



NTCC Mobile Labs



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Overview

Gator Mobile STEM Lab

- Activities/Training supported
- Lessons Learned
- Vendors used
- Use of Instructors/ Drivers
- Prime Mover purchased
- Trailer specs & capabilities
- EQ/ Supplies purchased

Mobile Mechatronics Lab

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Gator Mobile STEM Lab



MSL Activities/Training Supported

Highlights

- 3 High School Career Days
- 4 STEM Fests
- STP Schools Kiwanis Career Event
- 2 NTCC Faculty Professional Development
- 4 Lacombe Campus Events
- SLU Sr. Design Class Visit
- LSBA Convention
- LA Fisheries Summit



November – March

1,000+ participants
1400 miles

MSL Covid-19 Response

From March 20th through June 2nd, the Gator Mobile STEM Lab was deployed to Slidell Memorial Hospital where it was converted to a Covid-19 testing station. SMH tested approximately 4,600 people. Those who registered a fever were tested inside the air-conditioned Gator MSL.

MSL Activities/Training Supported

Planned

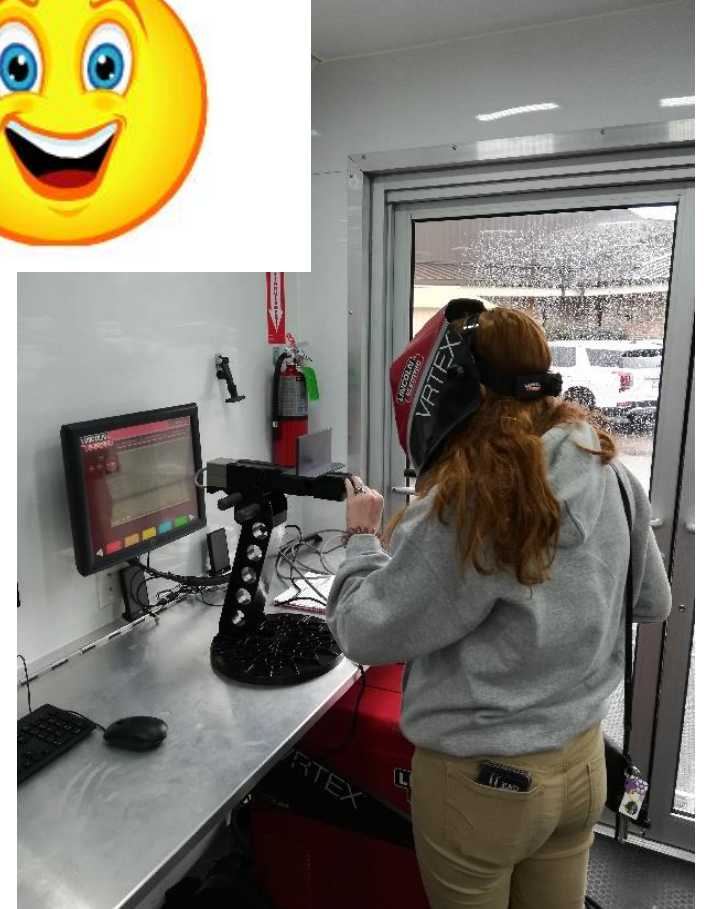
- NC3 Certification Classes
 - Industry 4.0
 - Intro to Mechatronics - Meclabs
 - Robotics
 - PPE
 - Precision Measuring Instruments
- Safety Training Classes
 - OSHA10
 - CPR/First Aid
- Support for
 - On-site Nursing
 - Maritime Technology
 - Drafting and Design
- IT Internships (credit - requires enrollment in IT Internship class)
- Back to School STEMfest (SLU)
- Hammond Air Show
- More HS Career Exploration & Public STEM Events



MSL with the Mobile Maritime Simulator at Pontchartrain Center

Lessons Learned

- Procurement can be expedited with coordination, communication and teamwork
- Check tires pressure and treads early and often!
- Start the graphics approval process as early as possible
- Electric tongue jack and self-leveling systems are suggested
- Use of a smartphone check-in system is recommended for some programs
- Coordinate with site POC to ensure adequate space/parking/overhead clearance/perimeter for pedestrians
- Awnings are nice, but be prepared: the arms can break!
- Ask for volunteers to help direct and limit crowds at large events
- Plan on additional Planned Maintenance for EQ
- Use caution tape to mark steps and trip hazards
- Use theater bollards with caution tape to mark ramp supports
- Some locations may require a boosting antenna for Wireless Internet
- Consider getting Roadside Assistance
- 4T bottle jack
- Roadside Safety kit (reflectors, flares, etc.)





Vendors Used

Trailer

MO Great Dane

Custom Trailer Sales

636-980-0402

ryan@mogreatdane.com

www.mogreatdane.com

Road Cases

Road Cases USA

1121 Lincoln Ave. #20

Holbrook, NY 11741

(631) 256-6527

sales@roadcasesusa.com

<http://www.roadcasesusa.com>

Custom Road Cases:

John Himmaugh & Co.

806 Oak St, St Rose, LA 70087

504-464-8888

504-915-6280 Cell

Himmaugh@cox.net

Graphics (Vector Art Only)

Blake Lagneaux with Khiem Ngo (NTCC)

503 Jefferson Street, Apt 4

Lafayette, LA 70501

337.962.8615

blakelagneaux@gmail.com

Parts/Repairs/Maintenance

Steve's RV Center

29671 N Dixie Ranch Rd

Lacombe, LA 70445

(985) 882-9911

Diesel Fuel

FuelTrac

Extra Locks/Spare Keys/Impact Driver/Tie Downs

The Home Depot

First Aid Kit/Fire Extinguishers/Dehumidifier/Leveling Jacks

Amazon

IT EQ

AT&T Wireless (via State Contract)

Amazon

Floor Mats

Consolidated Plastics

Use of Instructors/Drivers/Support Staff

Lead Instructors & Drivers

- Chuck Crabtree – MSL Manager, Mechatronics/Robotics/PLCs
- Chris Montgomery – MSL Assistant Manager, Safety, Mechatronics/Robotics/PLCs

Adjunct Instructors

- Michael Beauvais – Drafting and Design
- Deborah Carambat – Nursing/Allied Health
- Adronisa Frasier – Biology, Microbiology
- Robert McNabb – PLCs, HVAC
- Robert Pate – PLCs, Electrical
- Cary Riche - IT
- Randy Savoie – Maritime Technology

IT Support:

- Chris Blohm
- Khiem Ngo

IT Interns (cancelled due to Covid-19 closure)

Student Affairs:

- Dr. Christy Montgomery

Administration:

- Dr. William Wainwright
- Dr. Jim Carlson
- Owen Smith, Campus Dean

Facilities:

- Rocky Bork
- Tyrone Jackson

Purchasing:

- Sharon Charrier
- Vicki Mongiat

Finance/Grants:

- Chiietra Brown
- David Lloyd

Prime Mover

Current

Dodge Ram 2500 Heavy Duty HEMI (Unleaded) Fleet Vehicle transferred from NTCC Greensburg Campus.

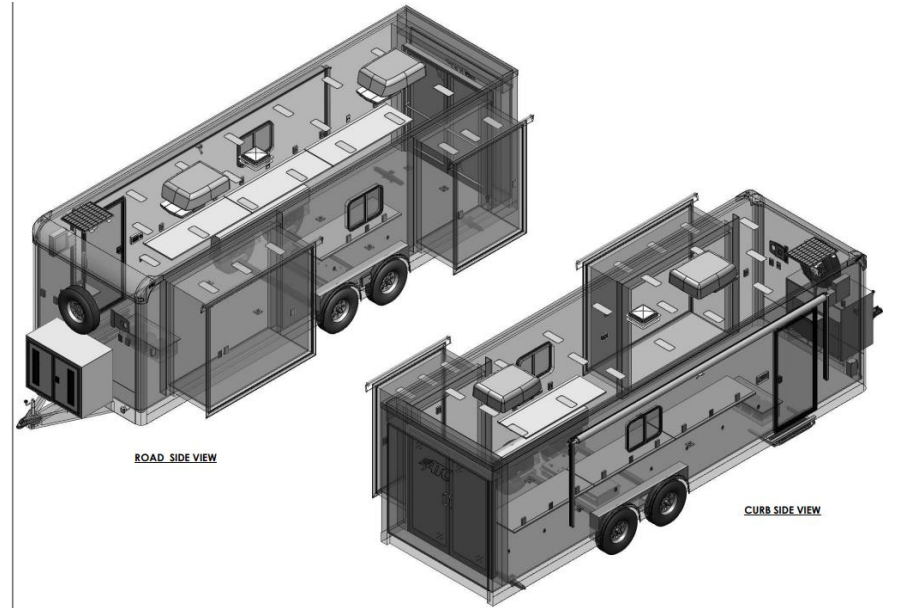
Note: towing package uses a weight distribution hitch, electronic trailer brake system and electric tongue jack. While it does work for MSL, it is not the ideal vehicle for towing heavier trailers. Do not exceed the recommended GVWR or tongue weight.

Planned for Mobile Mecahtronics Lab

Ford F350 State Vehicle Purchase. This vehicle will be outfitted with a standard gooseneck hitch as well as the bumper pull hitch.

Trailer Specs & Capabilities

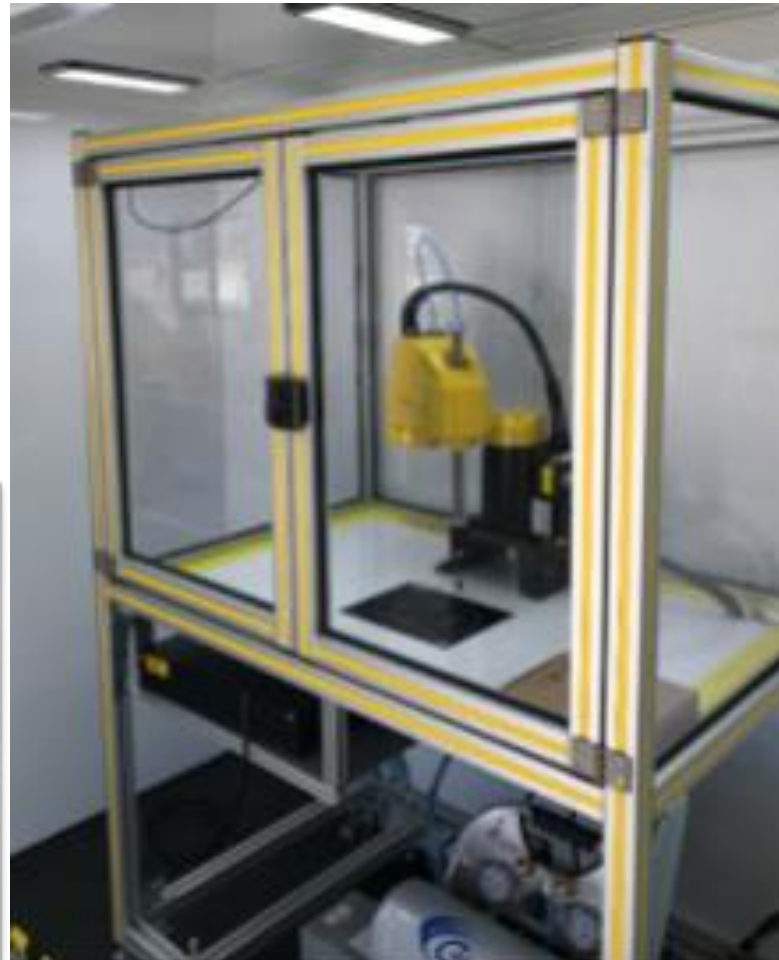
- 8.5 ft x 28 ft Quest Aluminum Bumper Pull
- Dry Weight: 9,264 Lbs. / GVWR: 15,400 Lbs.
- ADA Accessible Ramp
- Double Glass Doors
- Two hydraulic slide outs
- Onan Generator with shore power plug
- Solar panel with chargeable battery bay
- 2x15,000 BTU low profile AC units
- Folding countertops
- Non-skid floor
- Standard outlets with USB ports





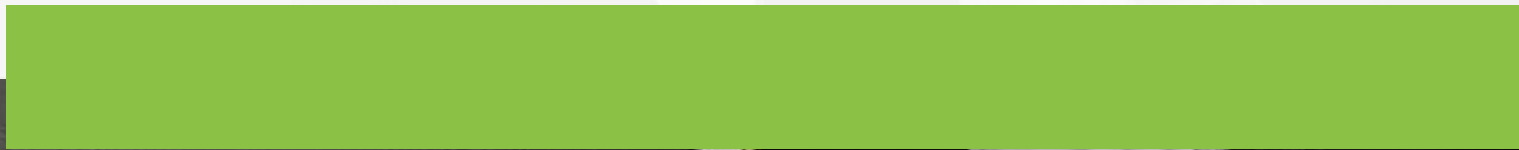
EQ & Supplies Purchased

- Transas Mobile Maritime Simulator
- FutureTek PLC Trainers with Motor Control
- ZSpace VR All-in-one Computer with software licenses:
 - Industrial Robotics
 - Automotive Mechanic
 - Human Anatomy Atlas
- Lincoln Electric VRTEX Welding Simulator
- Makerbot Method 3D Printer
- FANUC SCARA Robot Training Cart
- Heart-Lung Simulator, EKG monitors, wheelchairs
- 2 smart TVs (one is mounted inside, the other has a rolling cart)
- 9 DELL All-in-one computers (one mounted in front for the instructor station)





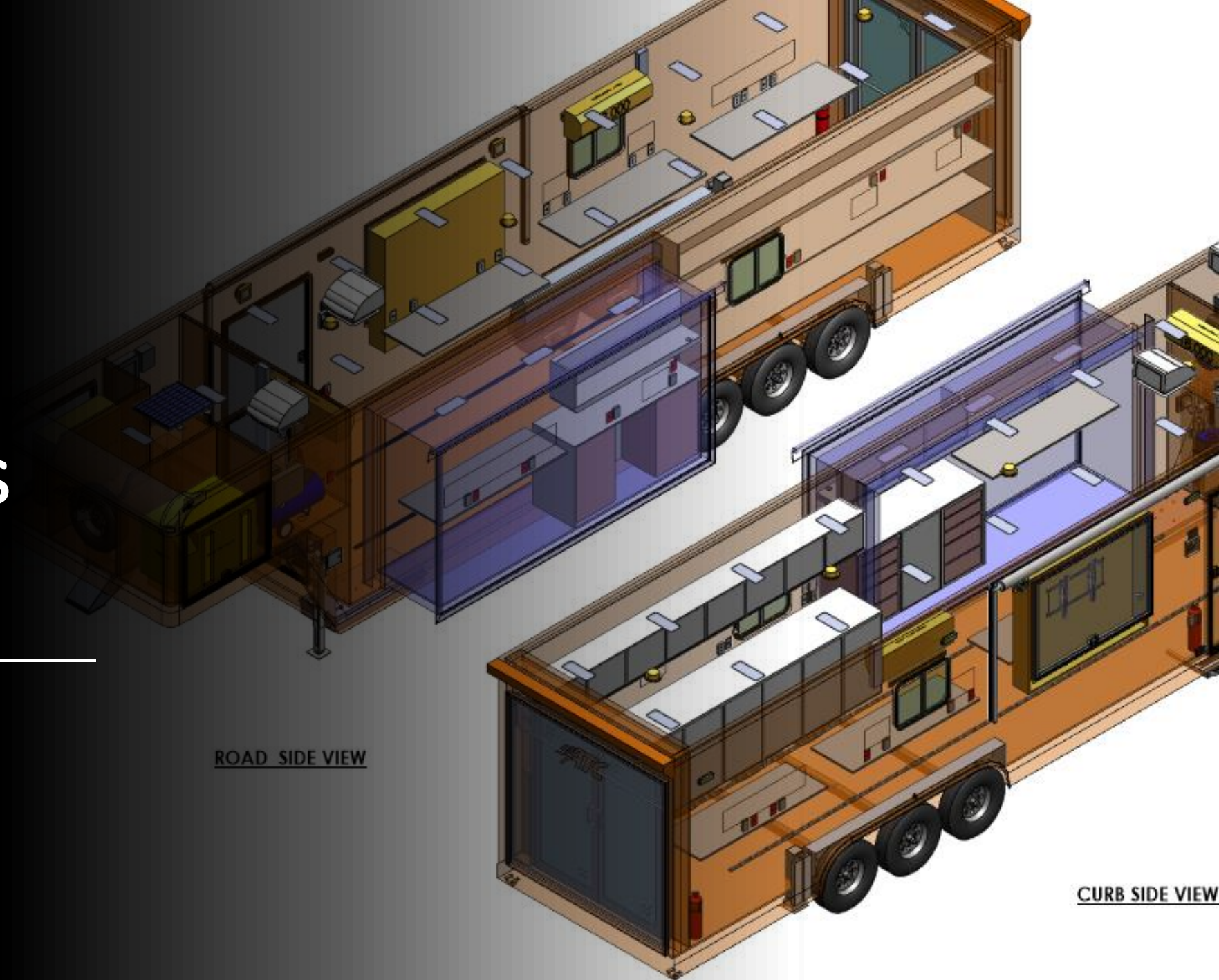
MSL Interior Pictures



Mobile STEM Lab Video Tour



Mobile Mechatronics Lab



ROAD SIDE VIEW

CURB SIDE VIEW

MML Activities/Training Supported

Planned

- NC3 Certification Classes for Mechatronics Apprenticeship Program (Nunez, Delgado, NTCC)
 - Industry 4.0
 - Intro to Mechatronics - Meclabs
 - Robotics
 - PPE
 - Precision Measuring Instruments
 - VR Simulation Training*
- Safety Training Classes
 - OSHA10
 - CPR/First Aid
- Marine Outboard Motor Technician Training*
- IT Internships
- Hammond Air Show?
- HS Career Exploration Events
- STEM Events

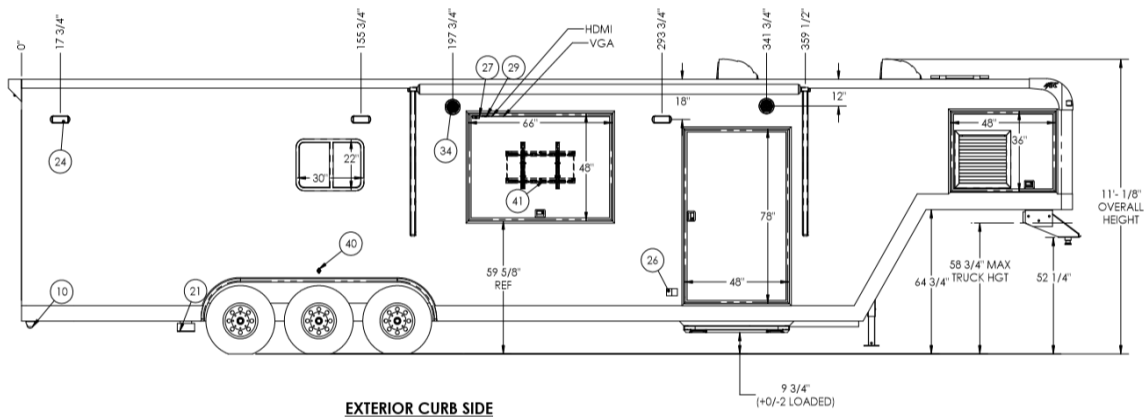
Coming Soon*



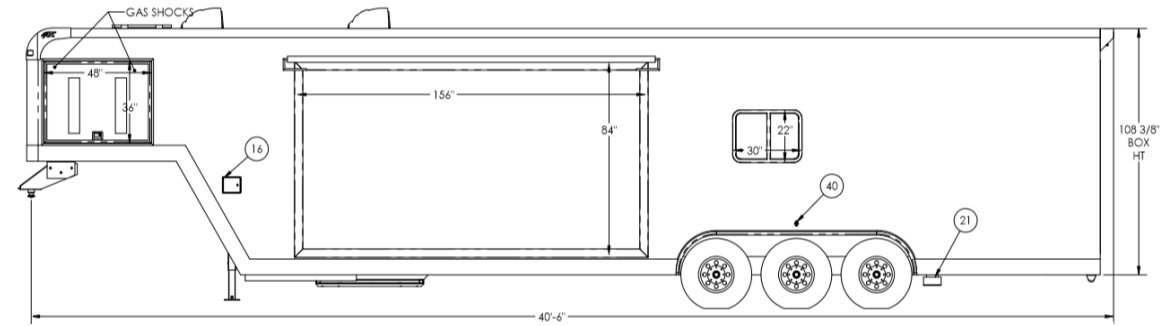
Lessons Learned

- Consider a Ductless Mini-Split rather than Individual AC units
- Self-leveling system will be very important for the smart factory EQ.
- State vehicle procurement process can take months.
- Some purchases require sole source documentation.





EXTERIOR CURB SIDE



EXTERIOR ROADSIDE

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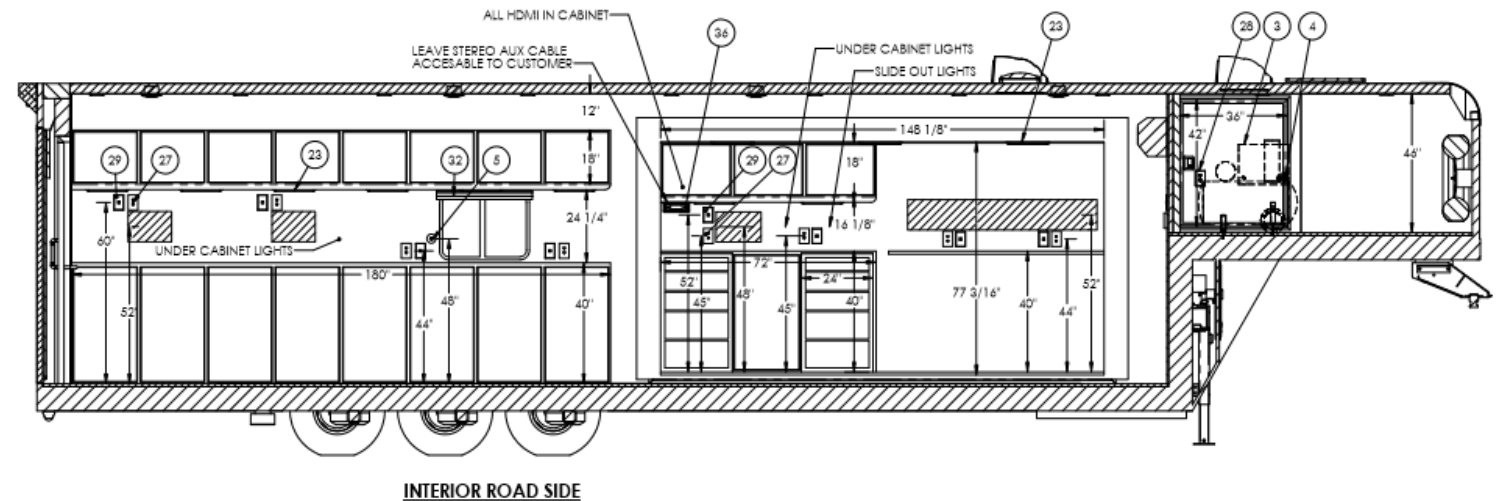
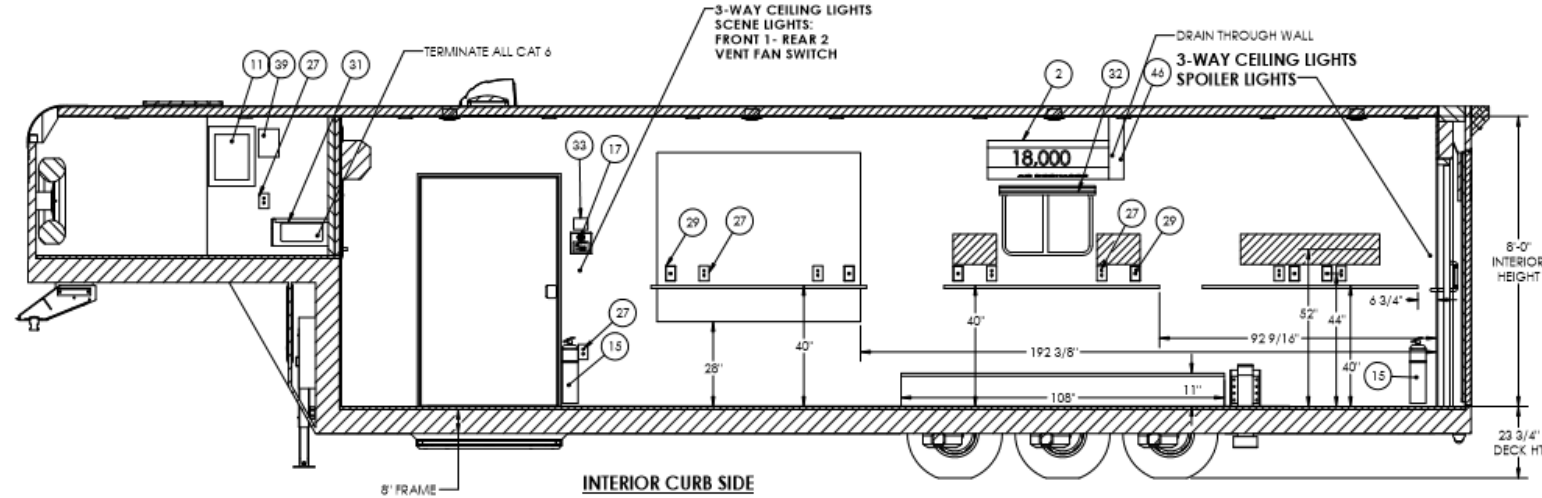
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- Stereo/Speakers/Mic
- Recessed Airline Track
- HVAC: Compressor/Evaporator system
- Air Compressor
- ADA Accessible Ramp
- Double Glass Doors
- One 13 ft hydraulic slide out
- Onan Generator with shore power plug
- Solar panel with chargeable battery bay
- Folding countertops
- Non-skid floor
- Standard outlets



EQ & Supplies Purchased

- 8 station smart factory with Robot Arm (Festo)
- 3 station Meclabs Intro to Mechatronics EQ (Festo)
- NC3 and Amatrol Online Curriculum
- CIROS Software for Robotics Simulation and Offline Programming
- VR Training system with goggles (TransfrVR)
- 2 PLC trainers
- Up to 3 Replicator+3D printers (Makerbot)
- 2 smart TVs (one is mounted inside, the is inside a cabinet facing outside under the awning)
- 9 DELL All-in-one computers (one mounted in front for the instructor station)

