EPA OTM 33A Appendix B
GMAP-REQ-DA Mast System Mechanical Drawings and Wiring Schematics

By

EPA Office of Research and Development
National Risk Management Research Laboratory
Atmospheric Pollution Prevention and Control Division
Durham NC, 27711
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Contents

1. GMAP-REQ-DA Mast Systems mechanical drawings 3

1.1 Mast system assembly drawing 4

1.2 Lower mount base plate 5

1.3 Hinge block 6

1.4 Hinge plate 7

1.5 Hinge and lower mount hardware 8

1.6 Base socket 9

1.7 Mast pivot 10

1.8 Mast connector 11

1.9 Survey mount plate 12

1.10 Survey mount body 13

1.11 Compass mount 14

1.12 Lower sight clamp 15

1.13 Upper sight clamp 16

1.14 Survey key 17

1.15 Mast top cap 18

1.16 Instrument crossbar 19

1.17 Lower mast section 20

1.18 Center mast section 21

1.19 Upper mast section 22

1.20 Mount base 23

1.21 Lower assembly 24

1.22 Center assembly 25

1.23 Survey mount assembly 26

1.24 Upper assembly 27

1.25 Sample probe 28

2. Control System Wiring Schematics for GMAP-REQ Systems 29

2.1 System connection overview for EPA NEIC unit 29

2.2 Equipment interface connections for EPA NEIC unit 30

2.3 Mast interface connections for EPA NEIC unit 31

2.4 System power connections for EPA NEIC unit 32

2.5 Mast system connections for EPA R5 unit 33

Introduction

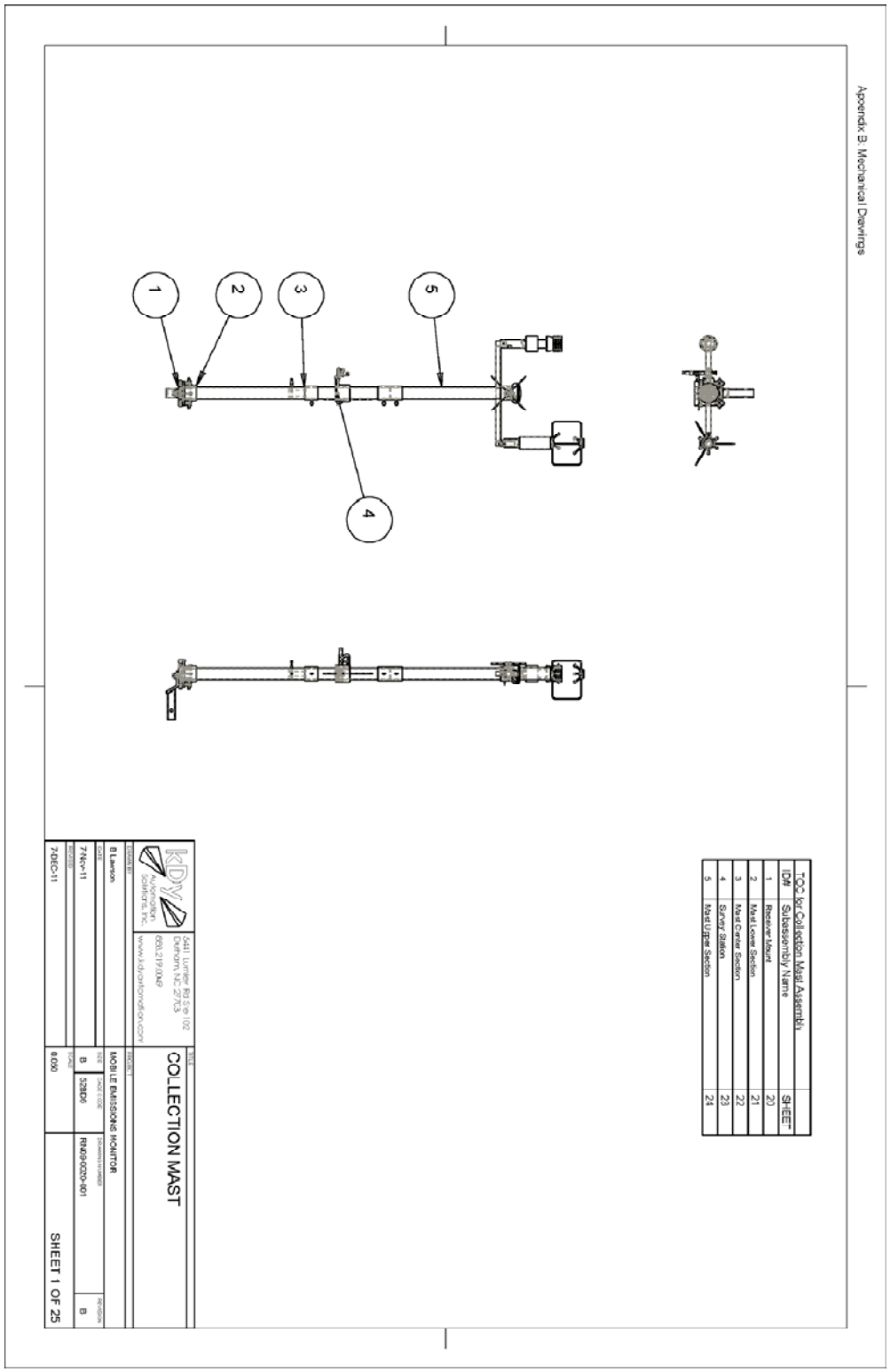
The following appendix contains GMAP-REQ-DA mechanical system drawings for a vehicle-mounted mast system along with basic wiring control schematics for a GMAP system. These mast and control system examples have been deployed on several EPA-developed GMAP systems.

General Disclaimer: The engineering and equipment descriptions contained here are illustrative and do not constitute OTM 33A method requirements. Mention of trade names or commercial products does not constitute endorsement or recommendation for use. The equipment designs and software published in this method and appendices are for informational purposes only. Adoption and or modification of the EPA GMAP engineering designs, software, or protocols are the sole responsibility of the user. Deployment and safe-use of this method, engineering examples, or variations thereof is the sole responsibility of the user. No engineering or software design performance or safe use guarantees are given or implied.

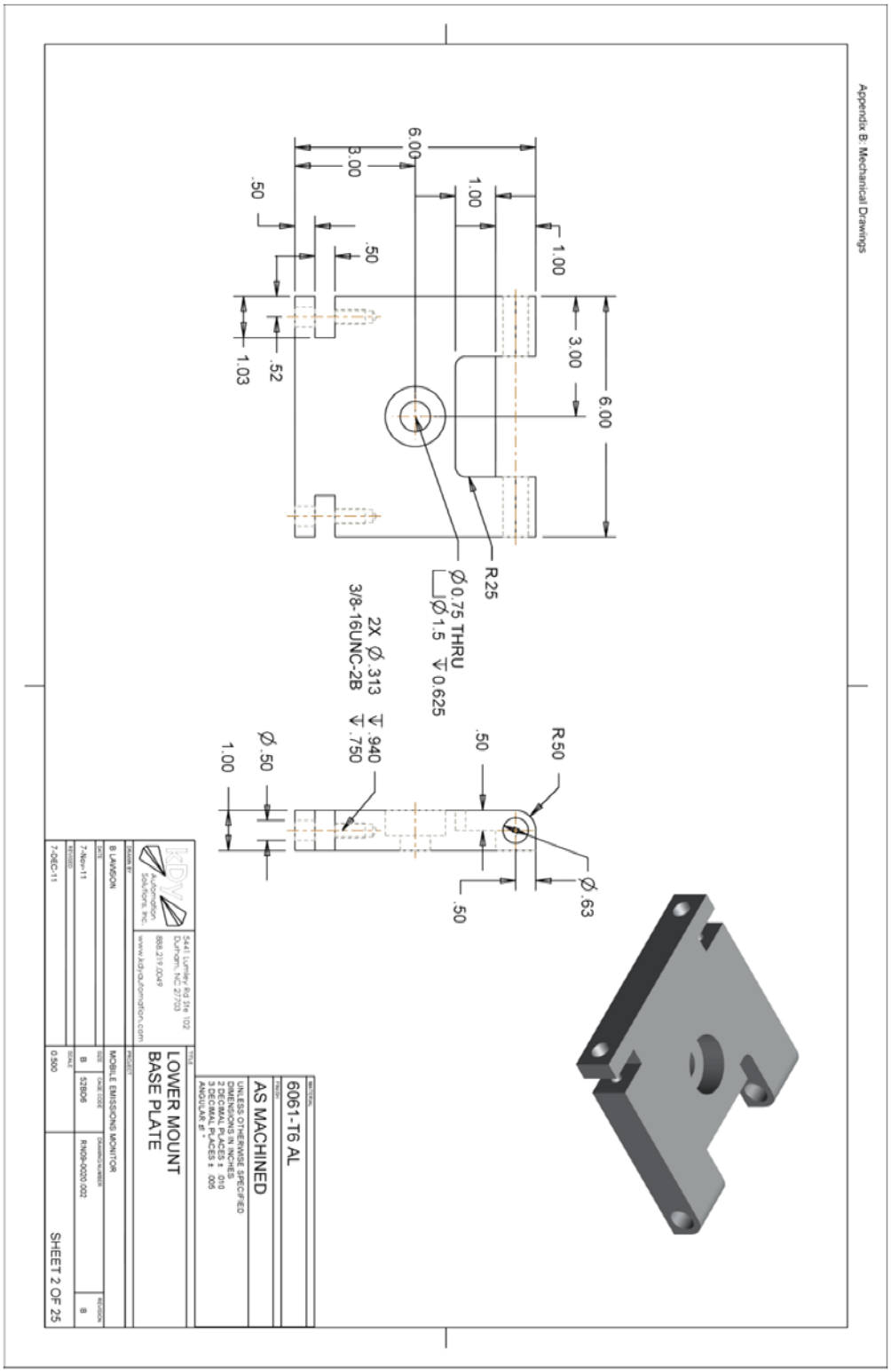
1. GMAP-REQ-DA Mast Systems mechanical drawings

The following appendix contains mechanical drawings of the EPA model 2 GMAP mast system. This mast system has been deployed on several EPA-developed GMAP systems. The mast system shown here is for the configuration employing ¼ inch diameter sampling probes. Concentration measurement instruments (CMIs) that required higher sampling flow rates will generally use larger diameter tubing.

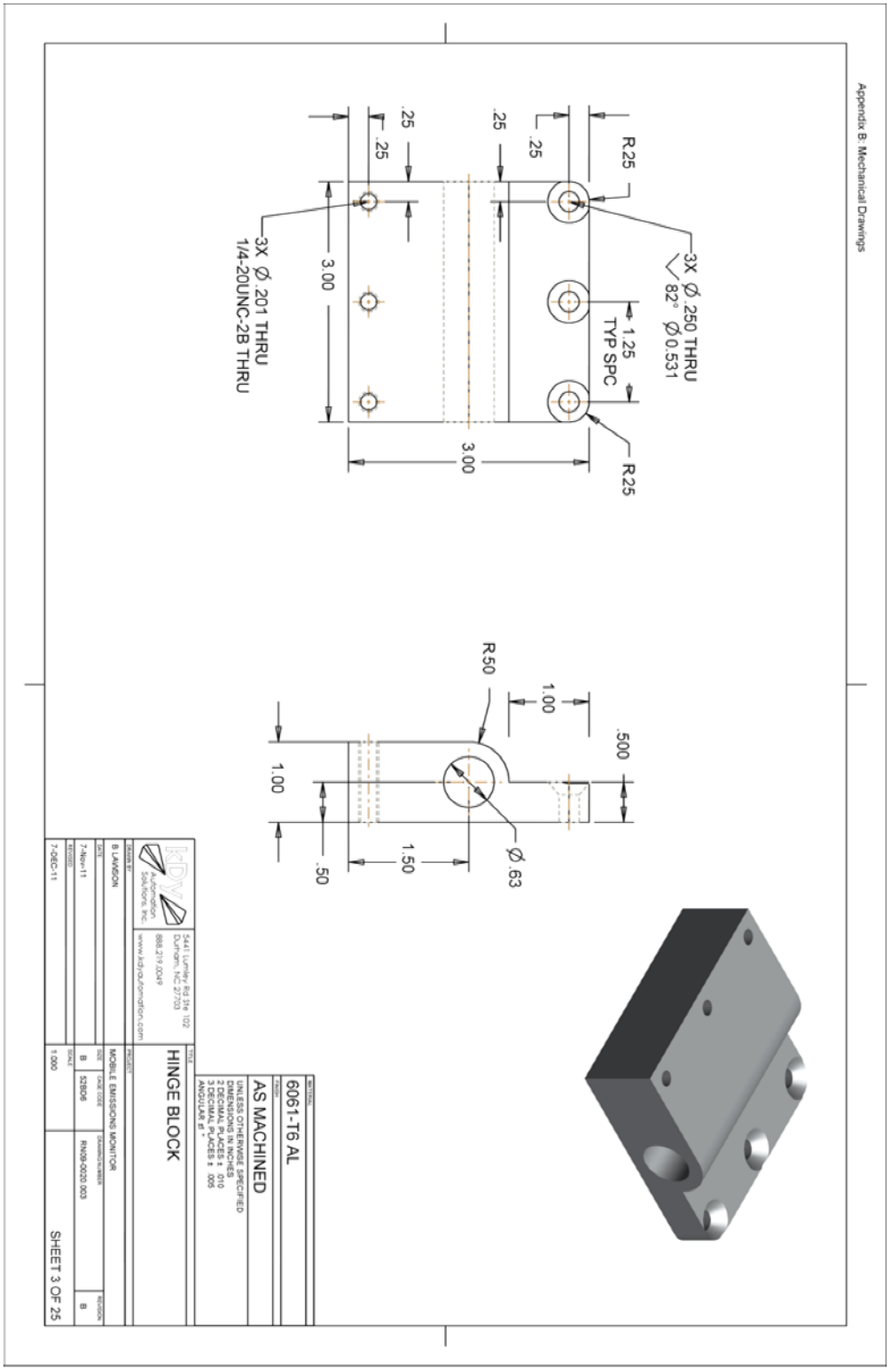
1.1 Mast system assembly drawing



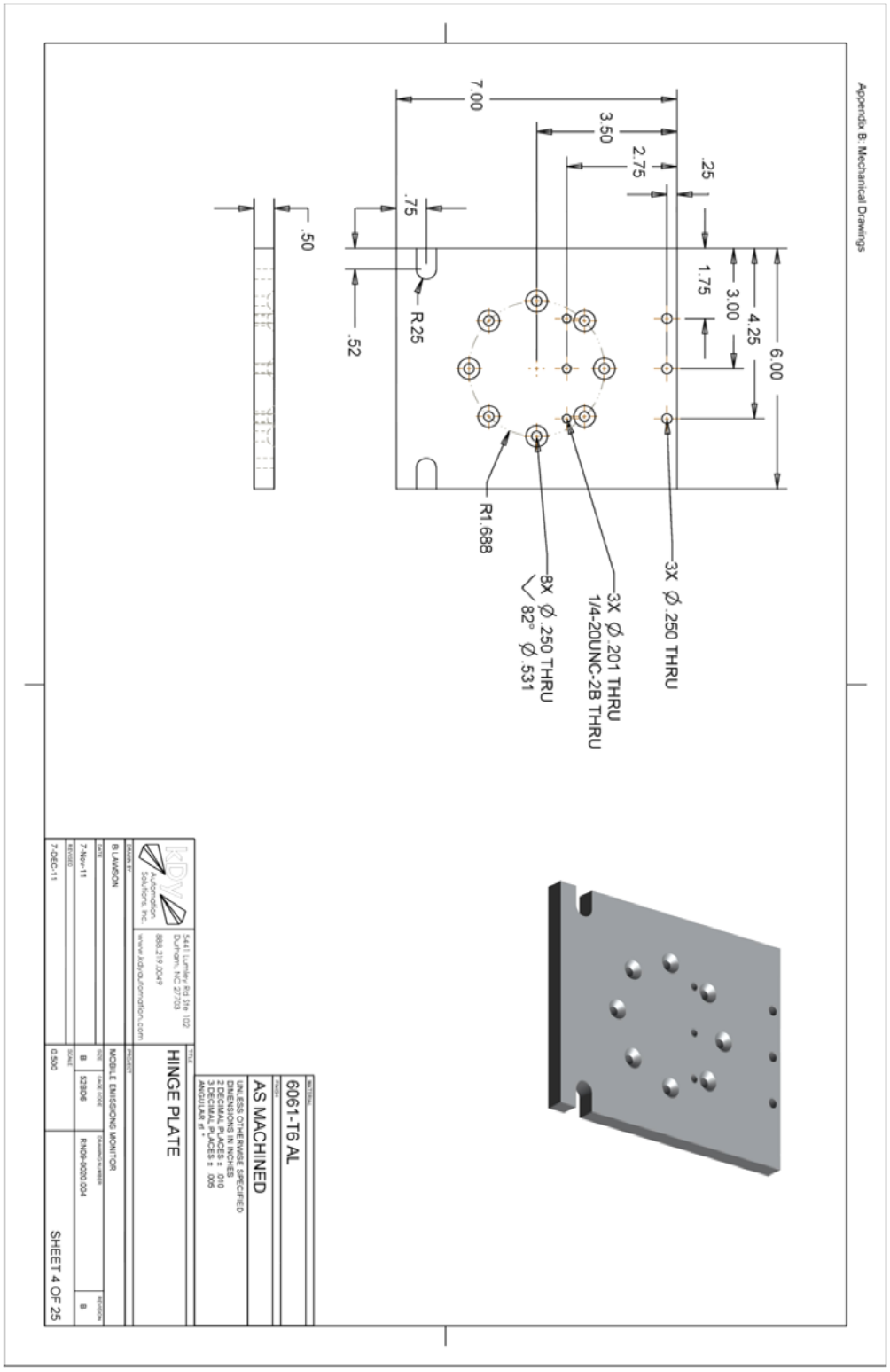
1.2 Lower mount base plate



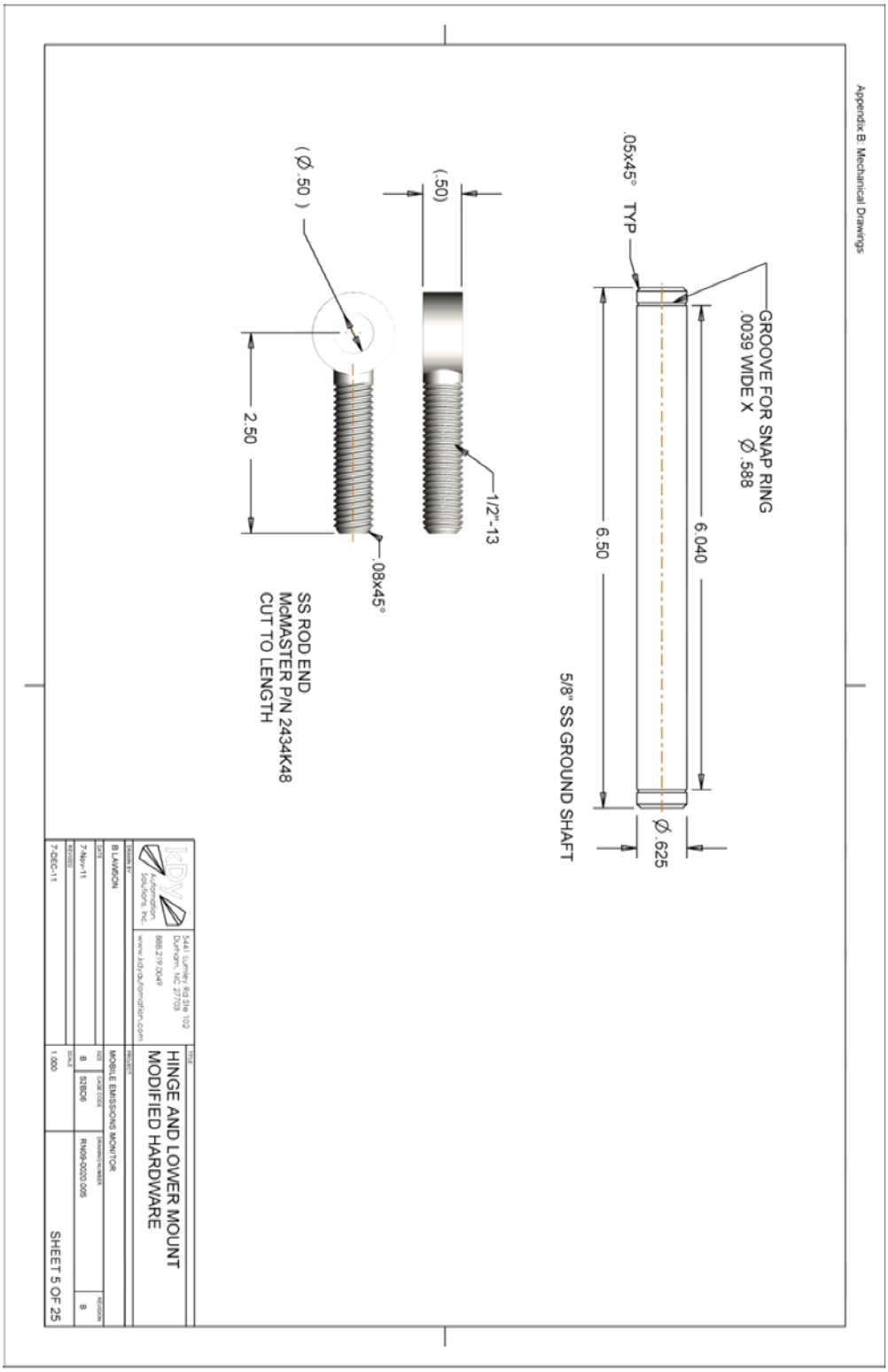
1.3 Hinge block



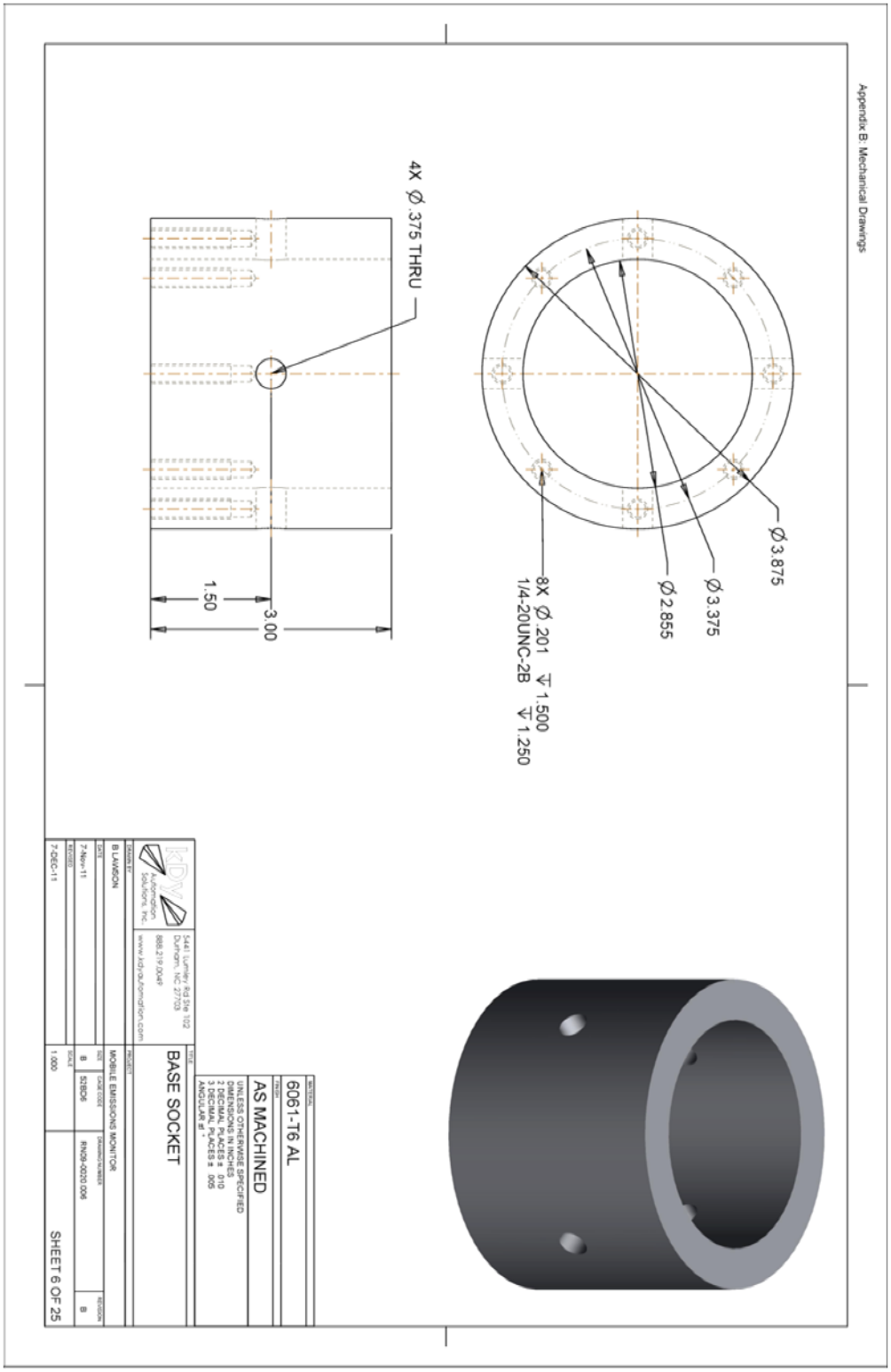
1.4 Hinge plate



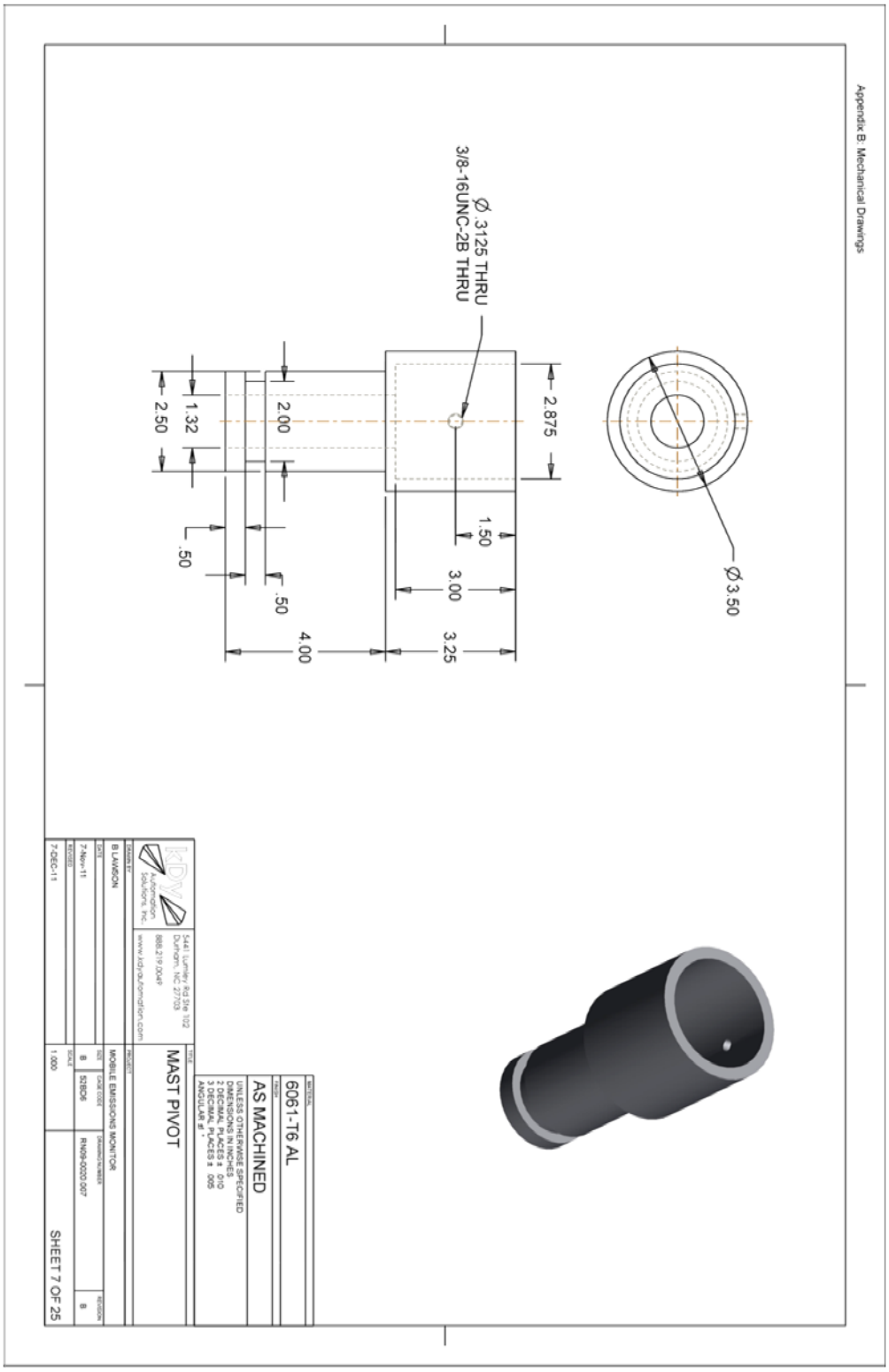
1.5 Hinge and lower mount hardware



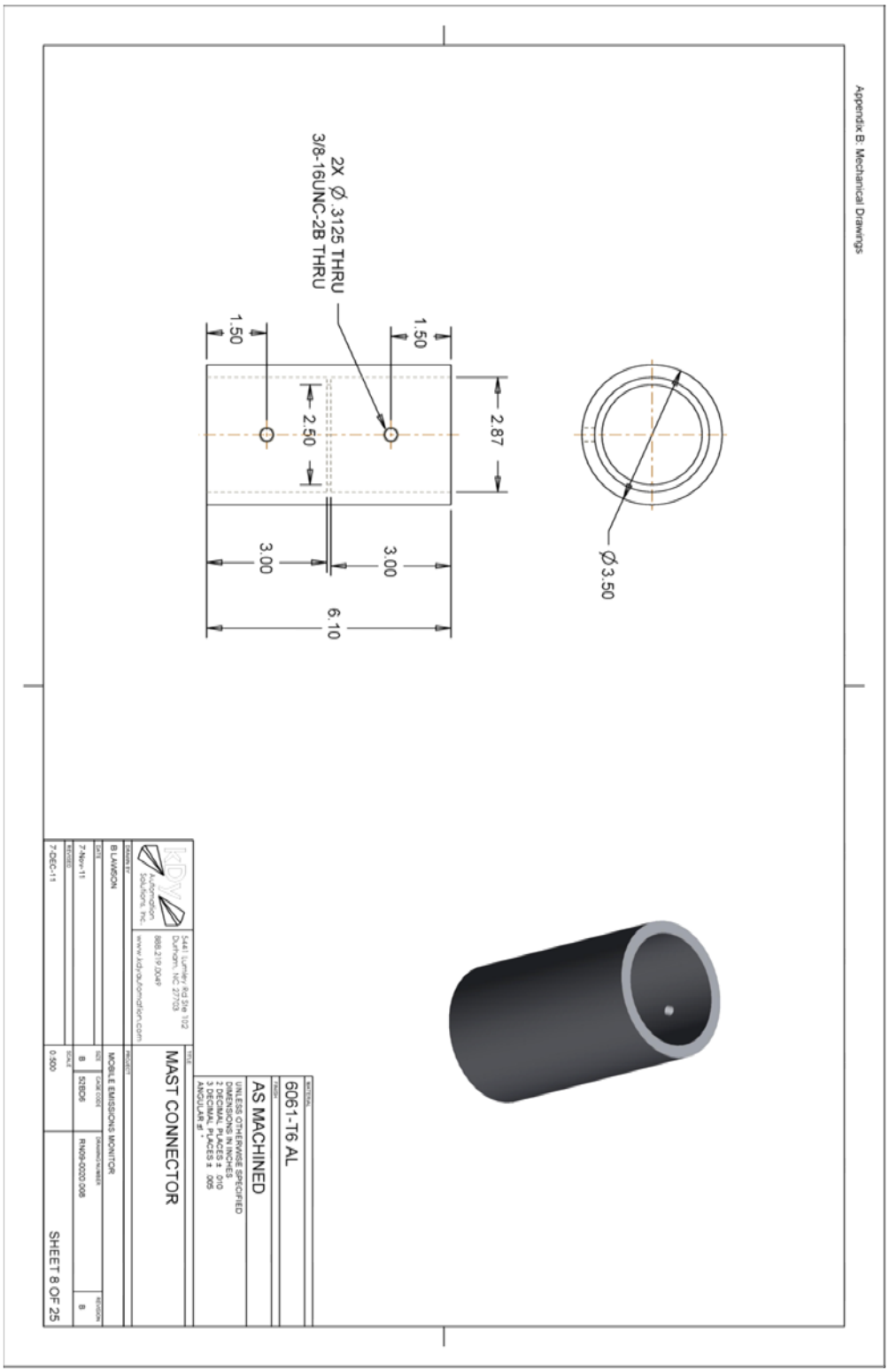
1.6 Base socket



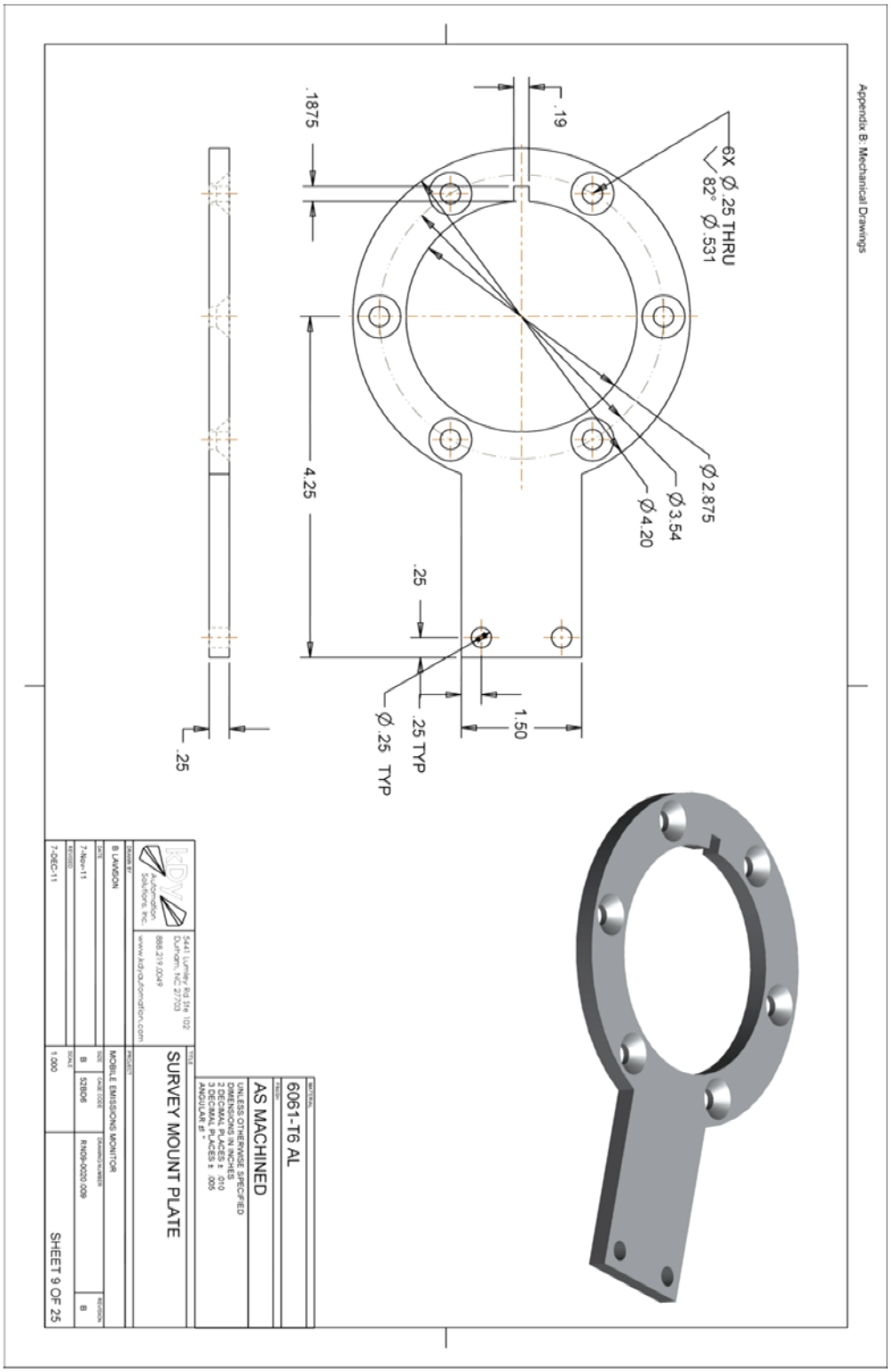
1.7 Mast pivot



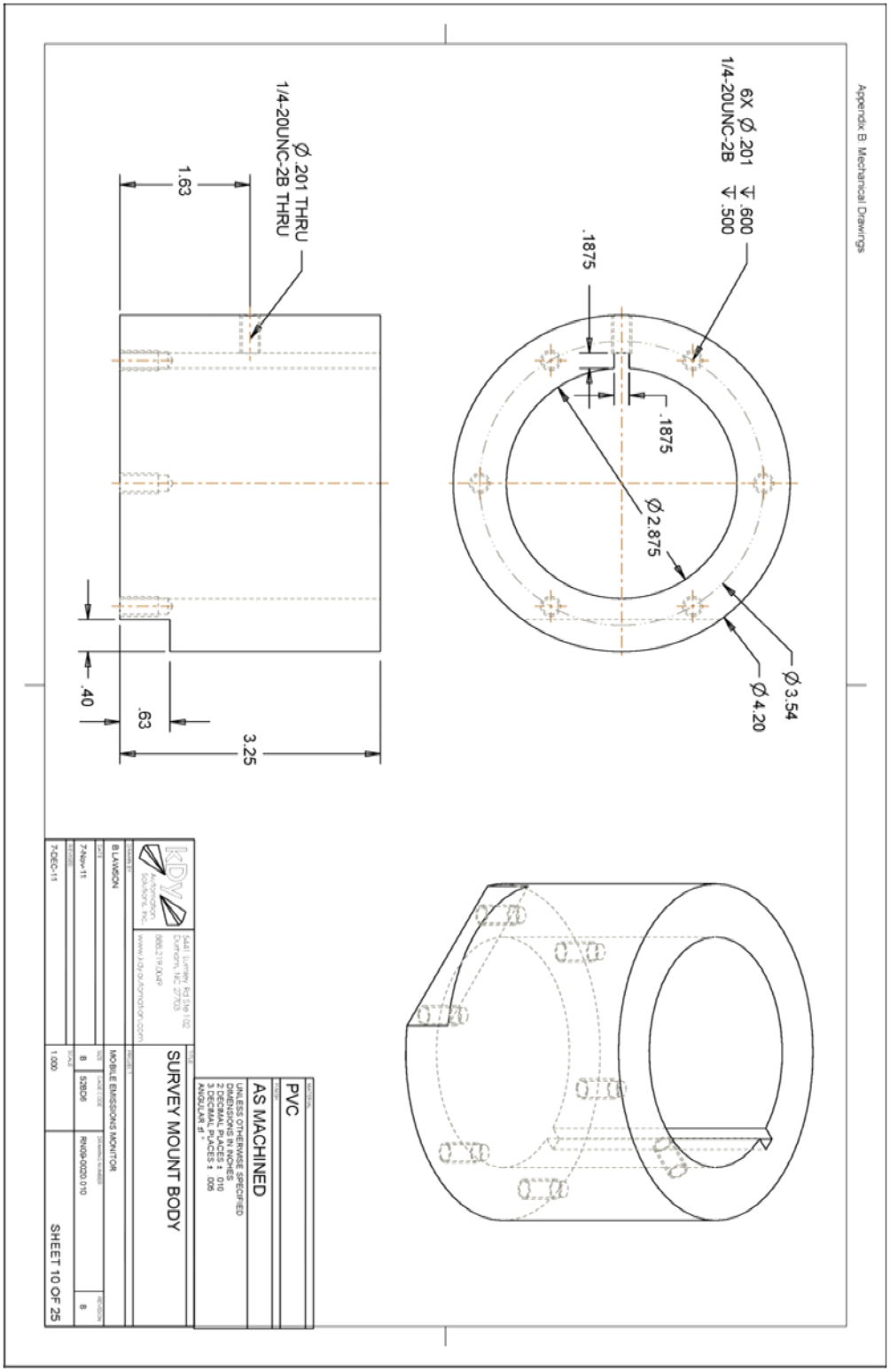
1.8 Mast connector



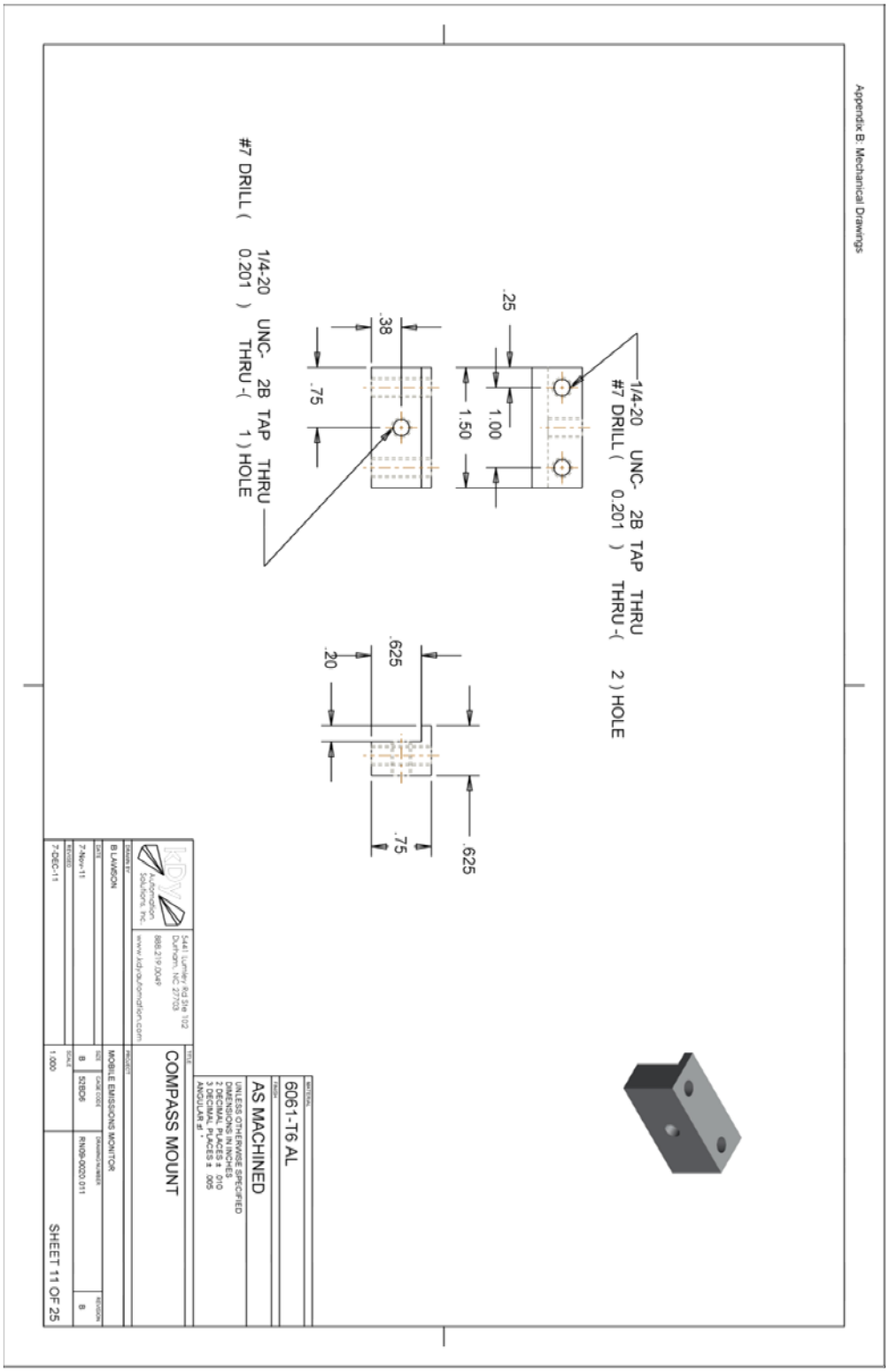
1.9 Survey mount plate



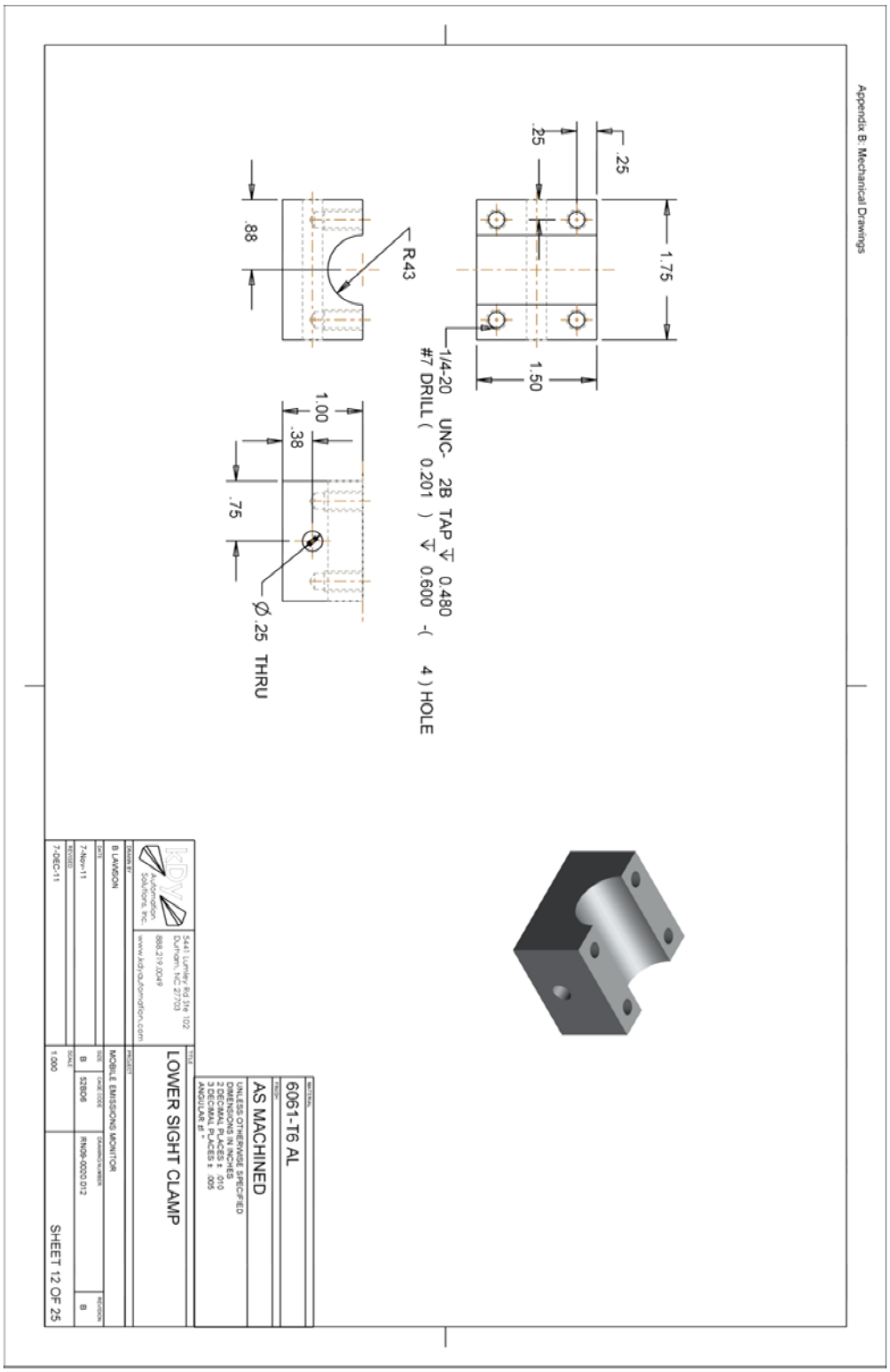
1.10 Survey mount body



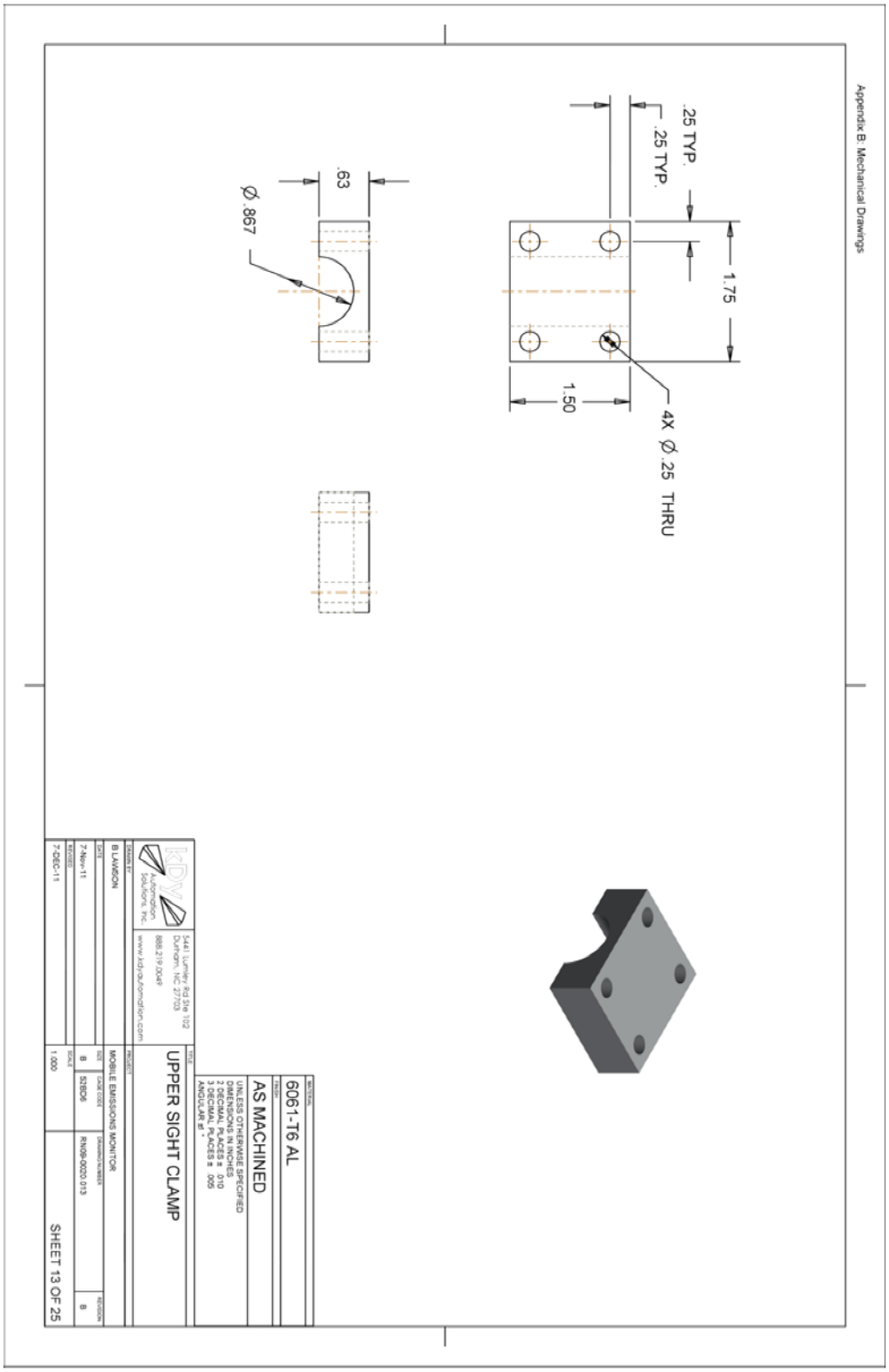
1.11 Compass mount



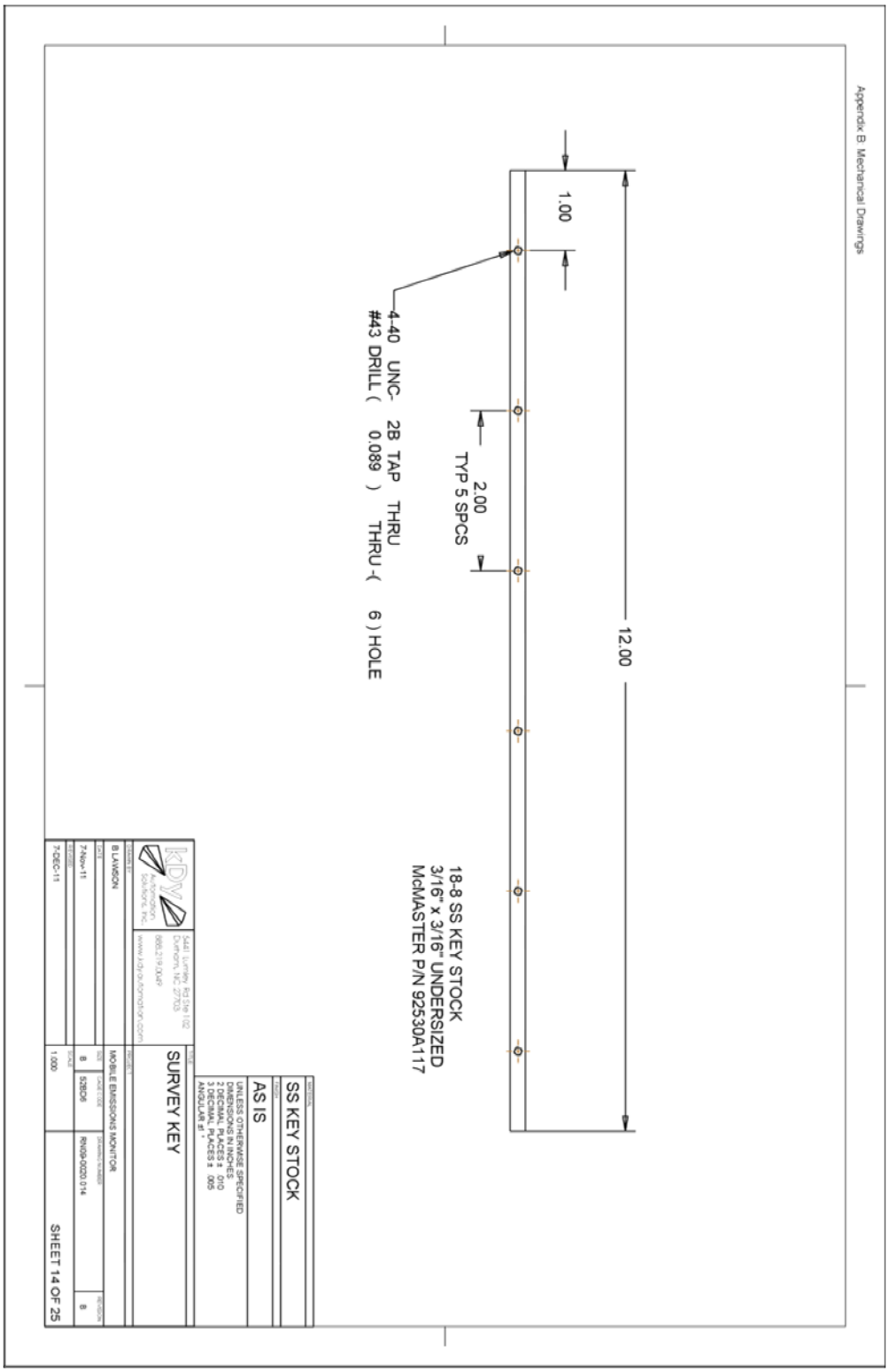
1.12 Lower sight clamp



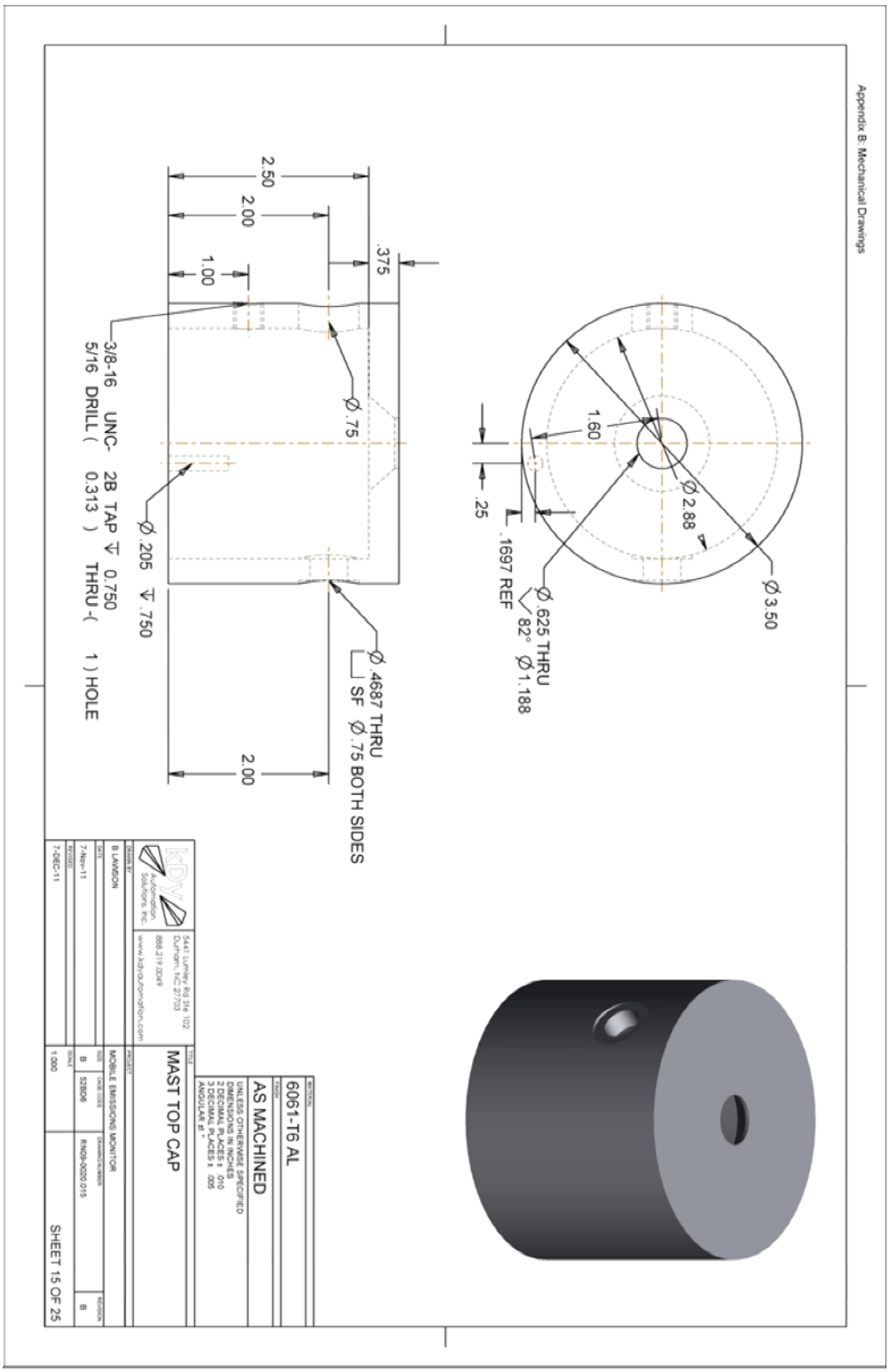
1.13 Upper sight clamp



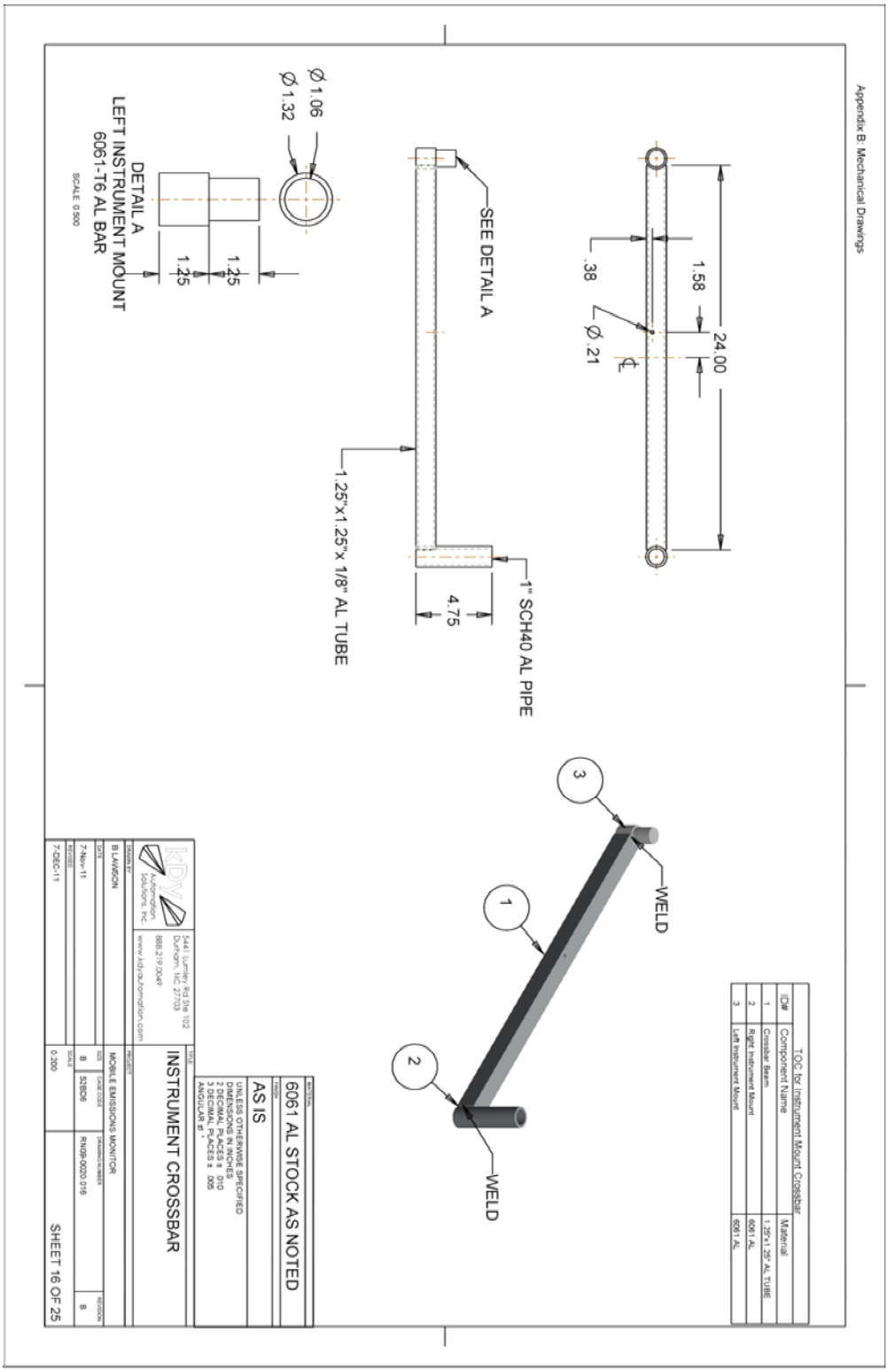
1.14 Survey key



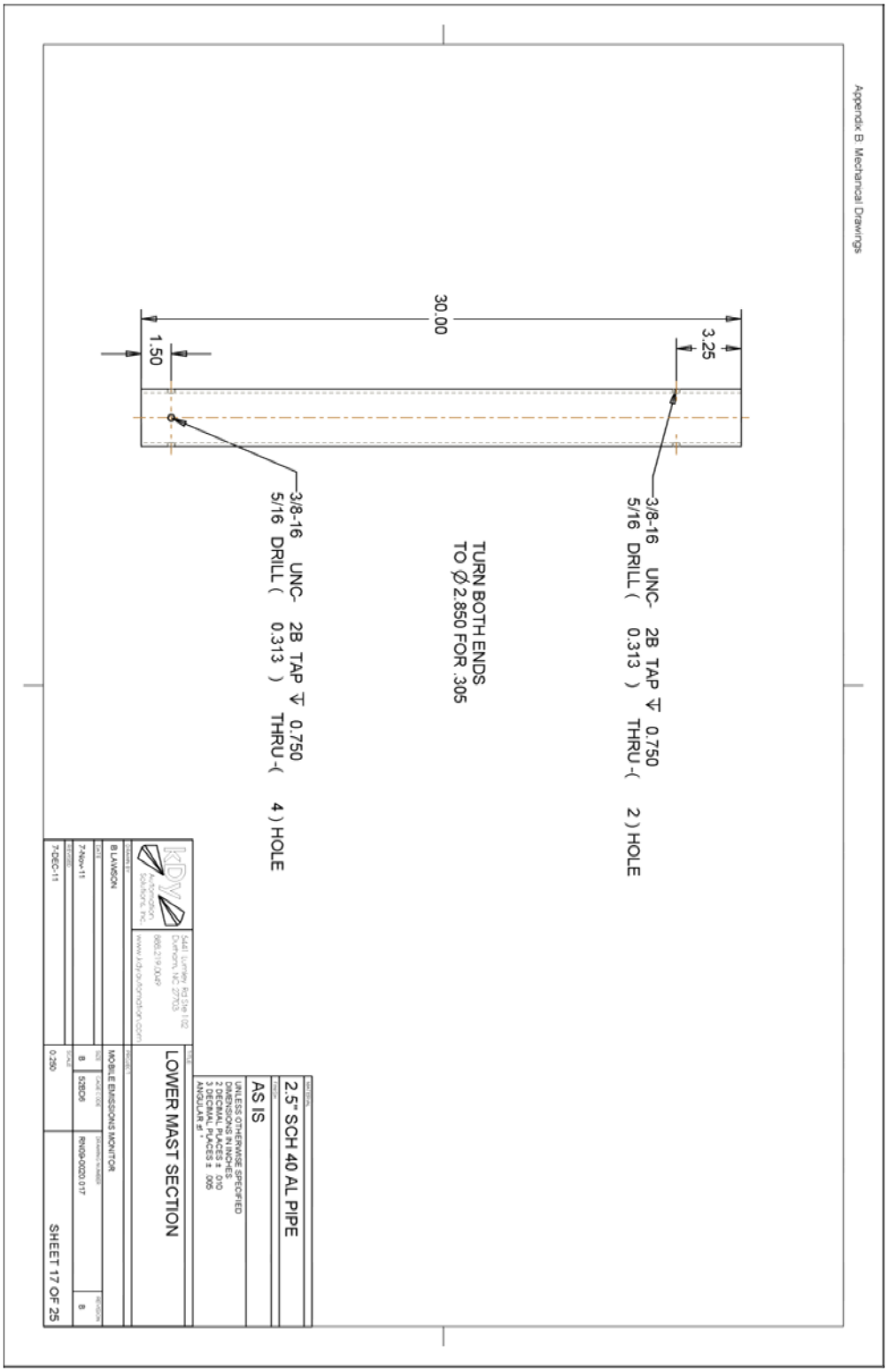
1.15 Mast top cap



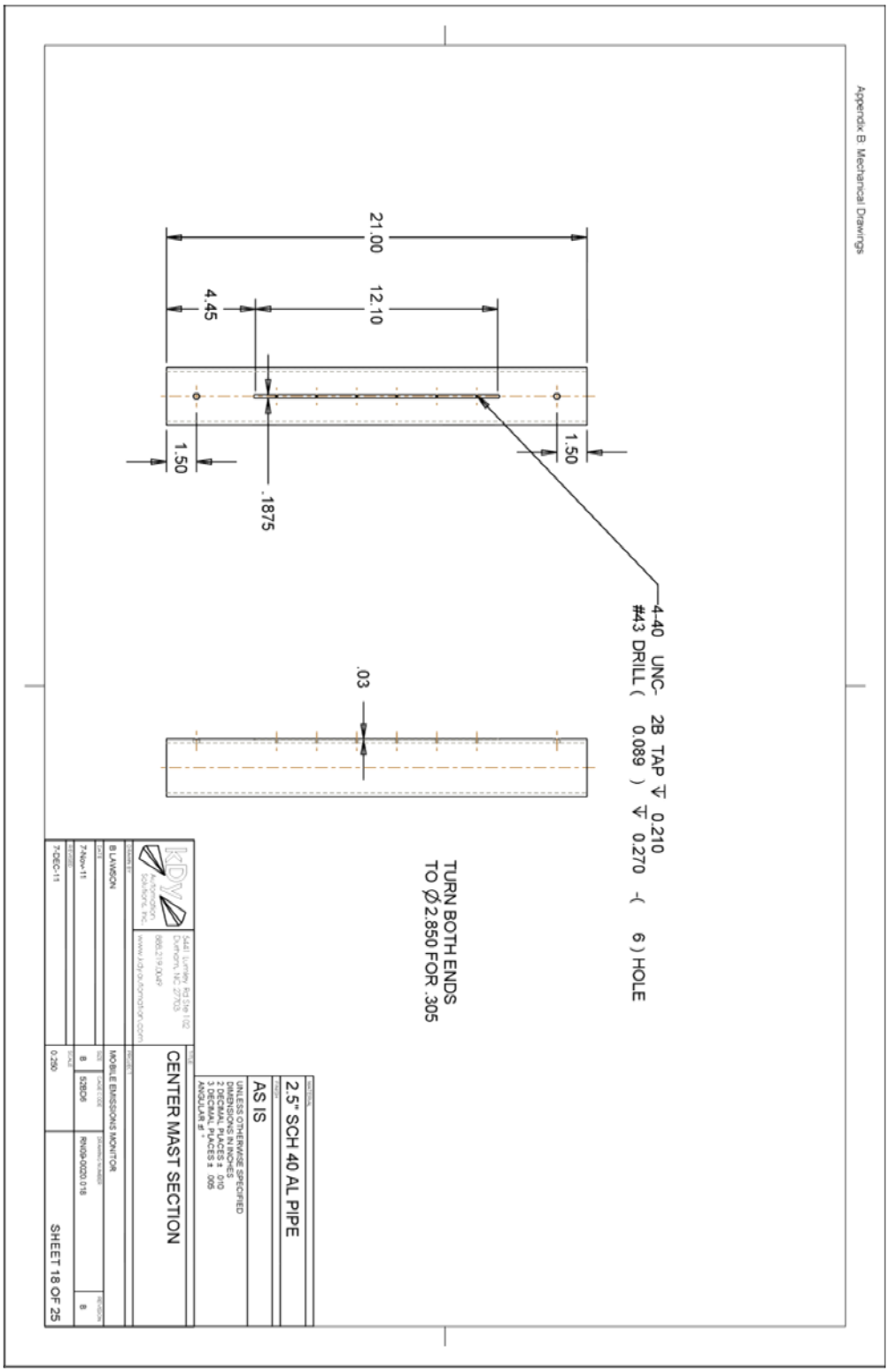
1.16 Instrument crossbar



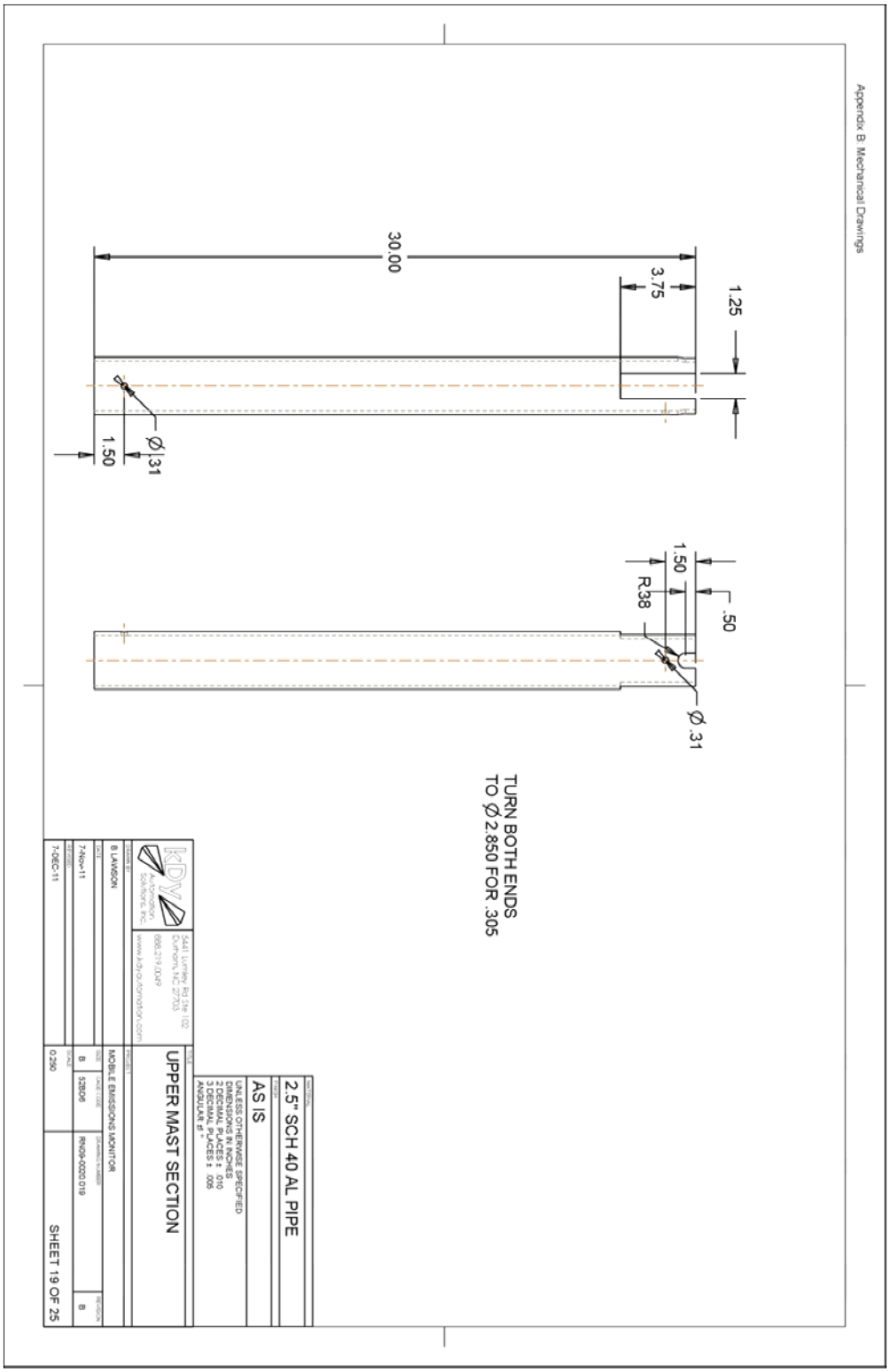
1.17 Lower mast section



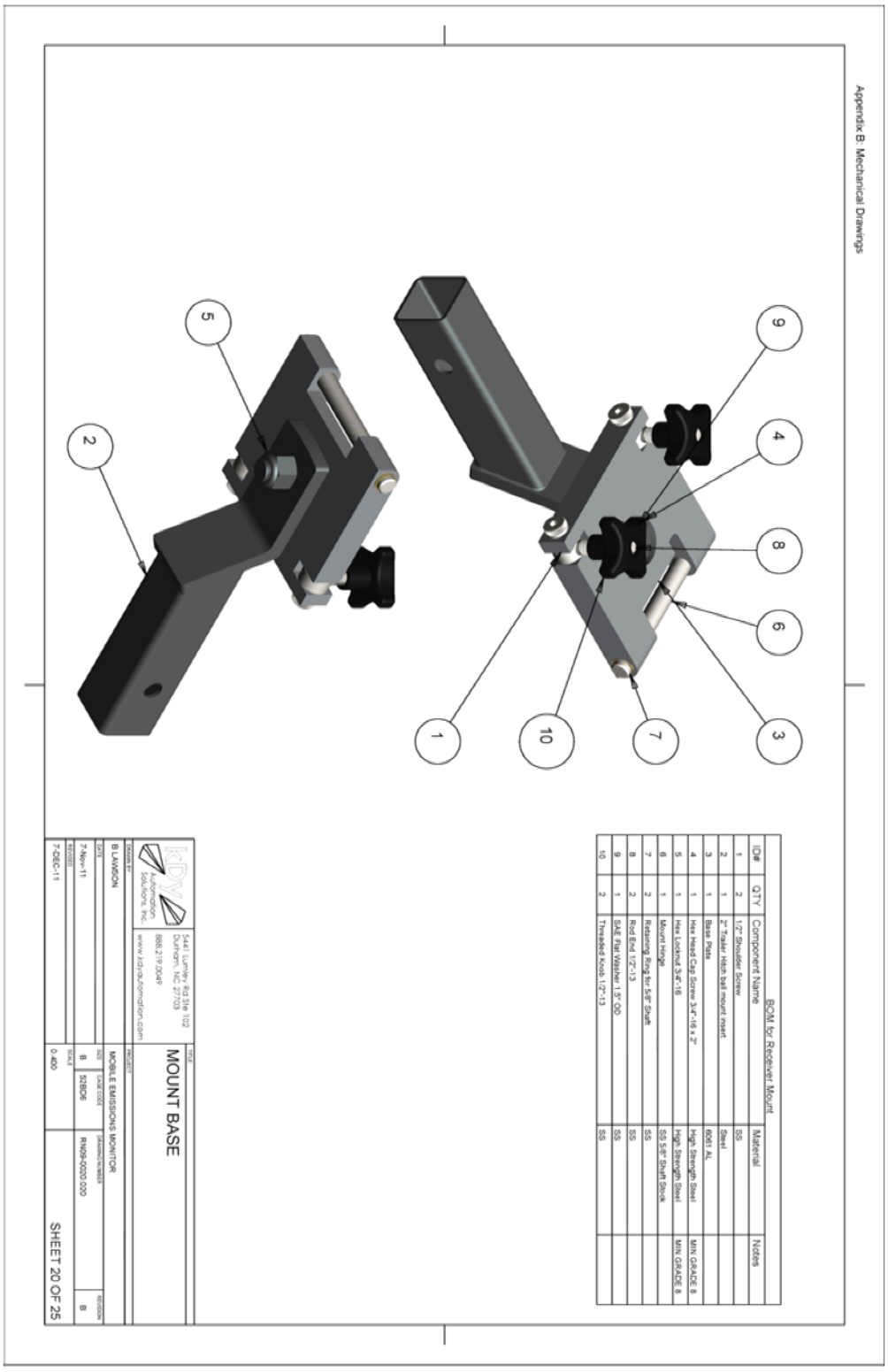
1.18 Center mast section



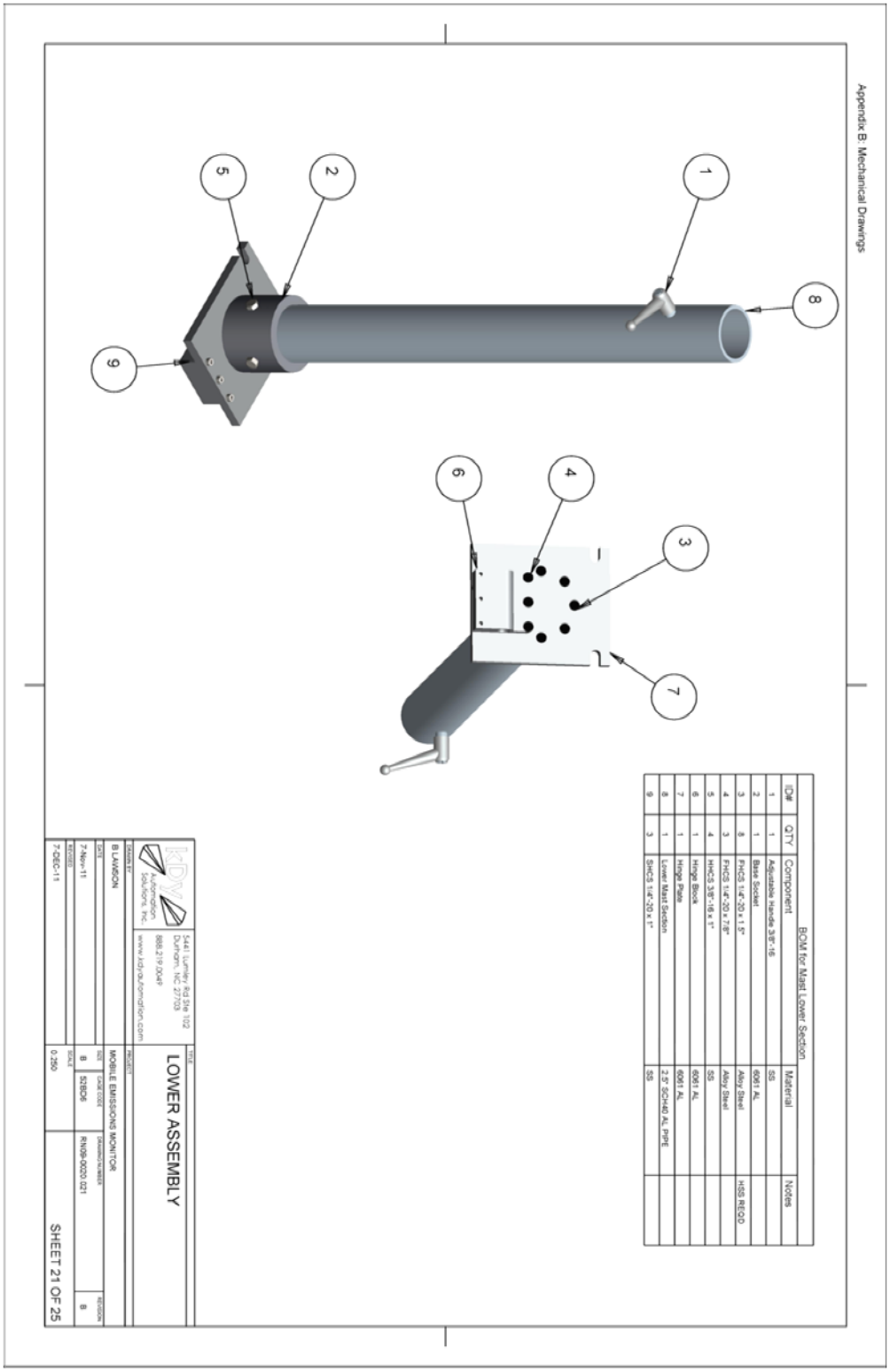
1.19 Upper mast section



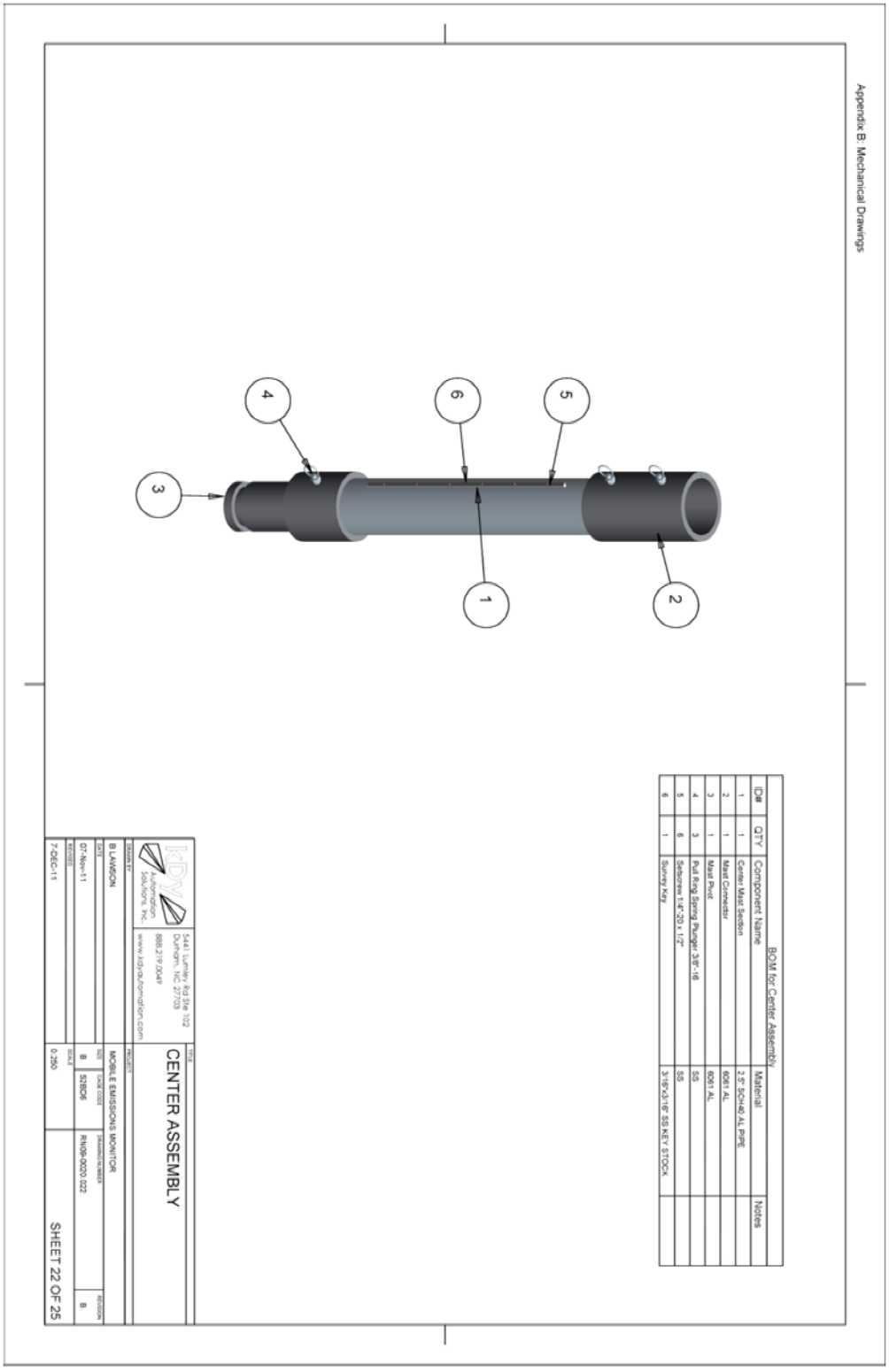
1.20 Mount base



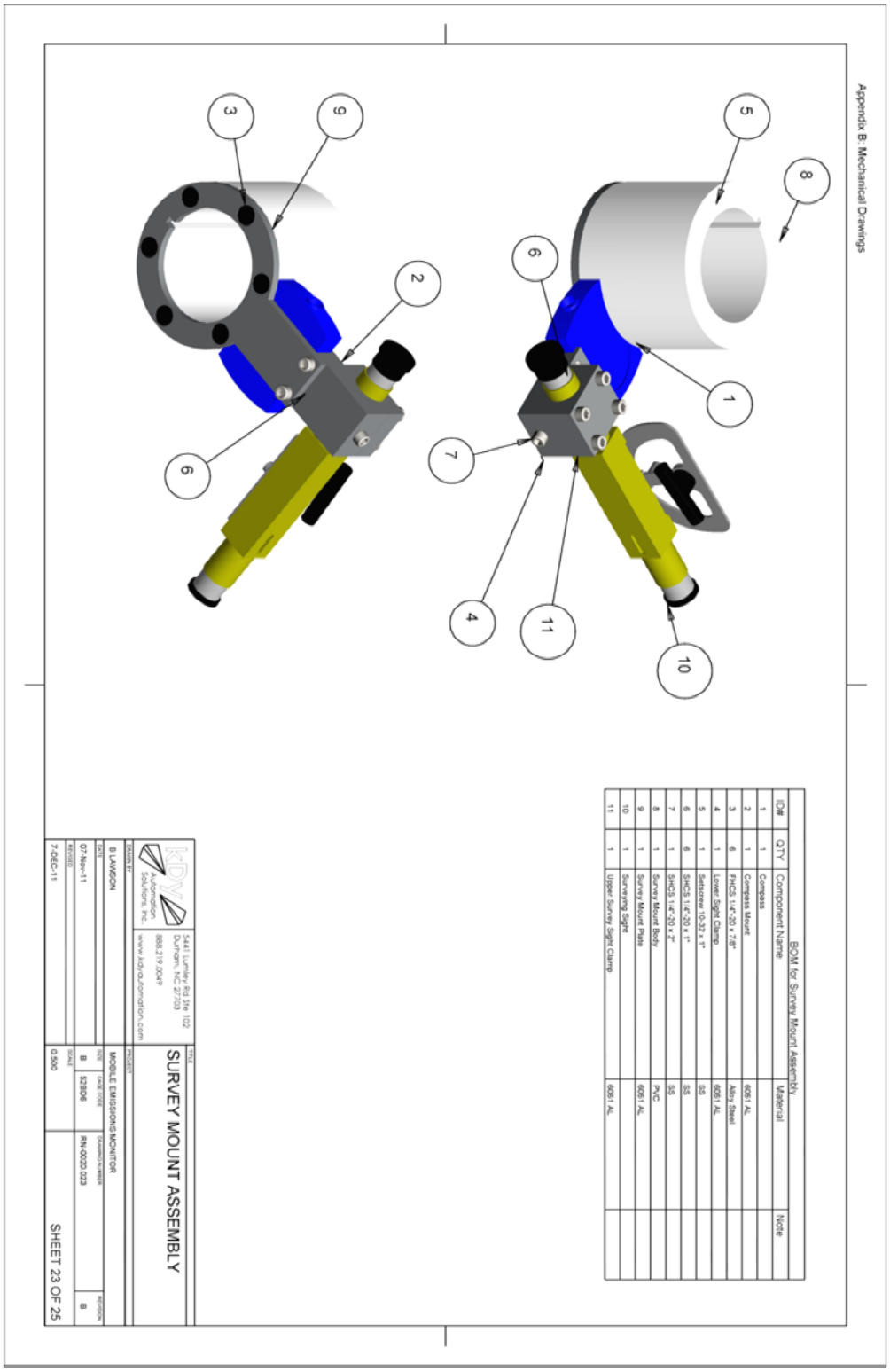
1.21 Lower assembly



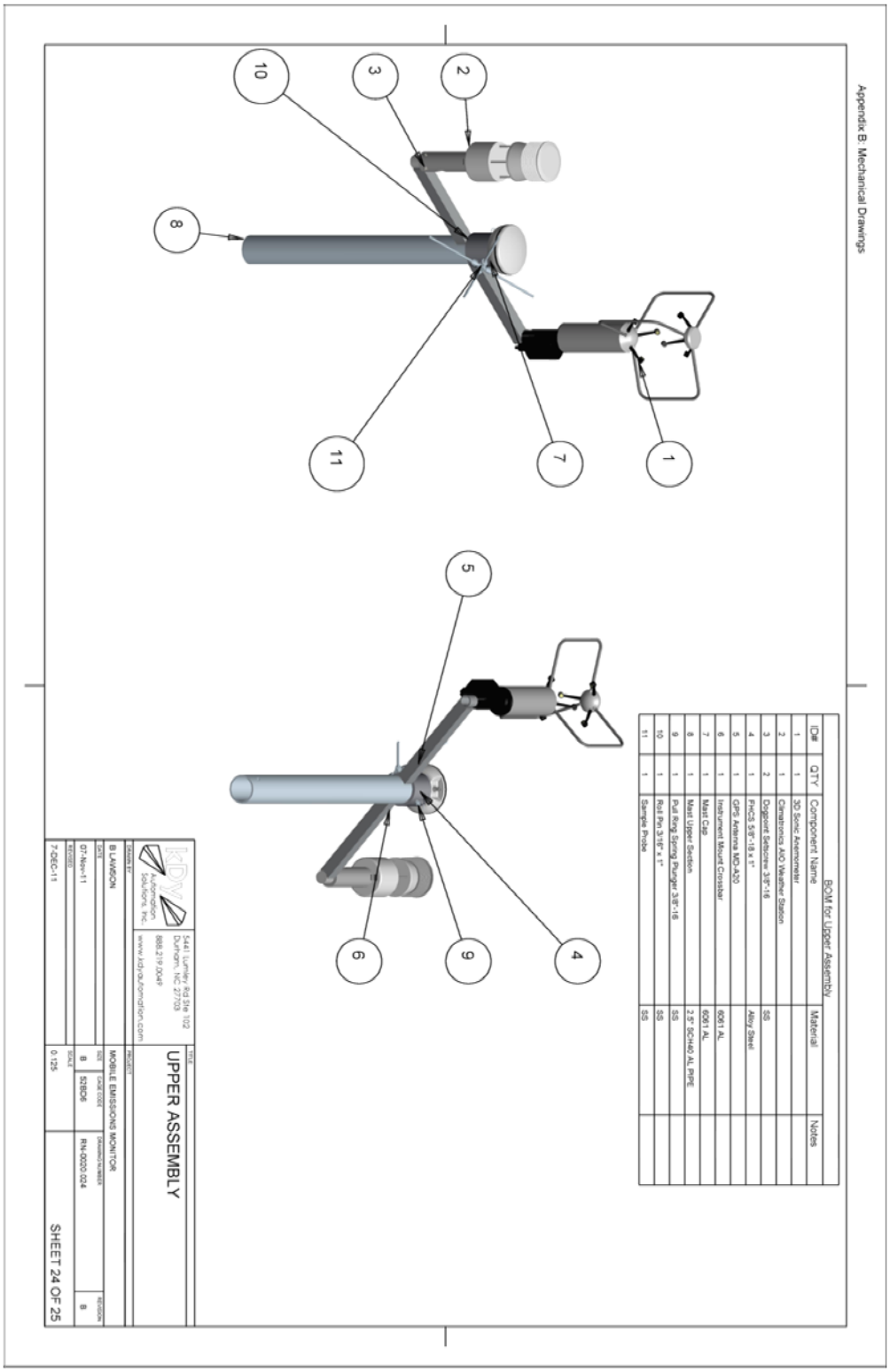
1.22 Center assembly



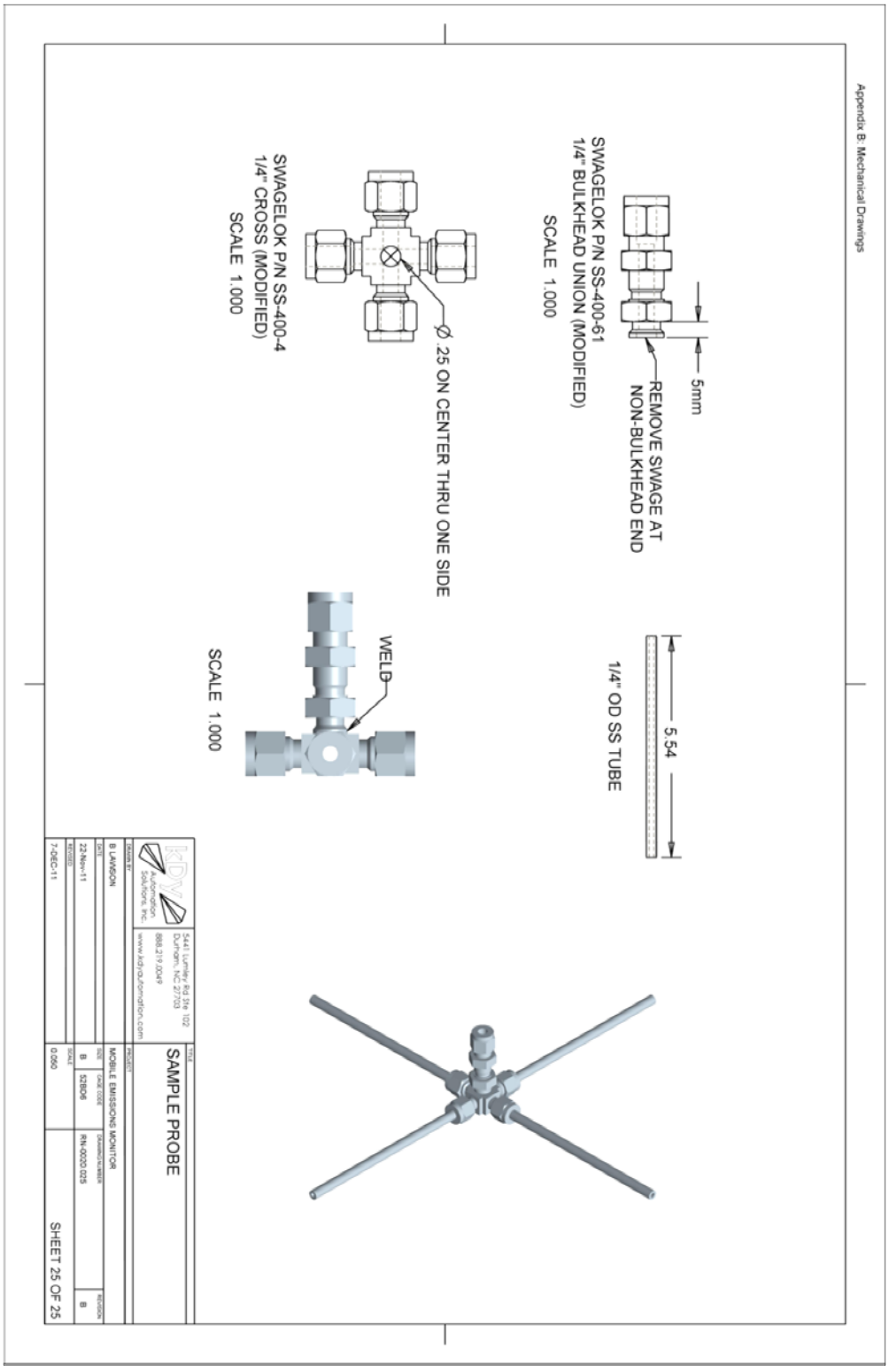
1.23 Survey mount assembly



1.24 Upper assembly



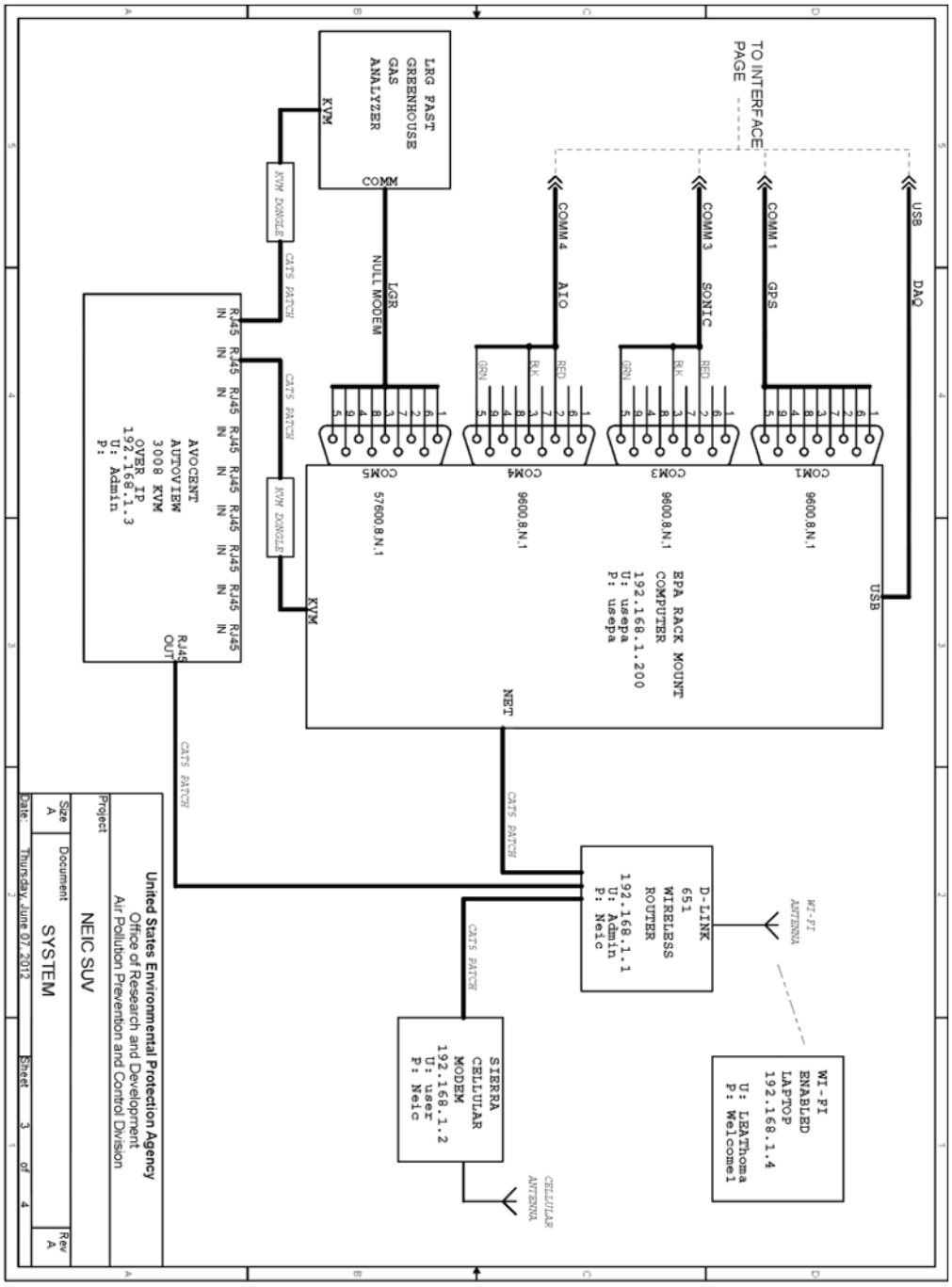
1.25 Sample probe



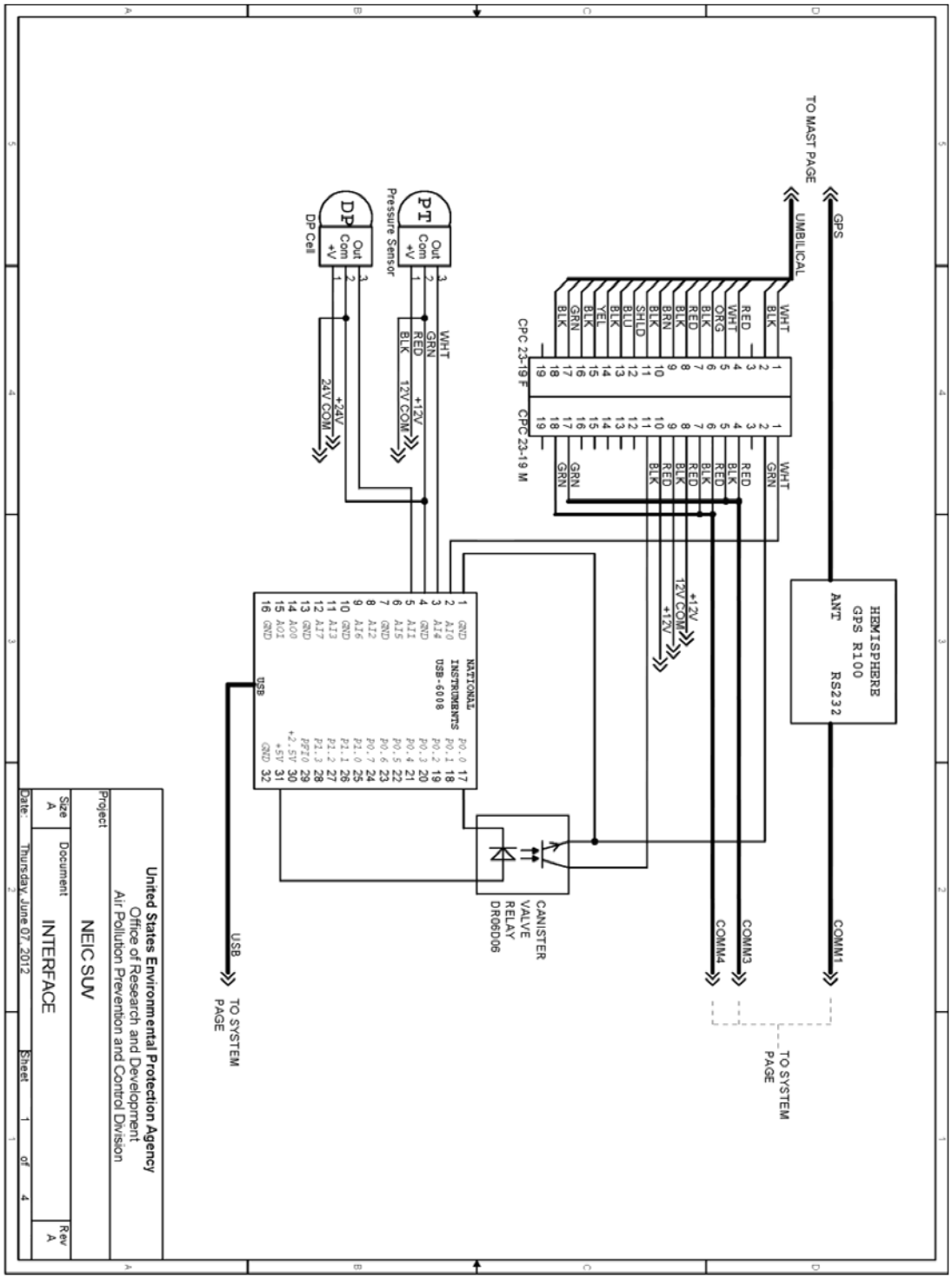
2. Control System Wiring Schematics for GMAP-REQ Systems

The following section contains control system wiring schematics examples for typica GMAP-REQ systems developed by EPA. This information is illustrative and does not constitute method requirements. Systems may utilize a subset of equipment illustrated depending on application and on communication requirements for various components.

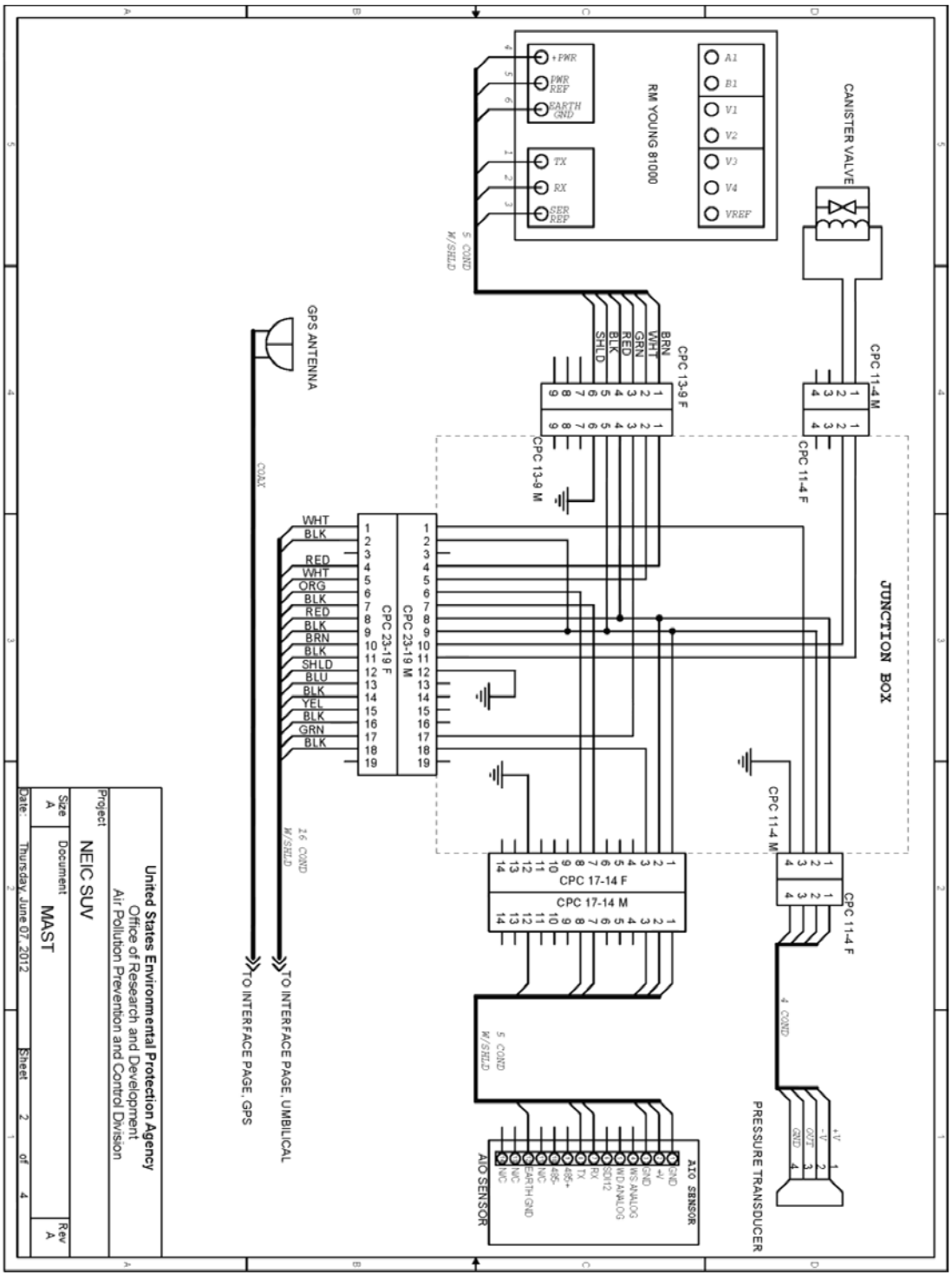
2.1 System connection overview for EPA NEIC unit



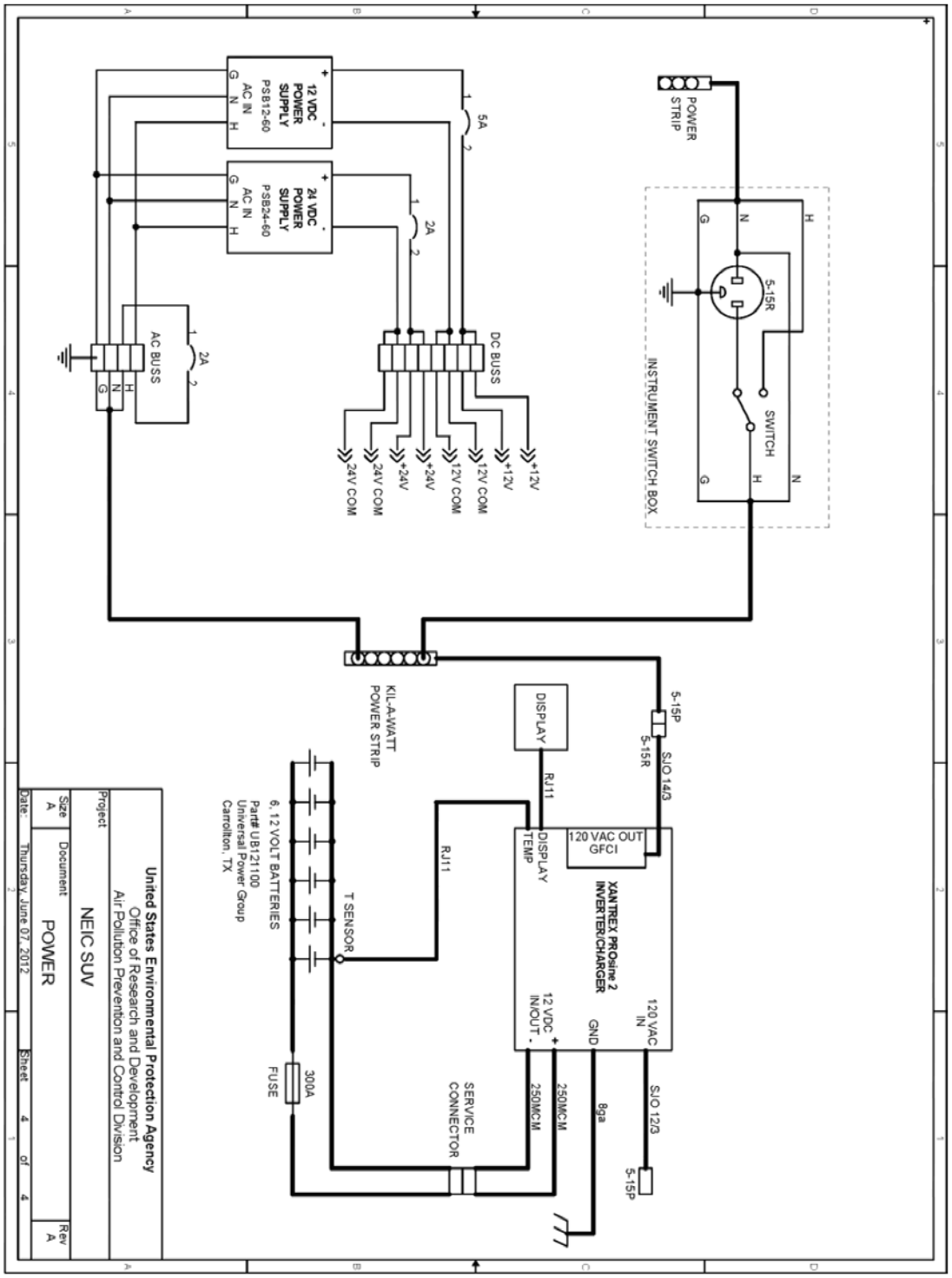
2.2 Equipment interface connections for EPA NEIC unit



2.3 Mast interface connections for EPA NEIC unit



2.4 System power connections for EPA NEIC unit



2.5 Mast system connections for EPA R5 unit