058	7
23	9	EA	48" LINEAR LED STRIP LIGHT WITH LENS	RAB	GUS4-36W/D10	500-0576	7
24	1	EA	LED EXTERIOR LIGHT WITH PHOTOCELL	HUBBELL	LNC-9LU-5K-2-1-PC1	500-0613	2,7
25	1	EA	IONIZATION DETECTOR WITH RELAY	BRK	9120/RM4	100-0186 & 100-0184	7
26	1	EA	TIMER	INTERMATIC	EPI00C	100-0369	8,12
27	1	EA	10" EXHAUST FAN	DAYTON	GRAINGER# 1HLA1	799-0017	8
28	1	EA	HYDROGEN DETECTOR	ARRGH	HGD-DR	100-0160	8
29	1	EA	16" MOTORIZED INTAKE LOUVER	DAYTON	GRAINGER# 4C560	799-0032	8
30	1	EA	66 ALARM BLOCK	SIEMON	566M1-25	050-0020	7,12
31	1	EA	DOOR ALARM	SENTROL	1047T	100-0231	7,12
32	1	EA	240V POWER FAIL RELAY W/BASE	DAYTON	GRAINGER# 3X740/5X852	100-0034 & 100-0001	7,12
33	2	EA	ENCLOSURE, N1, 6 X 6 X 4	B-LINE	664SC NK	300-0216	7
34	1	EA	ENCLOSURE, N1, 12 X 12 X 6	HOFFMAN	ASE12X12X6NK	300-0174	7
35	1	EA	8" X 4" X 1/4" GROUND BAR	HARGER	CBH144BJ	550-0154	8
36	1	EA	20" X 4" X 1/4" GROUND BAR	HARGER	CBH1442DJ	550-0115	8
37	30	FT	12" BLACK CABLE LADDER W/HARDWARE	CHATSWORTH	10250-712	750-0157	7,13
38	1	EA	ENTRY PORT, 6 X 4	MICROFLECT	E1340	199-0091	8
39	2	EA	BLANK COVER PLATE FOR 6 X 4 PORT	B&T		199-0405	4
40	1	EA	METAL WALL POCKET	SAFCO	21D199	001-2048	7
41	2	EA	4" WIREWAY, 10FT	B-LINE	44120 C NK	300-0037	7
42	1	EA	4" WIREWAY, 3FT	B-LINE	4436 C NK	300-0107	7
43	1	EA	4" WIREWAY 90, COMBO	B-LINE	44 L COMBO	300-0033	7
44	3	EA	4" WIREWAY CONNECTER	B-LINE	44 C	300-0049	7
45	2	EA	4" WIREWAY END CAP	B-LINE	44 E NK	300-0028	7
46	50	FT	18" BLACK CABLE LADDER W/HARDWARE	CHATSWORTH	10250-718	750-0515	7,13
47	10	FT	24" BLACK CABLE LADDER W/HARDWARE	CHATSWORTH	10250-724	750-0158	7,13
48	1	EA	20" X 4" X 1/4" GROUND BAR, TINNED	HARGER	TCBH1442DJ	550-0116	8
49	1	EA	EMERGENCY/EXIT LIGHT WITH BATTERY BACK-UP	LITHONIA	ECR LED	500-0177	7
50	1	EA	4" X 4" X 3/4" TELCO BOARD	THERMOBOND			7
51	1	EA	10LB CO2 FIRE EXTINGUISHER	KIDDE	PRO10CDM	399-0051	2,7
52	1	EA	EYE WASH	HONEYWELL	GRAINGER# 3ARD6	399-0255	7
53	1	EA	FIRST AID KIT	NORTH	GRAINGER# 4EY92	399-0254	7
54	1	EA	18" RAIN HOOD WITH SCREEN	B&T			2,4
55	1	EA	24" RAIN HOOD WITH SCREEN	B&T		799-0024-TELCOM	2,4
56							
57							
58							
59							
60	8	EA	LIFTING LUGS				1
61	4	EA	TIE DOWN PLATES				1
62	8	EA	TIE DOWN BOLTS				1
63	8	EA	BLACK PLASTIC BASE PLUGS				1
64	10	EA	FLOOR TILES				1
65	1	EA	TUBE OF BRILLIANT WHITE CAULK				1
66	4	EA	TUBES OF BEIGE DYMONIC CAULK				1
67	1	EA	PINT CAN OF TELECOM BROWN PAINT				1
68	1	EA	PINT CAN OF ELASTOMERIC COURSE PAINT				1
69	30	EA	1/8" SHIMS FOR SHELTER SET				1
70	30	EA	1/4" SHIMS FOR SHELTER SET				1

**MATERIAL LIST NOTES:**

- SHIP LOOSE
- PRE-INSTALL REMOVE FOR SHIPMENT
- FABRICATED ITEM
- PAINT - TELECOM BROWN
- PAINT - TELECOM GRAY
- PAINT - COLOR DESIGNATED
- OR EQUIVALENT
- NO SUBSTITUTIONS ALLOWED
- NO PART NUMBER SPECIFIED
- MAY BE DELIVERED AT SIGHT
- PROVIDED BY OTHERS
- LABEL
- QUANTITY ESTIMATED

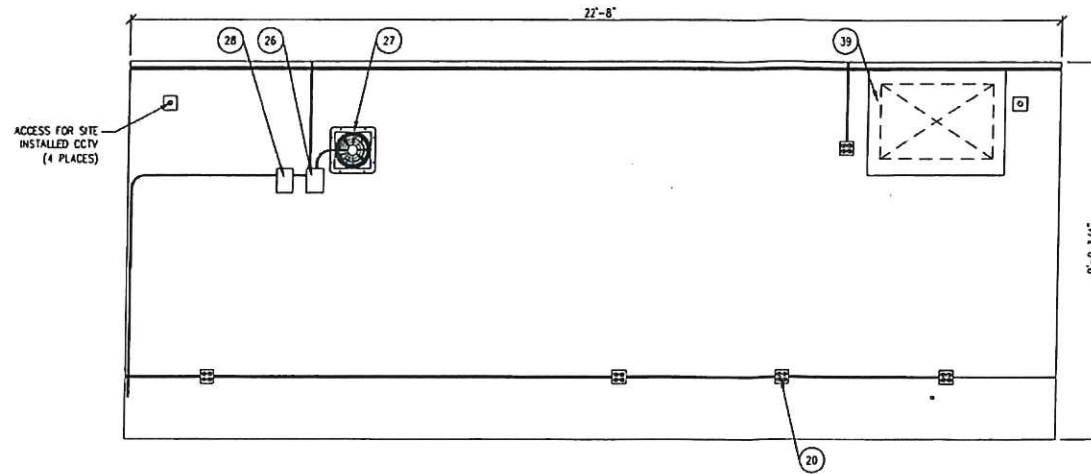
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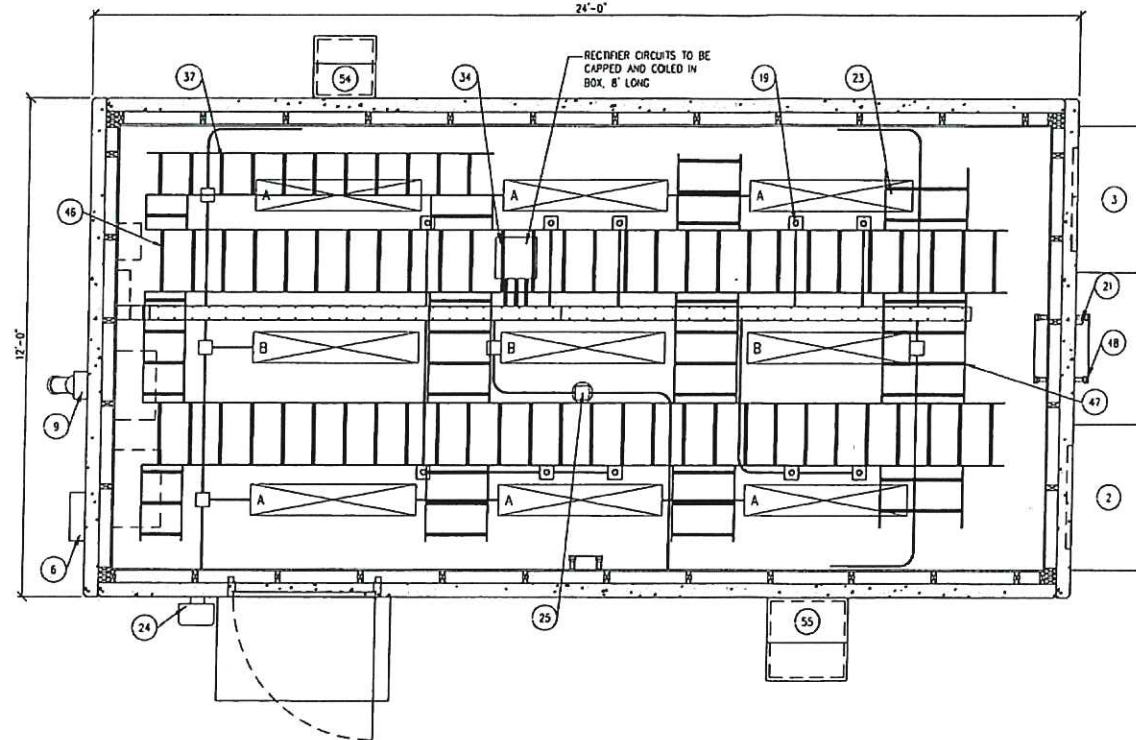
**WCCCA-9-1-1**  
**12'-0" X 24'-0" SHELTER**  
**MATERIALS LIST**

PROJECT NAME: **Communication Shelter**  
 DRAWING NUMBER: **AGB9871**  
 PROJECT #:  
 SCALE: NONE  
 SHEET: **C2**  
 DRAWN BY: J. Wagner  
 REVISED: 2/21/18  
 DRAWN BY: J. Wagner

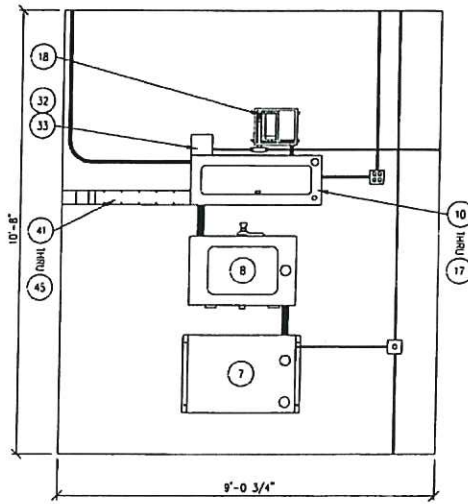
REGISTERED PROFESSIONAL ENGINEER  
 8-1106  
 J. Jeffrey R. Walton, Jr.  
 OREGON  
 MAR. 9, 2010  
 MAR 13 2018  
 STAMPS AND SEALS  
 EXPIRES: JUNE 30, 2018



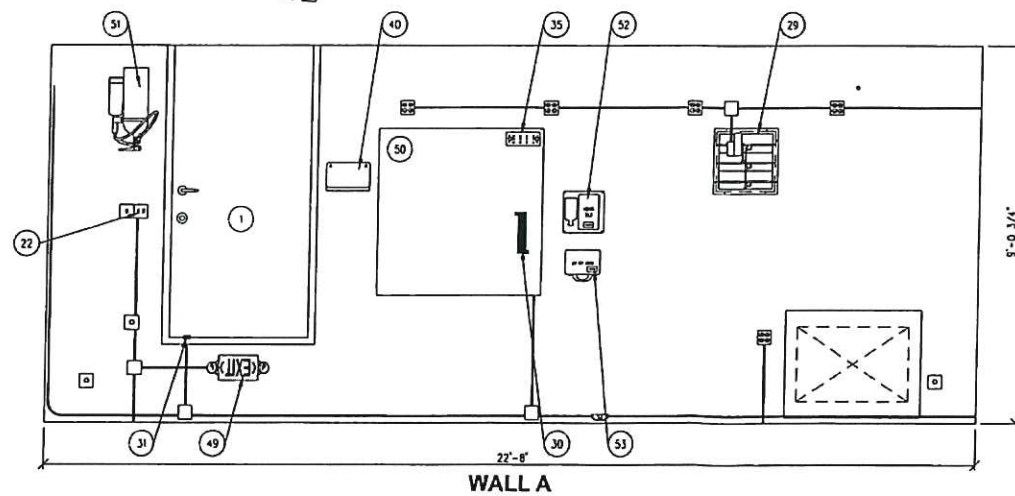
WALL C



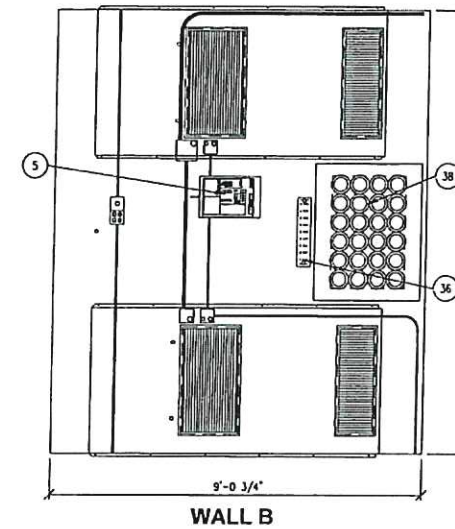
FLOOR PLAN  
SCALE: 1/2"=1'-0"



WALL D



WALL A



WALL B

- COMMERCIAL POWER:**  
120/240VAC, 200AMP SINGLE PHASE SERVICE.
- CONDUIT RUNS:**
1. ALL CONDUIT RUNS TO BE 1/2" EMT UNLESS STATED OTHERWISE.
  2. ALL CONDUIT RUNS TERMINATING AT SERVICE ENTRANCE EQUIPMENT SHALL CONTAIN BONDED BUSHINGS.
  3. WIREWAYS CARRYING 3 OR MORE CURRENT CARRYING CONDUCTORS SHALL BE DERATED PER TABLE 310-15(B)(3) OF APPLICABLE EDITION OF THE NEC.
  4. CONDUIT FILL IS BASED ON CHAPTER 9, APPENDIX C OF THE NEC.
- CABLE LADDER:**
1. CABLE LADDER IS TO BE 8'-0" A.F.F. AND INSTALLED IN ACCORDANCE WITH ARTICLE 392 OF THE NEC LEVEL TO WITHIN 1/8" IN 10' OR SIMILAR.
- GROUNDING:**
1. ALL GROUNDING EXCEPT FOR CABLE LADDER TO CONFORM TO ARTICLE 250 OF THE NEC.
  2. CABLE LADDER GROUNDING TO CONFORM TO ARTICLE 392.60 OF THE NEC.
  3. GROUNDING TO CONFORM TO THE MOTOROLA R56 GUIDELINES.
- GENERAL NOTES:**
1. LABEL FACE OF ALL ELECTRICAL EQUIPMENT WITH PNEUMATIC LABELS, BLACK WITH WHITE LETTERS. EXTERNAL BYPASS, TI, SDI, & LAI. EXCEPTION SHALL BE ALL UPS EQUIPMENT SHALL HAVE PNEUMATIC LABELS RED WITH WHITE LETTERS EX: UPS1P1, UPS1, WIREWOLD RECEPTACLES.



STAMPS AND SEALS

MAR 13 2018

EXPIRES JUNE 30, 2018

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WCCCA-9-1-1  
12'-0" X 24'-0" SHELTER  
FLOOR PLAN

PROJECT NAME:  
Communication Shelter  
DRAWING NUMBER:  
**AGB9871**

PROJECT #: 1702-55C  
SCALE: 1/2"=1'-0"  
SHEET: A1

DRAWN: J. Wagner  
REVISED: 2/21/18  
DRAWN BY: J. Wagner

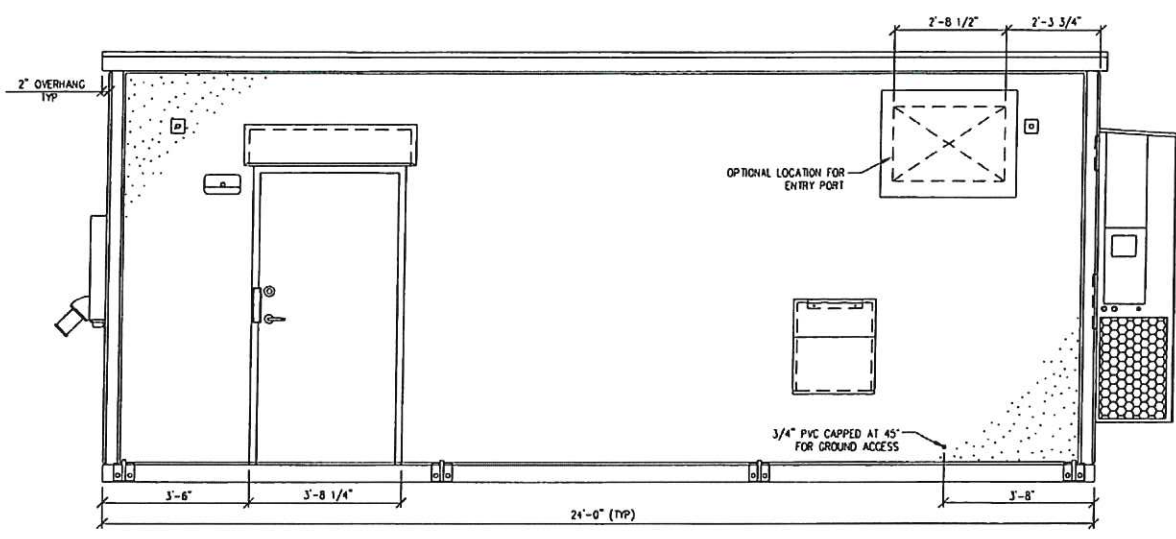
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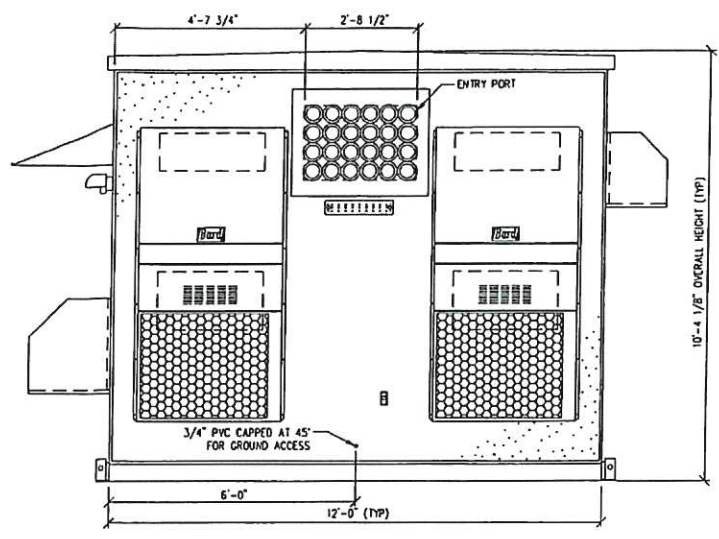
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EXTERIOR FINISH SCHEDULE			
ITEM	SURFACE	FINISH	PAINT COLOR
ROOF	TROWELED SMOOTH	SEALED, ELASTOMERIC COURSE PAINT	TELECOM BROWN
WALLS	EXPOSED WASHED AGGREGATE	WHITE STAIN (2 COATS)	-
DOORS	STEEL, RATED	PANT	TELECOM BROWN
JOINTS	AS FINISHED	SEALED PER DETAILS SHEET	TELECOM BROWN

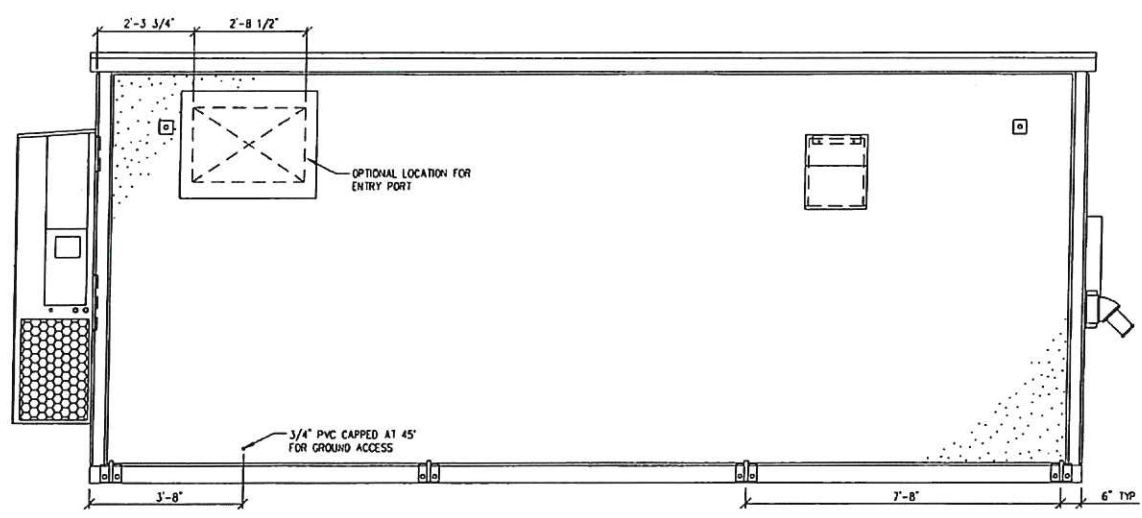
**ELEVATION NOTES:**  
 1. SEE MATERIALS LIST FOR SHIPPED LOOSE ITEMS  
 2. SEE MATERIALS LIST FOR DOOR HARDWARE.



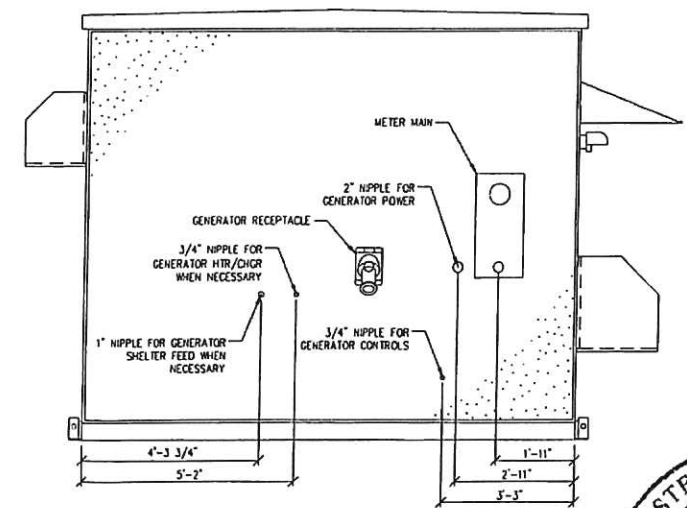
**FRONT ELEVATION (WALL A)**  
 SCALE: NONE



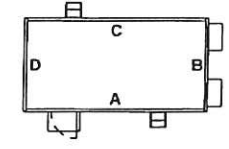
**RIGHT ELEVATION (WALL B)**  
 SCALE: NONE



**REAR ELEVATION (WALL C)**  
 SCALE: NONE



**LEFT ELEVATION (WALL D)**  
 SCALE: NONE



**WCCA-9-1-1  
 12'-0" X 24'-0" SHELTER  
 ELEVATIONS**

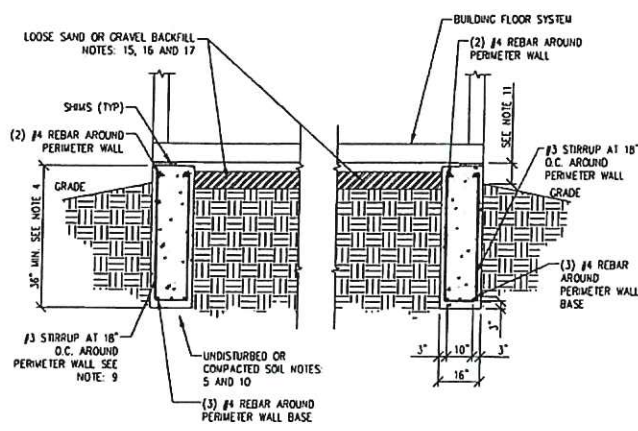
PROJECT NAME:  
**Communication Shelter**  
 DRAWING NUMBER:  
**AGB9871**



PROJECT #	SCALE	SHEET	DRAWN BY
1702-55C	1/2" = 1'-0"	A2	J. Wagner

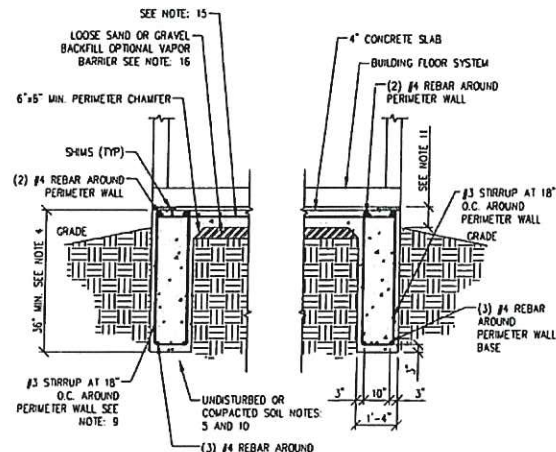
DATE: 2/21/18  
 STAMPS AND SEALS: MAR 13 2018





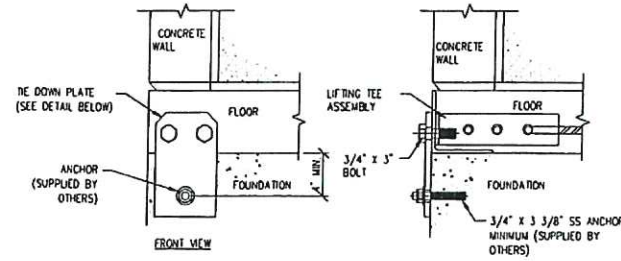
**1 SECTION A-A**  
SCALE: NONE

TYPICAL EACH WAY SEE NOTES FOR SPECIFIC INFORMATION ON MATERIALS AND OTHER REQUIREMENTS

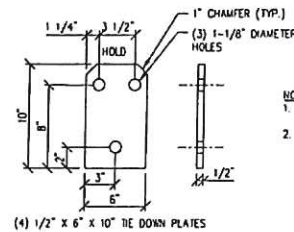


**2 SECTION A-A (OPTIONAL)**  
SCALE: NONE

TYPICAL EACH WAY SEE NOTES FOR SPECIFIC INFORMATION ON MATERIALS AND OTHER REQUIREMENTS



**3 TIE DOWN DETAIL**  
SCALE: 1-1/2\"/>



NOTES:  
1. PRIME AND PAINT THORO PRODUCTS COCOA, OR AS OTHERWISE SPECIFIED  
2. THIS PART TO BE SHIPPED LOOSE WITH BUILDING

THIS DRAWING IS NOT FOR CONSTRUCTION SEE NOTE: 13

**FOUNDATION NOTES:**

1. ALL FOUNDATION WORK BY OTHERS AND SUBJECT TO LOCAL INSPECTION AND APPROVAL.
2. FOUNDATION SURFACE SHALL BE LEVEL TO WITHIN +/- 1/8" PER 10' LINEAL FEET IN ANY DIRECTION
3. FOUNDATION SHALL BE SQUARE TO WITHIN +/- 1/4"
4. BASE FOUNDATION WALL FOOTING MUST BE ESTABLISHED A MIN. OF 6" BELOW FROST LINE AND ON UNDISTURBED SOIL
5. SOIL BEARING CAPACITY SHALL NOT BE LESS THAN 3000 PSF.
6. CONCRETE COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 3000 PSI, @ 28 DAYS.
7. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, LATEST REVISION
8. CONCRETE MIX DESIGN, BATCHING AND CONSTRUCTION PRACTICES SHALL CONFORM TO ACI 318, ACI 308R, ACI 308R LATEST REVISIONS.
9. DETAILING, FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL COMPLY WITH ACI 315, ACI 318, LATEST REVISIONS.
10. COMPACTION REQUIREMENTS TO BE DETERMINED BY ENGINEERING ANALYSIS OF SITE SPECIFIC DATA
11. TIE DOWN PLATES, IF USED, MUST BE ENTIRELY ABOVE GRADE.
12. SHELTER MUST BE SHOWN AT LOW SPOTS OF FOUNDATION, BUILDING TO HAVE FULL BEARING ON FOUNDATION.
13. THIS INFORMATION IS PROVIDED FOR REFERENCE ONLY FINAL DESIGN BASED ON SITE SPECIFIC DATA IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.
14. PROVIDE PROPER DRAINAGE AWAY FROM FOUNDATION AT GRADE.
15. SLAB REINFORCEMENT TO BE LOCATED IN UPPER THIRD OF SLAB
16. VAPOR BARRIER 12 MIL TO 20 MIL
17. BACKFILL DEPTH REQUIREMENTS TO BE DETERMINED BY ENGINEERING ANALYSIS OF SITE SPECIFIC DATA (4' MIN.)

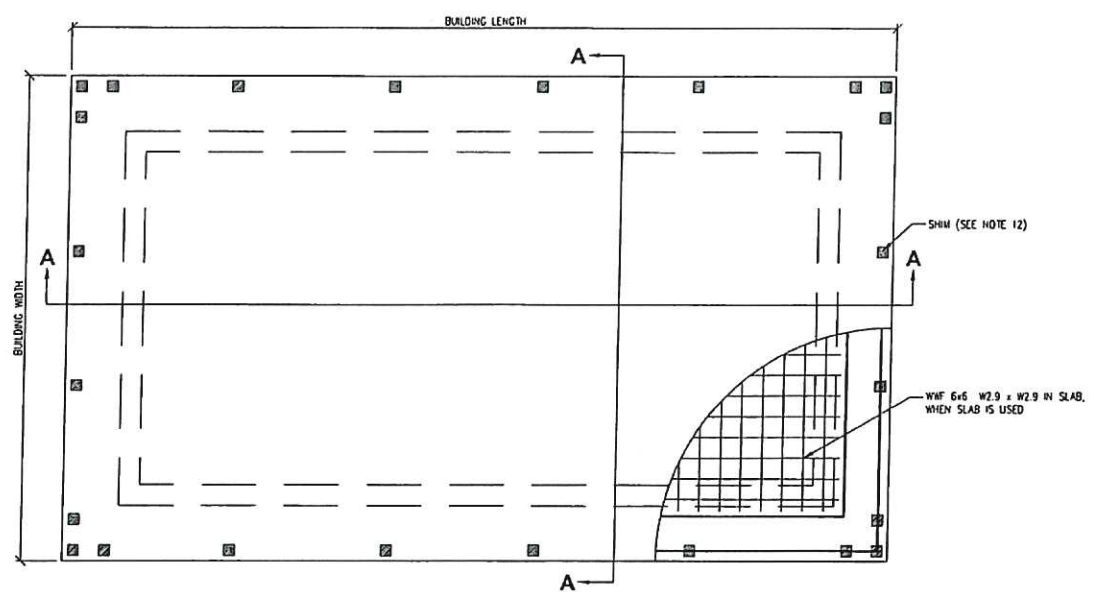
**FOUNDATION LOADS:**

1. DEAD LOAD: 1315 PLF
2. LIVE LOAD: 1575 PLF

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**FOUNDATION PLAN**  
SCALE: 1/2"=1'-0"

**FOUNDATION NOT REVIEWED BY STATE OF OREGON BUILDING CODES DIVISION**

WCCCA-9-1-1  
12'-0" X 24'-0" SHELTER  
FOUNDATION

PROJECT NAME:  
**Communication Shelter**  
DRAWING NUMBER:  
**AGB9871**



EXPIRES: JUNE 30, 2018

STAMPS AND SEALS

DRAWN:	2/21/18
REVISION:	
PROJECT #	1702-55C
SCALE	~ 24X36
SHEET:	NONE
DRAWN BY:	J. Wagner
<b>A3</b>	

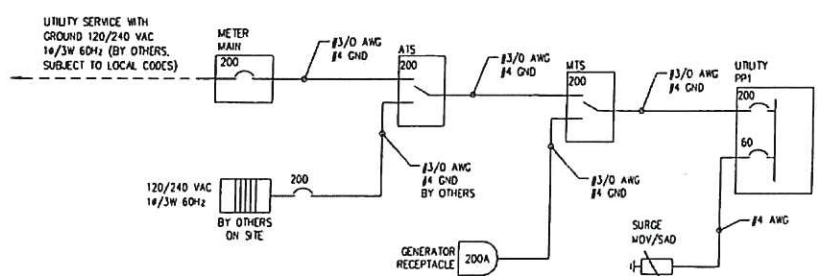
PROJECT NAME:  
**Communication Shelter**  
DRAWING NUMBER:  
**AGB9871**

PP1 200A, 120/240VAC, 1φ/3W, 60Hz, M.BKR												
LOAD	VOLT AMPS		WIRE			BREAKER			WIRE			LOAD
	A	B	P	TRIP		TRIP	P	A	B			
HVAC #1	2800		8	2	35	1	2	35	2	8	2800	HVAC #2
RECTIFIER	1000	2800	10	2	30	5	4	30	2	10	1000	RECTIFIER
RECTIFIER	1000	1000	10	2	30	7	8	30	2	10	1000	RECTIFIER
RECTIFIER	1000	1000	10	2	30	9	10	30	2	10	1000	RECTIFIER
RECTIFIER	1000	1000	10	2	30	11	12	30	2	10	1000	RECTIFIER
RECTIFIER	1000	1000	10	2	30	13	14	30	2	10	1000	RECTIFIER
RECTIFIER	1000	1000	10	2	30	15	16	30	2	10	1000	RECTIFIER
INTERIOR LIGHTS *	407		12	1	20	17	18	20	1	12	100	EXHAUST FAN
EXTERIOR LIGHT *	51		12	1	20	19	20	20	1	12	1080	WALL B&C QUADPLEX
SMOKE DETECTOR	120		12	1	20	21	22	20	1	12	1440	WALL A QUADPLEX
TWSTLOCK #1	180	180	12	1	20	23	24	20	1	12	1080	WALL C&D QUADPLEX
TWSTLOCK #2	180		12	1	20	25	26	20	1	12	720	DEHYDRATOR RECEPIS
TWSTLOCK #3	180		12	1	20	27	28	20	1	12	180	EXTERIOR GFCI
TWSTLOCK #4	180		12	1	20	29	30	20	1			SPARE
TWSTLOCK #5	180		12	1	20	31	32	20	1			BLOCK HEATER **
TWSTLOCK #6	180		12	1	20	33	34	20	1			BATT. CHARGER **
TWSTLOCK #7	180		12	1	20	35	36	20	2	12	120	POWER FAIL
TWSTLOCK #8	180		12	1	20	37	38	20	2	12	120	POWER FAIL
TWSTLOCK #9	180		12	1	20	39	40	60	2	4	10	SURGE ARRESTOR
TWSTLOCK #10	180		12	1	20	41	42	60	2	4	10	SURGE ARRESTOR
VA PER PHASE	7047	6751										
							8180	8270				VA PER PHASE
							15227	15021				TOTAL VA PER PHASE
							127	125				AMPS PER PHASE
								30.2				TOTAL KVA
								127				MAX AMPS PER PHASE

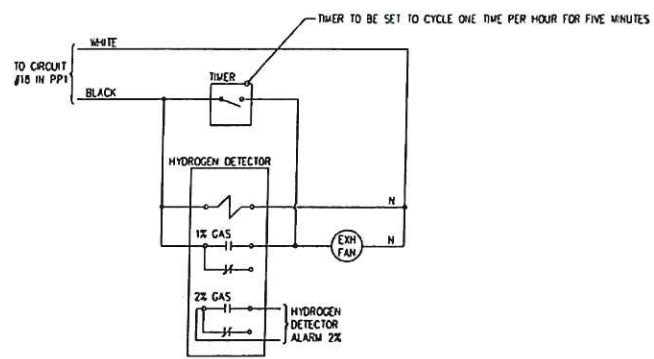
\* CALCULATED AT 125% FOR CONTINUOUS LOAD  
 \*\* CONNECTION BY OTHERS WHEN NECESSARY

50 2 GEN SHELTER FEED \*\*

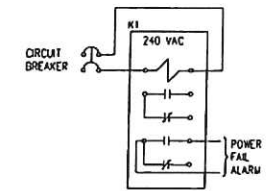
FOR SHELTERS THAT ARE PAIRED WITH A GENERATOR SHELTER, REPLACE THE 20A/1P BREAKERS IN POSITIONS 32 & 34 WITH A 50A/2P BREAKER



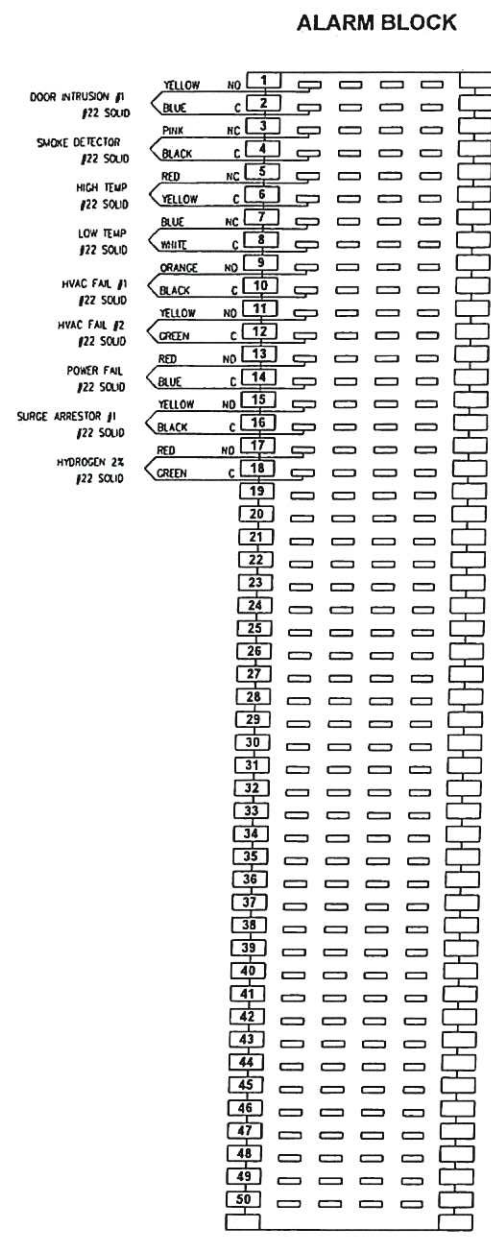
ONE-LINE WIRING DIAGRAM  
SCALE: NONE



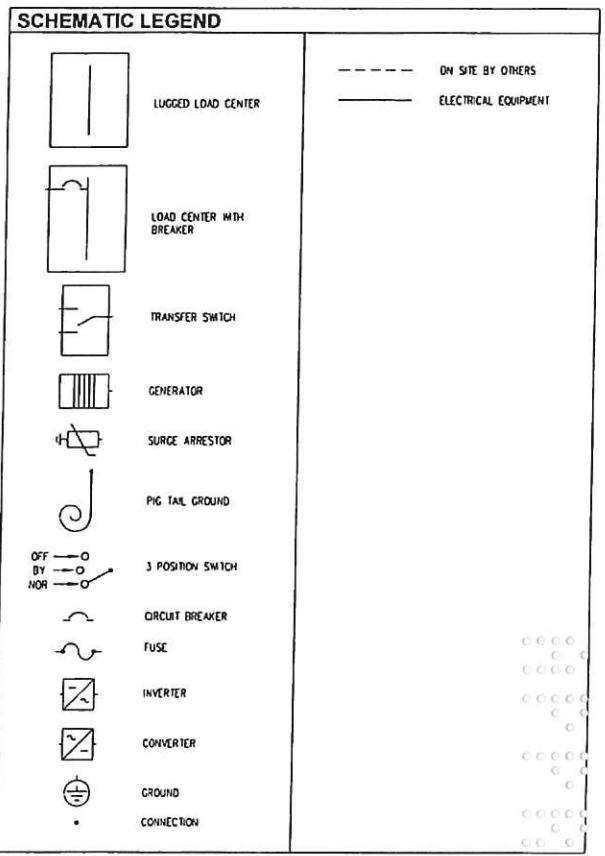
VENT SYSTEM DIAGRAM  
SCALE: NONE



POWER FAIL DIAGRAM  
SCALE: NONE



ONE-LINE DIAGRAM NOTES:  
 1. ALL GROUNDING TO CONFORM TO ARTICLE 250 OF THE NEC  
 2. WAREWAYS CARRYING 3 OR MORE CURRENT CARRYING CONDUCTORS SHALL BE DERATED PER TABLE 310-15(B)(3)(a) OF THE APPLICABLE EDITION OF THE NEC  
 3. CONDUIT FILL IS BASED ON CHAPTER 9, APPENDIX C OF THE NEC  
 4. INCLUDE THE NEUTRAL TO GROUND BOND SCREW TO BE DONE ON SITE BY OTHERS



STATE OF OREGON  
 BUILDING CODES DIVISION  
 ELECTRICAL PLAN REVIEW

MAR 26 2018

Approval of these plans does not authorize or approve any omission or deviation from the requirements of any state or federal law, rule, code, or regulation or any local ordinance.  
 PLAN REVIEWED BY: RB



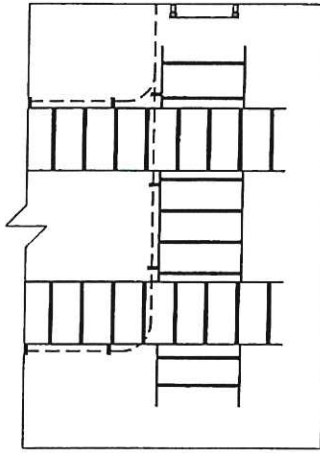
STAMPS AND SEALS  
 MAR 13 2018  
 PROJECT # 1702-55C  
 SCALE ~ 24X36  
 SHEET: E1  
 DRAWN BY: J. Wagner  
 REVISIONS: NONE  
 DATE: 2/21/18

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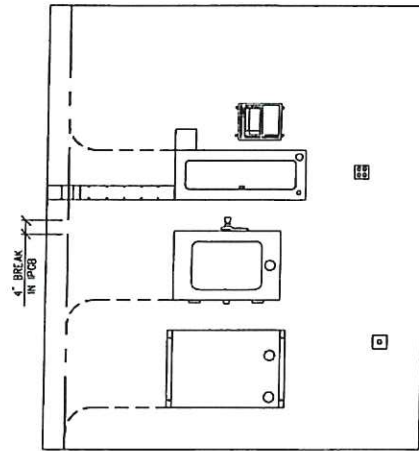
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WCCA-9-1-1  
 12'-0" X 24'-0" SHEET  
 ELECTRICAL SCHEMATICS

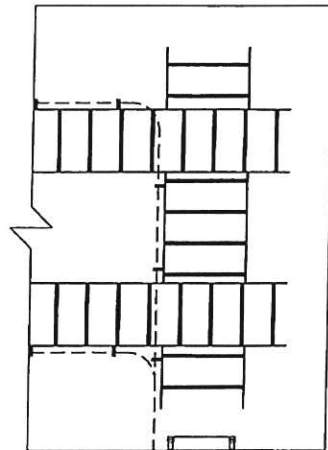
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 DRAWING NUMBER: AGB9871  
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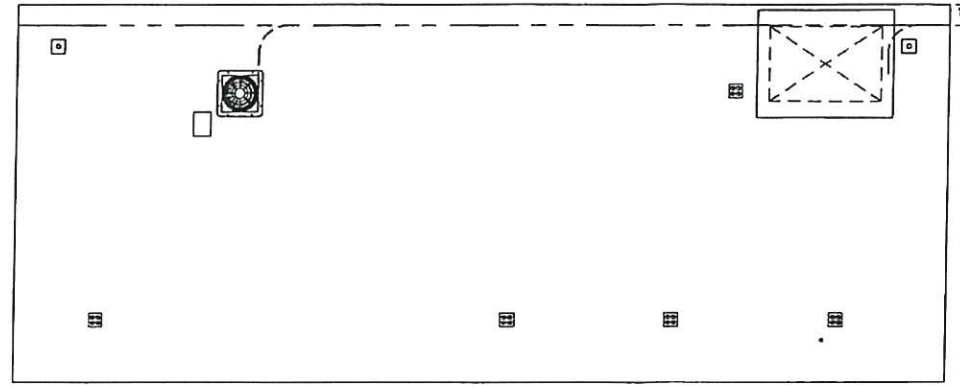
WALL C PORT LOCATION



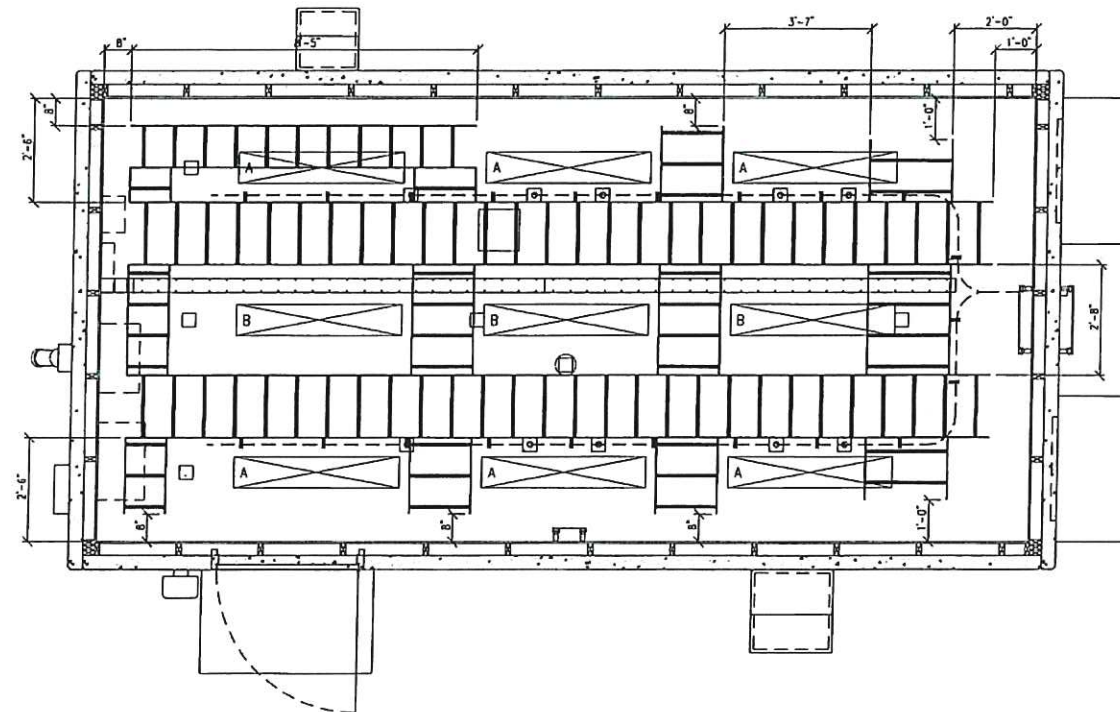
WALL D



WALL A PORT LOCATION



WALL C



WALL A

GROUNDING LAYOUT

SCALE: 1/2"=1'-0"

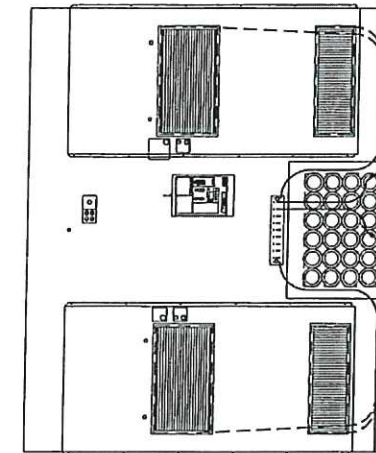
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1. CABLE LADDER IS TO BE 8'-0" A.F.F. AND INSTALLED IN ACCORDANCE WITH ARTICLE 392 OF THE NEC LEVEL TO WITHIN 1/8" IN 10' OR SIMILAR.

**GROUNDING:**

1. ALL GROUNDING EXCEPT FOR CABLE LADDER TO CONFORM TO ARTICLE 250 OF THE NEC.
2. CABLE LADDER GROUNDING TO CONFORM TO ARTICLE 392.60 OF THE NEC.
3. GROUNDING TO CONFORM TO THE MOTOROLA R56 GUIDELINES.

#2 BARE STRANDED COPPER IPGB ON 4" PANDUIT STANDOFFS EVERY 24" (PRT. #PP25-510-C), CONNECTED TO MASTER GROUND BAR. ALL CONNECTIONS SHALL BE MADE WITH BURNDY COMPRESSION FITTINGS AND ALL BENDS SHALL BE 6" MIN RADIUS



WALL B

CONNECT EQUIPMENT GROUND TO GROUND BAR HERE TO THIS LOCATION ONLY

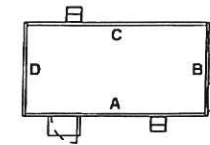
CONNECT CABLE LADDER TO GROUND BAR HERE TO THIS LOCATION ONLY



EXPIRES: JUNE 30, 2018

STAMPS AND SEALS

MAR 13 2018



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WCCCA-9-1-1  
 12'-0" X 24'-0" SHELTER  
 GROUNDING LAYOUT

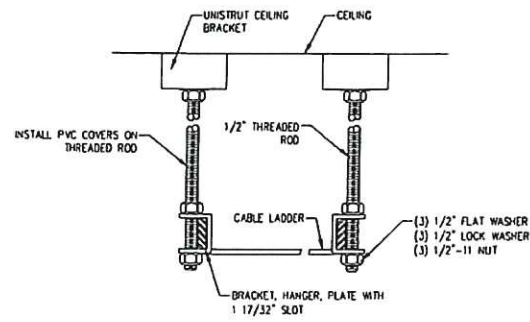
PROJECT NAME:  
**Communication Shelter**  
 DRAWING NUMBER:  
**AGB9871**

PROJECT #:  
 1702-55C  
 SCALE: 1/2"=1'-0"  
 SHEET:  
 E2

DRAWN BY:  
 J. Wagner

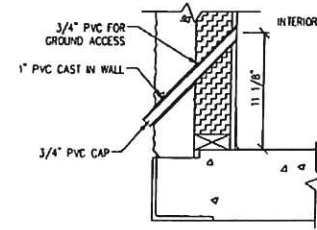
DATE:  
 2/21/18

REVISIONS:  
 1



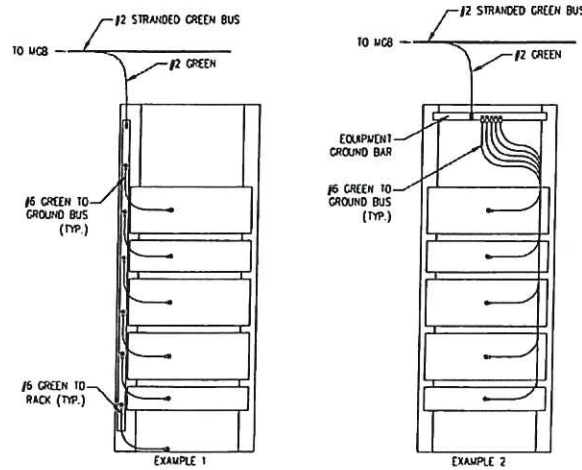
**LADDER INSTALLATION DETAIL**

SCALE: NONE



**45° PVC NIPPLE DETAIL**

SCALE: NONE



- IF RACK HAS A GROUND BUS BAR (EXAMPLE 1 & 2) ALL EQUIPMENT GROUNDS SHALL BE CONNECTED TO THE EQUIPMENT BUS BAR VIA #6 GND. #2 GND SHALL THEN BE TAKEN FROM THE GROUND BUS BAR TO THE EQUIPMENT GROUND BUS CONDUCTOR.
- ALL EQUIPMENT GROUND SPICES SHALL BE TAPED WITH GREEN TAPE.

**EQUIPMENT GROUNDING ELEVATION EXAMPLE**

REFER TO ONLY WHEN EQUIPMENT IS INSTALLED. VIEWED FROM REAR OF EQUIPMENT

SCALE: NONE

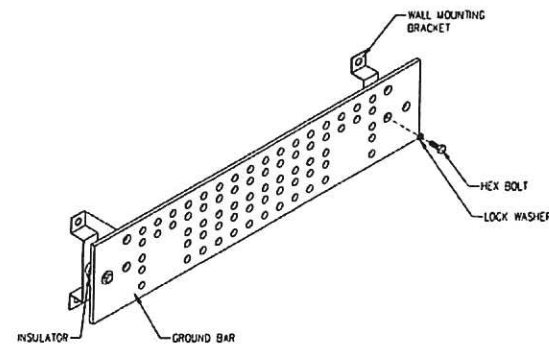
**GROUNDING NOTES:**

- USE NO-OX AT ALL GROUND TERMINATIONS.
- IN PLACES WHERE THE GROUND BUS WIRE IS LESS THAN 2" FROM METALLIC OBJECTS AND NOT BONDED, NEATLY TAPE THE SECTION WITH GREEN TAPE. WHERE NECESSARY, REMOVE THE TE WRAPS (AND RE-INSTALL AFTER TAPING) AND TAPE C-TAPS FIRST AND THEN TAPE PAST THEM IN A CONTINUOUS WRAP.
- PLACE HEAT SHRINK TUBING ON GROUND BAR TERMINALS THAT CROSS WALL MOUNTED CONDUIT.
- ALL DOORS TO BE GROUNDED TO THEIR FRAMES WITH WELDING WIRE. USE #2 GAUGE WELDING WIRE AND STANDARD BURNDY TWO-HOLE LUGS. PLACE A 2" BAND OF GREEN TAPE AT EACH END OF THE JUMPER.
- INTERIOR PERIMETER GROUND BUS (IPGB): #2 BARE STRANDED COPPER AROUND INSIDE PERIMETER OF BUILDING WITH EACH END LUGGED TO THE GROUND BAR.
- BONDING JUMPERS: #6 GREEN STRANDED INSULATED WIRE FROM METALLIC EQUIPMENT TO IPGB AND ACROSS LADDER RACK SPICES/CROSSES/JILES.
- EQUIPMENT GROUND BUS: #2 GREEN RAN OUTSIDE EACH RUN OF CABLE LADDER WITH NEWTON CLIPS (#2106C).

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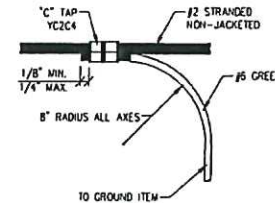


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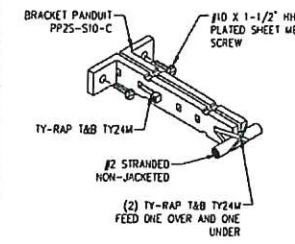
**INTERIOR GROUND BAR DETAIL**

SCALE: NONE



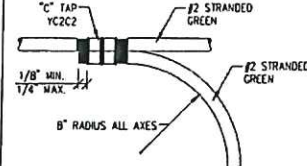
**IPGB RING GROUND TAP**

SCALE: NONE



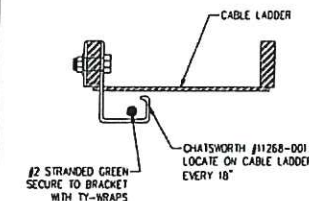
**IPGB GROUND INSTALLATION**

SCALE: NONE



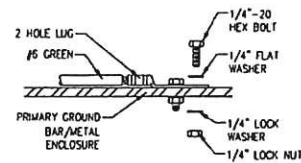
**EQUIPMENT GROUND TAP**

SCALE: NONE



**NEWTON BRACKET GROUND**

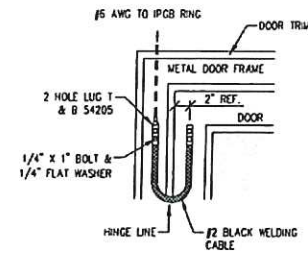
SCALE: NONE



- SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
- BURSH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT.
- APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.
- ONLY ONE LUG PER SET OF BOLTS.

**GROUNDING CONNECTION**

SCALE: NONE



**DOOR BONDING DETAIL**

SCALE: NONE



EXPIRES: JUNE 30, 2018

WCCCA-9-1-1  
 12'-0" X 24'-0" SHELTER

GROUNDING DETAILS

PROJECT NAME:  
**Communication Shelter**

DRAWING NUMBER:  
**AGB9871**

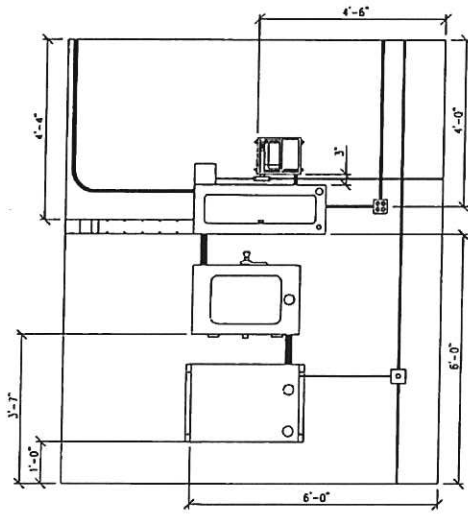
PROJECT #:  
 1702-55C

SCALE: ~ 24X36:  
 NONE

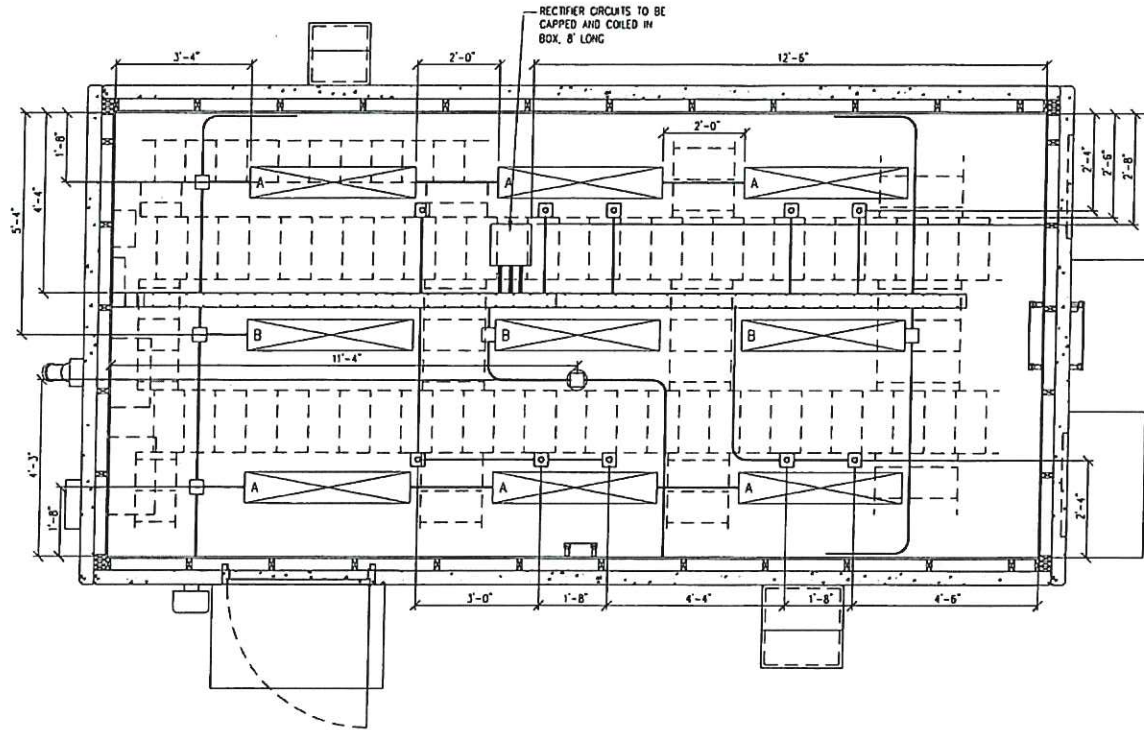
SHEET:  
**E2.1**

DRAWN: J. Wagner

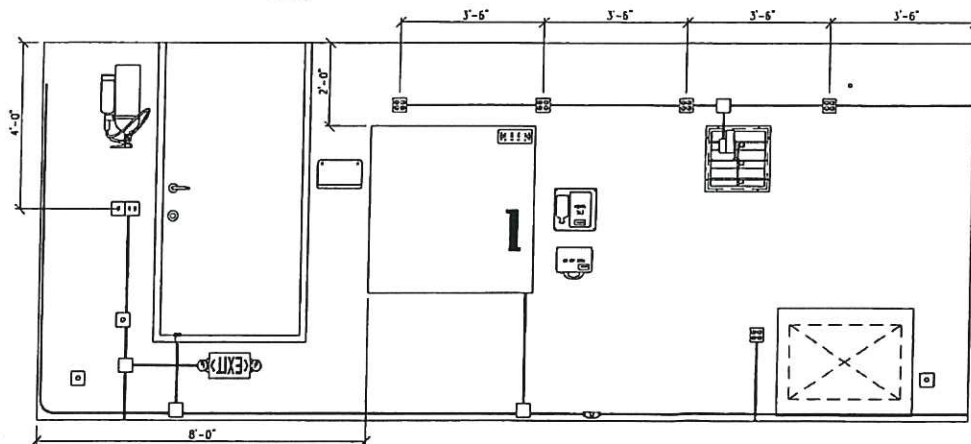
REVISIONS:  
 2/21/18



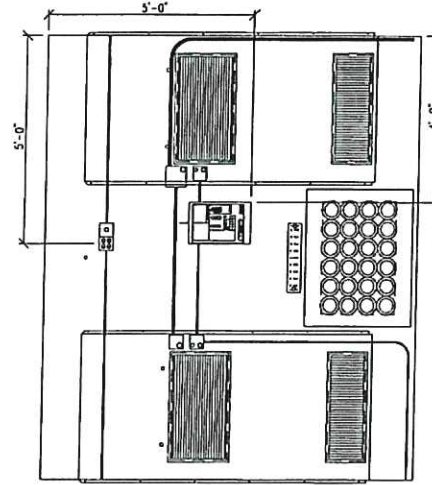
WALL D



WALL C



WALL A



WALL B

**COMMERCIAL POWER:**  
120/240VAC, 200AMP SINGLE PHASE SERVICE

**CONDUIT RUNS:**

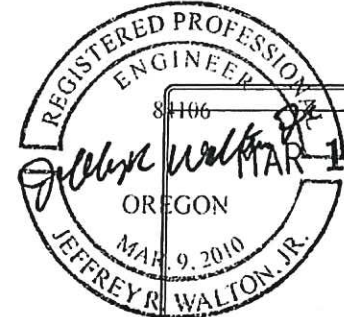
1. ALL CONDUIT RUNS TO BE 1/2" EMT UNLESS STATED OTHERWISE
2. ALL CONDUIT RUNS TERMINATING AT SERVICE ENTRANCE EQUIPMENT SHALL CONTAIN BONDED BUSHINGS
3. WIRWAYS CARRYING 3 OR MORE CURRENT CARRYING CONDUCTORS SHALL BE DERATED PER TABLE 310-15(B)(3) OF APPLICABLE EDITION OF THE NEC
4. CONDUIT FILL IS BASED ON CHAPTER 9, APPENDIX C OF THE NEC

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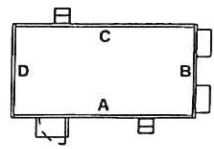
WCCCA-9-1-1  
12'-0" X 24'-0" SHELTER  
ELECTRICAL DIMENSIONS

Communication Shelter  
DRAWING NUMBER:  
**AGB9871**



STAMPS AND SEALS

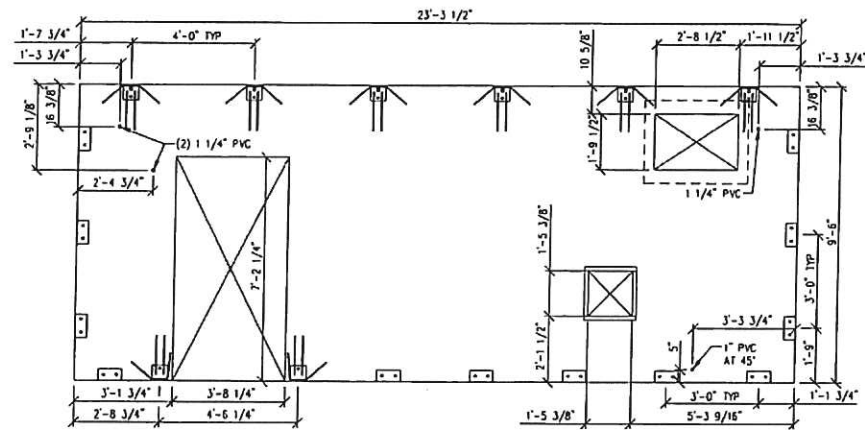
EXPIRES: JUNE 30, 2018



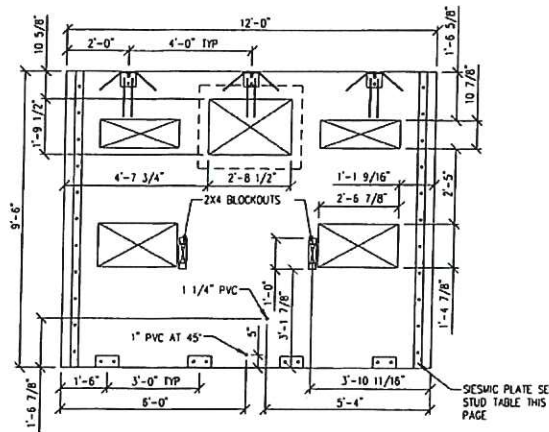
ALL CONDUIT IS APPROXIMATE AND MAY NOT REFLECT ACTUAL RUNS.

**ELECTRICAL DIMENSIONS**  
SCALE: 1/2"=1'-0"

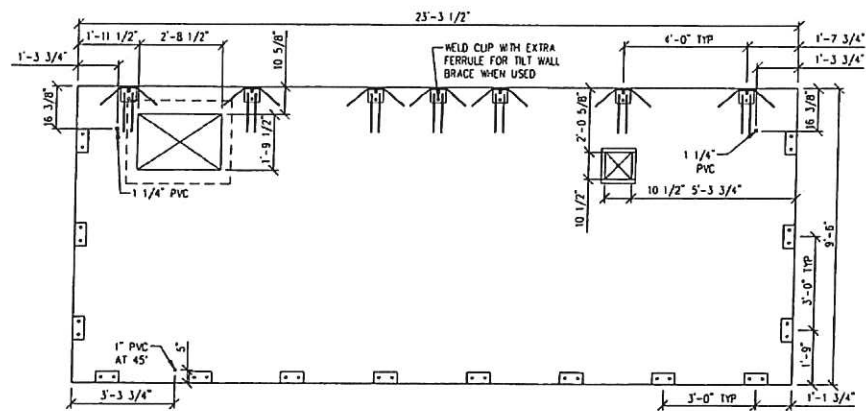
PROJECT #:	1702-55C
SCALE:	1/2"=1'-0"
SHEET:	E4
DRAWN BY:	J. Wagner
REVISION:	2/21/18



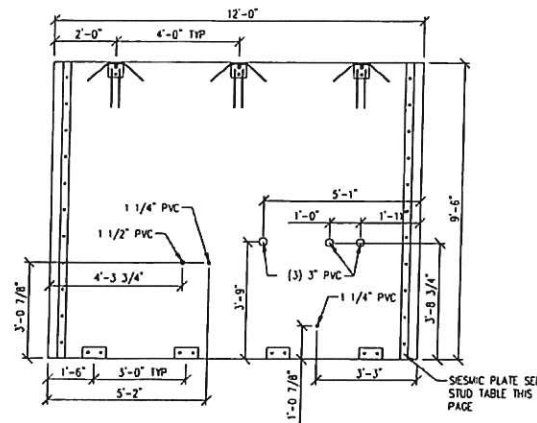
**WALL A LAYOUT**  
SCALE: 3/8"=1'-0"



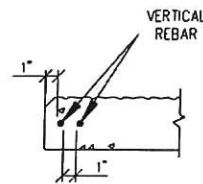
**WALL B LAYOUT**  
SCALE: 3/8"=1'-0"



**WALL C LAYOUT**  
SCALE: 3/8"=1'-0"



**WALL D LAYOUT**  
SCALE: 3/8"=1'-0"



**TYPICAL WALL END DETAIL**  
SCALE: 1-1/2" = 1'-0"

**CASTING LEGEND**

- LIFTING FERRULE WELD CLIP
- FLOOR WELD CLIP
- STANDARD WELD CLIP
- EXTERIOR LIFTING DEVICE
- ROOF LIFTING PIN

**STUD TABLE**

SHELTER LENGTH (FEET)	SHELTER WIDTH (FEET)				
	8'	10'	12'	13'	14'
8'	6	6	5	5	5
9'	7	6	6	6	5
10'	7	7	6	6	6
11'	8	7	6	6	6
12'	8	7	7	7	6
13'	9	8	7	7	7
14'	9	8	8	7	7
15'	10	9	8	8	7
16'	10	9	8	8	8
17'	11	9	9	8	8
18'	11	10	9	9	9
19'	11	10	9	9	9
20'	12	11	10	9	9
21'	12	11	10	10	10
22'	13	11	11	10	10
23'	13	12	11	11	10
24'	14	12	11	11	11
25'	14	13	12	11	11
26'	15	13	12	12	11
27'	15	14	12	12	12
28'	16	14	13	12	12
29'	16	14	13	13	12
30'	17	15	14	13	13
31'	17	15	14	13	13
32'	18	16	14	14	13
33'	18	16	15	14	14
34'	19	16	15	14	14
35'	19	17	15	15	14
36'	20	17	16	15	15
37'	20	18	16	16	15
38'	21	18	16	16	15
39'	21	18	17	16	16
40'	21	19	17	17	16

**EXTERIOR FINISH SCHEDULE**

ITEM	SURFACE	FINISH	PAINT COLOR
ROOF	TROWELED SMOOTH	SEALED, ELASTOMERIC COURSE PAINT	TELECOM BROWN
WALLS	EXPOSED WASHED AGGREGATE	GRIT STAIN (2 COATS)	
DOORS	STEEL, RATED	PAINT	TELECOM BROWN
JOINTS	AS FINISHED	SEALED PER DETAILS SHEET	TELECOM BROWN

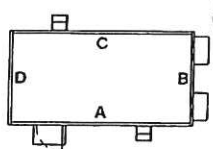
**CASTING TOLERANCES**

WALL PANELS (NOTE 1)	(SEE TOLERANCE)	FLOOR PANELS	TOLERANCES
LENGTH	+/- 1/8"	LEVEL	+/- 1/8"
WIDTH	+/- 1/8"	SQUARE	+/- 1/8"
DEPTH	+/- 1/8"	VERTICAL WARP	+/- 1/8"
		EDGE SWEEP	+/- 3/8"
EMBED PLATE POSITION	+/- 1/4"		
EMBED PLATE TIP/FLUSH	+/- 1/8"		
PENETRATION LOCATION (SEE NOTE 3)	+/- 1/8"		
BOWING	+/- 1/4"		
WARPING	+/- 1/4" IN 10' LEAST DIMENSION, MAX.		
SQUARE (SEE NOTE 2)	+/- 1/8"		

NOTES:  
1. MAXIMUM DEVIATION OVER PANEL  
2. MAXIMUM DIFFERENCE IN DIAGONAL DIMENSIONS



STAMPS AND SEALS



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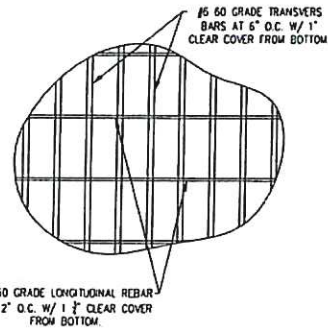


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**WCCCA-9-1-1**  
**12'-0" X 24'-0" SHELTER**  
**WALL CASTING**

**Communication Shelter**  
DRAWING NUMBER:  
**AGB9871**

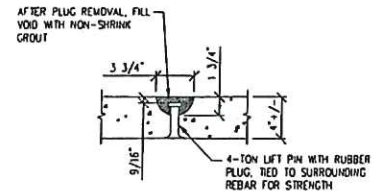
PROJECT NAME:  
DRAWN: 2/21/18  
REVISIONS:  
SCALE: 3/8"=1'-0"  
SHEET: **S2**  
DRAWN BY: J. Wagner



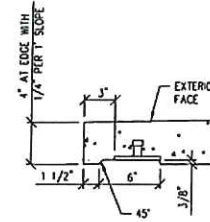
**1 TYPICAL ROOF REBAR LAYOUT**  
SCALE: NONE

**REBAR NOTES:**

- SHORT (TENSION) DIRECTION 1" FROM BOTTOM OF CASTING BED
- LONG (TENSION) DIRECTION 1-3/4" OR JUST ABOVE TENSION REBAR



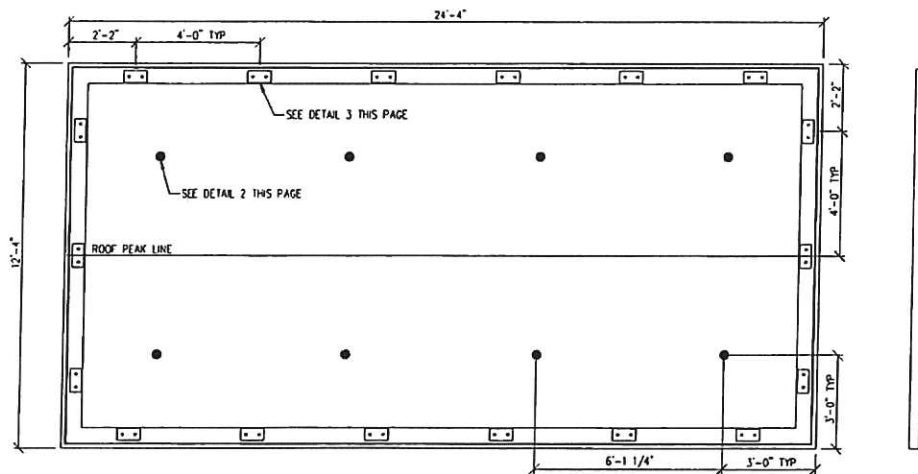
**2 SECTION AT LIFTING PIN**  
SCALE: 1-1/2" = 1'-0"



**3 SECTION AT ROOF PIN**  
SCALE: 1-1/2" = 1'-0"

**CASTING LEGEND**

- LIFTING FERRULE WELD CLIP
- FLOOR WELD CLIP
- STANDARD WELD CLIP
- EXTERIOR LIFTING DEVICE
- ROOF LIFTING PIN



**ROOF LAYOUT**  
SCALE: 3/8" = 1'-0"

CASTING TOLERANCES			
WALL PANELS NOTE 1)	(SEE TOLERANCE	FLOOR PANELS	TOLERANCES
LENGTH	+/- 1/8	LEVEL	+/- 1/8"
WIDTH	+/- 1/8	SQUARE	+/- 1/8"
DEPTH	+/- 1/8	VERTICAL WARP	+/- 1/8"
		EDGE SWEEP	+/- 3/8"
EMBED PLATE POSITION	+/- 1/4		
EMBED PLATE TIP/FLUSH	+/- 1/8		
POSITION LOCATION (SEE NOTE 3)	+/- 1/8		
BOWING	+/- 1/4		
WARPING	+/- 1/4 IN 10' LEAST DIMENSION, MAX.		
SQUARE (SEE NOTE 2)	+/- 1/8		

NOTES:  
1. MAXIMUM DEVIATION OVER PANEL  
2. MAXIMUM DIFFERENCE IN DIAGONAL DIMENSIONS  
3. UNLESS NOTED OTHERWISE



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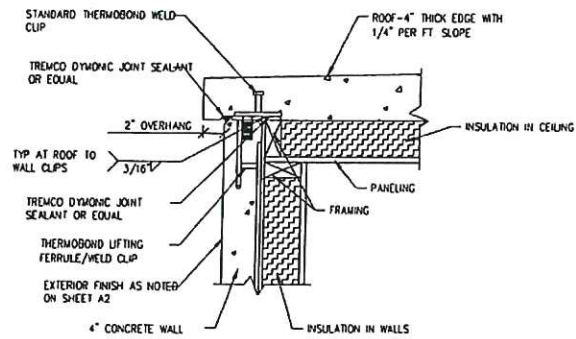
WCCCA-9-1-1  
12'-0" X 24'-0" SHEET  
ROOF CASTING

Communication Shelter  
AGB9871

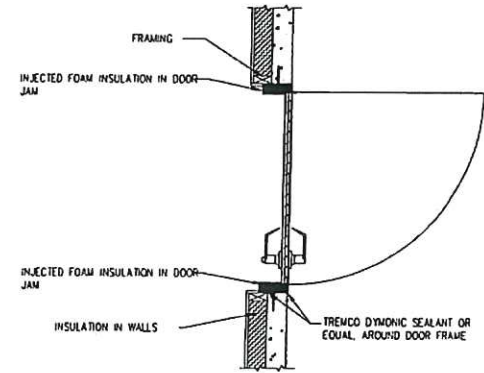
PROJECT # 1702-55C  
SCALE ~ 24X36  
SHEET: 3/8" = 1'-0"  
DRAWN BY: J. Wagner  
DATE: 2/21/18

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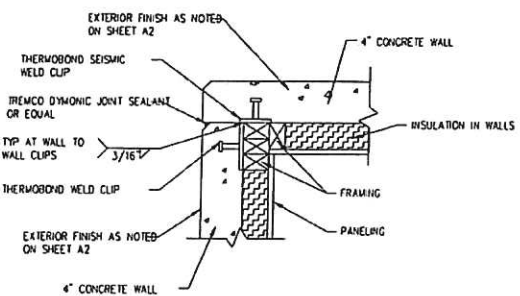
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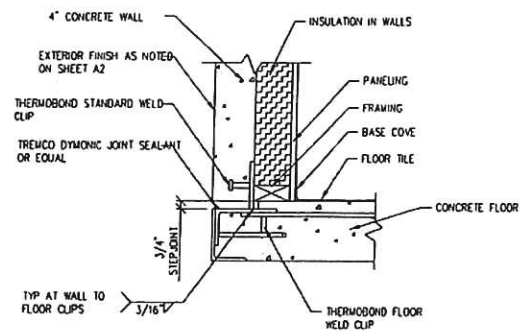
**2 TYPICAL ROOF TO WALL SECTION DETAIL**  
SCALE: 1-1/2" = 1'-0"



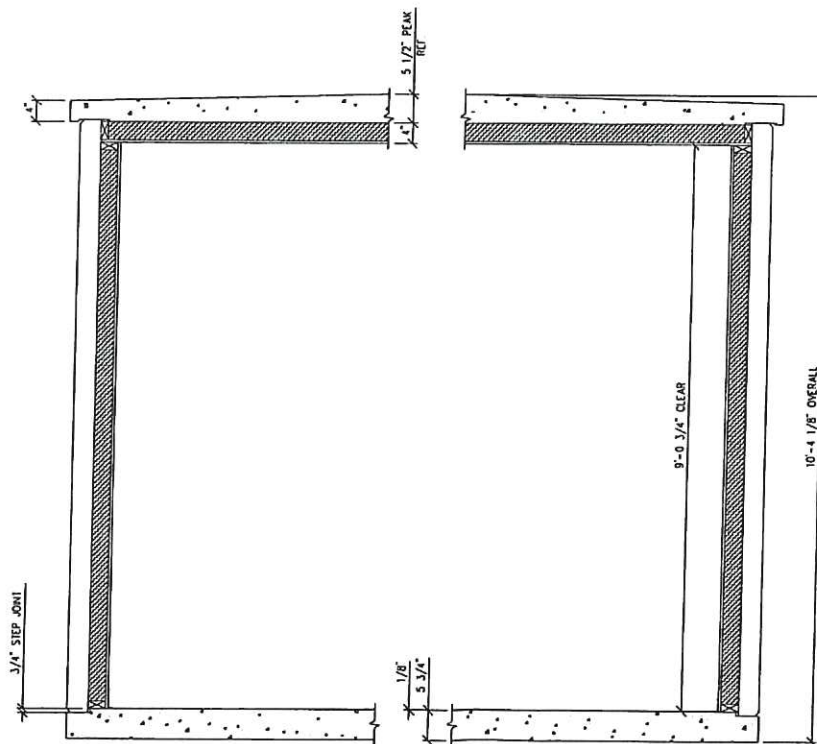
**4 TYPICAL DOOR SECTION DETAIL**  
SCALE: 3/4" = 1'-0"



**3 TYPICAL WALL TO WALL SECTION DETAIL**  
SCALE: 1-1/2" = 1'-0"



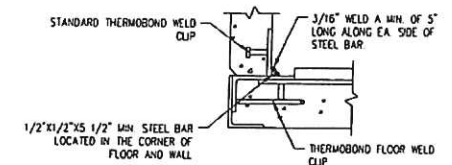
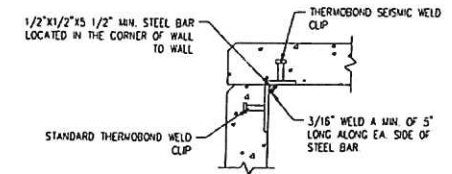
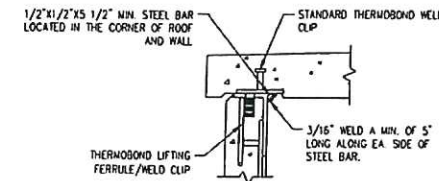
**1 TYPICAL WALL TO FLOOR SECTION**  
SCALE: 1-1/2" = 1'-0"



**BUILDING SECTION**  
SCALE: 3/4" = 1'-0"

**CROSS SECTION NOTES:**  
1. FLOORS ARE TO BE WAXED AND SEALED BEFORE SHIPPING.

**CONSTRUCTION MATERIALS:**  
**INTERIOR FINISH:**  
• FLOOR: 1/8" X 12" X 12" VINYL TILE WITH 4" BASE COVE  
• WALLS: 1/2" FRP COVERED PANELING (CLASS "C" MINIMUM)  
• CEILING: 1/2" FRP COVERED PANELING (CLASS "C" MINIMUM)  
**INSULATION:**  
• WALLS: 3 1/2" THERMAX FOAM INSULATION (R-22.1) ESR-1659  
• CEILING: 3 1/2" THERMAX FOAM INSULATION (R-22.1) ESR-1659  
**FRAMING:**  
• WALLS: 2" X 4" FURRING STRIPS ON END AT 24" O.C.  
• CEILING: 2" X 4" FURRING STRIPS ON END AT 24" O.C.  
**CONCRETE:**  
• FLOOR: 5000psi SAND LIGHTWEIGHT  
• WALLS: 5000psi SAND LIGHTWEIGHT  
• CEILING: 5000psi SAND LIGHTWEIGHT



**6 WELDED CONNECTION DETAILS**  
SCALE: 1-1/2" = 1'-0"

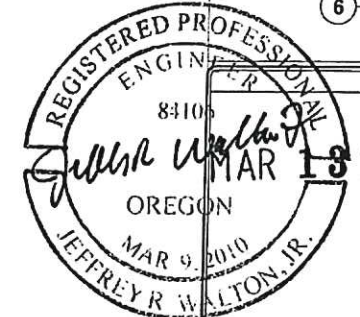
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**WCCA-9-1-1**  
**12'-0" X 24'-0" SHELTER**  
**CROSS SECTION**

PROJECT NAME:  
**Communication Shelter**  
DRAWING NUMBER:  
**AGB9871**

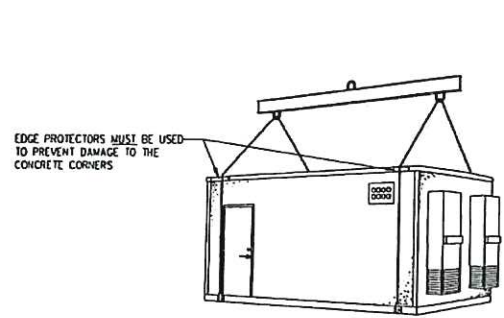


STAMPS AND SEALS

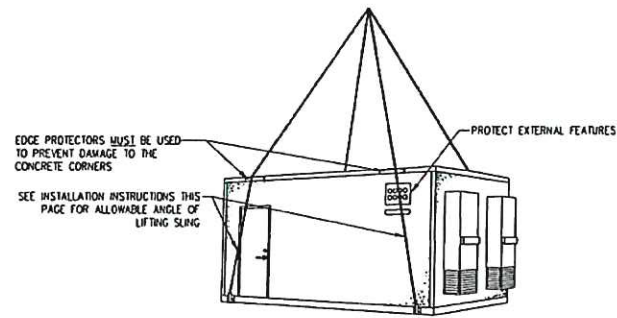
PROJECT #:	1702-55C	DRAWN:	2/21/18
SCALE:	2X/3X	REVISED:	-
SHEET:	NONE	DRAWN BY:	J. Wagner
	<b>S4</b>		

EXPIRES JUNE 30, 2018

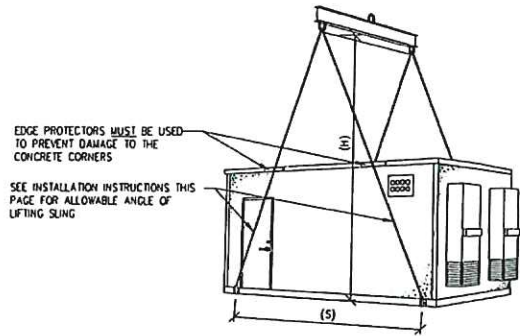




(4) POINT OPTION 1 BUILDING LIFT  
(PREFERRED METHOD)  
SLINGS VERTICAL



(4) POINT OPTION 3 BUILDING LIFT

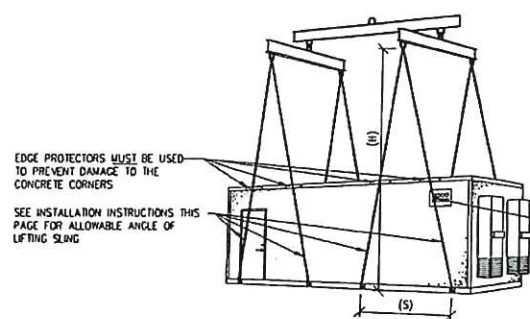


(4) POINT OPTION 2 BUILDING LIFT  
SEE TABLE

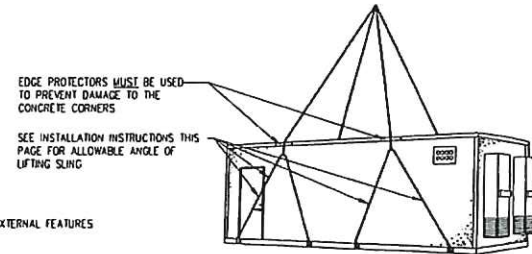
**TABLE 1 (4) POINT LIFT OPTION 2**

LIFT DEVICE SEPARATION (S)	MINIMUM HOOK HEIGHT (H)
10'-0"	13'-9"
11'-0"	15'-2"
12'-0"	16'-6"
13'-0"	17'-10"
14'-0"	19'-3"
15'-0"	20'-8"
16'-0"	22'-0"
17'-0"	23'-5"
18'-0"	24'-9"
19'-0"	26'-2"
20'-0"	27'-6"

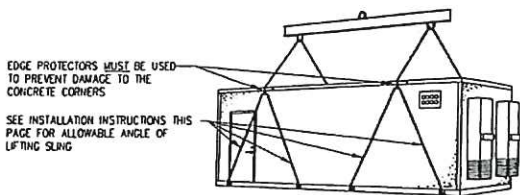
1 4 POINT LIFT OPTIONS  
SCALE: NONE



(8) POINT OPTION 1 BUILDING LIFT  
(PREFERRED METHOD)



(8) POINT OPTION 3 BUILDING LIFT

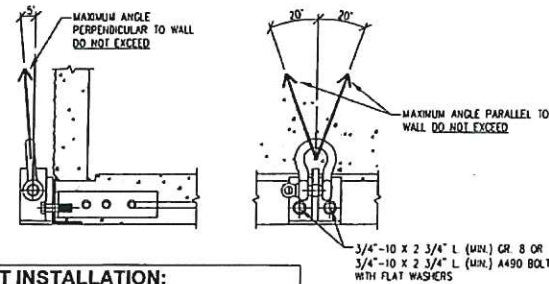


(8) POINT OPTION 2 BUILDING LIFT  
SEE TABLE

**TABLE 1 (8) POINT LIFT OPTION 1**

LIFT DEVICE SEPARATION (S)	MINIMUM HOOK HEIGHT (H)
6'-0"	13'-9"
7'-0"	15'-2"
8'-0"	16'-6"
9'-0"	17'-10"
10'-0"	19'-3"
11'-0"	20'-8"
12'-0"	22'-0"

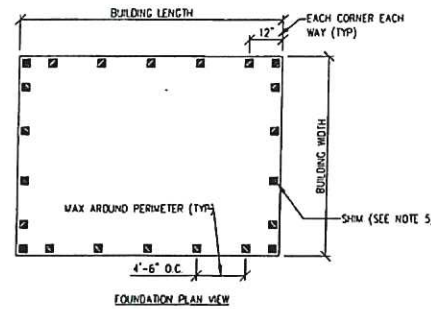
2 8 POINT LIFT OPTIONS  
SCALE: NONE



**BOLT INSTALLATION:**

1. SHAG (NO PLAY) PLUS 1/8 TURN MAX.
2. DO NOT DRIVE WITH HIGH PRESSURE IMPACT WRENCH.

3 END INSTALLATION AND SLING LIMITS  
SCALE: NONE



**INSTALLATION NOTES:**

1. ALL FOUNDATION WORK BY OTHERS AND SUBJECT TO LOCAL INSPECTION.
2. FOUNDATION SURFACE SHALL BE LEVEL TO WITHIN +/- 1/8" PER 10 LINEAL FEET IN ANY DIRECTION.
3. FOUNDATION SHALL BE SQUARE TO WITHIN +/- 1/4".
4. TIE DOWN PLATES, IF USED MUST BE ENTIRELY ABOVE GRADE.
5. SHELTER MUST BE SHIMMED TO LEVEL ABOVE IRREGULARITIES IN THE SLAB AND BUILDING FLOOR SYSTEM. SHIM HARDNESS NOT LESS THAN 60 DURELOMETER, OR COMPRESSIVE STRENGTH 9,000 PSI. MINIMUM SHIMS NOT LESS THAN 3" SQUARE, THICKNESS AS REQUIRED.
6. INSPECT FOUNDATION FOR DEBRIS AND REMOVE BEFORE SETTING SHELTER.

SHELTER MUST BE SHIMMED

4 SHELTER SHIMMING  
SCALE: NONE

**RIGGING NOTES:**

1. SHELTER MUST BE LIFTED ONLY AT POINTS PROVIDED, USING APPROPRIATE SPREADER BARS AND SLINGS, AND WITHIN THE LIMITS SHOWN ON THIS DRAWING.
2. UNLESS OTHERWISE APPROVED OR INDICATED, LIFT ONLY THE SHELTER SELF-WEIGHT. DO NOT LIFT THE SHELTER WITH ADDITIONAL EQUIPMENT INSIDE.
3. INSPECT EACH LIFT DEVICE FOR CRACKS, WARPING OR OTHER DEFECTS BEFORE INSTALLING ON SHELTER. DO NOT USE A LIFTING DEVICE THAT HAS ANY CRACKS, QUESTIONABLE WELDS, IRREGULAR OR ELONGATED HOLES, OR IS BENT OUT OF SHAPE.
4. INSPECT BOLTS BEFORE INSTALLATION. DO NOT USE ANY BOLTS THAT HAVE DAMAGED THREADS, ARE BENT, APPEAR ELONGATED OR ARE MALFORMED IN ANY WAY.
5. DO NOT ROUTE SLING NEAR HVAC SYSTEMS.
6. REMOVE OR PROTECT DOOR HARDWARE AND OTHER PROTRUSIONS FROM DAMAGE.
7. RIGGER IS TO PROVIDE ALL EQUIPMENT ABOVE THE THERMOBOND EXTERIOR LIFTING DEVICE. THE RIGGER IS RESPONSIBLE FOR ENSURING THAT THE SAFETY REQUIREMENTS LISTED HEREIN ARE MET.
8. RIGGING SHALL CONFORM TO APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS.
9. IF SHELTER IS DELIVERED WITH TEMPORARY SHIPPING WALLS OR ANY OTHER TEMPORARY STRUCTURE INSTALLED FOR TRANSPORT, DO NOT REMOVE BEFORE SHELTER PLACEMENT.
10. DO NOT USE SINGLE HOLE POSITIONS FOR LIFTING.
11. DO NOT SET THE SHELTER ON AN UNEVEN OR UNSTABLE SURFACE.



STAMPS AND SEALS

MAR 13 2018

EXPIRES JUN 30, 2018

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WCCCA-9-1-1  
12'-0" X 24'-0" SHELTER

INSTALL DETAILS

PROJECT NAME:  
Communication Shelter

DRAWING NUMBER:  
**AGB9871**

PROJECT #: 1702-55C  
SCALE: 24X36  
SHEET: T2

DRAWN: J. Wagner  
REVISIONS: NONE  
DATE: 2/21/18