



Ludlum Model
4525-7000
4525-10500
4525-14000

Generation 5 Installation Manual

February 2024

Statement of Warranty

Ludlum Measurements, Inc. warrants the portal monitor covered in this manual to be free of defects due to workmanship, material, and design for a period of 24 months from the date of delivery. The calibration of a product is warranted to be within its specified accuracy limits at the time of shipment. **Accessories such as computers, Universal Power Supplies (UPSs), cameras, network equipment, etc., are warranted by the individual manufacturer, and are not covered by Ludlum Measurements.**

This warranty excludes the replacement of instruments, detectors, or parts that are broken due to excessive physical abuse, acts of nature such as lightening, or used for purposes other than intended. Warranty claims requiring an onsite technician will cover labor and parts only. All related travel expenses such as airline fees, meals and incidentals, and lodging are to be paid for by the customer and are not covered by the warranty.

There are no warranties, express or implied, including without limitation any warranty of merchantability or fitness, which extend beyond the description of the face thereof. If the product does not perform as warranted herein, the purchaser's sole remedy shall be repair, recalibration, or replacement, at the discretion of Ludlum Measurements. In no event will Ludlum Measurements be liable for damages, lost revenue, lost wages, or any other incidental or consequential damages, arising from the purchase, use, or inability to use product.

Return of Goods to Manufacturer

If equipment needs to be returned to Ludlum Measurements, Inc. for repair or calibration, please send to the address below. All shipments should include documentation containing return shipping address, customer name, telephone number, description of service requested, and all other necessary information. Your cooperation will expedite the return of your equipment.

Ludlum Measurements, INC.
ATTN: Radiation Security Division
404 W. 4th St.
Sweetwater, TX 79556

Contact Information

Phone: 1-800-622-0828 (US, CA)
Fax: 325-235-4672

Free Gate Monitor Support

Monday – Friday 8:00 AM – 5:00 PM CT
1-800-622-0828 (US, CA)
24 Hours
1-800-717-9506

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Section 1 - Packaging

Remove the cardboard and shrink wrap from the pallet (if used) and safely lift each item on the pallet. Items on the pallet may be secured using metal or plastic strapping. Use caution, as the strapping may be under tension and can cause injury when cut.

If packed in a crate, remove lid and at least one long side and one short side. Remove all small items and store in a safe dry place. Safely lift each item one at a time from the crate.

If the items received will not be installed right away, ensure that the pallets or crates are stored in a dry space as they may contain sensitive electronics that are susceptible to damage until properly installed.

An envelope containing important information such as calibration certificates, packing slips, pre-shipment checklist, etc., will be located either in, or attached to the surface of, the shipment. Remove the envelope and store in a safe place.

Using the provided pre-shipment checklist, ensure all marked items are accounted for. In the event of a missing item, contact your sales representative immediately to report it and remediate the issues.

Model 4525-7000

Without Stands

The system is shipped in one large wooden crate with two detector assemblies containing all accessories, hardware, and options inside the crate.

The total shipping weight is approximately 680 kg (1500 lb).

With Stands

The system is shipped on two large wooden pallets. Each pallet will contain one stand and one detector assembly with some accessories already attached. Other accessories, hardware, and options may also be located loosely inside the stands. At times, a separate smaller crate will be used to ship accessories ordered with the system.

The total shipping weight is approximately 1905 kg (4200 lb) (includes stand).

Model 4525-10500

Without Stands

The system is shipped in one large wooden crate with three detector assemblies containing all accessories, hardware, and options inside the crate.

The total shipping weight is approximately 907.2 kg (2000 lb).

With Stands

The system is shipped on two large wooden pallets with larger pallet containing the overhead frame assembly. Each pallet will contain one stand and one detector assembly with some accessories already attached. Other accessories, hardware, and options may also be located loosely inside the stands. At times, a separate smaller crate will be used to ship accessories ordered with the system.

The total shipping weight is approximately 3719 kg (8200 lb).

Model 4525-14000

Without Stands

The system is shipped in two large wooden crates with two detector assemblies in each containing all accessories, hardware, and options inside the crate.

The total shipping weight is approximately 1360 kg (3000 lb).

With Stands (Horizontal Configuration)

The system is shipped on two large wooden pallets. Each pallet will contain one stand and two detector assemblies with some accessories already attached. Other accessories, hardware, and options may also be located loosely inside the stands. At times, a separate smaller crate will be used to ship accessories ordered with the system.

The total shipping weight is approximately 3810 kg (8400 lb).

With Stands (Vertical Configuration)

The system is shipped on four large wooden pallets. Each pallet will contain one stand and one detector assembly with some accessories already attached. Other accessories, hardware, and options may also be located loosely inside the stands. At times, a separate smaller crate will be used to ship accessories ordered with the system.

The total shipping weight is approximately 3810 kg (8400 lb).

Section 2 - Installation

This section is intended to outline the standard installation of a system and does not cover actual termination of cables, which is normally performed by Ludlum Measurements, Inc. (LMI) field service technicians.

The following drawings are provided to facilitate the process in preparing your site for installation.

Block Diagrams:

[517 X 683](#), [517 X 683A](#)

Model 4525-7000:

[517 x 692](#), [517 X 692A](#), [517 X 692B](#), [517 X 692C](#), [517 X 692D](#)

Model 4525-10500:

[517 X 693](#), [517 X 693A](#), [517 X 693B](#), [517 X 693C](#)

Model 4525-14000 (Horizontal):

[517 X 695](#), [517 X 695A](#), [517 X 695B](#), [517 X 695C](#), [517 X 695D](#)

Model 4525-14000 (Vertical):

[517 X 694](#), [517 X 694A](#), [517 X 562B](#), [517 X562C](#)

System Buffer Zone

For best operation, locate the stands in an area where a 3 m (10 ft) buffer zone can be maintained around the detectors. Typically, the stands are mounted about 3 m (10 ft) before the weigh scale and never between the start and end of the scale. It is important that vehicles stay out of this buffer zone except when they are moving slowly between the detectors. Placing a stop sign at the entrance to this buffer zone is highly recommended. See Drawings listed below for an aerial view showing the buffer zone.

Model 4525-7000: Drawing [517 x 692B](#)

Model 4525-10500: Drawing [517 x 693B](#)

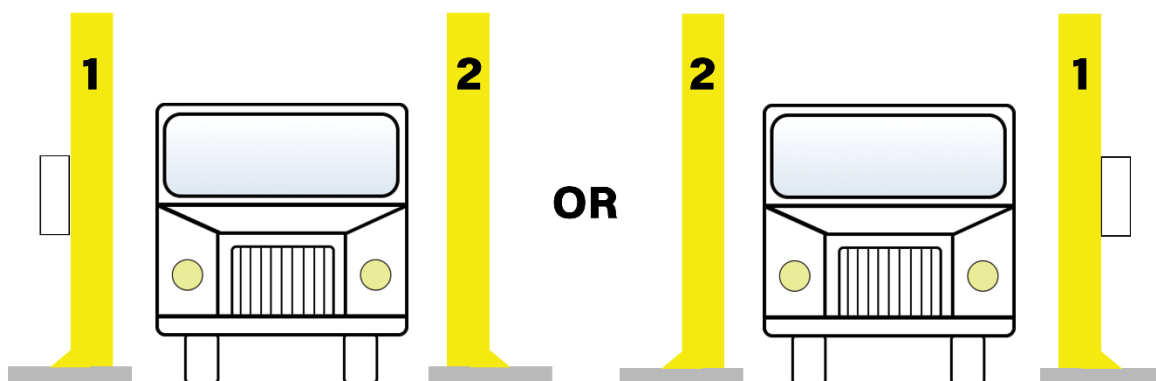
Model 4525-14000 (Horizontal): Drawing [517 x 695B](#)

Model 4525-14000 (Vertical): Drawing [517 x 692B](#)

Failure to correctly locate the system or failure to enforce the buffer zone may result in more frequent false alarms. These false alarms are caused by the system having an incorrect measurement of the true background radiation level before the system is triggered into check mode.

Location of Detector 1 and Control Box

The back of the stand for detector 1 is the default mounting location for the control box. Detector 1 should go on the side with the four conduits coming out of the pad. See figure below for layout example. Systems with three or more detectors will follow the same rule. To facilitate ease of installation, it is recommended that detector 1 and the control box be on the side nearest to the location of the monitoring office.



*For representational purposes only. Not drawn to scale.

Anchoring the Stands

Anchor Bolts and Pattern

For anchor bolt specifications, see Drawing [511 x 836](#). Due to the close tolerances of the anchor bolt holes, the anchor bolts must be placed according to the dimensions specified on the Anchor Bolt Template drawings.

Model 4525-7000: Drawing [511 x 461](#), [517 x 677](#)

Model 4525-10500: Drawing [511 x 449](#)

Model 4525-14000 (Horizontal): Drawing [384 x 882](#)

Model 4525-14000 (Vertical): Drawing [511 x 461](#)

The anchor bolts should protrude from the concrete from 10 to 12.7 cm (4 to 5 in.).

Note:

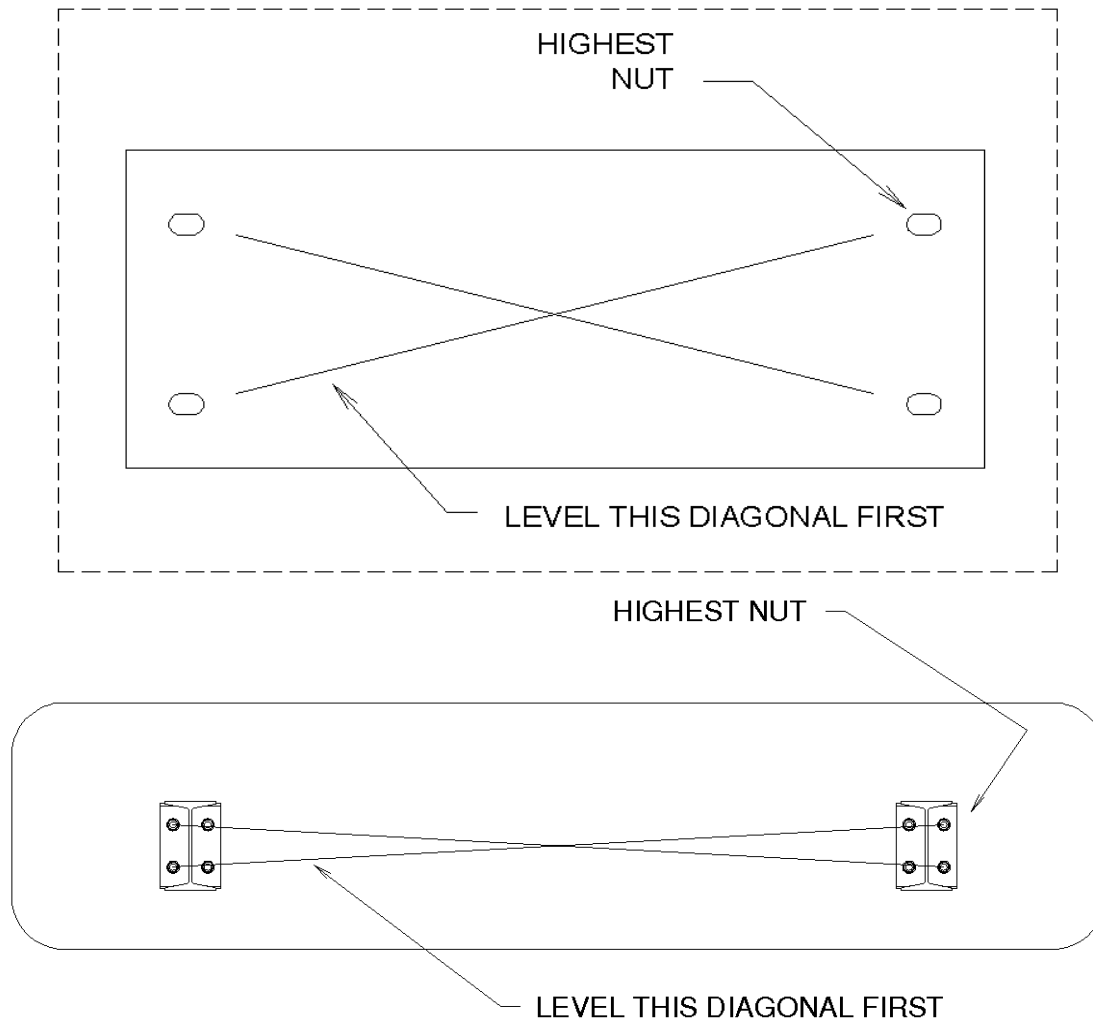
LMI recommends the use of an anchor bolt template to ensure the anchor bolts are placed in the exact locations for your system. These are available to purchase, including anchor bolt hardware kits, to facilitate installation.

If a template is used, the notch on the template should be placed toward the center of the lane. The anchor bolt holes are a tight tolerance fit for the $\frac{3}{4}$ -inch anchor bolt; therefore, care must be taken when the anchor bolts are placed in the concrete. Double-nut the anchor bolt to the template before the concrete cures to ensure proper anchor-bolt alignment.

Leveling the Stands

Once the concrete has cured and all the bolts are straight, the mounting points will need to be leveled. Shims may be used, but the proper method of using leveling nuts is highly recommended as described below.

Run a set of leveling nuts on the bolts as low as allowable (one nut per bolt). If the templates were purchased, place the flat template through the bolts onto the leveling nuts. Start leveling from the highest nut, using a 0.61 m (2 ft) (or larger) level in the pattern as demonstrated in the below figures. The stands should be level and plumb within 0.17 cm (1/16 of an inch) over a 0.61 m (2 ft) distance.



Lifting the Stands

Note:

LMI recommends the detector assemblies be placed and secured into the stands prior to lifting the stand into place. If stands were purchased with your system, the detector assemblies will come pre-assembled with the stands. This can be done by placing the stand on ground level and using lifting straps to lower the detector assembly into the stand and securing using the provided hardware.

All stands purchased with your system should include removable lifting eyebolts and hardware.

Use a lifting harness rated for at least 2268 kg (5000 lbs).

During lifting, the unit will lean towards the back. This will allow you to engage two bolts first, and then the rest will align as the stand is lowered.

Before removing the lift harness, ensure the stands are securely fastened to prevent injury or damage.

Before removing the lift harness (and lifting lugs) the four stand mounting nuts will need to be in place.

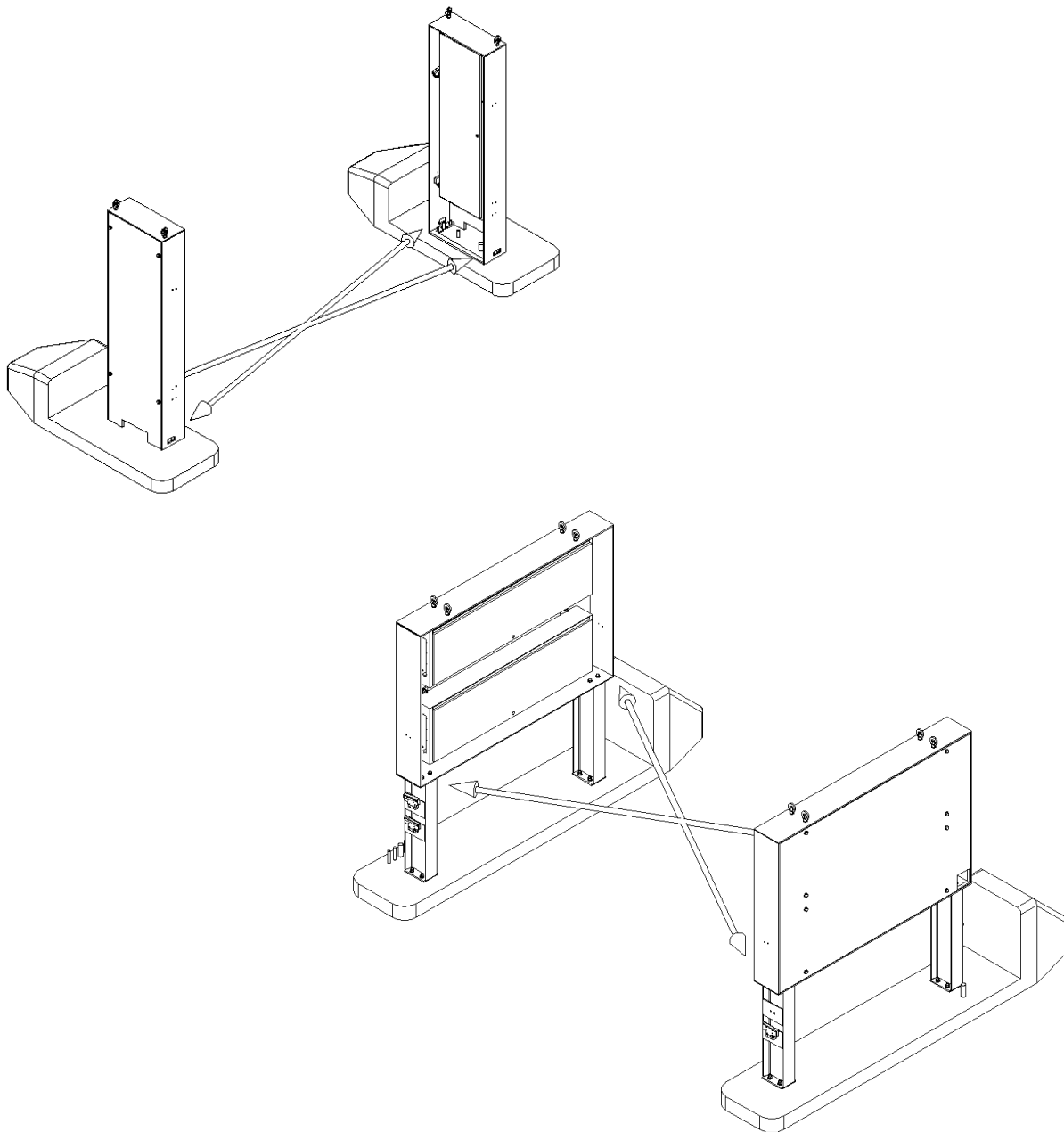
Systems with double stacked detectors, ensure the lower stand is securely fastened before placing the upper stand.

Some systems use legs as risers to mount the stands at the required height. Ensure the legs are securely fastened before lifting and placing the stand into place.

Squaring the Stands

After the lower stands have been lifted and secured into place, it is crucial that they are square with each other. Failure to do so will result in sensor alignment issues that cannot be resolved with the included sensor mounting brackets.

The opposing front outside corners of the stands should be within 1.27 cm (1/2 of an inch) of each other on the diagonal reading. Be sure to take the readings at the base of each set of stands. See the two figures below for an example.



Mounting the Control Box

The four provided 3/8 x 16-inch stainless steel bolts with a length of 1.9 cm (0.75 in.) should be used to mount the control box to the back of the stand containing detector 1. Using bolts longer than the specified may cause damage to the detector assemblies' enclosure. Stands purchased with your system will have tapped holes to facilitate the installation of the control box.

Mounting the Remote

The remote box must be securely attached to the wall using four screws through the mounting holes on the remote. Refer to Drawing [511 x 207A](#).

Mounting the Wall-Mounted Computer Kit

The wall-mounted computer kit must be securely mounted using 10 screws through the mounting holes on the main bracket. Refer to Drawing [396 x 850](#).

Wiring and Conduit

AC Power Requirements

AC power from the breaker box for the control box must be a minimum #14-gauge wire for the “hot” and neutral connections, and a #14-gauge wire for the ground connection.

Each system requires a 2-amp power source of 120–240 Vac. LMI recommends a dedicated and clearly labeled 10-20-amp breaker for each system. AC power should be delivered to the control box and other system accessories in accordance with local code requirements, which supersede these instructions. Such requirements, for example, may require a disconnect device in clear sight of the hard-wired control box.

Over Pull for Termination

All cables must be pulled, leaving a 0.61 m (24 in.) tail past the end of the conduit or cord grip. Labeling must be used on both ends of the cable to clearly identify each cable. This can be done using any method, such as color coding, letters, numbers, etc.

Conduit Requirements

The bottom of each detector enclosure and the control box is pre-drilled for conduit connections required for a standard installation.

Refer to the following drawings for conduit requirements at the concrete pad.

Model 4525-7000: [517 x 692C](#)

Model 4525-10500: [517 x 693C](#)

Model 4525-14000 (Horizontal): [517 X 695C](#)

Model 4525-14000 (Vertical): [517 x 692C](#)

Note:

All conduit coming out of the concrete up to the enclosures must be flexible Liquid-Tight Metallic.

Cable Block Diagrams

To facilitate installation, the following drawings are provided to illustrate the required cables and their routing. These drawings also show conduit and cable requirements for other standard options available.

Model 4525 1 to 3 Detector Systems: [517 X 683](#)

Model 4525 4 to 6 Detector Systems: [517 X 683A](#)

Section 3 – Checklist and Photos for Technician

The following checklist and photo requirements will be required to be submitted prior to having a field service technician scheduled for the on-site commissioning of the system.

Installation Checklist

Yes, No, N/A	Requirement Details
	Foundation for detectors is placed where the detectors have a 3 m (10 ft) “buffer zone” in all directions.
	Detectors are installed in approved stands, anchored in concrete, and placed in their proper configuration.
	Stands are diagonally square with one another within 13 mm (0.5 in.).
	The control box is mounted on the back of the stand containing detector 1, leaving adequate space for technicians to perform work safely.
	AC power is terminated at the AC power filter terminals. A clearly marked breaker is accessible in case the AC power must be disconnected.
	Detector cables are pulled as shown on the wiring block diagrams provided in this manual with 61 cm (24 in.) of over pull on each end.
	IR sensors are securely mounted using the provided hardware to the stands, at the proper height and on the correct detector. Receivers will be wired and connected to detector 1, whereas the transmitters will be wired to detector 2 or 3, depending on the configuration purchased. See installation drawings for height requirements.
	Cat 5e ethernet cable provided is in conduit and pulled from control system to computer location in office area with 61 cm (24 in.) over pull on each end.
	The computer and printer (if used) are in an easily accessible location with proper power and an uninterrupted power supply installed. If the wall computer kit was purchased, ensure it has been securely mounted in its desired location to the wall.
	The remote annunciator, if purchased, is mounted on the wall in its desired location. The provided remote cable with 61 cm (24 in.) of over pull on each end must be pulled from the control box to the remote.
	Any additional accessories such as a camera, strobe/horn, traffic light, P2P wireless kit, etc., must be installed according to recommended specifications.
	For all systems with overhead detectors, or detectors that may not be reached with a 1.8 m (6 ft) scissor ladder, a man lift and certified operator will be required on site. For all other systems, a ladder up to 1.8 m (6 ft) will be required for technician’s use to properly inspect and commission the systems.

Photo Requirements

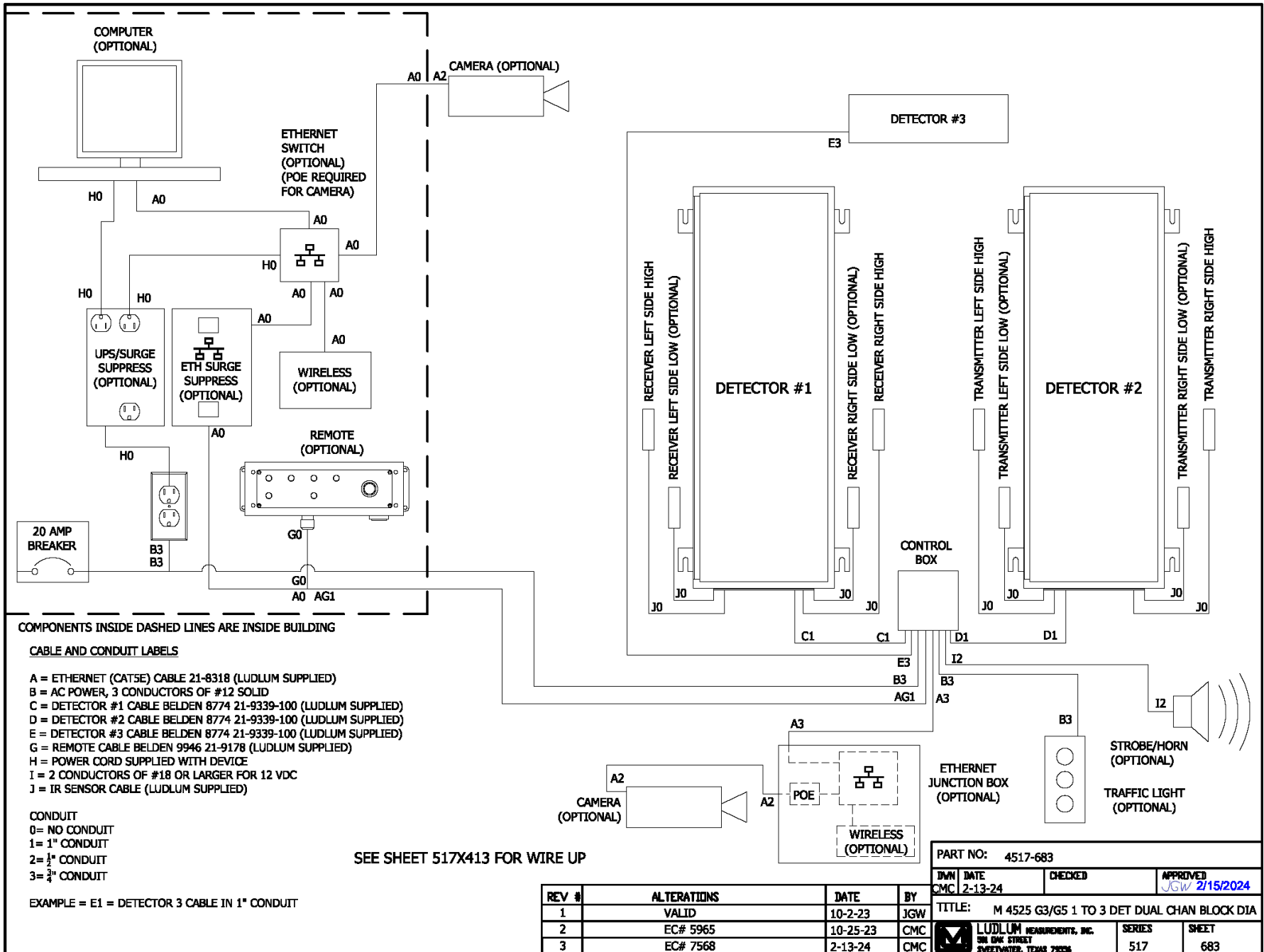
No. of Photos	Requirement Details
4 each	System in relation to the scale for perspective and to ensure the 3 m (10 ft) buffer zone is adequate and enforced.
1 each	Control box mounted on the back side of the stand with detector 1 and height from ground for easy accessibility.
2 each	Face of each detector, with door closed, showing the placement of all infrared sensors. This will be detector 1 and detector 2 or 3, depending on your configuration.
1 each	Face of each detector, with doors opened, showing detector cables pulled through conduits and 61 cm (24 in.) over pull.
1-6 each	Interior of the control box showing the AC power lines terminated, both detector cables, remote cable, and the Cat-5e network cable with 61 cm (24 in.) over pull.
2-4 each	Optional strobe and horn, camera, wireless P2P kit, and mounted with conduit(s) and entering the control box.
2-4 each	Location of the computer that will be used for the supervisor software. If using the wall-mounted computer kit purchased with your system, show kit mounted securely on the wall with ample room for technician to terminate the connection.
1-2 each	The remote annunciator (if purchased) mounted in its desired location and the remote cable with 61 cm (24 in.) of over pull past the entrance of the box.
Any	Photos of any additional equipment or peripherals installed and expected to be used in conjunction with the control box's hardware or software of the system (gate arms, traffic lights, etc.).
Any	Show anything else that may be of help for the technician to provide an efficient commissioning and start-up service, such as barriers, obstacles, or rapid elevation changes near or around the system, etc.

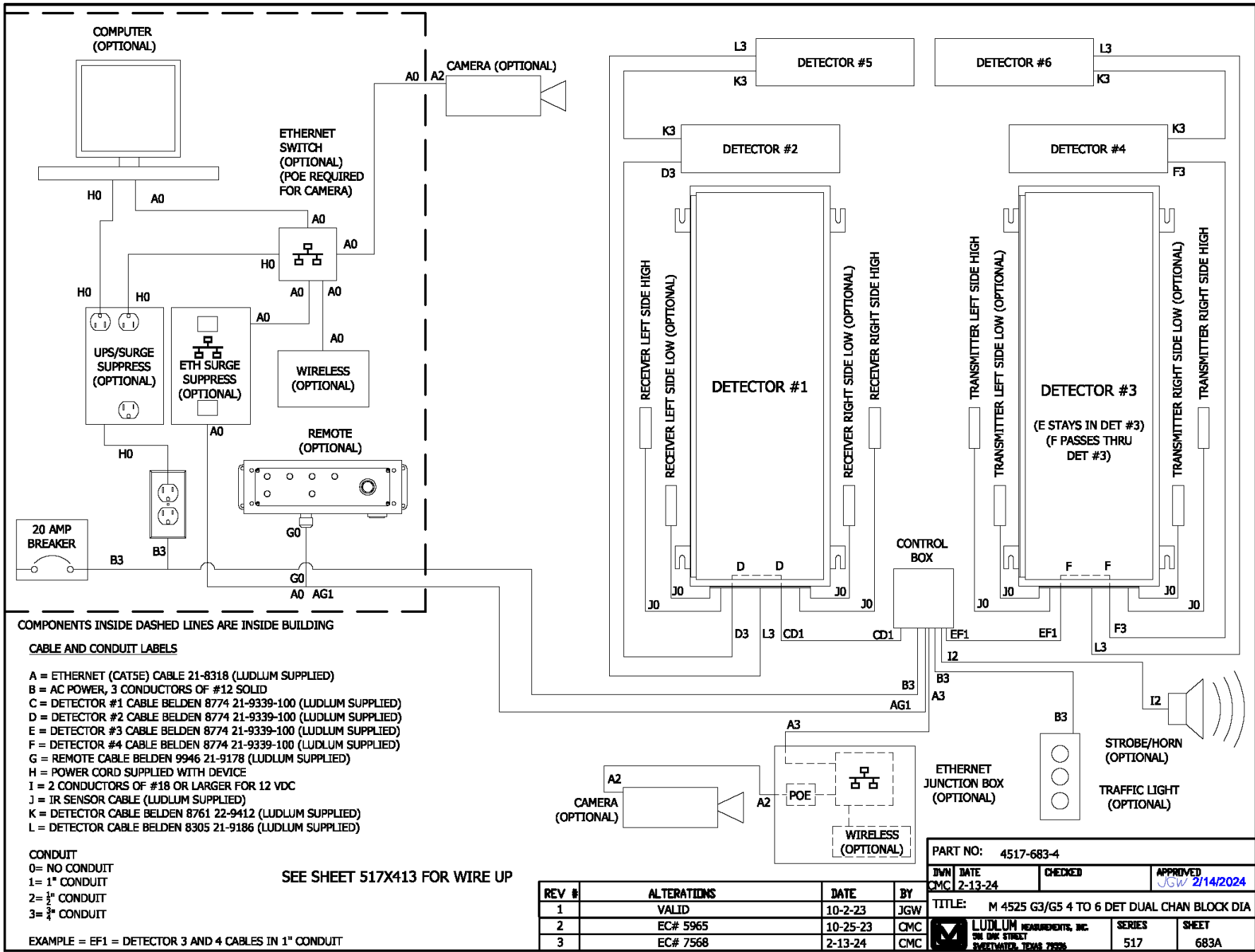
Submit via email to rsdtech@ludlums.com. Files must be compressed into a single zip file totaling less than 20 MB.

Please note that delays due to poor validation of these requirements may incur additional charges at the time of service. For questions, comments, or concerns, send us an email or give us a call.

Section 4 - Drawings & Diagrams

Drawing Title	Drawing Number
Model 4525 G3/G5 1-to-3-Detector Dual Channel Block Diagram	517 x 683
Model 4525 G3/G5 4-to-6 Detector Dual Channel Block Diagram	517 x 683A
Model 4525 G5 2-Detector ISO View	517 x 692
Model 4525 G5 2-Detector Elevation	517 x 692A
Model 4525 G5 2-Detector Aerial View	517 x 692B
Model 4525 G5 2-Detector Concrete Plan	517 x 692C
Model 4525 G5 2-Detector Stand	517 x 692D
Model 4525 G5 3-Detector ISO View	517 x 693
Model 4525 G5 3-Detector Elevation	517 x 693A
Model 4525 G5 3-Detector Aerial View	517 x 693B
Model 4525 G5 3-Detector Concrete Plan	517 x 693C
Model 4525 G5 4-Detector Horizontal ISO View	517 x 695
Model 4525 G5 4-Detector Horizontal Elevation	517 x 695A
Model 4525 G5 4-Detector Aerial View	517 x 695B
Model 4525 G5 4-Detector Horizontal Concrete	517 x 695C
Model 4525 G5 4-Detector Horizontal Steel	517 x 695D
Model 4525 G5 4-Detector Vertical ISO View	517 x 694
Model 4525 G5 4-Detector Vertical Elevation	517 x 694A
Model 4525 G5 4-Detector Vertical Lower Stand	517 x 562B
Model 4525 G5 4-Detector Vertical Upper Stand	517 x 562C
Model 4525 Anchor Bolt & Concrete	511 x 836
Model 4525-7000 Conduit Template Guide	517 x 677
Model 4525-7000 Anchor Bolt Template	511 x 461
Model 4525-10500 Anchor Bolt Template	511 x 449
Model 4525-14000 Horizontal Anchor Bolt Template	384 x 882
Model 4525 Remote	511 x 207A
Model 4525 Computer Assembly	396 x 850



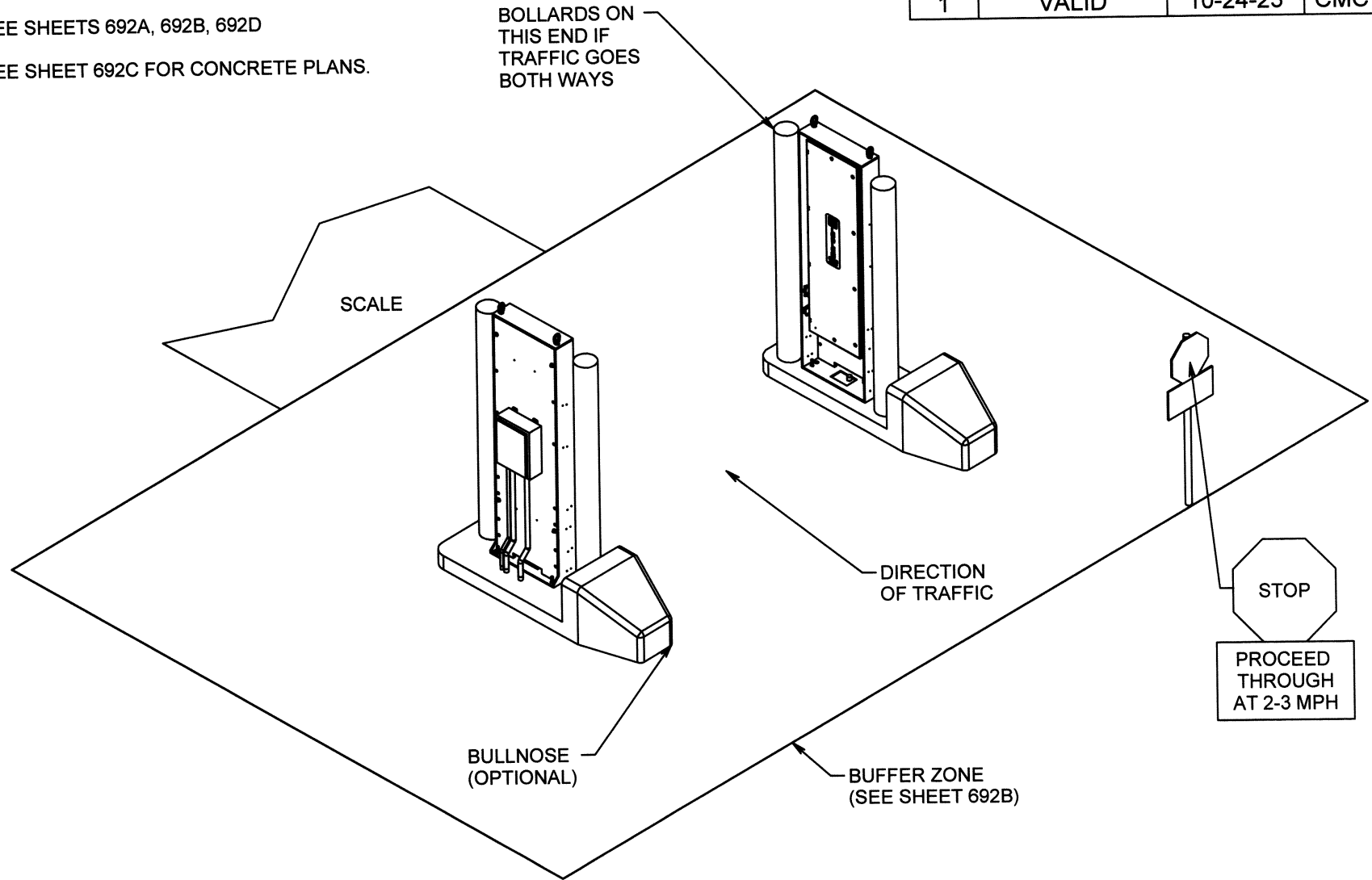


ALL DIMENSIONS ARE SUBJECT TO CHANGE
 DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 692A, 692B, 692D

SEE SHEET 692C FOR CONCRETE PLANS.

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



DWN	DATE	DESIGN AUTHORITY	APP	DATE
CMC	10-24-23	JGWITT	JW	10-24-23
DWG NUM: 4517-692			SCALE: -	
TITLE: M 4525 G5 2 DETECTOR ISO VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES	SHEET	
		517	692	

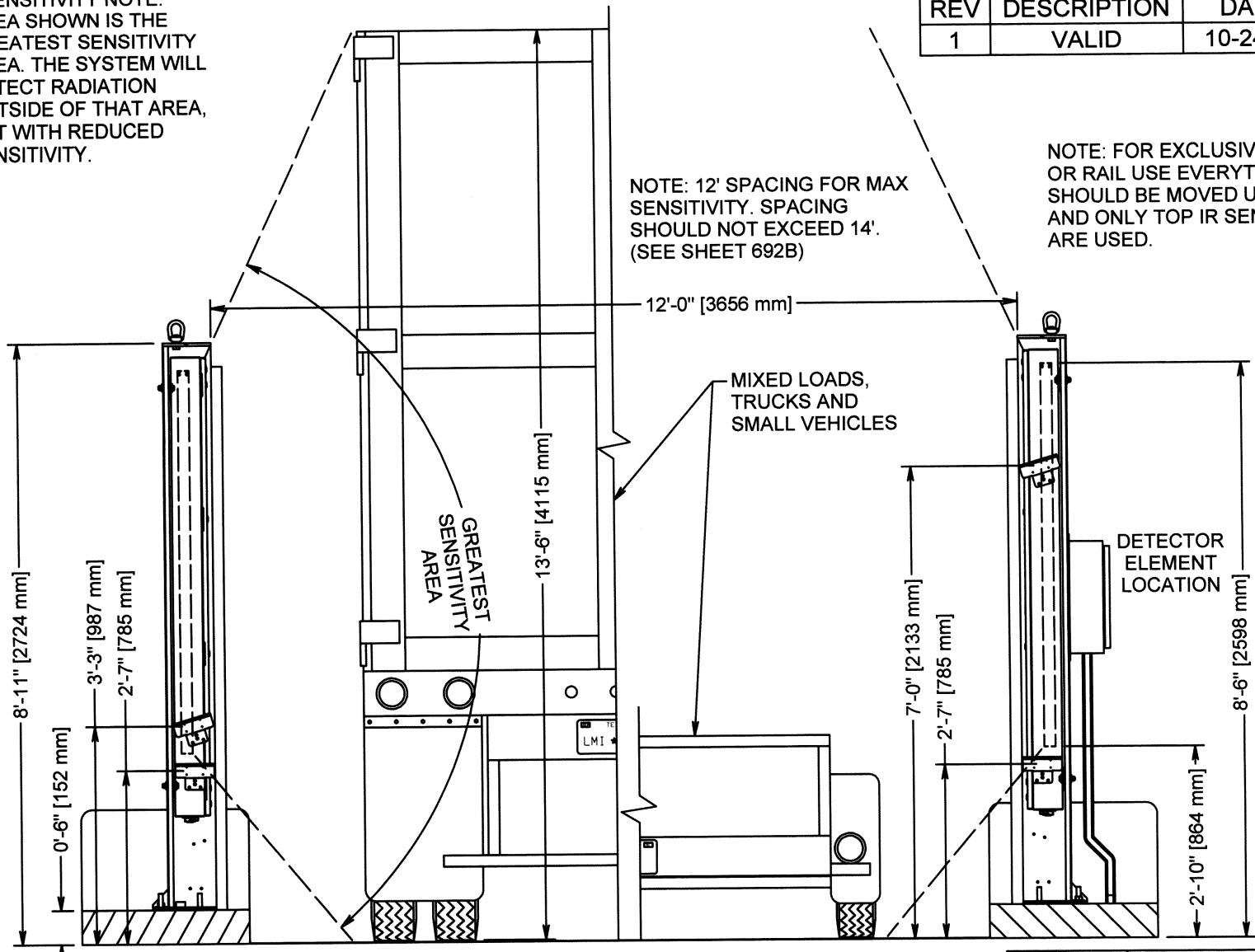
REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC

* SENSITIVITY NOTE:
 AREA SHOWN IS THE
 GREATEST SENSITIVITY
 AREA. THE SYSTEM WILL
 DETECT RADIATION
 OUTSIDE OF THAT AREA,
 BUT WITH REDUCED
 SENSITIVITY.

NOTE: 12' SPACING FOR MAX
 SENSITIVITY. SPACING
 SHOULD NOT EXCEED 14'.
 (SEE SHEET 692B)

NOTE: FOR EXCLUSIVE TRUCK
 OR RAIL USE EVERYTHING
 SHOULD BE MOVED UP BY 18"
 AND ONLY TOP IR SENSORS
 ARE USED.

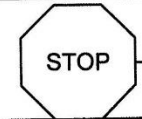


ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE
 REQUIREMENTS

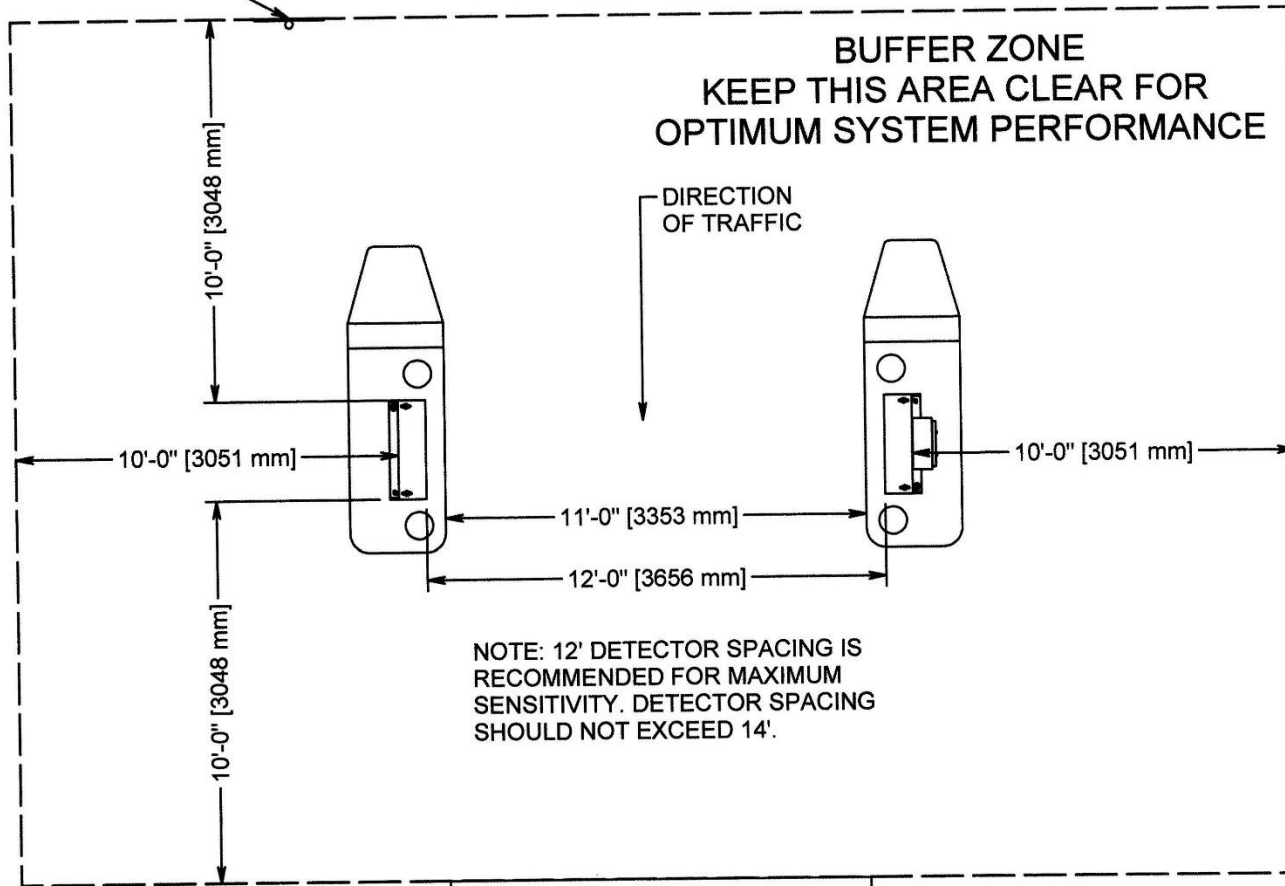
SEE SHEETS 692, 692B, 692D. SEE SHEET 692C FOR CONCRETE PLANS.

DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP New	DATE 10-24-23
DWG NUM: 4517-692			SCALE: -	
TITLE: M 4525 G5 2 DETECTOR ELEVATION				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 692A	

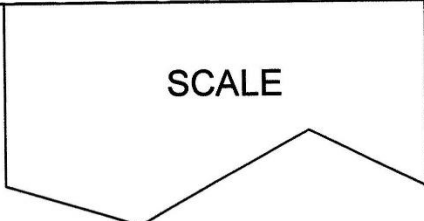
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



PROCEED THROUGH AT 2-3 MPH



NOTE: 12' DETECTOR SPACING IS RECOMMENDED FOR MAXIMUM SENSITIVITY. DETECTOR SPACING SHOULD NOT EXCEED 14'.



ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS

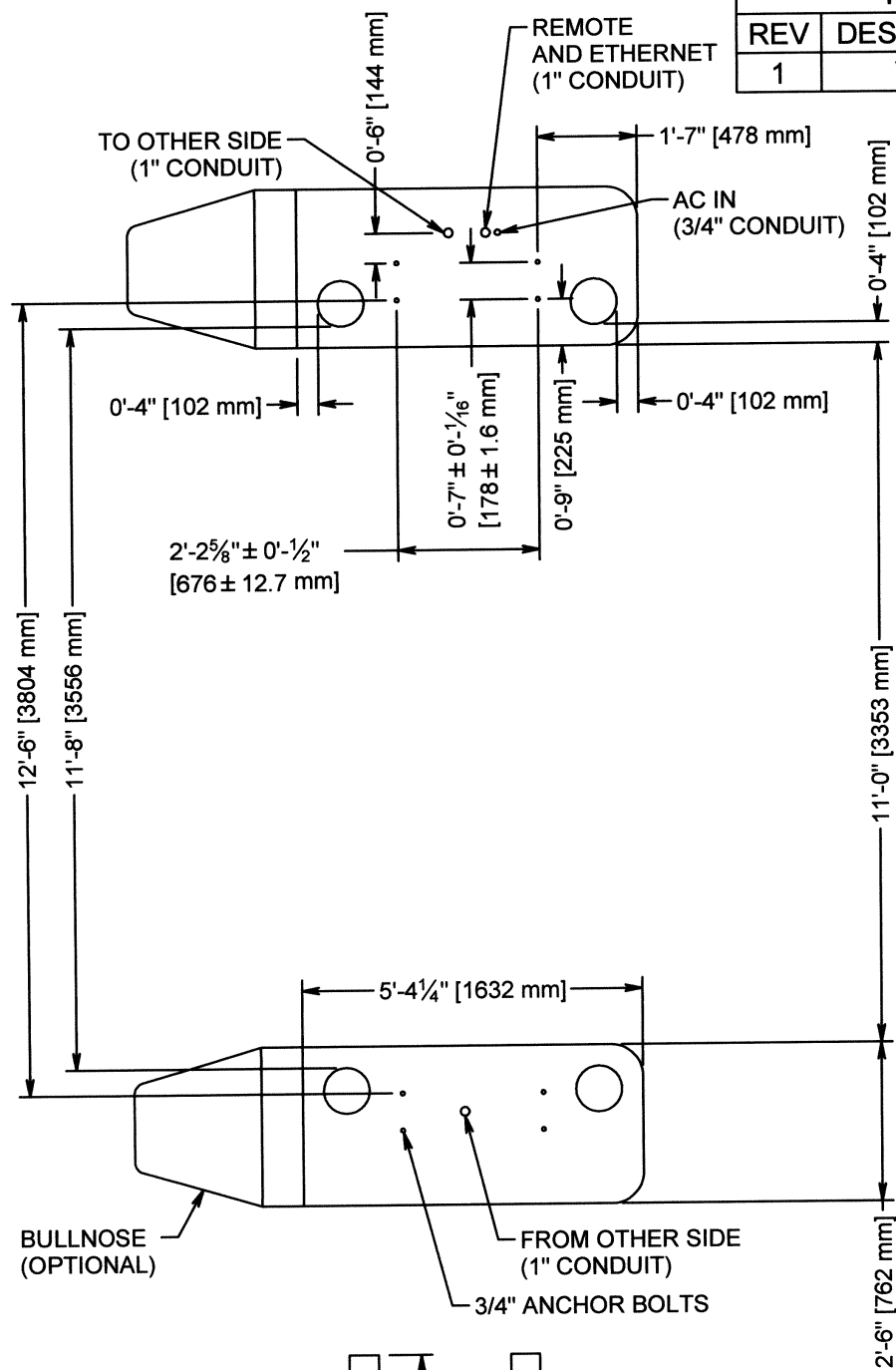
SEE SHEETS 692, 692A, 692D

SEE SHEET 692C FOR CONCRETE PLANS.

THIS DRAWING ALSO APPLICABLE TO M 4525 G5 VERTICAL.

DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP JGW	DATE 10-24-23
DWG NUM: 4517-692			SCALE: -	
TITLE: M 4525 G5 2 & 4 DETECTOR AERIAL VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 692B	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-6-23	CMC



THIS DRAWING ALSO APPLICABLE TO M 4525 G5 VERTICAL.

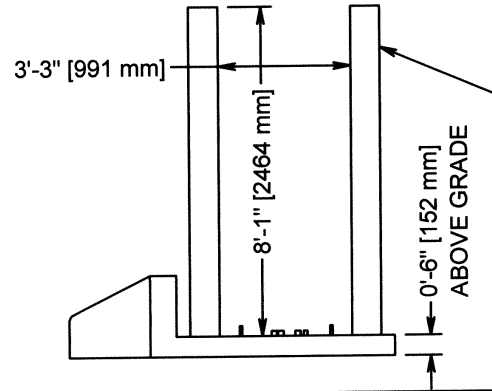
CONDUIT LAYOUT CAN BE SWAPPED. PAD WITH THREE CONDUITS IS CONTROL BOX SIDE.

SEE SHEETS 692, 692A, 692B, 692D

SEE SHEET 511X836(A) FOR CONCRETE AND ANCHOR BOLT DETAILS. TEMPLATE AVAILABLE, P/N 7511-461-01.

ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS.

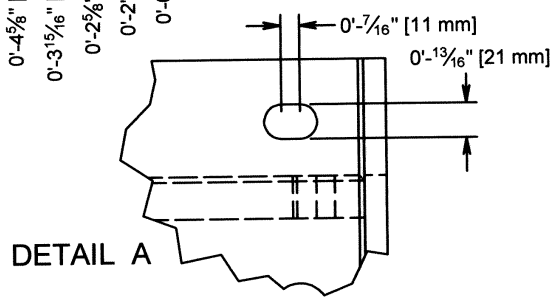
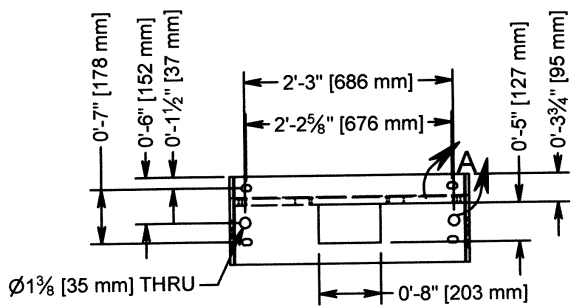
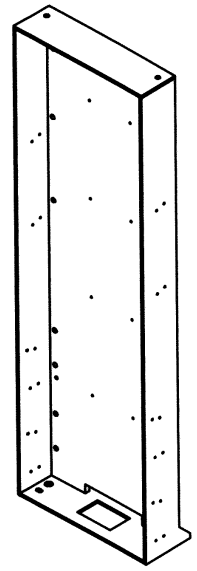
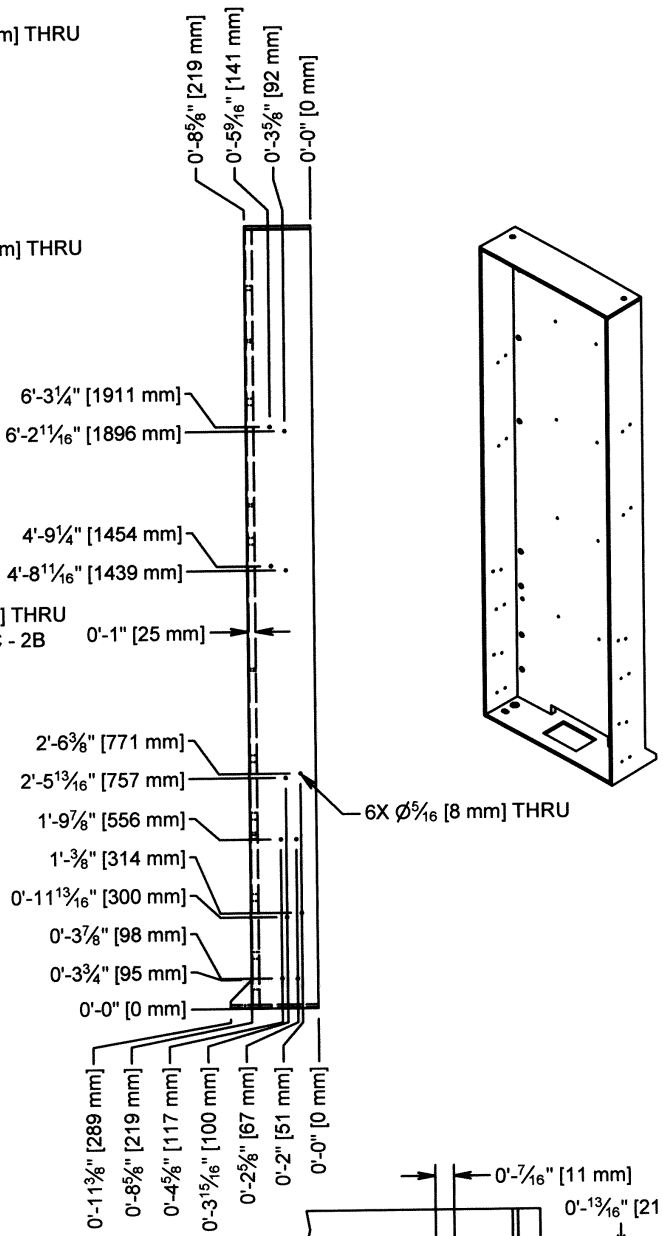
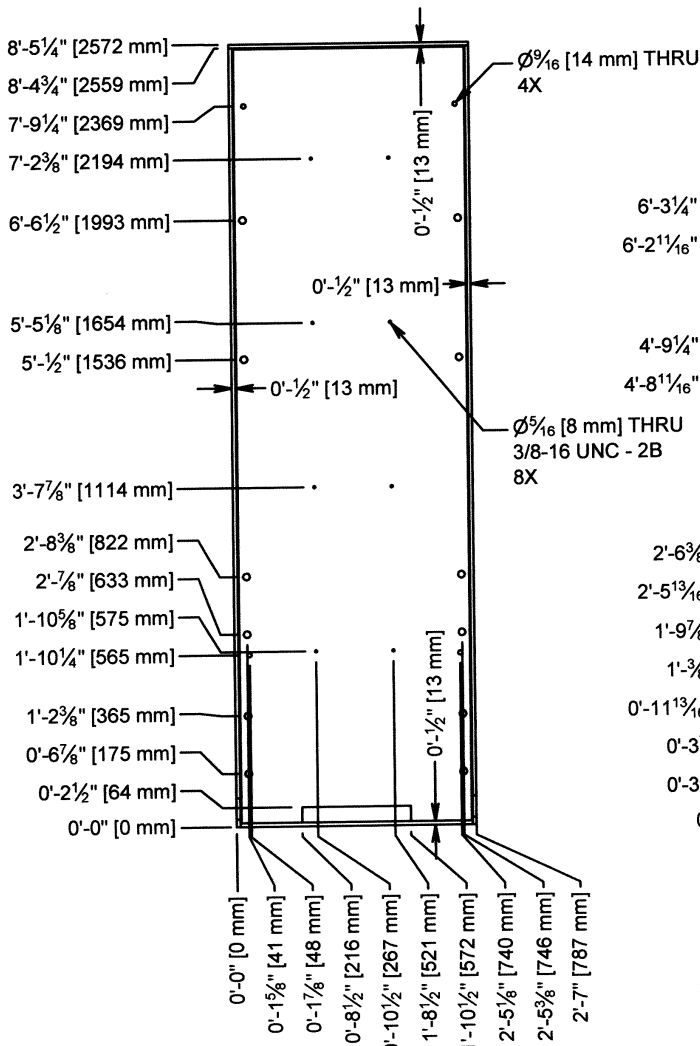
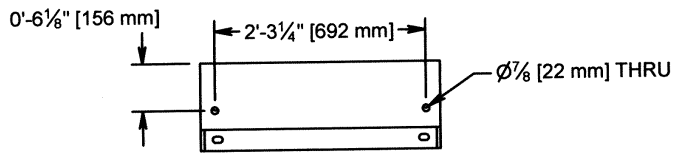
NOTE: FOR EXCLUSIVE TRUCK OR RAIL USE, EVERYTHING SHOULD BE MOVED UP BY 18" AND ONLY TOP IR SENSORS USED.



BOLLARDS ARE 8" PIPE OR SIMILAR, FILLED WITH CONCRETE. (NOT SUPPLIED)

DWN CMC	DATE 10-6-23	DESIGN AUTHORITY JGWITT	APP Jaw	DATE 10-6-23
DWG NUM: 4517-692			SCALE: -	
TITLE: M 4525 G5 2 DETECTOR CONCRETE PLAN				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 692C	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



WEIGHT = 1170 LBS

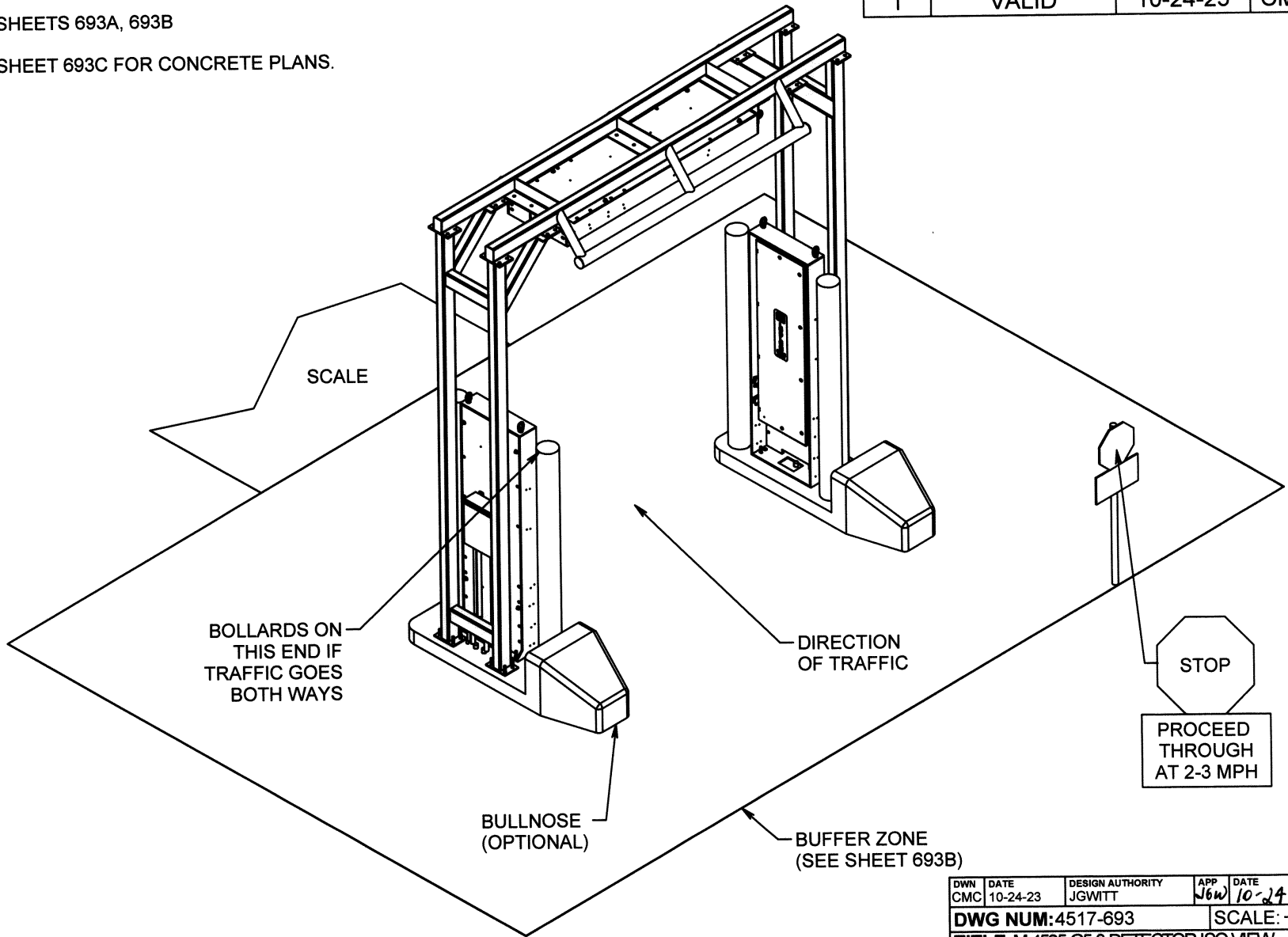
DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP N/W	DATE 10-24-23
DWG NUM: 4517-692			SCALE: -	
TITLE: M 4525 G5 2 DETECTOR STAND				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 692D	

ALL DIMENSIONS ARE SUBJECT TO CHANGE
 DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 693A, 693B

SEE SHEET 693C FOR CONCRETE PLANS.

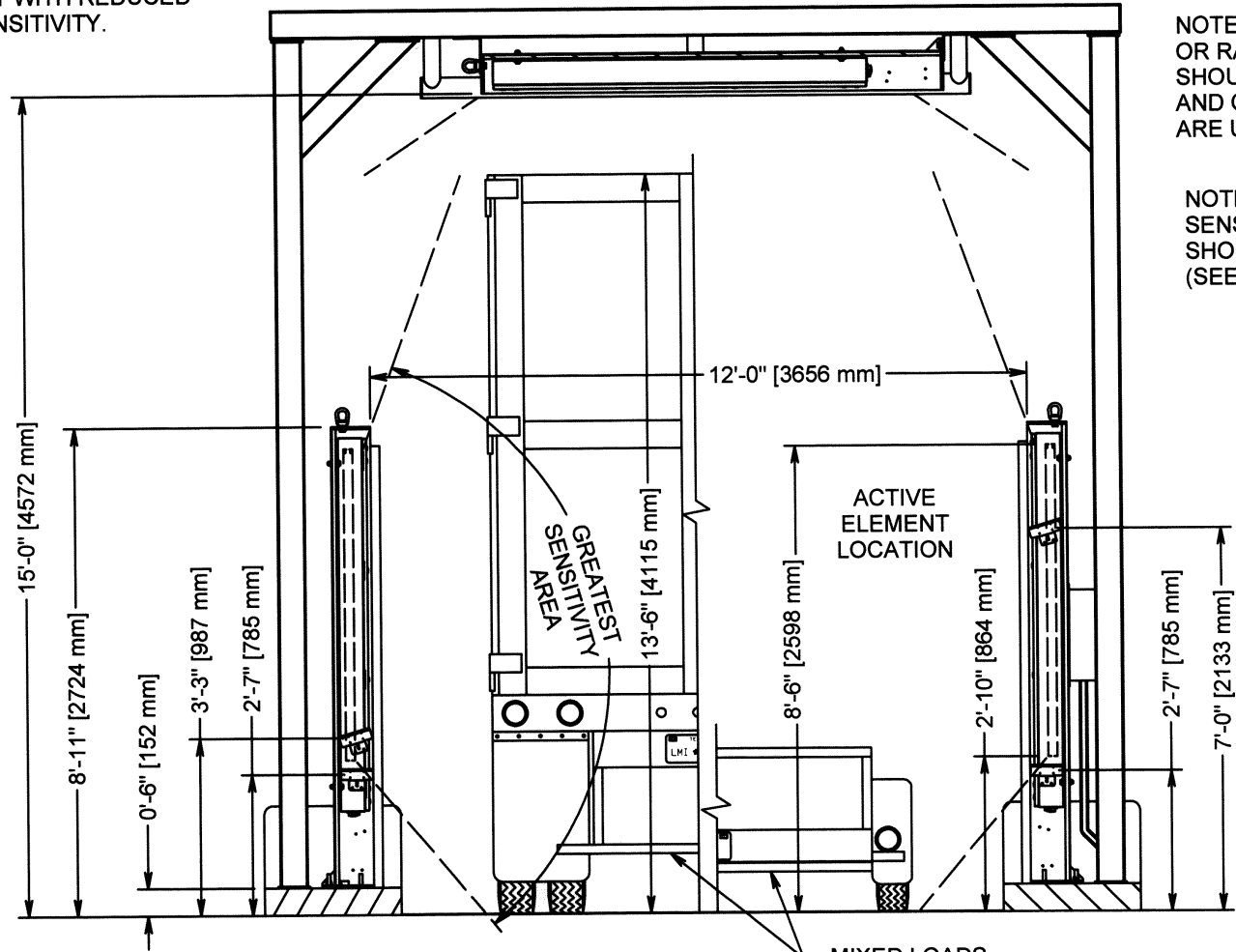
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



DWN	DATE	DESIGN AUTHORITY	APP	DATE
CMC	10-24-23	JGWITT	J6W	10-24-23
DWG NUM: 4517-693				SCALE: -
TITLE: M 4525 G5 3 DETECTOR ISO VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556			SERIES 517	SHEET 693

* SENSITIVITY NOTE:
 AREA SHOWN IS THE
 GREATEST SENSITIVITY
 AREA. THE SYSTEM WILL
 DETECT RADIATION
 OUTSIDE OF THAT AREA,
 BUT WITH REDUCED
 SENSITIVITY.

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



NOTE: FOR EXCLUSIVE TRUCK
 OR RAIL USE EVERYTHING
 SHOULD BE MOVED UP BY 18"
 AND ONLY TOP IR SENSORS
 ARE USED.

NOTE: 12' SPACING FOR MAX
 SENSITIVITY. SPACING
 SHOULD NOT EXCEED 14'.
 (SEE SHEET 693B)

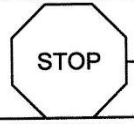
ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE
 REQUIREMENTS

SEE SHEETS 693, 693B. SEE SHEET 693C FOR CONCRETE PLANS.

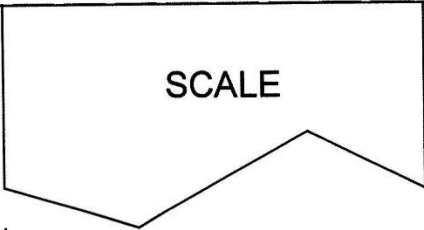
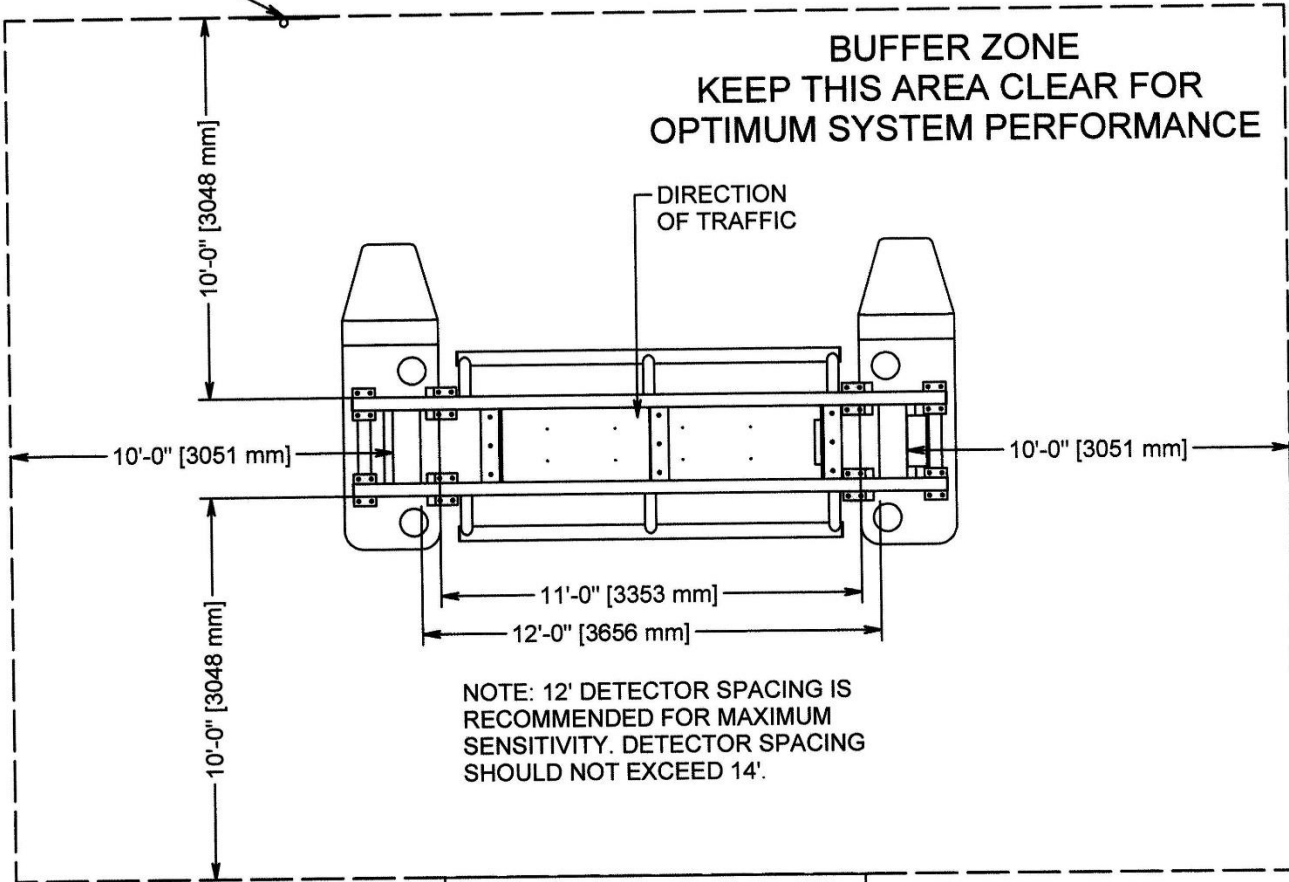
MIXED LOADS,
 TRUCKS AND
 SMALL VEHICLES

DWN	DATE	DESIGN AUTHORITY	APP	DATE
CMC	10-24-23	JGWITT	JGW	10-24-23
DWG NUM: 4517-693			SCALE: -	
TITLE: M 4525 G5 3 DETECTOR ELEVATION				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 693A	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



PROCEED THROUGH AT 2-3 MPH



ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 693, 693A

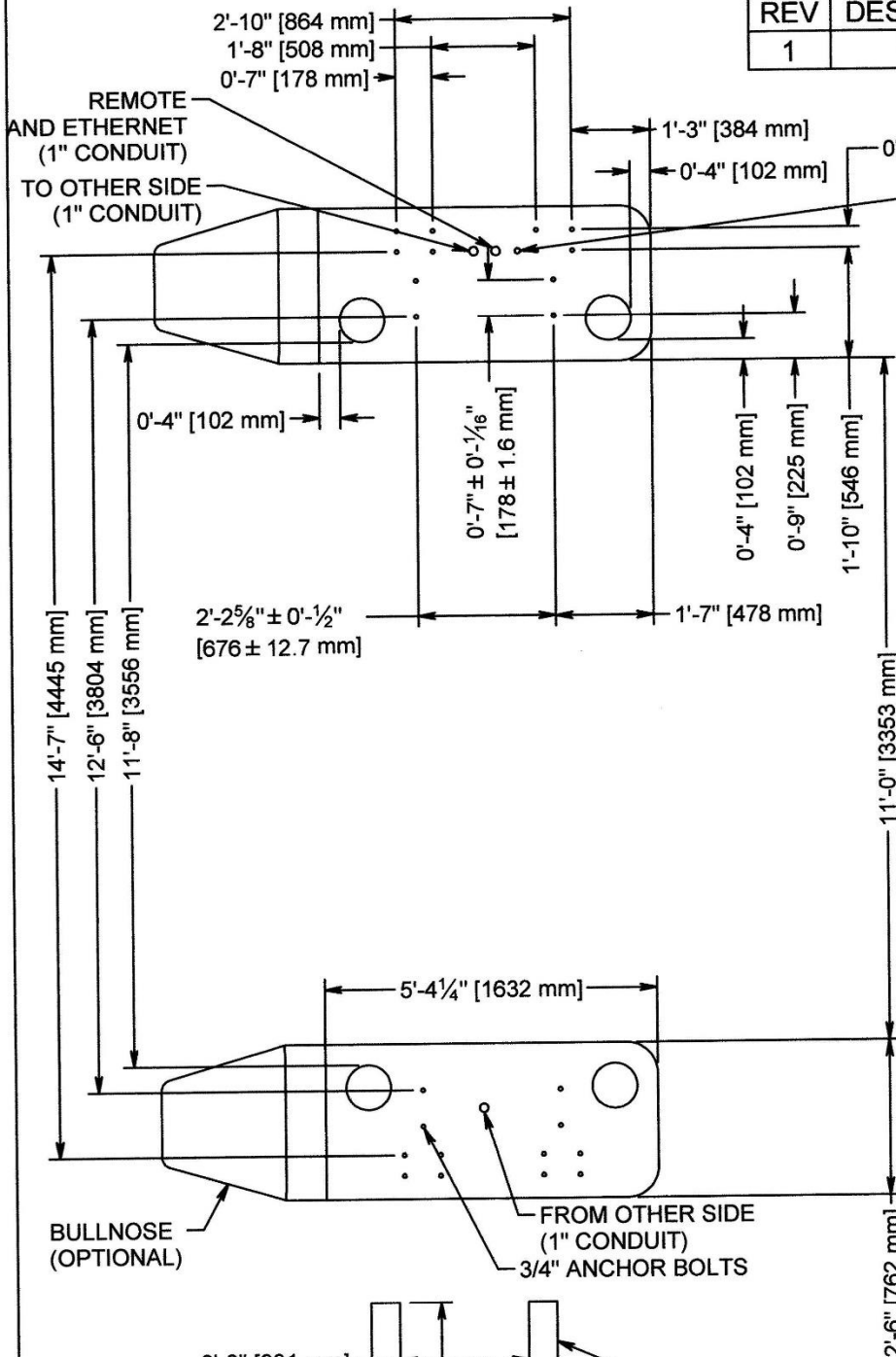
SEE SHEET 693C FOR CONCRETE PLANS.

THIS DRAWING ALSO APPLICABLE TO M 4525 G5 VERTICAL.

DWN	DATE	DESIGN AUTHORITY	APP	DATE
CMC	10-24-23	JGWITT	New	10-24-23
DWG NUM: 4517-693			SCALE: -	
TITLE: M 4525 G5 3 DETECTOR AERIAL VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 693B	

REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



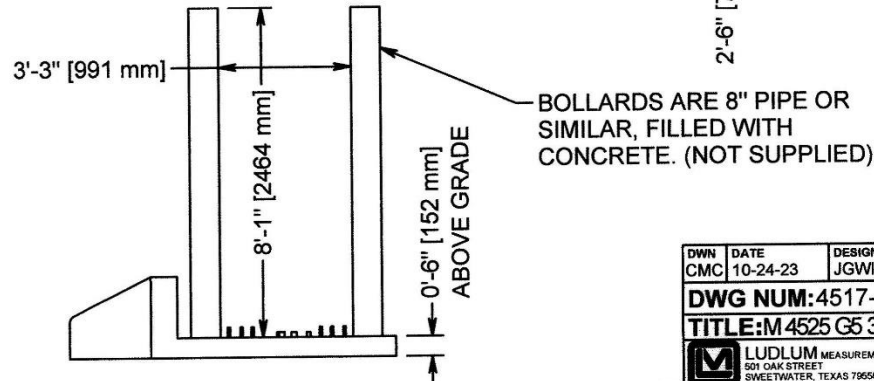
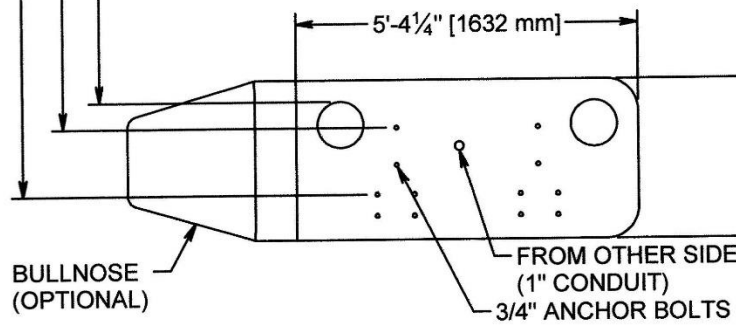
CONDUIT LAYOUT CAN BE SWAPPED. PAD WITH THREE CONDUITS IS CONTROL BOX SIDE.

SEE SHEETS 693, 693A, 693B

SEE SHEET 511X836(A) FOR CONCRETE AND ANCHOR BOLT DETAILS. TEMPLATE AVAILABLE, P/N 7511-449-01.

ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS.

NOTE: FOR EXCLUSIVE TRUCK OR RAIL USE, EVERYTHING SHOULD BE MOVED UP BY 18" AND ONLY TOP IR SENSORS USED.



DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP New	DATE 10-24-23
DWG NUM: 4517-693			SCALE: -	
TITLE: M 4525 G5 3 DETECTOR CONCRETE PLAN				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 693C	

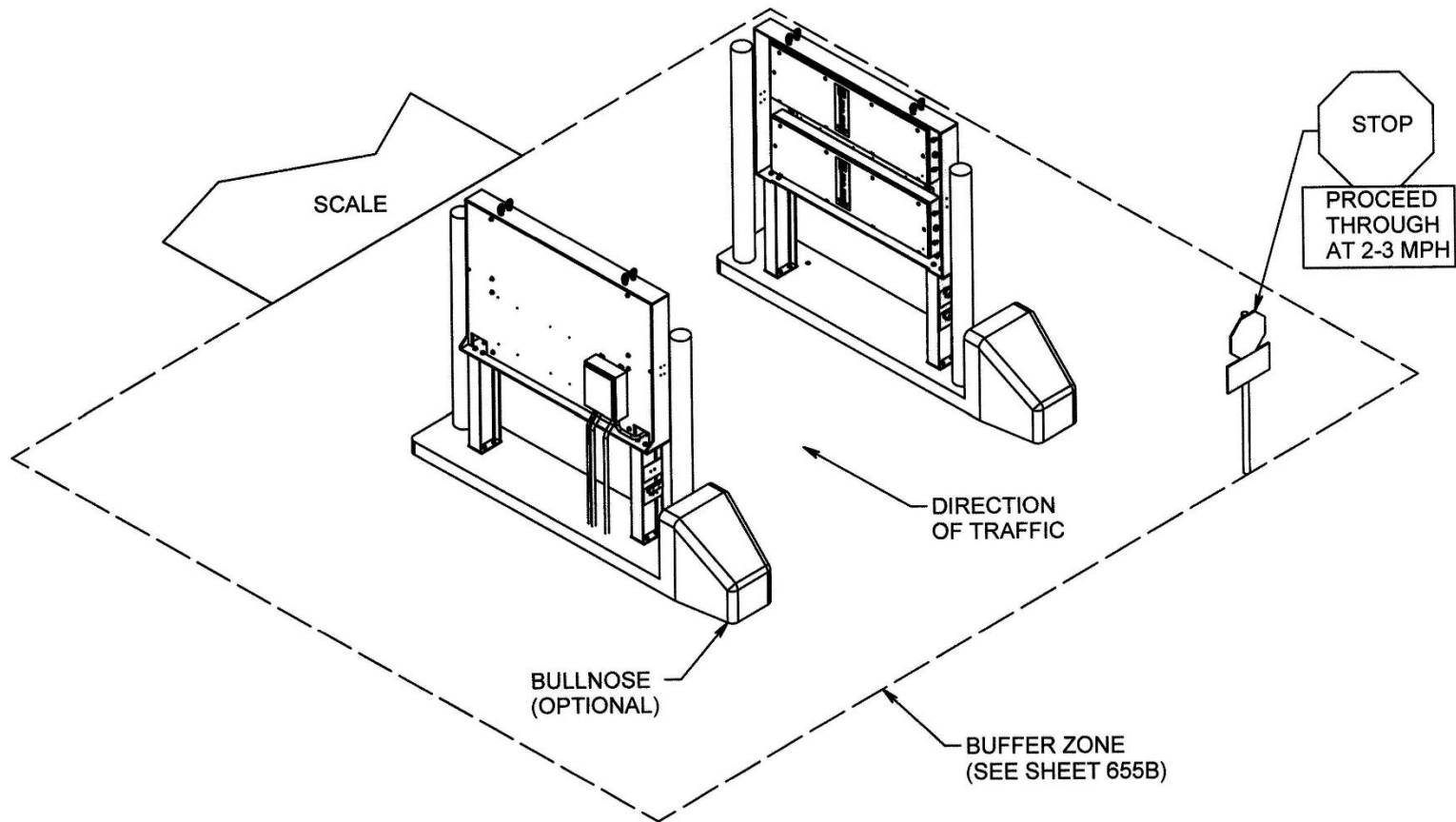
ALL DIMENSIONS ARE SUBJECT TO CHANGE
 DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 695A, 695B, 695D

SEE SHEET 695C FOR CONCRETE PLANS

REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	10-25-23	CMC

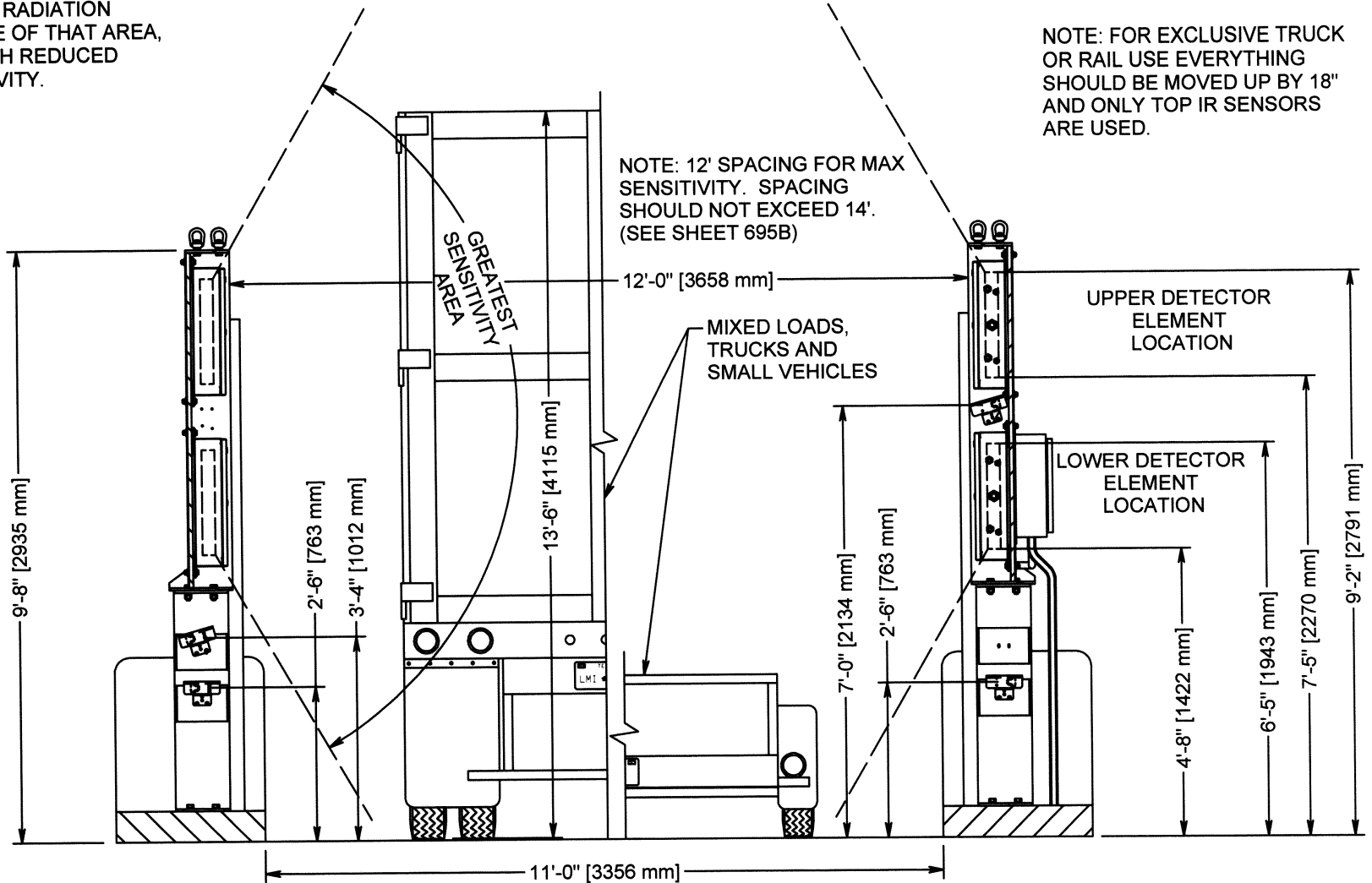


DWN CMC	DATE 10-25-23	DESIGN AUTHORITY JGWITT	APP JGW	DATE 10-25-23
DWG NUM: 4517-695			SCALE: -	
TITLE: M 4525 G5 4 DET HORIZ ISO VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 695	

* SENSITIVITY NOTE:
 AREA SHOWN IS THE
 GREATEST SENSITIVITY
 AREA. THE SYSTEM WILL
 DETECT RADIATION
 OUTSIDE OF THAT AREA,
 BUT WITH REDUCED
 SENSITIVITY.

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-25-23	CMC

NOTE: FOR EXCLUSIVE TRUCK
 OR RAIL USE EVERYTHING
 SHOULD BE MOVED UP BY 18"
 AND ONLY TOP IR SENSORS
 ARE USED.

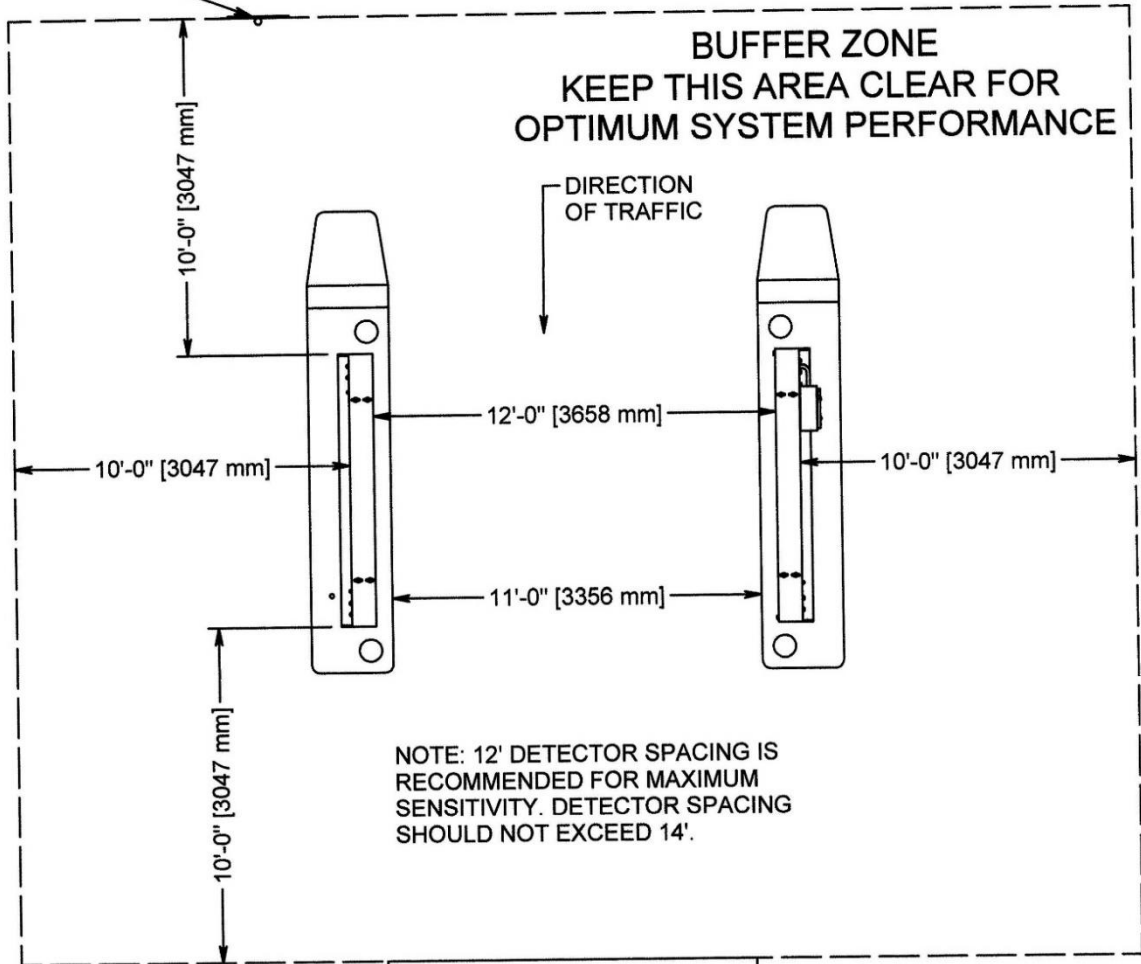


ALL DIMENSIONS ARE SUBJECT TO CHANGE
 DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 695, 695B, 695D. SEE SHEET 695C FOR CONCRETE PLANS

DWN CMC	DATE 10-25-23	DESIGN AUTHORITY JGWITT	APP New	DATE 10-26-23
DWG NUM: 4517-695			SCALE: -	
TITLE: M 4525 G5 4 DET HORIZ ELE				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 695A	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-25-23	CMC

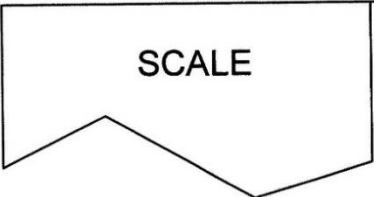


NOTE: 12' DETECTOR SPACING IS RECOMMENDED FOR MAXIMUM SENSITIVITY. DETECTOR SPACING SHOULD NOT EXCEED 14'.

ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS

SEE SHEETS 695, 695A, 695D

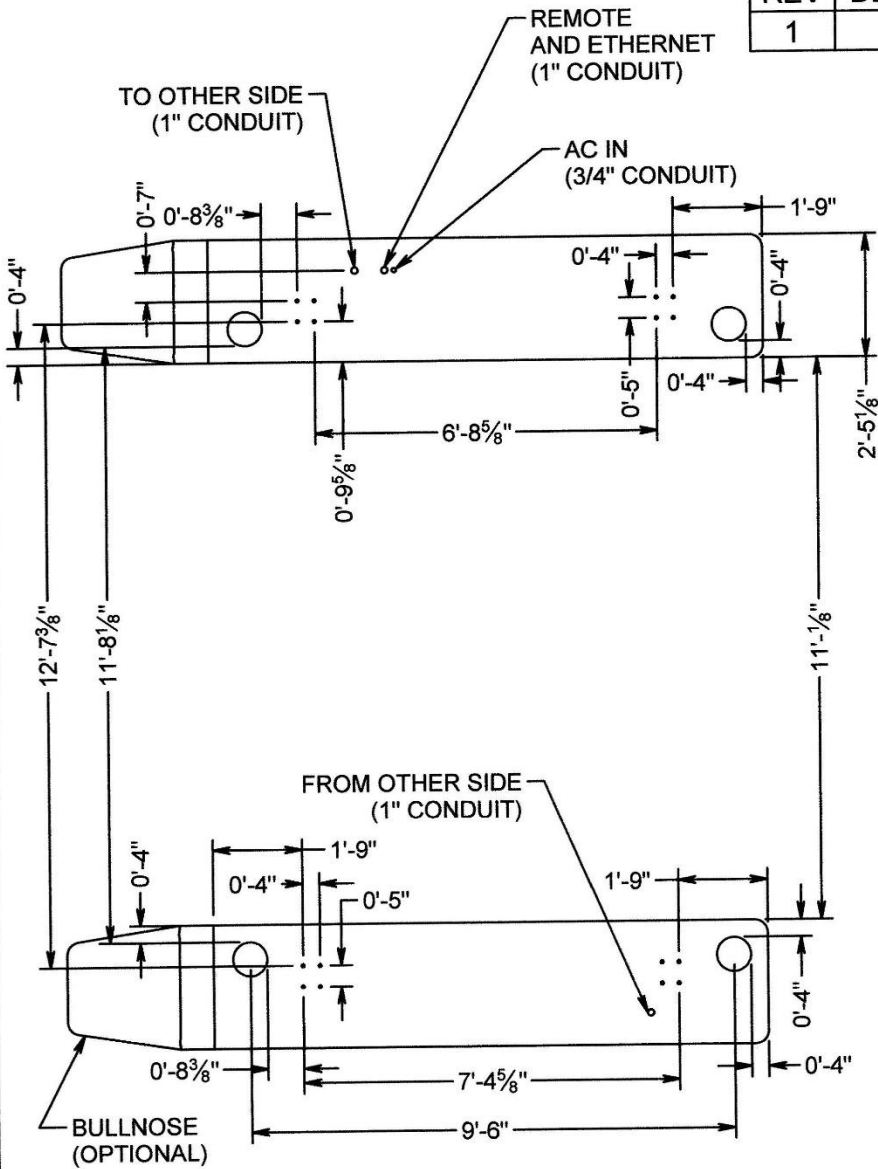
SEE SHEET 695C FOR CONCRETE PLANS



DWN	DATE	DESIGN AUTHORITY	APP	DATE
CMC	10-25-23	JWITT	<i>Now</i>	<i>10-25-23</i>
DWG NUM: 4517-695			SCALE: --	
TITLE: M 4525 G5 4 DET AERIAL VIEW				
LUDLUM MEASUREMENTS, INC. 301 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 695B	

REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	10-25-23	CMC



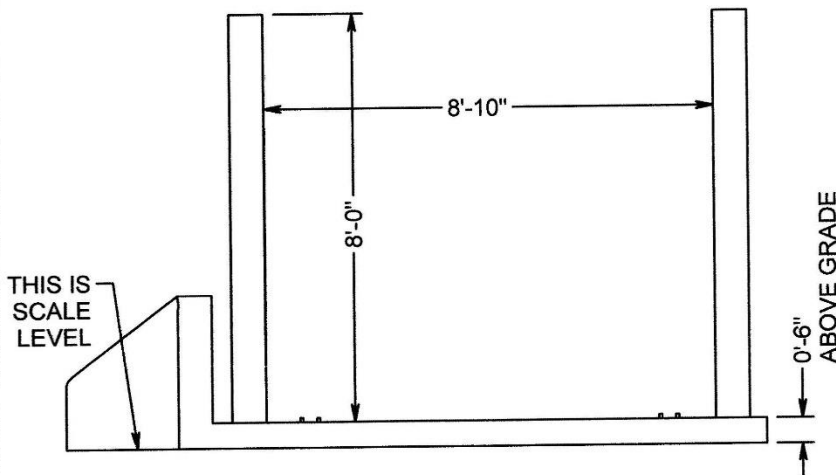
SEE SHEET 511X836(A) FOR CONCRETE AND ANCHOR BOLT DETAILS. TEMPLATE AVAILABLE, P/N 7384-882-01.

BOLLARDS ARE 8" PIPE OR SIMILAR, FILLED WITH CONCRETE. (NOT SUPPLIED)

ALL DIMENSIONS ARE SUBJECT TO CHANGE DEPENDING ON SITE REQUIREMENTS.

NOTE: FOR EXCLUSIVE TRUCK OR RAIL USE, EVERYTHING SHOULD BE MOVED UP BY 18" AND ONLY TOP IR SENSORS USED.

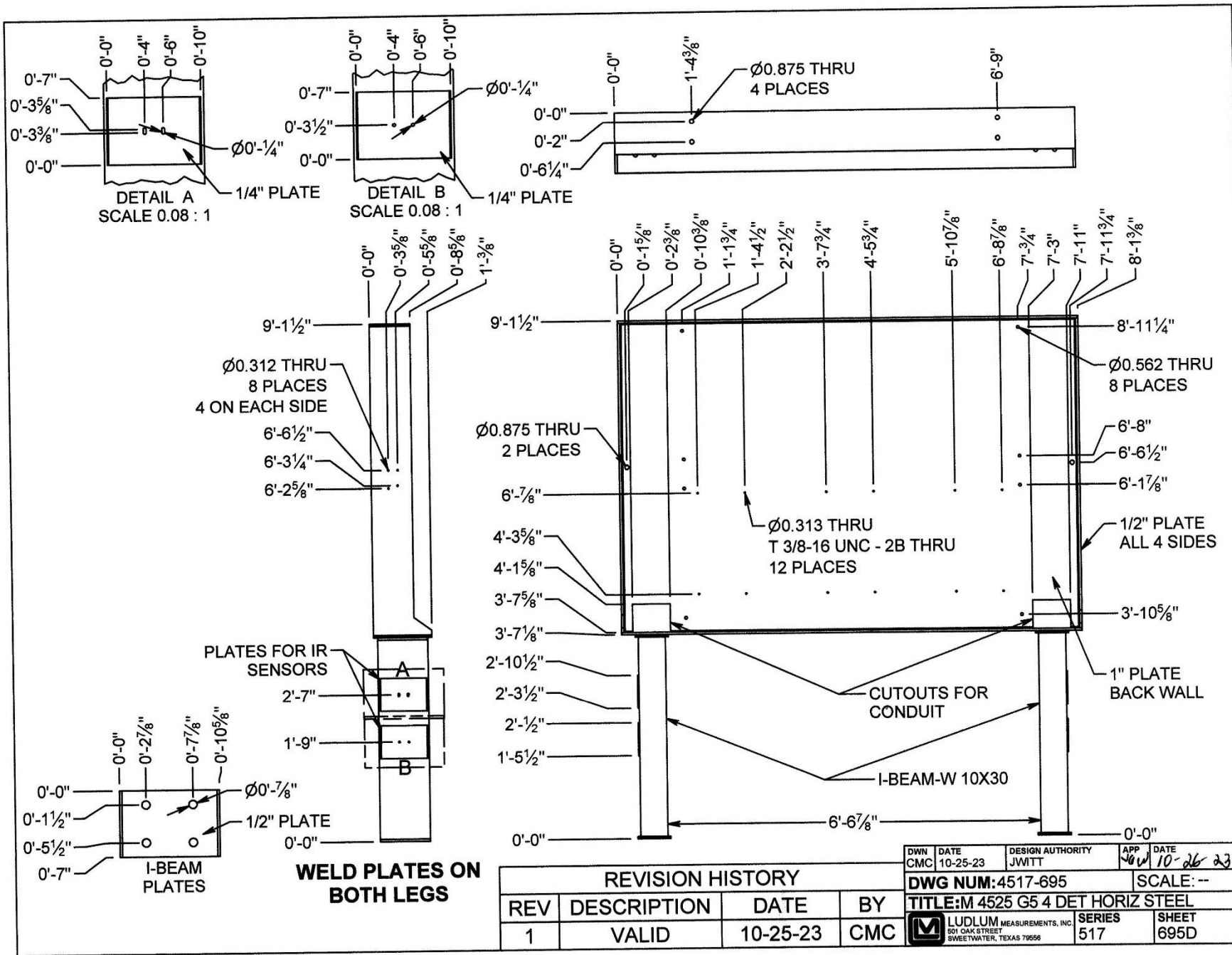
SEE SHEETS 695, 695A, 695B, 695D



THIS IS SCALE LEVEL

0'-6" ABOVE GRADE

DWN CMC	DATE 10-25-23	DESIGN AUTHORITY JGWITT	APP J6W	DATE 10-25-23
DWG NUM: 4517-695			SCALE: --	
TITLE: M 4525 G5 4 DET HORIZ CONCRETE				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 695C	



DWN		DATE	DESIGN AUTHORITY	APP	DATE
CMC		10-25-23	JVWITT	JW	10-26-23
DWG NUM: 4517-695				SCALE: --	
TITLE: M 4525 G5 4 DET HORIZ STEEL					
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556				SERIES	SHEET
1				517	695D

REVISION HISTORY				
REV	DESCRIPTION	DATE	BY	
1	VALID	10-25-23	CMC	

ALL DIMENSIONS ARE SUBJECT TO CHANGE
 DEPENDING ON SITE REQUIREMENTS

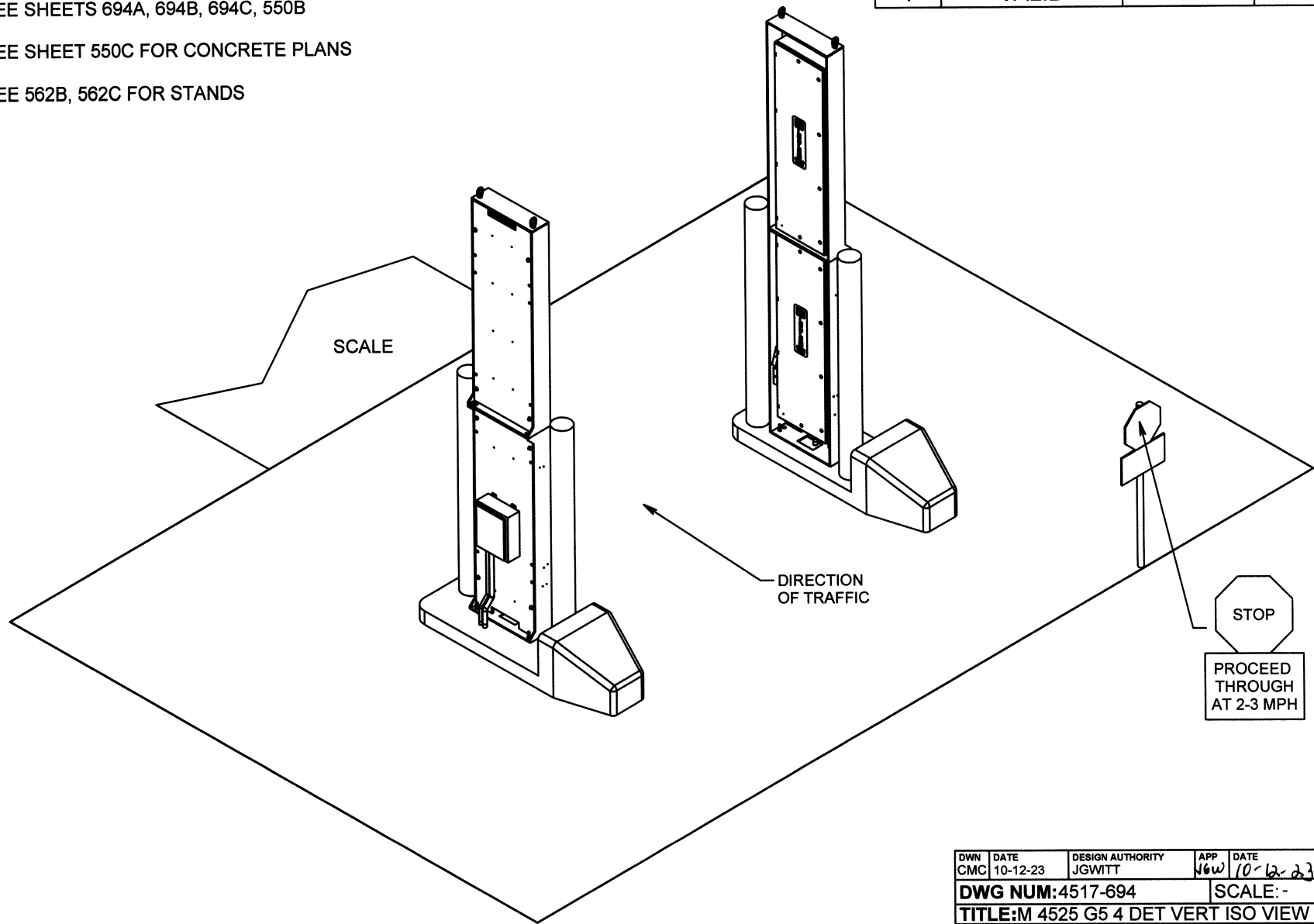
SEE SHEETS 694A, 694B, 694C, 550B

SEE SHEET 550C FOR CONCRETE PLANS

SEE 562B, 562C FOR STANDS

REVISION HISTORY

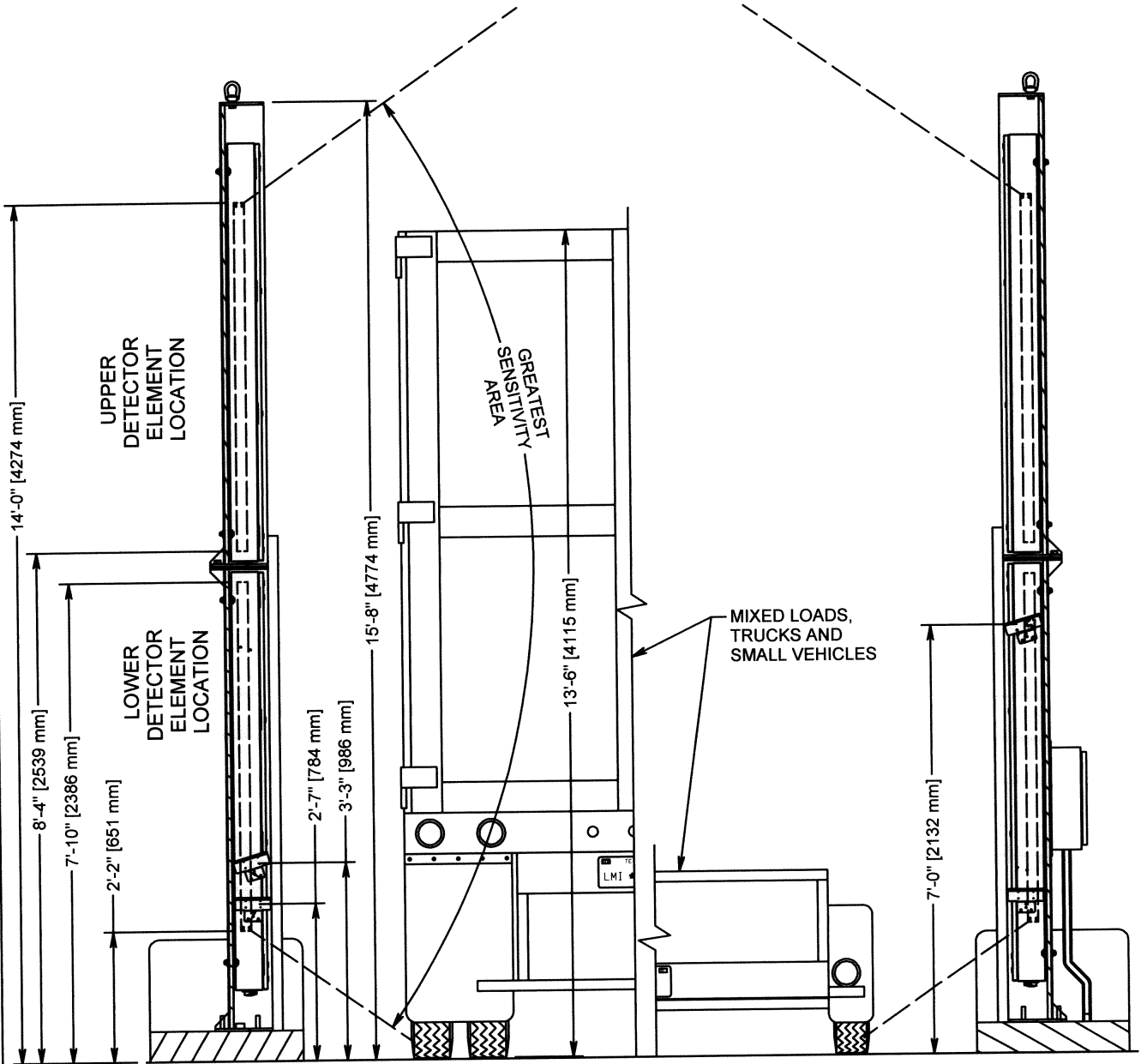
REV	DESCRIPTION	DATE	BY
1	VALID	10-12-23	CMC



DWN CMC	DATE 10-12-23	DESIGN AUTHORITY JGWITT	APP JGW	DATE 10-12-23
DWG NUM: 4517-694			SCALE: -	
TITLE: M 4525 G5 4 DET VERT ISO VIEW				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 694	

* SENSITIVITY NOTE:
 AREA SHOWN IS THE
 GREATEST SENSITIVITY
 AREA. THE SYSTEM WILL
 DETECT RADIATION
 OUTSIDE OF THAT AREA,
 BUT WITH REDUCED
 SENSITIVITY.

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	10-24-23	CMC



NOTE: 12' SPACING FOR
 MAX SENSITIVITY.
 SPACING SHOULD
 NOT EXCEED 14'.
 (SEE SHEET 550B)

ALL DIMENSIONS ARE SUBJECT TO
 CHANGE DEPENDING ON SITE
 REQUIREMENTS

SEE SHEETS 694, 692B

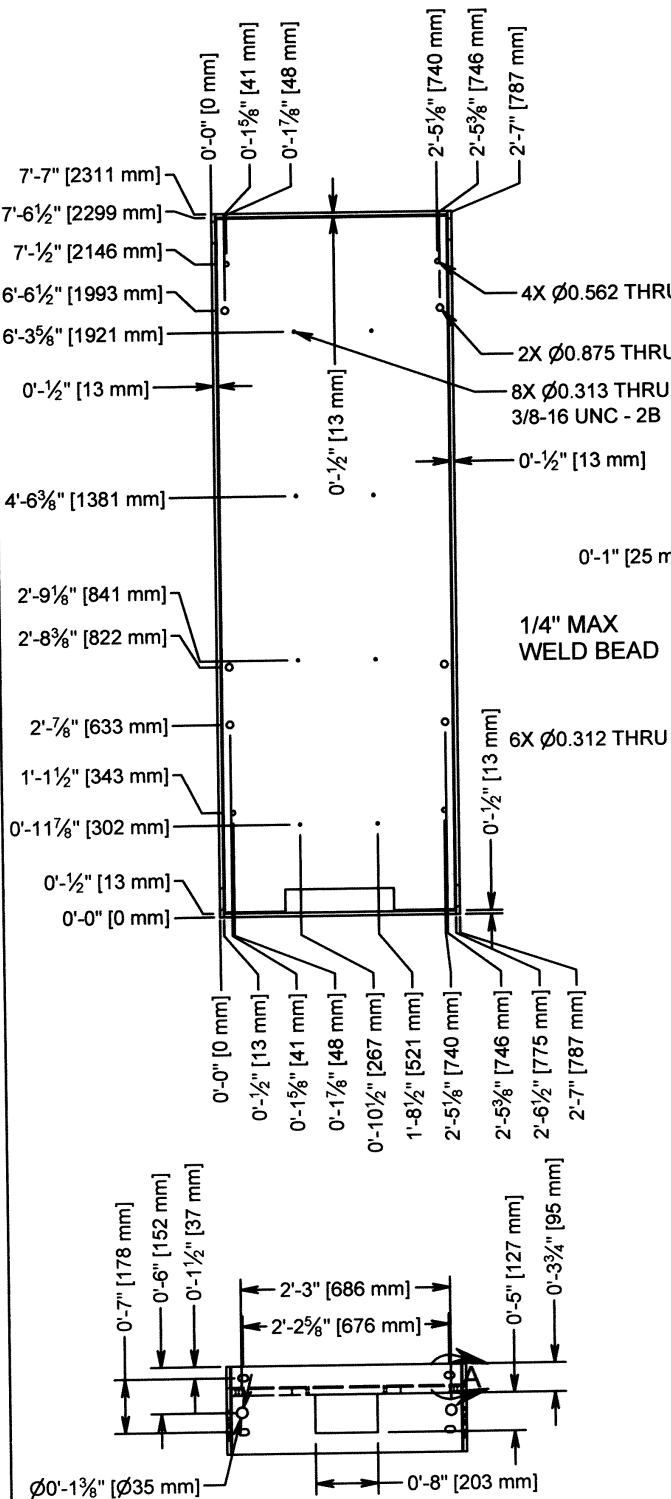
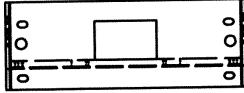
SEE 692C FOR CONCRETE PLANS

SEE 562B, 562C FOR STANDS

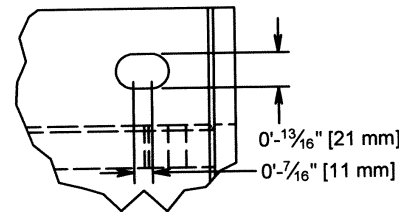
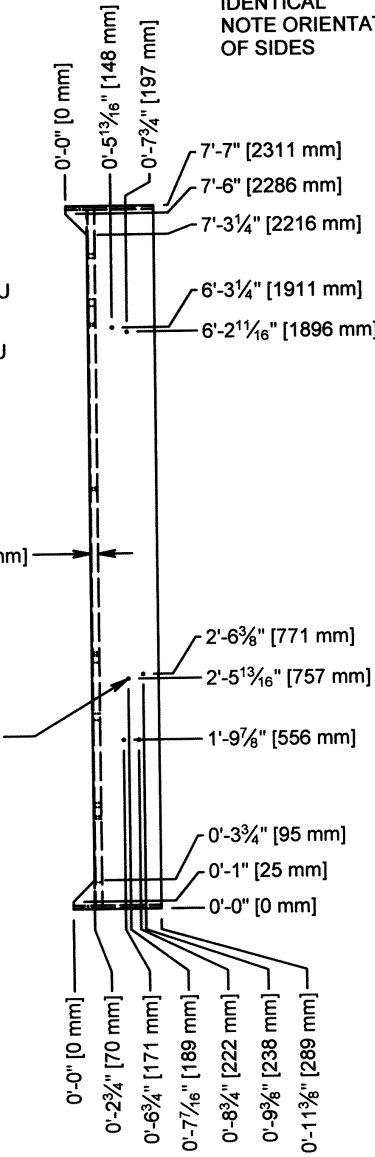
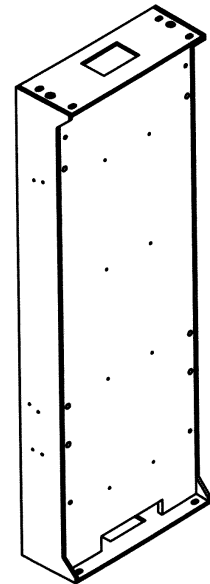
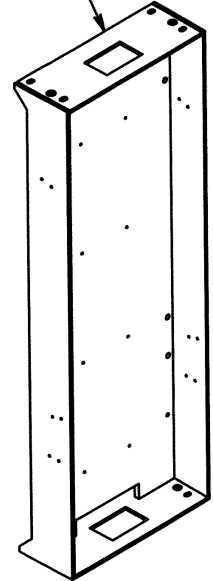
DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP New	DATE 10-24-23
DWG NUM: 4517-694			SCALE: -	
TITLE: M 4525 G5 4 DET VERT DET ELEV				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 694A	

REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	3-27-23	JGW



TOP AND BOTTOM IDENTICAL
NOTE ORIENTATION OF SIDES

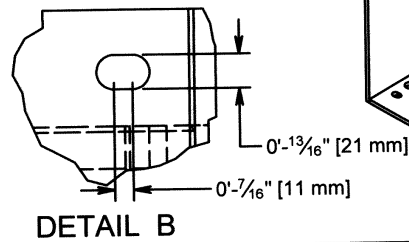
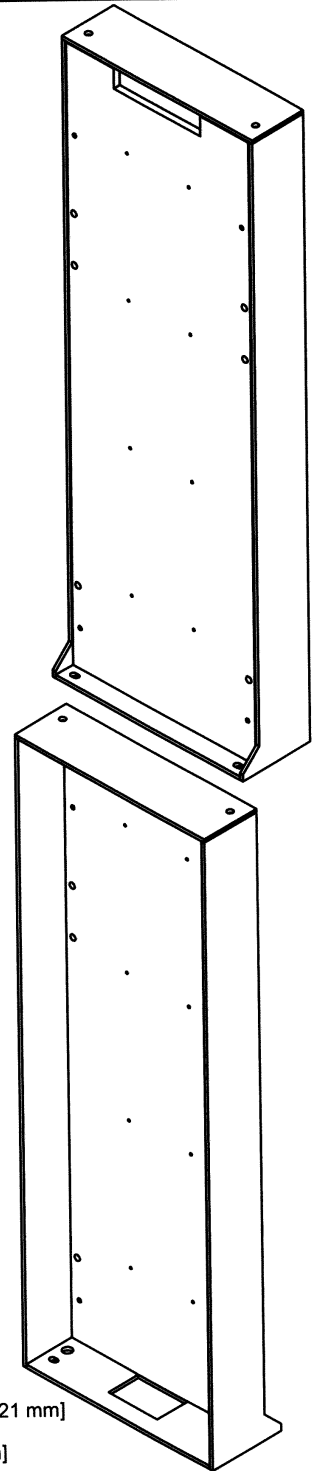
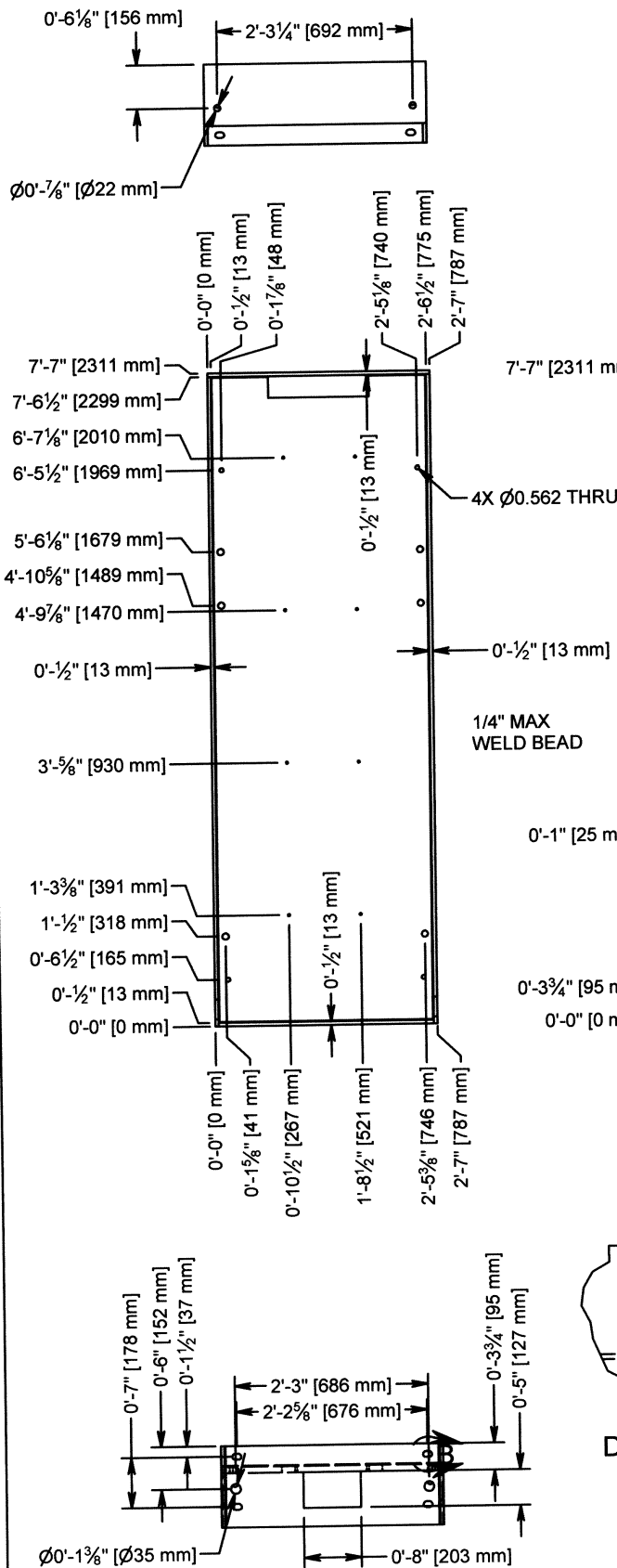


DETAIL A

DWN CMC	DATE 10-24-23	DESIGN AUTHORITY JGWITT	APP JGW	DATE 10-24-23
DWG NUM: 4517-562			SCALE: -	
TITLE: M 4530-8400 VERT LOWER STAND				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79656			SERIES 517	SHEET 562B

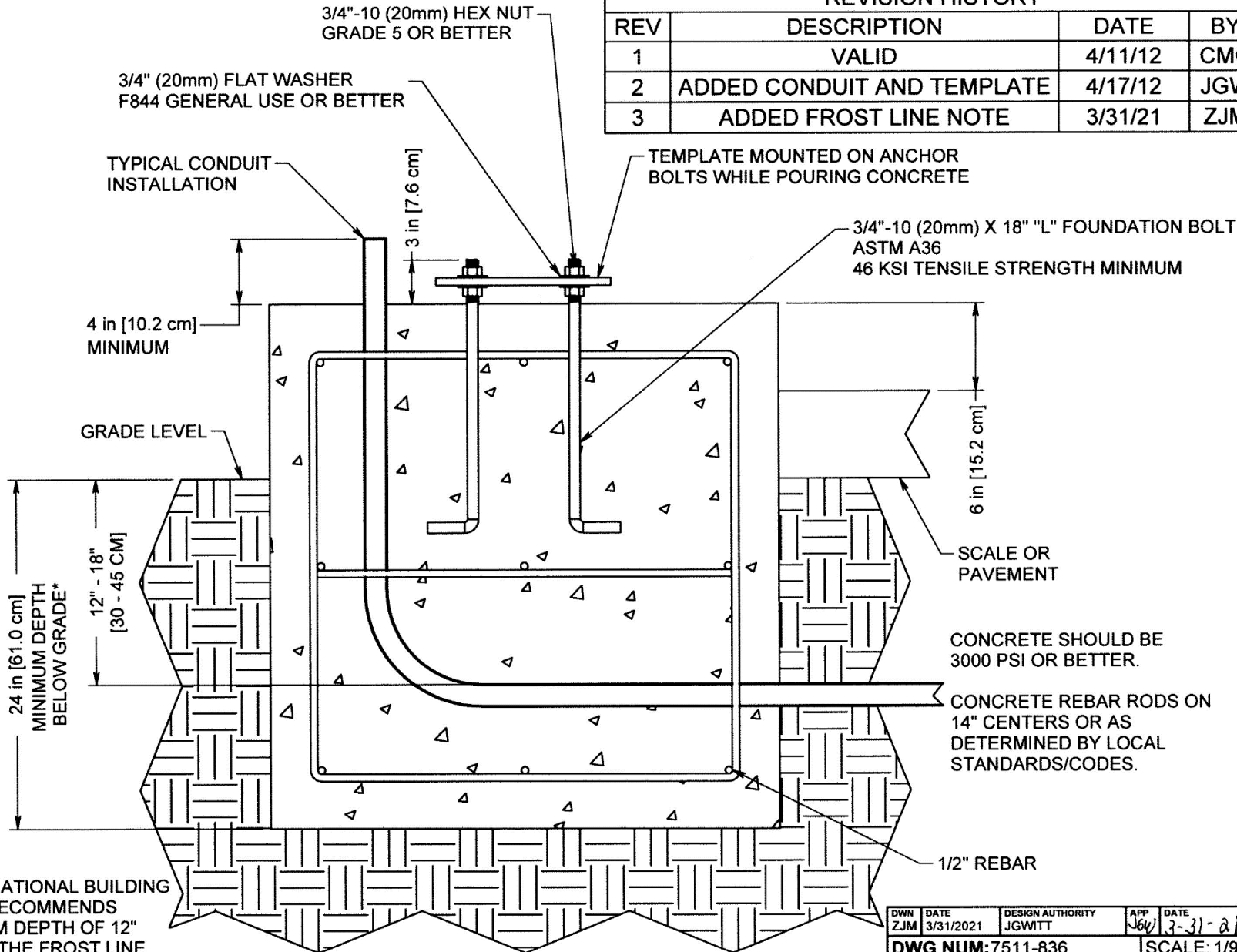
REVISION HISTORY

REV	DESCRIPTION	DATE	BY
1	VALID	3-27-23	JGW



DWN	DATE	DESIGN AUTHORITY	APP	DATE
JGW	04-10-23	JGWITT	16W	10-24-23
DWG NUM: 4517-562			SCALE: -	
TITLE: M 4530-8400 VERT UPPER STAND				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 517	SHEET 562C	

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	4/11/12	CMC
2	ADDED CONDUIT AND TEMPLATE	4/17/12	JGW
3	ADDED FROST LINE NOTE	3/31/21	ZJM

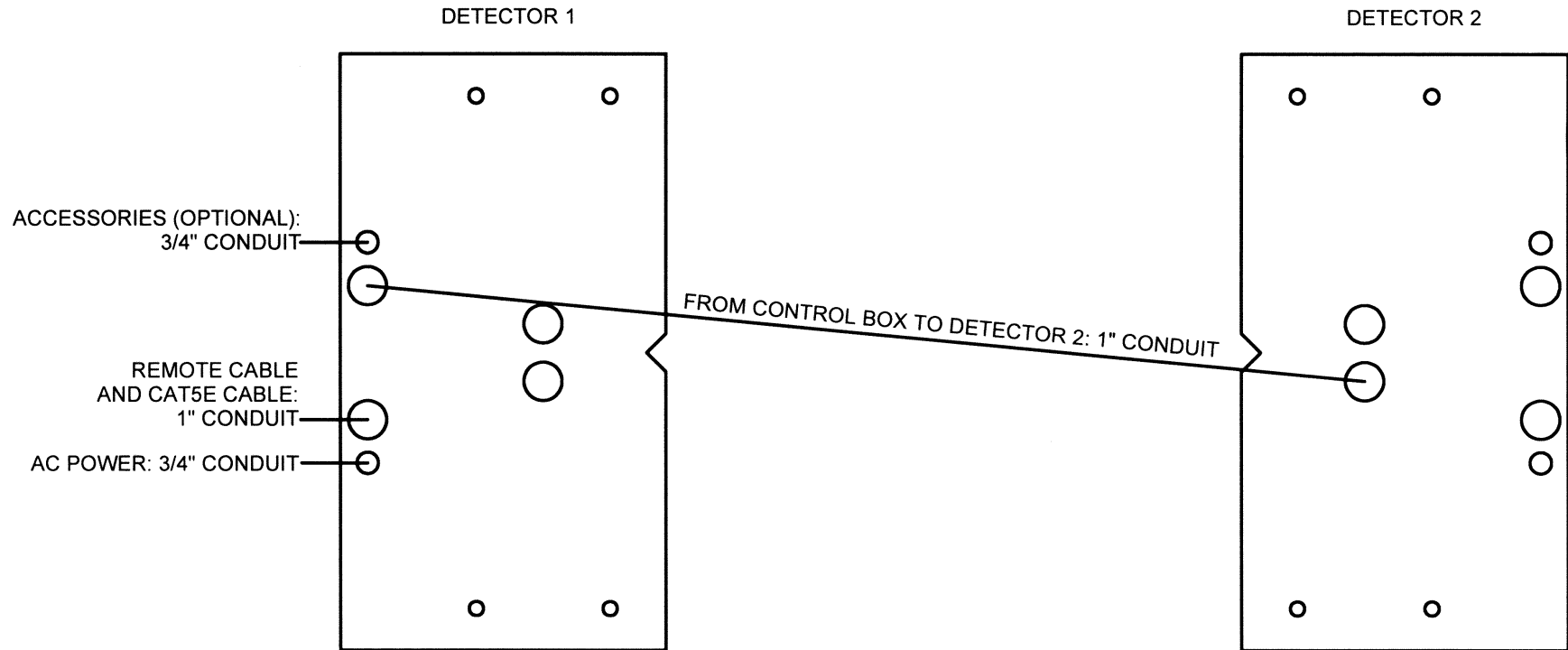



*INTERNATIONAL BUILDING CODE RECOMMENDS MINIMUM DEPTH OF 12" BELOW THE FROST LINE

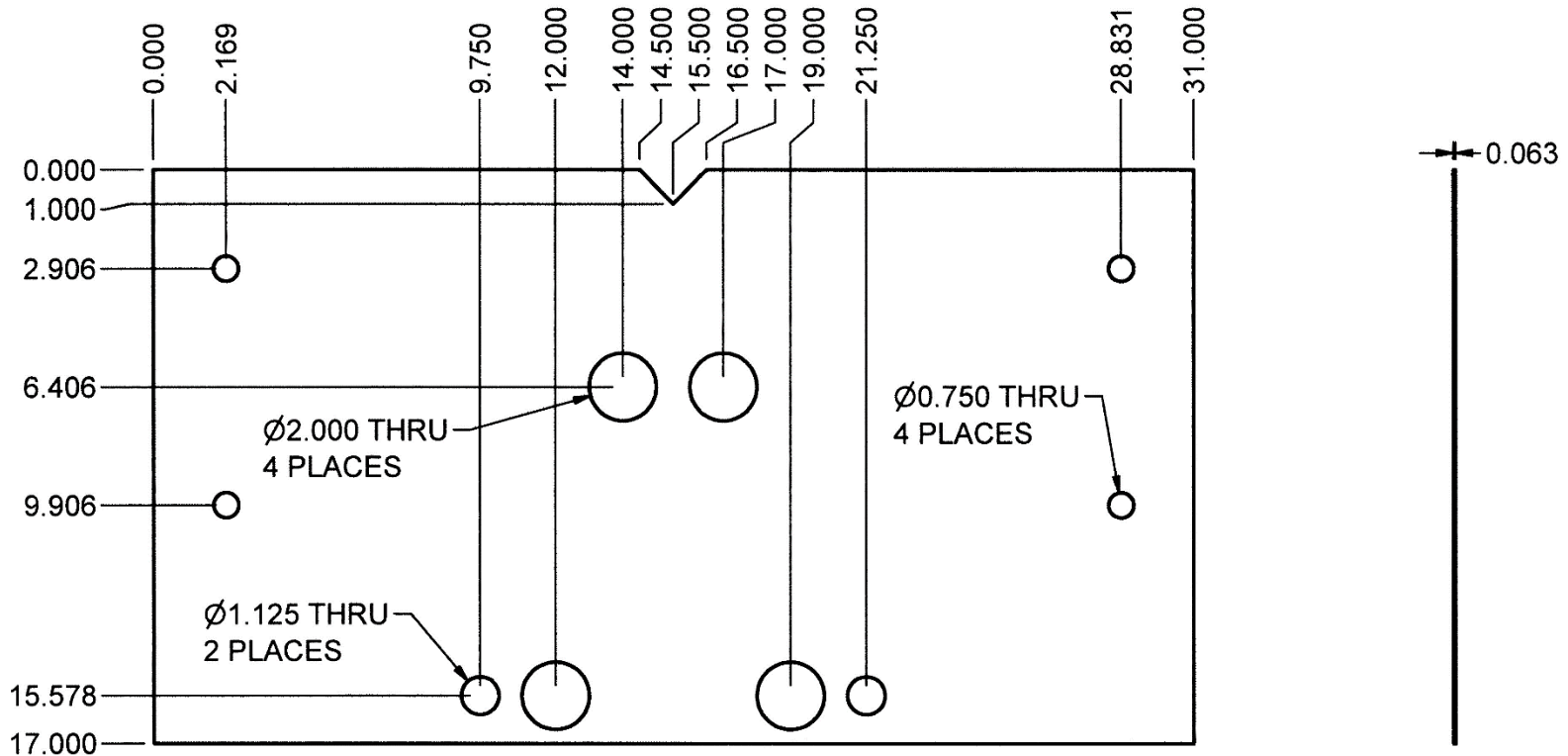
DWN	DATE	DESIGN AUTHORITY	APP	DATE
ZJM	3/31/2021	JGWITT	JGW	3-31-21
DWG NUM: 7511-836			SCALE: 1/9	
TITLE: M 4525 ANCHOR BOLT & CONCRETE				
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES 511	SHEET 836	

CONDUIT LAYOUT CAN BE SWAPPED.
 PAD WITH THREE CONDUITS GOES TO
 SCALE HOUSE SIDE (DETECTOR 1).

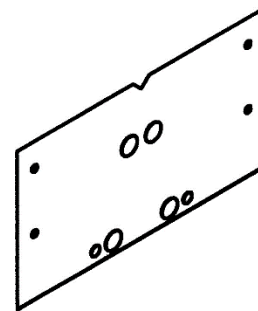
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	ROH	05-23-23	ROH



DWN	DATE	DESIGN AUTHORITY	APP	DATE
ROH	05-30-23	JGWITT	Now	6-5-23
DWG NUM: 7517-677				SCALE: -
TITLE: M 4525 CONDUIT TEMPLATE GUIDE				
 LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556		SERIES	SHEET	
		517	677	



DO NOT SAND

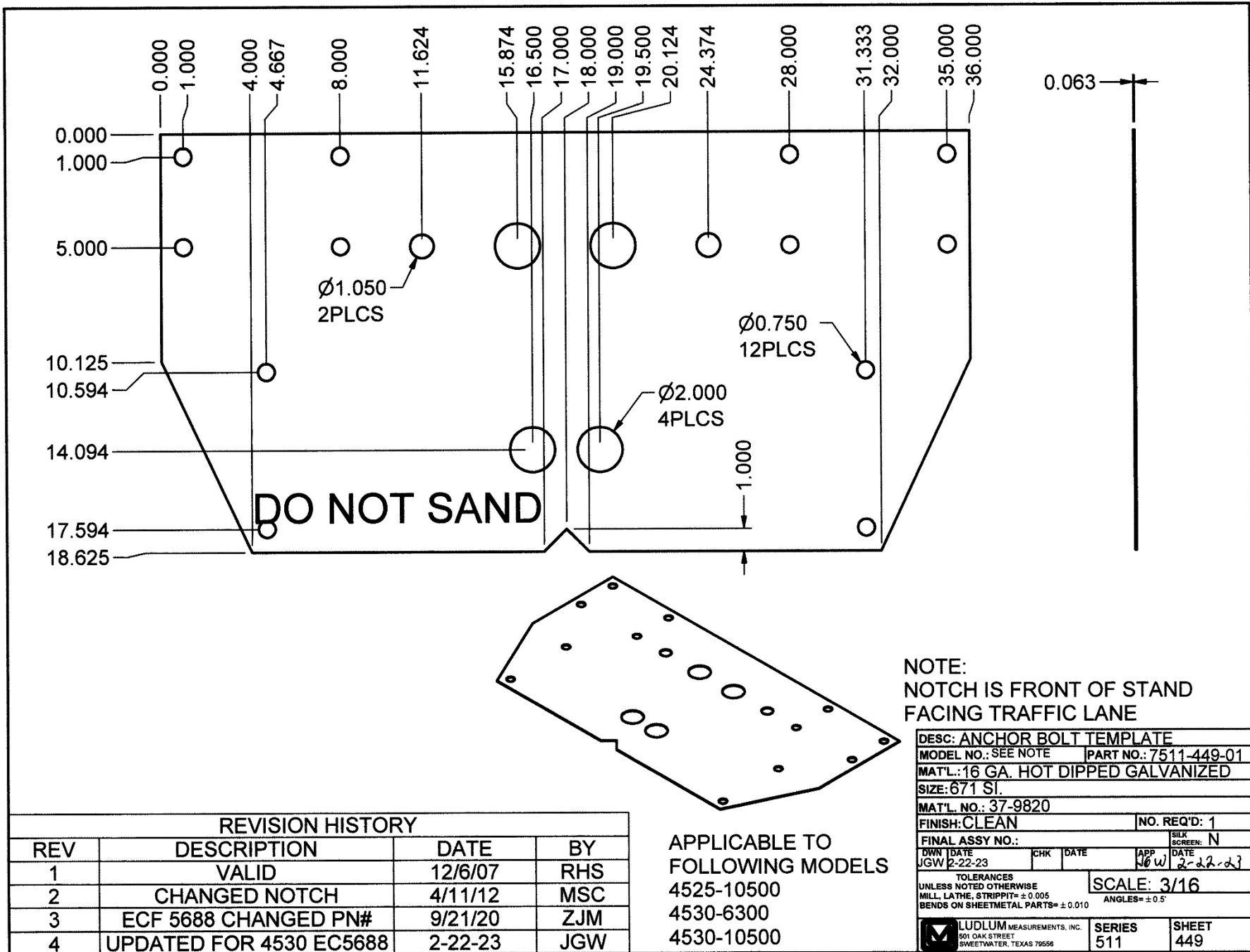


NOTE:
NOTCH IS FRONT OF STAND
FACING TRAFFIC LANE.

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	3-28-08	JGW
2	ECF 5688 CHANED PN#	9-21-20	ZJM
3	UPDATED FOR 4530 EC5688	2-22-23	JGW

APPLICABLE TO
FOLLOWING MODELS
4525-7000
4530-4200, 8400, 7000,
14000

DESC: ANCHOR BOLT TEMPLATE			
MODEL NO.: SEE NOTE		PART NO.: 7511-461-01	
MAT'L.: 16 GA HOT DIPPED GALVANIZED			
MAT'L. NO.: 37-9820		SIZE: 527 SI	
SAND CLASS: 6	PAINT CLASS:	COVERAGE CLASS:	
FINISH: CLEAN, DON'T SAND NO. REQ'D: 2			
FINAL ASSY NO.:			SILK SCREEN: N
OWN DATE	CHK	DATE	APP DATE
JGW		4-19-23	JGW 4-19-23
TOLERANCES UNLESS NOTED OTHERWISE		SCALE: 1/5	
MILL, LATHE, SHEETMETAL = ± 0.005		ANGLES = ± 0.5°	
BENDS ON SHEETMETAL PARTS = ± 0.010		ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE	
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79566		SERIES 511	SHEET 461



DO NOT SAND

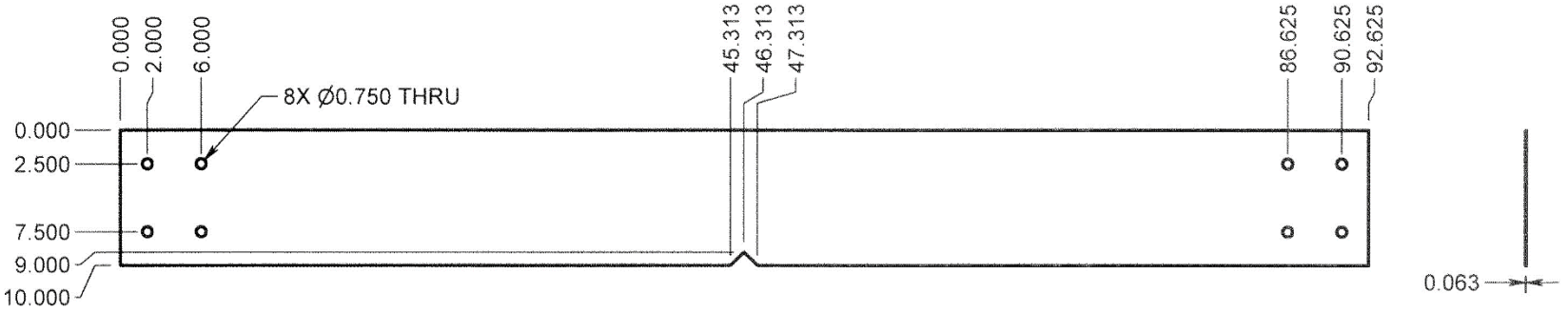
NOTE:
NOTCH IS FRONT OF STAND
FACING TRAFFIC LANE

DESC: ANCHOR BOLT TEMPLATE			
MODEL NO.: SEE NOTE		PART NO.: 7511-449-01	
MAT'L.: 16 GA. HOT DIPPED GALVANIZED			
SIZE: 671 SI.			
MAT'L. NO.: 37-9820			
FINISH: CLEAN			NO. REQ'D: 1
FINAL ASSY NO.:		SILK SCREEN: N	
TOWN DATE	CHK	DATE	APP DATE
JGW 2-22-23			JW 2-22-23
TOLERANCES UNLESS NOTED OTHERWISE MILL, LATHE, STRIPPIT [®] ± 0.005 BENDS ON SHEETMETAL PARTS ± 0.010			SCALE: 3/16 ANGLES ± 0.5°
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 75696		SERIES 511	SHEET 449

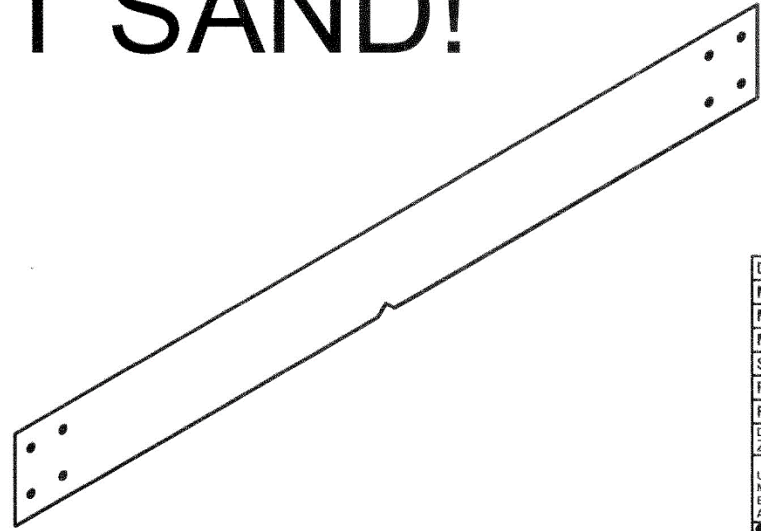
REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	12/6/07	RHS
2	CHANGED NOTCH	4/11/12	MSC
3	ECF 5688 CHANGED PN#	9/21/20	ZJM
4	UPDATED FOR 4530 EC5688	2-22-23	JGW

APPLICABLE TO
FOLLOWING MODELS
4525-10500
4530-6300
4530-10500

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
1	VALID	2-7-05	CMC
2	ECF 5688 CHANGED PN#	9-21-20	ZJM



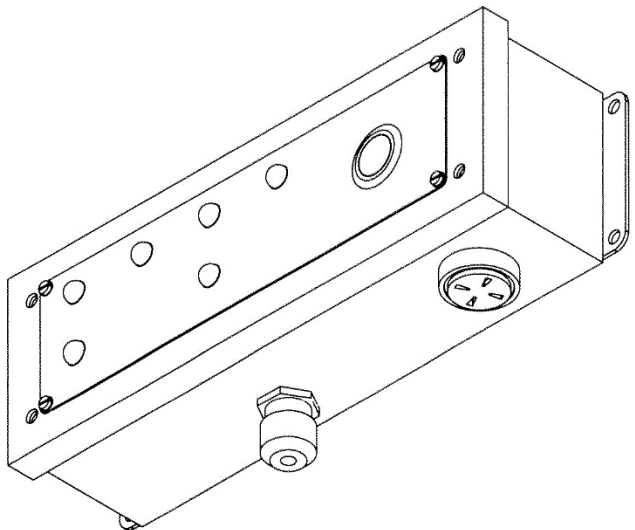
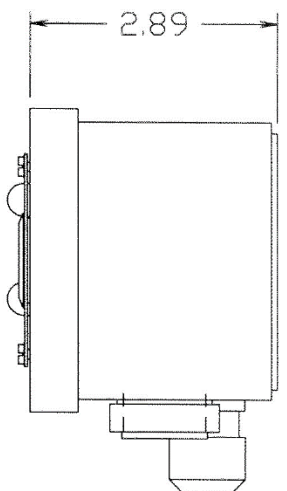
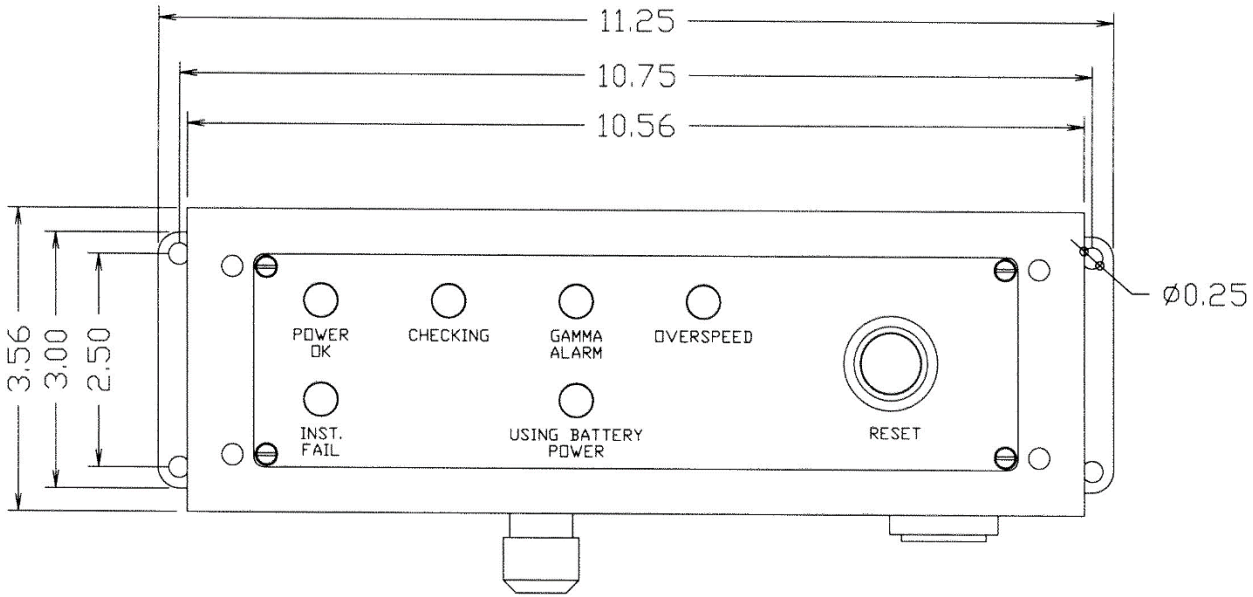
DO NOT SAND!



NOTE:
NOTCH IS FRONT
OF STAND FACING
TRAFFIC LANE.

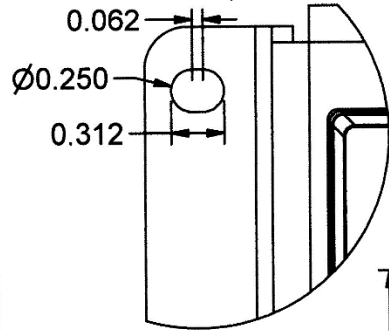
DESC: ANCHOR BOLT TEMPLATE			
MODEL NO.: 4525-14K		PART NO.: 7384-882-01	
MAT'L.: 16 GA HOT DIPPED GALVANIZED			
MAT'L. NO.: 37-9820		SIZE: 927 SI	
SAND CLASS: --		PAINT CLASS: --	
FINISH: CLEAN, DON'T SAND		COVERAGE CLASS: --	
FINAL ASSY NO.: --		NO. REQ'D: 1	
DWN	DATE	DESIGN AUTHORITY	APP
ZJM	9/21/2020	JGWITT	JGW
TOLERANCES:		SCALE: 1/12	
UNLESS NOTED OTHERWISE			
MILL, LATHE, SHEETMETAL = ± 0.005			
BENDS ON SHEETMETAL PARTS = ± 0.010 ANGLES = ± 1.0°			
ALL DIMENSIONS IN INCHES UNLESS NOTED OTHERWISE			
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 75056		SERIES	SHEET
		384	882

REV #	ALTERATIONS	DATE	BY
1	VALID	01-04-05	CLW



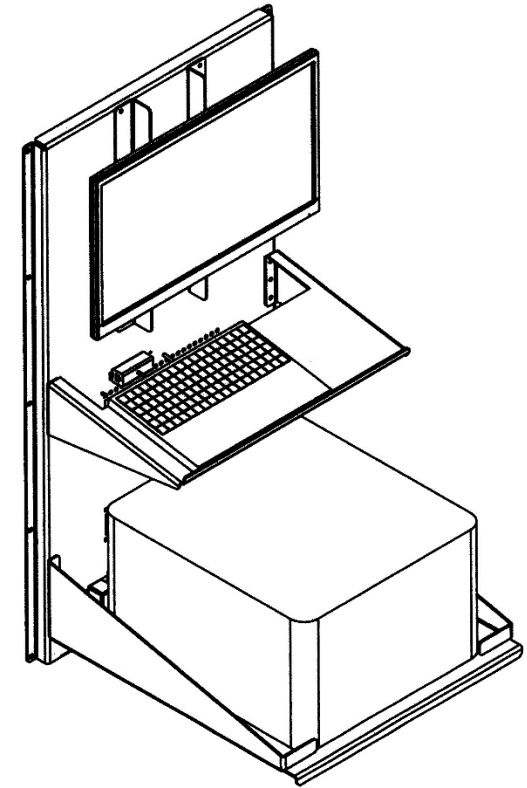
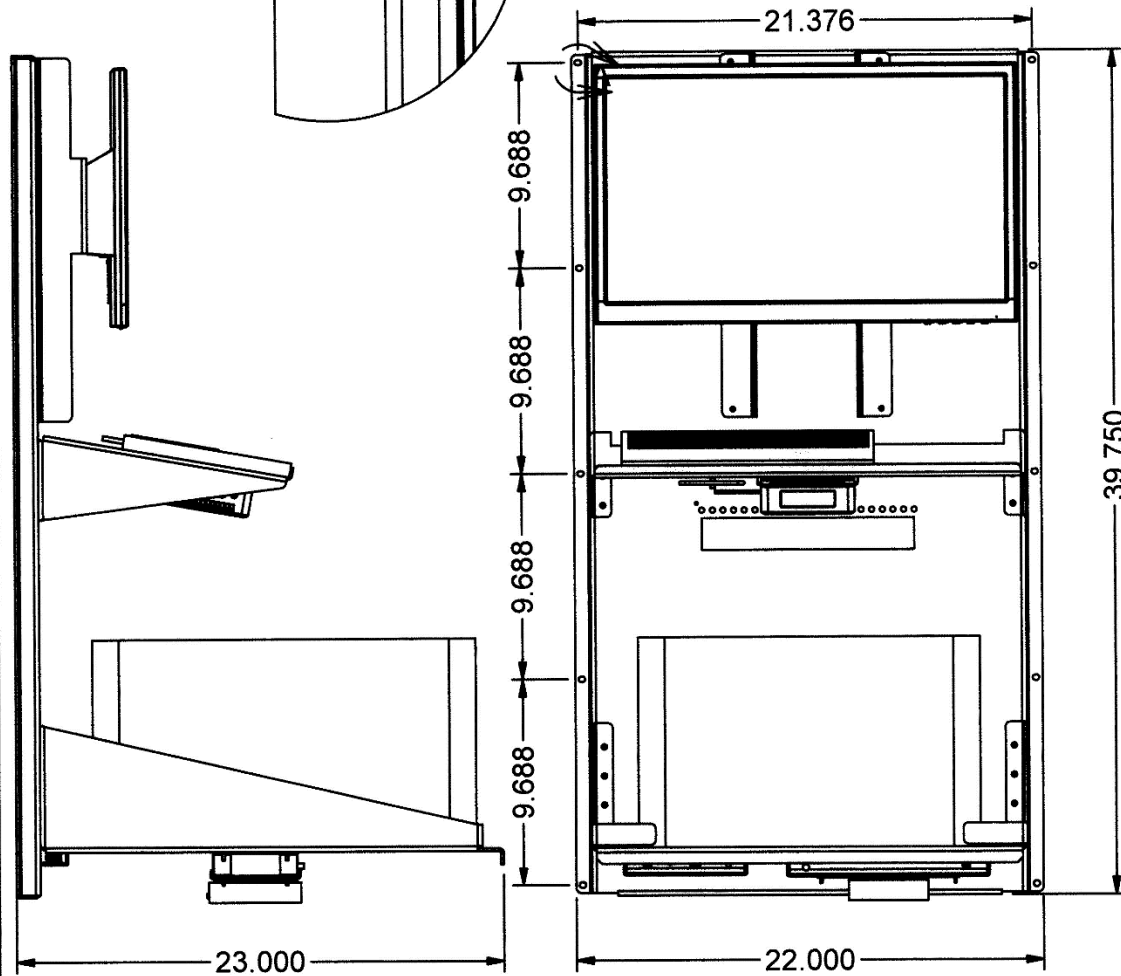
DWN	DATE	CHK	DATE	APP	DATE
CLW	01-04-05			CLW	1-4-05
DWG NUM: 4511-207			SCALE: FULL <input type="checkbox"/> OTHER <input type="checkbox"/>		
TITLE M 4525 REMOTE					
LUDLUM MEASUREMENTS, INC. 301 OAK STREET SWEETWATER, TEXAS 79556			SERIES	SHEET	
			S11	207A	

TYPICAL MOUNT
SLOT (10 PLACES)



DETAIL A
SCALE 1:1

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
7	ECF# 2700	10-25-19	CMC
8	PLANAR MONITOR EC2700	10-30-19	JGW
9	UPDATED COMPUTER PART NUMBER	11-5-19	CMC
10	ECF# 2700	6-29-21	CMC
11	EC# 5970	7-23-21	CMC



DWN	DATE	CHK	DATE	APP	DATE
CMC	7-23-21			JGW	7-23-21
DWG NUM: 4396-850				SCALE: 1/8	
TITLE M 4525 COMPUTER ASSEMBLY					
LUDLUM MEASUREMENTS, INC. 501 OAK STREET SWEETWATER, TEXAS 79556			SERIES 396	SHEET 850	