

Reliant Fire Apparatus, Inc.

For

Dodgeville Fire Department, WI

Proposal for Refurbishment Repair:

**One (1) – Peterbilt CustomFire
Pumper Tanker**

March 8, 2023

Quote is valid for 30 days.



Reliant Fire Apparatus Inc.

880 Enterprise Drive
Slinger, WI 53086

Reliant Fire Apparatus, Inc. is pleased to submit to the Dodgeville Fire Department a proposal for refurbishment. The following paragraphs will describe in detail the apparatus additions and modifications proposed.

WARRANTY

A separate warranty page detailing the warranty coverage will be provided with the proposal.

PAYMENT TERMS

Payment is to be made to Reliant Fire Apparatus, Inc., in full, at time of completion and final acceptance.

SHIPPING PRECAUTIONS

The following shipping precautions must be completed before transportation of the fire department's apparatus to Reliant Fire Apparatus for refurbishment or repair. *Failure to complete the listed items below may result in additional costs to the fire department.*

1. All water tanks, foam tanks, pumps, all inlets and discharge plumbing, all drains, and any other plumbing are to be completely drained prior to being driven or flat-bedded.
2. Strip down all loose equipment unless arranged with Reliant prior to shipping to make the repair process easier and to eliminate the potential for lost equipment while the unit is being refurbished or repaired.
3. All loose or potentially loose items should be taped or strapped to ensure they do not come loose during transit.

INCOMING EMERGENCY PARKING BRAKE TEST

The following inspection will be performed by a qualified Reliant technician to ensure this apparatus is safe to drive and perform work on. Should any defects be found that are not already addressed in the proposed work, an itemized list of the defects, along with the costs to repair any additional items, will be provided to the fire department for review.

Repair of any defects will be "open", pending approval and additional costs. No additional work will be performed without prior approval from the fire department.

INCOMING BATTERY LOAD TEST

All truck starting system batteries and battery cables will be visually inspected for cracks, acid leaks, corrosion, and overall condition. Along with the visual inspection a load test will be performed to verify the batteries cold cranking amps, voltage, and shorted cells.

Should any defects be found that are not already addressed in the proposed work, an itemized list of the defects, along with the costs to repair any additional items, will be provided to the fire department for review.

Repair of any defects will be “open”, pending approval and additional costs. No additional work will be performed without prior approval from the fire department.

INCOMING VEHICLE INSPECTION

The following inspections will be performed before the removal of any components and before any disassembly. A detailed inspection report will be forward to the fire department for disposition. Additional repairs will be open: subject to inspection.

- Incoming Electrical inspection
- Incoming Chassis Inspection and Road Test
- Incoming Pump Test
- Incoming Body Inspection
- Air Conditioning

Should any defects be found that are not already addressed in the proposed work, an itemized list of the defects, along with the costs to repair any additional items, will be provided to the fire department for review.

Repair of any defects will be “open”, pending approval and additional costs. No additional work will be performed without prior approval from the fire department.

SCOPE of WORK

As outlined below by request of the department via way of your qualified Reliant Fire Apparatus, Inc. sales representative.

CHASSIS

NEW TIRES

New tires will be provided for the commercial chassis.

The default brand of tire for the commercial chassis manufacturer for this apparatus will be used upon ordering unless specified otherwise.

They will provide the proper tread style and weight rating for the position in which the tire is installed.

CHASSIS AIR TESTS

All airlines, auxiliary air inlets, and air fittings will be troubleshot and tested for leaks and repaired as identified.

Repair of any defects other than lines or fittings will be “open”, pending approval and additional costs. No additional work will be performed without prior approval from the fire department.

CAB

HEATING AND AIR CONDITIONING (HVAC)

All HVAC units shall be thoroughly tested to ensure proper operation at all times.

All heater lines and compressor lines, front, and rear, shall be inspected.

All minor repairs will be performed as identified.

Repair of any defects other than minor will be “open”, pending approval and additional costs. An example of this would be if system is found to need full replacement of a new equivalent unit due to age and availability of components. No additional work will be performed without prior approval from the fire department.

BODY

HOSEBED HOSE RESTRAINT

A red hose bed cover will be furnished with awning rail (aluminum retainer) fasteners at the front and bungee cord and hook fasteners on the sides. There will be spring clip and hook fasteners at the bottom of the rear body sheet below the hose bed. The flap at the rear will be lead shot weighted.

PUMP

PUMP OVERHAUL, WATEROUS

The pump drive unit, transmission and drivelines will be removed. The pump body will be split, and the impeller assembly will be removed for bench service. The pump sections will be carefully cleaned and inspected for abnormal wear on the stripping edges or other damage. Any damage to the center case will be identified in writing and forward to the fire department with a parts and labor estimate if replacement is needed.

An entirely new impeller assembly will be installed, to include new impellers, wear rings, impeller shaft and seals/gaskets. Standard packing is included. The pump body will be reassembled following the manufacturers tightening sequence and fastener torque

specifications. The pump drive unit and driveline will be reinstalled. The driveline and drive unit will be serviced, including oil change in the drive unit, and greasing of the U-joints.

The pump main drain valve will be replaced with new.

The pump will be dynamically tested for leaks and to ensure the performance meets the manufacturers flow and pressure standards. The transfer valve, and any indicators, will be checked for correct operation within the manufacturers operating parameters. A pump test and certification will be provided when the work is complete.

Repair of any other defects found upon rebuild will be “open”, pending approval and additional costs. No additional work will be performed without prior approval from the fire department.

STAINLESS STEEL MANIFOLD

Stainless steel manifold will be removed, cleaned, inspected, repainted, and reinstalled. Should manifold deem replacement to be necessary a separate quote will be provided as this is rarely required.

VALVE REPLACEMENT

All discharge, tank fill, tank to pump and auxiliary inlet valves will be removed and replaced with new Waterous valves.

TANK TO PUMP

There will be a new electric tank to pump valve installed complete to replace the current air valve.

DRIVER SIDE AUXILIARY INTAKE

There will be a new electric side auxiliary intake valve installed complete to replace the current air valve.

ELECTRIC VALVE CONTROLLERS

New Waterous Electric controls will be provided for nine (9) valves replacing the original. A manual override control will be provided for each electrically operated valve.



SIDE INLET BUTTERFLY VALVE

There will be two (2) electric intake valves provided on each side main pump inlets in place of current air valves.

The 6.00" Jamesbury inlet valve will be recessed behind the pump panel with a stainless-steel trim ring around the opening.



A built-in, adjustable pressure relief valve and a bleeder valve will be provided on the inlet side of the valve.

There will be Akron 9333 electric valve controllers provided on the pump operator's panel. The electric controls must be of a true position feedback design, requiring no clutches in the motor or current limiting. The units must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controllers will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option.

The electric actuator will be furnished with a manual override accessible at the pump panel.

A maintain switch will be provided behind the stainless-steel access door near the manual override. The switch will cut off power to the valve to allow for manual override valve actuation.

REAR INLET BUTTERFLY VALVE

There will be one (1) electric intake valve provided on the rear main pump inlet in place of current air valve.

The 6.00" Jamesbury inlet valve will be recessed behind the pump panel with a stainless-steel trim ring around the opening.



A built-in, adjustable pressure relief valve and a bleeder valve will be provided on the inlet side of the valve.

There will be Akron 9333 electric valve controller provided on the pump operator's panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit

LCD display. They will have manual adjustment of the brightness as well as an auto dimming option.

The electric actuator will be furnished with a manual override accessible at the pump panel.

A maintain switch will be provided behind the stainless-steel access door near the manual override. The switch will cut off power to the valve to allow for manual override valve actuation.

NEW PUMP AND GAUGE PANEL

A new top mount control panel will be constructed of aluminum with a black vinyl finish. A polished aluminum trim molding will be provided around each panel.

IDENTIFICATION TAGS

New identification tags for the pump controls will be provided. The discharge identification tags will be color coded, with each discharge having its own unique color.

All remaining identification tags will be mounted on the pump panel in chrome plated bezels.

PRESSURE CONTROLLER

A Fire Research Pump Boss Model PBA200 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

The display panel will be located at the pump operator's panel.



*Peterbilt ECM needs to be verified it can communicate with electronic controller technology prior to conversion.

PRIMING PUMP

The priming pump will be changed out to a Trident Emergency Products compressed air powered, high efficiency, multi-stage venturi based AirPrime System, conforming to standards outlined in NFPA pamphlet #1901.

All wetted metallic parts of the priming system are to be of brass and stainless-steel construction.

One (1) priming control will open the priming valve and start the pump primer.

A second priming valve will be plumbed to the rear inlet. The second push button control will be located at the pump operator's panel.



PUMP CERTIFICATION

Pump test and certification once all pump work is complete will be provided.

ELECTRICAL

WIRE HARNESS INSPECTION and CONNECTOR REPLACEMENT

All wire harnesses will be inspected for damage and wear. Areas in need of repair will be amended, and harnesses will be wrapped in new wire loom.

All deutsch connectors will be replaced with new throughout the cab, chassis, body and pumphouse.

All new wiring will be provided where applicable, however, some vendor original harnesses may need to remain based on availability and obsolescence if not available to be replaced.

GENERATOR PM

The generator will be inspected, load tested, and a preventative maintenance service will be conducted.

All hoses, fluids, and filters will be changed with new.

COMPARTMENT LIGHTING

There will be eleven (11) compartments with two (2) white 12-volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment. The dual light strips will be in all body compartments and the cab compartments below each speedlay.

Opening the compartment door will automatically turn the compartment lighting on.

DOT LIGHTING

All FMVSS DOT lighting will be changed to LED models.

FRONT DOT LIGHTS

There will be five (5) Truck-Lite bullet style LED DOT visor lights provided. The lights will be amber in color.

The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

FRONT DIRECTIONALS

There will be two (2) Truck-Lite LED front directionals provided. The lights will be amber in color.

HEADLIGHTS

There will be Truck-Lite® LED lights mounted in the front housing on each side of the cab hood.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

SIDE DIRECTIONAL/MARKER LIGHTS

There will be two (2) Truck-Lite, 2.00" high x 4.00" long amber LED lights installed on each side front body in a vertical position with an aluminum guard.

The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

SIDE/REAR DIRECTIONAL/MARKER LIGHTS

There will be seven (7) Truck-Lite, 2.00" high x 4.00" long red LED lights installed on the side and rear body. The lights on the side and rear lower body corners will be in a

vertical position. The three (2) on the rear body to be located for the arrow stick will be in a horizontal position.

The lights will activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

REAR STOP/TAIL, DIRECTIONAL AND BACKUP LIGHTING

The rear stop/tail and directional LED lighting will consist of the following:

- Two (2) Whelen®, Model M92BTT, 6.50" high x 10.40" wide x 1.40" deep brake/taillights with red LEDs
- Two (2) Whelen, Model M92T, 6.50" high x 10.40" wide x 1.40" deep directional lights with amber LEDs.
 - The directional lights will be set to standard flash pattern.
- The lens will be amber in color.
- The lights to include a chrome bezel.

There will be two (2) Whelen® Model M92BU, 6.50" high x 10.37" wide x 1.37" deep backup lights with white LEDs, clear lenses and chrome bezel provided.



LICENSE PLATE BRACKET

One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus.

One (1) white LED light with chrome bezel will be provided to illuminate the license plate. A stainless-steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

PERIMETER LIGHTS

All underbody perimeter lights will be replaced with LED.

CAB PERIMETER SCENE LIGHTS

There will be four (4) TecNiq, Model T10-LC00-1, 15.00" lights with white LEDs and 45-degree stainless steel brackets provided per the following:

- one (1) under the driver's side cab access step
- one (1) under the passenger's side cab access step
- one (1) under the passenger's side crew cab access step
- one (1) under the driver's side crew cab access step

The lights will be activated when the battery switch is on, when the respective door is open and by the same control selected for the body perimeter lights.



PUMP HOUSE PERIMETER LIGHTS

There will be two (2) TecNiq, Model T10-LC00-1, 15.00" white 12-volt DC LED strip lights provided.

The lights will be mounted in the following locations:

- One (1) light will be provided under the driver's side pump panel running board.
- One (1) light will be provided under the passenger's side pump panel running board.

The lights will be controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There will be two (2) TecNiq, Model T10-LC00-1, 15.00" 12-volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when the parking brake is set.

STEP LIGHTS

All step lights will be replaced with LED.

STEP LIGHTS

White LED step lights will be provided in all areas to replace halogen step lights where applicable.

To ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.

These step lights will be actuated with the pump panel light switch.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

WARNING LIGHTS

All warning lights will be changed to LED.

CAB ROOF LIGHTBAR

There will be one (1) 56.00" Whelen, Model Justice LED lightbar mounted on the cab roof.

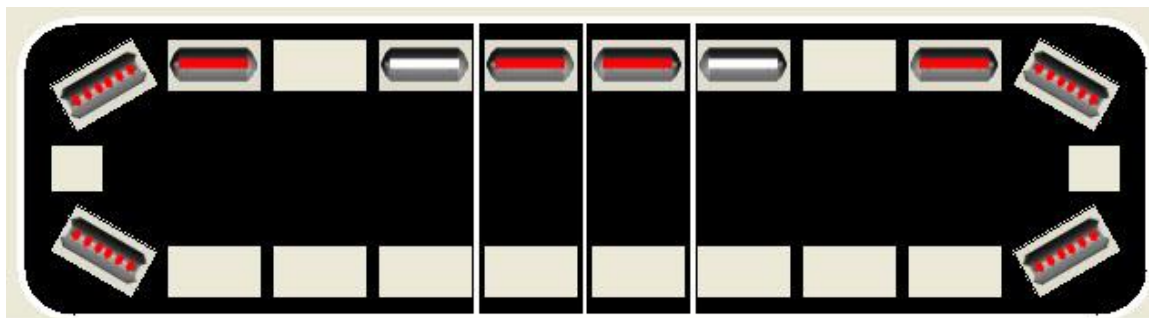
This lightbar will include the following:

- Four (4) red flashing forward facing LED modules.
- Two (2) white flashing forward facing LED modules.
- Two (2) red flashing front corner LED modules.
- Two (2) red flashing rear corner LED modules.

The lens color will be clear.

There will be a switch, located in the cab on the switch panel, to control this lightbar.

The white warning lights will be disabled when the parking brake is set.



Reference Only

LIGHTS, FRONT ZONE LOWER

Two (2) Whelen model M6 LED flashing warning lights installed on the cab face grille with chrome bezels.

- The driver’s side front warning light is to be red.
- The passenger’s side front warning light is to be red.



Both lights will include a colored lens.

There will be a switch located in the cab on the switch panel to control the lights.

LIGHTS, SIDE ZONE LOWER

Two (2) Whelen model M6 LED flashing warning lights will be installed on each side of the bumper with chrome bezels.

- The driver’s side front warning light is to be red.
- The passenger’s side front warning light is to be red.



Both lights will include a colored lens.

Two (2) Whelen model M9 LED flashing warning lights will be installed on each side of the body between the tandem wheels with chrome bezels.

- The driver’s side rear warning light is to be red.
- The passenger’s side rear warning light is to be red.



There will be a switch located in the cab on the switch panel to control the lights.

REAR/SIDE ZONE UPPER WARNING LIGHTS

There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons.

The color of the lights will be red LEDs with both domes red.



REAR ZONE LOWER LIGHTING

There will be two (2) Whelen®, Model M6, LED flashing warning lights located at the rear of the apparatus.

- The driver’s side rear warning light is to be red.



- The passenger's side rear warning light is to be red.

Both lights will include a lens that is red.

There will be a switch located in the cab on the switch panel to control the lights.

TRAFFIC DIRECTING LIGHT

There will be one (1) Whelen Model TADF6, 34.00" long x 2.35" high x 2.38" deep, LED traffic directing light installed at the rear of the apparatus. There will be a TADCTL1 controller included with this installation.

There will be the Model TDP33000 red and amber LED light assembly included with this installation. The red LED's will be in the three (3) positions on the driver's side. The red LED's will be in the three (3) positions on the passenger's side. The amber LED's will be included in all six (6) position.

The red LED's will be activated when the battery switch is on, and the emergency master switch is on.

The controller will deactivate the red and blue LED's when on and control the pattern of the amber LED's.

This traffic directing light will be surface mounted over the rear door, at the rear of the apparatus as high as practical.

SCENE LIGHTS

All scene lighting will be changed to LED.

120 VOLT LIGHTING – PUSH UP LIGHTS

There will be two (2) Fire Research Spectra MAX, Model SPA530-K28, 28,000 lumens, 120-volt AC LED scene lights provided on push up, side mount poles located one (1) on each side of the crew cab module in existing locations of current push up light poles.

The painted parts of this light assembly head will be white with a chrome bezel face.

The lights selected above will be controlled by the circuit breaker included in the AC breaker panel as well as following:

The light will be controlled from:

- A switch at the driver's side switch panel
- A switch at the pump panel

These lights will not be connected to the do not move apparatus light.



CORROSION

CORROSION CLEAN UP

- Truck will be placed on a lift and wheels will be removed for repair.
- All frame rail edge protection from the rear of the cab back will be removed. All accessible wires, hoses, and lines near the frame rails that are not already protected will be wrapped to safeguard from chafing.
- All accessible areas of corrosion from the underside of the truck and from inside of the wheel wells will be needled / scaled / sandblasted to remove as much corrosion as possible. Areas to receive corrosion cleanup will be the accessible areas of the frame rails, suspension, axles, and substructures.
- A rust inhibitor will be applied to all areas that were cleaned of corrosion.
- All areas needled / scaled / sandblasted and treated will be repainted to match that of existing paint color.
- An underbody Carwell application will be applied to the frame and substructures after all other work is completed.

CORROSION REPAIR

Repair minor body corrosion around the body warning light, fender panel area, and other areas as designated via photos taken by your qualified Reliant sales representative.

Corrosion areas will be metal finished, primed and painted.

Additional major corrosion and / or accident damage repair costs will be open: subject to inspection and written approval by the fire department.

UNDERCOATING, CAB & BODY

The apparatus will be properly treated by an authorized Ziebart dealer.

The underside of the apparatus will be undercoated with an asphalt petroleum-based material, dark in color.

The undercoating material utilized on the apparatus will be formulated to resist corrosion and deaden unwanted sound or road noise.

Coating texture will appear firm, flexible, and resistant to abrasion. Minimum dry film thickness will be in the range of 8.00 to 12.00 mils.

The material will be applied to the following areas:

- Body and cab wheel well fender liners, on the back side only.
- Underside of body and cab sheet metal, and structural components.
- Underside and vertical sides of all sheet metal compartmentation, including support angles.
- Structural support members under running boards, rear platforms, battery boxes, walkways, etc.
- Inside surfaces of the pump heat enclosure. (When installed)
- Suspension mounts.
- Transmission cooler fittings.
- Engine mounts.
- Bottom and outside of frameroils behind the forward edge of the water pump.

Exclusions will be:

- Engine
- Transmission
- Drive lines
- PTO's
- Schroeder valves and tank drains
- Intake valves
- Air Horns, sirens, and back-up alarms
- Frame rails forward of the forward edge of the water pump.

PAINT and GRAPHICS

PAINT

All areas of corrosion will be metal finished, primed, and re-painted.

REAR CHEVRON STRIPING

There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be red and fluorescent yellow green diamond grade.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.



TOTAL PROJECT COST: \$183,296.00

REQUESTED OPTIONS

NEW WATER TANK

Remove and replace the existing steel water tank with the following.

Booster tank will have a capacity of 1500 gallons and be constructed of UV stabilized ultra-high impact polypropylene plastic by a manufacturer with a minimum of 20 years' experience building tanks, is ISO 9001:2000 certified in all its manufacturing facilities and has over 50,000 tanks in service.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank bottom and sides.

Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.

Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that is 8.00" long x 10.00" wide x 6.00" deep will be provided at the bottom of the water tank.

Sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank.
Crossmembers will be constructed of steel bar channel or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing.
Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system will be approved by the tank manufacturer.

Water tank domes will be located on driver side of the tank.

TANK CRADLE

The water tank will be installed in a fabricated cradle assembly constructed for the new tank.

Sufficient crossmembers will be provided to properly support bottom of tank.
Crossmembers will be constructed of stainless-steel bar channel or rectangular tubing.

Isolator material, such as DuraSurf, will be provided between the frame and cradle.

Cost includes new tank, cradle and all associated components to convert and disposal of existing tank removed.

TOTAL NEW WATER TANK OPTION: \$35,452.00

EJ METALS UHP SYSTEM COMPACT DESIGN COMPARTMENT MOUNTABLE MODULE

EJ Metals shall provide and install a 20 GPM Ultra-High-Pressure in the driver's side front compartment.

This unit will have the following:

- Ultra-High-Pressure Pump
- Die Case Aluminum Crankcase
- Stainless Steel Valves and Seats
- Chrome-Moly Crankshaft
- Oversized Bearings
- High Strength Forged Brass Manifolds
- Specially Formulated High-Pressure Seals
- Honda IGX 800 engine is 24.9. HP for a Honda GX 690 is 22.13 Gallon fuel tank
- 20 GPM @1500 PSI
- Electric Rewind Reel
- Electronic Tank to Pump Valve
- EJM Tri-Plex Locking Nozzle
- Foam metering Valve .05% to 6.0%
- 150 ft of 1/2" Two Wire UHP Hose
- Winterization port in panel W/ chrome cap & chain
- LED control panel light
- Ignition Switch with Key
- Engine Choke
- On / Flush - Foam Agent Valve
- Engine Start Pump By-pass Valve
- Utilization of On-Board Truck Water Tank
- Utilization of On-Board Truck Foam Cell
- The project will require some engineering but estimated minimum space required is W=45.5", D=30.5", H=36.0"



TOTAL UHP OPTION COST: \$28,400.00