



ANEUVAS TECH. INC. PORTABLE MEDICAL BENCH

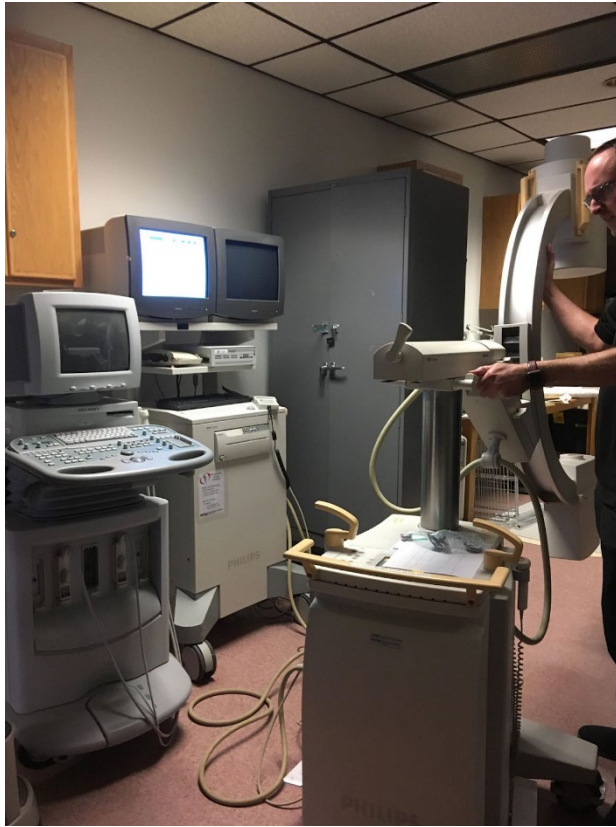
Kenyon Rowley *Project Manager and Financial Manager*

Katherine Riffle *Test Engineer and CAD Engineer*

Hunter Daniel *Logistics Manager and Manufacturing Engineer*

DR. BECKER - ADVISOR

Project Description



Dr. Becker's X-Ray Machine

Requirements

Compatible with medical machines

Support clean-room hood

Reduce shock during transport

Minimal X-Ray interference

Compliant with X-Ray machine

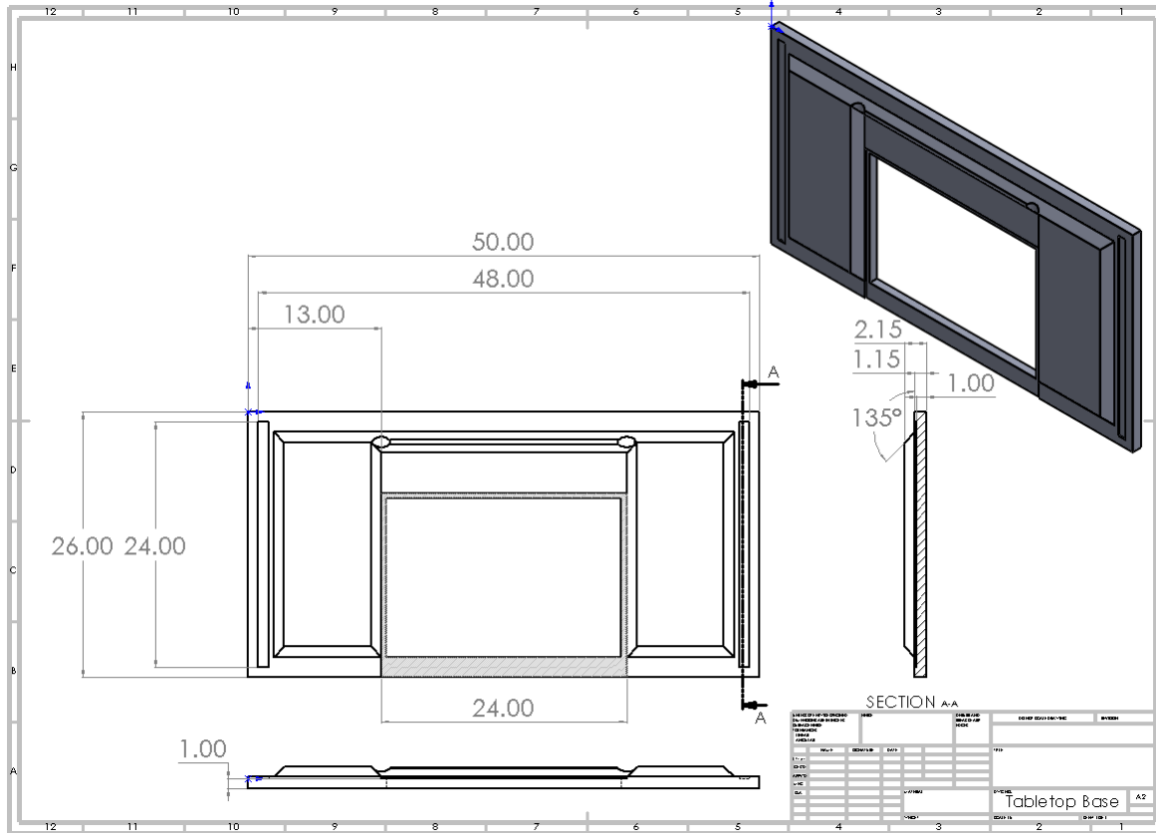


Clean Room Hood

Design Description

Client Requests for REV1:

- Increase tabletop length
- Single handle
- Different tires
- Raised tabletop
- Storage specifications



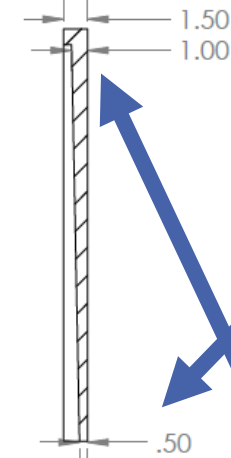
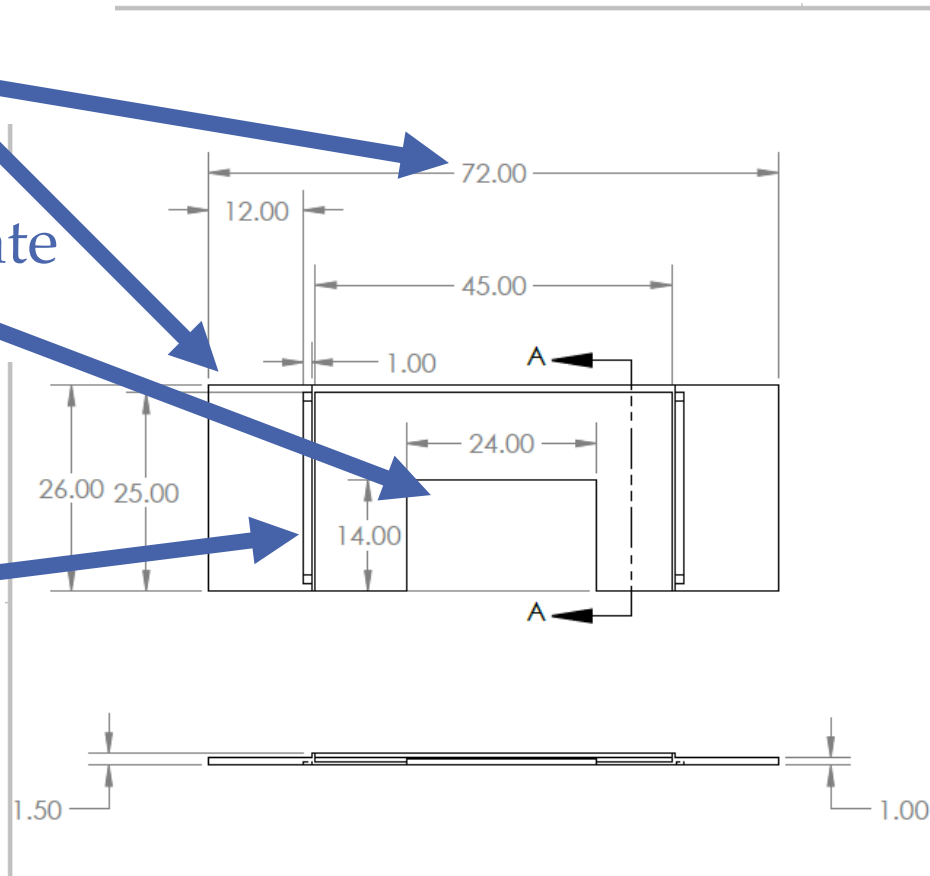
Tabletop REV0

Design Description

Wider
Tabletop

Polycarbonate
Workspace

Clean
Room
Hood
Grooves

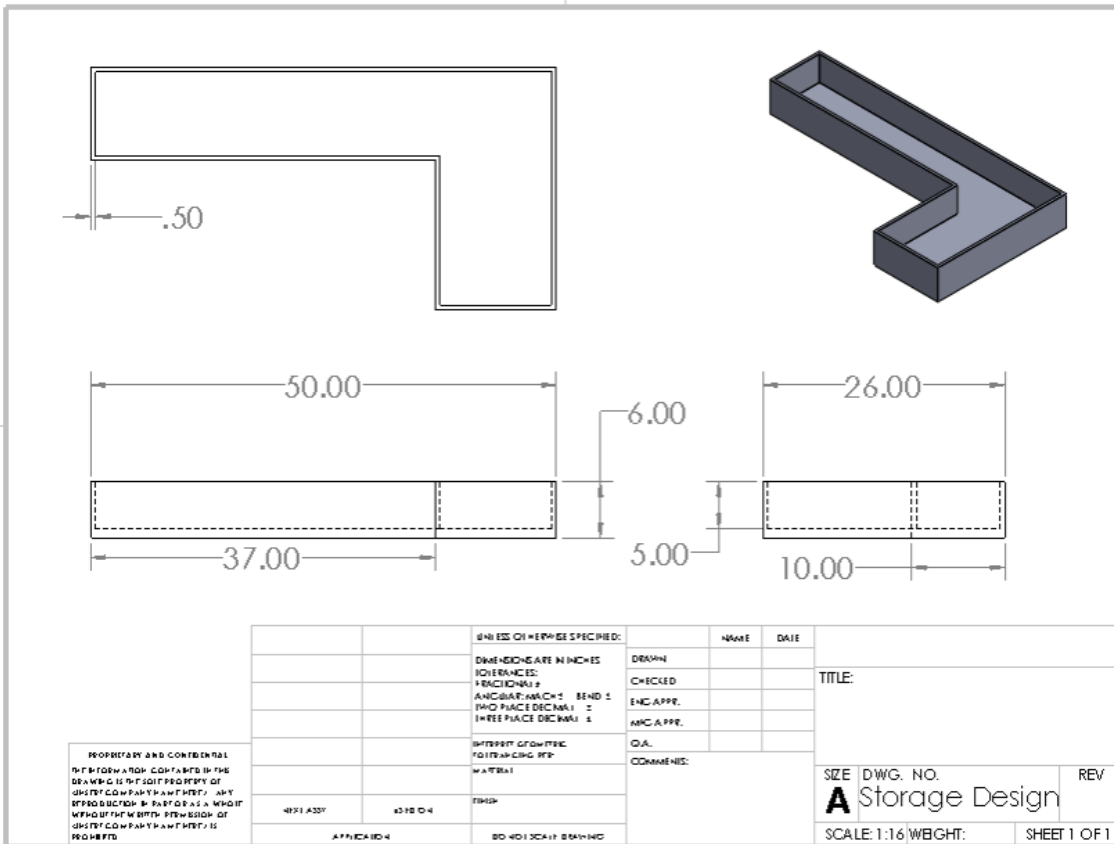


Tapered
Workspace

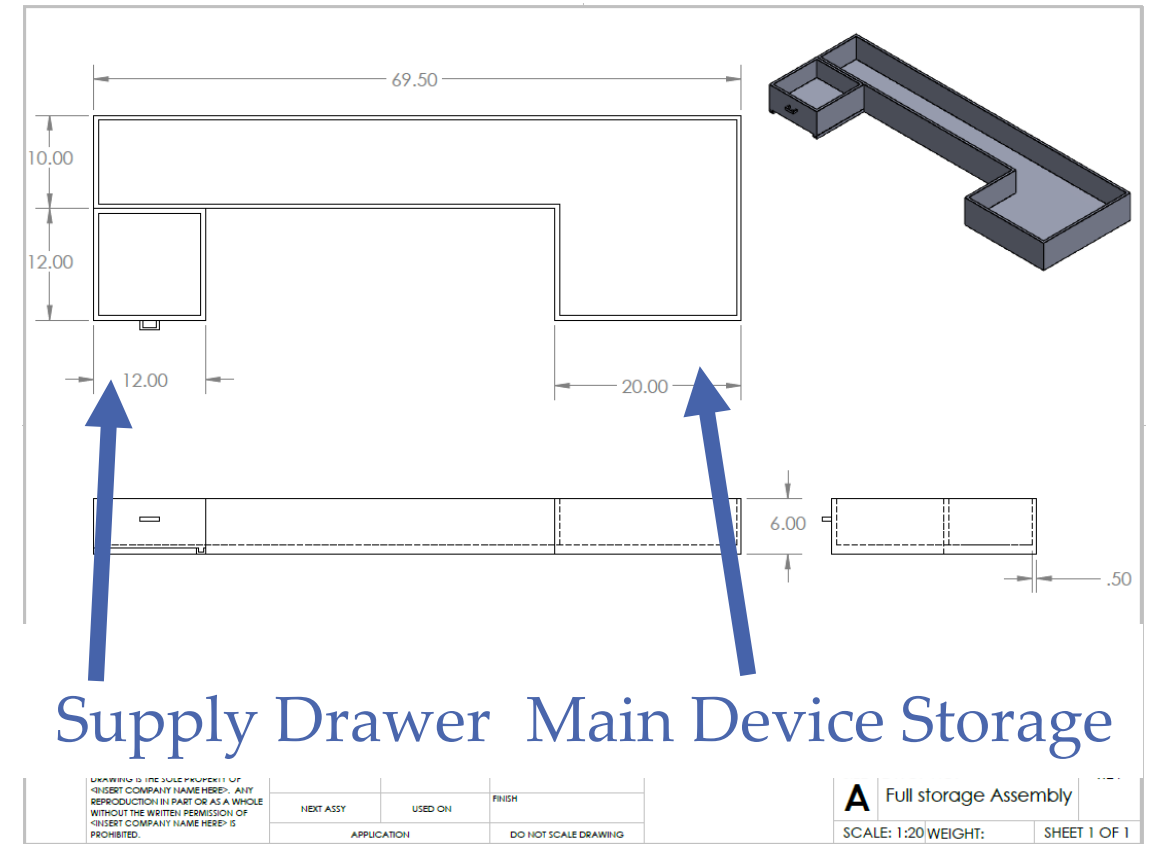
Spill Guards

Tabletop REV1

Design Description

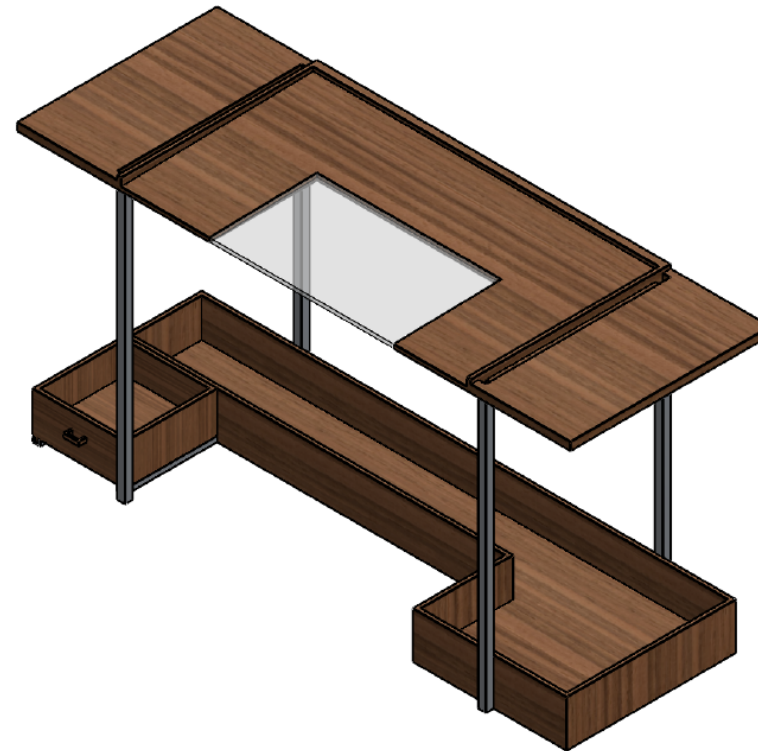
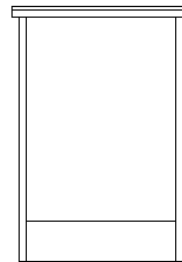
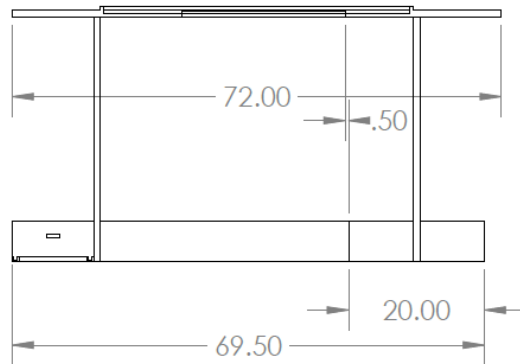
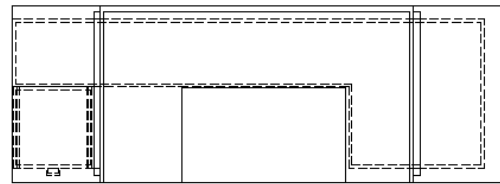


Storage REV0



Storage REV1

Design Description



Bench Assembly REV1

Design Description



1. X-Ray Compatible: Polycarbonate workspace prevents x-ray interference. Storage and workspace are geometrically compatible with x-ray machine.
2. Clean-Room Hood: Supported and secured
3. Shock Absorption: Polyurethane Wheelbarrow Tire per client request
4. Spill Containment: Spill guards and workspace incline
5. Storage: Drawer design and flanges to secure devices

Design Requirements

CR's

- Durable and Robust Design
- Reliable Design
- Safe to Operate
- Maneuverability
- Cost Within Budget
- Multipurpose Design
- Lightweight Design
- Shock Absorption
- Adequate Storage Space
- Aesthetically Pleasing



Design Validation

FEMA

Medical Bench		Team B5				Page No of			
Tabletop						FMEA Number			
Storage						Date			
Wheels									
Part # and Functions	Potential Failure Mode	Potential Effect(s) of Failure	Severity (S)	Potential Causes and Mechanisms of Failure	Occurance (O)	Current Design Controls Test	Detection (D)	RPN	Recommended Action
Polyurethane wheel	Corrosive wear	Not able to transport	9	Over stressing	5	Wear test in field	5	225	Look into different tire material
Raised platform	Direct chemical attack	Spills ocuring	7	Poor maintenance	7	Chemical test	5	245	Material selction
Zipties	Deformatin wear	Devices not held in place	8	Over stressing	7	Stress testing	6	336	Thickness values
Drainage	Direct chemical attack	Inproper disposal of waste	7	Chemical wear	6	Chemical test	5	210	Material selction
U-shape	Impact wear	Broken storage	6	Impact loading	6	Impcat test	6	216	Cushion design
Drawers	Impact wear	Unable to use storage	6	Impcat loading	6	Impcat test	6	216	Cushion design

Design Validation

Construction:

- Non-flattening polyurethane tire
- Material selection compatible with chemicals used
- Material calculations for dimensions to withstand use

In field testing:

- Introduce chemicals used to tabletop material
- Stress testing on storage

Schedule

Task	Lead	Start	Due			
				Individual Analysis II		2/17 3/14
Team Management	Kenyon			Final Product and Device Summary		2/17 3/23
Peer Evaluations						
Meet with Advisor	Hunter					
Project Updates	Hunter					
Meeting Minutes	Katherine					
Website Updates	Hunter					
Post Mortem	Kenyon	1/13	1/17			
Complete Mission?				Draft of Poster		3/23 3/30
Most positive aspects?				Testing Proof		3/14 4/6
Most negative aspects?						
Tools, methods, and practices that contributed?						
What problems?						
Organizational actions for improvement?						
Technical lessons learned?						
Self-Learning		1/13	1/24			
Hardware Review		1/20	2/14			
				UGRADS Practice		4/6 4/13
				UGRADS		4/6 4/24
				Final Report		4/6 4/27
Midpoint Presentation and Report		2/17	3/2	CAD Package		4/6 4/27

GAANT Chart

Budget Planning: BOM

Part	Material	Quantity	Cost(total)
Tabletop	Wood	1	\$100.00
Workspace	Polycarbonate	1	\$0.00
Legs	Metal	4	\$40.00
Wheelbarrow Tire	Polyurethane	4	\$106.00
Storage Shelf	Wood	1	\$55.00
Drawer	Wood	1	\$25.00
Drawer Slides	Metal/Plastic	2	\$20.00
Drawer Wheels	Metal/Plastic	4	\$10.00
Storage Cover	Polymer	1	\$40.00
Handle	Wood	1	\$4.00
			Total: \$400.00

Bill of Materials

Budget Planning

Anticipated Expenses

- Materials: \$400
- Spare Parts: \$100
- Prototyping: \$50
- Equipment: \$250
- Contingency: \$200

Total Budget: \$1000

Actual Expenses

- Materials: \$0
- Spare Parts: \$0
- Prototyping: \$5.48
- Equipment: \$0
- Contingency: \$0

Remaining Balance: \$994.52

Budget



Questions?
