Ventura County Fire Department
44 ft. Hazmat Trailer
Production Specification

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1.0 GENERAL SPECIFICATIONS

1.1 The importance of public safety associated with emergency vehicles requires that the construction of this vehicle meet the following specifications. These specifications are written to establish the minimum level of quality and design. All offerors shall be required to meet these minimum requirements.

1.2 The sheet metal material requirements, including alloy and material thickness, throughout the specifications are considered to be a minimum. Since such materials are available to all manufacturers, the material specifications shall be strictly adhered to.

1.3 The fabrication of the body shall be riveted sheet metal. Riveted components shall allow the VCFPD to have the body repaired locally in the case where any object has struck the body and caused damage.

2.0 TRAILER AND TRUCK SPECIFICATIONS

2.1 Trailer Specifications

- Make: Featherlite
- Model: 1076
- G.V.W.R.: lbs.
- Size and # of axles: Two (2) 25K
- Dimensions:
- 8'6" Wide
- 47' 5¾"(overall including generator compartment
- 12' 10" (Trailer height only)

2.2 Existing Truck Specifications (Tow Vehicle)

2.2.1 Existing truck at VCFDP for this application has the following specifications. It is expected that the trailer will be manufactured to fit the following truck without major modifications to truck.

2.2.2 In the RFP response, describe out any and all difficulties with this union of our truck and your trailer.

2.2.3 The GVW rating of the truck is 35,000 lb.

2.2.4 Front axle rated at 12,000 lb.

2.2.5 Single rear axle rated at 23,000 lb.

2.2.6 The 5th wheel is rated at 55,000 lb.

2.2.7 Manufacturer of the 5th wheel is SAF Holland.

2.2.8 Total GVWC is 69,000 lb.

2.2.9 The CA is 85".

2.2.10 The wheelbase is 160".

2.2.11 The top of the 5th wheel to the ground is 50".

2.2.12 From the 5th wheel pin area to the back of the frame of the truck is 41".

2.2.13 From the back of the 5th wheel to the rear of the frame rail is 28".

2.2.14 From the top of the 5th wheel to the top of the frame rail is 9".

2.2.15 From the 5th wheel pin to the headache rack is 72".

2.2.16 From the headache rack to the cab is 11".

2.2.17 Total length of 5th wheel is 22".

2.2.18 From the 5th wheel plate up to the light bar on top of the headache rack is 70".

2.2.19 The truck chassis has an air bag suspension.

3.0 SUSPENSION, RUNNING / STABILIZING GEAR AND AIR SYSTEM

3.1 Suspension

3.1.1 25k with Dual H/P Arvin Meritor brand air brake tandem dual rear axles shall be provided. This shall not be less than 10% of maximum weight.

3.1.2 Hendrickson Turner HT250.135US Quick Align Air-Ride suspension shall be provided. Suspension shall meet the requirements of the total G.V.W.R. of the trailer by not less than 10% of maximum weight.

3.1.3 Measurements

a. 49" spread of rear axles.

b. 34' 9" from king pin to the center of the rear axles.

3.2 Tires

3.2.1 (8) Goodyear brand 275 /70R22.5 LRJ Tires. This shall not be less than 10% of maximum weight.

3.3 Wheels and Hubs

3.3.1 (8)10H Alcoa Polished Aluminum Dual-Hub Pilot Provide outer wheels polished aluminum and inner wheels mill finished Alcoa. They shall be rated to the total GVWR of the trailer. This shall not be less than 10% of maximum weight.

3.3.2 (1) 10H Alcoa Polished Aluminum Dual-Hub Pilot outer wheel and (1) 10H Alcoa mill finish Aluminum Dual-Hub Pilot inner wheel with (2) 275 /70R22.5 LRJ Tires. Provide two spare tires and matching one (1) polished outside and one (1) inside mill finish wheels, shipped loose.

3.3.3 Provide dual-hub piloted wheels. To be rated to the total GVWR of the trailer. This shall not be less than 10% of maximum weight.

3.3.4 There shall be Arvin Meritor TB Series Unitized Hubs installed.

3.4 Brakes

3.4.1 The brakes shall be Arvin Meritor brand 16.5" x 7" drum type brakes with automatic slack adjusters and Arvin Meritor TSE series brake cans for parking, while not hooked up to the tractor.

3.5 Chassis, King Pin & Landing Gear Assembly

3.5.1 **.**188 x 7.75" 6061-T6 extruded aluminum perimeter semi bottom rail. The rail is designed with an extended flange to permit huck riveting through to I-Beams, and a vertical flange so the side posts will stand along the outer edge or provide alternate method

3.5.2 4" aluminum "I" beams on 12" centers.

3.5.3 Min. 125 / 3105-H14 41 smooth aluminum**.**

3.5.4 Cross members alternating on each side of the I-beam. Welds to be a minimum of 3" on 12" centers.

3.5.5 Steel king pin assembly with the pin set at 18" from the front of the trailer and 48" from the ground. If different, please spell out.

3.5.6 Provide Holland Mark V front landing legs with 2 speed, & cushioned feet pads.

3.6 Leveling System

3.6.1 Provide and install one Big Foot four point automatic one touch leveling system. It shall be a Quadra 4-post independent, 4 corner hydraulic landing gear & leveling system with sand pads for soft terrain.

- **a.** Install air ride dump valve to release air from air bags if necessary during leveling.
- **b.** Provide level meters and leveling controls on a 25' corded control pendent.
- **c.** Provide a warning light in tractor and trailer to indicate levels down.
- **d.** The control pendent will be located in the rear streetside belly compartment.

3.7 Air System

3.7.1 Provide two (2) 2800 cubic inch air tanks for accessory air. These shall be used for air seats in trailer, air bags, air mast, and air horns.

3.7.2 Provide two (2) 1488 cubic inch air tanks for brake system.

3.7.3 There shall be an air gauge mounted near the switch panel in trailer showing accessory air system pressure.

3.7.4 Provide DOT required air tanks for brake system.

3.7.5 Provide manual drain valves on all air tanks.

3.7.6 All air tanks shall be clearly, permanently identified on the bottom of the tank.

3.7.7 Provide manual pull cables to the outside of the trailer hooked to manual drain valves.

3.7.8 Provide an accessory 12-volt air compressor to "keep full" (120 psi) all accessory tanks on trailer. Air compressor shall be mounted in an accessible spot in a compartment**.**

- **a.** The air compressor will be located on the streetside of the trailer, aft of the landing gear, inside of the underbody area of the trailer. The compressor will allow for ease of service.
- **b.** Provide one (1) 9" OnScene Solutions LED compartment light with switch located near the door opening to the compressor storage area.

3.7.9 Air dump to air bags provided for lowering trailer to remove ATV.

- **a.** The air suspension dump valve will be located in the rearmost streetside belly compartment.

4.0 SIDE WALL, REAR FRAME & GATE CONSTRUCTION

4.1 Minimum .125" x 5.6" x 2" 6061-T6 aluminum vertical post for the side walls located on 19" centers.

4.2 .090 Aluminum seamless sheeting with a two color painted finish and 1/8" painted blue pinstripe.

4.3 The forward corners of the trailer shall be a 10" radius and shall be of stainless steel, mirror finish .048".

4.4 Exterior Wall Fasteners

4.4.1 Please provide this as an optional price.

*** If this option would not be chosen, visual AVEX rivets would be used.

4.4.2 Mechanical fasteners shall not be visible on the vertical seams of the sidewall.

4.4.3 The seams of the sheets to be mechanically attached to the side posts using the AVEX rivets. These shall not be exposed to the outside of the trailer.

4.5 Rear Lift Gate

4.5.1 Rear frame constructed to incorporate a lift gate, which shall allow storage of four (4) wheeled equipment in the lab area.

4.5.2 Provide a Waltco Brand WDV series 3500 pound rear hydraulic lift gate with remote pendant with a 25 ft. cord. The lift will include a set of clip-on steps (with hand railing) designed to store under the center section of the rear body.

a. The lift gate controls will be located in the rearmost streetside underbody compartment.

4.5.3 The lift gate shall have a manual actuation mechanism so the gate can be operated in the event of power failure.

4.5.4 When the gate is raised to full height there shall not be any part of the gate mechanism to extend above the roof of the trailer. This is for loading and unloading only. The gate will operate only in the horizontal position and will be raised or lowered as needed to drive or walk in to the back of the trailer.

4.5.5 The rear lift gate shall have anti-skid grip tape type material or NFPA compliant tread plate applied to the walking/driving surface.

4.5.6 The ramp deck shall be approximately 96 inches long and 86 inches wide.

Note: Lift gate design may not hold ATV vehicle as originally requested. FD will need to verify dimensions before purchase of ATV.

4.5.7 It shall be secured in the up or stowed position during transport.

4.5.8 The lift gate shall have a minimum rated capacity of 2,500 lbs.

4.6 Rear Swing Barn Doors and Rear Sample Compartment

4.6.1 There shall be 85” height swing doors (Barn style) at the rear of the trailer in order to secure the trailer. The size shall be 82” (+/- 2”) high and 64” (+/- 2”) wide.

4.6.2 Doors shall seal completely to weather while stationary and moving.

4.6.3 Provide the ability to open left door independently while keeping right door securely closed. They both shall be latched at the top and bottom.

4.6.4 The left door shall open easily with a stainless steel or chrome plated paddle type latch on the exterior and a stainless steel or chrome plated paddle type latch on the inside (or similar). The left door must be easy to open with just one hand.

4.6.5 The left door shall be able to be opened from both inside and outside. The right door shall only be able to be opened from the inside.

4.6.6 The doors shall not create a full width opening to the rear. This would interfere with the interior lab counter. The doors are set off-center to the right of the rear wall of trailer, curbside.

5.0 RECESSED SIDE LADDER AND REAR UPPER PLATFORM

5.1 Side Ladder

5.1.1 There shall be a recessed ladder located on the curbside portion of the trailer, just rear of the gooseneck. Step cleats shall be provided in the lower trailer area to assist in accessing the ladder. Weight capacity shall be rated at 300 lbs.

5.1.2 The ladder shall encroach approximately 3-1/2” on the interior usable space of the trailer.

5.1.3 The ladder shall have rung spacing at a maximum of 12” with the rungs being covered with NFPA approved aluminum tread plate. Each ladder rung will measure a minimum of thirty-five (35) square inches to meet the NFPA requirement for a stepping surface.

5.1.4 Provide step cleats (as needed) to allow access to the ladder from the ground.

5.2 Roof Access Handrail

5.2.1 There shall be a handrail / grab handles that mounted on top of body to assist in roof access.

5.2.2 Provide two (2) grab handles that shall be NFPA compliant. They shall be chrome finished plated. Either handle shall be set for a person's height of 5" 8". Weight capacity shall be rated at 300 lbs.

5.3 Rooftop Observation Area

5.3.1 Provide and install an observation platform on the roof of the trailer. The platform shall start near the aft edge of the roof access ladder.

5.3.2 The platform will be a minimum of 10' x the width of the trailer.

5.3.3 Provide 42" high fold down aluminum perimeter railing. Materials and design will meet OSHA specifications and standards.

5.3.4 Railings will set-up easily without the use of tools.

6.0 ROOF CONSTRUCTION

6.1 Semi extruded aluminum roof rail extrusion. 7.125" wide 6061-T6 built with a slot to accept both of the roof bows, side posts and truss.

6.2 .125" x 5.6" 6061-T6 extruded "Hat Channel" aluminum roof bows on 12" centers.

6.3 .040 one piece aluminum roof skin attached to roof rail extrusion using a pierce & roll method, which drives a stainless steel rivet through the roof skin and expands the fastener inside the aluminum roof rail extrusion.

6.4 Provide polished, NFPA Tread plate roof overlayment on roof (viewing platform area only). It shall be securely attached to the roof. Weight rating shall be 32 pounds per square foot or 280 pounds per running foot or 15 people per an 8.00 foot x 12.00 foot section.

7.0 ELECTRICAL

7.1 All wiring shall be routed to eliminate exposure to outside elements.

7.2 Wiring shall be color-coded and the number printed every three (3) inches with the circuit function over each conductor's entire length. Identification shall be heat applied.

7.3 Provide a 12-volt electrical system using the most current materials and techniques available to the industry. The vehicle shall have multiplex wiring and components. Installation shall be stranded copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected.

7.4 Insulation shall be in accordance with SAE J1128, Low Tension Primary Cable, type SXL or GXL, and wired to SAE J1292, Automobile, Truck, Truck tractor, Trailer and Motor Coach Wiring, for such loading at the potential employed. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. Overall covering of conductors shall be 280° F (143° C) minimum flame retardant, moisture resistant loom or braid.

7.5 All connections shall be made with terminals mechanically secured to conductors (staked, not squeezed). Wiring shall be thoroughly secured in place and suitably protected against heat, oil and physical damage. "ScotchLoc" type connector will not be acceptable.

7.6 Battery cables shall be rubber coated type SGR.

7.7 All circuits to be protected by circuit breakers. All switches, relays, circuit breakers and electrical components shall have permanent identification at the component or immediate vicinity. All solenoids to be Trombetta brand.

7.8 **A placard shall be included at the electrical panel (for both low voltage and high voltage systems) to identify any circuits that need to be disconnected prior to welding on the apparatus. Any individual circuits shall be labeled adjacent to the connection.**

7.9 Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture, dirt, and automotive fluids. All connections shall be made with lugs, terminal blocks or junction boxes. Scotch lock type connectors are not acceptable. All canon type plugs shall be DEUTSCHE heavy duty metal-clad/plastic. Each wire to be individually sealed. No exceptions.

7.10 Any electrical component that is installed in an exposed area shall be mounted in a manner that does not allow moisture accumulation. Provide drip loop if necessary for components. Corrosion preventive compound shall be applied to all terminal plugs, ends, sockets, or connectors attached to these components unless prohibited by the component manufacturer.

7.11 All ground wires shall run directly to a ground connection on the frame (welded studs). Lock or star washers are not acceptable and all paint or foreign material shall be removed beneath all ground connections on truck.

7.12 A compartment shall be provided to house the vehicle's electrical control center. Control center shall contain electrical wiring junctions, terminal strips, relays, circuit breakers and flashers. Control center shall be easily accessible for maintenance. A weatherproof compartment door with a latch shall be provided.

7.13 A high quality, chemically resistant, color or black and white, diagram of the power distribution and circuit protection system shall be provided and affixed inside the electrical compartment to allow immediate identification of all components, or provide node identification on diagrams.

7.14 The electrical system shall include means to control undesired electromagnetic and radio frequency emissions. The apparatus shall have the ability to operate in the environment typically found in fire ground operations with no adverse effects from EMI/RFI.

7.15 The low voltage electrical system shall meet or exceed current NFPA 1901 Standards and SAE J1292 requirements.

7.16 Identification shall correspond with schematics provided with the vehicle.

7.17 Wiring shall be mounted in high temperature protective loom secured to body with bolted on clips with nylon wire ties.

7.18 The XLP wiring shall have an operating temperature range of -60°F to 257°F.

7.19 Cross-linking changes thermoplastic polyethylene to a thermosetting material which has greater resistance to environmental stress cracking, cut-through, ozone, solvents and soldering than either low or high density polyethylene.

7.20 Where wire passes through sheet metal, grommets shall be used to protect wire and wire looms.

7.21 Wiring shall be protected against heat, liquid contamination and damage.

7.22 Electrical connections shall be with double crimp water-tight heat shrink connectors.

7.23 Wire nut, insulation displacement, or insulation piercing connections shall not be acceptable.

7.24 All 12 volt wiring running from front to back of apparatus body shall be run in full length electrical wiring raceway down each side of body. There shall be break out and access points for future troubleshooting upgrades.

7.25 All 12 volt circuits shall be protected with properly rated low voltage over current devices.

7.26 Such devices shall be readily accessible and protected against overheating, mechanical damage, and water spray.

7.27 All switches, relays, terminals and connectors shall have a rating of 125% of maximum current for which the circuit is protected.

7.28 A complete electrical wiring schematic of actual system shall be provided with finished apparatus, as wired.

7.29 Similar or generic type electrical schematics shall not be acceptable.

7.30 A low voltage final test certification shall be provided with delivered apparatus.

7.31 12 Volt Diagnostic Relay Control Center

7.31.1 The 12 volt power distribution shall be conveniently located with easy access for service. It shall be clearly identified.

7.31.2 All relays and circuit breakers shall be plug-in type allowing for removal for repairs without necessitating soldering or tools.

7.31.3 The sockets mounts for both the relays and circuit breakers shall be of a design that permits the use of standard automotive type components.

7.31.4 The 12 volt distribution panel shall utilize printed circuit boards mounted in high strength enclosure.

7.31.5 Each printed circuit board shall be provided with twelve (12) heavy-duty independent switching relays.

7.31.6 Each relay shall have the ability to be configured either normally open or normally closed and be protected by a 20 amp automatic reset breaker.

7.31.7 Each circuit will be provided with a LED for visual diagnostic.

7.31.8 Power distribution panel shall be located in apparatus body within a protected enclosure with removable or hinged cover.

7.32 Rocker Switch Panel

7.32.1 The control of the 12-volt equipment installed on chassis and body shall be centrally located in the trailer. It shall be accessible and identified.

7.32.2 Provide two additional spare lighted rocker switches and installed in switch panel.

7.32.3 The back lighting shall have two (2) levels of intensity, low level lights activated when the vehicle lights or ignition switch is turned "On", and high level lights activated when individual switch is turned "On".

7.32.4 An internally lighted rocker switch shall be furnished to the left of specified emergency lighting switches, and identified as "MASTER EMERGENCY SWITCH". This shall shut all power off completely.

7.32.5 Switch circuitry shall be on a printed circuit board with solid state type lighting with a 100,000 hour life span.

7.33 Lighting (OEM)

7.33.1 Tail Lights

a. Running and taillights to be all LED with a five (5) year replacement warranty.

b. Rear body taillights shall be horizontally mounted per Federal Motor Vehicle Safety Standards.

c. The following rear lights shall be furnished and installed:

- Two (2) Whelen amber LED 600 Series 60A00TAR Turn signal lights. Amber lenses. Position: middle (2nd position).
- Two (2) Whelen red LED 600 Series 60R00XRR stop/tail lights. Full population light. Red lens. Position: outer edge (1st position).
- Two (2) Whelen clear LED 600 Series 60C000WCR back-up lights with clear lens. Full population light. Position: innermost (3rd position).
- Two warning lights. Position: above taillights in separate bezel. See Warning Light Section 7.33.5.
- Two (2) Cast Products Triple Horizontal polished aluminum light housings (PN LH46118) shall be provided, one (1) each side horizontally mounted on the rear of the apparatus body for the above tail lights.

Note: The following items in Section 7.33.1 a. are repeats of the above bullet points will not be included in this production specification.

- ~~Rear lower lights to be in a Whelen stack four (4) housing.~~
- ~~Rear Whelen 600 series amber LED turn arrow to be in the 3rd position from the bottom. Amber lens.~~
- ~~Rear Whelen 600 series LED brake/turn light to be fully populated and in the 2nd from bottom. Red lens.~~
- ~~Rear Whelen 600 series LED back up light to be fully populated and in the bottom position. Clear lens.~~

7.33.2 Midship Marker/Turn Signal

a. Two (2) Whelen LED midship body clearance marker/turn signal lights (T0A00MAR) shall be installed.

b. There shall be one (1) light on each side of the body, ahead of the rear axle.

c. Both lights shall have an amber lens and operate with the chassis clearance marker and turn signals.

7.33.3 Marker Lights

a. The apparatus body shall be equipped with all necessary clearance lights and reflectors in accordance with Federal Motor Vehicle Safety Standards (FMVSS) regulations.

b. All body clearance lights shall be LED to reduce the need for maintenance and lower the amp draw.

c. Clearance lights shall be wired to the headlight circuit of the chassis.

7.33.4 Step Lighting and Ground Lighting

a. There shall be three (3) OnScene Solutions 9" LED Nightstik light(s) installed on the apparatus. One (1) shall be located under each entry door and one (1) located under the recessed ladder.

b. Lights shall be placed at each entry door and step where personnel climb on or descend from the apparatus to ground level.

c. All of the ground lights shall be activated when the parking brake is set.

d. Lighting shall have 5 (five) year free replacement/100,000 hour service life.

e. Ground lights shall activate off the park brake switch, and also have an override switch to turn them off separately with the park brake switch activated. The override switch shall be located inside the streetside entry door adjacent to the interior light switch.

f. LED access lighting shall be provided into trailer at all entrances.

g. The ground lights shall be located one (1) under the streetside entry door, one (1) under the curbside entry door, and one (1) under the recessed roof access ladder.

7.33.5 Warning Light Package

a. The warning lights shall operate with the tractor connected or not. When the tractor is out of service the lights shall be switched at a 12-volt control panel located on the forward curbside desktop component console in the gooseneck area on the trailer. This would be for emergency temporary replacement of the tractor.

b. The following lighting package includes all of the minimum warning light requirements to comply with the most recent NFPA 1901 Fire Apparatus Standard.

c. All LED lights shall have five (5) year free replacement warranty.

7.33.6 Upper Warning Light System

~~**a. ZONE A, FRONT SIDE**~~

Note: Section 7.33.6 a. was removed from the specification in the Pre-Construction Meeting and will not be included in this production specification.

- ~~There shall be two (2) Whelen M7R lights (7 5/8" X 3 3/8") Linear LED Lights. Red lenses with chrome finished flanges, P/N M7FC.~~
- ~~The lights shall be switched at 12-volt control panel in cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.~~

b. Zones B and D, SIDE UPPER Warning Lights

- There shall be six (6) Whelen M-9 series lights (10 3/8" X 6 1/2"). Linear Red LED lights (M9R), three (3) on each upper side, six (6) total. Install red lenses on all lights. Each light shall have a chrome flange, part # M9FC.
- Each light shall have a chrome finished flange. The light shall be switched at the 12-volt control panel in the cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.

b. Zone C, REAR UPPER Warning Lights

- There shall be two (2) Whelen M-9 series (10 3/8" X 6 1/2") Linear -LED lights. Provide one (1) Red on the upper right rear side and one (1) Amber (M9A) in the left upper rear. Lenses to match lights. Flange to be part number #M9FC.
- The lights shall have a red lens on the right and amber on the left. They shall both have chrome finished flanges.
- The lights shall be switched at the 12-volt control panel in the cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.

7.33.7 Lower Warning Light System

~~**a. ZONE A, FRONT SIDE**~~

Note: Section 7.33.7 a. was removed from the specification in the Pre-Construction Meeting and will not be included in this production specification.

- ~~There shall be two (2) Whelen M7R lights (7 5/8" X 3 3/8") Linear LED Lights. Red lenses with chrome finished flanges, P/N M7FC.~~
- ~~The lights shall be switched at 12-volt control panel in cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.~~

b. Zones B and D, LOWER SIDES

- There shall be six (6) Whelen M7R lights. (7 5/8" X 3 3/8") Linear -LED lights. Three (3) each side. Red lenses with chrome flanges, P/N M7FC.
- Each light shall have a red lens and chrome finished flange (7EFANGE).
- The lights shall be switched at 12-volt control panel in cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.
- The lights will be located as follows, one (1) each side at the front corner of the lower section just aft of the gooseneck, one (1) each side just ahead of the rear axle and one (1) located each side at the rear side corner.

c. Zone C, LOWER-Rear Warning Lights

- There shall be two (2) Whelen M7R lights. (7 5/8" X 3 3/8") Linear -LED lights. One (1) each side. Red lenses with chrome flanges, P/N M7FC.
- Each light shall have a red lens and chrome finished flange (7EFANGE).
- The lights shall be switched at 12-volt control panel in cab and trailer switch panel. This would be for emergency temporary replacement of the tractor.

7.34 Exterior Lighting

7.34.1 Side Scene Lights (LED 12 volt)

a. There shall be eight (8) Whelen LED 900 series (9" x 7"), Part #90C0ENZR recess mounted provided on the upper body. Three on each side (evenly spaced, front mid and rear) and two (2) on the upper rear.

b. Each light will have an 8-32 degree gradient lens and chrome finished flange. Part #90FLANGC (Whelen).

c. Three (3) switches shall be provided, one (1) for the street side scene lights, one (1) for the curbside scene lights at inside of door and one (1) for the rear lights.

- These switches shall be located in the rocker switch panel on the rearward curbside desktop component console.

d. Provide an additional switch in the lower rearmost streetside underbody compartment to operate the rear scene lights from the exterior of the trailer.

e. The rear scene lights shall also be activated when the apparatus is in reverse.

7.35 Portable 110 Volt Lighting and Power Reel

Note: Sections 7.35.1 through 7.35.5 were not selected as an option with the bid spec and will not be included with this production specification.

7.35.1 ~~Provide four (4) HIR Havis Sheilds, Model KR 36. 750 watt, HID (6.25 amp @120 volt) lights at 25,200 lumens each.~~

7.35.2 ~~Provide four (4) KR-800 demountable tri-pod mounts. Part # KR-5B-836-DM-TM (Havis Shields).~~

7.35.3 ~~Store the lights in the compartment with the cord reel. Two (2) lights per side.~~

7.35.4 ~~Provide four (4) Havis Sheilds, Model 36-DM demountable fixtures.~~

7.35.5 ~~Provide four (4) KR-GG-3000 grill guards for the front of the KR-36 lights.~~

7.35.6 Provide and install two (2) power cord reels for lighting. Each cord reels shall be a Hannay ECR1618-17-18 cable reel capable of storing 200' of 10/3 electric cable. The rewind switch for each reel shall be located adjacent to the reel it controls. The cable reel shall be equipped with 200' of 10/3 SEOOW black cable, a molded plastic ball clamp, and a single heavy duty L5-30 twist-lock female plug at the end.

a. ~~The cable reels shall be located one (1) on each side of the trailer, just forward of the rear axles in the underbody compartment area. An access panel shall be provided if necessary to allow for ease of servicing.~~

7.35.7 Provide a four (4) outlet box at the end of each cord real. The outlets shall be 20 amp connections**.**

7.35.8 All wiring shall be routed to eliminate exposure to outside elements**.**

7.36 HVAC and Heater Systems

7.36.1 The apparatus body shall be supplied with four (4) air conditioning/heater unit(s). The provided units will have (4) CruiseAir condensers (14,000BTU each) located in a recessed pan on the roof (Model ACH14HB).

7.36.2 The HVAC system shall be divided into three zones, Gooseneck area, main trailer (between gooseneck and lab) and Lab area.

7.36.3 A CruisAir SMX Net controller shall be installed in the gooseneck area.

a. The controller shall be located on the rearward curbside desktop component console.

7.36.4 The system will provide the ability to heat or cool each zone independently. The controller will allow the user to set a desired temperature in each zone. The controller will display current temperature of each zone.

7.36.5 Each unit shall be a surface mounted Hoseline model REHU16 evaporator.

7.36.6 The HVAC system shall have a cooling capacity of 56,000 BTU and a heating capacity of 22,400 BTU..

7.36.7 A 3 speed fan shall supply a minimum of 650 cfm air flow.

7.36.8 Each will support its own evaporator.

7.36.9 One (1) shall be located in the lower section of the mast cover housing adjacent to the streetside entrance door and shall exhaust into the front king pin area.

7.36.10 One (1) shall be located above the street side entrance door.

7.36.11 One (1) shall be located above the curb side entrance door.

7.36.12 One (1) shall be located in the rear lab room on the curb side.

~~**7.37 Electrical System Manager**~~

Note: Section 7.37 was removed from the specification in the Pre-Construction Meeting and will not be included in this production specification.

~~**7.37.1** The chassis shall contain an electrical system manager for:~~

~~**a.** Monitoring chassis battery voltage.~~

~~**b.** It shall be accessible.~~

~~**c.** Shedding pre-determined electrical circuits.~~

~~**d.** Sequencing pre-determined electrical circuits.~~

~~**e.** Automatically controlling chassis engine fast-idle.~~

~~**f.** Monitor master switch and parking brake applications.~~

~~**g.** Automatically control warning light modes ("Calling-For" and "Blocking Right of Way").~~

~~**h.** Provide low voltage alarm.~~

~~**i.** Programmable control circuits.~~

~~**j.** Remote system status indicator panel.~~

~~**7.37.2** System manager shall perform all electrical functions required by current NFPA 1901 Standards.~~

~~**7.37.3** The electrical system manager shall be supplied and installed by the cab/chassis manufacturer.~~

~~**7.37.4** **The sequence to be provided at pre-conference.**~~

7.38 Back-Up Alarm

7.38.1 The body manufacturer shall furnish and install one (1) 107 dB(A) electronic back-up alarm. It shall be accessible.

7.38.2 Back-up alarm to actuate automatically when the transmission gear selector is placed in reverse.

7.39 License Plate Light

7.39.1 One (1) Arrow #437 chrome finished plated license plate light shall be installed on the rear of the apparatus body. Light to be LED.

7.39.2 License plate light shall be wired to the headlight circuit of chassis.

7.39.3 A fastener system shall be provided for license plate installation.

7.40 Cab Hazard Warning Light

7.40.1 A red "HAZARD" warning light shall be supplied and installed in the rearward curbside desktop component console in the gooseneck area of the trailer by the body manufacturer.

7.40.2 The light shall be labeled "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

7.40.3 Light shall illuminate automatically to warn the driver of the following when the apparatus parking brake is not fully engaged:

a. Any passenger or compartment door is open.

b. Anytime the camera is extended.

c. The light shall be labeled "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

d. Any slide room is not fully retracted.

e. Rear ramp not stowed.

f. Trailer levelers not stowed.

g. The trailer suspension system is not fully inflated.

h. Any other items not listed that are capable of extending from the trailer and must be secured to prevent damage to the trailer or other vehicles during transit.

7.41 30K Diesel Generator / Line Voltage System

7.41.1 Provide and install a Kohler model 30EORZDB, diesel driven generator shall be installed on the apparatus. It must be accessible for service and maintenance.

7.41.2 The generator shall be rated at 30,000 watts at 120/240 volts.

7.41.3 Current frequency shall be stable at 60 hertz.

7.41.4 Generator features shall include:

- **a.** Heavy-duty construction.
- **b.** Inside of the trailer the generator shall have a max. D.B. rating of 60.
- **c.** Outside of the trailer the generator shall have a max. D.B. rating of 55.
- **d.** Battery charging alternator.
- **e.** Water-cooled design.
- **f.** Low oil pressure shutdown.
- **g.** High engine temperature shutdown.
- **h.** Four cylinders.
- **i.** Water-cooled turbocharger.
- **j.** Four cycle engine.
- **k.** Belt guard.
- **l.** Frequency regulation of ± 0.5%.
- **m.** Outstanding motor-starting capability.
- **n.** Electric fuel lift pump.
- **o.** Heavy-duty, dry-type air cleaner.
- **p.** Voltage regulation of ±1.5%.

7.41.5 Charge circuit to battery storage shall have a minimum charge rate of 40 amps to the batteries.

7.41.6 Overall size of generator shall be 56.5" L x 25.6" W x 36.3" H and weigh approximately 1,160 lbs.

7.41.7 Generator Mounting

- **a.** The generator will be mounted in the front compartment on the front of the gooseneck area.
- **b.** The generator shall be mounted on rubber vibration isolators.
- **c.** The compartment shall be reinforced where necessary to hold weight of generator.
- **d.** A valve shall be provided on the generator oil drain outlet and piped to underside of generator compartment with flexible hose and plug.
- **e.** The drain, filters, dipsticks and all methods of checking fluid levels shall be located where easily accessible for generator service is available.

7.41.8 Fuel System

- **a.** The generator fuel system shall be plumbed to the fuel tank located below the generator.
- **b.** Provide a fuel sender and low fuel light sender for a fuel gauge and light located on the rear facing wall of the mast cover, inside of the trailer.
- **c.** The generator fuel line shall be properly protected and secured.
- **d.** The generator shall have enough fuel to be able to run at full output for a minimum of 24 hours.

7.41.9 Cooling

a. The generator is radiator cooled, the ventilation of the generator is crucial and must be clear and sufficient for operating in 100-degree weather. There shall also be a drain line that is accessible for draining the engine and radiator.

b. The installation shall permit operation of the unit while the apparatus is stationary or while it is in motion.

c. The incoming air-flow shall be though stamped louvers in compartment walls and/or doors, or though a hooded vent opening in the compartment roof.

d. The louvers or hooded opening shall provide adequate air-flow for operation of the generator in stationary or moving position.

7.41.10 Exhaust System

a. The generator exhaust system shall be equipped with a heavy–duty, stainless muffler for maximum quieting.

b. The exhaust pipe shall be routed to the top of the trailer on the streetside wall of the generator compartment, if possible.

c. It shall be stainless, securely supported and shall be shielded or insulated to prevent excessive heating of the compartment or accidental burn to an individual. It shall not be mounted where it will enter the trailer.

7.41.11 Manuals and Schematics

a. Two (2) complete manuals on parts list, maintenance, wiring schematics, hydraulic schematics, circuit boards, voltage regulator board and other components shall be provided on delivery. Shipped loose.

7.41.12 Generator Compartment Insulation

a. The generator compartment shall be provided with heavy-duty sound insulation applied to walls and ceiling.

b. Insulation shall have a high temperature rating with a foil facing and attached to walls with a positive type fasteners, glue type adhesive shall not be acceptable.

7.41.13 Generator Controls

a. In addition to the generator controls provided at the generator, there shall be controls provided on the rear facing wall of the mast cover in the interior of the trailer as follows:

- Provide one (1) pre-heat switch.
- Provide one (1) start/stop switch.
- Provide one (1) generator running indicator light.
- Provide one (1) fuel gauge for fuel tank.
- Provide one (1) low level fuel LED red light.

7.41.14 Circuit Breaker Box

a. There shall be one (1) Cutler-Hammer BR Series 120/240 line voltage distribution/breaker panel provided and installed on the rear facing wall of the mast cover in the interior of the trailer. The outer cover of the breaker panel shall be painted white to match the interior of the trailer.

b. All circuit breakers shall be rated to the wire size and load demand.

Note: Section 7.41.14 c. through e. will no longer be applicable with the change to the Cutler-Hammer circuit breaker panel and will not be included in this production specification.

~~**c.** There shall be color-coded LED indicator lights provided to indicate the status of each branch breaker.~~

~~**d.** Each individual switch and all meters shall be back lit for identification in low light situations.~~

~~**e.** The panel shall have four (4) meters: one (1) to monitor frequency, one (1) to monitor line voltage, one (1) to monitor load current (amps), and one (1) hour meter to register genset run time.~~

f. Each circuit breaker shall be hydraulic/magnetic trip free style with a manual reset.

~~**g.** The Paneltronics panel shall also control the manual switch over from shore to generator power.~~

Note: Section 7.41.14 g. will no longer be applicable with the change to the Cutler-Hammer circuit breaker panel and will not be included in this production specification.

- The switching from shore power to generator power or the reverse of shall be automatic.

h. The circuit breaker panel shall be a standard residential type panel which will require the removal of the front sheet metal cover for access to the individual circuit breakers.

i. ~~There shall be an FRC model FROG-D and located adjacent to the circuit breaker panel on the rear wall of the mast cover on the interior of the trailer. This generator output display shall consolidate five (5) generator monitoring instruments into one device. The display case shall be waterproof and have dimensions not to exceed 4 1/4" high by 4 1/4" wide by 3 1/4" deep. The following continuous displays shall be provided with super bright LED digits more than 1/2" high: generator frequency in hertz, line 1 current in amperes, line 2 current in amperes, and generator voltage in volts. The program shall support the accumulation of elapsed generator hours and the monitoring of engine oil temperature. Generator hours and oil temperature shall be displayed at the push of a button.~~

7.42 Interior Lighting

7.42.1 See Sections 18.6 and 18.7 for the location of switches at doors, walls and some lights.

7.43 Shore Power and Inlet

7.43.1 One (1) Hubble or Leviton 50 amp shore power inlet shall be furnished and installed.

7.43.2 ~~The shore power connection shall automatically disengage from vehicle when chassis ignition is engaged.~~

Note: Section 7.43.2 will no longer be applicable with the change to the Hubble or Leviton shore power inlet and will not be included in this production specification.

7.43.3 The shore power inlet shall provide an external power source for apparatus electrical circuits. This will not include the air conditioning unit.

7.43.4 A matching 50 - ampere plug shall be shipped with the apparatus for VCFPD supplied external power source wiring. Shipped loose.

7.43.5 Identify all circuits on the interior that run on the 50 amp circuit on the 'As Built' schematics provided with the completed trailer.

7.43.6 To protect both the generator and external power source from back feed, two (2) 120 volt, 50 - ampere, 4PST auxiliary contact with safety interlock relays shall be installed.

7.43.7 Relay shall cut-off the connection between the generator supply circuit and device circuits when shore power is connected.

7.43.8 The electrical inlet cover shall be as provided by the manufacturer.

7.43.9 The shore power inlet shall be located on the streetside of the trailer, ahead of the entry door.

~~a.~~ ~~Exact Location to be determined at pre-conference.~~

Note: Section 7.43.9 a. is answered in section 7.43.9 above.

7.43.10 Shore power shall be wired to the specified 120 volt inverter.

7.43.11 Battery Condition Indicator

a. Install a battery condition indicator that shows overall battery condition. The indicator shall be mounted on the streetside exterior of the trailer, adjacent to the shore power inlet. It shall be hooked up to the separate battery groups to show state of charge.

b. Kussmaul Model # 091-118-022-12.

7.43.12 Shore Power Inlet-100 AMP

a. A 100 - ampere, 240 volt, single-phase shore power inlet shall be provided on the apparatus to provide an external power source for apparatus electrical circuits. A matching 100 - ampere plug shall be shipped with the apparatus for VCFPD supplied external power source wiring. Loose Equipment. It shall be accessible**.**

- The 100A shore power connector shall be located in the forward streetside underbody compartment (S1). A floor mounted Cast Products hinged door shall be provided to allow the power connector to be routed through the floor of the compartment.

b. Shore power shall be wired to apparatus main circuit breaker in the circuit breaker distribution panel and feed all 120/240 electrical circuits on apparatus.

c. To protect both the generator and external power source from back feed, a manual switch shall be installed at the generator control panel, to cut off the connection between the apparatus circuits and the generator when the external power source plug is in use.

7.44 Outlets and Circuits

7.44.1 The generator shall supply the electrical equipment and outlets outlined below.

a. Proper circuit protection shall be installed as noted:

b. Provide four (4) 120 volt exterior outlets. Two (2) shall be located near the rear wheel well area, one (1) on each side of the trailer, and two (2) shall be located to the rear of the gooseneck, one (1) on each side of the trailer.

c. The exterior receptacle shall be 20 amp, GFI, straight-blade type (NEMA 5-20R).

d. There shall be twenty-four (24) 120 volt, 15 amp, duplex straight-blade (NEMA 5-20R) outlets located on the inside of the trailer. The outlets shall be located as follows:

- Two (2) inside the center section of the cabinet on the front trailer wall in the gooseneck area
- Four (4) above the cabinet on the front trailer wall in the gooseneck area
- Two (2) under the desk in the streetside slide-out
- Two (2) above the desk in the streetside slide-out
- Two (2) in the overhead cabinets in the streetside slide-out (one (1) per cabinet)
- One (1) above the cabinet in the streetside center interior area
- Two (2) under the desk in the curbside slide-out
- Two (2) above the desk in the curbside slide-out
- Two (2) in the overhead cabinets in the curbside slide-out (one (1) per cabinet)
- Two (2) behind the curbside data rack
- One (1) above the SCBA module in the forward curbside area
- Two (2) in the cabinet in the curbside center area
- Exact placement to be determined by the approved sales drawing.

e. Provide six (6) permanent 4’ long power strips. There shall be eight (8) outlets per strip.

f. The interior receptacle shall be 15 amp, straight-blade (NEMA 5-15R).

g. The outlet strips shall be located as follows:

- One (1) above the cabinet in the streetside center interior area
- One (1) above the workbench on the streetside of the lab area
- Two (2) behind the data rack in the curbside forward area
- Two (2) in the cabinet in the curbside center area.
- Exact placement to be determined by the approved sales drawing

7.44.2 Lab 120V Receptacles

a. There will be four (4) 120V 15A duplex (NEMA 5-15R) receptacles located in the lab area.

b. Provide three (3) over the streetside workbench, and one (1) on the curbside wall.

- Exact locations to be determined from the approved sales drawing.

~~**c.** There will be four (4) Hubbell explosion proof plugs shipped loose with the unit.~~

Note: Section 7.44.2 c. will no longer be applicable with the change to standard NEMA 5-15R receptacles and will not be included in this production specification.

7.44.3 Interior Body 120V Lighting

a. There shall be fourteen (14) 120 volt light(s) installed in the walk-in area of the body.

b. The fixtures shall be single bulb, 22 watt fluorescent lights with fully enclosed protective lens covers, and flush aluminum trim.

c. The operation of the lights shall be at both entry doorway areas.

d. The interior lights shall be wired to the generator/shore power systems with a 15 amp circuit breaker protection.

e. The lights shall be located as follows:

- Six (6) in the gooseneck area
- Six (6) evenly spaced throughout the main trailer area
- Two (2) in the lab area.
- Exact placement to be determined by the approved sales drawing

7.44.4 Interior Lab (12V Lighting, Serial Ports and RCA Connections)

a. There will be two (2) OnScene Solutions 6”x10” LED interior lights with bezels and two (2) OnScene Solutions 10” x 10” LED interior lights with bezels provided in the lab area.

b. Two (2) 6”x10” lights shall be located under the overhead cabinets on the streetside of the trailer over the workbench, one (1) 10”x10” light shall be located on the ceiling adjacent to the forward facing wall and one (1) 10”x10” light shall be located on the ceiling adjacent to the overhead cabinets on the curbside wall.

c. Provide (2) serial ports (one out and one in) and two (2) RCA connections (one out and one in). These connections to terminate with their corresponding fittings at the street side workbench.

d. The serial port in and RCA in shall also be connecting into the video control system. Provide additional conduit for future runs of wiring.

e. The serial and RCA ports shall be centered above the workbench on the streetside of the trailer. Exact placement to be determined by the approved sales drawing.

7.45 Inverter and Batteries

7.45.1 The apparatus shall be equipped with one (1) Zantrex, model Prosing 3.0 inverter that provides 120 VAC, 60 cycle, 3000 watt output from 12 VDC with features shown below.

7.45.2 Prosing 3.0 Protection Features:

a. Over-temperature shutdown.

b. Auto overload protection.

c. Battery reverse polarity (fuse).

d. Short-circuit protection.

e. Inverter output PROsine 3.0 Product Features:

- True Sine Wave Output (<5%THD):

f. Super-Quick Transfer: Unit shall have a maximum detect and transfer time of 20 milliseconds ensures critical loads stay powered up when AC power drops away.

g. Multi-Stage Charger: shall be able to be set for either gel, AGM or flooded batteries and delivers 120 amps of charging DC current to the batteries.

- Batteries shall be read individually and charged accordingly. None will be overcharged.
- 99% Charger Power Factor Rating: Shall allow operation from smaller generators. System shall produce 120 amps of charging current and shall only require 17 Amps of AC input power.
- The PROsine 3.0 Inverter/Charger shall deliver 3000 Watts continuous down to 10.5 Volts input.
- Shall have High Frequency Switching Technology. It shall be light weight unit. Approximate weight -32 lbs.

h. Functions of the PROsine 3.0 Inverter/Charger:

- Inverter Function: When the PROsine 3.0 Inverter/ Charger is in inverter mode, it shall draw power from a battery and deliver a true sine wave AC output.
- Charger Function: The “smart" charging capability of the PROsine 3.0 Inverter/Charger shall provide a multistage charge to quickly bring back deep-cycle batteries to their full charge, individually.
- The PROsine 3.0 Inverter/Charger will precisely regulate the voltage and current delivered to the battery, accurately charging the battery without risk of overcharging and battery damage.
- Depleted batteries are taken through the recommended "Bulk", "Absorption", and "Float" stages and a manually set "Equalize" stage is also included, which (if needed) will bring the flooded batteries up to their peak capacity.

i. Automatic Transfer Switch: Supply and install an integral 30 - amp rated relay. It has two functions. When utility AC power fails or is disconnected from the unit, a 20 millisecond (maximum) transfer takes place and the Prosine 3.0 Inverter/Charger begins inverting sending AC power to the required loads.

- When utility AC becomes present again, the control circuit will wait for 8 seconds.

  (During this time the unit verifies the stability of the AC source and synchronizes the inverter to the AC source for a smooth, seamless transfer).
- Battery charging will begin and AC power will be fed through the transfer switch to power the AC loads, when vehicle load is transferred.
- Advanced Control System (ACS). The deluxe ACS Control Panel will be provided with the system control and will display information via a menu driven, 6-level, multi-functional LCD panel. The panel shall be located on the rear facing wall of the mast cover inside of the trailer.
- Detailed information and control is available for: AC information, battery status, inverter mode, charger mode, system info, and Xantrex info at the panel.

7.45.3 Inverter Battery Supply

a. There shall be four (4) Odyssey PC1800 deep cycle batteries provided as the 12-volt power source for the onboard inverter.

b. The batteries shall be mounted under the streetside step well area in a stainless steel pan with hold down provisions and (Black) Dry-deck/Turtle Tile underneath the batteries. They shall have access from the streetside forward underbody compartment (S1) for service. The batteries storage shall include any provisions necessary to allow for easy service and removal when required.

7.45.4 ~~Inverter Battery Supply – VSR~~

Note: Section 7.45.4 will no longer be applicable as the VSR has been deleted on the PCM Change Order and will not be included in this production specification.

~~**a.** There shall be one (1) Voltage Sensitive Relay (VSR) provided with the deep cycle batteries.~~

- ~~This system eliminates the possibility of draining the wrong battery and protects sensitive electronic equipment powered from the house battery from harmful generator engine start up spikes.~~

~~**b.** When the engine is started and the start battery reaches 13.7 volts, the VSR engages, allowing two battery banks (start and inverter supply) to be charged simultaneously.~~

~~**c.** When the voltage drops below 12.8 volts (e.g. the engine is stopped), the VSR disengages and it separates the batteries for charging.~~

7.46 Electrical System General Design 120/240 System

7.46.1 General

a. Any fixed line voltage power source producing alternating current (ac) line voltage shall produce electric power at 60 cycles plus or minus 3 cycles.

b. Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures shall conform to NFPA 70, National Electrical Code (herein referred to as the NEC).

c. Line voltage electrical system equipment and materials included on the apparatus shall be listed and installed in accordance with the manufacturer's instructions.

d. All products shall be used only in the manner for which they have been listed.

7.46.2 Grounding

a. Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC (National Electronic Code).

b. Ungrounded systems shall not be used.

c. Only stranded or braided copper conductors shall be used for grounding and bonding.

d. All grounds must be to clean surfaces.

e. An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC (National Electronic Code).

f. The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts.

g. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC (National Electronic Code).

h. In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor.

i. This conductor shall have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC (National Electronic Code).

j. A single conductor properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.

k. All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.

l. Operation instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the apparatus at any point where such operations can take place.

m. Provisions shall be made for quickly and easily placing the power source into operation.

n. The control shall be marked to indicate when it is correctly positioned for power source operation.

o. A power source specification label shall be permanently attached to the apparatus near the operators control station.

p. Portable generator installations shall comply with Article 445 (Generators) of the NEC (National Electronic Code).

7.46.3 Over-Current Protection

a. The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device shall not exceed 144 inches in length.

b. For fixed power supplies, all conductors in the power supply assembly shall be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit.

c. For portable power supplies, conductors located between the power source and the line side of the main over current protection device shall be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit.

7.46.4 Wiring Methods

a. Fixed wiring systems shall be limited to either metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit or Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit.

b. Electrical cord or conduit shall be supported within six (6) inches of any junction box and at a minimum of every 24 inches of continuous run.

c. Supports shall be made of nonmetallic materials or corrosion protected metal.

d. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.

7.46.5 Wiring Identification

a. All line voltage conductors located in the main panel board shall be individually and permanently identified.

b. The identification shall reference the wiring schematic or indicate the final termination point.

c. When pre-wiring for future power sources or devices, the non-terminated ends shall be labeled showing function and wire size.

7.46.6 Wet Locations

a. All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, shall be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.

b. There shall be four (4) outside locations on both sides. Two (2) shall be next to rear duals and two (2) by the gooseneck area.

c. All receptacles on trailer shall be a minimum of 30 inches from the ground.

d. The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical.

e. No receptacle shall be installed in a face up position.

f. **Exact location to be determined at the pre-conference**.

7.46.7 Dry Locations

a. All receptacles located in a dry location shall be of the grounding type.

b. Receptacles shall be not less than 30 inches above the interior floor height.

c. All receptacles shall be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps.

d. If the receptacles are direct current, or other than single phase, they shall be so marked.

e. **Exact location of all receptacles to be determined at the pre-conference**.

7.46.8 Listing Receptacles

a. All receptacles and electrical inlet devices shall be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards.

b. Receptacles used for direct current voltages shall be rated for the appropriate service.

7.46.9 120/240 Volt Wiring System

a. The complete wiring and electrical installation shall conform to present National Electrical Code and the National Fire Protection Association standards.

b. The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the market.

c. The equipment shall be the type as designed for mobile type installations subject to vibration, moisture, and severe continuous usage.

d. The following electrical components and wire shall be the minimum acceptable standard for this type of apparatus.

- Wiring: All electrical wiring shall be fine stranded copper type THHN.
- The wire shall be sized to load and circuit breaker rating.
- Wiring shall be color coded and printed with function every 3" for easy identification.
- Conduit: All 120/240 volt wiring in the apparatus body shall be routed through flexible moisture resistant reinforced conduit, with proper seal tight connectors and hardware.
- Labeling of Equipment: All circuit breakers shall be labeled to indicate purpose.
- Metal engraved or plastic coded labels shall be provided for all exterior and interior outlets indicating output voltage and amperage.
- Schematic: An "As-Built" electrical wiring diagram schematic will be supplied with the completed apparatus.

7.47 Antennas

7.47.1 Antennas – Generator Compartment Rooftop Mounted (See drawing for Gen Box Height and verify application for antennas.

a. There shall be eight (8) antenna bases located on the front of the trailer, on top of the generator housing.

~~**b.** The rail shall be constructed of steel, not aluminum, so as to provide the best possible ground plane, forming a two-piece box design.~~

~~**c.** The top section shall be removable for easy access to the individual antenna wiring.~~

~~**d.** A total of five (5) antenna bases shall be provided and installed in each rail.~~

- ~~Exact location of antennas to be determined at pre-conference.~~

Note: Section 7.47.1 b. through 7.47.1 d. will no longer be applicable as the antenna rail has been deleted on the PCM Change Order and will not be included in this production specification.

e. The antenna wiring shall enter the trailer at a single point from inside the generator compartment.

f. One (1) antenna lead shall be routed to the streetside slide-out desk area, and seven (7) antenna leads shall be routed to the curbside slide-out desk area.

g. Due to the multiple configurations of antenna whips, the manufacturer shall provide the correct antenna base and whip for each application. Spare antennas shall be capped with a weather protecting cover.

h. All antenna bases shall be a minimum of eighteen (18") inches apart.

i. All cables shall have a minimum of ten feet (10') of cable at the ending location determined by VCFPD.

j. There shall be one (1) rubber type AM/FM radio antenna provided on the roof of the trailer directly above the data rack on the curbside of the apparatus. The antenna lead shall be routed to the rearward curbside slide-out desk.

7.47.2 ~~**Antennas Roof of Cab**~~

Note: Section 7.47.2 a. through 7.47.2 l. will no longer be applicable as the items referenced have been deleted on the PCM Change Order and will not be included in this production specification.

~~**a.** There shall be one (1) radio antenna rail provided and installed on the roof of the forward work area.~~

~~**b.** The rails shall be constructed of steel, not aluminum, so as to provide the best possible ground plane, forming a two-piece box design.~~

~~**c.** The top section shall be removable for easy access to the individual antenna wiring.~~

~~**d.** A total of seven (7) antenna bases shall be provided and installed into each rail.~~

~~**e.** One Rae Systems Remote Outdoor Antenna Model # PN 029-7105-000 dedicated to the Rae Systems AreaRae Monitor system. Cable from antenna to terminate at desk on street side slide out.~~

- ~~Exact location to be determined at pre-conference.~~

~~**f.** The antenna wiring shall enter the cab roof at a single point under the end of the rail.~~

~~**g.** The end of each radio antenna shall be routed to a location determined by VCFPD.~~

~~**h.** Due to the multiple configurations of antenna whips, the manufacturer shall provide the correct antenna base and whip for each application.~~

~~**i.** Spare antennas shall be capped with a weather protecting cover.~~

~~**j.** All antenna bases shall be a minimum of eighteen (18") inches apart.~~

~~**k.** All cables shall have a minimum of ten feet (10') of cable at the ending location determined by VCFPD.~~

~~**l.** Provide an AM/FM radio antenna.~~

7.48 Radio

7.48.1 Radio Operator Positions

a. There shall be two (2) radio operator positions located in each of the two (2) slide outs that are in the gooseneck area of the trailer.

b. The right side shall be the "Command Position" and shall have a VHF mobile radio, AM/FM radio, MDT, and master control unit for the wall mounted intercom installed. Pre-wires will be provided for a VCFD supplied scanner and Sigtronics intercom module for installation after delivery of trailer.

c. The left side shall be the "Secondary Position" and shall have only a radio installed.

d. There shall be two (2) overhead radio consoles provided in the curbside slide-out, under the overhead cabinets. The forward console will be open for future expansion, the rearward console will have one (1) AM/FM radio and one (1) VHF mobile radio installed, and be pre-wired for one (1) scanner and Sigtronics intercom system as specified.

7.48.2 Desktop Radio Console

a. There shall be two (2) desktop component consoles provided centered one (1) on the streetside slide-out desk, and one (1) on the curbside slide-out desk. The streetside console shall be used to hold the specified VHF mobile radio, and the curbside console shall be used to hold the specified 12 volt switch panel and others items as noted in the specification.

7.48.3 Mobile Radio Installation

a. There shall be two (2) remote mounted, high power, Motorola MCS 2000 radios installed into the trailer slide outs located in the gooseneck area.

- One (1) shall be mounted in the right side “Command Position” slide-out.
- One (1) shall be installed in the left side “Secondary Position” slide-out.

b. Both radios shall utilize separate rooftop mounted antennas to TX/RX RF signals

c. The radio, cables and accessories shall be provided by VCFPD.

d. Two (2) mobile radio speakers shall be located one (1) on the under cabinet radio console on the curbside, and one (1) on the streetside desktop component console.

7.48.4 Sigtronics Headset Intercom System

a. There shall be a pre-wire for a Sigtronics intercom system installed into the trailer with positions at the following locations and interfaced with the Command Position Radio:

- One position in the Command Position slide out with radio push to talk (PTT).
- One position in the Secondary Position slide out with radio push to talk (PTT).
- One position, jack only on the external left rear of the trailer for backing purposes.
- One position jack only in the Lab area at the rear of the trailer.

b. This system must also be capable of accommodating two more positions, with push to talk (PTT) in the current tractor. The tractor currently has a David Clark system that will need to be retro fitted by VCFPD with Sigtronics system components and wiring, and wired into the new trailers Sigtronics Interface Module.

7.48.5 Mobile Data Terminal (MDT)

a. There shall be a single workstation Data911 Mobile Data Terminal (MDT) installed into the Command Position slide out.

b. All components, wiring, mounts shall be provided by the VCFPD.

c. The CPU and related components shall be mounted in a vented and secured location. Exact mounting location shall be determined from the approved sales drawing.

7.48.6 Radio Scanner

a. There shall be a pre-wire for a Uniden BCT8 scanner installed into the rearward curbside overhead radio console in the gooseneck area of the trailer.

b. The scanner shall utilize a rooftop antenna for receiving RF signals.

~~**c.** The manufacturer shall provide the scanner.~~

Note: Section 7.48.6 b. was not selected as an option with the bid spec and will not be included with this production specification.

7.48.7 ~~HT Radio Chargers~~

Note: Section 7.48.7 was not selected as an option with the bid spec and will not be included with this production specification.

~~**a.** There shall be one Motorola MT 2000 HT radio charger, installed into both the Command and Secondary Positions.~~

~~**b.** The manufacturer shall provide the HT chargers.~~

7.49 Intercom System

7.49.1 Intercom System (Inside)

a. There shall be an intercom system located within the space that houses other electrical equipment that has stations located at the front work area, lab area, rear desk area, and the outside the rear lift gate are, next to the sample door.

b. The lab unit will be hands free style intercom and the other positions using PTT.

c. The “Master Unit” shall be mounted in the right side slide out that has been deemed the “Command Position”.

d. The unit to be installed shall be an OnQ Grey Fox Cat5 Home Intercom System Kit that is white in color.

- This system is made up of three (3) areas.
- Provide one (1) of a H4-I1002WH master unit.
- Provide three (3) of a H4IC1004WH Cat 5 intercom unit.
- Provide one (1) of a H4PW7725 Grey Fox power supply.

7.49.2 Intercom System (Outside)

a. Provide one (1) of a F7641BS Stainless.

b. It shall be located in the rear outside the lab area.

c. Provide a stainless cover on the outside.

d. It shall have a PTT button.

7.50 Fax / Printers / Copier

7.50.1 There shall be one (1) HP CP2025N LaserJet Color Printer and an additional HP2800DTN color printer, both with built-in network cards. They shall both be accessible.

7.50.2 There shall also be a stand-alone fax machine. One (1) of a HP 1050.

7.50.3 The printer and the fax machine will be located in the inside cabinet on the front wall of the gooseneck area.

7.51 Displays (Total of 2)

7.51.1 40" LCD Display (1 Inside)

a. There will be one (1) 40” Samsung LCD model 400PXN shall be provided, located on forward inside wall of gooseneck work area. The monitor shall be located per the approved sales drawing.

b. The display shall be able to display CCTV camera including connections in gooseneck area, exterior video, compartment video, video recorder, computers in trailer, satellite television stations and the rear workbench adjacent to lab.

c. There shall be two (2) recessed ceiling speakers located along the centerline of the gooseneck area, one (1) at each end to provide audio for the 40” LCD, AM/FM radio, computers and all audio ports and connections.

d. The gooseneck area display shall be provided with a SmartBoard overlay model# PX340 with a marker tray and software.

e. Provide the ability to split screens into four (4) quadrants on each display.

f. Provide two RCA connections, one at each slide-out workstation. These connections will play on all LCD displays.

- The RCA connections shall be located at each end of the desktop component consoles.
- The RCA connections shall include one (1) each for left audio, right audio, and video.

g. The height of the LCD Display (not including the monitor frame and SmartBoard overlay) shall be no more than 72" above the floor of the trailer.

h. Pre-wiring and LCD mount shall be provided for an additional monitor to be added at a later date.

7.51.2 LCD Display, Monitor and Related Accessories (1 Outside)

a. A 40" Samsung LCD model 400PXN shall be provided, located in the street side exterior video cabinet. It shall be accessible.

b. The display shall be able to display CCTV camera including connections in gooseneck area, exterior video, compartment video, video recorder, and computers in trailer, satellite television stations and the rear workbench adjacent to lab.

c. There shall be two (2) speakers located within the compartment to provide audio for the 40" LCD.

d. The speakers shall be all weather and mounted outside the Plexiglas viewing area.

e. This area is to have a swing up door, with a d-ring, latched and locked door. There shall be a sealed Plexiglas ¼" sheet protection screen.

f. Provide the ability to split screens into four (4) quadrants on each display.

g. Provide two (2) RCA connections, one (1) serial port in and one (1) computer audio port in. These connections will play on all LCD displays.

- The connections will be located in the lower front corner of the monitor storage compartment.

7.52 DVR (Recorder)

Note: Section 7.52 was not selected as an option with the bid spec and will not be included with this production specification.

7.52.1 ~~There shall be one (1) ARM digital video recorders provided and installed. One (1) for the camera system and the other for the digital TV system. It shall be accessible and secure.~~

7.52.2 ~~The recorders shall be an industrial grade digital security video recorder.~~

7.52.3 ~~There shall be one (1) Bosch DiBos 8 model DB12C2075R2 video recorder. The recorder shall have twelve (12) composite video inputs, four (4) audio inputs, and two (2) composite video outputs.~~

7.52.4 ~~The Bosch DiBos shall record all video sources simultaneously; support analog and IP video inputs, MPEG-4 recording and web browser for remote access and viewing.~~

7.52.5 ~~The systems will be capable of recording all video and audio channels simultaneously.~~

7.52.6 ~~The recorders will be located in the gooseneck area under the 40" monitors.~~

7.52.7 ~~The size of the recorders to be 750 GB.~~

7.52.8 DVR Accessories

a. ~~Provide two (2) sets of RCA cable in connections behind sealed cover. They shall be provided with one (1) serial port and audio "in" cable. They shall be connected to system for playing external devises into system and for showing on any of the monitors.~~

b. ~~Provide cable conduit with sweeps for future runs of cabling.~~

- ~~Exact size to be determined at pre-conference.~~

c. ~~The height and exact location shall be determined at the pre-conference.~~

7.52.9 ~~**System Speakers**~~

~~**a.** Provide six (6) speakers for audio/video system.~~

- ~~Two (2) speakers to be located in the gooseneck area.~~
  - ~~Exact location to be determined at pre-conference.~~
- ~~Two (2) all weather speakers located in the exterior video compartment outside of the Plexiglas viewing area.~~
- ~~Two (2) speaker located in the area of the street side workbench.~~
  - ~~Exact location to be determined at pre-conference.~~

~~**b.** All speakers to be controlled by local volume control as well as by the audio /video control system.~~

~~**c.** Ability to control the speakers in three zones, Gooseneck area, exterior video compartment and workbench area.~~

~~**d.** Ability to set speaker zones to different audio sources using the audio/video control system.~~

~~**e.** Provide the ability to have speaker zones utilize the same source or each zone a different sources from the following audio inputs:~~

- ~~Five (5) computer audio connections in gooseneck.~~
- ~~Two (2) RCA In connections in gooseneck.~~
- ~~One (1) computer audio in connections at exterior video compartment.~~
- ~~Two (2) RCA in connection at the exterior video compartment.~~
- ~~One (1) RCA in connection in lab.~~
- ~~Computer Serial Port In connections.~~

7.53 Data Satellite Dish

7.53.1 There shall be one (1) body roof mounted, mobile auto acquisition satellite system to provide Data communications to onboard computer network. The dish shall be mounted in a recessed roof tub located in the main body on the curbside (approx. dimensions shall be 70” wide x 102” long x 18” deep). Featherlite to provide the roof Tub and SVI to install the Dish.

7.53.2 The dish shall be a C-Com iNetVu 980 .98m dish. It shall be accessible.

7.53.3 The dish system shall automatically find the data satellite when the system is started and the dish is prompted to initialize.

7.53.4 The dish shall be controlled by a iNetVu 9000 controller with one touch buttons and a web based user interface.

7.53.5 The controller will be located in the tech data rack.

7.53.6 The BUC (transmission unit), LNB (receiver unit), and satellite modem depends on the service provider chosen.

a. VCFDP will advise who the provider will be prior to completion of apparatus.

7.54 Satellite TV System

7.54.1 There will be one (1) KVH model A7 satellite TV antenna with In-Motion tracking. It shall be located in the center of the generator compartment roof.

7.54.2 There will be two (2) DIRECTV receivers model# D11, located in the data rack. This shall be an automotive type and not residential type.

7.55 Command Cameras and Telescoping Pole

7.55.1 Command Camera Systems (Mast Camera)

a. There shall be one (1) Pelco ES31C22-5N camera system(s) complete with pan, tilt and zoom drive system. It shall have an enclosure with shield wiper. It shall be a high quality camera with lens.

b. The camera system shall be a high-resolution unit with Lowlight color technology and a 176X zoom lens (22X optical, 8X electronic).

c. The camera control system shall contain one (1) KBD300A keyboard with joystick, and one (1) KDBKIT keyboard kit in the command center.

d. Provide another set of controls that be remotely controlled from any location around apparatus for work outside.

e. The system shall have night vision.

7.55.2 Closed Circuit Camera (Lab Camera)

a. Provide a closed circuit color camera in the lab area. This camera shall be integrated with the 40" monitor systems.

b. The camera shall be located on the curbside front corner of the lab area. Camera placement will be designed to monitor activity throughout the lab area.

7.55.3 Exterior Fixed Camera (Forward Facing Camera)

a. Provide a closed circuit color camera in the top exterior of the trailer. The camera to be facing forward to allow those riding in the trailer the ability to see the road while the vehicle is in motion.

b. It shall include two (2) 7" monitors located one (1) on each of the forward slide-out walls, viewable from the riding positions.

c. It shall be hooked to the AMX system.

d. It shall be protected while driving on the road from road hazards. Able to withstand the elements and protected from possible road hazards such as tree limbs and small debris.

e. It shall have full forward vision. Clear view day and night.

f. Camera must be located on trailer as to take up as little interior space as possible.

g. The camera shall be located on the center front edge of the trailer. Exact mounting location shall be determined by the approved sales drawing.

7.55.4 Telescoping Pneumatic Mast

a. The apparatus shall be equipped with one (1) Will-Burt 6-25 heavy-duty pneumatic powered telescoping mast(s). It shall be accessible.

b. The mast must have an emergency manual bleed off.

c. The mast will be housed on the streetside of the trailer, aft of the drop wall and forward of the entry door and be designed so when in the stowed position the camera will be below the roofline. It shall have approximate dimensions of 24.00 inches by 24.00 inches and extend from the floor to the ceiling. A drain will be provided to allow any collected moisture to drain to the ground.

d. Provide mounting for camera (above).

e. The housing will be located along the street sidewall approximately 145" from the front of the trailer (not including the generator compartment).

f. A red flashing warning light will be visible to the driver to warn when a light tower is out of roof nested position.

g. There shall be another warning light visible near switching area in trailer. Two (2) total.

h. The mast shall be of a free standing design (non-guyed) and use high strength, heat treated aluminum alloy tubes and collars.

i. Each mast section (tube) shall have two full-length external keys and nominal .095" wall thickness collars with matching keyways to maintain directional azimuth.

j. Each mast section and collar shall be of the low friction synthetic bearings for smooth operation and longer life.

k. Bumpers shall be supplied to reduce shock on extension and retraction.

l. All exterior aluminum surfaces shall be anodized and sealed.

m. Fasteners and fittings shall be plated steel or stainless steel for corrosion resistance.

n. One (1) maintenance and instruction manual will be provided for the towers on delivery**, shipped loose**.

o. Wiring schematic, air piping schematic and installation diagrams shall be provided with the manual, **shipped loose**.

p. Manufacturer's blueprint of tower, complete parts list and bill of materials for towers provided with manuals, **shipped loose.**

7.55.5 Model 6-25 Specifications and Mounting

- **a.** Nested height tower only: 5'-10".
- **b.** Extended height tower only: 25'-0".
- **c.** Normal payload capacity: 150 lbs.
- **d.** Number of sections: 6.
- **e.** Spec's to be determined from the above requirements.
  - Tube diameter range: 6-3/4" -3".
  - Mast volume: 2.7 cu. ft.
  - Collar type: Non-locking.
  - Maximum operating pressure: 35 psi.
- **f.** The operational envelope of the mast shall be automatically illuminated by a lookup light whenever the mast assembly is being raised as required by NFPA.
- **g.** The above telescoping mast shall be mounted using an internal roof mounting kit.
- **h.** A mast bucket shall be provided to hold the Nycoil below the roof-line of the truck.
- **i.** The bucket shall be fabricated from .1875" smooth aluminum with welded water-tight seams.
- **j.** The bucket shall have a 3.5" lip around the top of bucket to secure and seal the bucket to the roof.
- **k.** The bucket shall have an aluminum drain tube welded into the bottom of the bucket to allow a water drain hose to be attached to drain water to the ground.

7.55.6 Pneumatic Kit

- **a.** A pneumatic kit air control assembly (without compressor) shall be provided to control the mast. The assembly includes; a 0-160 PSIG air gauge, regulator, 0 -30 PSIG air gauge, and a 3/8" inlet air hose with NPT fittings to provide air from air source.

7.55.7 Pneumatic Pump Kit

- **a.** Air shall be supplied from a 1/8 HP, 12 VDC, 11.1 amp air compressor for supplying 20 PSIG required for operating the specified pneumatic mast. It shall be accessible.
- **b.** A 40' Nycoil conduit measuring 1" ID x 16-1/2" OD coil shall be provided for the 6-25 telescopic mast. It shall be accessible and have a identified storage area.

~~**7.56 Refrigerator**~~

Note: Section 7.56 was not selected as an option with the bid spec and will not be included with this production specification.

7.56.1 ~~5.7 CU. FT. Kitchen Aid, Architect, Series 2. Model # KURS24RSBS.~~

7.56.2 ~~Color to be stainless.~~

7.56.3 ~~Unit will have a latch to keep it shut while in motion.~~

7.56.4 ~~To be installed in the mid. Streetside area.~~

7.56.5 ~~The exact location to be determined at the pre-conference.~~

7.57 WI FI Access Point and Network Connections

7.57.1 WI FI point

a. One (1) Wi-Fi access point to the vehicle to provide a wireless internet foot print around the truck. It shall be accessible.

b. The access point will be located in the data rack. It shall be accessible.

c. There will be one (1) external NMO mount antenna and internal antenna for inside the vehicle. It shall be accessible.

7.57.2 Network Connections

a. Four (4) RJ-45 network jacks located in the gooseneck work area desktop component consoles (one (1) on each end of the desktop component console, two (2) per side). They shall be accessible.

b. One (1) RJ-45 network jack located at the rear work desk.

c. Computer connections and RCA in connections In Gooseneck area.

- Provide five (5) computer serial port “in” connections and computer audio “in” connections. Two (2) to be located at the curbside gooseneck slide-out room desktop and three (3) at the street side gooseneck slide out room desk.
- Provide two (2) RCA in connections. One (1) to be located at the curbside gooseneck slide out room desk and one at the street-side gooseneck slide-out room desk.

7.58 Telular Phone Cells

7.58.1 Telular Cell Phone

a. Provide one (1) Telular SX5 cellular phone cells. It shall be accessible.

b. It shall be dedicated to the fax machine and located on the front wall adjacent to the fax machine.

7.58.2 ~~Satellite Cell Phone~~

Note: Section 7.58.2 (7.58.2 a. through 7.58.2 e.) was not selected as an option with the bid spec and will not be included with this production specification.

~~**a.** Provide one (1) Iridium 9505Asatalite phone, charger and mount.~~

~~**b.** Phone to be installed at desk in gooseneck curbside slide-out room.~~

~~**c.** Provide and install one (1) SatDock RST 980 Hands free/Charging dock.~~

- ~~Exact location to be determined at pre-conference.~~

~~**d.** Provide and install one (1) Iridium antenna model RST 710. Install cable to terminate at desk in gooseneck curb side slide out, into the SatDock.~~

~~**e.** Provide one (1) RST 080 Privacy handset.~~

~~7.59 Weather Station~~

Note: Section 7.59 (7.59.1 through 7.59.4) was not selected as an option with the bid spec and will not be included with this production specification.

7.59.1 ~~Provide one (1) WeatherPak MTR with Gamma Sensor. #S80115. System to include one (1) MTR Receiver/Display. Unit typically mounts on a 3 meter tripod tower or in some industrial facilities, on the roof of a building or large tower. It shall be accessible.~~

7.59.2 ~~Provide one (1) weather station connection, and any required power/data connections, to the rear roof area of the trailer. Location must be free of obstruction that would interfere with the monitor.~~

~~**a.** Exact location to be determined at pre-conference.~~

7.59.3 ~~WeatherPak will interface with video system and data will be able to be displayed on all video monitors and will include one (1) MTR receiver / display unit with Smart Tech.~~

7.59.4 ~~The MTR has the following features:~~

~~**a.** All data is transmitted via radio telemetry.~~

~~**b.** Standard radio power is 2 watts, with a line-of-sight range up to 5-7 miles.~~

~~**c.** Provide portable operation for the WEATHERPAK® MTR with battery powered D-cell batteries when mounted on a tripod.~~

~~**d.** When installed permanently at a fixed location, the radio telemetry will run off existing power supplies. Provide a emergency backup.~~

~~**e.** System to include SmartDetect multiple Weatherpak recognition and display. It will have the ability to transmit from one or more WEATHERPAK®s and to one or more receivers, simultaneously.~~

~~**f.** The MTR shall allow for continuous and uninterrupted data delivery from the "hot zone" even in the event of a wind shift that requires the repositioning of Responders or the Command Post.~~

~~**g.** Provide one (1) weather station connection and required power data out connector.~~

7.60 Public Radio

7.60.1 Provide one (1) AM/FM/WEATHER Band/CD radio.

7.60.2 The radio shall be located in the forward curbside slide-out overhead radio console.

7.61 Audio/Video Control System

7.61.1 Provide one (1) AMX designed system that will control all video, audio and data systems.

7.61.2 Provide one (1) 12.1" color video wall mount touch panel in the gooseneck area of the trailer**.**

a. The touch panel shall be located on the forward gooseneck cabinet, centered below the specified 40" video monitors.

7.61.3 Provide one 7" wall mount touch panel screen in the exterior video compartment.

7.61.4 Provide the ability of future growth to a minimum of two additional video inputs and two additional computer inputs.

7.61.5 System to control the following:

a. LCD flat panel displays:

- Three (3), two (2) in the gooseneck area and one (1) in the exterior video compartment.
- Provide the ability to split screen each LCD 4 ways. Ability to simultaneously display different inputs in each quadrant of each LCD screen.

b. Provide the ability to display input from the following sources;

- Five (5) computer serial port connections in gooseneck.
- Two (2) RCA In connections in gooseneck.
- One (1) computer serial port in connection at exterior video compartment.
- Two (2) RCA in connections at the exterior video compartment.
- One (1) RCA in connection in Lab.
- One (1) computer serial port in connection in lab.
- DVR in gooseneck.
- Smart Board on LCD flat panel in gooseneck.
- Two (2) Direct TV satellite receivers located in gooseneck.
- MC/AVL computer screen in gooseneck.
- Weatherpak MTR Receiver Display Unit.
- CCTV camera located in lab.
- CCTV camera forward facing on exterior top front of trailer.
- Pelco mast mounted camera.
- DVD player (to be added after delivery of completed apparatus).

8.0 HANDRAILS

8.1 Entry Handrails

8.1.1 There shall be two (2) handrails provided at each entry door, one (1) vertical on right exterior of body (on door handle side) and one (1) on the right inside of door-jamb for access in and out. In addition to any other area requiring due to safety.

8.1.2 The interior handrail shall be angled for optimum use when entering or exiting the walk-in portion of the body.

8.1.3 Handrails shall be NFPA compliant 1-1/4" extruded aluminum tubing and three (3ft.) long, with chrome finished plated end stanchions. They shall be set for an average person's height. Weight capacity shall be rated at 300 lbs.

9.0 DOORS AND STEPS

9.1 All entry and exterior access doors to be constructed out of aluminum with a minimum thickness of 2 1/8".

9.2 2" shape perimeter aluminum door and mating framework extrusions shall provide a two-step sealing surface and will seal using two rows of ribbed weather seal (one row on each of the "z" flanges). Or provide alternate method.

9.3 The exterior jamb extrusion shall have no fasteners visible from the exterior of the trailer.

9.4 All door latches shall be keyed alike.

9.5 Each swinging door will have stainless steel piano style hinge with black vinyl covers.

9.6 Steps

9.6.1 Retractable Step

a. Install heavy duty, "RV type", 12 volt, retractable, non-skid step for both entry areas on each side of trailer. (300lb. capacity). The stairs shall fold back under the trailer when folded up.

b. Provide one (1) LED light under each door opening wired through the ground light circuit.

9.6.2 Steps

a. Steps to be provided where needed for safe climbing on or off apparatus is required by department personnel.

b. The steps shall be located inside of the trailer body in a step well area between the door opening and the trailer frame. A removable cover shall be provided to allow for use of the floor space above the step well areas.

c. The steps in and out of the apparatus will provide sufficient head room for a person 6' 5" not to hit his head walking in or out of the apparatus.

9.7 Rear Exterior Pass-Through Door and Compartment

9.7.1 There shall be a pass through swing door approximately 8" wide by 15" tall mounted to the left of the barn doors in the rear. The height shall be set to the inside counter height. A secondary 15.00 inch by 15.00 inch pass through opening will be located in the streetside rear walk-in door to allow for the transfer of larger sample containers.

9.7.2 The exterior door will swing open from the right side to the left side with rubber bumpers on the door to protect the paint.

9.7.3 Both doors shall be completely sealed when sample compartment is closed.

9.7.4 The sample compartment is for Hazmat sample transfer.

9.7.5 The door shall have stainless steel or chrome plated paddle type latches on the exterior and interior and a stainless hinge. Provide no lock at this location.

9.7.6 Inside the exterior sample door shall be a compartment. This area shall be sealed and has an inside door, which is open from the inside of trailer. The inside door shall be a latched door that is sealed and matched up level with the counter. It shall swing from left to right to the outside of the trailer.

9.7.7 The size of the interior sample compartment shall be 15" X 15" X 15" square. The box shall be clear, scratch resistant and chemical resistant material.

9.8 Side Entry Exterior Doors

9.8.1 Access to the interior body compartment shall be provided through a side entry door. The door shall have a stainless steel or chrome plated paddle latch on the interior and exterior.

9.8.2 Provide a stairwell designed so that interior space will not be compromised.

9.8.3 Provide a door opening arm mechanism that will keep the door open as well as protect it from slamming shut or opening past its limits in the wind.

9.8.4 The door opening shall be approximately 36” wide and 96” from the top of the interior floor to the top of the door.

9.8.5 The streetside door shall be located at approximately 36” from the drop wall to the leading edge of the door.

a. The exact location of the entry door shall be determined from the approved engineering drawing.

9.8.6 The curbside door shall be located at approximately 128” from the drop wall to the leading edge of the door.

a. The exact location of the entry door shall be determined from the approved engineering drawing.

9.8.7 Construction of the side entry door shall be with 0.050 inch aluminum exterior smooth plate, and the interior door pan being constructed from 0.040 inch aluminum smooth plate with a tread plate overlay. Outside shall be painted job color and inside to be non-painted.

9.8.8 The door shall be hung on full height 14 gauge stainless steel piano hinge, with a 1/4” stainless steel pin; any professional will do, specify method to be used.

9.8.9 The hinge shall be bolted to the door and body with stainless steel machine screws and nuts at offset 5” centers; any professional will do, specify method to be used.

9.8.10 ~~The hinge shall be slotted horizontally and vertically for ease of adjustment.~~

Note: Section 9.8.10 will not be included in the production specification as the Featherlite production process does not use a slotted hinge design.

9.8.11 A polyester barrier film gasket shall be placed between the stainless steel hinge and the aluminum door panels.

9.8.12 The latch mechanism shall include a stainless steel or chrome plated locking paddle latches on both the inside and exterior of the door.

9.8.13 The key for all the locked doors shall be the same.

9.8.14 The door latch shall be a double catch two-point safety slam latch recessed inside the double panel door with strike plate mounted top and bottom of door frame.

9.8.15 Provide smooth aluminum trim in door jamb which is wrapped outside door for nick prevention.

9.9 Interior Doors and Interior Window

9.9.1 Interior Lab Room Door

a. Provide and install one (1) sealed aluminum door to the lab. This door hinges on the curbside of the trailer and swings out.

b. Size shall be approximately 84” high X 35”.

c. It shall have a non-sliding window in the upper half of the door. Size to be 40” high X 30” wide. Provide safety glass and non-tint.

d. It shall have stainless hardware and shall be able to be latch from the inside.

e. This door must be sealed from the rest of the trailer interior.

f. Door location to be as close to center as possible, but still allow for an opening that is not intruded upon by the lab counter.

9.9.2 Interior Command Room Door

a. Provide and install a pocket sliding metal door to the command center. It shall be as large as possible.

b. Provide a small window for viewing. Height shall be for an average person viewing. Size12” X 12”. Non-sliding and non-tint (clear). Safety glass.

10.0 EXTERIOR WINDOWS

10.1 All windows shall be a Hehr brand with sliders, matching garnish & trim, automotive type safety glass, mounted in an extruded aluminum frame, safety glass and heavy factory tint available.

10.2 All siding windows shall have screens.

10.3 Slideout Windows (Front Section, Gooseneck area)

10.3.1 Sliding rooms shall have four (4) 24" high x 18" wide windows located on the outside, (sides).

10.3.2 There shall also be four (4) windows provided on the slide-out room extensions, located one (1) on each forward wall and one (1) on each aft wall or each extension. They shall be as large as possible.

a. The window size shall be determined from the approved engineering drawing.

10.3.3 These shall be on both the curbside and street side slide out rooms.

10.3.4 These windows shall be sliding, double pane and to have heavy factory tint on the safety glass.

10.4 Entrance Door Windows (Both sides)

10.4.1 There shall be two (2) additional 18" wide x 22" high, sliding windows installed in both entrance doors.

10.4.2 Double pane and to have heavy factory tint.

10.4.3 All frames shall have a black anodized finish.

10.5 Curbside Lab Area Window (Rear area)

10.5.1 There shall be one (1) 32" wide x 24" high non-sliding window centered along the curbside wall of the lab.

10.5.2 The window shall have heavy factory, tinted, automotive type safety glass mounted in an extruded aluminum frame.

10.5.3 The frame shall have a black anodized finish.

10.6 Rear Outside Lab Room Window (Rear area)

10.6.1 Provide and install one (1) 20" high X 20" wide window in the rear wall of the trailer.

10.6.2 It shall be mounted at an average person's viewing height in the left rear barn door (swing door).

10.6.3 It shall be single pane and completely sealed.

10.6.4 It shall be non-tint (clear) and non-sliding.

11.0 SLIDE OUT ROOMS

11.1 They shall be powered by an electric actuator or hydraulic system with limit switches controlling the operation in both directions. If the hydraulic system is provided, provide complete system with hydraulic motor, power unit, switches, tank and fluid. Indentify tank and fluid, if provided.

11.2 Slide-out to operate off center. System shall operate to a max of 5 degrees slope off center.

11.3 The systems shall have an emergency backup that will allow manual override to move the rooms in or out in the event of electrical failure.

11.3.1 Provide all special tools to operate slide-out in manual mode.

11.4 All slide-out rooms shall have a manually attached awning cover to help ensure water will not penetrate the interior. The awning fabric shall be Firesist HUV, Ivory (88054). The awnings shall be removable if needed due to overall width restrictions.

11.5 There shall be (2) slide-out rooms, approximately 89-1/4" wide x 34.5" deep x as tall as possible. They shall be located on both the curbside and streetside portion of the front gooseneck. There shall be a walkway between the rooms that shall measure approximately 27" wide when the rooms are in the closed position.

~~**11.6** There shall be a third slide-out room, approximately 79" wide x 24.5" deep x as tall as possible. It shall be located on the curbside wall and approximately 200" to the forward edge of the front slide-out on the gooseneck drop wall.~~

11.6.1 ~~This third slide-out is an Option.~~

Note: Section 11.6 (11.6.1) was not selected as an option with the bid spec and will not be included with this production specification.

11.7 All slide-out rooms shall be constructed of aluminum and shall operate utilizing a low profile Fenco Brand rack and pinion drive mechanism or hydraulic system with reservoir tank.

11.8 The installed module shall provide a water tight seal in both the fully extended and the retracted positions.

11.9 The slide-out section shall be framed with 2" x 2" x 1/4" 6061-T6 alloy aluminum.

11.10 All slide outs have reflective stripping exposed when room is extended. It shall match the existing trailer when extended.

11.11 When both opposing slide outs are in the retracted positions they shall have a minimum of 24" of walking area between them.

12.0 ROLL-OUT AWNINGS ON CURB AND STREET SIDES

12.1 Provide two (2) Girard 2000, 110 Volt AC powered, Lateral Arm Acrylic Patio Awnings with Direct Response. The electronics shall be installed into the recessed side of the trailer body. It shall be accessible.

12.2 These shall be mounted on the on both sides covering the access doors on both sides.

12.3 Awning on the curbside to start at the wall separating the lab and mid section areas and travel forward 20 feet. The awning must be in a location that does not interfere with the use of the exterior ladder whether the awning is extended or retracted.

12.4 Awning on the street side to start at the wall separating the lab and mid section areas and travel forward 20 feet.

12.5 Awning to be protected by a metal cover when fully retracted to protect it from the weather and elements.

12.6 Color to match body paint.

12.7 The Direct Response Electronics includes easy-to-use controls and a Motion Detection System. The awning controls shall be located inside of the walk-in doors on the streetside and curbside respectively, adjacent to the light switches.

12.8 The awning shall have a system to detect canopy motion, which will be able to prevent wind/weather damage.

12.9 The awning shall automatically retract when the canopy reaches a certain level of movement. Movement level of the canopy will be visible on the control panel.

12.10 The 110V motor shall be completely sealed and UL approved.

12.11 The pitch can be adjusted from 5-degrees to 35-degrees.

12.12 The Girard awning with direct response shall be covered by a limited lifetime warranty.

12.13 The awning fabric shall be Firesist HUV, Ivory (88054).

12.14 Provide a five (5) year warranty on the fabric and electrical components, lifetime warranty on all other parts.

13.0 ROLLING AISLE WAY LADDER

Note: section 13 (13.1 through 13.11) was not selected as an option with the bid spec and will not be included with this production specification.

~~**13.1** Track to run in area of trailer between gooseneck and lab.~~

~~**13.2** Provide one library rolling type ladder for use in accessing upper shelves.~~

~~**13.3** Track provide on both curbside and street side of aisle.~~

~~**13.4** Track to be installed in a manner so that it impinges on aisle as little as possible.~~

~~**13.5** Ladder to be easily removed and attached to track without the use of tools by a single person.~~

~~**13.6** Ladder to be a horizontally collapsible ladder requiring no tools to fold.~~

~~**13.7** Ladder to have wheels on the top and bottom. Both sets of wheels shall be free moving so as to allow single person operation.~~

~~**13.8** Bottom wheel to be large enough to easily roll over diamond plate floor.~~

~~**13.9** Ladder to be easily operated by a single person.~~

~~**13.10** Ladder to be stored out of the aisle and off of the tracks when not in use.~~

~~**13.11** Exact storage location to be determined at pre-conference.~~

14.0 EXTERIOR COMPARTMENTS

14.1 Compartment Doors

14.1.1 Hinged Custom Manufactured Doors

a. The exterior compartment doors shall be custom manufactured and built for each compartment.

b. The underbody capacity shall be 1.000 lbs per compartment.

c. Provide one (1) streetside underbody compartments with vertically hinged swing door, and four (4) streetside and four (4) curbside underbody compartments with “tailgate style” access doors. The doors and latches shall be constructed as described above, and open to a 90 degree angle so as to also be used as a seat, which will support a minimum of 300 lbs.

- The compartment openings shall be approximately 24” by 40”, subject to change during the design process. Exact location and sizes shall be determined from the approved engineering drawing.

d. The compartment doors shall be all aluminum 3003H-14 alloy construction.

e. The exterior panel shall be of .050 thickness smooth plate aluminum on the exterior with .125 smooth plate aluminum glued to the inside for strength.

f. The double panel doors shall be 1-3/4" thick to completely enclose the door latching assembly.

g. Doors shall have drain hole openings for drainage and ventilation.

h. Compartment door openings shall be sealed with closed cell automotive type rubber molding to provide a weather resistant seal around door. In addition, rubber molding shall be provided along hinge to prevent moisture entry.

i. Open cell foam type rubber moldings are NOT ACCEPTABLE.

j. Hinged compartment doors shall have 14 gauge stainless steel hinge minimum, with 1/4" stainless steel pin.

k. The hinged door shall have a pair of tailgate style mechanisms to stop the door at 90 degrees.

l. All vertically hinged entry doors shall have a pneumatic cylinder to hold door in the open position with heavy-duty mechanical stops.

m. All vertically hinged entry doors shall have a door check as specified with each door.

n. Weight capacity of the door when in the 90 degrees open position is 300 lbs.

o. The hinge shall be bolted to the door and body with stainless steel machine screws into nut style fasteners.

p. A polyester barrier film gasket shall be placed between stainless steel hinge and any dissimilar metals as necessary.

q. Drip rails shall be installed above all compartment door openings.

r. Drip rails shall be completely removable for easy replacement if necessary.

s. The latching mechanism of hinged compartment doors shall include stainless steel or chrome plated paddle latch.

t. All doors shall have the same key and lock mechanism.

u. A gasket shall be placed between stainless steel handle and door.

v. Door latches shall be a double catching two-point rotary slam latch, recessed inside the double panel door with striker plate.

w. Each door shall be capable of being closed without unlatching.

x. Door checks shall be bolted to the upper compartment door header and the box pan of the door.

y. Door checks that require unlatching by hand will NOT BE ACCEPTABLE.

z. Doors shall be painted job color.

14.2 Compartment Interiors

14.2.1 The entire interior of the compartments shall be sprayed with gray Pro Liner inside the doors and compartment interiors.

14.2.2 All compartments shall have blue Turtle Tile installed.

14.2.3 ~~Unistrut shall run top to bottom on both sides for all possible shelves. There will be one (1) shelf per compartment. These will provide a full adjustment on the interior of the compartment.~~

14.2.4 ~~Each shelf shall have a 1" lip on all shelves inboard, sides and outside.~~

Note: Sections 14.2.3 and 14.2.4 were not selected as options with the bid spec and will not be included with this production specification.

14.2.5 Provide a Pro Liner spray on protector at the bottom edge of the compartment.

14.2.6 Provide isolation tape between stainless and compartment, to prevent corrosion.

14.2.7 Provide a compartment warning system to all compartment doors. LED light and identification provided in cab.

14.2.8 Provide two (2) vertically mounted "OnScene Solutions" LED Nightsticks. Full length of compartment opening and on both sides of each compartment.

14.2.9 ~~Spare SCBA Cylinder Rack.~~

~~**a.** Provide an SCBA cylinder rack capable of holding 12 Scott one-hour bottles.~~

~~**b.** Rack to be installed in one of the street side belly compartments.~~

~~**c.** Exact compartment to be determined at pre-conference.~~

Note: Section 14.2.9 (14.2.9 a. through 14.2.9 c.) has been relocated to the trailer interior during the pre-construction meeting.

14.3 Generator Compartment

14.3.1 There shall be a generator compartment attached to the front of the trailer constructed with mirrored stainless steel sheeting and radiuses front corners. Rivet will be used as necessary to insure structural integrity.

14.3.2 The storage compartment shall accommodate a 30kw generator (Kohler with remote start in the trailer near the control panel). It shall be accessible.

14.3.3 Provide a locking cap and lanyard inside fuel neck. It shall be accessible. The fill neck shall be on the truck fill side.

14.3.4 The front of the compartment shall have four (4) large access doors (2) @ 29 1/8" x 49 ¾" and (2) @ 29 1/8" x 31 ¾" access doors to allow easy access into the generator, storage and fuel compartments for ease of maintenance. Doors shall either roll up or fold out of the way for maintenance.

14.4 Street Side Belly Compartment, Front (S1)

14.4.1 This compartment shall include a vertically hinged door opening and be located forward of the streetside entry door and used for access to the specified air compressor and 100 amp shore power inlet.

14.4.2 The interior useable compartment width shall be approximately 22" wide. The compartment door opening shall be approximately 13-1/2" wide. Exact dimensions shall be determined from the approved engineering drawing.

Provide as much room as possible.

14.4.3 The specified 100 amp shore power receptacle and floor mounted pass through door opening shall be located on the front forward edge of the compartment.

14.5 Street Side Belly Compartment, Intermediate (S2)

14.5.1 This compartment will be transverse to the trailer body and used for storage.

14.5.2 The interior useable compartment width shall be approximately 43” wide. The compartment door opening shall be approximately 38” wide. Exact dimensions shall be determined from the approved engineering drawing.

Provide as much room as possible.

14.5.3 Provide one (1) 1,000 lbs. slide-out tray with a SlideMaster base approximately 94" deep and as wide as the compartment layout or door opening permits, capable of extending out either side of the trailer. The tray shall include 2" upturned lips on all sides.

14.6 Street Side Belly Compartment, Intermediate (S3)

14.6.1 This compartment will be approximately 70” deep and accessible from the streetside of the trailer only. It shall be used for storage.

14.6.2 The interior useable compartment width shall be approximately 40” wide. The compartment door opening shall be approximately 35” wide. Exact dimensions shall be determined from the approved engineering drawing.

Provide as much room as possible.

14.7 Street Side Belly Compartment, Intermediate (S4)

14.7.1 This compartment will be transverse to the trailer body and used for storage.

14.7.2 The interior useable compartment width shall be approximately 40” wide. The compartment door opening shall be approximately 35” wide. Exact dimensions shall be determined from the approved engineering drawing.

Provide as much room as possible.

14.8 Street Side Belly Compartment, Intermediate (S5)

14.8.1 This compartment will be approximately 24” deep and accessible from the streetside of the trailer only. It shall be used for storage.

14.8.2 The interior useable compartment width shall be approximately 42” wide. The compartment door opening shall be approximately 36” wide. Exact dimensions shall be determined from the approved engineering drawing.

14.8.3 ~~This is the lower rear compartment for both sides. The compartment and opposite side shall have a full width sliding roll out tray. It shall be rated at 1,000 lbs.~~

~~a.~~ ~~It shall have a 14” divider (1/4” aluminum plate divider) that runs full width. All sides will be fixed at 12”, except the ends, which will be 12” plate with removable ½” pins at the bottom and latches at the top.~~

Note: Section 14.8.3 and 14.8.3 a. have been relocated to compartment S2 during the pre-construction meeting.

14.8.4 Provide as much room as possible.

14.9 Curb Side Belly Compartment, Front (C1)

14.9.1 This compartment will be approximately 70” deep and accessible from the streetside of the trailer only. It shall be used for storage.

14.9.2 The interior useable compartment width shall be approximately 40” wide. The compartment door opening shall be approximately 35” wide. Exact dimensions shall be determined from the approved engineering drawing.

14.9.3 Provide as much room as possible.

14.10 Curbside Belly Compartment, Intermediate (C2)

14.10.1 This compartment will be transverse to the trailer body and used for storage.

14.10.2 The interior useable compartment width shall be approximately 43” wide. The compartment door opening shall be approximately 38” wide. Exact dimensions shall be determined from the approved engineering drawing.

14.10.3 Provide as much room as possible.

14.10.4 Provide one (1) 1,000 lbs. slide-out tray with a SlideMaster base approximately 94" deep and as wide as the compartment layout or door opening permits, capable of extending out either side of the trailer. The tray shall include 2" upturned lips on all sides (opposite side of 14.5.3).

14.11 Curb Side Belly Compartment, Intermediate (C3)

14.11.1 This compartment will be transverse to the trailer body and used for storage.

14.11.2 The interior useable compartment width shall be approximately 40” wide. The compartment door opening shall be approximately 35” wide. Exact dimensions shall be determined from the approved engineering drawing.

14.11.3 Provide as much room as possible.

14.12 Curb Side Compartment, Rear (C4)

14.12.1 This compartment will be approximately 24” deep and accessible from the streetside of the trailer only. It shall be used for storage.

14.12.2 The interior useable compartment width shall be approximately 42” wide. The compartment door opening shall be approximately 36” wide. Exact dimensions shall be determined from the approved engineering drawing.

14.12.3 Provide as much room as possible.

~~**14.13 Curb Side Compartment, Rear (C5)**~~

Note: Section 14.13 has been removed from the specification during the trailer design process and will not be included in the production specification.

14.13.1 ~~This compartment will be used for storage.~~

14.13.2 ~~The interior useable compartment width shall be approximately 45.0” wide. The compartment door opening shall be approximately 38.0” wide.~~

14.13.3 ~~This is the lower rear compartment for both sides. The compartment and opposite side shall have a full width sliding roll out tray. It shall be rated at 1,000 lbs.~~

~~**a.** It shall have a 14” divider (1/4” aluminum plate divider) that runs full width. All sides will be fixed at 12”, except the ends, which will be 12” plate with removable ½” pins at the bottom and latches at the top.~~

14.13.4 ~~Provide as much room as possible.~~

14.14 Curb Side Upper Video Compartment, Rear (C6)

14.14.1 This compartment will hold a 40” flat panel LCD monitor for outside briefings.

14.14.2 Adequate ventilation will be provided to keep LCD monitor at appropriate operating temperature. Ventilation system will not compromise protection from the elements.

14.14.3 The interior useable compartment space shall be approximately 53.0” wide by 34” tall by 10” deep.

14.14.4 The compartment door opening shall be approximately 50.0” wide and open up. It shall have secure lockable latches.

14.14.5 Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening.

14.14.6 The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

14.14.7 There shall be a mount for a 40” LCD flat panel monitor.

14.14.8 One (1) 120 volt, 20 amp, duplex, straight-blade receptacle (NEMA 5-20R), this will be for the monitor.

15.0 EXTERIOR SHOWER, WATER TANK & WATER PUMP

15.1 There will be an exterior shower on the streetside of the body just forward of the wheel well area. It shall be accessible. The shower provision shall be contained in a Cast Product enclosure and shall contain a quick connect plug-in for the shower head, a water tank level gauge, an on/off switch for the pump, a valve for the shower head, and the tank fill connection

15.2 There shall be one (1), 40-gallon plastic holding tank for fresh water. It shall be located inside the frame of the apparatus. It shall be accessible from inside floor if necessary. The tank will be located between the wheel wells with provisions provided for repair/replacement as necessary.

15.3 The tank shall be vented to the outside of the body.

15.4 The tank will be located in an area that will not interfere or diminish interior storage space or exterior compartment space.

15.5 A fresh water fill shall be provided at the exterior apparatus body with a household hose type connection.

15.6 A 12-volt, self-priming, flow controlled water pump (minimum of 4-5 GPM) with built-in check valve shall be provided and plumbed to water system. The water pump shall be accessible from a removable access panel inside of the trailer.

15.7 The hand held shower nozzle shall be a spray type. The hand held external shower hose shall be located within the marked compartment. The hose shall be 96” long.

~~16.0 ATV~~

Note: section 16.0 (16.1 through 16.6.1 j.) Were not selected as options with the bid spec and will not be included with this production specification.

~~**16.1** ATV parking area shall have six (6) D-ring hold downs, flush with the floor of the trailer where it sits.~~

~~**16.2** Model shall be a John Deere XUV.~~

~~**16.3** Engine size to be a diesel, 3 cylinder, 854cc engine.~~

~~**16.4** Unit shall be 4WD.~~

~~**16.5** Unit shall have an ATV bed on back of unit.~~

~~**16.6** Unit shall be paint job color.~~

~~**16.6.1** Optional equipment provided shall be the following:~~

- ~~**a.** OPS light kit.~~
- ~~**b.** Exterior mirror kit.~~
- ~~**c.** Aggressive tread tires.~~
- ~~**d.** Heavy duty skid plate.~~
- ~~**e.** Front CV guards.~~
- ~~**f.** Rear CV guards.~~
- ~~**g.** Floor mats.~~
- ~~**h.** Gauge package.~~
- ~~**i.** Cargo box power lift kit.~~
- ~~**j.** Spray-on bed liner.~~

17.0 UMBILICAL BREATHING AIR SYSTEM FOR LAB

17.1 Breathing air system shall be provided with an air storage module consisting of:

17.1.1 Provide two (2) Scott AITL female connections in the interior center roof of the room to connect to the umbilical hoses to the suits worn by fire personnel.

17.1.2 Provide plumbing through the internal wall from the inside roof to the outside streetside of the trailer. The fittings will be female Scott air bottle connections.

17.1.3 Air will be provided by Scott air bottles. Bottles to be provided by VCFD.

17.1.4 Provide a small pop latched door on the street side to house the female connections for the air hook-up to the lab umbilical cords.

18.0 INTERIOR OF TRAILER

18.1 Interior Insulation, Finish, and Walls

18.1.1 Insulation

a. The roof area, upper exterior walls and the entry door of the apparatus body shall be insulated with 2" rigid polyurethane foam insulation.

b. This insulation shall be the type that will not absorb moisture, move once in place, and will not deteriorate.

c. Mat type fiberglass or spray in foam insulation are not acceptable.

d. The interior space in the trailer is to be as quiet as possible.

18.1.2 Finish

a. The interior of the apparatus body shall have a fully maintenance free and durable finish.

b. The interior finish shall be installed on the ceiling, front wall and interior side walls. The finish shall also include all the way to the top of exterior compartments to the ceiling height.

c. The interior panels shall be installed with sheet metal screws with white plastic plugs covering the screws.

d. The seams between FRP (fiberglass reinforced plywood) panels, interior corners, and exterior corners shall be trimmed with white plastic molding.

e. The interior finish shall be bright white pebble grain or smooth finish for dry erase use on all open walls in trailer. FRP (fiberglass reinforced plywood) material.

18.1.3 Walls, General

a. There shall be two (2) interior walls constructed using 2" aluminum tubes with 3/8" plywood sheeting with a laminate over-layment.

b. There shall be an aluminum-framed wall at the rear of the trailer. This wall shall create a room for a lab of approx 125" X the width of the trailer. It shall have a sealed door.

c. The second wall shall be located at the threshold of the gooseneck drop wall. This would be going into the command center. It shall have one sliding metal pocket door with window.

18.2 False Floor

18.2.1 There shall be an aluminum false floor located at approximately 31½" above the basement floor, and shall be constructed using 2"x 2" aluminum tubes on spaced on 12" centers.

18.2.2 The aluminum floor shall be an extruded interlocking board .080 thick with .040 supporting flanges.

18.2.3 The floor shall be securely welded to the top of the 2" x 2" tubular cross members as each sheet is laid down.

18.2.4 The floor shall start at the aft portion of the inner fender well and continue forward to the start of the gooseneck drop wall.

18.2.5 This area shall be used for storage and shall be as large as possible.

18.3 Interior Walkway Floor

18.3.1 The NFPA compliant 3/16" aluminum tread plate walkway floor shall be installed above the barrier, with a 1" high vertical break on each side of the floor panel to form a watertight splash and kickboard along the walkway sides.

18.3.2 The walkway floor area shall be continuously welded at all cross seams to provide a watertight finish, so that a water hose may be used to flush-out walkway area.

18.3.3 Flooring shall be bolted to body sub-frame with countersunk stainless steel bolts.

18.4 Interior Sub-Floor

18.4.1 Above the body sub-frame shall be an isolation sheet that shall prevent outside elements from permeating the full-length sound and thermal barrier, which is ¾" thick, air core plastic.

18.4.2 The sheet shall be fabricated from the same type of material as is used in the sub-frame.

18.4.3 The isolation sheet shall be flanged on both sides with a 1" high vertical break.

18.5 Interior Skylights

18.5.1 There shall be one (1) non-egress skylight installed to give sufficient light in the center area of the trailer for working or reading a book during the day.

18.5.2 ~~Provide three (3) skylights down the center of the trailer.~~

18.5.3 ~~Provide one (1) above the gooseneck area and the other two (2) evenly spaced between the gooseneck and just forward of the lab.~~

~~**a.** Exact location to be determined at pre-conference.~~

18.5.4 ~~Two (2) skylights to be non-opening and one skylight to open and meet the requirements of an escape hatch.~~

Note: Sections 18.5.2 through 18.5.4 were not selected as options with the bid spec and will not be included with this production specification.

18.5.5 All skylights shall be extremely durable and able to withstand the elements while parked and in motion.

18.6 Streetside Interior Area

18.6.1 Front Side Interior of Gooseneck Area

a. Provide three (3) cabinets on the front wall of the gooseneck command area which combined shall extend the full width of the trailer and be located forward of the streetside and curbside slide-outs.

b. The center cabinet shall be approximately 22” deep by 39” tall, the two (2) cabinets to the right and left of the center cabinets shall be approximately 16” deep by 39” tall.

c. Exact depth of cabinet must be a size that will not interfere with the opening or closing of the two (2) slide rooms.

d. The cabinets shall be constructed of 1/8” smooth finish aluminum, and painted with a hammer tone powder coat finish for a hard durable service. Paint color to be gray.

e. ~~The cabinet shall be divided into three (3) sections, each approximately 30” wide.~~

Note: Section 18.6.1e. has been deleted during the pre-construction meeting as the cabinet layout is defined in 18.6. a.

f. The left and right cabinets shall have two (2) adjustable shelves each. The load capacity of the shelves shall be 80 lbs.

g. The shelves shall have a powder coating and 1.25” lip. Color to be the same as the other cabinets.

h. These two sections shall have sliding clear Lexan doors.

i. The doors shall be able to withstand 200 lbs of force against them.

j. They shall be able to be latched.

k. The center section shall have two fixed shelves.

l. These shelves shall be able to slide out and lock in both the out and in position.

m. These shelves shall have a load capacity of 80 lbs have a 1.25” lip. Color to be the same as the other cabinets.

n. One (1) shelf shall be located in the middle of the cabinet and the other one (1) at the bottom.

o. Two (2) duplex 120 volt outlets shall be provided in the center section. Outlet placement shall be determined by the approved engineering drawing.

p. There shall be a 2 ½” diameter hole with plastic edge grommet provided to the rear center of this section for printer/equipment wiring to run to the countertop.

q. There shall be blue colored Turtle Tile interlocking plastic grating included on all shelves and trays in the specified cabinets.

r. Two (2) CAT5 data ports shall be provided in the center cabinet to allow for the connection of printers or other network devices.

18.6.2 Street Side Interior Gooseneck Area

a. This area is located in the left gooseneck area of the trailer, between gooseneck and left side entry door.

b. There will be a step located just outside the sliding pocket door to transition down to the main central floor area.

c. Provide locks for all cabinets. Provide six (6) sets of keys. Keyed alike.

d. The cabinets shall be constructed of 1/8” smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface.

e. Powder coat color shall be gray.

18.6.3 Interior Cabinet and Overhead Lighting Inside Slide Out (Street Side)

a. There shall be two (2) overhead cabinets provided in this area of the slide out.

b. The cabinets shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface.

c. Powder coat color shall be gray.

d. Each cabinet shall be approximately 44" wide x 14" high x 14" deep.

e. The above cabinet(s) shall have sliding clear Lexan doors.

- These doors shall with stand 200 lbs of force against them.
- Doors shall be able to be latched.

f. There shall be two (2) 24" (2ft) long lights, 120 volt interior, over the counter, light fixture(s) installed above the desk/deck area, fluorescent and sufficient.

g. Fixtures shall be provided with single bulb and switch on fixture.

h. The over desk/deck fluorescent lights shall be located one (1) per overhead cabinet, centered.

18.6.4 (3)-Drawer Filing Cabinet

a. One (1) Hon 3-drawer "Efficiency Pedestal" cabinet with "K" type pull handle shall be provided and installed.

b. Each cabinet shall have a keyed lock.

c. Each keyed lock shall have four spare keys.

d. Each filing cabinet shall be15" wide x 27" high x 20" deep.

e. They shall be painted with a charcoal finish as provided by the manufacturer.

f. The bottom drawer of the cabinet shall be capable of storing 8-1/2" x 11" file folders.

g. All cabinets shall have a clean install appearance.

18.6.5 Slide-Out Command Desk

a. The slide-out command area shall be provided with a full width desk-top, with clear Lexan cover, which shall be 19" deep and located approximately 30" high off the floor.

b. The front edge of the desktop shall be reinforced with 2" x 2" tubing in order to support a person (300 lbs) sitting on the edge of the desk.

c. The desktop surface shall be fabricated of 3/16" smooth finish aluminum.

d. It shall have a 2" vertical downward edge along front to cover the 2" x 2" reinforcement.

e. There shall be 2-1/2" diameter holes with plastic edge grommet provided at each rear corner for wiring of future equipment located on the desktop.

f. The desktop shall be painted with a gray hammer tone powder coat paint finish for a hard and durable surface.

18.6.6 Desk Top Radio Console

a. There shall be one (1) desktop mounted radio/communication consoles provided in the center section of the desk.

b. The radio cabinet shall provide mounting for the radios and any 12-volt control switches that are required in the walk-in.

c. The radio cabinets shall be constructed of 1/8" smooth finish aluminum and painted with a hammer tone powder coat paint finish for a hard durable surface.

d. A hinged access cover shall be provided on side to access equipment mounting and wiring.

e. Ventilation louvers shall be provided for proper ventilation of radio equipment.

f. Each cabinet or console shall be approximately 26" wide.

18.6.7 Interior Pedestal Seat

a. Provide four (4) high back, 911 Seats Inc seats Duraware fabric pedestal type seats with 6" fore/aft adjustment and fully reclining in the completed apparatus.

b. Each seat shall be mounted on a swivel style pedestal base and securely bolted to the reinforced floor structure. The seats shall also lock in multiple positions.

c. The seats will have lap and shoulder style, Federal Highway approved seatbelt. These shall be red in color.

18.6.8 STREETSIDE INTERIOR (Center Section)

Note: Items in section 18.6.8 a. related to the full height cabinet have been deleted during the pre-construction meeting as the full height cabinet has been replaced with the mast tub for the Pelco Camera.

~~**a. Full Height Interior Cabinet (Front)**~~

- ~~There shall be one (1) full height cabinet provided on interior between the gooseneck area and the side entry door.~~
- ~~The cabinet shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface. Paint color shall be gray.~~
- ~~The cabinet shall be approximately 24" wide x 75" high.~~
- ~~The above cabinet shall have two (2) sets of double, vertically hinged aluminum doors that shall be painted with a hammer tone powder coat paint finish to match cabinet color choice.~~
- ~~Install within this cabinet one (1) 5.7 cubic-foot Kitchen Aid Architect refrigerator. Refrigerator to fit cleanly in cabinet.~~
- ~~Installed so that door will open fully and not contact step into gooseneck area.~~
- There shall be a side entry door located in this area.
- There shall be a mast cover for the Pelco Camera in this area.

b. Shelving

Note: Section 18.6.8 b. has been deleted during the pre-construction meeting as the full height cabinet has been replaced with the mast tub for the Pelco Camera.

- ~~There shall be four (4) vertically adjustable shelves in each of the above cabinets. Provide one (1) inch lip on around all shelves.~~
- ~~There shall be vertically mounted shelf track for shelving installation and full adjustment.~~
- ~~There shall be twelve (12) adjustable shelves, approximately 30" deep.~~
- ~~Each shelf shall be able to support 80 lbs.~~

c. Partitions

- There shall be three (3) vertical partitions provided to support the specified shelves. The partitions will be located along the street sidewall aft of the side entry door to the rear work bench. The partitions will create two (2) shelving storage areas. The areas will each be approximately 72" wide x 29" deep x full height. The layout shall include a top horizontal section designed to tie the vertical partitions together. The horizontal section will include a 4" vertical perimeter lip (where possible) to allow items to be stored on top of the shelving unit. Exact layout shall be determined by the approved sales drawing.
- Hammer tone powder coat paint finish to match cabinet color choice.
- There shall be vertically mounted shelf trac for shelving installation.
- There shall be eight (8) adjustable shelf/shelves approximately 29" deep.
- Aluminum construction, Powder coated shelves able to hold 300 lbs with a 4" hinged lip on four (4) sides.
- ~~Removable and adjustable cargo netting for each shelf will be provided.~~

Note: Section 18.6.8 c. bullet point six (6) has been deleted during the pre-construction meeting.

d. Counter Height Interior Cabinets (Center Section)

- There shall be one (1) interior counter height cabinets provided in this area.
- The cabinets shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface.
- Paint color shall be gray.
- Each cabinet shall be approximately 48" wide x 39" high x 26" deep.
- The cabinets shall have a 4" x 4" toe kick area at the base to allow for the top surface to be used as a working surface.
- The cabinets shall have double vertically hinged aluminum door(s) and painted with a hammer tone powder coat paint finish to match cabinet color choice, which will be gray.
- There shall be two (2) vertically adjustable shelves in each of the above cabinets.
- There shall be a work surface (desk) installed above the counter height cabinets.
- The top work surface shall be fabricated with 1/8" thick smooth aluminum over-laid with a stainless steel top.
- Lighting to be as specified in the electrical section (item 7.44.3).
- There shall be one (1) 2" diameter conduit run from the streetside center section workbench to the data rack. The conduit run will include a pull cord pre-loaded.

18.6.9 Lab Area

a. Street Side Lab Cabinets

- This area will be the rear lab area of the trailer.
- The lab will be approximately 119" long x the full width of the trailer with an interior height of approximately 84-1/2".
- The lab walls and ceiling will be covered with FRP material to match the balance of the trailer.
- The floor of the lab area will be NFPA aluminum thread plate.
- There shall be a rear double entry door located on the right side of the lab area back wall.
- There shall be one (1) 2" diameter conduit run from the lab area workbench to the data rack. The conduit run will include a pull cord pre-loaded.

b. Streetside Lower Lab Cabinets

- There shall be two (2) cabinets located along the streetside trailer wall. The cabinets shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface. One (1) cabinet shall be approximately 69” long and be located between the specified vent hood and the rear of the trailer. One (1) cabinet shall be approximately 50” long and be used to support the specified vent hood.
- ~~The lower streetside cabinets shall fill the entire wall area and be stainless steel. There is 125” +/- of lower wall area.~~

Note: Section 18.6.9 b. bullet point two (2) has been deleted during the pre-construction meeting. Cabinet description will be from bullet point number one (1).

- Both cabinets shall be approximately 39” tall.
- These cabinets shall have a 4" x 4" toe kick area at the base to allow for the top surface to be used as a working surface.
- The rearward cabinet shall have two (2) sets of vertically hinged aluminum doors.
- The rearward cabinet shall have two (2) aluminum vertically adjustable shelves.
- Shelves to be powder coated and able to support 80 lbs. Shelves shall have a 1” lip on all four (4) sides.
- There shall be a work surface (workbench) installed on the counter height cabinets.
- The work surface shall be fabricated with smooth stainless steel.
- The forward cabinet counter top will open up to 30” deep to support the hood mounting. This extended area will be from the forward lab wall 50” to the rear.
- The forward cabinet shall also have double vertically hinged aluminum door(s) and painted with a hammer tone powder coat paint finish to match cabinet color choice.
- There shall be three (3) adjustable shelves in the forward cabinet.
- Shelves to be powder coated and able to support 80 lbs. Shelves shall have a 1” lip on all four (4) sides.
- Five (5) OnScene Solutions 24” LED NightStick compartment lights will be provided. Three (3) lights shall be in the rearward cabinet, two (2) lights shall be in the forward cabinet.

c. Curbside Upper Cabinets (3)

- There shall be three (3) cabinets provided on the upper curbside of the lab area. The cabinets shall be constructed of 1/8" smooth aluminum. Two (2) cabinets shall be approximately 14" x 14" x 42", and one (1) cabinet shall be approximately 14" x 14" x 34".
- ~~Provide one (1) adjustable shelf with a 1" lip on all sides. It shall have a 80 lb. capacity.~~

  Note: Section 18.6.9 c. bullet point two (2) has been deleted during the pre-construction meeting.
- ~~Provide removable cargo netting for this shelf.~~

  Note: Section 18.6.9 b. bullet point three (3) has been deleted during the pre-construction meeting.
- The above cabinet(s) shall have sliding clear Lexan doors and withstand 200 lbs of force against them. The doors shall be able to be latched.
- Color and material to match the other cabinets.
- There shall be three (3) 24" (2ft) OnScene Solutions LED lights provided under the cabinets, one (1) per cabinet.

d. Streetside Upper Cabinets (2)

- ~~There shall be two (2) adjustable shelves in the cabinet. Shelves to be powder coated and able to support 100 lbs. Shelves shall have a 1" lip on all (4) four sides.~~

  Note: Section 18.6.9 d. bullet point one (1) has been deleted during the pre-construction meeting.
- There shall be two (2) cabinets provided on the upper streetside of the lab area. The cabinets shall be constructed of 1/8" smooth aluminum and measure approximately 14" x 14" x 34".
- The above cabinet(s) shall have sliding clear Lexan doors and withstand 200 lbs of force against them. The doors shall be able to be latched.
- There shall be two (2) 24" (2ft) OnScene Solutions LED lights provided under the cabinets, one (1) per cabinet.
- The overhead cabinet will be an over counter cabinet.
- The cabinet shall be constructed of 1/8" smooth finish aluminum.
- ~~The cabinet shall be approximately 48" wide x 36" high x 18" deep.~~

  Note: Section 18.6.9 d. bullet point seven (7) has been deleted during the pre-construction meeting.
- ~~This cabinet shall be installed up to the ceiling of the trailer.~~

  Note: Section 18.6.9 d. bullet point eight (8) has been deleted during the pre-construction meeting.
- The bottom of the cabinet shall be no closer than 24" to the workbench surface.
- Color and material to match the other cabinets.

18.7 Curbside Interior Area

18.7.1 Curbside Interior Gooseneck Area (IC1)

a. This area is located in the right gooseneck area of the trailer.

b. This area is located in the left gooseneck area of the trailer, between gooseneck and left side entry door.

c. There will be a step located just outside the sliding pocket door to transition down to the main central floor area.

d. Provide locks for all cabinets. Provide six (6) sets of keys. Keyed alike.

e. The cabinets shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface.

f. Powder coat color shall be gray.

g. Interior Cabinet and Overhead Lighting Inside Slide Out (Street Side)

- There shall be two (2) overhead cabinets provided in this area of the slide out.
- The cabinets shall be constructed of 1/8" smooth finish aluminum, and painted with a hammer tone powder coat paint finish for a hard durable surface.
- Powder coat color shall be gray.
- Each cabinet shall be approximately 44" wide x 14" high x 14" deep.
- The above cabinet(s) shall have sliding clear Lexan doors.
- These doors shall with stand 200 lbs of force against them.
- Doors shall be able to be latched.
- There shall be two (2) 24” (2ft) long lights, 120 volt interior, over the counter, light fixture(s) installed above the desk/deck area, fluorescent and sufficient.
- Fixtures shall be provided with single bulb and switch on fixture.
- The over desk/deck fluorescent lights shall be located one (1) per overhead cabinet, centered.

h. (3)-Drawer Filing Cabinet

- One (1) Hon 3-drawer “Efficiency Pedestal” cabinet with "K" type pull handle shall be provided and installed.
- Each cabinet shall have a keyed lock and shall be painted charcoal.
- Each keyed lock shall have four (4) spare keys.
- Each filing cabinet shall be15" wide x 27" high x 20" deep.
- The bottom drawer of the cabinet shall be capable of storing 8-1/2" x 11" file folders.
- All cabinets shall have a clean install appearance.

i. Slide-Out Command Desk

- The slide-out command area shall be provided with a full width desktop, with clear Lexan cover, which shall be 19" deep and located approximately 30" high off the floor.
- The front edge of the desktop shall be reinforced with 2" x 2" tubing in order to support a person (300 lbs) sitting on the edge of the desk.
- The desktop surface shall be fabricated of 3/16" smooth finish aluminum.
- It shall have a 2" vertical downward edge along front to cover the 2" x 2" reinforcement.
- There shall be 2-1/2" diameter holes with plastic edge grommet provided at each rear corner for wiring of future equipment located on the desktop.
- The desktop shall be painted with a gray hammer tone powder coat paint finish for a hard and durable surface.

j. Desk Top Radio Console

- There shall be one (1) desktop mounted radio/communication consoles provided in the center section of the desk.
- The radio cabinet shall provide mounting for the radios and any 12-volt control switches that are required in the walk-in.
- The radio cabinets shall be constructed of 1/8" smooth finish aluminum and painted with a hammer tone powder coat paint finish for a hard durable surface.
- A hinged access cover shall be provided on side to access equipment mounting and wiring.
- Ventilation louvers shall be provided for proper ventilation of radio equipment.
- Each cabinet or console shall be approximately 26" wide.

k. Slide-Out Extension (Front)

- There shall be one (1) "slide-out" section on the street side, which shall extend out as far as possible outside of the body and when retracted shall provide 24” for walking space.
- The extendable module shall be approximately 89.75" wide of interior usable space and the interior height shall be as high as possible.
- The installed module shall provide a water tight seal in both the fully extended and the retracted positions.
- The slide-out section shall be framed with 2" x 2" x 1/4" 6061-T6 alloy aluminum.
- The frame structure shall be covered with no less than 0.090" thick 3003-H14 smooth aluminum.
- There shall be two (2) flashing LED warning lights with red lenses, one at each end of the slide-out section. A warning light disable switch shall be provided in the 12V switch panel.
- The lights shall activate and be visible when the unit is extended.
- All electrical wiring installed in the slide-out wall shall run through a boxed type conduit at the lower corner of the system.
- All wiring shall be enclosed in a flexible, moisture resistant, reinforced conduit, with proper seal tight connectors and hardware.
- Access shall be provided for inspection of all wiring, gearing and rack mechanism.

l. Curbside Interior Area (IC2) (Behind Gooseneck Area)

- There shall be an EIA compliant 19” gangable equipment rack, Middle Atlantic Products model # MRK-4026.
- Overall dimensions shall be 76.125”H x 22.0”W x 26.4”D. Useable height shall be 40 rack spaces, useable depth shall be 24”. Fully welded construction shall provide a static capacity of 10,000 lbs. and a UL Listed load capacity of 2,500 lbs.
- Rack shall be constructed of the following materials: top and bottom shall be 14-gauge steel, horizontal braces shall be 16-gauge steel, rear door shall be 18-gauge steel and all structural elements shall be finished in a durable black powder coat.
- Rack shall come equipped with two pairs of 11-gauge steel rack rail with tapped 10-32 mounting holes in universal EIA spacing, black e-coat finish and numbered rack spaces.
- Rack shall have removable split rear knockout panels with 1/2”, 3/4”, 1” and 1-1/2” electrical knockouts and top BNC knockouts for UHF/VHF antennae.
- Provide a pedestal to support the data rack with a locking door facing the center of the trailer. The compartment formed by the pedestal shall have a louvered front door with additional venting on the top of the compartment for cooling air flow. VCFD shall provide the lock to match existing apparatus. Exact layout shall be determined by the approved sales drawing.
- Provide two (2) 12V fuse blocks located one (1) in the data rack to power radio equipment, and one (1) in the lower portion of the data rack pedestal to power an AVL computer.
- There shall be one (1) spare SCBA cylinder rack provided capable of holding fifteen (15) spare SCBA bottles in a five (5) high by three (3) wide configuration. Exact layout to be determined by the approved engineering drawing.
- There shall be vertically mounted shelf track for shelving installation.
- There shall be four (4) fully adjustable aluminum shelf/shelves approximately 58” long by 30” deep.
- Load capacity of shelves shall be 300 lbs.
- All shelves shall have a front hinged, 4” front edge.

- There shall be three (3) vertical partitions. The partitions shall be located along the curbside wall starting at the side entry door and extending to the lab area wall.
- The partitions will create two (2) shelving storage area. One shelving area to be approximately 24" wide located directly above the spare SCBA storage rack, and the other approximately 63" wide located between the spare SCBA storage rack and the side entry door.
- ~~Partitions to create one 72" wide x 30" deep x full height of wall located just aft of the gooseneck area, and one 24" wide x 30" deep x full height of the wall shelving area aft of this. The total length will be approximately 114" long.~~

  Note: Section 18.7.1 l. bullet point fourteen (14) has been deleted during the pre-construction meeting. Storage area description will be from bullet point number thirteen (13).
- Provide powder coat to all shelves. The color to be the same as the other cabinets.
- ~~Provide cargo netting to the front of all cargo loading areas with shelves.~~

  Note: Section 18.7.1 l. bullet point sixteen (16) has been deleted during the pre-construction meeting.
- There shall be a side entry door located in this area.
- Provide interior lighting, fluorescent and sufficient.

m. Curbside Interior Area (Next Section Behind Center Section)

- ~~**Slide-Out Extension (Rear)**~~
- ~~There shall be one (1) "slide-out" section located adjacent to the side entry door and extend toward the rear of the trailer.~~
- ~~When retracted there shall be 30" of interior walking area.~~
- ~~The extendable module shall be approximately 80" in length and the interior height shall be as high as possible.~~
- ~~The installed module shall provide a watertight seal in both the fully extended and the retracted positions.~~
- ~~The slide-out section shall be framed with 2" x 2" x 1/4" 6061-T6 alloy aluminum.~~
- ~~The frame structure shall be covered with no less than 1/8" thick 3003-H14 smooth aluminum.~~
- ~~There shall be two (2) flashing LED warning lights with red lenses, one (1) at each end of the slide-out section.~~
- ~~The lights shall activate and be visible when the unit is extended.~~
- ~~There shall also have 6" reflective material applied at both ends of slide to match height and color of existing reflective.~~
- ~~All electrical wiring installed in the slide-out wall shall run through a boxed type conduit at the lower corner of the system.~~
- ~~All wiring shall be enclosed in a flexible, moisture resistant, reinforced conduit, with proper seal tight connectors and hardware.~~
- ~~Access shall be provided for inspection of all wiring and the gear and rack mechanism.~~
- ~~The "Slide-out" must be able to withstand years of rugged service and wear.~~

  Note: Sections 18.7.1 m. (bullet points one (1) through fourteen (14)) were not selected as options with the bid spec and will not be included with this production specification.

- There shall be vertically mounted shelf track for shelving installation.
- There shall be twelve (12) fully adjustable aluminum shelf/shelves approximately 23" deep. Six (6) shelves shall be approximately 64” long, and six (6) shelves shall be approximately 33” long. A gap shall be provided between the rear face of the shelves and the trailer wall to allow for access to the electrical outlets located behind the shelving unit.
- All shelves shall have a front hinged, four (4) inch front edge.
- Load capacity of shelves shall be 300 lbs.
- There shall be one (1) vertical compartment partition.
- Provide powder coat to all shelves. The color to be the same as the other cabinets.
- The partition will be located approximately 68” from the forward edge of the shelving unit to create two (2) storage areas one (1) approximately 68" wide, and one (1) approximately 37” wide.
- ~~Provide cargo netting to the front of all cargo loading areas with shelves.~~

Note: Section 18.7.1 m. bullet point twenty-two (22) has been deleted during the pre-construction meeting.

n. Interior Lab Area (Streetside)

- Provide a Paramount Hood Enclosure, chemical fume hood model PN693401. It will be installed on the lab countertop.
- The hood unit will have an interior dimension of 48" wide x 55" high x 29" deep.
- The unit shall have a blower/fan system that shall exhaust to the exterior of the trailer.
- A canopy exhaust transition PN 6963700 will be used to connect the hood.
- The exterior exhaust will be designed to provide an adequate seal from the elements when the vehicle is in motion, parked and when the hood is in use.
- The fan/filter unit will be located on top of the unit.
- The filter will be a bag-out style system.
- There will be a standard HEPA filter on the unit for the exhaust, which will have a rating of 99.99% to 0.3 micron particulate.
- In addition to the HEPA filter there will be a secondary filter for vapor filtration.
- The hood unit will be capable of utilizing a HEPA filter system and mixed bed carbon filter system.
- The builder will provide the hood with two (2) full sets of filters, for a total of 12 (twelve) HEPA filters PN 6938100 and 12 (twelve) Mixed Bed Carbon filters PN 6938204.
- Hood to be secured to the front portion of the counter in a way that will make it secure while the vehicle is in motion but still allow it to be removed if repairs are needed. Any method of securing the hood shall be clean in appearance and not hamper operations of the hood.
- Hood power to be provided by hard wire connection. This connection will not interfere with the placement of the hood and will allow hood unit it to be tight to the wall. Connection to be clean in appearance.
- A separate circuit breaker and switch (that is permanently identified) will be provided in the previously identified circuit panel.

19.0 EQUIPMENT

The following equipment shall be furnished with the completed apparatus:

19.1 Assorted Fasteners

19.1.1 One (1) container of assorted stainless steel nuts, bolts, screws and washers used in the construction of the apparatus shall be provided with the completed apparatus.

19.2 Loose Equipment

19.2.1 Loose Equipment to be:

- **a.** A matching 100 ampere plug shall be shipped with the apparatus for VCFPD supplied external power source wiring. Spec. # 7.44.3.
- **b.** A matching 50 ampere plug shall be shipped with the apparatus for VCFPD supplied external power source wiring. Spec # 7.44.
- **c.** Spare two (2) tires and matching wheels for trailer. One (1) polished outside and one (1) brushed inside wheel.
- **d.** Service, maintenance and parts manuals for trailer.
- **e.** Electrical schematics for trailer.
- **f.** Provide two (2) complete manuals on parts lists, maintenance, wiring schematics, hydraulic schematics, circuit boards, voltage regulator board and other components on the generator.
- **g.** Provide all special tools in order to operate specific equipment that specific manufacturer requires.
- **h.** Provide six (6) sets each of spare keys for all inside locked cabinets, desks, side access doors, all compartments or lockable outside panels.

20.0 PAINT

20.1 Paint Finish

20.1.1 All surfaces, excluding the underside, shall be properly cleaned, prepared and primed before finish is applied. This shall be an epoxy type sealer.

20.1.2 All sharp edges, burrs, etc., shall be ground or filed to a smooth radius. Underside of fenders, running boards and inside compartments shall have no protruding sheet metal screws or other sharp objects to hamper vehicle cleaning.

20.1.3 The following parts shall not be painted;
Electrical system, fuel lines, throttle, cables, wiring, hoses, hose clamps, linkages, grease fittings, adjustment nuts, clevis rods, aluminum running and/or tailboards, brakes and brake pins.

20.1.4 The following will be removed prior to paint; Emblems, tail lights, emergency lights. step lights, bumpers, stickers, or any obvious attachments to vehicle, prior to paint. Additionally, any item not specifically listed but capable of being removed shall be prior to the paint process.

20.1.5 All adjustment nuts, clevises, linkage connections, etc., shall be cadmium plated unless base metal is rust resistant and left unpainted.

20.1.6 ~~There shall not be any over spray under vehicle, on fenders, tires, bumpers or on any side, front, rear, roof or any other accessory that is painted a different color.~~

Note: Section 20.1.6 was not selected as an option with the bid spec and will not be included with this production specification.

20.1.7 There shall not be any lines or swirls from sanding in paint.

20.1.8 There shall not be any grindings left on vehicle roof, bed or any area of vehicle, which would create rust.

20.1.9 Body lines must be smooth.

20.1.10 Body filler must be kept to a bare minimum and is not acceptable in manufacturing trailer for VCFDP.

20.1.11 Final sanding must be preformed with 320 grit sandpaper or finer.

20.2 Paint Color

20.2.1 The top area of the body to be white and the lower area shall be yellow.

a. The paint break line shall be determined from the approved graphics layout as presented by SVI Graphics.

20.2.2 The finish paint choices to be used as follows:

- DUPONT, basecoat/clear coat, two-stage, White, N0006-HP with the balance painted DUPONT, N0126 Yellow, or
- FBCH, basecoat/clear coat, two stage basecoat. PPG B91776 – Delta White FT-B91776 and PPG FT-B83894 – Sunshine Yellow or
- BASF, basecoat/clear coat, Diamont Yellow #SYO57.50 with equivalent Diamont white to match fleet.

a. Base coat shall have two (2) coats, minimum. Any body repair with primer requires three (3) coats minimum.

b. Color match must be exact and will be checked with a sample card.

c. **Note**: Out-of-state paint jobs can include Imron 5000 3.5 VOC.

20.2.3 ~~Chassis (frame and underside), body (roof, sides and underneath), boxes, all wheels, door jams, including all bolted on or included components on trailer, all shall be painted unless otherwise discussed.~~

Note: Section 20.2.3 was not selected as an option with the bid spec and will not be included with this production specification.

20.2.4 The inside of all outside compartments shall be sprayed, gray Linex . This shall include the inside of door.

20.3 Paint Finish

20.3.1 The paint finish shall have a surface gloss of 90 percent measured on a 60-degree geometry.

20.3.2 The paint finish shall also pass the ASTM D3359-83 Standard Method for Measuring Adhesion by Tape Test to assure strong paint adhesion.

20.3.3 Additionally, for impact resistance, paint must pass ASTM D2794-84 Physical Adhesion (impact) Test. BASF, Dupont or PPG paint is acceptable. See ASTM specification.

20.3.4 An isolation tape or gasket material shall be used prior to reassembly or reinstallation of lights, handrails, door guard material, door hardware, and any of the miscellaneous components to prevent damage to the finish painted surfaces.

20.3.5 No runs, no fish eyes, no drips, no over spray, no dull areas. Finish must be buffed and have a nice finish glaze.

20.4 Clear Coat

20.4.1 There shall be a minimum of two (2) high quality coats of clear coat.

20.4.2 Color sand with 1200 grit sandpaper, buff and finish glaze paint.

20.4.3 Clear coat warranty will be for five (5) years.

20.5 Striping and Decals

20.5.1 Add a painted blue spilt line between white & yellow paint. It shall be 1/8" wide and the paint number shall be PPG 19183. Exact line brake to be provided by SVI

20.5.2 Door decals shall be furnished by VCFDP and installed on both the driver's and fire officer's doors**.**

a. The door decal size and location shall be determined from the approved graphics layout as presented by SVI Graphics.

20.5.3 All lettering will be installed and provided by the vendor. Large lettering (minimum of 24") on both sides and in the rear stating type of vehicle and department name**.**

a. The lettering size and location shall be determined from the approved graphics layout as presented by SVI Graphics.

20.5.4 Vendor shall supply vehicle numbers/letters and they shall be attached to vehicle front, sides, rear and roof. This will have vehicle number and reference to VCFPD. Style shall be Euro style. Size to be 24".

a. The vehicle number size and location shall be determined from the approved graphics layout as presented by SVI Graphics.

20.5.5 Provide a six-inch (6") wide, blue 3-M brand, SCOTCHLITE PLUS, 680 series, reflective stripe, affixed to the painted perimeter of the vehicle.

a. The blue stripe will be on all sides and may have curves, vertical or angled designed to it.

b. The striping size and location shall be determined from the approved graphics layout as presented by SVI Graphics.

20.5.6 Chevron stripping will be added across the full back.

a. The chevron stripe shall be constructed from 3M diamond grade red part #983-72 and 3M diamond grade yellow part #983-23.

b. The chevron size and location shall be determined from the approved graphics layout as presented by SVI Graphics.

21.0 MANUALS

21.1 Provide three (3) complete sets of service and maintenance manuals for all components installed on trailer.

21.2 Provide three (3) sets of operating manuals for all components on trailer.

21.3 Provide two (2) parts manuals for all components installed on trailer.

22.0 SCHEMATICS

22.1 Provide eleven (11) sets of all schematics of all components as wired from battery source to component, including all ground locations, wire numbers and color. Provide a location for all through body connector and hidden components inside walls with covers.

23.0 TRAINING

23.1 Provide training for four (4) days / three (3) shifts of operational personnel and twelve (12) mechanics.

24.0 DELIVERY

Completed trailer and all loose equipment shall be delivered to:
Ventura County Fire Protection District
Fleet Maintenance
2451 Latigo Ave.
Oxnard, CA. 93030

Call First,
1-805-388-4508

Delivery to be between 8:00 am and 4:00 pm.

APPROVED
By James Weber at 3:53 pm, Jul 19, 2010

Change Order #1

Customer: **Ventura County Fire Department**
Dealer: **Fire Apapratus Solutions**

Date: 7/14/2010
SVI #: **753**

Change Order Description

Addition of Tech Items

Based on the following changes/modifications to the specification, (0) days will be added to the quoted delivery time.

Review each item for change description and price. Check the appropriate response for each item, sign and date form at bottom, and fax completed form to SVI Trucks at (970) 667-3343.

Prices shown above are per unit (ea truck) prices unless otherwise noted. All work to be performed under same terms and conditions as specified in original contract unless otherwise stipulated. Change Order documentation will override specification in cases of conflicting documentation.

Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
1	7.52 DVR (Recorder) / 7.52.3	Add one (1) DiBos DB12C2100R2 Video/Data Recorder with twelve (12) composite video inputs, four (4) audio inputs, and two (2) composite video outputs.	$8,097.00	☑ YES
2	7.52 DVR (Recorder) / 7.52.3	Add two (2) Copies of Remote Software License for the DiBos DB12C2100R2 Video/Data Recorder.	$1,155.00	☑ YES
3	7.52.9 System Speakers / 7.52.9 a	Add four (4) Audio Speakers with Volume Control Units for Audio/Video System. Two (2) speakers are to be located in the main trailer body area (center section), and two (2) speakers are to be located in the rear lab area.	$621.00	☑ YES
4	7.48.4 Sigtronics Headset Intercom System / 7.48.4 a.	Add one (1) Sigtronics intercom system jack to the rearmost streetside underbody compartment, adjacent to the lift gate control.	$326.00	☑ YES
		Change Order Total:	**$10,199.00**	

Authorized Customer Signature:	Date Accepted:
Authorized Dealer Signature:	Date Accepted:
Authorized SVI Signature:	Date Accepted:

This change order is not valid until signed by all parties listed above.

APPROVED
By James Weber at 8:13 am, Dec 22, 2010

Change Order #2

Customer: **Ventura County Fire Department**
Dealer: **Fire Apapratus Solutions**

Date: 12/13/2010
SVI #: **753**

Change Order Description

Mid Point Inspection Change Items

Based on the following changes / modifications to the specification, (45) days will be added to the quoted delivery time.

Review each item for change description and price. Check the appropriate response for each item, sign and date form at bottom, and fax completed form to SVI Trucks at (970) 667-3343.

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
1	4.5 Rear Lift Gate / 4.5.3	Change the mechanical actuation system on the rear left gate to be a dual hydraulic system as provided by Waltco. There will be additional jumper studs located in the rearmost streetside underbody compartment to allow external power to be supplied to the lift mechanism to actuate in the event of an on-board power failure.	$0.00	☑ YES
2	7.45 Inverter and Batteries	Change the inverter to a Zantrex model Freedom 3.0 with remote monitor ILO a Zantrex model Prosine 3.0 as originally specified. The Prosine model is no longer available from Zantrex.	$0.00	☑ YES
3	7.55 Command Cameras and Telescoping Pole / 7.55.1 a. - e.	Change the camera system to a Bosch MIC400ALBUD14636N camera system complete with pan, tilt and zoom drive. The camera will be fully encased in a rugged aluminum enclosure with a wiper, high-resolution 36X optical zoom, low-light and IR capabilities, and one (1) LTC 5136/61 Keyboard/Joystick controller. The camera will be integrated into the AMX video system to allow control from multiple locations.	$0.00	☑ YES
4	7.52 DVR (Recorder) / 7.52.3	Clarify that the Bosch recording system will be a DiVas series video/data recorder with 1000GB storage capacity ILO a DiBos DB12C2100R2 video/data recorder as originally specified. The DiBos series is not longer available from Bosch.	$0.00	☑ YES
5	3.6 Leveling System	Add lock washer to cable on leveling system hydraulic solenoid.	$0.00	☑ YES
6	6.0 ROOF CONSTRUCTION	Repair sealant at top edge of trailer along perimeter.	$0.00	☑ YES
7	5.3 Rooftop Observation Area / 5.3.3	Add railing/edge protection around camera mast tub.	$0.00	☑ YES

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
8	3.7 Air System / 3.7.6	Add labeling to air tanks on underside of trailer to denote tank function.	$0.00	☑ YES
9	14.2 Compartment Interiors / 14.2.8	Add light to first compartment on streetside of trailer (air compressor compartment) per specification.	$0.00	☑ YES
10	3.7 Air System / 3.7.9 a.	Complete wiring of suspension dump switch located in rear streetside compartment.	$0.00	☑ YES
11	18.0 INTERIOR OF TRAILER	Remove drop ceiling in center section of trailer under the satellite tub.	$0.00	☑ YES
12	4.5 Rear Lift Gate / 4.5.2	Clarify that the rear lift gate will be re-rated by Waltco to have a 2,500 lbs. weight rating to meet the specification.	$0.00	☑ YES
13	4.6 Rear Swing Barn Doors and Rear Sample Compartment / 4.6.1	Clarify that the rear 'barn' door opening will be 76.00 inches tall by 62.50 inches wide ILO 85.00 inches tall by 64.00 inches wide as originally specified.	$0.00	☑ YES
14	4.5 Rear Lift Gate	Remote mount the hydraulic pump change over switch to be located in the rearmost streetside compartment, adjacent to the air suspension dump switch.	$0.00	☑ YES
15	15.0 EXTERIOR SHOWER, WATER TANK & WATER PUMP	Change the water tank hold-down straps to be made from a minimum of 3/16" material. Straps should be designed to hold the tank more securely and be held in place to the trailer flooring with machine screws in nutserts. The rear angle bracket and screws will be repositioned to sit flush with the trailer floor.	$0.00	☑ YES
16	9.0 DOORS AND STEPS	Repair all doors (both walk-in and compartment) to ensure that the outer aluminum skin is flush with the door frames and secure.	$0.00	☑ YES
17	1.0 GENERAL SPECIFICATIONS	Repair the steel frame edge on the underside of the trailer corners. Welding slag is not ground off and is rusty.	$0.00	☑ YES
18	1.0 GENERAL SPECIFICATIONS	Repair the weld on the right rear corner steel rail on the underside of the trailer.	$0.00	☑ YES

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19	4.5 Rear Lift Gate / 4.5.2	Clarify that the 25.00 foot pendant described in the specification is not applicable to the Waltco lift. The lift has controls located on the curbside of the support mechanism and on the movable platform. Per VCFD personnel, the controls as located are sufficient for operating the platform.	$0.00	☑ YES
20	1.0 GENERAL SPECIFICATIONS	Clarify that conspicuity tape will be temporarily install on the trailer to allow it to meet DOT requirements. Tape will be removed by SVI and replaced with reflective striping per the approved graphics layout prior to final delivery.	$0.00	☑ YES
21	7.33.7 Lower Warning Light System / c.	Change the rear lower warning lights to be two (2) Whelen M7R lights ILO Whelen 600 series Super LED lights.	$0.00	☑ YES
22	7.41 30K Diesel Generator / Line Voltage System	Repair leak in generator oil pan drain.	$0.00	☑ YES
23	14.3 Generator Compartment	Add water collector and drain provisions to generator compartment to allow water to exit generator compartment and not collect on top of fuel tank.	$0.00	☑ YES
24	7.41 30K Diesel Generator / Line Voltage System	Adjust generator mounting to prevent generator flywheel housing from contacting drain pan.	$0.00	☑ YES
25	11.0 SLIDE OUT ROOMS / 11.3.1	Clarify that all tools needed to operate slide-out rooms in manual mode will be provided with the loose equipment.	$0.00	☑ YES
26	1.0 GENERAL SPECIFICATIONS	Remove all screw ends protruding through the underside of the trailer.	$0.00	☑ YES
27	9.0 DOORS AND STEPS	Provide 3/16" drain holes in all of the compartment and walk-through doors of the trailer.	$0.00	☑ YES

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
28	15.0 EXTERIOR SHOWER, WATER TANK & WATER PUMP	Add a rubber bumper to the exterior shower compartment door to prevent the door from contacting the trailer body when open.	$0.00	☑ YES
29	15.0 EXTERIOR SHOWER, WATER TANK & WATER PUMP / 15.1	Change the water tank level gauge to have a single label listing water tank level only and wire all LED's together to provide one (1) display.	$0.00	☑ YES
30	20.3 Paint Finish	Repair paint finish throughout trailer as marked.	$0.00	☑ YES
31	14.3 Generator Compartment	Remove keyed lock on generator compartment fuel door and replace with thumb latch, and re-key all generator compartment doors with 545 key.	$0.00	☑ YES
32	14.4 Street Side Belly Compartment, Front (S1)	Repair loose door molding on S1 compartment door.	$0.00	☑ YES
33	14.4 Street Side Belly Compartment, Front (S1)	Add pneumatic piston to hold S1 compartment door open at 90 degrees.	$0.00	☑ YES
34	1.0 GENERAL SPECIFICATIONS	Secure hydraulic lines in the rear compartment and add a removable protective cover to area.	$0.00	☑ YES
35	20.3 Paint Finish	Remove paint overspray from inner wheels and axles.	$0.00	☑ YES
36	1.0 GENERAL SPECIFICATIONS	Add a 3/16" reinforced steel skid plate huck bolted to the underside of the rear of the trailer to prevent damage to the trailer if the overhang drags.	$985.00	☑ YES
37	3.6 Leveling System	Change the leveling system batteries to be deep cycle glass mat batteries ILO flooded batteries as built.	$464.00	☑ YES
38	7.36 HVAC and Heater Systems	Modify the AC condenser units located above the walk-in door opening to maximize the space above the stairwells.	$0.00	☑ YES
39	1.0 GENERAL SPECIFICATIONS	Add loom to air lines and electrical wiring at the front of the trailer to prevent items from rubbing on floor opening.	$0.00	☑ YES
40	4.5 Rear Lift Gate	Touch up the paint along the lift gate corners where the gate attaches to the rear of the body.	$0.00	☑ YES

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41	4.5 Rear Lift Gate	Add additional protection to all chain on lift gate to prevent bare chain from chafing against painted surfaces.	$0.00	☑ YES
42	20.3 Paint Finish	Touch up paint behind the rear back up load ramp bumpers.	$0.00	☑ YES
43	1.0 GENERAL SPECIFICATIONS	Repair all trailer level indicators. Screws are loose on levels.	$0.00	☑ YES
44	1.0 GENERAL SPECIFICATIONS	Add lock washers to all battery connections.	$0.00	☑ YES
45	1.0 GENERAL SPECIFICATIONS	Repair bow in outer stainless steel skin under the gooseneck area of the trailer.	$0.00	☑ YES
46	4.6 Rear Swing Barn Doors and Rear Sample Compartment	Repair bend in the upper curbside door frame on rear 'barn' doors.	$0.00	☑ YES
47	11.0 SLIDE OUT ROOMS	Remove masking tape from the upper streetside slide-out groove.	$0.00	☑ YES
48	11.0 SLIDE OUT ROOMS / 11.4	Paint the exterior portions of the slide-out awnings job color ILO a white finish as built.	$0.00	☑ YES
49	1.0 GENERAL SPECIFICATIONS	Adjust the air scoop over the curbside wheel well to sit flush with the trailer side.	$0.00	☑ YES
50	14.3 Generator Compartment	Clarify that the antenna mounting plate will be designed to allow for adequate airflow to the generator while preventing the intrusion of rain into the compartment.	$0.00	☑ YES
51	4.6 Rear Swing Barn Doors and Rear Sample Compartment	Add rubber bumpers to the exterior of the rear 'barn' doors to prevent damage to the doors if they are opened while the lift gate is in the stowed position.	$0.00	☑ YES
52	11.0 SLIDE OUT ROOMS	Add a protective guard to the front of the slide-out extension awnings on both sides of the trailer to prevent damage to the awnings in the event the trailer brushes into trees, etc.	$976.00	☑ YES

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
53	9.9 Interior Doors and Interior Window / 9.9.1 Interior Lab Room Door	Re-build lab room door to maximize height.	$0.00	☑ YES
54	4.5 Rear Lift Gate	Add additional support to rear lift gate extension to allow for loading of ATV as specified.	$0.00	☑ YES
55	14.3 Generator Compartment	Clarify that the antenna mounting plate will be grounded to the trailer frame to provide an optimum ground plane for the use of VNC antennas.	$0.00	☑ YES
56	9.8 Side Entry Exterior Doors / 9.8.3	Add a moon spring or similar hold open device to the rear pass through compartment doors to allow the door to stay open and not slam shut in windy conditions.	$0.00	☑ YES
57	4.6 Rear Swing Barn Doors and Rear Sample Compartment	Add a paddle latch to the interior of the 15.00 inch by 15.00 inch sample door to allow the door to be opened by personnel inside of the trailer.	$0.00	☑ YES
58	7.0 ELECTRICAL	Add emergency power switching for the hydraulic leveling system, generator start, and rear hydraulic lift. The switching will be located in the battery stairwell compartment.	$1,650.00	☑ YES
59	7.48.4 Sigtronics Headset Intercom System / a.	Add two (2) intercom pre-wires to the rear gooseneck slide-out positions, one (1) on the streetside, and one (1) on the curbside.	$116.00	☑ YES
60	17.0 UMBILICAL BREATHING AIR SYSTEM FOR LAB / 17.1.4	Change the location of the female connections for the air hook-up to the lab umbilical cords to be located in the rearmost streetside underbody compartments ILO a small pop latched door on the street side of the trailer body as originally specified.	($154.00)	☑ YES

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By James Weber at 8:13 am, Dec 22, 2010

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
61	7.48.4 Sigtronics Headset Intercom System / 7.48.4 a.	Clarify that the Sigtronics intercom system jack on the rear of the trailer will be located on the rear exterior wall of the trailer, close to the streetside body panel ILO on the rearmost streetside underbody compartment, adjacent to the lift gate control as originally specified in CO#1.	$0.00	☑ **YES**
62	7.35 Portable 110 Volt Lighting and Power Reel / 7.35.6 a.	Clarify that the two (2) power cord reels will be located in the rearmost streetside (S5) and curbside (C4) underbody compartments, mounted to the compartment ceilings ILO one (1) on each side of the trailer, just forward of the rear axles in the underbody compartment area as originally specified.	$0.00	☑ **YES**
		Change Order Total:	**$4,037.00**	

Authorized Customer Signature:	Date Accepted:
Authorized Dealer Signature:	Date Accepted:
Authorized SVI Signature:	Date Accepted:

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APPROVED

Change Order #3

Customer: **Ventura County Fire Department**
Dealer: **Fire Apapratus Solutions**

Date: 5/3/2011
SVI #: **753**

Change Order Description

Miscellaneous Specification Cleanup Items

Based on the following changes/modifications to the specification, (90) days will be added to the quoted delivery time.

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
1	3.7 Air System / 3.7.8	Clarify that the light provided in the 12-volt air compressor compartment will be a 12-volt round light as provided by Featherlite with the trailer ILO a 9" OnScene Solutions light.	$0.00	☑ YES
2	5.3 Rooftop Observation Area / 5.3.2	Clarify that the roof observation area will be approximately 12.50' long (12' from railing to railing) and as wide as the trailer ILO 10' long and as wide as the trailer as originally specified.	$0.00	☑ YES
3	5.3 Rooftop Observation Area / 5.3.3	Clarify that the fold down roof observation railing will be 41" tall ILO 42" tall as built be Featherlite.	$0.00	☑ YES
4	7.36 HVAC and Heater Systems	Clarify that each zone of the AC system (gooseneck, main body, and lab area) will be independently controlled with individual thermostats ILO one (1) SMX controller as originally specified.	$0.00	☑ YES
5	7.41.7 Generator Mounting / 7.41.7 b.	Clarify that the generator will be mounted on air ride vibration isolation dampeners ILO rubber isolation dampeners are originally specified.	$0.00	☑ YES
6	7.41.14 Circuit Breaker Box / a.	Clarify that the circuit breaker box will be a Paneltronics model as originally requested ILO a Cutler-Hammer BR series as changed in the PCM change order. Paneltronics was able to design a breaker panel to meet the electrical needs of the apparatus.	$0.00	☑ YES
7	7.41.14 Circuit Breaker Box / i.	Delete the FROG-D generator output display. The FROG-D is not needed due to the use of the Paneltronics circuit breaker panel. The Paneltronics product will contain all the features originally requested for voltage/frequency/load monitoring.	$0.00	☑ YES

APPROVED

Change Order #3

Customer: **Ventura County Fire Department**
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Date: 5/3/2011
SVI #: **753**

Change Order Description

Miscellaneous Specification Cleanup Items

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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
8	7.43 Shore Power and Inlet	Add one (1) Newmar Phase 3 PT70A battery charger to the apparatus. The battery charger will be used to charge the generator, house, and lift gate system batteries when hooked to shore power. A battery charger for these items was not originally specified.	$1,590.00	☑ YES
9	7.44 Outlets and Circuits / 7/44/1 b	Add two (2) additional exterior 120 volt duplex outlets, one (1) per side at the rear wheel well area for a total of six (6) exterior outlets provided.	$0.00	☑ YES
10	7.45.3 Inverter Battery Supply / b.	Change the mounting location of the Odyssey PC1800 batteries to be in the forward curbside area under the gooseneck, forward of compartment C1 ILO under the streetside step well as originally specified. The batteries will be accessible for maintenance through the C1 door opening.	$0.00	☑ YES
11	7.46.6 Wet Locations / b	Clarify that there will be a total of six (6) exterior outlets provided ILO four (4) as originally specified.	$0.00	☑ YES
12	7.47 Antennas / j.	Clarify that the rubber AM/FM radio antenna will be located on the roof of the trailer, forward of the rooftop viewing platform ILO above the data rack as originally requested. The area above the data rack is included in the rooftop viewing platform and the antenna would represent a tripping hazard in that location.	$0.00	☑ YES
13	7.48 Radio / 7.48.2 Desktop Radio Console a.	Add two (2) telephone jacks (for a total of four (4) jacks) to the desktop radio consoles, two (2) per side. The telephone cabling is to terminate in the specified data rack at the Linksys ATA device.	$125.00	☑ YES
14	7.51 Displays (Total of 2) / 7.51.1 40" LCD Display (1 Inside) h.	Add mounting for one (1) additional Ventura County FD supplied 40" Samsung LCD display on the front gooseneck wall.	$50.00	☑ YES

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Change Order #3

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Date: 5/3/2011
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Item #	Spec Section	Item Description	Unit Cost (In US $)	Change Accepted?
15	7.56 Refrigerator	Add mounting for one (1) FD supplied Kitchen Aid Architect model KURS24RSBS refrigerator.	$55.00	☑ YES
16	7.61 Audio/Video Control System / 7-61-2 a.	Clarify that the 12.1" AMX control screen will be located on the curbside slide-out, adjacent to the Data 911 terminal ILO on the forward gooseneck cabinet, centered below the video monitors as originally specified. The mounting location was changed due to lack of required space on the front wall of the trailer.	$0.00	☑ YES
17	9.9.2 Interior Command Room Door / b.	Clarify that the non-sliding window in the interior pocket door will be approximately 12.00" x 18.00" to match a standard sized Hehr window ILO a 12.00" x 12.00" window as originally specified.	$0.00	☑ YES
18	14.1.1 Hinged Custom Manufactured Doors / l.	Clarify that the vertically hinged doors (forward streetside access compartment and sample pass through compartment) will have hold open springs as built by Featherlite ILO pneumatic cylinders as originally specified.	$0.00	☑ YES
19	14.2 Compartment Interiors / 14.2.2	Delete the specified Turtle Tile form the underbody compartments. Turtle Tile will be supplied in all trays and shelves but not on the underbody floor area.	($1,914.00)	☑ YES
20	15.0 EXTERIOR SHOWER, WATER TANK & WATER PUMP / 15.1	Clarify that the exterior shower compartment will be located in a custom made exterior door built to match the balance of the compartment doors ILO a Cast Products enclosure as originally specified.	$0.00	☑ YES
21	18.6.7 Interior Pedestal Seat / a.	Clarify that the interior pedestal seats will be Bostrom Sierra high back seats with armrests, fore/aft adjustment, recline, and DOT approved lap seat belts ILO high back 911 seats with shoulder belts as originally specified. 911 seats are not available for purchase at this time.	$0.00	☑ YES

APPROVED

Change Order #3

Customer: **Ventura County Fire Department**
Dealer: **Fire Apapratus Solutions**

Date: 5/3/2011
SVI #: **753**

Change Order Description

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22	n. Interior Lab Area (Streetside)	Clarify that the canopy exhaust transition (PN 6963700) will not be installed in the chemical fume hood system due to height restrictions in the lab area. A custom fabricated transition will be used in its place.	$0.00	☑ YES
		Change Order Total:	($94.00)	

Authorized Customer Signature:	Date Accepted:
Authorized Dealer Signature:	Date Accepted:
Authorized SVI Signature:	Date Accepted:

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