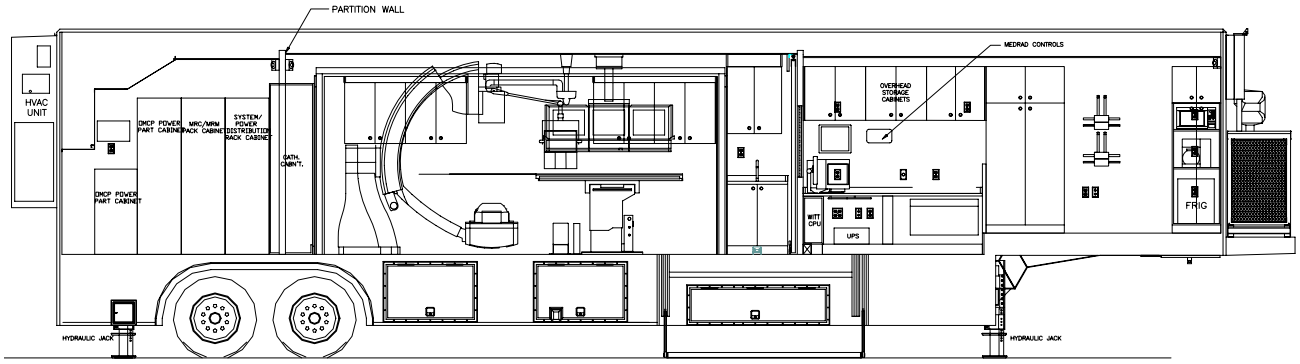
OSHKOSH SPECIALTY VEHICLES

Site Planning Guide

PHILIPS H5000 POLY G
Cardiac Catheterization Laboratory
48’ L x 8’-6” W x 13’-6” H USA Unit



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List of Revisions

Revision		Date
00	Initial Release	September-2000
03	Updated company information	June-2002
04	Updated Drawings, added Lockout/Tagout	July-2002
05	Updated Drawings and format	October-2002
06	Updated stairs geometry & dimensional data	November-2002
07	Updated Specs & Added A/C Clearance Requirement	August 2004
08	Updated Logo & Company Reference	November

Notice

In accordance with our policy of product development, Oshkosh Specialty Vehicles reserves the right to make changes in the equipment, design, specifications, and materials of the product described herein. If there are any inconsistencies between this manual and the mobile unit that inhibit serviceability, please contact Oshkosh Specialty Vehicles for assistance.

Any problems or questions related to the components or systems covered in this manual may be directed to:

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Introduction

The purpose of this document is to provide the basic information needed for site planning. For specific information not contained in this document, please contact Oshkosh Specialty Vehicles.

The mobile unit requires sufficient room to be maneuvered and positioned for setup and takedown. The mobile unit has many storage compartments and service doors that require access during these procedures as well as during operation. The expanding wall sections, patient lift, entry stair and optional platform require additional space on the passenger side of the mobile unit. Refer to the drawings provided for actual locations of doors, patient lift, and stair sizes and locations.

Warnings & Safety Alert Conventions

The following terms define the various precautions and notices used in this manual:

NOTE:	**Whenever information exists that requires additional emphasis beyond the standard textual information, the term "NOTE" is used.**
IMPORTANT	**Whenever information exists that requires special attention to procedures to ensure proper operation of the equipment or to prevent its possible failure, the term "IMPORTANT" is used.**
CAUTION	**Whenever potential damage to equipment exists, requiring correct procedures / practices for prevention, the term "CAUTION" is used.**
WARNING	**Whenever potential personal injury or death situations exit, requiring correct procedures / practices for prevention, the term "WARNING" is used.**
DANGER	**Whenever immediate hazards exist that could result in personal injury or death that cannot be eliminated by design safeguards, the term "DANGER" is used.**
⚠	**This safety alert symbol indicates important safety messages in the manual. When you see this symbol, carefully read the message the follows and be alert to the possibility of personal injury or death.**
WARNING	**Electrical, mechanical, and pneumatic safety devices have been installed on this vehicle to help protect against personal injury and / or damage to equipment. Under no circumstances should any attempt be made to disconnect or in any way render any of these devices inoperative. If a malfunction of any safety device is discovered to exist, DO NOT operate the vehicle, but immediately notify appropriate maintenance personnel.**

Oshkosh Specialty vehicles shall have no liability with respect to: . . . . . REPAIRS IMPROPERLY PERFORMED OR REPLACEMENTS IMPROPERLY INSTALLED (or) USE OF REPLACEMENT PARTS OR ACCESSORIES NOT CONFORMING TO Oshkosh SPECIALTY VEHICLE'S SPECIFICATIONS, WHICH ADVERSELY AFFECT PERFORMANCE OR DURABILITY (or) ALTERATIONS OR MODIFICATIONS NOT RECOMMENDED OR APPROVED IN WRITING BY Oshkosh SPECIALTY VEHICLES (or) FOR EQUIPMENT DAMAGE OR PERSONAL INJURY OR DEATH AS A RESULT OF RENDERING ANY SAFETY DEVICE INOPERABLE.

Certain inherent risks are associated with heavy trailers due to the nature of their use. Personnel working in the area of these trailers are subject to certain hazards that cannot be met by mechanical means but only by the exercise of intelligence, care, and common sense. It is therefore essential for the owner of this equipment to have personnel involved in the use and operation of these trailers who are competent, careful, physically and mentally qualified, and trained in the safe operation of this equipment.

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Support Pad Requirements

IMPORTANT If other modalities utilize the same support pad, it is recommended that non-ferrous reinforcement materials be used for pad reinforcement.

IMPORTANT Philips must approve plans for pad construction.

The following is a list of recommendations and requirements for a concrete support pad. However, due to varying site conditions, the actual pad design should be prepared by an appropriately licensed structural or architectural engineer.

Trailer Weight

The weight of the trailer should be considered in the design of the support and service pads. The overall weight of the trailer is approximately 52,200 lbs. The weight on the rear axles is approximately 33,500 lbs. The weight on the King Pin is approximately 18,700 lbs.

Minimum Support Pad Requirements

A front pad measuring 9'-0" x 4'-0" and a rear pad measuring 9'-0" x 15'-0" located as shown on **Figure 1: Pad Layout**, and **Figure 2: Right Side Elevation** will provide the minimum requirements. All cross-hatching represents the minimum support pad.

Recommended Support Pad

A full pad measuring 9'-0" x 34'-0", located as shown on **Figure 1: Pad Layout** and **Figure 2: Right Side Elevation** as the crosshatching, is the recommended support pad.

Support Pad Depth

Recommendations for the width and length of the pad are given above. Based upon the existing site conditions, the depth should be determined by a local contractor. It is recommended that non-ferrous reinforcement materials be used for pad reinforcement.

Support Pad Levelness

The support pad must be level to ensure proper operation of the medical system. The pad must not exceed .125" deviation in 10'-0". If the minimum support pads are selected, rather then the recommended single pad, they must also meet this specification.

Recommended Service Pad

A full pad measuring 23'-11 5/8" x 55'-6", located as shown on **Figure 1: Pad Layout** and Figure 2: Right Side Elevation is recommended to provide a service access.

Vehicle Access

A firm, level surface is required around the mobile unit in order to provide access to the site, patient access to the mobile unit, and servicing of the mobile unit.

Recommended Attachment to the Facility

An inflatable air bag or soft seal is recommended at the point of connection from the unit to the facility. Fixed or solid connections may hinder imaging quality. Contact Oshkosh Specialty Vehicles or the local Philips representative prior to construction if the proposed connection varies from the recommended.

Swing Clearance Note

Please verify the actual dimensions of the rearmost projections on the cab of your tractor to the centerline of tandem suspension or centerline of the fifth wheel plate on your tractor. Refer to **Figure 7: Turning Requirements** for proper tractor sizing information.

Air Conditioning Air Flow Clearance

The following clearances for acceptable air conditioning condenser air flow have been established between wall-mounted equipment and opposing units or surfaces for maximum capacity, lowest operating cost, satisfactory operation of ventilation packages, and longest service life

- Unit discharging against opposing (facing) unit – 20 feet from coil grill to coil grill
- Unit discharging against a wall or essentially solid barrier – 15 feet from coil grill to wall.

See **Figure 1: Pad Layout**.

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Customer Power Requirements

WARNING

It is the operators' responsibility to verify that the shore power receptacle is of the same type and voltage as the connection that is supplied by Oshkosh Specialty Vehicles. Failure to do this can result in injury or death to the operator of the mobile unit as well as irreparable damage to the mobile unit.

CAUTION

The standard connector for the unit is a Russellstoll DS 2504MP0000/DF2032 480V 200A Plug. If an existing site currently implements a different connector or connector configuration, please contact Oshkosh Specialty Vehicles in order to arrange for a compatible power connector before the unit leaves the facility.

Lockout/Tagout

A Lockout/Tagout provision in accordance with OSHA Standard 1910.147 is required. The facility shore power disconnect device must be located within 40'- 0" of the unit and must provide for an effective lockout/tagout to facilitate safe service and maintenance of the unit.

Electrical Service

480 Volt A.C., 3 Phase, 150 Amps

Three phase wye connection with neutral and ground.

The fused main disconnect requires 150 amp dual element time delay fuses, FRS-R150 or equivalent.

Frequency

60 Hz $\pm$ 0.5 Hz maximum

Phase Balance

The phase balance is 2% max between phases

Maximum voltage variation

The maximum voltage variation is $\pm$ 5% from nominal steady state (under the worst case conditions of line voltage)

Connector Type

The unit is supplied with a 35-foot (useable) cable and male connector. The connector is a Russellstoll 200 Amp plug DS 2504M0000/DF2032P. The facility must have the matching receptacle as specified in **Figure 5: Russellstoll Service Outlet** and **Figure 6: Russellstoll Chart**. The receptacle is a Russellstoll DF 2504 FRAB0 female connector.

Customer Facility

The customer facility must have the matching receptacle as specified in **Figure 5: Russellstoll Service Outlet** and **Figure 6: Russellstoll Chart**. Unless otherwise specified, the receptacle type to be used must be a Russellstoll female connector.

The unit is supplied with a 35' long cable and male connector for the Fire Alarm function. The connector is a Russellstoll #SKWP8G. The facility must have the matching female receptacle Russellstoll #SKWR8G and weatherproof cover.

Power Source Monitoring (Facility Only)

NOTE: Perform a power audit first.

A power analyzer should be used to check the proposed Mobile Cardiac Catheterization Lab Series facility site power for average line voltage, surges, sags, reclosures, impulses, frequency and microcuts. A period that includes two weekends should be used to simulate several days of normal use. Analysis of the data and site history of any previous power problems with other X-ray systems or computer installations should be reviewed with your power and ground representative. Verify “brown-out” (low voltage) conditions, which may occur during summer months, will not exceed the allowable range.

Some analyzer models that are suitable for power monitoring are:

- Dranetz Model 658
- Dranetz Model 656A
- BMI 3630
- RPM

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Mobile Grounding Requirements

Ground Conductor

An insulated ground conductor is provided in the unit power cord equal in size to the incoming power wires. The customer shall provide an additional grounding rod at the trailer pad. A 50' # 1/0 AWG conductor is provided for the grounding rod mentioned. The conductor terminates in the main panel-grounding terminal. Both grounds protect all devices and components contained within the unit.

NOTE:

The electrical power source must meet the requirements of the national electric code and National Fire Protection Association for Emergency Backup Power as applied to cardiac catheterization labs. Please consult the applicable codes and the local authorities in your area for guidance. The following codes define the requirements of "Emergency Systems" for cardiac catheterization laboratories.

NFPA 70 Article 517-33 (a) (8) c & NFPA99 Paragraph 3-4.2.2.2 (c)

Special Grounding Note

The unit must have an earth driven ground rod within five (5) feet of the hospitable power receptacle. A grounding cable of a minimum 4 GA must be connected between the grounding rod and the grounding pin of the hospital power receptacle, and another cable to be kept as short as possible, and must not exceed 8 feet in length. A separate grounding conductor must still be run with the phase conductors to the source of power from the grounding pin of the hospital power receptacle in accordance with NEC.2002 Article 250-24.

Telephone, Data and Emergency Connections

Telephone Service

The unit is supplied with three telephone connections.

The connector type that is used is a model Hubbell PH-6595 (inlet), supplied by Oshkosh Specialty Vehicles.

Two Hubbell PH-6599 50 foot telephone-connecting cables are included with the unit. If a third cable is needed, the customer must purchase it.

The customer is required to purchase and install three Hubbell phone connectors, model PH-6597 (weatherproof phone outlets) for use at the site.

Data Service

An adapter to connect the medical system is required if a site plans to use existing 10Base2 (coax) Ethernet connections. The adapter will convert between a 10Base2 coaxial connector and a 100BaseT RJ-45 type connector. The mobile unit requires an RJ-45 type connector.

- The unit is supplied with three data line connections.
- The customer is required to purchase the data connection cables. The data connections utilize a 50'-0" CAT-5E cable with an RJ-45 connector.

Code Blue Connections

- The unit is supplied with a 35' long cable and male connector for the code blue function. See **Figure 9: Code Blue and Fire Alarm Connections** for wiring connections.
- The connector is a Russellstoll #SKWP8G.
- The facility must have the matching female receptacle Russellstoll #SKWP8G.

Fire Alarm Connections

- The unit is supplied with a 35' long cable and male connector for the fire alarm function. See **Figure 9: Code Blue and Fire Alarm Connections** for wiring connections.
- The connector is a Russellstoll #SKWP8G.
- The facility must have the matching female receptacle Russellstoll #SKWP8G.

Water Requirements

A fresh water connection and wastewater drainage provision are required for the catheterization laboratory.

Humidifier Water Fill

The unit contains a water storage tank for the humidifier. This tank is located in the equipment room and must always contain water to insure the specified humidity level remains constant. There are two options for filling the tank:

- A ¾" male threaded garden hose connection is located under the equipment room.
- A fill port is located in the humidifier for manual fill capability.

Water Supply Requirements (Sink Option)

A cold water supply line is required, with a flow rate of 5 gallons/minute, 45-60 psi and a maximum temperature of 70º F. The unit will be supplied with a ¾" diameter, 20' long hose terminated with a ¾" I.P.S. male threaded hose connector. The facility is to provide a ¾" female connector to connect to the units 20' long hose.

Waste Water Connections

The unit is supplied with a 3/4" diameter I.P.S. male threaded hose connector to accommodate drainage. The facility must provide means of sanitary wastewater drainage from the system that comply with locally applicable codes.

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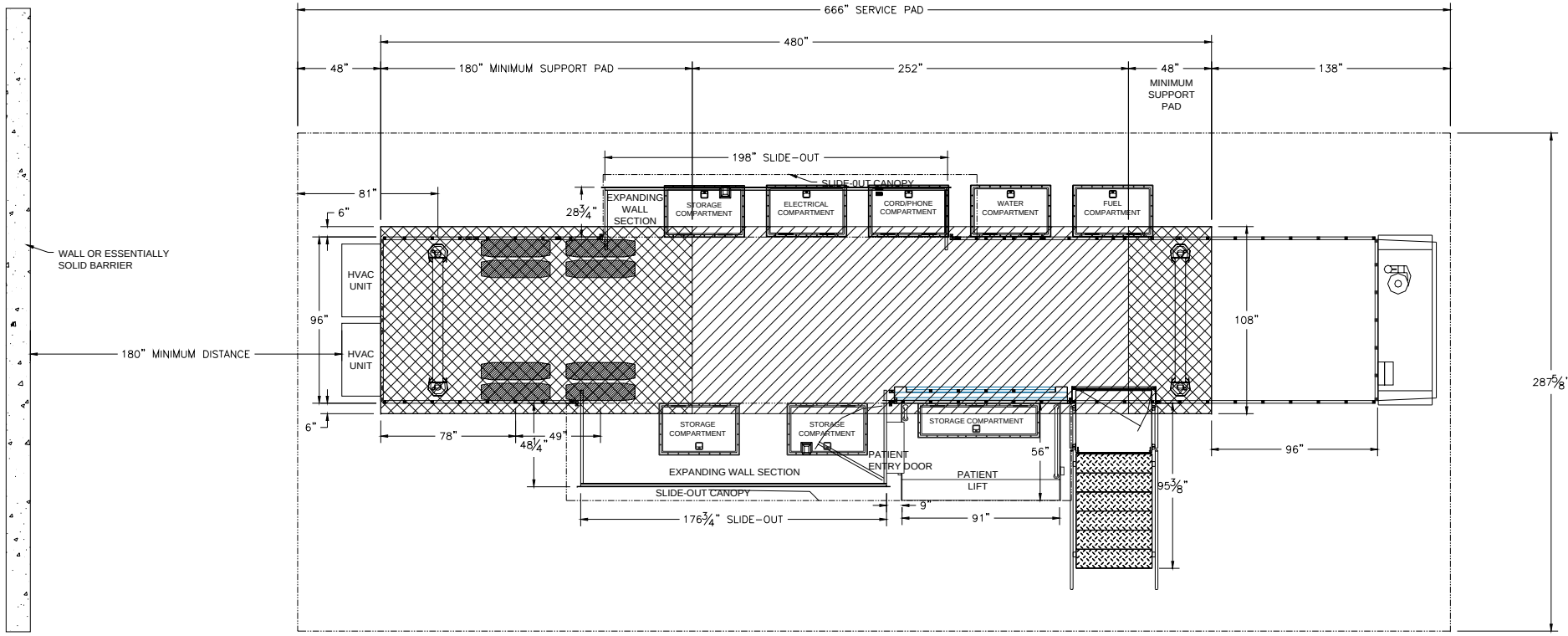

NOTE: IF TWO UNITS ARE PARKED BACK TO BACK, A MINIMUM DISTANCE OF 20' MUST BE MAINTAINED FROM COIL GRILL TO COIL GRILL OF THE A/C UNITS.

PLAN VIEW

Figure 1: Pad Layout

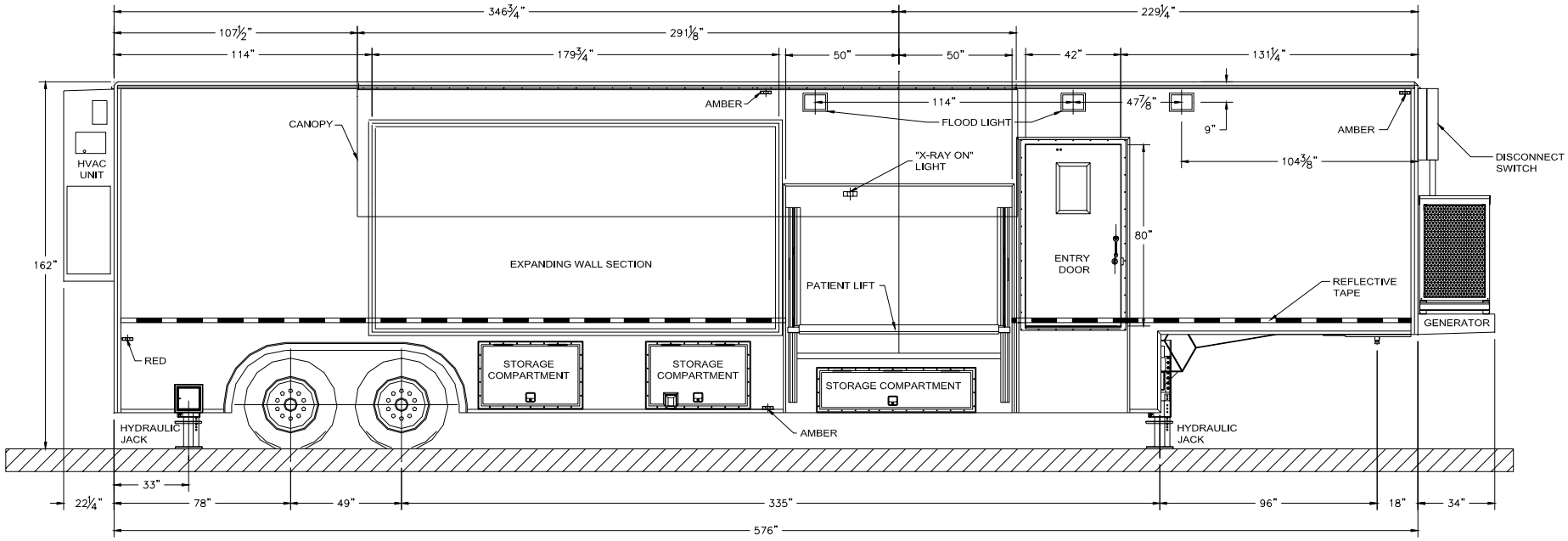

Figure 2: Right Side Elevation

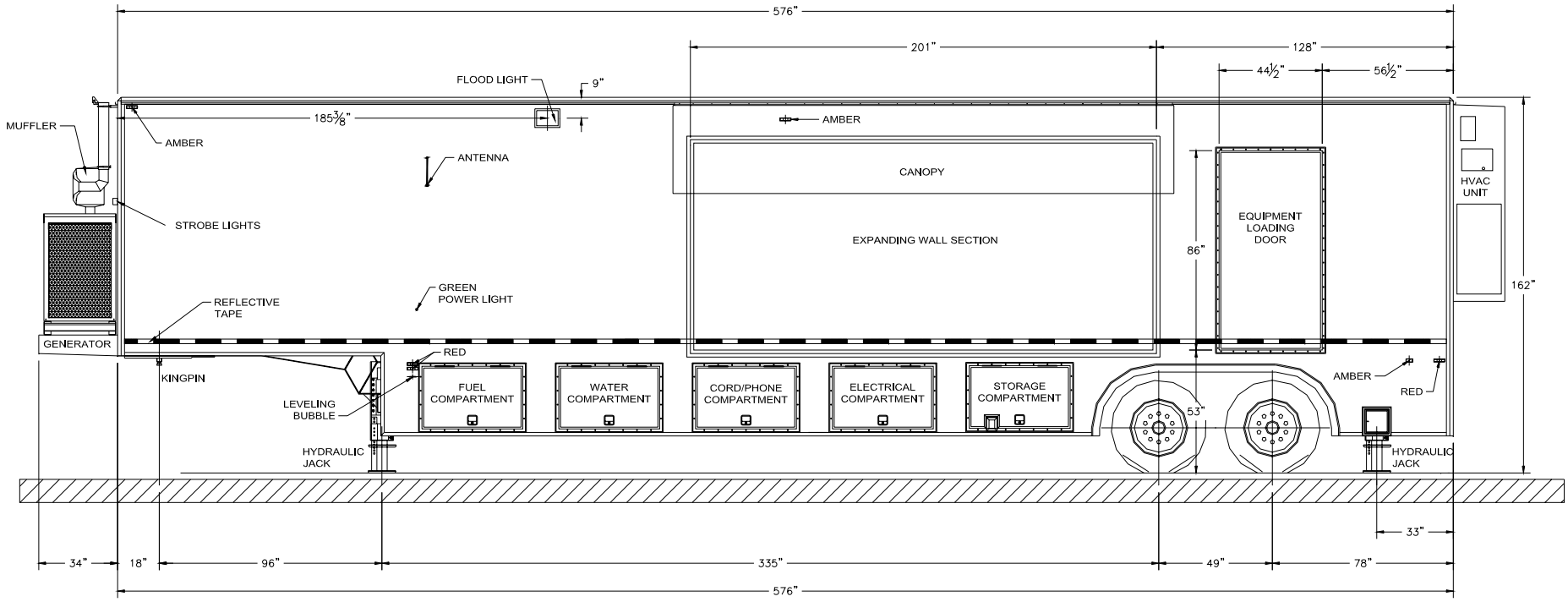

Figure 3: Left Side Elevation

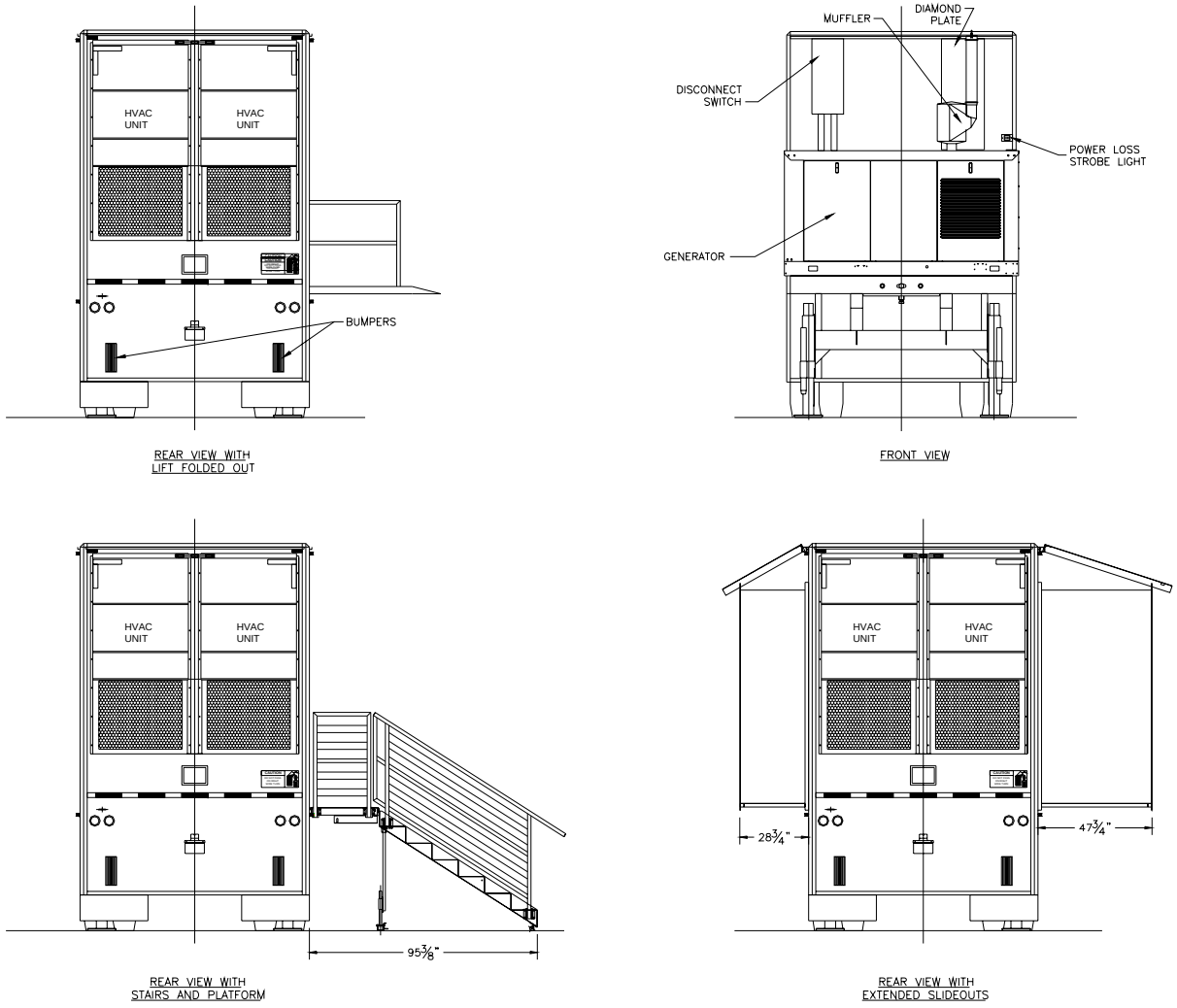

Figure 4: Stair / Lift / Wall Elevation

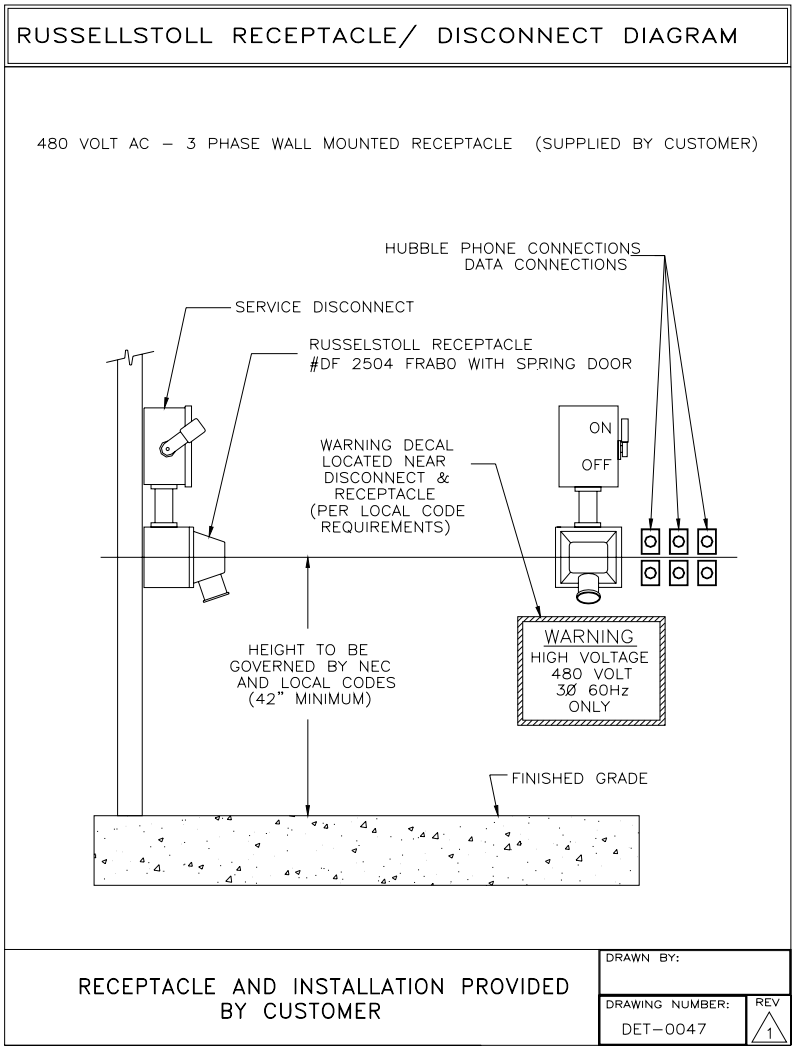

Figure 5: Russellstoll Service Outlet

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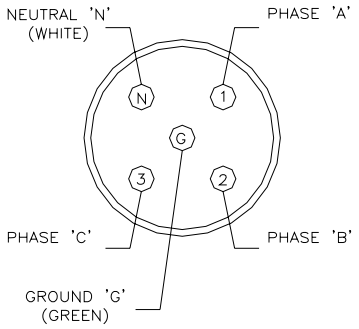
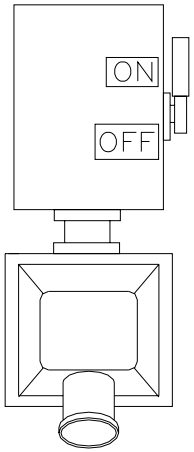
RUSSELLSTOLL RECEPTACLE CHART

AMP / WIRE	DESCRIPTION		RECEPTACLE
	WIRES	POLES	PART NUMBER
MAXIMUM WIRE SIZE FOR LUG # 1/0	5	4	480 VOLT (200 AMP) 5 WIRE RUSSELLSTOLL RECEPTACLE DF 2504 FRABO THIS RECEPTACLE MUST BE WATERPROOF
480 VOLT AC DEDICATED POWER LINE FROM MAIN TRANSFORMER STATION	3Ø	WYE CONNECTION 150 AMP TOTAL 3Ø NEUTRAL AND GROUND	

RUSSELLSTOLL MATING PLUG
PART# DS2504MP000/DF2032
5 WIRE/4 POLE



MAIN DISCONNECT
3/N/PE AC 480 VOLT
150 AMP FUSED DISCONNECT



RECEPTACLE AND INSTALLATION PROVIDED BY CUSTOMER

DRAWN BY:

DRAWING NUMBER: DET-0048

REV 2

Figure 6: Russellstoll Chart

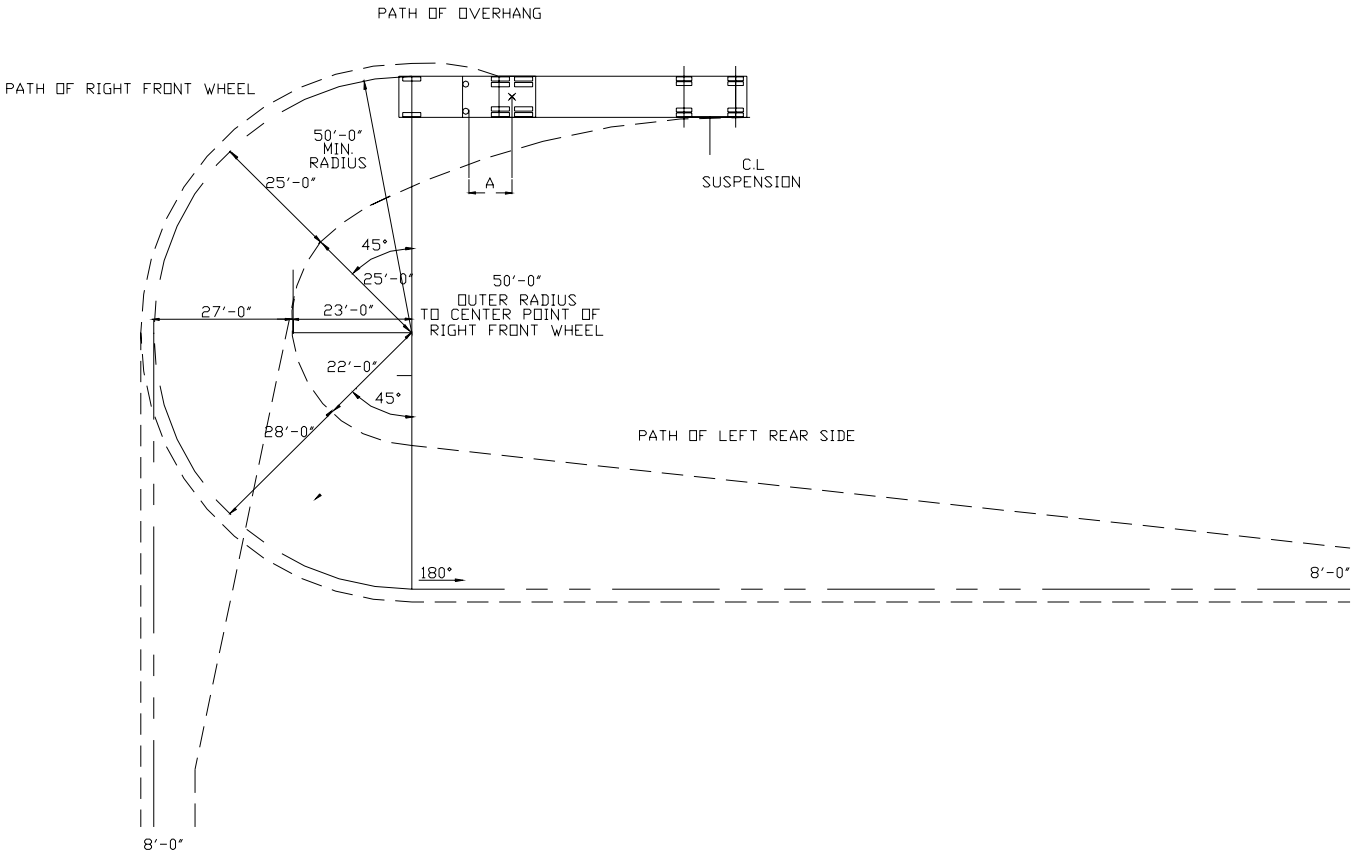


Figure 7: Turning Requirements

A minimum dimension of 86” is required from rearmost projection to centerline of the kingpin. This provides swing clearance for generator set which is mounted on the front of the trailer. Hospital is responsible to ensure the access route is clear of obstructions when the trailer is scheduled to arrive or depart. The 50’ minimum outside turning radius shown here has been calculated using an international harvester (Navistar) tractor Model COF-9670 with a 161” wheelbase. Turning radius will vary with towing tractor. Customer must confirm the turning radius on their tractor and prepare each site with adequate space to accommodate it.

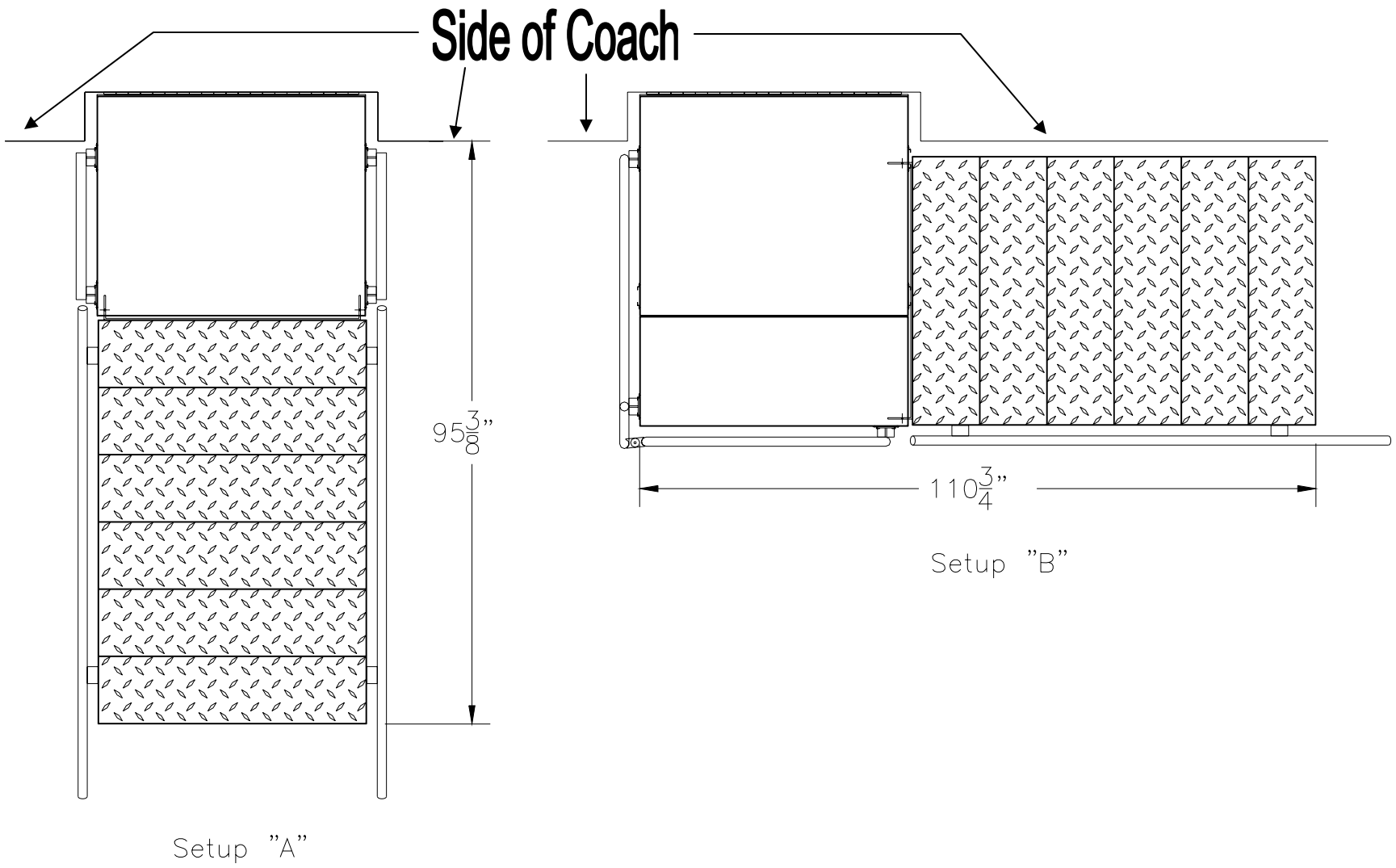


Figure 8: Variations of Stair Arrangement

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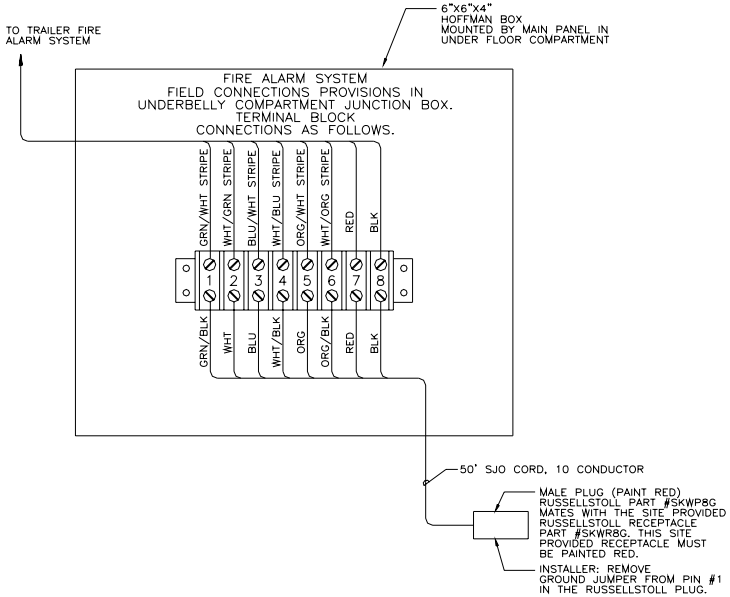
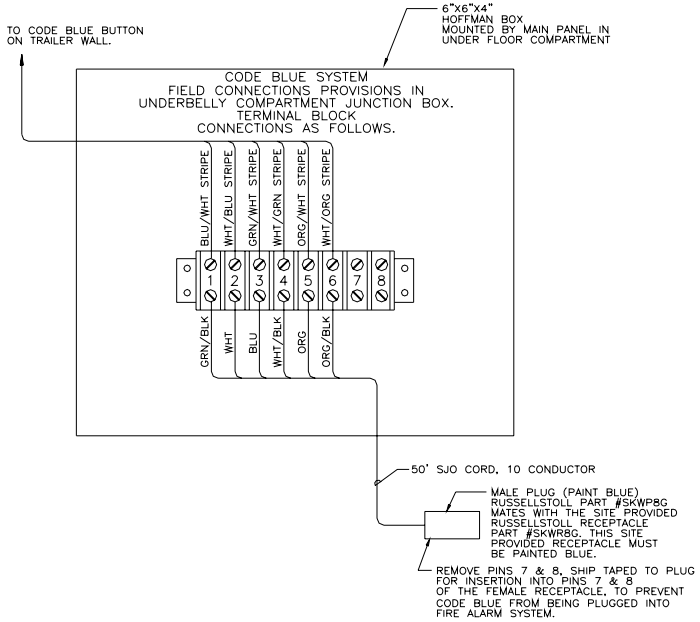


TB#	DESCRIPTION	FUNCTION	CONTACTS	WIRE COLORS
1	FIRE ALARM SYSTEM	1ST ALARM	NC	GRN/WHT STRIPE
2	FIRE ALARM SYSTEM	1ST ALARM	COM	WHT/GRN STRIPE
3	FIRE ALARM SYSTEM	1ST ALARM	NO	BLU/WHT STRIPE
4	FIRE ALARM SYSTEM	TROUBLE INDICATION	NC	WHT/BLU STRIPE
5	FIRE ALARM SYSTEM	TROUBLE INDIACTION	COM	ORG/WHT STRIPE
6	FIRE ALARM SYSTEM	TROUBLE INDICATION	NO	WHT/ORG STRIPE
7	+24V ALARM RELAY FROM FACILITY		NC	RED
8	-24V ALARM RELAY FROM FACILITY		NC	BLK

ALL DRY CONTACTS RATED 24VOLT 1.0AMPERE (CLASS II WIRING)



TB#	DESCRIPTION	FUNCTION	CONTACTS	WIRE COLORS
1	CODE BLUE SYSTEM	LIGHT	——	BLU/WHT STRIPE
2	CODE BLUE SYSTEM	LIGHT	——	WHT/BLU STRIPE
3	CODE BLUE SYSTEM		NO	GRN/WHT STRIPE
4	CODE BLUE SYSTEM		NO	WHT/GRN STRIPE
5	CODE BLUE SYSTEM		NC	ORG/WHT STRIPE
6	CODE BLUE SYSTEM		NC	WHT/ORG STRIPE

Figure 9: Code Blue and Fire Alarm Connections